

Changing patterns of financial intermediation: Implications for central bank policy

South African Reserve Bank

Abstract

South Africa has attracted substantial inflows of foreign capital since the 2008 global financial crisis, but this has not coincided with or resulted in major changes in financial intermediation – including in the shadow banking sector. Instead, debt growth has been concentrated in the public sector: the government debt ratio has nearly doubled since the crisis albeit at relatively low levels, with a threefold increase in non-resident holding of rand-denominated government bonds, contributing to the financing of widening fiscal and current account deficits. Private sector credit growth, by contrast, has stagnated amid stricter bank lending criteria and balance sheet consolidation by households. Although the shadow banking system has expanded, this increase has come at the expense of the banks, and remains relatively small. South Africa's vulnerability to global monetary shocks has been reflected primarily in the widening of the twin deficits. The more recent monetary policy response has been a gradual tightening cycle, complemented by fiscal consolidation.

Key words: financial crisis, banking, financial markets, international financial markets

JEL classification: G01, G21, G10, G15

For South Africa, the problems posed in the outline for this meeting ring half true. South Africa is indeed exposed to global monetary shocks. It has attracted significant amounts of foreign capital in the period since the 2008 global financial crisis and has seen those flows abate as policymakers in the United States shift towards monetary policy tightening. Domestic monetary policy has been adjusted in response to the depreciating currency and its pass-through effects, and consistent with the country's flexible inflation target framework. Yet, this experience was not shaped by changes in financial intermediation. It is, therefore, necessary to consider developments in foreign financing separately from financial intermediation.

Foreign financing: Before the crisis, South Africa had already developed a sophisticated financial system. Financial inflows from abroad typically entered South Africa as portfolio flows into the Johannesburg Stock Exchange, where they financed large corporates. By contrast, small and medium enterprises tended to rely on domestic banks. The biggest change, since the crisis, has been that the state has become a larger borrower. These debt instruments have proven popular with foreign investors, but most of these purchases have been made on domestic markets, meaning that the debt is foreign-held but rand-denominated. Non-resident investors' holdings of rand-denominated debt and equity have increased from about 10% and 17% in 2005 to 36% and 22% in 2014, respectively.

Financial intermediation: The overall pattern of credit growth in South Africa has contradicted that seen in many other emerging markets (although it matches that of many advanced economies). Before the 2008 crisis, there was a large increase in private sector credit extension driven by mortgage lending, which in turn pushed up house prices. The state, by contrast, enjoyed buoyant revenues which permitted it to post small fiscal surpluses. Following the crisis, fiscal policy switched to running deficits, of about 5% of GDP. Private sector credit growth, by contrast, stagnated as banks raised lending standards and overstretched households consolidated their balance sheets. South Africa's shadow banking system expanded, growing from approximately 13% of financial assets of all financial intermediaries to 18% by the end of 2014. However, this is still a relatively small part of the financial system. Furthermore, more than half of the shadow banking system is made up of money market funds, which are regulated and therefore not markedly "shadowy".

South Africa is therefore exposed to global monetary shocks, but in old and familiar ways. As before the crisis, it has attracted capital inflows into a deep and liquid stock market. To this it has added significant sovereign borrowing. Its fragilities are large current account and fiscal deficits. These are significant vulnerabilities but they are not new or unfamiliar threats.

A. The role of banks

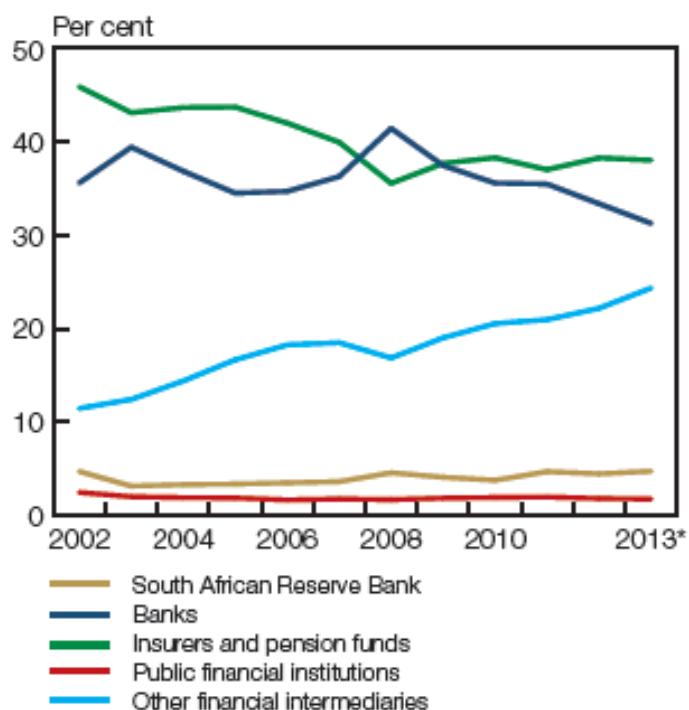
- (1.) How did the relative importance of banks and market-based financing change in EMEs over the past decade?

Banks have continued to dominate financing in South Africa over the past decade. There has been quite strong growth in the share of financing from non-bank financial intermediaries, albeit from a low base.

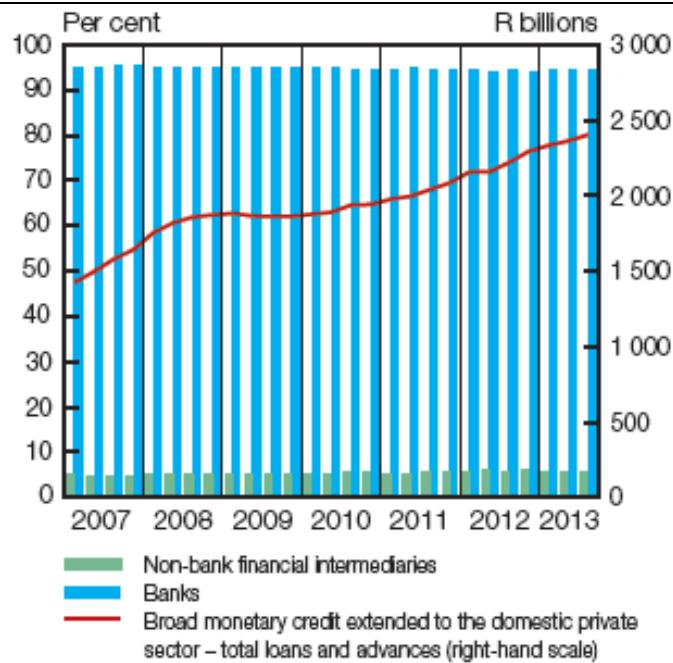
The share of banks' total assets relative to all financial intermediaries has been declining since 2008 and reached 31% in 2013 (see Graph 1). However, banks, insurers and pension funds still account for the largest share of total financial assets. Assets of other financial intermediaries, a proxy for the shadow banking system, continued to increase and reached 24% of total financial assets of financial intermediaries in 2013.

Distribution of total assets between financial intermediaries in South Africa

Graph 1



Non-bank financial institutions (NBFIs) play an important role in the financial system. They complement the commercial banking sector by addressing needs on which banks do not normally focus. Most NBFIs are actively involved in the securities markets and in the mobilisation and allocation of long-term financial resources. Examining the sources of credit extended, it would appear that credit extended by NBFIs continued to grow but remains relatively small in size, relative to total bank lending (see Graph 2).



- (2.) How has the composition of assets and liabilities of domestic banks changed? What does this imply for the liquidity, maturity and credit risks banks face, as well as their credit extension decisions (pricing, etc.)? In particular, what is the structure of their lending (eg (i) households vs corporates; (ii) fixed vs variable rate; (iii) collateral practices; (iv) domestic vs foreign currency) and how has it changed? How has the degree of competition evolved? And what has been the role of government-owned banks/financial intermediaries?

Composition of liabilities

Since 2008, domestic banks have reduced reliance on domestic currency deposits and increased funding from subordinated debt securities and foreign currency deposits and funding (see Graph 3). These changes have been made gradually since 2008 (see Table 1). However, foreign currency deposits and funding continue to constitute less than 10% of total liabilities (see Graph 9).

