The international transmission of monetary policy – lessons learnt in South Africa

South African Reserve Bank

Abstract

Changes in the monetary policies of major countries impact on the exchange rates and interest rates of emerging market (EM) countries, although the extent differs. Some EMs appear to be more exposed, owing to factors such as the size of current account deficits and low levels of foreign direct investment (FDI). As longer term bond flows to EMs increased, long-term rates in major financial centres have become more important since the global recession and particularly since talk of tapering initially began in May 2013. South African monetary policy, which is conducted in an inflation targeting framework, responds to changes in advanced economy (AE) monetary policies in an orthodox and therefore fairly well-understood manner.

Emerging markets reserves accumulation gathered pace following the global financial crisis. The SARB too has accumulated reserves in recent years, and follows a policy of sterilizing the liquidity. It has also recently announced some diversification of its reserves. Growing diversification of assets by international investors towards EM domestic currency bonds and equities for the international financial system should help to reduce concentration risk and achieve a more stable foreign investor base for EM issuers.

Keywords: Bond market, exchange rate, share market, current account, FDI, foreign exchange reserves, Fed, interest rates, monetary policy, stabilisation

JEL classification: G15; E52; E58; E59; F65

A. International financial spillovers

1. What are the channels of transmission of policy rates in major currency areas to EMEs? How does the impact on a particular EME depend on their current account positions and the structure of their gross cross-border positions (eg equity versus debt)?

Changes in the monetary policies of major countries often affect the **exchange rate** and the **yield curve**. The "taper tantrum" of May 2013 is a clear demonstration of these impacts as shown in Figures 1 and 2. Short-term rates jumped abruptly, signalling expectations of rate hikes, as markets initially interpreted tapering to including short-term interest rate normalisation. Similarly, the 10-year government bond rate rose 240 basis points (compared to 140 bps for the United States) and the rand – which had already depreciated in response to negative domestic news – fell even further. Emerging market economies' bonds were particularly vulnerable to expectations of QE tapering in the United States as investors' expectations were that it would reduce the "search for yield" among advanced economies (AE) investors, and in turn result in capital outflows from EMEs, which turned out to be the case, even before *actual* tapering began. Quantitative easing (QE) purchases had also resulted in a compression of term and risk premiums across a broad range of EME assets, and this trend began reversing in 2H 2013. Since late 2013, when the focus was increasingly on the timing and extent of short term interest rate normalisation, changes in these perceptions have resulted in volatile capital movements, with implications for the rand exchange rate.

However, not all emerging markets have seen AE monetary shocks transmitted and magnified to the same extent. South Africa appears to be more exposed due to the size of its current account deficit – a characteristic it shares with certain other EMEs, (see figure 3) and its relatively large and liquid financial markets which facilitate easier portfolio rebalancing by foreign investors.

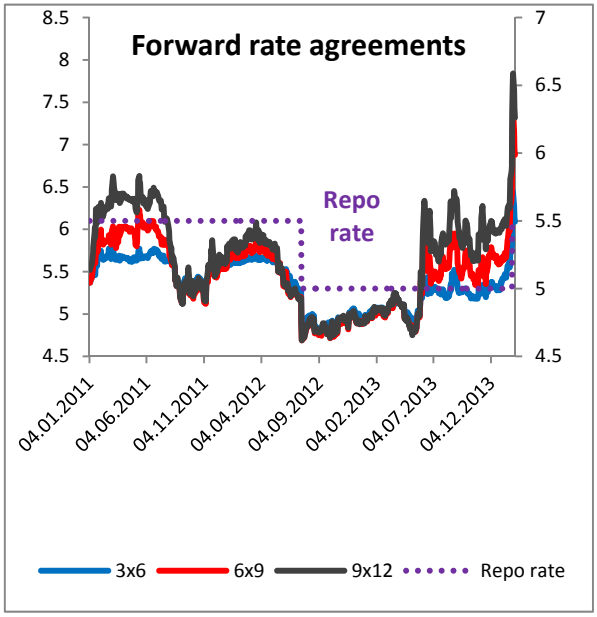
It is more difficult to identify vulnerabilities arising from the structure of gross cross-border positions. Figure 4 illustrates the rise in gross flows and the large gap between net and gross positions, a consequence of South Africa's steady integration with world asset markets. The net external liabilities of South Africa remain relatively low relative to GDP and have been paradoxically aided by the depreciation of the rand in recent years (as most liabilities are rand-denominated while assets are FX-denominated).

