Reserves Management Trends and Practices in SADC Member States

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Abstract

This study was intended to take stock of reserve management practices and developments in SADC central banks with a view to review reserves management trends within the region in order to inform Policy decisions. Results reveal that there is an indication of convergence in the reserves management area in terms of principles and best practices. The fact that most central banks are part of Work Bank’s Reserves Advisory and Management Program (RAMP) seem to be playing a vital role for this convergence. In line with theory and empirical evidence, SADC central banks have set clear objectives for reserves management and for most Member States, these objectives are enshrined in the law. Notwithstanding the convergence, there are other areas that Member States should work on to enhance efficiency and pave way for future developments in reserves management.
Disclaimer

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Matsabisa Thamae or Mamotlohi Mochebelele

mthamae@centralbank.org.ls or mmochebelele@centralbank.org.ls
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1. Introduction

For most countries, central banks are charged with the responsibility of managing their countries’ reserves. Evidence shows that international reserves grew rapidly over the past decade. Mminele (2015) reveals an interesting picture based on the International Monetary Fund (IMF) global foreign-exchange reserves (excluding gold and Special Drawing Rights (SDR) that out of US$8.3 trillion, Africa alone constituted US$272 billion by the end of 2014. This statistics show that, global foreign reserves had increased by 332 per cent over the last decade.

However, the International Monetary Fund (IMF) raises concerns over this excessive reserve accumulation that in it exposes the stability of the international monetary system to risks. These debates stimulate interest to research on foreign reserves management issues. Issues such as the opportunity cost of holding reserves, regional trends, currency allocations and investment policies should be carefully examined.

Although specific objectives of holding foreign exchange reserves differ from one country to another, theory often stipulates that reserves are held by central banks to guard against rainy days. Although there is this general objective to holding reserves, there are specific objectives, practices and trends within the reserves management function. This is brought by the unique circumstances that are faced by each country. Morahan and Mulder (2013) in their survey of reserves management practices, found that foreign reserves managers face important decisions that influence their choices with respect to asset allocations, currency compositions and asset classes, while ensuring that they meet the three key goals of capital preservation, liquidity and income generation.

Clearly, as it is the case in any typical fund, the framework to manage reserves is linked to the objectives being pursued. Whether this is the case for Southern African Development Community (SADC) Members States is a matter to be established under the findings of the survey in Section 7. Though reserves management is not singled out as a goal in harmonization initiatives by SADC, it has a bearing and linkages to other focus areas. For instance, central bank model code by SADC could mean that reserves management may be implicated and could point to a need for harmonized practices. Also convergence towards the SADC Central Bank could mean a need for harmonized objectives and rationale for reserves management, otherwise there could be conflicting or diverse objectives that are not easy to manage and control in a common central bank.
2. Statement of the Problem

There are convergence initiatives within SADC as a region in different areas. Foreign exchange reserves management is one area that is not explored and if the ultimate objective is to have a common central bank within SADC, great divergence in reserves management principles and objectives could pose challenges. Without a harmonized framework for managing countries’ reserves, a single common fund in the form of reserves would not be easy.

3. Justification

Generally, SADC Member States are perceived to be at different stages of developments with respect to foreign exchange reserves management practices. Without any recent evidence and comprehension of issues in this regard, it is improbable to make policy initiatives at regional level concerning reserves management. Further, Annex 5 of the protocol on Finance and Investment strives to create best practices in the legal and operational frameworks of central banks and its implementation could benefit from investigations of issues in different areas of operations of central banks. In the expanse of reserves management, a survey was undertaken to understand the commonalities or disparities in SADC central banks with respect to principles and best practices.

