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Acronyms

ARC  Audit and Risk Committee
Brexit  British Exit
BSD  Banking Services Division
CAIM  Crown Agents Investment Management
CBS  Central Bank of Seychelles
ECB  European Central Bank
FEA  Foreign Exchange Auction
FMD  Financial Markets Division
FSSD  Financial Services Supervision Division
GFR  Gross Foreign Reserves
IAD  Internal Audit Division
IC  Investment Committee
IFRS  International Financial Reporting Standards
IMA  Investment Management Agreement
IMF  International Monetary Fund
ISA  International Standard on Auditing
NIR  Net International Reserves
PAT  Portfolio Analytics Tool
PSOD  Payment Systems Oversight Division
QE  Quantitative Easing
RAMP  Reserves Advisory and Management Program
RMU  Risk Management Unit
RSD  Research and Statistics Division
SAA  Strategic Asset Allocation
SWIFT  Society for Worldwide Interbank Financial Telecommunication
Once again it is with great pleasure that I present the Reserves Management Report for the year 2016. The main aim of this report is to extend accountability and transparency to the public on the undertakings of the Central Bank of Seychelles (CBS) in its role as the manager of the official foreign exchange reserves of the country.

The Seychelles’ economy continued to expand amid the challenges of being a small open economy which relies heavily on external resources to sustain domestic growth. It is therefore imperative to maintain an adequate level of foreign exchange reserves to ensure that the country is readily able to cover its external obligations, such as public debt repayments and imports. The foreign exchange reserves also serve as assurance for creditors, providing an indication of the creditworthiness of the country. Moreover, the returns generated from investment of the country’s reserves, provide support for the domestic foreign exchange and monetary policies therefore allowing for operational independence of the CBS.

Reserves adequacy as prescribed by the International Monetary Fund (IMF) is measured as the total months of imports coverage, with 3.0 months being the optimal. For the Seychelles, significant improvement was observed over the recent years, particularly with the country’s engagement on the IMF supported macroeconomic reform programme launched in 2008. At the start of the programme, the Gross Foreign Reserves (GFR) represented only 0.8 months of importation. Following the liberalisation of the foreign exchange regime which accelerated the inflow of foreign exchange through the formal banking sector, the CBS was able to accumulate some reserves from the domestic market. By the end of December 2016, despite the slight decline in the GFR level compared to the previous year, the total imports coverage was 4.1 months.

In the past, central banks’ investments tended towards the lower risk asset classes, such as money and bond markets. However, one of the biggest challenge in the years following the global financial crisis of 2008, has been the increased motivation for de-risking by financial
institutions along with historical lows in returns at the shorter end of the yield curve. In order to maintain income at an acceptable level, many central banks have had to increase their risk tolerance, in consideration of emerging, corporate and even equities markets. CBS was not spared from this fate and as part of the action plan to enhance its investment strategies, CBS conducted a comprehensive revision of the Investment Policy and Guidelines during the year 2016. One main objective was to extend CBS’ asset class coverage, hence the risk tolerance of the institution. At the same time, this warranted a toughening of the governance and risk parameters, which are essential to manage expansions in risk tolerance.

Furthermore, with the wider range of eligible asset classes, the CBS remained committed to build the capacity of staff involved in the reserves management activities. This consisted of the engagement with the World Bank’s Reserves Advisory and Management Program (RAMP) which continued during the year under review, whereby staff has benefitted from sponsorship for professional qualifications, seminars and onsite technical assistance. Additionally, as part of the agreement with the external fund manager—Crown Agents Investment Management (CAIM) staff received specialised industry experience and gathered skills to enhance internal reserves management activities.

C. Abel (Ms)
Governor
1.0 Introduction

Reserves management is about ensuring that there is an adequate level of the country’s official foreign assets readily available to meet a broad range of macroeconomic objectives. Therefore, sound reserves management practices are essential to increase a country’s resilience to external shocks and support domestic macroeconomic policies.

This report reviews the annual developments in the reserves management activities of the CBS, covering the exposure and performance levels for the year 2016. It starts with an overview of the governance structure and operational processes in reserves management. Subsequently, it discusses the strategies implemented covering risk exposures and return. Then, the last sections expand on the developments and challenges faced during the year under review, concluding with the way forward for 2017.