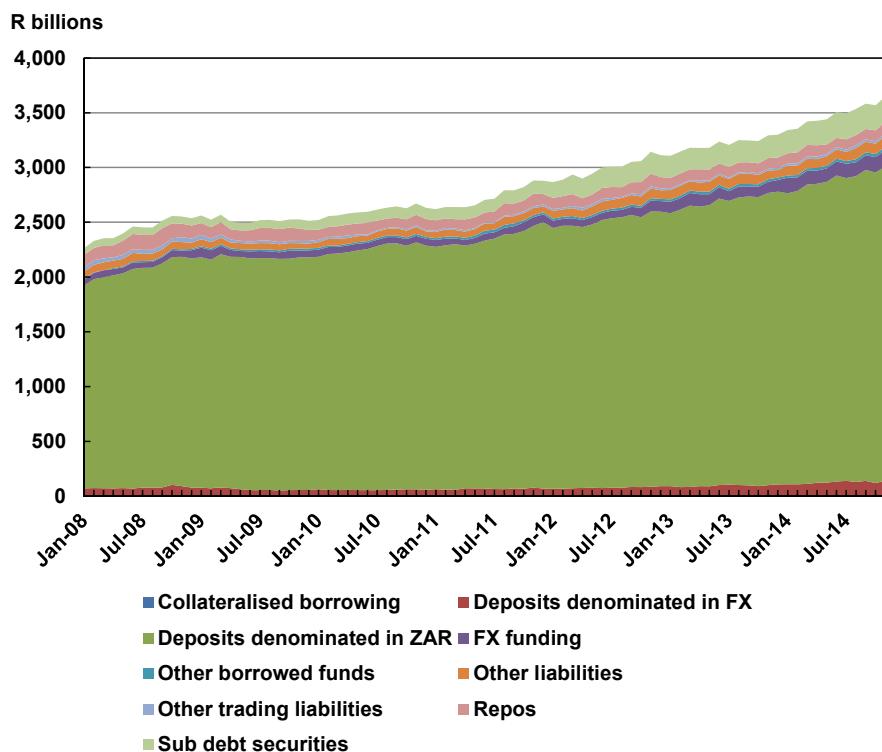
Year on year movement in domestic banks' liabilities (excluding derivative financial instruments)

Table 1

	Nov-08	Nov-09	Nov-10	Nov-11	Nov-12	Nov-13	Nov-14
	%	%	%	%	%	%	%
Collateralised borrowing	-	-	-	0.00	0.00	0.00	0.02
Deposits denominated in FX	3.55	2.20	2.29	2.68	2.71	3.04	3.85
Deposits denominated in ZAR	82.00	84.01	84.40	82.96	79.92	80.97	78.66
FX funding	2.27	2.48	2.22	2.78	3.20	3.11	4.07
Other borrowed funds	0.45	0.74	0.67	0.65	0.67	0.69	0.78
Other liabilities	2.55	1.93	2.33	2.24	2.83	2.41	2.74
Other trading liabilities	1.79	0.81	0.57	0.53	0.64	0.53	0.60
Repos	4.79	4.53	3.68	4.04	3.71	2.91	2.98
Sub debt securities	2.61	3.29	3.83	4.12	6.32	6.32	6.31
Total	100.00						

Composition of South African banks liabilities

Graph 3



The maturity structure of domestic banks' liabilities indicates that there has been increasing reliance on short-term liabilities (with a maturity of up to one month) and less reliance on longer-term (more than six months) (see Table 2 and Graph 4).

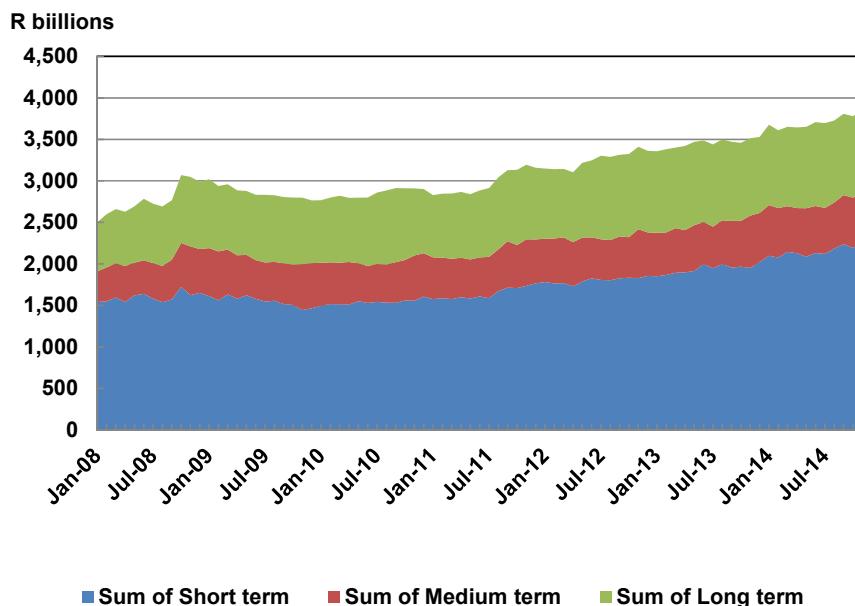
Term structure of domestic bank liabilities

Table 2

	Nov-08	Nov-09	Nov-10	Nov-11	Nov-12	Nov-13	Nov-14
	%	%	%	%	%	%	%
Short term	53.26	51.61	53.48	54.29	53.59	55.51	58.39
Medium term	19.27	19.72	18.76	17.55	17.32	17.96	15.99
Long term	27.46	28.66	27.76	28.16	29.09	26.53	25.62
Total	100.00						

Term structure of the South African banking sector's liabilities

Graph 4



Composition of assets

The composition of South African banks' sector assets has changed marginally since 2008, with increases in gross loans and advances and decreases in investment and trading assets (see Table 3 and Graph 5).

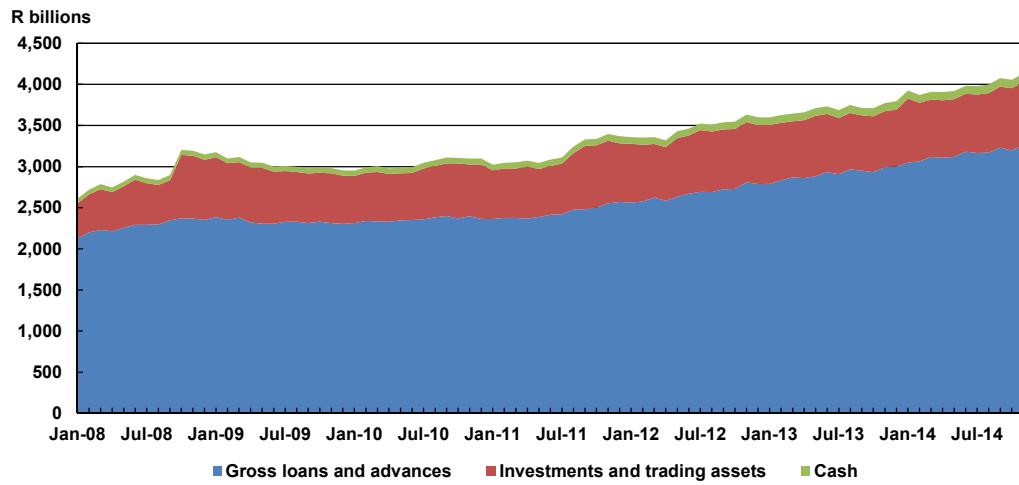
Composition of South African banking sector assets

Table 3

	Nov-08	Nov-09	Nov-10	Nov-11	Nov-12	Oct-13	Nov-14
	%	%	%	%	%	%	%
Cash	2	2	2	2	3	3	3
Gross loans and advances	74	78	77	75	77	79	79
Investments and trading assets	24	20	20	22	20	18	19
Total	100						

