South African Reserve Bank

A keynote address by Daniel Mminele,
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at the Asset and Risk Management Forum

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Good morning, ladies and gentlemen.

It gives me great pleasure to welcome you to this second day of the Asset and Risk Management Forum.

Yesterday's sessions touched on some pertinent and topical issues, as well as on the risks facing us as central-bank reserve managers. I hope that you have found yesterday's sessions informative, and I am sure today's session will be equally so.

In some sense, as the era of low policy rates and quantitative easing seems to be drawing to a close, we are entering new and unchartered territory. While the landscape in front of us appears ever-changing, complexities continue to abound. As such, opportunities to engage with peers – opportunities such as this forum – are proving to be invaluable.

In keeping with information exchange and peer learning being one of the objectives of this forum, I thought that I should use my key note address this morning to focus on a topic that was the subject of one of the panels yesterday, namely strategic asset allocation, and share with you the evolution of the South African Reserve Bank's (SARB) approach to the SAA over the last few years, and what we are currently up to. The importance of an appropriate SAA framework cannot be overemphasised.

The asset allocation decision is widely regarded as one of the most important investment decisions to be made, and in support of this view, numerous studies have also shown that the asset allocation decision is one of the key determinants of performance.[1]

For reserve managers, the asset allocation decision does not start with optimising for performance. Its first objective is to ensure capital preservation and liquidity. As such, the SAA process becomes ever more important but also ever more complex. Only once capital preservation and liquidity have been adequately provided for, will considerations of return be incorporated. The process governing the SAA becomes vital to ensure that this non-trivial and important tool is implemented efficiently.

The South African Reserve Bank's strategic asset allocation framework

The management of the SARB's official gold and foreign exchange reserves is governed by our Investment Policy, which provides a framework for our risk appetite and defines the criteria for the management of reserves. The policy specifies, among other things, the governance structures, the aggregate risk tolerance levels, and the eligible asset classes.

However, on its own the Investment Policy can be seen as nothing more than a wish list. The SAA is a process which aims to ensure that the Investment Policy's objectives and targets are implemented successfully. In this sense, it serves as the key vehicle through which the investment policy is pursued.

At a high level, the SAA is presented as a set of long-term target currency and asset allocations with the highest likelihood of achieving long-term investment goals within certain risk constraints, as defined by the Investment Policy. In a way, this presents SAA as a pure optimisation problem. However, a purely quantitative solution does not always lend itself to practical implementations.

[1] See, for example, *Strategic asset allocation and other determinants of portfolio returns* by Hoernemann et al. (2005) and *The asset allocation debate: a review and reconciliation* by Tokat et al. (2006).

Consequently, the SAA process also contains an important qualitative assessment, which can result in a portfolio construction that sits below the efficient frontier but which can efficiently be invested in – and which reflects practical considerations.

From an overarching perspective, this seems simple enough: run an optimisation across a set of benchmarks and select that portfolio which is as close to the efficient frontier as possible but is also practically implementable. However, this description masks the myriad of complexities and moving parts within a truly successful SAA process. As is often the case, theory and practice are not perfectly aligned!

For us at the SARB, SAA is an ever-evolving process, refined through experience and learning. As a result, our SAA process has developed over time, both in response to various crises but also as we have become more aware of the specific challenges and requirements that face us as managers of the country's reserves.

Background to the South African Reserve Bank's strategic asset allocation framework

As an introduction to our most recent SAA review, and to give some context, allow me to provide a brief history of reserves management in the SARB. It was not until 2004 that the SARB actively managed parts of its own reserves through its internal portfolio management team. Prior to that, we had exclusively made use of external fund managers. This started in 1999, with a programme of US$500 million managed between five private sector fund managers. Three years later, in 2002, the programme size would increase to US$1 billion.

It is important to note that, at this stage, we had not implemented an SAA yet and that a large portion of the reserves was borrowed funds. The goal was to preserve capital, including the cost of holding reserves. At the time, the benchmark was the London Interbank Offered Rate, or LIBOR, plus 30 basis points to cover our borrowing costs, and another 20 basis points to cover fund management fees. We soon realised that achieving this target of LIBOR plus 50 basis points was not possible given the conservative nature of the mandates we had provided to the external fund managers.

Around 2002, we started a rather informal relationship with the World Bank Treasury. It was during this interaction that initial steps were taken to consider developing an SAA, which was eventually implemented four years later, in 2006. Needless to say, this required a revamp of our systems' capabilities and also led to our first Investment Policy being designed. We began separating the reserves into two tranches: the investment tranche and the liquidity tranche.