2.0 Governance Structure

As mandated by Part VI of the CBS Act 2004 as amended (the Act), the CBS has the responsibility to hold and manage the official reserves of Seychelles. As the reserves manager of the country, the CBS has to ensure that there is an adequate level of reserves to meet all the rationales for holding these funds. These rationales are macroeconomic in nature and are clearly set out in the Investment Policy (the Policy) approved by the Board. It includes repayment of public debt denominated in foreign currencies, protection in the event of balance of payment shocks or national disasters, support for the domestic macroeconomic policies and maintaining confidence in the exchange rate regime.

Given that there are different reasons and objectives for holding reserves, the Board provides guidance for the investment of the reserves by setting out the investment objectives in the Policy. This is necessary to ensure the consistency of investment strategies with the rationales for holding reserves. The investment objectives in order of priority are: capital preservation, liquidity and return generation.
The Board delegate's operational oversight of the reserves management activities to the Investment Committee (IC) chaired by the Governor and composed of the two Deputy Governors as well as the heads of five key divisions namely Financial Markets (FMD), Research and Statistics (RSD), Banking Services (BSD), Financial Services Supervision (FSSD) and Payment Systems Oversight (PSOD). The Auditors from the Internal Audit Division (IAD) and Officers from the Risk Management Unit (RMU) also attend the discussions as observers. The IC meets on a monthly basis to review performance and developments on the domestic and international markets and give approval on proposals for investment strategies.

Another important role of the IC is to operationalise the broader qualitative directions of the Policy into quantitative parameters in the Investment Guidelines (the Guidelines). The reserves management processes are undertaken in various areas of the Bank, as explained in section 3. This is in line with good governance practices, whereby adequate segregation of duties mitigates operational risks such as fraud and human error.

Regular management reporting is another important aspect of good governance in reserves management. The various operational and monitoring functions are required to report to the IC and the Board on a timely periodic basis. FMD prepares an assessment of investments including performance versus approved budgets, compliance to the Policy and Guidelines on monthly and quarterly bases to the IC and the Board respectively. BSD is responsible for the transmission of the income and financial reports on a daily basis. Moreover, as required by the Act and as part of the reform programme supported by the IMF, the IAD conducts semi-annual audits of the Net International Reserves (NIR) statements. The IAD reports are prepared in accordance with the International Standards on Auditing (ISAs) and has the responsibility to ascertain conformity of the NIR calculation methods with the IMF standards. The RMU is responsible to report on enterprise-wide risk and the measures undertaken to manage these risks. Both the IAD and the RMU report their findings to the Audit and Risk Committee (ARC) which is a sub-committee of the Board. Figure 1 provides an illustration of the governance structure for reserves management at the CBS.
3.0 Operational Aspects of Reserves Management

The operations within reserves management are segregated into three principal functions, namely the front, middle and back offices. The mandate of each of these offices are drawn out in the Policy and Guidelines. The front office which is the Reserves Management Section located within the FMD is responsible for the day-to-day portfolio management. This section conducts trade on the international money and foreign exchange markets as approved by the IC and guided by the Policy and Guidelines. The middle office function is also part of the FMD and is discharged by the Financial and Risk Analysis Section. This area is responsible to set appropriate benchmarks, risk limits and guidelines for approval by the IC and subsequent compliance of the front office. As such, the middle office also undertakes the compliance and control functions, which is to an extent a shared responsibility with the organisation-wide monitoring of the RMU. The back office functions which include the settlement of all reserve management activities and upkeep of the foreign bank accounts, are done by the Foreign
Banking Operations Section of the BSD. Semi-annual audits or any ad hoc assessment of the reserves positions and activities fall under the responsibility of the IAD. Reserve management activities are also verified by the Bank’s external auditor every year.