Composition of South African banking sector assets

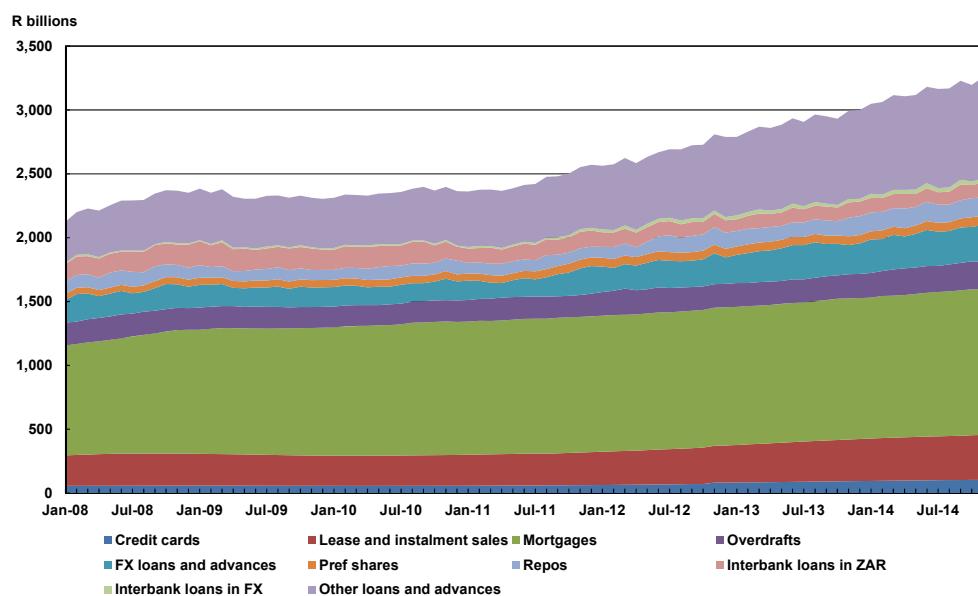
Graph 5



Since 2008, increases in gross loans and advances have been driven largely by increases in the other loans and advances category (which consists mainly of term loans). The category increased by ZAR 472 billion, of which ZAR 237 billion was to non-financial corporates and ZAR 138 billion was to households) and mortgages (mortgages to households have increased by ZAR 281 billion since 2008, largely to households and non-financial corporates) (see Graph 6). Unsecured retail lending (largely personal term loans) has shown significant amount of growth since 2008, but the strong growth trend has tempered since 2013 (see Graph 7).

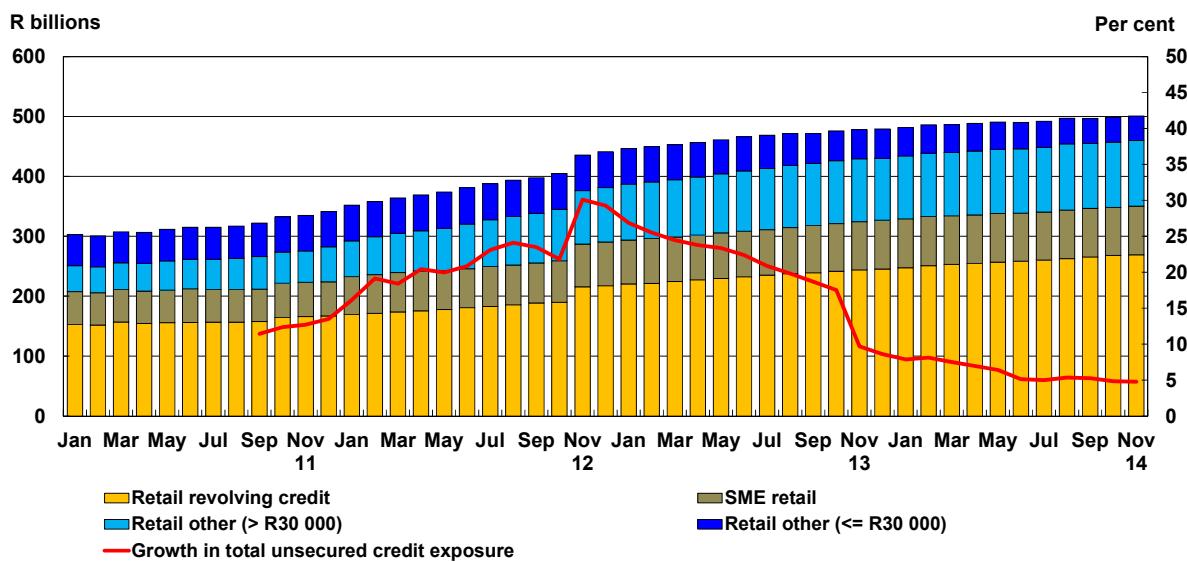
Composition of gross loans and advances

Graph 6



Gross unsecured retail credit exposure of the South African banking sector

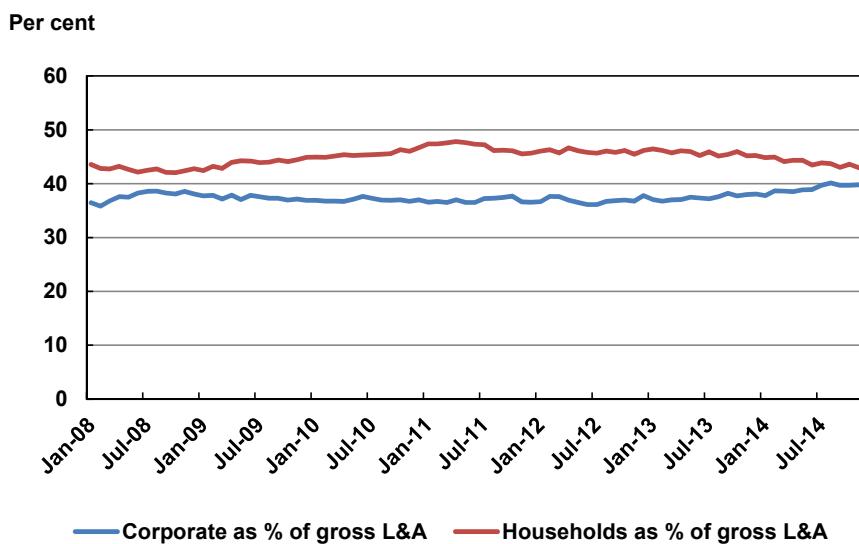
Graph 7



Lending to corporates and to households, as a percentage of total gross loans and advances, has not changed significantly since 2008 (see Graph 8). Lending to corporates increased from an average of 37.5% in the year to November 2008 to an average of 39.0% in the year to 30 November 2014. Lending to households decreased from an average of 43.7% in the year to November 2008 to an average of 44.0% in the year to 30 November 2014.

Corporate versus household lending to total gross loans and advances

Graph 8



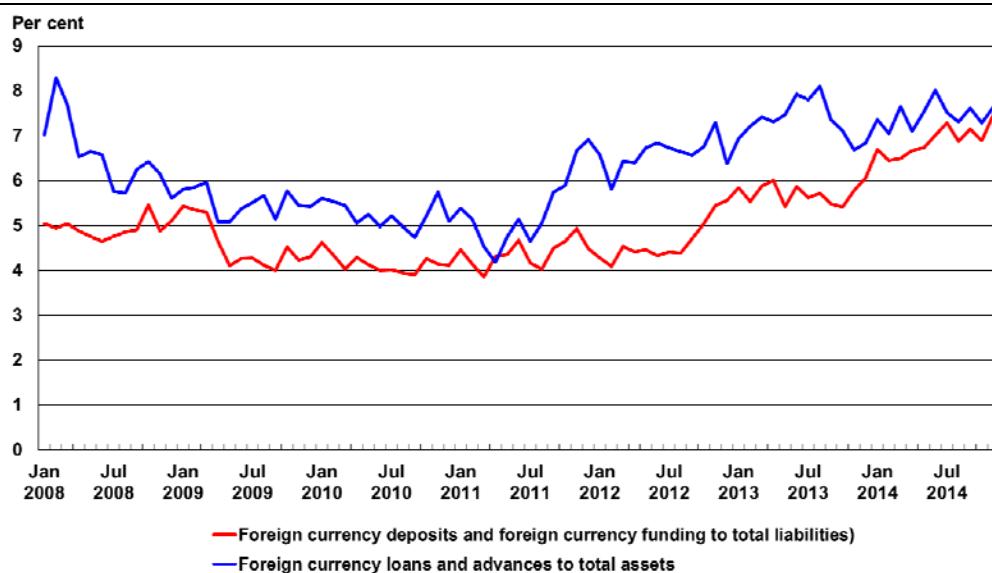
The majority of mortgages, instalment and leasing finance in South Africa to corporates and households are based on flexible rates. This trend has not changed

significantly since 2008 (in the year to 30 November 2008, on average, 88% of lending in mortgages, leasing and financing transactions was flexible rate. In the year to 30 November 2014, on average, 87% of lending in mortgages, leasing and financing transactions was flexible rate.)