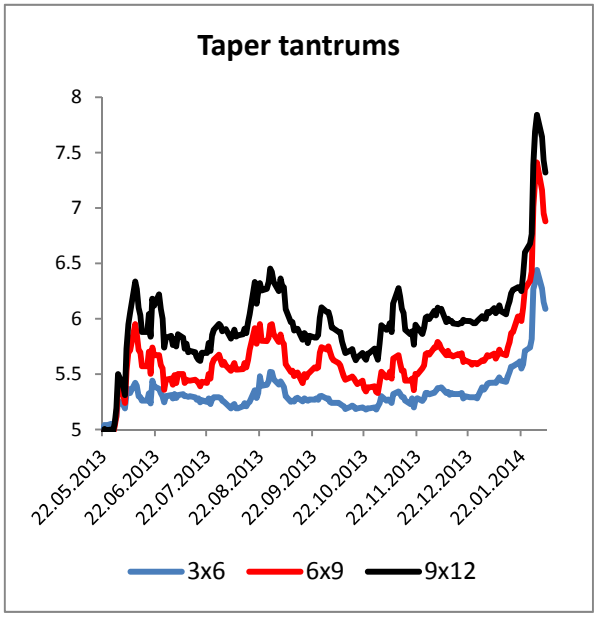
The case for considering the *structure* of flows, and especially equity versus debt, rests on the premise that different kinds of inflows create different vulnerabilities. Foreign direct investment is widely deemed more stable and therefore more desirable, but a comparable logic has been attached to equity investment.[1] According to this theory, equity investors confronted by bad news

[1] See M Brunnermeier et al, "Banks and cross-border capital flows: policy challenges and regulatory responses", Committee on International Economic Policy and Reform, November 2012, http://www.brookings.edu/~/media/research/files/reports/2012/9/ciepr/09%20ciepr%20banking%20capital%20flows.pdf.

Expectations for short-term rates in South Africa are clearly responding to developments in the United States