Capital preservation, liquidity and return generation are the three objectives in order of priority when investing the foreign exchange reserves, as explained in section 2. These objectives more often diverge, therefore, the total reserves are broken down into three sub-portfolios called tranches, each to meet one or two separate objectives at a time. The initial tranche is the operational tranche and it is invested with a maximum investment horizon of three months in low risk and highly liquid instruments. This is necessary in order to meet short term payment obligations and potential needs for interventions in the domestic foreign exchange market. Secondly, there is the liquidity tranche which is invested at a maximum horizon of twelve months as it reflects debt repayments due in one year and three months’ prospective imports. This tranche is considered as the core buffer against external shocks. Lastly, any excess above the operational and liquidity tranches forms an investment tranche which may be deployed for faster return generation with at most five years’ investment horizon.

4.0 Performance

4.1 Foreign Reserves Position

The GFR position improved significantly over the period of 2012 to 2015, although it declined marginally in 2016. This can be observed on Chart 1, whereby at the end of 2016, the position settled at US$523 million; a decrease of 2.0 per cent from the level of US$536 million in the preceding year. The continued growth in reserves over the years up to 2015 was largely attributed to the accumulation of reserves through the Foreign Exchange Auctions (FEA). However, for the year under review the CBS was less successful in the accumulation of reserves through this means in view of tight market conditions. Additionally, an increase of about 135 per cent in external debt repayments made in 2016 compared to 2015 contributed to the decline in the level of GFR for the year.
Furthermore, over the course of 2016, the reserves were exposed to external pressures that originated from developments in the international markets, which also impeded the growth in the GFR level. These included the continued strengthening of the US dollar due to the expected interest rate hike, along with the Quantitative Easing (QE) policies in the Eurozone, the unprecedented Brexit referendum in June 2016, and overall slower global growth, whereby most currencies lost momentum against the US dollar. Given that the US dollar is the reporting currency for Seychelles' portfolio of reserves, this resulted in less value for the other currencies.

Consistent with the annual decline in GFR from 2015 to 2016, a slight drop was seen in the reserves adequacy level, which is measured by a country's overall reserves in terms of months of imports cover, displayed on Chart 2. By the end of 2016, the reserves levelled at 4.1 months of imports compared to 4.9 months by end 2015. Nonetheless, this remained above the broad rule of thumb of 3.0 months being the adequate level of import coverage established by the IMF.
The NIR represents the quantitative performance criteria in reserves management under the Seychelles’ macroeconomic reform programme supported by the IMF. By the end of the year under review, it had slashed by 2.0 per cent from US$423 million in 2015. Despite the fall, the actual NIR surpassed the target at year end, similar to the preceding years. The position by the end of December 2016 was US$415 million, which was US$14 million above the target of US$401 million as illustrated on Chart 3.
4.2 Sources of Foreign Reserves

As per Chart 4, the main inflow into the reserves for 2016 was through the receipts of multilateral as well as bilateral loans and grants for national projects and budget support. In addition to this, foreign exchange receipts of the government contributed 34% of the total inflows. These came from different fees and charges collected by the government, such as that for the use of the national airspace and the maritime zone. The purchase of foreign exchange from the domestic market through FEAs resulted in a total of 15% addition to the amount of reserves accumulated during the year under review.
4.3 Currency Composition of Reserves

As approved by the IC, the external reserves are managed with a strategic currency composition benchmark which reflects the long term currency exposure levels of the country. The benchmark comprises of 70% exposure to US dollar, 20% to euros, 9% to UK pound and a balance of 1% to other currencies which qualify as reserves by the IMF definition (see Table 1). The latter includes Canadian dollar, Australian dollar, Swiss francs, Japanese yen, and most recently the Chinese renminbi. Particularly, for the purpose of regional affairs, the CBS also included the South African rand in its portfolio in 2016. The latter does not form part of the international reserves by IMF definition but features as part of the international asset of the country. A review of the currency composition is done on an annual basis or in the event of significant changes in market fundamentals. To optimise reserves management, the IC may allow deviations from the strategic composition benchmark.
Table 1: Benchmark for Currency Composition

<table>
<thead>
<tr>
<th>Currency</th>
<th>Minimum</th>
<th>Benchmark</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>30%</td>
<td>70%</td>
<td>75%</td>
</tr>
<tr>
<td>EUR</td>
<td>3%</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>GBP</td>
<td>5%</td>
<td>9%</td>
<td>30%</td>
</tr>
<tr>
<td>OTHERS</td>
<td>0.0001%</td>
<td>1%</td>
<td>15%</td>
</tr>
</tbody>
</table>