4. Objectives

The objectives of this survey are two-fold:

a) To understand reserves management trends and practices in SADC Members States against best practices; and

b) To make policy recommendations for consideration by the Committee of Central Bank Governors (CCBG).
5. Literature Review

5.1 Rationale for reserves

Theoretically, literature on motives for holding reserves points to three main motives of transactional, speculative and precautionary. Baumol (1952) and Tobin (1956) theory on demand for money posited a tradeoff between the liquidity provided by holding money and thus the ability to carry out transactions and the interest income sacrificed by holding non-interest bearing assets. A comprehensive general equilibrium model on the same was later developed by Jovanovic (1982), David Romer (1986) and more recently by Flood and Marion (2002). In Kyereboah-Coleman (2009), speculative motive is normally left to individual or corporations while precautionary motive is for central banks as their reserves are traditionally characterized as last resort stock of foreign currencies for unpredictable events.

Notwithstanding the above-mentioned motives, empirical research has shown that the rationale for holding reserves varies from country to country, though their management has some common features. For instance, Lee (2004) and Nugée (2000) posit that countries hold reserves to support and maintain confidence in monetary and exchange rate policies, limiting external vulnerability during times of crisis, and cushioning against national disasters. In their study for the rationale for holding foreign currency reserves for New Zealand, Archer and Halliday (1998) found that there are primarily three reasons for New Zealand to hold foreign reserves; namely, as a means of policy option, to support investors perception on capacity to service debt and to enhance experience in understanding the financial markets.

Rationale for holding foreign exchange reserves are well summarized in the 2013 International Monetary Fund (IMF) Guidelines for foreign exchange reserves management. The guidelines indicate that countries hold foreign exchange to support a range of objectives including to;

- Support and maintain confidence in the policies for monetary and exchange rate management, including the capacity to intervene in support of the national currency;
- Limit external vulnerability by maintain foreign currency liquidity to absorb shocks during times of crisis or when access to borrowing is curtailed;
- Provide a level of confidence to markets that a country can meet its current and future external obligations;
- Demonstrate the backing of domestic currency by external assets, thereby assisting governments in meeting foreign exchange needs and external debt obligations; and
- Maintain a reserve for national disasters or emergencies.
5.2 Adequate level of reserves

Despite the vast literature on what motivate countries to accumulate reserves and efforts to estimate the optimal level of reserves (see Jeanne and Rancière (2006), Aizenman and Lee (2007), Caballero and Panageas (2004a, b), Garcia and Soto (2004)), there is no one rule of thumb and universally applicable measures for assessing and determining reserve adequacy. Instead, motives for holding reserves often provide some sort of guideline for the adequate level. For instance, if the motive for holding foreign reserves is self-insurance, the level to be accumulated depends on the level which is deemed enough to lessen the impact of the crisis should it happen. Although there are multiple indicators or scales for the adequate level of reserves, the most common scales are GDP, exports, imports and recently and most importantly external debt which was motivated by the 1997-1998 Asian crisis. The crisis gave birth to the Greenspan-Guidotti rule which states that reserves should at least be equal to the level of short term debt (Wyplosz, 2007).

To some, the level of foreign reserves is influenced by the external sector developments such as the global economic trends, transactional trends, and external debt position of a country (AbdulazeezB and Omade (2011)). Over the past years, as Santiso (2008) indicates, central banks have been accumulating reserves and shifting from being net foreign debt to net foreign assets position with developing countries experiencing levels in excess of their short-term debt and enough to cover about one year worth of short term debt. According to IMF (2013), in order to ensure the availability of reserves, and set appropriate investment priorities, the reserve managers need to have an assessment of what constitutes an adequate level of reserves. The assessment should include estimates on foreign exchange liquidity needs and risk/return considerations based on various economic scenarios. In South Africa, the optimal level of reserves is assessed by the South African Reserve Bank and its National Treasury by using the adjusted Greenspan-Guidotti rule and Jeanne-Rancière model, adapted to take into consideration the South African economic situation (Mminele, 2013).

5.3 Reserves management

Manchev (2009) defines foreign reserves as gold and other central bank assets that are easy to trade on international financial markets and under the control of a central bank. On the other hand, the IMF Balance of Payments Manual, 5th Edition (1993), posits that reserve assets consist of external assets that are readily available to, and controlled by monetary authorities for direct
financing of payments imbalances, for indirectly regulating the magnitude of such imbalances through intervention in exchange markets to affect the currency exchange rate. Thus, reserves management is a process that ensures that foreign assets are controlled by the authorities that will make sure that they are readily available to meet international obligations of a country whenever they fall due.