The South African banking sector has steadily increased the amount of foreign currency lending since 2011 from a relatively low base. Foreign currency loans and advances to total assets have been increasing from a low of 3.85% in March 2011 to 7.47% in November 2014 (see Graph 9).

Foreign currency deposits and funding to total liabilities and foreign currency loans and advances to total assets

Graph 9



In the South African banking sector, the five largest banks dominate the sector (as measured by asset size, the five largest banks have held, on average, approximately 90% of banking sector assets since 2008). The sector has seen increasing competition from smaller banks in niche areas, such as unsecured retail lending, but this has not made significant changes to the composition of the total sector in terms of asset size.

The role of government-owned financial institutions has, to a large extent, been focused on development finance and financial inclusion. Their activities are mandated by the legislation supporting those entities (most government financial institutions have their own legislation which mandates the objectives and purpose of the institution (they fall outside the scope of the Banks Act, 1990). Examples of government financial institutions include the Land Bank (which is focused on the agricultural sector), the Development Bank of Southern Africa (to promote regional economic development), the Industrial Development Corporation of South Africa (a development finance institution) and the Post Office Savings Bank (a retail bank). Note: the responses to this questionnaire are based on entities registered in terms of the Banks Act, 1990.

- (3.) How have international banks' business models (eg centralised vs subsidiary) evolved since the 2008 financial crisis? Does the nature of a bank's business model influence the supply of credit during periods of adverse external shocks?

The South African banking sector did not experience significant instability following the 2008 financial crisis. The major impact on the South African banking sector was largely due to indirect effects (for example, lower exports due to lower demand from European customers). South African banking groups have been focusing on expanding their activities onto the African continent (that is, expanding into Africa other than South Africa). The business models adopted for this expansion strategy differ between banking groups. The three most commonly followed strategies were to acquire existing in-country operations, to establish greenfield operations (usually subsidiaries) or to purchase minority stakes in existing African banking groups.

The nature of DSIB's business models have changed since the 2008 financial crisis from both a geographical and an asset class perspective. For example, certain banking groups have restructured their international operations by selling operations outside Africa and increasing their focus on African operations. There has also been a change in product mix, such that the growth in mortgages moderated following the crisis in 2008 and there has been increasing growth in unsecured retail exposures (see Graph 7 above). However, the aggregate level of gross loans and advances of the banking sector was not significantly influenced by any movements or changes in the supply of credit from branches of foreign banks operating in South Africa during the 2008 financial crisis (compared with, for example, the case in some developed market economies).

Note: No South African banking groups have been classified as Globally Systemically Important Banking institutions (G-SIBS). The response to the question on "international banks" is based on the Domestic Systemically Important Banking Institutions (DSIBs) that have banking operations outside the Republic of South Africa.

B. The role of debt securities markets

- (4.) What is the structure of the debt held in the form of securities, both sovereign and corporate (size, maturity, fixed/flexible rate, collateral and currency) and how has it evolved?

Government is still by far the largest borrower in the domestic market, despite rising private sector issuance. National government's domestic debt has increased significantly since the global crisis, with a shift to Treasury bills and longer-term fixed interest bonds. National government's domestic debt increased 3.3 times in nominal terms, from ZAR 432 billion in 2005 to ZAR 1.4 trillion in 2014, of which almost 99% is on average marketable. Of the marketable portion, Treasury bills almost doubled between 2005 and 2014, reaching 14% of the total, while bonds decreased by 6 percentage points to 86% in 2014. From 2005 to 2014, the maturity composition of bonds changed with short-term bonds decreasing from 23% to 9% whilst long-term bonds increased to 91%. The average maturity of domestic bonds (mostly fixed interest) increased from 99 months in 2005 to 154 months in 2014.

National government's debt profile continues to be dominated by domestic rand-denominated debt. Rand-denominated domestic private sector debt (mostly flexible rate) in issue increased from ZAR 137 billion in 2005 to ZAR 450 billion in 2014. Foreign debt, meanwhile, has increased from ZAR 39 billion in 2005 to ZAR 144 billion in 2014. Over the same period, the average maturity of foreign currency-denominated bonds increased from 78 months to 95 months. The currency composition of this debt shifted in favour of dollars, rising from 44% of the total to 79%. Euro exposure declined sharply in 2014.

The domestic marketable debt of non-financial public enterprises increased by ZAR 141 billion from 2005 to ZAR 207 billion in 2014. Over the medium term, funding of state-owned companies will be contingent on restructuring with capitalisation funded from the sale of non-strategic state assets and not added to national government debt.

How has the relative importance of domestic and international debt issuance changed?

Government and private sector issuers favour domestic rand-denominated issuance. In the second quarter of 2014, South Africa's total foreign currency debt denominated in US dollars amounted to US\$62 billion (of which 28% matures in 2020 and beyond), whereas rand-denominated debt amounted to ZAR 844 billion or US\$80 billion. As a portion of total foreign debt, foreign currency-denominated debt decreased from 58% in 2005 to 44% in 2014.

South Africa's net worth (the net of foreign liabilities and assets) improved significantly, with net liabilities declining from ZAR 346 billion in 2005 to ZAR 153 billion in 2013.

- (5.) In addition, a major development over the past five years has been the shift of borrowing by EME non-bank corporations away from banks to international debt markets. What are the implications of this for the financing of firms?

Recent BIS research has emphasised a new risk to global financial stability. EME corporates have exploited loose financial conditions in developed economies to issue offshore debt. This is used to finance real or financial investments, either domestically or in third countries.¹ The danger is that this creates large and perhaps invisible vulnerabilities to changes in advanced country monetary policies. South Africa, as an open economy with a relatively large number of multinational corporations, would be a likely candidate for this sort of exposure. The evidence, however, is mixed.

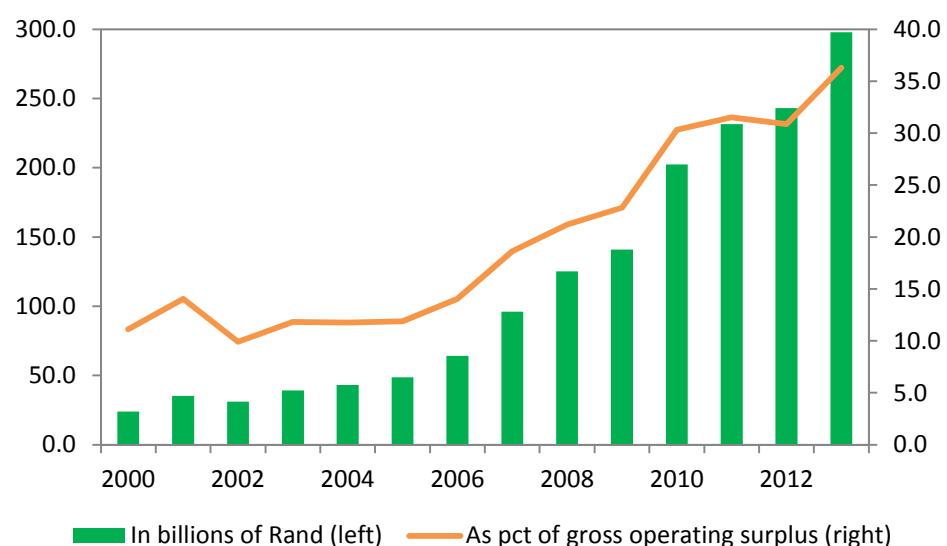
BIS research identifies three channels through which funds from offshore borrowing may flow into the local economy: (1) loans from a foreign subsidiary to the domestic parent, classified as debt FDI; (2) inter-company loans, classified as trade finance; or (3) deposits with a domestic bank (which would then appear, in the balance of payments, in "other investments – banking sector"). Analysis of South

¹ See, for instance S Avdjiev, M Chui and H S Shin, "Non-financial corporations from emerging market economies and capital flows", *BIS Quarterly Review*, December 2014, or M Chui, I Fender and V Sushko, "Risks related to EME corporate balance sheets: the role of leverage and currency mismatch", *BIS Quarterly Review*, September 2014)