The CBS maintained the country’s foreign currency reserves in US dollar, UK pound and euro, throughout the year under review. In the previous years, two commodity currencies, namely the Australian and Canadian dollars also featured as part of the country’s reserves for return generation purposes and as a natural hedge against changes in commodity prices. Nonetheless, in view of the strengthening of the US dollar and thus the erosion of the comparative advantage in returns, the CBS effected a tactical gradual retraction of its investments in the commodity block from December 2015 to January 2016. The move was critical to reduce currency risks and preserve the capital positions.

During 2016, volatility in the international market persisted, as the world experienced waves of political shocks. A major source of volatility came from the market reaction to the UK’s Brexit in June 2016 which plunged the currency to an ultra-low. In an effort to mitigate substantial currency risk, the CBS took the decision to convert a significant portion of its sterling investment into US dollar prior to the vote. The aim was to maintain the sterling composition at its neutral position, with a gradual move towards the minimum mark of 5.0% of the GFR. By the end of the year the pound sterling holdings were at 6.7% of the GFR.

Meanwhile in the rest of Europe, the European Central Bank (ECB) maintained its rigorous loosening stance and affirmed extension of the QE programme up to the end 2017. As observed in the year 2015, the negative interest rate environment persisted in the Eurozone and carried through to 2016. This led the CBS to maintain the deviation from the benchmark, with minimal exposure to the euro.

As a result, and similar to the preceding year, the composition of US dollar at the end of 2016 surpassed the benchmark maximum, levelling at 92.7% of the GFR.
The strategic currency composition benchmark and actual levels as a percentage of the GFR are illustrated on Chart 5.

**Chart 5: Currency Composition of Reserves; December 2016**

![Chart 5: Currency Composition of Reserves; December 2016](chart)

**Note: End of year figures**

*Source: Central Bank of Seychelles*

### 4.4 Income Generated

Similar to preceding years, reserves were predominantly held in the form of fixed term deposits; hence the prime source of interest income earned. As displayed on Chart 6, total interest income generated for the year levelled at US$ 2.7 million, a significant growth of about 88 per cent compared to the previous year. This was despite the year on year fall in GFR that was posted by the end of 2016.

Throughout 2016, the CBS continued to take advantage of the competitive interest rates environment in the US following the Federal Reserve’s interest rate hike in December 2015, by placing the majority of its investments in that currency. This positive performance on the US dollar front continued throughout the year as the US economy proved more stable compared to its global peers. Moreover, in June 2016, leading up to the UK’s referendum to leave the European Union, the CBS traded out a significant portion of its pound sterling investments. The vote result added more strength to the US dollar, and subsequently an even greater portion of
the reserves were re-invested in the safe haven currency, earning more favourable yields. Furthermore, parallel to the previous year, the Federal Reserve hiked US interest rates once again in early December 2016 and the CBS had positioned itself to benefit from the expected move.

**Chart 6: Interest Return Generated from Foreign Reserves; 2012 - 2016**

![Chart 6](chart6.png)

*Source: Central Bank of Seychelles*

### 5.0 Developments

#### 5.1 Internal Reserves Management

The year 2016 was particularly important as a fully comprehensive review of the internal reserves management framework was completed. Notably, the framework remains 'live' in order to keep pace with the ever changing international economic and financial landscapes. In July 2016, the Board approved the new Policy which has more exhaustive and statistically robust guidelines for tolerable risk exposures when investing the reserves. By December 2016, the IC also completed the review of the Guidelines, informed by the Board’s risk tolerance in the Policy and hence arriving at the Strategic Asset allocation (SAA) for the reserves portfolio. This revision of the framework was made possible with support in terms of training on good governance and SAA as well as onsite technical assistance of the World Bank’s RAMP.
5.2 External Reserves Management

The Investment Management Agreement (IMA) signed with CAIM in January 2014 continued in 2016. This agreement gave CAIM the mandate to actively invest in fixed income securities for and on behalf of the CBS. The allowable securities are treasury bills, fixed and floating rate notes, inflation indexed-link and zero-coupon bonds issued or guaranteed by G7 governments and supranationals. The CBS and CAIM agreed on a benchmark on the basis of which to monitor riskiness and performance of the investments. In 2014, a composite currency benchmark was selected to reflect the currencies of Seychelles’ foreign obligations. It comprised of the Bank of America Merrill Lynch US Treasury Bills and Bonds, UK Gilts and German Bunds indices with maturities of one to three years.