With more insight and exposure gained through the interaction with external fund managers and the World Bank, the SARB launched its first internally managed global government bond portfolio in 2004. At this stage, we had not yet formally joined the World Bank's Reserves Advisory and Management Programme (RAMP), but we had come to the realisation that, with net reserves in positive territory and having gained knowledge from the external fund managers, we needed a much more objective and quantitative approach to our investment decisions. In view of this, the SARB, with the assistance of the World Bank Treasury, dedicated the most part of 2005 to capacity-building initiatives around reserves management. That same year, we joined RAMP. The aim of our partnership was to ensure that foreign reserves were managed as efficiently as possible. RAMP assisted with all aspects of reserves management, including governance structures, reporting lines, risk management and analytical capabilities, as well as the design of an SAA framework.

In fact, in the following year, the SARB would complete a comprehensive review of its Reserves Management Investment Policy, and implemented its first SAA. At that stage, reserves showed good growth and net reserves sat at approximately US$25 billion. In our first SAA, we had begun structuring the foreign reserves into three tranches: the liquidity, buffer and investment tranches. However, given the good growth in reserves and the fact that the liquidity and buffer tranches were sufficient to cover both known and unexpected outflows, we started to increase our risk appetite by setting the investment tranche to target higher returns.

Of course, shortly thereafter, in 2008, the global financial markets would be roiled by a global financial crisis. Notwithstanding this, our SAA actually enjoyed good performance given the global investor flight to quality that ensued.

Securities lending

Although the robust SAA framework shielded the performance of the actively managed portfolios, both during and even after the global financial crisis, challenges were experienced in the area we had viewed as the most conservative part of the reserves: the securities lending programme.

On the cash collateral reinvestment part of the programme, we had limits on the duration of the instruments into which the securities lending agent could deploy the cash collateral but there was less of a restriction on credit quality. Through this reinvestment, and at the height of the global financial crisis, we found ourselves with some debt that would eventually trade at a few cents on the dollar. The losses, most of which were valuation losses at the time, raised many questions and provoked intense introspection on our part. However, we later recouped the bulk of the valuation losses and eventually settled for a small realised loss on the paper in question. This experience led to an overhaul of the controls around our securities lending programme, with one of the key lessons being that every element of the reserves management value chain should be actively monitored and stress-tested.

In 2015, we completed a formal review of our securities lending programme. We concluded that the securities lending activity should be viewed as a value proposition in its own right and, as a result, in 2016 we transitioned to a third-party securities lending agent model.

The South African Reserve Bank's second and third strategic asset allocation

Returning to my discussion on the evolution of the SARB's SAA, the gradual growth in reserves over the years created a need to review the SAA implemented in 2006. Taking into consideration the valuable lessons learnt from our first SAA, and the significant amount of infrastructure and skills development picked up through our partnership with RAMP, we drafted our second SAA in 2009, which preceded the second review of our External Fund Management Programme.

The 2009 SAA performed relatively well but was not without its own challenges, this time in the form of the eurozone crisis. At the time, we had modelled Europe as one single entity in our SAA process and not as individual countries. As a result, and given our allocation to the eurozone as a whole, we had exposures to Greece, Ireland, Italy, Portugal and Spain.

With spreads widening dramatically, a decision was made to exclude these countries. This resulted in a number of challenges. Firstly, a decision had to be made on whether to sell the existing positions or hold them to maturity. Secondly, all the benchmarks used for the European portfolios had to be customised, a process which took a considerable time while spreads continued to widen daily.

This event also started an important discussion on when and how a breach of the investment guidelines would be handled. Eventually, a defined breach management process was deemed necessary to be included in the investment management agreements.

The SARB's third SAA, implemented in 2013, marked an important turning point in a number of areas. At that time, gross reserves were close to US$50 billion and we now needed to seek a balance between accumulating reserves and the cost of holding foreign reserves. During this time, we had migrated to a much more defined approach to tranching, using the Jeanne-Ranciere model as a guide to the optimal amount of reserves to hold.

As a result, the three tranches were reduced to two tranches. The liquidity and buffer tranches were consolidated into one tranche, whose purpose was to provide insurance against a sudden stop in capital flows. Any excess reserves were allocated to the investment tranche, the purpose of which was to recoup the cost of holding the now singular buffer tranche. The investment tranche, however, remained subject to the constraints of capital preservation and liquidity.

A number of other important changes were made in our third SAA framework. We expanded the investment universe for internal portfolio managers to include Australia, China, Japan, South Korea and Sweden.

The aim of these changes was to include higher-yielding assets and high-quality commodity currencies. Furthermore, we introduced new asset classes: United States (US) mortgage-backed securities, dollar-denominated supranational bonds, euro-covered bonds, and the use of bond futures to enhance the efficiency of internal portfolios as global yields normalised.

