



GOVERNMENT OF ST. KITTS AND NEVIS

MEDIUM-TERM DEBT MANAGEMENT STRATEGY

2018 - 2020

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ACRONYMS

ATM	-	Average Time to Maturity
ATR	-	Average Time to Re-fixing
CDB	-	Caribbean Development Bank
CS-DRMS	-	Commonwealth Secretariat Debt Recording and Management System
DMU	-	Debt Management Unit
ECCU	-	Eastern Caribbean Currency Union
Ex-Im Bank	-	Export-Import Bank of the Republic of China
GDP	-	Gross Domestic Product
GOSKN	-	Government of St. Kitts and Nevis
IDMU	-	Investment and Debt Management Unit
IMF	-	International Monetary Fund
KFAED	-	Kuwait Fund for Arab Economic Development
MTDS	-	Medium-Term Debt Management Strategy
NIA	-	Nevis Island Administration
OTC	-	Over-the-Counter
RGSM	-	Regional Governments Securities Market
SBA	-	Stand-By Arrangement
SSB	-	Social Security Board
SDR	-	Special Drawing Rights
SIDF	-	Sugar Industry Diversification Foundation
SKNANB	-	St. Kitts-Nevis-Anguilla National Bank
T-Bills	-	Treasury Bills

I. INTRODUCTION

Since 2012, the Medium-Term Debt Management Strategy (MTDS) has been an integral tool utilized by the Government of St. Kitts and Nevis (GOSKN) to ensure debt sustainability over the medium to long-term.

The previous MTDS, which covered the period 2015 – 2017, focused mainly on reducing the debt stock in a manner that decreases the cost and risk embedded in the debt portfolio. The various activities that were undertaken were in line with the objectives of the MTDS and resulted in the Government successfully reducing the debt level. In 2014, the Debt-to-GDP ratio stood at 71.3 percent. Over the period under review (2015 - 2017), the downward trajectory of the ratio was maintained. The existing debt declined further to 60.8 percent of GDP by the end of 2017 and is anticipated to continue its downward trend to 51.4 percent by 2020. St. Kitts and Nevis is on course to achieve and maintain the Eastern Caribbean Currency Union's (ECCU's) recommended debt ratio of 60.0 percent well ahead of the 2030 target date.

The key initiatives pursued in the 2015 – 2017 MTDS included the funding of capital expenditure by revenue and grants as fiscal surpluses were projected for the period. The policy also stipulated that in the event that borrowing became necessary, financing would be sourced from multilateral and bilateral creditors on concessional terms. The Strategy focused on continued debt stock reduction through the completion of various phases of the comprehensive debt restructuring exercise. Other aspects of the Strategy included the reduction of debt service cost through the refinancing of high cost debt and the prioritizing of concessional borrowing.

The current MTDS focuses on Central Government's debt as opposed to the previous MTDS, which focused on Total Public Sector debt. It covers the period 2018 to 2020 and emphasizes fortifying the gains achieved from the debt restructuring exercise.

The 2018 - 2020 MTDS seeks to support gross financing requirements at the lowest possible cost and with a prudent degree of risk. An MTDS Analytical Tool was used to provide direction on the appropriate mix of borrowing instruments. The Analytical Tool assesses and ranks the borrowing strategies based on the cost-risk trade-off. It is assumed that the medium-term

borrowing needs of the Government would be financed using a combination of stylized instruments categorized as follows:

- Variable rate multilateral CDB loan with maturities of 25 years and 34 years;
- Rollover of T-Bills portfolio;
- Domestic fixed-rate bonds with maturities of 5 years and 10 years.

II. MEDIUM-TERM DEBT MANAGEMENT OBJECTIVES AND SCOPE

The fundamental objectives of the Government of St. Kitts and Nevis' Debt Management Strategy are to continue to ensure an overall reduction in the Government's debt portfolio and to meet all of the Government's financing requirements at the lowest possible cost and with a prudent degree of risk. To achieve the above objectives, the Government intends to:

- Ensure that the Government's financing needs and debt service obligations over the medium-term are met at the lowest possible cost and an acceptable level of risk;
- Minimize existing risks inherent in the debt portfolio by extending the maturity of short-term debt instruments;
- Assess the feasibility of re-establishing the Government's presence on the Regional Governments Securities Market (RGSM).

The current MTDS focuses on the Government's debt with a medium-term horizon of three years spanning from 2018 to 2020.

III. OVERVIEW OF 2015 - 2017 MEDIUM-TERM DEBT MANAGEMENT STRATEGY (MTDS)

The second edition of the MTDS, which covered the period 2015 – 2017, continued to focus on the Government's goal of reducing the outstanding debt to a sustainable level. The initiatives under the 2015 – 2017 MTDS were multifaceted and have resulted in a reduction in the total outstanding debt. These included the pre-payment of higher-cost debt of major creditors as well as other refinancing initiatives that resulted in more favorable terms with respect to lengthening maturity and lowering cost of some loans. Additionally, the Government reduced interest rates on

its Treasury Bills (T-Bills), the National Savings Scheme and the Government Savings Bank. This action translated into lower interest payments. In the event of new borrowing during the period 2015 – 2017, the Strategy stipulated that this be done from concessional lenders which would have ensured favorable borrowing terms. The 2015 – 2017 MTDS also proposed benchmarks for cost and risk indicators with a view of monitoring and minimizing the relevant risk embedded in the debt portfolio.