In the literature, there are particularly two broad approaches of reserves management, which Romanuk (2010) classified as macro-economic perspective and micro-economic perspective. In the former, reserves are managed as instruments to smooth short-term external shocks and to support the execution of government activities externally, such as external debt. The latter is more relevant in countries where macroeconomic and financial stability is less of a concern and in that case reserves are managed more actively with more emphasis on profit maximization. This is often the case with countries that have more developed financial markets and flexible exchange rate policies with minimal intervention.

Reserves management practices have evolved significantly over the past decades. While certain aspects were given more significance than others in the evolution process, Borio et al (2008) found that attention was directed to four interrelated areas of return, governance and decision structures, risk management and public disclosure. Although institutional arrangements and policy environments may be different, revised IMF guidelines show that there are currently clear objectives for managing foreign exchange reserves in different countries, there is a framework of transparency and accountability, governance structures, efficiency as well as prudence in managing foreign exchange reserves, (also see Mminele (2013), Alejandro (2013), Iheanyichukwu et al (2013), Guillermo et al (2012)).

Because of the required prudence in managing the public funds, there are often governance structures within the reserves management function to ensure accountability and to guard against speculative behavior. Weak or risky reserves management practices may result into significant losses through reputational or monetary loss. Good examples of this are Asian central banks that were engaged in aggressive investment activities in the 1990s which led to losses as huge as 90 percent of funds invested in some instances (Cassard and Folkerts-Landau, 2000). Sound reserves management practices and policies are meant to support prudence and minimize the aggressive investment activities that may lead to such losses.
Before the 2007 financial crisis, central banks enjoyed their conventional conservative nature with respect to their management of reserves and this is reflected in the instruments they invested in and the maturity structure of their reserve portfolios. Generally, most central banks’ Board of Directors entrusted the day-to-day risk management function to portfolio managers with strict guidelines on permissible deviations from the benchmarks (Cassard and Folkerts-Landau, 2000). However, evidence shows the financial crisis has had profound and far-reaching effects on reserve management.

For instance, Pringle and Carver (2013) undertook a survey on trends in reserves management for reserve managers in 110 central banks from Europe, Asia, Americas, Africa, Oceania and Middle East. Survey results revealed that central banks have started to invest in markets and currencies that were, until recently, not likely to have been considered. For instance, instruments such as lower grade sovereigns, equity and agency papers are gaining attraction. Another interesting finding in this study is diversification of reserves in terms of currency mix, where reserves managers reported that recognition of Australian and Canadian dollars in the IMF’s Composition of Foreign Exchange Reserves (COFER) data on foreign exchange holdings would have a significant impact on reserve holdings broadly as central banks look to the allocations as an industry standard. To this end, most central banks are reported to have changed their investment guidelines to accommodate these changes.

Further, Mminele (2015) shared findings from the 2015 HSBC Reserve Management Trends Survey conducted in association with Central Banking Publications, which reveal that central banks are diversifying into non-traditional markets, such as Australia, Canada, Scandinavia and, recently, China. According to him, the respondents to the survey expect that the Chinese Renminbi will reach 10 per cent of global reserves by 2025. Regarding the asset classes, over 20 per cent of central banks are either investing now or considering investment into emerging-market bonds and equities and about 10 per cent indicated that either they are investing now or considering investment into exchange-traded funds. Lastly, the survey pointed out that about 70 per cent of central banks are active in, or considering, securities lending.

6. Methodology

This paper uses survey to purposely seek responses from SADC Member States (MS) on their reserves management techniques, guiding principles, governance as well as identifying trends,
disparities or similarities with respect to fundamental issues. The structured questionnaire was used to facilitate this survey and it addressed eight broad areas of governance structure, policy objectives, investment principles, reserves management systems and processes, size of reserves and tranching structures, asset classes and eligibility, reporting requirements, performance assessment and external fund management.