Figures 1 & 2

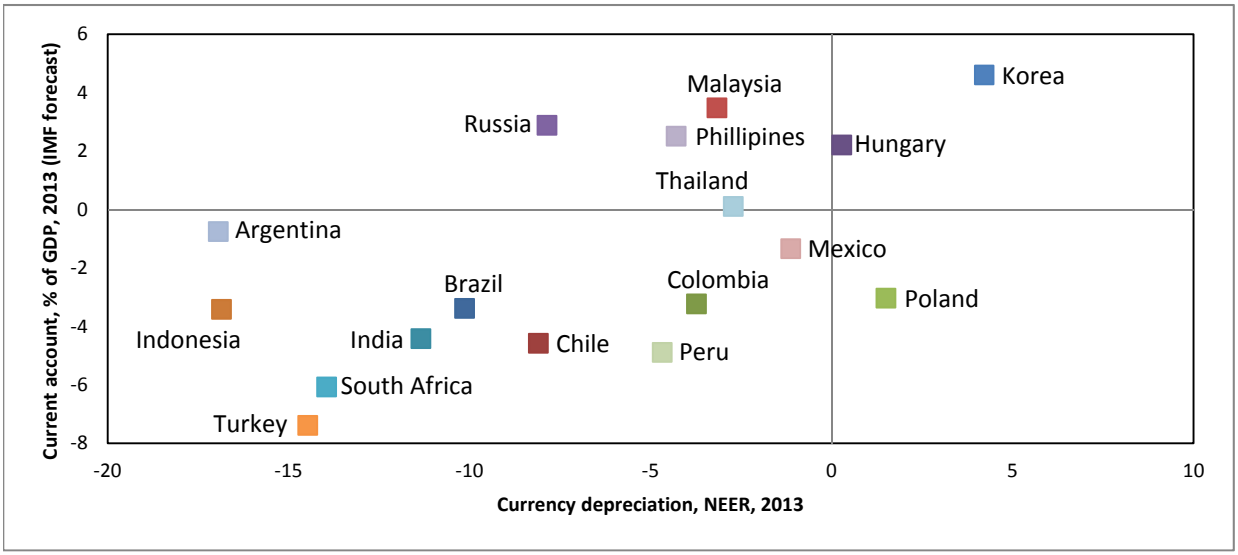




(eg an economic downturn, a major strike or a bad data release) will face losses on their investments should they try to sell, and these losses will be exacerbated if the local currency is also depreciating. Therefore, they will resist selling. Creditors, by contrast, have no incentive to persist: they can simply refuse to roll over loans without suffering further losses. The consequence is that debt flows will be procyclical and debt dependence will exacerbate boom and bust cycles. An added hazard is that banks might rely on foreign debt to fund their lending activities, so that the boom/bust cycle will be magnified by large changes in credit extension, particularly in countries where banks provide the majority of firms' financing.

The relationship between currency depreciation and current account deficits

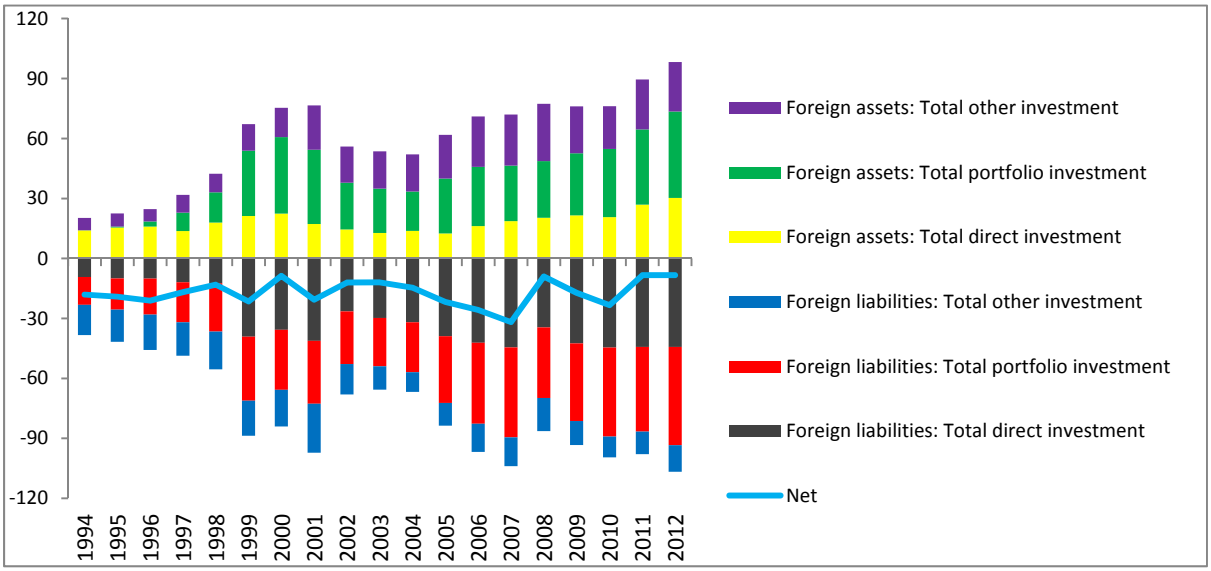
Figure 3



However, the majority of South Africa's external debt liabilities are in the form of bonds held by non-residents, and the argument made for equities (that investors will not sell so as not to realise a capital loss) can also be valid for bondholders. The denomination of the debt is also important: South Africa's private and public sector debt is mostly rand-denominated. Finally, South African banks are substantially reliant on short-term borrowing to fund their lending activities, but their greatest exposure is to domestic institutional investors. In conclusion, the type of debt is as important as the difference between equity and debt.