At that stage, however, the existing systems could not effectively support the expansion of the reserves into additional asset classes and markets. The new asset classes also came with a requirement for more sophisticated risk analytics. As a result, the SARB commenced a process of systems renewal, which also included a total end-to-end solution supporting reserves management, treasury operations and third-party payments. The first phase was rolled out a few years later.

We had come a long way at that point, both in terms of the size of our reserves and in terms of the approach and processes around how we managed those reserves. As a sign of this improvement, in 2015 the SARB was given the CentralBanking.com 'Reserve Manager of the Year' award in recognition of the measures it had taken to ensure resilience during a challenging year for the emerging markets and in addressing the fundamental change in perceptions of risk and return under which reserve managers operate in a post-crisis world.

As alluded to during my earlier remarks on our securities lending programme, we also undertook a complete review of our custody model after the roll-out of the 2013 SAA. At that stage, we were making use of two custodians, but this led to some efficiency challenges when it came to risk and performance reporting. This review was completed in 2015 and resulted in the appointment of a single custodian, with a second custodian acting as a shadow custodian should the active custodian become inoperative. This review provided us with great new insights into custodian services and led to a much-improved overall service offering. We concluded that custodial services should also be subjected to a regular review exercise. However, given the complexities of transitioning between custodians, the cycle would be longer than for external fund managers or securities lenders.

The selection of fund managers

I would now like to take a moment to touch on the process we follow when selecting our fund managers.

At a strategic level, we believe that we should maintain a combination of internal and external fund managers. This provides benefits such as greater diversification of portfolio returns, the transfer of key skills and expertise, and a means to benchmark internal portfolio managers.

Internally, portfolios are allocated according to their complexity, size and intended level of active management. More passively managed portfolios are allocated to junior portfolio managers under the supervision of a senior portfolio manager. More complicated and more actively managed portfolios are allocated to senior portfolio managers.

Our external mandates, however, typically aim to generate alpha. As a consequence, almost no external mandates are passively managed. Given the focus on active management, external fund managers are usually given slightly more freedom, in terms of credit and currency allocations for example, than internal portfolio managers. Our External Fund Management Programme is also aimed at diversifying reserves into asset classes which we do not have the required resources to manage internally, in terms of both systems and human capital. This includes specialist asset classes such as corporate bonds, asset-backed securities and mortgage-backed securities.

In line with our most recent SAA review, which started in 2016, we also decided on a different approach to enhance the way in which we selected our external fund managers. This time around, we decided to focus more intensely on the value proposition and value-add the fund manager presented on a specific investment mandate. While the final selection was based on the value proposition in managing a specific mandate, capacity building remained a key consideration in our fund manager selection.

We have maintained our three-stage selection process. In the first step, a ‘Request for Information’ is used to survey the landscape of fund managers and to identify those fund managers that have sufficient experience in the required asset classes as well as in the management of central-bank portfolios. The second stage, which takes the form of a ‘Request for Proposal’, is considerably more detailed. Here, we conduct an in-depth investigation of fund manager suitability with regards to organisational capabilities in areas such as risk management and organisational stability. We also request participants to select the mandate or mandates which suit their strongest skill set. Importantly, we ask them to submit detailed performance track records in those areas. These track records are then analysed in detail by our risk managers. The subsequently shortlisted candidates are asked to present only on the mandates that they had proposed as their strongest and where we felt, given their track record, they could add the most value. In the panel interviews, the candidates are asked to present their value proposition in their respective mandate in very specific terms, and also to comment on and commit to an outperformance target within a proposed risk limit.

This approach has been followed to enhance the efficiency of our selection process and to expose ourselves to those managers who have real and verifiable specialities. This is important not only in terms of optimising performance, but also in terms of skills transfer between the external fund managers and ourselves.

The South African Reserve Bank’s current strategic asset allocation framework

As I’ve mentioned, the most recent appointment of external fund managers was concluded with the implementation of the current SAA in 2017. If you recall, in our previous SAA, developed in 2013, we had started following the Jeanne-Ranciere model as a guide to the optimal amount of reserves to hold. As a result, we had implemented a tranching methodology which consisted of two tranches: the buffer tranche and the investment tranche. The buffer tranche is invested in a highly conservative manner, while the investment tranche is aimed at generating excess returns, albeit subject to the same constraints of capital preservation and liquidity.

In developing our latest SAA framework, we were, however, faced with a completely different set of circumstances to those that had prevailed in 2013. The end of the quantitative easing programme in the US, their move to tighter monetary policy and the consequential rising rates presented us with a new set of risks. However, the divergent macroeconomic policy stances of the developed markets, the volatility in the emerging markets, other risky assets which seemed overvalued at the time, the uncertainty around China's soft landing, and the possibility of the Brexit all posed a myriad of other, also significant, risks.