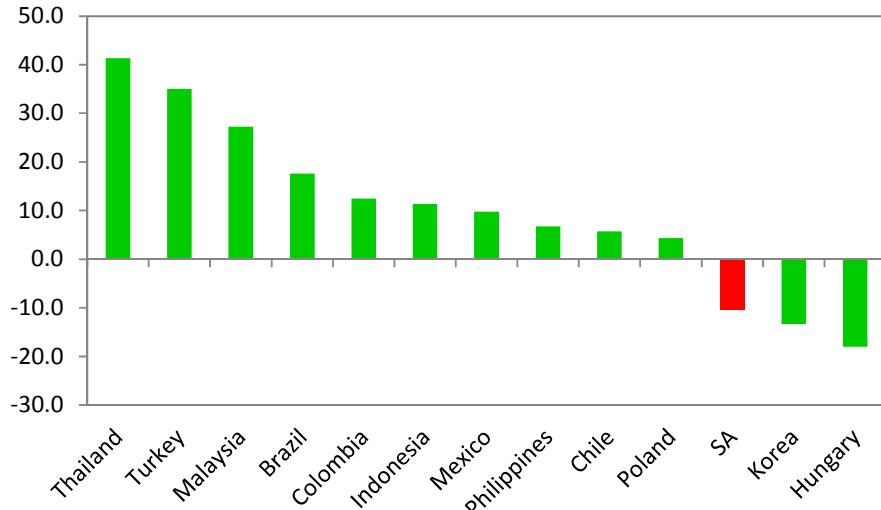
Africa's balance of payments and foreign liabilities suggests that most of the increase in foreign borrowing came through channel (1). "Debt FDI" liabilities for the private non-banking sector have more than doubled over the 2008–13 period (see Graph 1), rising to about a third of the non-financial corporate sector's gross operating surplus. Flow data, for the first three quarters of 2014, show the incurring of debt FDI liabilities worth ZAR 44 billion. Importantly, though, most of that "debt FDI" appears to reflect loans from foreign-based multinationals to their South African subsidiaries, rather than capital raising by South Africa-based firms through their foreign subsidiaries.

Debt FDI liabilities of the private non banking sector, 2000-13

Graph 10



Liabilities classified as "short-term loans and trade finance" have also increased in recent years – from ZAR 25 billion in 2010 to ZAR 55 billion in 2012 and ZAR 82 billion by end-2013, although flow data suggest this reflects in part valuation effects. These liabilities, however, remain small relative to debt FDI liabilities. The same observation applies to external liabilities in the form of bank deposits. While they rose to R103 billion by end-2013, from as low as ZAR 63 billion in 2010, their level has fluctuated over the years and remains similar to that seen at the end of 2008.



Higher private sector foreign debt has not fed into domestic credit creation or property price growth – contrary to what has been observed in some other EMEs – nor has it triggered a pickup in real gross fixed capital formation (GFCF) by the private sector. In fact, South Africa is one of only a few large EMEs where private credit has fallen as a share of GDP between 2008 and 2013 (see Graph 2). Equally, the ratio of GFCF to GDP remains well below pre-crisis levels, unlike in most Asian economies.

The fact that external debt financing is picking up from low levels, as well as the traditional reliance on equity (as opposed to debt) financing by South Africa's large corporations, probably explains why the trends described above have not had significant macro implications. In addition, South African corporates probably exploited cheaper foreign funding to finance investments abroad. Balance of payments data show that net outward FDI has increased significantly in recent years (ZAR 24.5 billion in 2012, ZAR 65.2 billion in 2013 and ZAR 65.9 billion in January–September 2014). As of end-2014, the stock of the non-financial corporate sector's FDI assets amounted to as much as 92% of its FDI liabilities, a much higher ratio than in earlier years.

(6.) What would be the impact on bank and non-bank corporations' balance sheets of a potential tightening of global financial conditions?

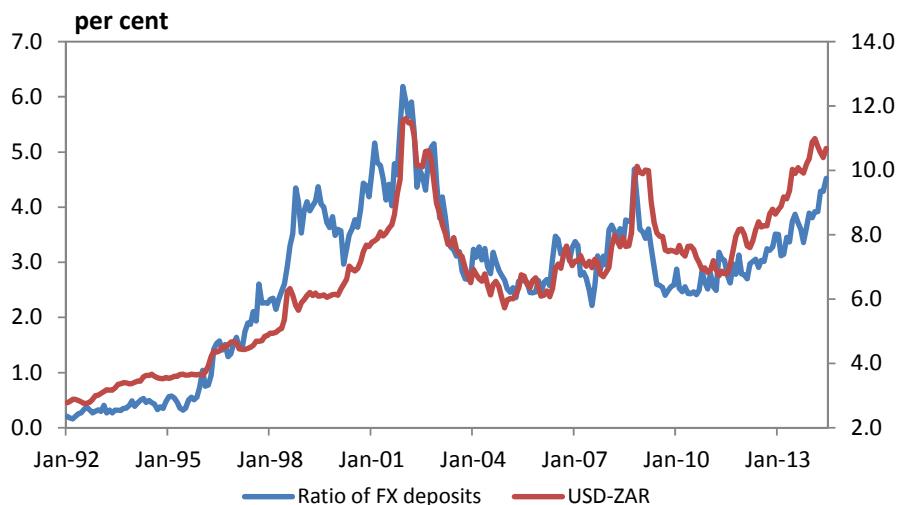
In an environment of greater cross-border exposure, tighter global financial conditions could damage corporates in several ways. Firms may find it more difficult and costly to refinance external debt. They may suffer valuation losses on their financial assets. Finally, FX asset-liability mismatches could affect their solvency. In South Africa, the banking sector's vulnerability is limited by: (1) the relatively low level of FX assets and liabilities; (2) the fact that they are reasonably well matched; and (3) the relatively low share of fixed income securities in their total assets.

While the FX deposit share of total bank deposits shifts in response to exchange rate fluctuations, it has never been higher than 6% over the past decade

(see Graph 3). In addition to FX deposits (ZAR 139 billion as of September 2014), South African banks received other foreign currency funding to the tune of ZAR 133 billion, representing altogether 6.6% of total liabilities. On the asset side, however, FX loans and advances totalled ZAR 314 billion, with an additional ZAR 163 billion of separate foreign investments. Hence, the South African banking sector's net external position is positive, meaning that the balance sheet should strengthen marginally in the event of rand depreciation – the latter being the likely consequence of a tightening in global financial conditions.

FX deposits with South African banks as share of total deposits and USD-ZAR exchange rate, 1992–Jun 2014

Graph 12



At the same time, South African banks do not have a high level of exposure to fixed income securities, which limits interest rate risk. Non-share financial investments, as of September 2014, amounted to ZAR 707 billion, or 17% of banks' balance sheets, the bulk of which consists of government bonds and Treasury bills, as well as derivative instruments issued by other South African banks. Banks would likely suffer some mark-to-market capital losses on their bond portfolios if global yields rise, particularly if domestic and US bond yields remain tightly correlated. Otherwise, South African banks benefit from very low exposure to higher-risk corporate bonds or asset-backed securities.

Corporate deposits with local banks remain elevated (see question 7), although these elevated cash holdings probably reflect domestic constraints on investment rather than a carry trade between cheap external funding and higher domestic interest rates. As for the risk of currency mismatches, the risk of higher FX debt servicing costs in the event of ZAR depreciation and higher global risk aversion is mitigated, in the case of commodity producers and manufactured goods exporters, by the FX denomination of most of their earnings.² At the same time, the relatively

² Indeed, Chui et al (2014) listed South Africa, together with Brazil, Mexico and Russia, as countries where the vulnerability of corporates should be reduced.

close match between FDI assets and the liabilities of the non-bank corporate sector (see question 5) is also a reassuring factor, even if some of these FDI assets are not in hard currencies (about 17%, for example, are in the rest of Africa).