Gross versus net capital stocks, % of GDP

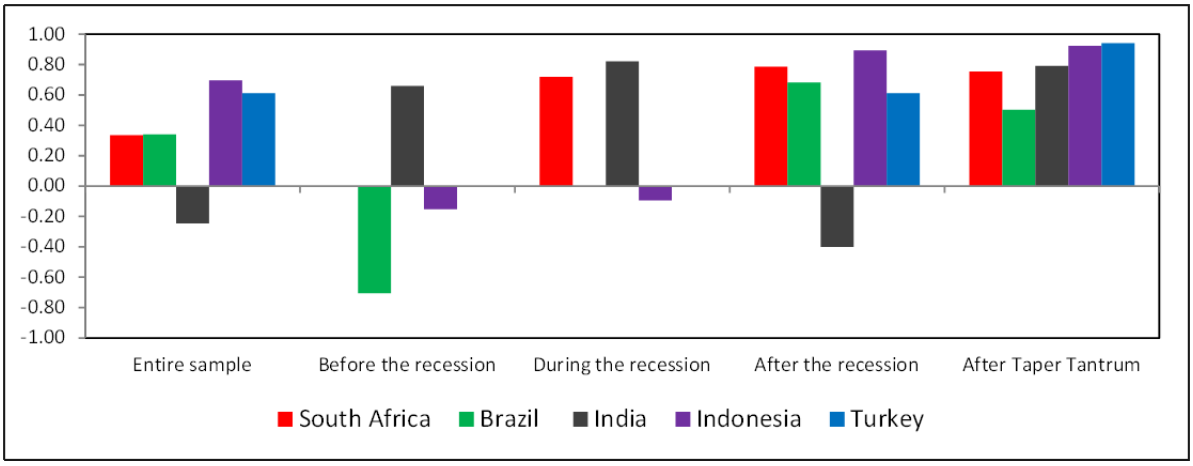
Figure 4



2. Has the influence of long-term rates in major financial centres on long-term rates in EMEs increased in recent years?

In the case of South Africa, long-term rates showed no correlation with AE rates before the great recession but this has since changed. Figure 5 illustrates this for South Africa, as well as certain other EMEs, using 10-year government bond rates as proxies for all long-term domestic rates, and the US 10-year Treasury bill for AE rates. This provides supporting evidence that long-term rates in major financial centres have become more important for EMEs since the recession and particularly since the "taper tantrum", at least for those EMEs with large current account deficits and corresponding foreign financing needs. In South Africa's case, this increased correlation with AE rates coincides with an increasing reliance on bond portfolio flows to finance the current account deficit (whereas prior to the recession, the deficit was mostly financed by equity inflows. Countries such as South Africa, India or Brazil, which have seen their potential growth estimates decline in the past few years, are now experiencing some challenges in attracting meaningful equity inflows and as a consequence, their currencies and local rates markets are more sensitive to the AE (and especially US) interest rate cycle.

Long-term rates in the BIITS have become closely correlated with US rates Figure 5



3. How do monetary and exchange rate policies in EMEs affect global monetary conditions, including the long-term rate?

South Africa's financial markets are relatively deep and liquid, but they are small in a global context, and are unlikely to affect global monetary conditions. Although SARB policy is extremely important for the sub-region, given that Lesotho, Swaziland and Namibia participate in a monetary union with South Africa and Botswana targets a basket of currencies in which the rand features strongly, outside this region South African monetary policy rarely shapes global monetary conditions.