Responses were received from all 15 SADC central banks, implying the response rate of 10 percent. Analysis is thus based on the entire population of SADC central banks. In the sub sections that follow, survey results are summarized. It should be noted that empirical results will not be generalized for Zimbabwe since there is no active management of foreign reserves at the Reserve Bank of Zimbabwe. Responses to issues in the questionnaire, in the case of Zimbabwe, were reported to have been based on reserves management guidelines that are yet to be approved by the relevant authorities.

7. Empirical Analysis

7.1 Governance Structure, Policy Objectives and Investment Principles

Governance structure is one of the most critical requirements for prudent reserves management. In this regard, based on the responses, member central banks have clear objectives for managing foreign reserves. In line with convention, almost all respondents indicated that the main objectives of holding reserves are safety, liquidity and return, prioritized in that order except for two central banks where liquidity comes first. Importantly, except for few member central banks, the objectives are enshrined in the law governing respective central banks. In terms of oversight, all central banks have in place the highest structure of the Board of Directors and two or three tiered levels below it. These are senior management, investment committee and reserves management units or departments. These findings are in line with Cassard and Folkerts-Landau, (2000).

The oversight is governed by the policies and guidelines in managing the reserves of which all the central banks have in place. However, for some central banks, the Board approves both the investment policy and the investment guidelines while for some; the Board approves only the policy while investment guidelines are approved by Investment Committee. According to central banks that responded to the questionnaire, these documents have a review period ranging from two to five years for the policy, and annually for the investment guidelines. For some
central banks, there is no stipulated timeframe for the review of the mentioned documents but a provision that the review could be effected if market structure changes. This could pose the risk of delayed review unless the triggers for the review are articulated. Contained in the policy and guidelines for all central banks are broad areas such as tranching and currency composition of reserves, risk management, performance measurement and external management program. Except for two countries, all central banks have adopted Strategic Asset Allocation (SAA) framework in managing their countries’ foreign reserves while there is no indication from one country. By adopting the SAA, central banks are able to define appropriate risk profiles for their portfolios and also maximize returns in the process.

7.2 Reserves management systems and processes

Reserves management systems are meant to support the efficient management of reserves in order to meet the intended objectives. Often, the relevant systems for reserves management are market information systems for current news and market data, portfolio management systems for analytics and reserves management, as well as accounting systems for the accounting purposes. Almost all respondents have Information and Communication Technology (ICT) systems in place except one central bank. For the rest of the central banks, there is a Bloomberg, Reuters system or both in place to assist the reserves management process. Other central banks have their own internal systems for reserves management as well as accounting systems.

To manage conflict of interest in reserves management processes, often best practices call for segregation of back, middle and front offices. In this respect, all central banks have segregation of duties amongst these offices. For all central banks, back office is clearly segregated from middle and front offices and reports to a different director. However, segregation between middle and front offices differs from one bank to another. For instance, in some central banks, middle and front offices report to the same director of financial markets, but for some, middle office reports to risk committee, though still hosted in the financial markets department operationally.

7.3 Size of Reserves and Tranching Structure and Composition of Reserves

Size of reserves may have influence on the reserves management processes, asset classes and the framework adopted. For instance, a relatively bigger size may warrant more segregation of duties, strong systems in place as operational risks may be more pronounced. On the other hand,
smaller sizes may mean less specialization, less segregation and no need for robust systems. Table 1 below shows respective central banks and size of reserves thereon.

**Table 1: Size of Reserves for Different SADC Central Banks**

<table>
<thead>
<tr>
<th>Range (Millions)</th>
<th>Number of countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 1,000</td>
<td>5</td>
</tr>
<tr>
<td>1,001-2,000</td>
<td>3</td>
</tr>
<tr>
<td>3,001-4,000</td>
<td>3</td>
</tr>
<tr>
<td>4,001-5,000</td>
<td>1</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>1</td>
</tr>
<tr>
<td>Over 10,000</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Evident from Table 1, on average, SADC central banks manage between US$ 1 billion to over US$10 billion in reserves, with more central banks concentrated on the 0-1 billion USD worth of reserves. Few central banks (2) manage in excess of US$ 10 billion.