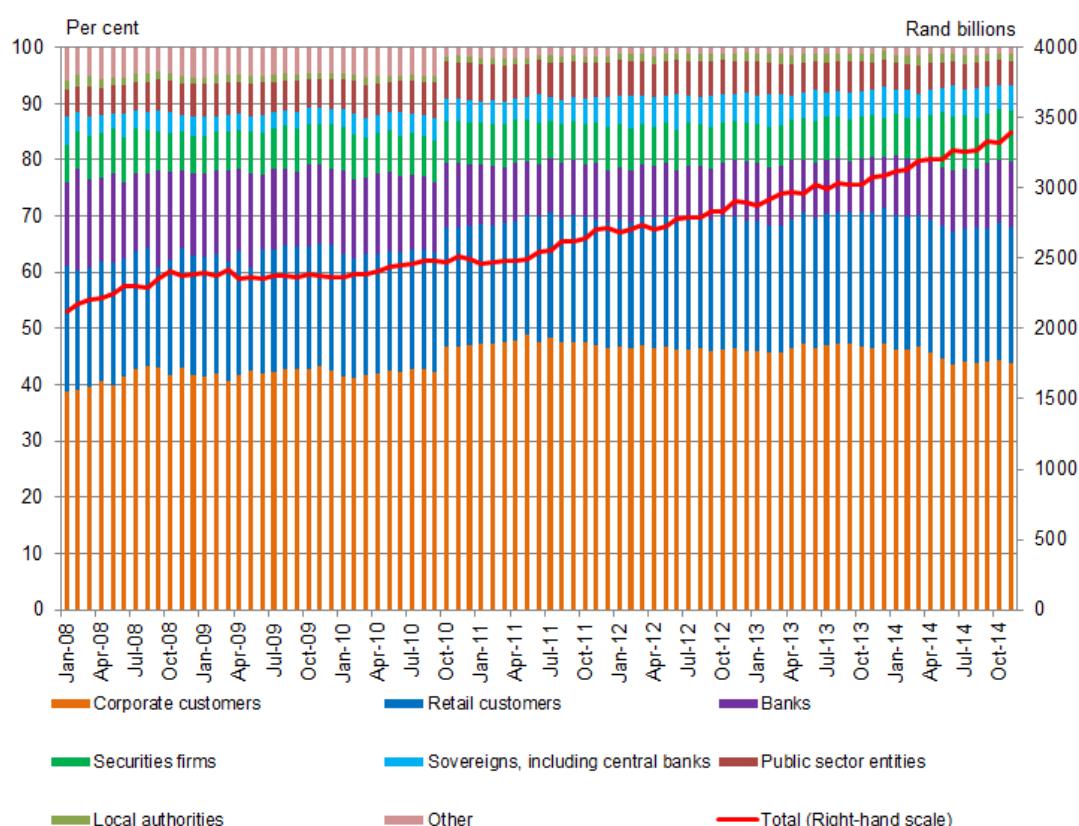
- (7.) What is the share of corporate deposits in total bank deposits? To what extent has it been affected by international debt issuance by non-financial corporations? What other interactions between banks and non-bank corporations' balance sheets are likely to be important from the viewpoint of monetary and financial stability?

Corporate deposits

As a percentage of total bank deposits, corporate deposits remained in a fairly narrow range. Adjustments made by one of the big banks in October 2010 to their classification of deposits elevated the level somewhat, but overall, prior to the global financial crisis and post the global crisis, the composition of total deposits remained fairly stable. According to the latest data available (October 2014), corporate deposits remained the largest component of banking sector deposits, accounting for 44.4% of total deposits.

Corporate deposits as percentage of total deposits

Graph 13

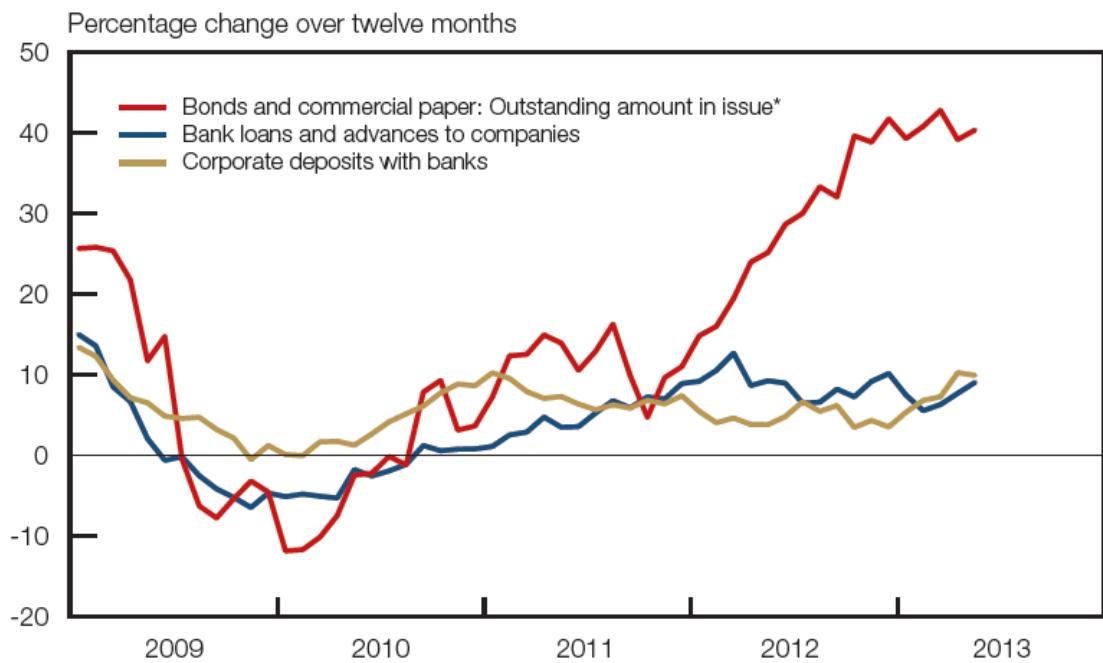


While growth in credit extended to corporates (by banks) has remained relatively constant (see Graph 2), the growth in bonds and commercial paper has increased rapidly in 2011 and 2012. Following this, however, the growth in the

corporate bond market³ lost momentum in 2013 and 2014, with the nominal amount in issue increasing by only 9% in 2013, compared to 19% in 2012.

Bank loans and advances to companies compared to bond issuance and deposit growth

Graph 14



Excluding government bonds. Source: South African Reserve Bank, Annual Economic Report, 2013, p 66, JSE Limited

In 2014, lacklustre investor appetite and dwindling issuances were evident from August following the African Bank curatorship and bank credit rating downgrades. Some companies withdrew bond issuances in the wake of the above as borrowing costs were driven higher. Net issuances by the private sector of ZAR 12 billion in the first ten months of 2014 therefore fell short of the net issues of ZAR 20 billion recorded over the same period in 2014.⁴

³ South African Reserve Bank, *Quarterly Bulletin*, September 2014.

⁴ South African Reserve Bank, *Quarterly Bulletin*, December 2014.

Net issuances of bonds and commercial paper by issuer

Table 4

ZAR billions	2011	2012	January to June 2013	Amount in issue as at 30 June 2013
National government	149	176	63	1 089
Public enterprises.....	10	15	13	218
Local governments.....	-1	-0,3	2	16
Banks.....	31	55	-0,2	235
Non-bank private companies.....	7	28	9	103
Securitisation.....	1	-2	6	80
Non-residents.....	2	-2	-1	6
Total.....	199	269	92	1 747

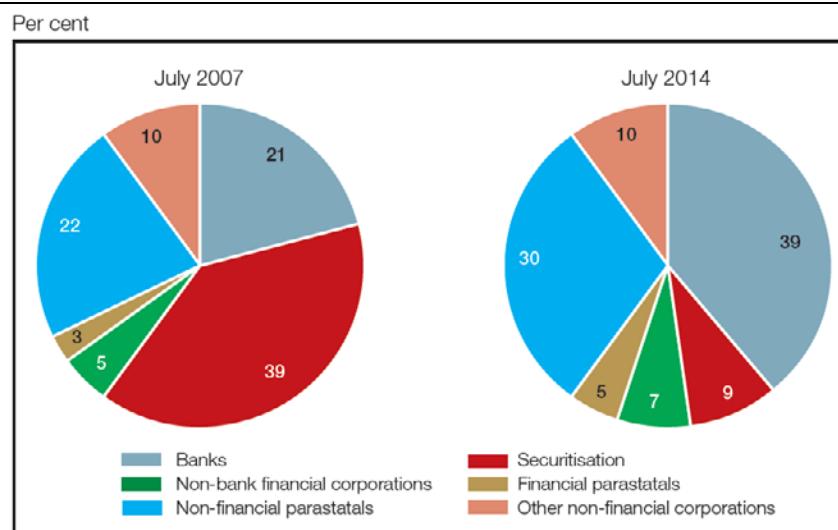
Non-bank private companies in particular reduced their net issuances of bonds and continued with net redemptions of commercial paper, while funding through the issuance of securitised instruments also remained out of favour in 2014.