This argument also broadly applies to other larger EM economies, apart from China, especially as their bond and equity markets remain smaller than those of AEs. Perversely, policies that lead to a sell-off in EM assets can be beneficial for markets in AEs, if investors in the latter decide to repatriate external assets (ie outflows from EM bonds and equities in 2H 2013 coincided with inflows into peripheral euro zone

bonds, which significantly improved the financing conditions for these countries). Admittedly, a very large degree of stress in EMEs does tend to raise the risk premium on a broad range of assets, including AE assets). Developments in late January and early February 2014, for example, saw a re-correlation between AE and EME equities, although this joint sell-off has since abated and in some instances reversed.

4. What explains the recent increase in capital flow volatility?

EMEs such as South Africa have experienced considerable volatility for three interlinked reasons. Firstly, with the onset of the Great Recession, AE monetary policy became very loose. Widening interest rate differentials then pushed large quantities of liquidity to EMEs. Secondly, this permitted some EMEs, including South Africa to run large current account deficits, which meant that these countries' currencies would need to adjust when inflows slowed down or reversed. Thirdly, investors found it difficult to predict the course of AE monetary policy (chiefly from the US Federal Reserve), leading to significant changes in monetary policyexpectations as new information emerged (especially the taper tantrum). Furthermore, changes in global risk perceptions (so-called "risk-on" and "risk-off" scenarios), also impact on the volatility of global capital flows. Predicting the market consequences of policy unwinding has been made even more difficult by the fact that both the scale of accommodation and the tools utilised were largely unprecedented, so that empirical models are of limited use in this exercise. The combination of perceived domestic vulnerabilities and fast-changing expectations for US monetary policy has been a significant cause of volatility.

B. Policy responses and coordination

5. How do EM monetary authorities take account of changes in advanced economies' monetary policy in their own interest rate decisions?

South Africa, as an inflation targeting country, responds to changes in advanced economy monetary policies in an orthodox and therefore fairly well understood manner. The Monetary Policy Committee (MPC) targets an inflation band of 3–6%. Should inflation diverge from this band for a prolonged period or inflation expectations become unhinged, then the MPC will respond with short-term policy rate adjustments. There are several connections between domestic inflation and AE rates. The most important is the interest differential, which will affect capital flows and therefore the exchange rate. However, the link is not automatic and depends in part on the degree to which exchange rate changes are passed through to consumer prices. A further significant factor will be the growth outlook in advanced economies, which would feed through to South Africa in the form of changes in demand and inflation. The MPC, therefore, does not respond directly to changes in AE monetary policy, but instead monitors these developments and their impact on domestic variables.

6. Should the focus of monetary policymaking be solely on managing the short-term rate?

The MPC uses the repo rate, a short-term rate, as the main instrument for achieving its monetary policy goals. The SARB currently also uses communication strategies to reinforce its interest rate actions. For example MPC statements have recently been used to strongly affirm the Bank's commitment to its inflation target, with the aim of influencing inflation expectations and changing public expectations of the timing and extent of repo rate adjustments.

There are two obvious subjects for alternative policies: longer-term rates and the exchange rate. Longer-term rates have become increasingly prominent in the monetary policies of some AE central banks, which have tried to influence them through asset purchases (eg the US Fed's quantitative easing) and forward guidance. However, there are several compelling arguments against the use of such policies, particularly in an economic environment like South Africa's. The first and most important is that South Africa, like all EMEs, is some distance from the zero lower bound (ZLB). The AE central banks which have adopted these unconventional policies have done so to effect monetary easing once short-term rates approached the ZLB. Above this point, however, further monetary easing, if desired, is simply achieved by lowering the conventional short-term policy rate. Secondly, these measures present their own set of challenges and the ability to directly determine the longer term interest rate is limited. It is not clear how effective forward guidance would be as effective in steering long-term interest rates in an open EME such as South Africa, where domestic bond yields are influenced by global rate differentials, global risk appetite and cross-border capital flows, as well as the policy signals of the domestic central bank.