Notably, the objective of active management is to perform better than a market benchmark within a set investment horizon and risk boundaries. CAIM managed to over perform the benchmark in composite currency terms by end of 2016. However, returns from both the benchmark and the fund were negative from inception to December 2016 in reporting currency terms, which is the US dollar. This slack was largely a result of the persisting strength of the US dollar against other currencies in the portfolio as well as the negative interest rates in the Eurozone. In light of this, the CBS took the decision to completely eliminate currency risk within the fund by adopting a US dollar only benchmark. At the same time, in order to minimise the probability of negative return, the benchmark was chosen with a longer duration.

In December 2015, the Bank of America Merrill Lynch US Treasury Bills and Bonds of zero to five years was approved by the Board and it became effective at the start of April 2016. The soft performance persisted in the year under review as the market remained uncertain on the progress of the Federal Reserve’s monetary policy normalisation. The continuous price-in and price-out of a potential interest rate hike throughout the year forced CAIM to remain on a defensive stance by assuming very low duration risk to preserve the capital position of the portfolio in case of sudden increases in interest rates. However, in December 2016, after the much anticipated interest rate hike, CAIM was able to actively seek longer duration which allowed for an improvement in monthly returns into the positive region.
5.3 Training and Capacity Building

Similar to previous years and as part of the IMA with CAIM, staff undertaking reserves management duties continued to enhance their knowledge and skills through on-going training. The program in 2016 continued on four specific instruments; foreign exchange derivatives, certificate of deposits, treasury bills and bonds. The modules covered the cycle of investment incorporating pre-investment analysis and trade, settlement and position management as well as accounting and performance evaluation.

As mentioned in section 5.1, the RAMP remained a core source of support during 2016. As part of this program, staff participated in a number of international workshops to gather skills in fixed income risk management, passive management of fixed income portfolios, money market instruments and the Portfolio Analysis Tool (PAT2). The latter is a system which aims to enforce good governance in reserves management and the forum was in preparation for the development and user acceptance test (UAT) phases. In September 2016, RAMP conducted an onsite mission to implement the UAT phase of the project involving all staff who are undertaking reserves management activities. The software aims to reduce operational risks by keeping track of portfolio holdings and compliance to set parameters of the Guidelines. PAT2 also generates Society for Worldwide Interbank Financial Telecommunication (SWIFT) messages for straight through processing of transactions from the front office as well as the accounting entries in line with the International Financial Reporting Standards (IFRS). Moreover, it readily generates reports which assist in management reporting, such as daily cash flow, instrument holdings as well as relative risk and performance details.

Following these various trainings, the reserves management staff extends the below instrument highlight on Treasury bonds.
Plain vanilla Treasury bonds (T-Bonds) are marketable government, fixed-interest debt securities with maturities ranging from one to thirty years. T-Bonds are known in the market as risk-free instruments as they are backed by governments with marginal risk of default, since governments can raise taxes to cover its obligations.

T-Bonds are quoted in terms of price which is the present value of the future cash flows, namely the coupons and the face value. Coupons are periodic payments made to the lender, often on a semi-annual basis. To obtain the price, the cash flows are discounted by a reference rate which is either the market rate, the required yield or the yield to maturity of the bond. Below is an illustration of the cash flows for an investment in a 2-year T-Bond with a face value of US$ 100 and annual coupon rate of 4% payable semi-annually. The semi-annual coupon is derived by calculating 4 per cent of US$ 100 divided by two, hence, US$ 2 twice a year. For the example we let the discount market rate be 3% per annum.