The banking sector, on the other hand, recorded higher net issuances, amounting to ZAR 21 billion in the first 10 months of 2014.

This trend is reflected in Graph 3, where by showing the share of amounts issued by type, it can be seen that in July 2014 banks accounted for almost 40% of the amount in issue in the corporate bond market, whereas seven years ago, prior to the financial crisis, securitisation issuances dominated with almost 40% of the amount in issue.

Corporate bond market amounts in issue by issuer type

Graph 15



Source: South African Reserve Bank, Quarterly Bulletin, September 2014.

International bond issuances

While corporate deposits as a share of total deposits remained more or less constant, and net bond issuances by the private sector slowed in the first 10 months of 2014 compared with 2013, offshore issuances of rand-denominated debt in the European bond markets grew rapidly in 2014. For investors, the attraction of Eurorand debt has been the combination of high yields and highly rated issuers. Investors have, therefore, been able to earn rand interest rates, but at lower perceived credit risk than if they had invested directly in South Africa. Eurorand debt has been extremely popular with retail investors who have been willing to accept rand exchange rate risk but preferred the lower credit risk of an investment-grade issuer. The attraction of the Eurorand market for issuers has been the low cost of funding. Interest in rand-denominated bonds in the Japanese uridashi bond market, however, continued to be subdued in 2014, with more redemptions than issues. As a result, the net issues in the Eurorand market were the key driver of the overall net issues of almost ZAR 21 billion in the first 10 months of 2014 across both markets, as shown in Table 2.

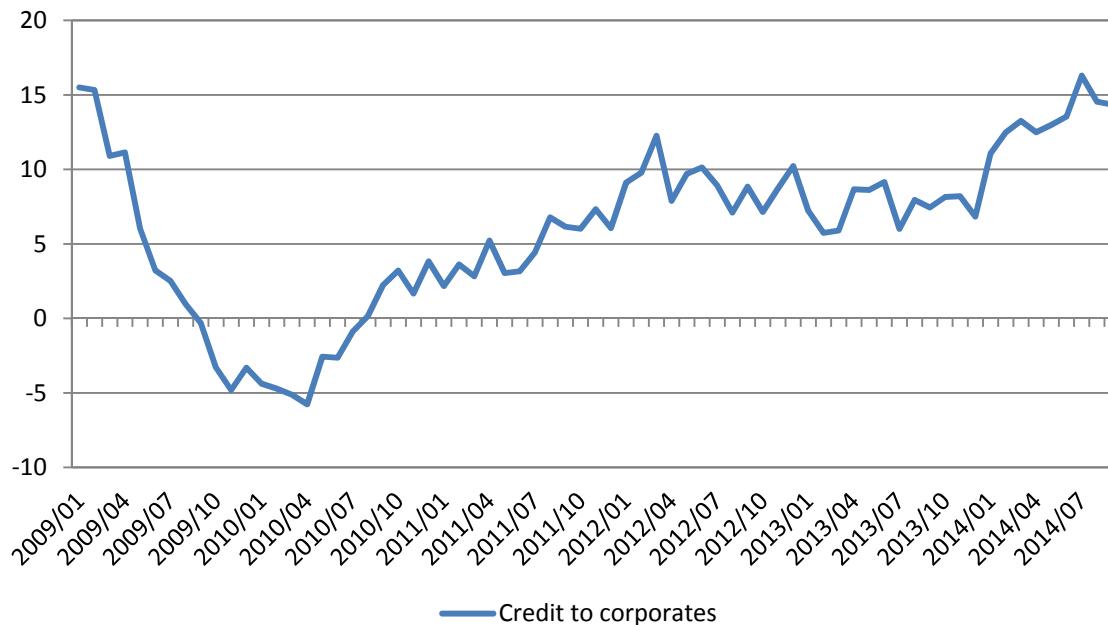
Rand-denominated bonds issued in international bond markets, January to October

Table 5

	R millions					
	Eurorand		Uridashi		Total	
	2013	2014	2013	2014	2013	2014
Issues.....	17 544	25 594	9 485	1 589	27 029	27 183
Redemptions.....	10 260	3 478	16 293	2 998	26 553	6 476
Net.....	7 284	22 115	-6 809	-1 409	475	20 707

There are several interactions on banks' and non-bank corporations that are likely to be important from the viewpoint of monetary and financial stability. Firstly, banks extend credit to corporates (see Graph 4). If the cost of this funding changes, it could result in corporates moving to the bond market for funding, or even to other non-bank financial intermediaries. The cost of bank funding appears to have increased recently⁵ as a result of changed regulatory requirements relating to the implementation of Basel III, the impact of the bail-in of certain African Bank Limited creditors and the consequent rating action by Moody's Investors Service, all of which could result in tighter funding conditions. Therefore the cost of increased regulations and the effects it could have on credit demand should be taken into account.

⁵ South African Reserve Bank, *Quarterly Bulletin*, December 2014.



Also, even though banks hold almost 40% of the amount of bonds in issue in the corporate bond market, the share of non-bank financial corporations has also increased marginally over the past seven years. It should be taken into account that there are most likely overlaps in the holders of bank and non-bank financial bonds. Hence bank and non-bank corporations share common investors, in addition to investing in each other.

C. Implications for monetary policy

- (8.) How have recent changes in financial intermediation affected the transmission mechanisms of monetary policy in EMEs (eg size and speed of pass-through of changes in policy rates, responsiveness of overall credit conditions and asset prices, impact on debt service ratios and through these, on the macroeconomy)?

Conventional wisdom holds that changes in monetary policy are transmitted more slowly in countries with greater bank intermediation than in those with high market intermediation. This reflects the fact that banks typically absorb part of the initial tightening in monetary policy via their margins, especially if (as is normally the case at the start of a tightening cycle) business conditions are buoyant and bank profitability is good. Equally, they may delay the pass-through of rate cuts if they feel the need to rebuild margins. By contrast, a market-based financing system can actually amplify a monetary policy decision, for instance if a rate hike not only is reflected through the whole yield curve but also results in wider corporate and mortgage bond spreads to governments, as well as weaker equities. The "taper

"tantrum" of 2013 was a case in point. A financial system that shifts towards market intermediation should therefore become more skittish (or, as proponents might contend, nimble).

South Africa's financial system is a hybrid one in that banks provide most financing to households and small to medium enterprises (SMEs), whilst large companies mostly use equity markets. This system has not changed radically since the crisis. The private corporate bond market is growing, but it remains relatively small and banks still account for the bulk of outstanding issues. The non-bank financial sector has grown significantly over the past decade, but the bulk of its assets are in the hands of pension funds and life insurance companies, which are important buyers of government and state-owned enterprise (SOE) bonds, as well as equities, but play a more limited role in the financing of the rest of the economy. The shadow banking system, defined as all non-bank financial intermediaries other than insurance companies, pension funds and public financial institutions, now accounts for about 18% of financial intermediation, up from 13% before the crisis.

Since the 2008–09 recession, non-residents have been significant investors in local bond and equity markets. This has transmitted super-loose monetary policies to the domestic economy and should therefore also convey tightening. These developments primarily affect the bigger players: government, SOEs and large corporations. The rest of the economy should be affected more indirectly.

(9.) How [have recent changes in financial intermediation] changed the sensitivity [of monetary policy] to global monetary and financial conditions?

South African financial conditions have been strongly affected by global conditions since the 2008 crisis. For instance, the correlation between the yield on South African 10-year government bonds and US 10-year Treasuries jumped from 0.22 before the collapse of Lehmann Brothers to 0.84 afterwards. South Africa has also been one of the EMEs most exposed to changes in global conditions, as has been clear at least since the May 2013 "taper tantrum". But the reasons for this seem to have relatively little to do with financial intermediation. The causes are more likely the old-fashioned vulnerabilities of large twin deficits.