When it comes to exchange rate intervention, South Africa does not target an exchange rate level or attempt to manipulate the exchange rate for monetary policy purposes. The exchange rate is generally market–determined, apart from purchases related to reserve accumulation. Such flexibility lightens the burden of the SARB regarding the extent to which it needs to accumulate exchange reserves. A further benefit of a flexible currency is that it helps to maintain external competitiveness even if other prices are downwardly rigid.

7. Is the recent accumulation of forex reserves cyclical (eg a response to low global interest rates) or structural (eg an increase in the optimal level of reserves)? How do EM central banks manage the increase in domestic liabilities associated with the prolonged accumulation of foreign assets?

In global perspective, foreign reserves serve two main goals: security and competitiveness. Reserves achieve security by providing insurance against sudden outflows. The Asian Crisis of 1998 should probably be treated as the decisive inflection point for reserve accumulation amongst EMEs because it convinced many policymakers that sudden outflows were a major threat. As Table 1 shows, the decade between 1997 and 2007 saw substantial increases in EMEs reserves – a demonstration of a structural increase in what is regarded as optimal reserve levels.

Some EMEs, however, have more reserves than can be justified by a straightforward security argument. For these countries, it is necessary to consider the role of reserve accumulation in dampening exchange rate appreciation and therefore bolstering competitiveness.

Changing reserve strategies

Table 1

	TOTAL RESERVES (% of GDP)			IMPORT RATIO (% Annual imports)		
	1997	2007	2012	1997	2007	2012
World	**4.0**	**10.0**	**13.3**	**0.3**	**0.5**	**0.6**
Brazil	5.8	13.1	16.4	0.9	1.5	1.7
China	15.0	44.0	40.7	1.0	1.6	1.8
India	5.9	22.9	14.8	0.6	1.2	0.6
Indonesia	6.7	12.7	12.4	0.4	0.7	0.6
South Korea	3.8	25.0	28.6	0.1	0.7	0.6
South Africa	3.2	10.3	11.5	0.2	0.4	0.4
Thailand	16.7	34.2	47.3	0.4	0.6	0.7
Turkey	7.1	11.3	12.7	0.4	0.4	0.4
Developing countries	**11.2**	**29.7**	**30.9**	**0.5**	**1.0**	**1.0**
Middle income countries	**11.0**	**29.4**	**30.6**	**0.5**	**1.0**	**1.1**

South Africa has accumulated significant foreign exchange reserves, with the goal of achieving security but not in an attempt to manage the exchange rate. In just under two decades, the SARB's reserves have expanded from a net negative position (US$25 billion) to around US$50 billion. The SARB's *strategy* is to hold reserves adequate for security whilst remaining cognisant of their cost. At current levels, the SARB's reserves are regarded as being at the low end of the IMF's reserve-adequacy metric, and the policy remains to continue to build reserves in a prudent manner as circumstances allow.

It is probable that low global rates will coincide with rand strength as foreign investors search for yield. This connection, however, has broken down over the past couple of years owing to both domestic and external factors.

The SARB follows a policy of sterilising the liquidity created through reserve accumulation, for which purpose it uses mainly SARB debentures, as well as government deposits, foreign exchange swaps and reverse repos. Owing to the interest rate differential between South Africa and the issuers of reserve assets, South Africa makes a loss on its reserve holdings. The Bank is also exposed to interest rate risk. (These problems are qualified by the fact that SA's reserves have yielded large *profits,* in rand terms, given fluctuations in the exchange rate, but these profits are unrealised).