\[
PV_{T-Bond} = \sum_{n=1}^{N} \frac{CPN_{T-Bond}}{(1+i)^n} + \frac{FV_{T-Bond}}{(1+i)^N}
\]

where, \(PV=\text{Present Value}\); \(CPN=\text{Coupon}\); \(N=\text{Number of Payments}\); \(FV=\text{Face Value}\); \(i=\text{discount rate}\)

\[
PV_{T-Bond} = \frac{2}{1.03^{0.5}} + \frac{2}{1.03^{1.0}} + \frac{2}{1.03^{1.5}} + \frac{102}{1.03^{2.0}} = 1.97 + 1.94 + 1.91 + 96.15 = 101.97
\]

The return on investment on a T-Bond is expressed as a percentage, which is the interest rate that the government pays to borrow the money. Treasury yields also sets the basis for the interest rates at which individuals and businesses pay to borrow money, to buy real estate, commodities and equipment. Moreover, these yields indicate investor confidence in the economy; the higher the yields on 10, 20 and 30 years treasuries, the better the economic outlook.

The US has the deepest T-Bond market, it is the most popular low risk investment for sovereign entities, businesses and individuals worldwide. The global market for US T-Bonds was an estimated US$12.9 billion at the end of 2015. The Federal Reserve Bank also makes use of T-Bonds to implement monetary policies by buying and selling the securities through its open market operations. The money supply contracts and expands when the central bank respectively buys and sells T-Bonds on the secondary market.
6.0 Challenges Encountered

The low interest rate environment in the lower parts of the yield curve, which is where central banks traditionally invest, continued in 2016. As explained earlier, in order to maintain returns at an acceptable level, CBS invested mainly in US dollars which was performing better than its peers.

As mentioned in Section 4.3, the economic and political conditions of the Eurozone challenged the CBS which had to revert to safe haven by increasing the US dollar exposure to over 90% of the reserves. Despite the fact that the US dollar is the reporting currency for the reserves, the increased concentration of its holding implied that the CBS’ balance sheet in domestic currency term became highly sensitive to the movements of the US dollar.

The year 2016 also saw an increase in foreign reserves outflows due to debt repayments as the reliefs from the reform programme renegotiations gradually passed. The foreign currency public debt outlay for 2016 more than doubled the repayments made in 2015. In order to sustain the reserves level, the CBS attempted to accumulate reserves through auctions in the domestic foreign exchange market. Nonetheless, this strategy proved to be a challenge considering the increased demand for foreign exchange in the domestic market, driven by rises in the disposable income of individuals. The CBS was able to amass around US$5 million in the month of January 2016 but retracted completely from the market until the second half of the year. This was necessary so as not to induce a scarcity of foreign exchange on the domestic market and consequently a depreciation of the Seychelles rupee. Overall, the CBS managed to accumulate the equivalent of only US$21 million in 2016 compared to US$86 million in the previous year.

7.0 Way Forward

The plan for 2017 is to continue work on improving the overall reserves management framework. This will include the final phases of the PAT2 UAT and another RAMP mission to assist with the “go live” stage during the second half of the year. As it has been the case in the last two years, staff will continue to benefit from further training and capacity building through
various workshops and professional qualifications in the fields of risk management, investment, trade settlement and accounting.

Parallel to the PAT2 implementation, the purchase of a US dollar fixed income securities portfolio which had previously been scheduled for 2016 intends to commence in 2017, with the revision of the reserves management framework completed. The investment is expected to be passive in nature, implying that the CBS will select bonds from an approved benchmark to replicate the risk and return characteristics of this benchmark. Notably, the reserves management team tested their ability for the investment with a “paper” or mock portfolio throughout 2016 and passed the year with sharp relative performance positions.

In addition, work continues on improving operational risk management, which involves enhancing the governance model and ensuring best practices in separation of duties in the investment life cycle. At the same time, the CBS took steps to also ensure that the separation of duties do not hinder team work and increase risk silos. In order to better synchronise the effort in the development of reserves management, the CBS took the decision to move the settlement and accounting of all reserves management transactions, from the BSD to the FMD as of January 2017. The front, middle and back offices will remain separate in terms of accessibility and operations, but this relocation will allow for improved strategic planning and resource allocation for the investment of international reserves.
Central Bank of Seychelles

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