In terms of months of import cover, figure 1 indicates that more countries (7) fall in the 2-4 range, which is short of the six months target by SADC. The issues of accumulation and costs of holding reserves come into the picture given these diverse holdings of reserves by different countries.
Figure 2 depicts the evolution of the SADC import cover together with the set target since 2011. The graph indicates that the adequacy of SADC reserves was improving in terms of import cover, reaching a maximum of 5.4 months in 2015 and projected to decline in 2016.

Concerning the structure and composition of reserves, there seems to be a uniform technique of tranching reserves in line with objectives being pursued by central banks. Generally, there are three tranches of working capital, liquidity and investment in place for most central banks, with the exception of three central banks which have two tranches but still in line with objectives. Determination of tranche sizes is based on SAA for those countries which have adopted the framework.

### 7.4 Asset Classes, Eligibility and Allocation of Reserves across Issuers/Counterparties

Asset classes play an important role in translating the risk profile of assets and institutions. From the survey, it is evident that most central banks invest in traditional securities such as cash, cash equivalents and fixed income. However, most central banks now take a further step and invest in more sophisticated instruments such as Separate Trading of Registered Interest and Principal of Securities (STRIPS), Dual Currency Deposits (DCDs), equity and certain derivatives. To manage credit risk, all central banks reported that allowable instruments should have investment grade rating. Prohibited instruments, although not directly specified, include equity, property, leverage and short selling.
On currency allocation, all respondents have US dollar and Euro currencies in their portfolios and a blend of other currencies depending on asset-liability approach which is used to determine currency allocations. Other common currencies across member states include South Africa Rand (ZAR) and Canadian Dollar (CAD). Only three central banks hold Chinese Yuan (RMB/CNY) in their portfolios while six hold Japanese Yen (JPY). The idea of investing in these emerging markets currencies has been in debate not only in the CCBG Financial Markets Sub-committee, but in other settings as well given the high yielding returns for these somewhat risky assets. However, most of the investments are in major currencies. Most countries put limits to their investment while some do not. Table 2 summaries this scenario:

**Table 2: Currencies that SADC Member States Hold/Invest in**

<table>
<thead>
<tr>
<th>Currency</th>
<th>USD</th>
<th>EUR</th>
<th>GBP</th>
<th>ZAR</th>
<th>SDR</th>
<th>CHF</th>
<th>BWP</th>
<th>JPY</th>
<th>CAD</th>
<th>SEK</th>
<th>CNY</th>
<th>AUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries Investing</td>
<td>14</td>
<td>14</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

### 7.5 Reporting Requirements, Performance Assessment and External Fund Management

Proper oversight would not be achieved without appropriate reporting to different structures. This facilitates risk management and decision making by governance structures. From the survey, reporting frequencies range from daily at departmental and operational level to quarterly for investment committee and annually to Board of Directors. In some cases, reporting to the Board is done quarterly and reporting to investment committee monthly. In terms of contents and type of reports, reporting entails investment activities, daily or weekly market developments at departmental level or executive level as well as performance and risk reports for the Board of Directors.

Performance measurement is an important tool which could allow management of central banks to evaluate effectiveness of their investment strategies, identify sources of returns and therefore serve as a basis for making strategic decisions. In this regard, respondents reported that portfolio performance is assessed against market based benchmarks except for two central banks which stated that they use internal benchmarks, while one central bank benchmarks against the externally managed portfolio. For those that assess performance against market based benchmarks, Bank of America Merrill Lynch benchmarks are common especially for the dollar
and euro markets in the fixed income sphere while London Interbank Offered Rate (LIBOR) is common for money market performance. For countries investing in South African rand, Short Term Fixed interest rate (STEFI) appeared to be a common benchmark for money market performance.