As such, this most recent SAA was constructed to prioritise capital preservation and to reduce tail risks rather than to focus on return enhancement. To encapsulate this, we placed greater emphasis on the conditional value at risk, or CVaR. Unlike the often-used value at risk (VaR) metric, CVaR is the expected return given that the portfolio has failed to achieve even the lowest return as per the VaR metric. In other words, the CVaR aims to estimate the average loss in extreme events which fall below the VaR threshold. Our optimisation goal was focused on those portfolios that satisfied the capital preservation criteria or, more specifically, those that defined as the probability of zero negative returns with a 99% confidence level.

This resulted in a number of changes, the most important of which was a significant reduction in overall portfolio duration and the introduction of a new asset class at an SAA level, namely the US Treasury Inflation Protection Securities.

Strategic asset allocation simulation

Our most recent SAA involved a tremendous amount of rigor and numerous engagements, both internally and externally, to ensure that it encapsulated the latest developments in investment management. However, every process has room for reflection and improvement. With this in mind, we have this year embarked on an SAA simulation exercise.

The purpose of this exercise is to re-engineer the full value chain of the SAA through a simulated but abbreviated SAA process to ensure that the process itself is appropriately structured and meets the right governance standards. This value chain starts with the formulation of the Investment Policy and runs through a review of market identification, asset optimisation, the expression of risk appetite in Investment Guidelines, and the ultimate roll-out of the portfolios. Among other things, the simulation aims to ensure that each subcomponent of the greater SAA exercise is owned, that timelines are accurate and effective, and that each procedure is well documented by owners in a complete and up-to-date procedure manual.

In doing this, we hope to create a separate environment and process where we can focus solely on the SAA process itself, removed from the overarching deadlines which are present in real-life SAAs. In this way, we aim to create a more robust operational framework for future SAAs.

Governance

As I approach the end of my speech, I would like to take a moment to discuss the role of governance. Not only do reserve managers have to contend with the challenges and complexities of managing foreign exchange reserves efficiently; it is also imperative that we do so with an appropriate level of transparency and with accountability. Sound governance structures go a long way to ensuring that we meet these high standards. The Governor briefly touched on this in his opening remarks yesterday.

The governance structure surrounding foreign exchange reserves management at the SARB is separated at different levels. At the highest level, the Governors' Executive Committee (GEC), which is responsible for overall risk tolerance at the SARB, approves the Investment Policy, the Financial Risk Management Policy and SAA.

The Risk Management Committee plays another vital role in the SARB's governance structure. The committee, which reports to the GEC, oversees the risk management process in the SARB and reviews the Financial Risk Management Policy to ensure its relevance to current business activities. Furthermore, the Risk and Ethics Committee of the SARB's Board of Directors also reviews the status of risk management in the SARB as well as the effectiveness of risk management activities, key risks, and the mitigating measures to address them.

Certain elements of the risk oversight role, however, are delegated to the Reserves Management Committee (RESMANCO), which is chaired at Deputy Governor level. RESMANCO approves investment guidelines and allocates the active risk budget to portfolios in order to limit deviations from the benchmarks. In addition, the committee also has the delegated authority to appoint and/or remove external fund managers, custodians and securities lending agents.

While RESMANCO's role is one of oversight, portfolio management activities, however, are conducted within the Financial Markets Department and, in line with principles of sound internal governance, the Bank has separated the activities of portfolio management, financial risk management, and operational risk management. While these activities all reside within the Financial Markets Department, the Head of Financial Risk has a dotted reporting line to the Deputy Governor: Markets and International and the Head of the Risk Management and Compliance Department. These measures ensure adequate segregation of duties to prevent any conflicts of interest while at the same time allow for operational efficiency.

Furthermore, in an effort to promote and improve transparency around reserves management, in 2016 the South African Reserve Bank began publishing the Official Gold and Foreign Exchange Reserves Management Investment Policy on the Bank's website.

These governance structures are vital to ensure that the Investment Policy, through the SAA in this instance, is implemented effectively and lends credibility to the SAA process itself.

Conclusion

To conclude, I would like to paraphrase a quote attributed to Saint Francis of Assisi: "Start by doing what's necessary. Then do what's possible. And suddenly you are doing the impossible."

Looking back at where we started in 1999 to where we are now, we have progressed considerably in terms of our approach to investing our reserves. We have achieved what might have seemed impossible back then. Our current SAA simulation initiative is a combination of the latest thinking in investments, lessons learnt, and all the challenges we have faced along the way. Of course, as with any process, there are areas for improvement, and I am sure that, through future iterations, our SAAs will be even more robust and more effective.

I hope that this journey through the history of the SARB's foreign exchange reserves management, and the SAA's vital role therein, has been informative, and that it has given you an idea of the challenges and opportunities we have faced along the way.

I look forward to engaging with you all in the session that follows, and hope that you enjoy the remaining sessions today.

Thank you.