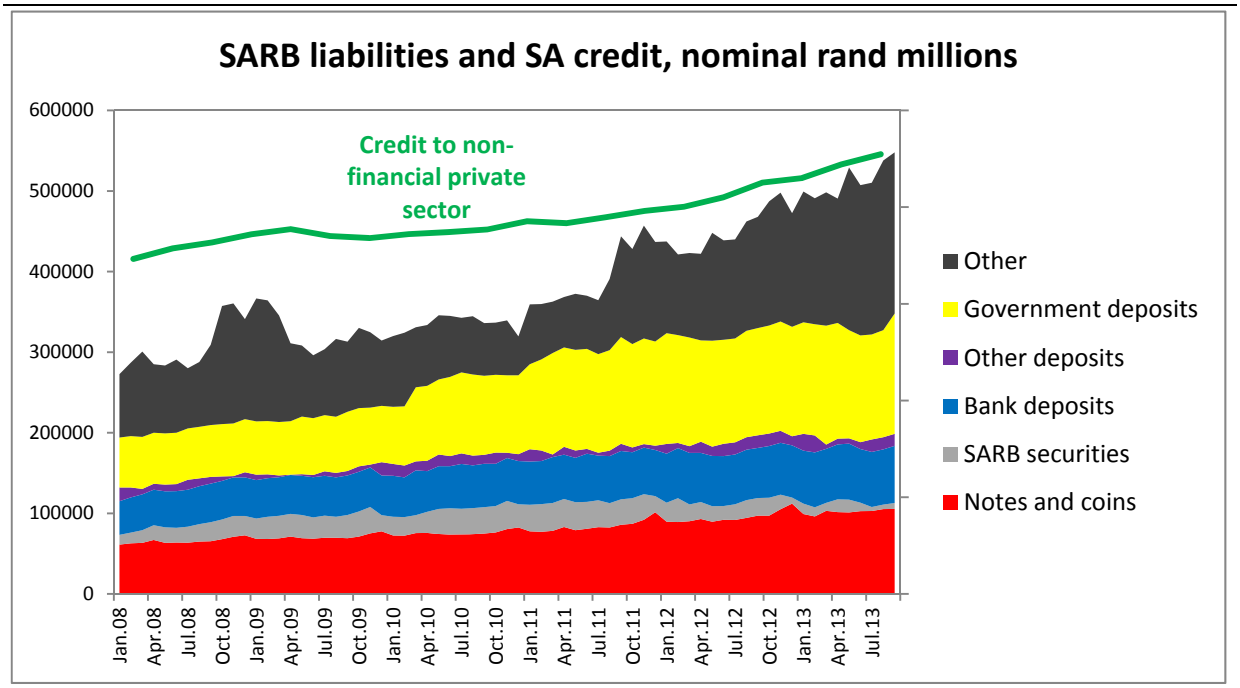
8. How effective have policies aimed at influencing the structure of central bank liabilities been in limiting bank credit expansion?

This question seems to have limited relevance for South Africa as it has not used such policies, and credit extension to the private sector is still quite far below the pre-crisis peak, measured as a share of GDP.

Figure 6 illustrates the structure of the central bank's liabilities and non-financial sector credit extension (the latter using BIS data). It shows relatively smooth and consistent changes in the structure of SARB liabilities, roughly in line with growth and inflation.

SARB liabilities and SA credit, nominal rand millions

Figure 6



9. What non-monetary policy measures have proved particularly effective in maintaining monetary policy independence?

"Monetary policy independence" is here understood as one of the three potential goals that make up the trilemma (the other two are free capital movements and a fixed exchange rate). South Africa's choice has been clear: monetary policy independence is the top priority, capital controls are generally limited and the currency is free to adjust. The floating rand is a crucial shock absorber for the economy and an important element of monetary policy. By protecting monetary policy independence, the MPC has been able to maintain low interest rates to stimulate economic activity despite significant currency depreciation.

C. Internationalisation of EM currencies

10. What are the implications of growing diversification of assets by international investors towards EM domestic currency bonds and equities for the international financial system?