For a long time, the issue of capacity building in reserves management and financial markets issues in general has been topic of discussions in many fora. Central banks that participated in the survey, except for two central banks, engage external fund managers for a portion of their reserve portfolios. Evidence shows that countries engage between one to twelve fund managers. For all central banks that engage external managers, the main reason is capacity building followed by return enhancement. Some central banks reported that through the use of external managers, they are able to access sophisticated markets and infrastructure as well as rich market information and analysis. For the respondents that engage external fund managers, there is clear investment mandate and guidelines in place for the engagement, which in most cases is the extension of the banks objectives, especially that of income generation.

**7.6 Risk Management**

The persistent downturn in the global financial markets following the 2008 financial crisis was marked by the low yield environment and high uncertainties that has been a challenge for real money investors such as the central bank. During this period, most investors, including central banks’ portfolio managers were challenged to review their risk parameters in order to explore unorthodox measures of enhancing returns. Clearly, the move poses major risks that need special attention. It is thus critical for reserves managers to analyze the managed portfolios and try to quantify the potential losses that investments may suffer under different scenarios and then decide on appropriate actions.

Risk management is a study on its own. For this survey, the central banks were asked few, but critical questions relating to credit risk management, allowed limits under active portfolio management, types of risks monitored. They were also asked to describe how the operational risk framework is applied if it is available. The question on in-house credit risk was found to be relevant as history has demonstrated that the traditional rating agencies have failed to provide comfort and confidence to the market. On this issue, only nine central banks responded to risk questions. Out of these, three have internal credit risk framework, two central banks indicated that their credit risk is embedded into the reserves management policy and guidelines. One
central bank indicated that it does not have an internal credit risk framework but efforts are underway to develop it. The types of risks monitored by most central banks include market, credit, currency, liquidity, and concentration risk.

On the issue of availability of risk budget to deviate from the benchmarks, most central banks seem to be active as they are allowed to utilize the risk budgets. Three central banks are not yet engaged in active management of reserves and thus the questions were not applicable to them; six are allowed duration deviation. Further three central banks are allowed to engage in yield curve strategies. For all central banks, except one which monitors risk on monthly basis, the risks are monitored daily. This is a good practice so that red flags are raised as early as possible.

On availability of operational risk framework, two central banks reported that they are in the process of formalizing their frameworks and three do not have one in place. The rest of the central banks have different types of frameworks. For some, the framework belongs to the enterprise risk management department which coordinates and monitors incident reports, risk register as well as periodic reporting. For some, self-assessment by departments is done where agreed tolerances as well as audit findings resolutions are tracked.

8. Conclusion and Policy Recommendations

The objective of this survey was to establish the trends and practices within SADC countries with respect to foreign exchange reserves management by their respective central banks. From the survey, it emerges that there is convergence in terms of reserves management practices. Based on the responses, central banks have clear objectives for holding reserves and these are well prioritized, although for some the objectives are not enshrined in the law. There is adequate oversight in reserves management in terms of segregation of duties amongst conflicting functions for proper operational risks management.

However, although there is some indication of convergence in this area, some central banks still need to make effort in terms of reserves management framework, setting up of robust information and reserves management systems, enhancing risk management in their area as well as having procedures for reserves management process. Specific areas that need attention include the following:
✓ Setting of investment limits for different currencies; this may be achieved through adoption of frameworks such as SAA which most countries are already using.

✓ There is need to have internal credit risk management framework to avoid dependence on rating agencies

✓ Some central banks indicated that they monitor risks monthly. It is prudent to monitor all risks on daily basis to ensure that all portfolios are within institutions’ risk tolerances

✓ To improve oversight in reserves management, it is good practice for the Board to approve only the reserves management policy and let the Investment Committee to approve the SAA and guidelines. In this regard, there will be accountability.

From this survey, other important issues relating to reserves management become relevant and need to be investigated further, such as investing in emerging markets currencies and SADC debt, which may imply changing investment philosophy and accumulation of reserves against costs/opportunities of maintaining them, become.
References


Zurbuchen A. S. (2013), Management of Foreign Exchange Reserves at the Central Bank of Chile, Central Bank of Chile, Santiago, Chile (ed).