In all the countries rocked by the "taper tantrum", monetary policy has been tightened, although the responses varied in their pace and timing. In South Africa, the policy rate was raised by 50 basis points in January 2014 and by an additional 25 basis points in July 2014, despite a subdued outlook for economic growth.

(10.) How should monetary policy adapt to the changes in financial intermediation? For instance, to what extent should it react to sharp changes in risk premium in EME debt markets (through interest rate and/or balance sheet measures) and respond to broader vulnerabilities?

As the previous answer makes clear, for South African monetary policy, the traditional vulnerabilities – especially the twin deficits – are more significant than new risks from changes in financial intermediation. Markets have become apprehensive of EMEs with large current account deficits, which require financing that might become scarce as global monetary conditions tighten.

The immediate consequence has been currency depreciation, realised in bursts and interspersed with periods of relative calm. These conditions have coincided with

slowing growth. The difficulty for policymakers has been crafting an appropriate response. The risks are two-sided. Higher rates could depress output and widen an already negative output gap. However, it is also possible that, by moving too slowly, policymakers might ultimately allow a crisis to develop, perhaps in the form of a "sudden stop". Less dramatically, higher inflation from a depreciating currency could unhinge inflation expectations, eventually requiring a stronger monetary response. The recent collapse in oil prices has lent support to the inflation outlook, tempering this problem. But permanently lower oil prices cannot be guaranteed, and the benefits of cheaper oil would be diluted or possibly even nullified by additional currency depreciation.

To achieve the right balance, it is probably necessary not to deviate too far from changes in world policy rates. Within the context of the SARB's Quarterly Projection Model (QPM), a 100 basis point increase in international policy rates causes depreciation which ultimately leads to an increase in the repo rate of between 50 and 60 basis points (see Graph A.9.1). This calculation is rendered more difficult by policy divergence between major advanced economy central banks. The US Federal Reserve has tightened policy by tapering and recently ending quantitative easing, and is expected to raise its policy rate in the second half of 2015. However, other major central banks have shifted to easier monetary policies, perhaps offsetting some of the Fed's impact on global monetary conditions.

(11.) To what extent do macroprudential policies influence the transmission mechanism of monetary policy? How far do they complement or substitute for interest rate policies?

In contrast to a number of other economies, South Africa has not experienced a situation in the post-crisis period that has necessitated the implementation of conventional macroprudential policies in order to address risks in the financial sector. In general, both credit extension and asset prices have grown at fairly moderate rates since the depths of the financial crisis in 2009. For example, from the first quarter of 2010 to the third quarter of 2014, annual nominal credit and house price growth have averaged 6.6% and 5.7%, respectively, compared to nominal GDP growth of 8.8% over this period. In real terms, annual credit, house price and GDP growth have averaged 1.2%, 0.3% and 2.5%, respectively.

Nevertheless, the core forecasting model of the SARB has been modified to account for financial frictions that were not part of its structure before the global financial crisis of 2008 and 2009. These modifications include effective lending rates (which at times may be changing disproportionately to the policy rate, weakening the monetary policy transmission mechanism), credit extension by shadow banks (non-bank financial intermediaries), as well as certain balance sheet indicators such as banks' capital adequacy ratios, their distance-to-default and the Basel III net stable funding ratio (NSFR). Movements in any of these variables generally reflect changes in the behaviour of banks, which in turn affect the real economy through various income channels in the model. Moreover, the model's structure also accounts for the linkages between certain macroprudential policy tools and these financial variables, and therefore the ultimate impact of these tools on the real economy – were they to be implemented at any stage.

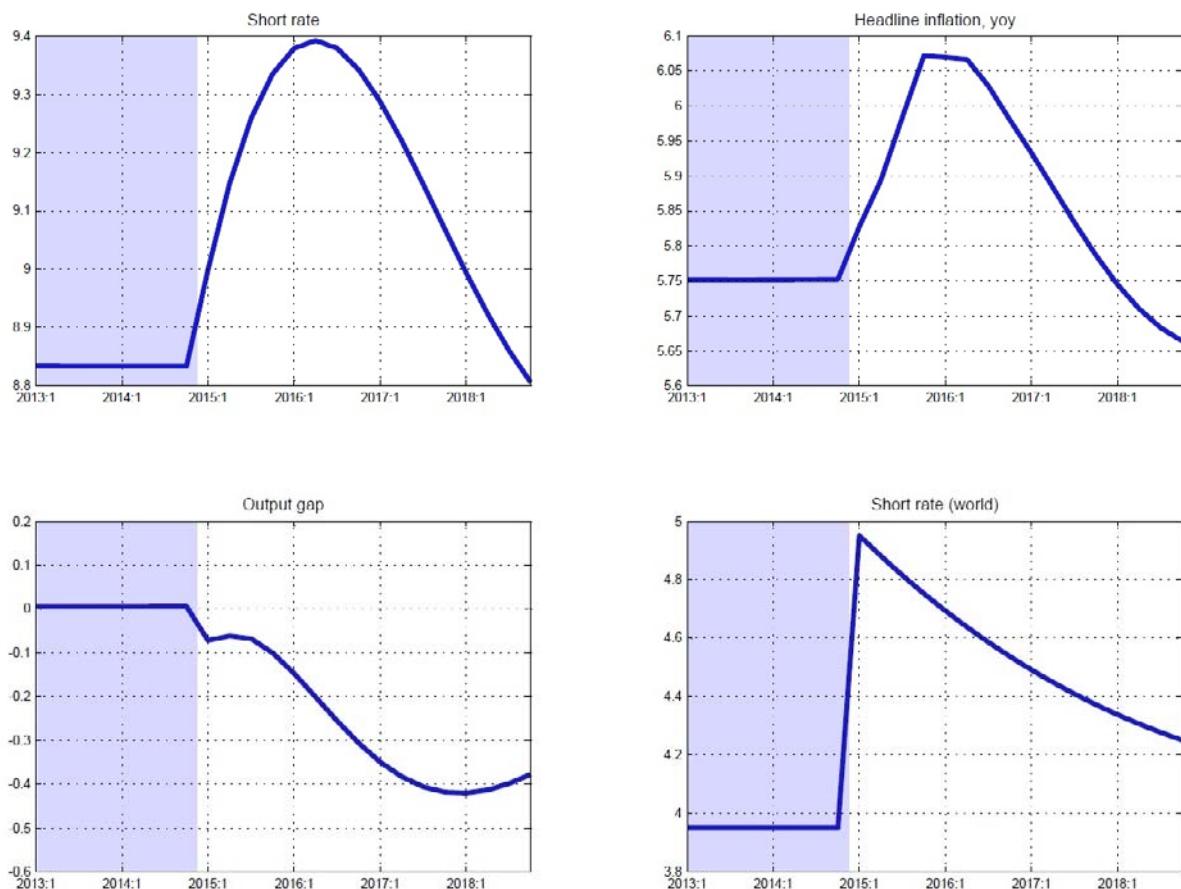
Although South Africa has not recently utilised a macroprudential policy tool, we can use the model to describe its effects. In the following example, we assume that a build-up of excessive credit extension in the South African economy

necessitates the implementation of the countercyclical capital buffer (CCCB). As advocated by the Basel III regulations, the CCCB acts as a macroprudential add-on to the banks' existing capital adequacy ratio.

Graphs 17–21 indicate the impact of a 50 basis point increase in the required capital adequacy ratio of banks following the implementation of the CCCB. The additional capital that needs to be raised by banks leads them to curtail their lending. This is reflected by a 1.05% decline in private sector credit extension after four quarters, which in turn slows down real economic activity by around 0.1% after eight quarters. Allowing monetary policy to react endogenously to the slowdown in the real economy (within the context of the model), enables measurement of the influence that macroprudential policy could have on monetary policy. Here, the 50 basis point increase in the countercyclical capital buffer leads to an eventual lowering of the repo rate by around 10 basis points after eight quarters.

Spillovers from global monetary policy to the South African economy

Graph 17-20



The response of credit and output to a countercyclical capital buffer

Graph 21