Ultimately, the international financial system should benefit from greater diversification. If investors hold more balanced portfolios, which include larger portions of EME stocks and bonds, they will achieve reduced concentration risk. Furthermore, in the run-up to the Great Recession investors overstated the risk-reward profiles of AEs and have since come to appreciate that EMEs are relatively more attractive than previously thought, prompting a necessary rebalancing. Diversification of assets can also imply a more stable foreign investor base for EME issuers, as institutional real-money flows are generally less volatile than hedge fund flows, which in the 1990s were often the major drivers of capital flows into EMEs. In South Africa, for instance, this may have helped reduce the sensitivity of bond yields to exchange rate movements compared to the currency crises of the late 1990s. However, the switch from AEs to EMEs had its own challenges and there are risks of disruptive corrections arising particularly from the procyclicality of international capital flows, with a worst case scenario of sudden stops in emerging markets that have attracted significant inflows. The appropriate responses for policymakers in vulnerable EMEs are to let currencies float, minimise risk-multipliers like foreign-denominated debt and maintain adequate reserves.

11. How do official investors in emerging economies (sovereign wealth funds or central banks) select which other EMEs to invest in?

The three standard objectives for reserve management are: (1) capital preservation, (2) liquidity; and (3) returns, in that order. However, this framework has been challenged by the extremely low returns available on traditional reserve assets, the interest rate risk presented by the prospect of monetary tightening from AE central banks and the reduced availability of AAA-rated assets. This has not changed the ranking of objectives but it has increased the weighting given to returns. South Africa has therefore recently announced some diversification of its reserves into Chinese renminbi, as well as plans to use Australian dollarsand Korean won. The attractiveness of the renminbi is that it offers great liquidity, through a bond market that is already the world's fifth largest and growing, as well as relatively attractive returns. The other currencies mentioned also offer higher returns at low risk (policy rates in Australia, New Zealand and Korea are all 2.5% at present, compared to <0.25% in the US).

12. Which EM currencies are likely to play an international role in the future?

The most obvious EME candidate for reserve currency status is the renminbi, especially as China has taken some gradual steps towards the internationalisation of its currency, which appears to be a long-term policy goal. As mentioned above,

South Africa has already diversified a portion of its reserve holdings into the Chinese currency, attracted by the liquidity of a large and growing bond market and the higher returns available on these assets. Because China is South Africa's single biggest trading partner, its currency is also an important reference point. The other emerging market currency South Africa plans to use for its reserve holdings is the Korean won. Although South Korea is of course a far smaller market than China, with a correspondingly smaller trade share and bond market, it shares with China a high credit rating.

13. What are the benefits and risks to an EME from growing international use of its own currency?

The issuers of international currencies, especially reserve currencies, enjoy seigniorage revenues, as well as lower borrowing costs, including some immunity to sudden outflows. But these benefits must be weighed against the advantages of an undervalued or overvalued currency, especially for industrial policy.

In a sense, the potential EM issuers of reserve currencies face a problem akin to the Triffin Dilemma: if other countries are to accumulate their assets, then they need to run current account deficits. However, the more they run such deficits the less desirable their currencies will be as reserve assets. The dilemma has an interesting twist for those countries that have built up their own reserves not simply as insurance against outflows but to achieve a competitive currency and therefore a dynamic export sector which generates current account surpluses – such as China and South Korea. It is likely that, as EMEs develop and move up the value chain, appreciated currencies will be more tolerable. However, even wealthy societies with large manufacturing sectors may still at times feel the need to resist currency appreciation, for instance if they are experiencing deflation or to protect the competitiveness of their industries. This dilemma is likely to repeat itself as EMEs with large manufacturing export sectors confront greater international appetites for their currencies.

Over time, EMEs generally witness real currency appreciation as their economies converge towards AE levels of developments and income levels. Nonetheless, in the event that demand for their currencies result in an appreciation of the said currencies that is faster than justified by this convergence, this development path itself can become jeopardised.

The rand is not likely to become a global reserve currency in the near future, but it is still widely used internationally. Because South Africa has highly developed financial markets and a largely non-interventionist philosophy regarding the exchange rate, the rand is widely traded, often as a proxy for emerging markets and volatility in equity prices (note the correlation between the Rand and the VIX). This sometimes has unsettling consequences, for instance when the rand's value adjusts abruptly because of non-South African factors, but open capital markets do bring along benefits as they generally lower borrowing costs.