IV. KEY DEVELOPMENTS DURING IMPLEMENTATION OF 2015 - 2017 MTDS

The implementation of the 2015 – 2017 MTDS resulted in the following outcomes:

1) Debt stock reduction through restructuring/refinancing activities

A. The execution of a Debt Prepayment Strategy led to:

- i. The full repayment of debts owed to the Export-Import Bank of the Republic of China (Ex-Im Bank) which totalled \$41.5m.
- ii. The repayment of the International Monetary Fund (IMF) Stand-By Arrangement (SBA) loan in April 2016, ahead of the IMF's original schedule of 2018. This included the prepayment of \$30.0m in the fourth quarter of 2015.

B. The refinancing of arrears owed by the Nevis Island Administration (NIA) to the Kuwait Fund for Arab Economic Development (KFAED) in August 2015.

C. The full repayment of the La Vallee Greens Limited Exchange and Facility Agreement with the St. Kitts-Nevis-Anguilla National Bank (SKNANB) which resulted in a reduction of \$14.2m in the domestic debt stock.

2) Debt Service Cost Reduction

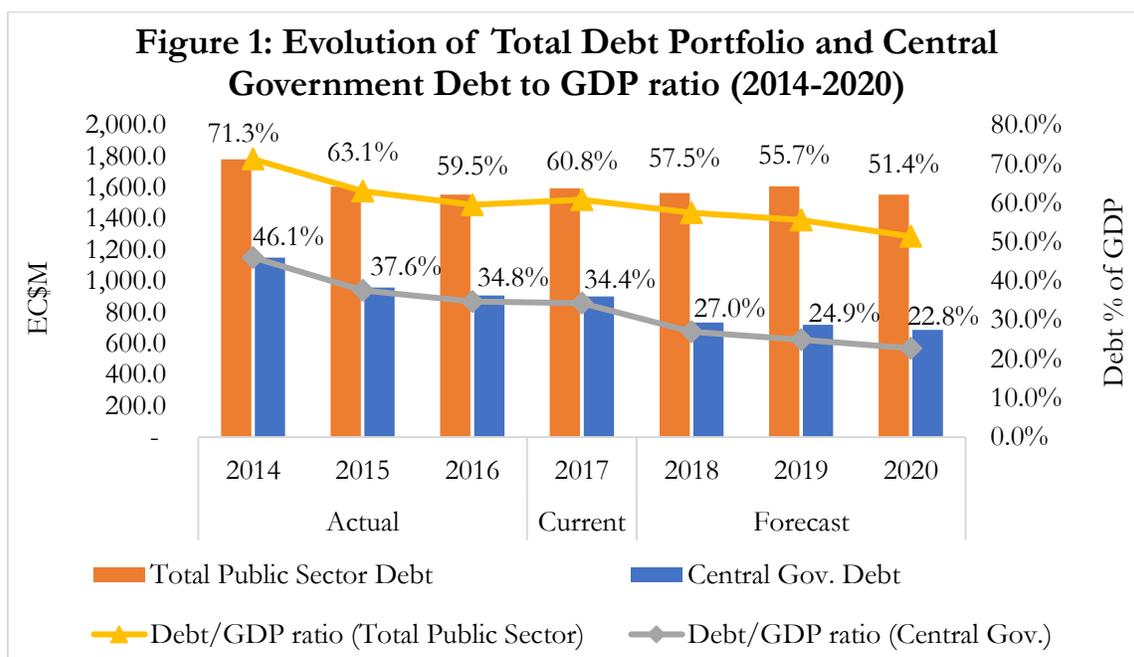
A. Effective May 2016, the interest rates offered on each category of the Central Government's Treasury Bills were reduced by 1.0 percentage point to bring the rates closer to market rates. This resulted in lower interest payments by the Government.

- B. Effective March 2017, the interest rates offered for the National Savings Scheme and the Government Savings Bank were reduced so that they would be in line with the prevailing rates offered in the local marketplace.
 - C. The interest rate for NIA's 365-day Treasury Bill was reduced by 1.0 percentage point in August 2017. This will result in lower interest payments by the NIA from 2018.
- 3) **Concessional Financing**
- A. Borrowing by the Central Government and State-Owned Entities was undertaken on concessional terms from Multilateral and Bilateral Creditors (Caribbean Development Bank (CDB), Social Security Board (SSB), and St. Kitts and Nevis Sugar Industry Diversification Foundation (SIDF)). Seven new loans were contracted at interest rates ranging from 3 percent to approximately 3.8 percent. Four other loans have a 3.5 percent interest rate.
- 4) **Strengthened Investment and Debt Management Unit**
- A. The scope of the Debt Management Unit (DMU) was expanded in 2015 to include investment functions. The DMU was therefore renamed the Investment and Debt Management Unit (IDMU).
 - B. The Unit's Front, Middle and Back Offices were centralized within the Office of the Financial Secretary in June 2015. This has resulted in increased efficiency and better management of the debt portfolio by the IDMU.
 - C. The staff complement was increased through the employment of two Debt Analysts and an Economist. In March 2017, one of the two Debt Analysts successfully completed a six-month Junior Debt Managers Programme that was jointly managed by the IMF and the Eastern Caribbean Central Bank.
- 5) **Full migration to CS-DRMS Version 2.0**
- A. The Investment and Debt Management Unit migrated fully to Version 2 of the Commonwealth Secretariat Debt Recording and Management System (CS-DRMS) in March 2017 after testing the system for just over two years.

V. REVIEW OF THE DEBT PORTFOLIO AND THE MEDIUM-TERM FORECAST

i. Total Public Sector and Central Government Debt Dynamics: 2014 – 2020

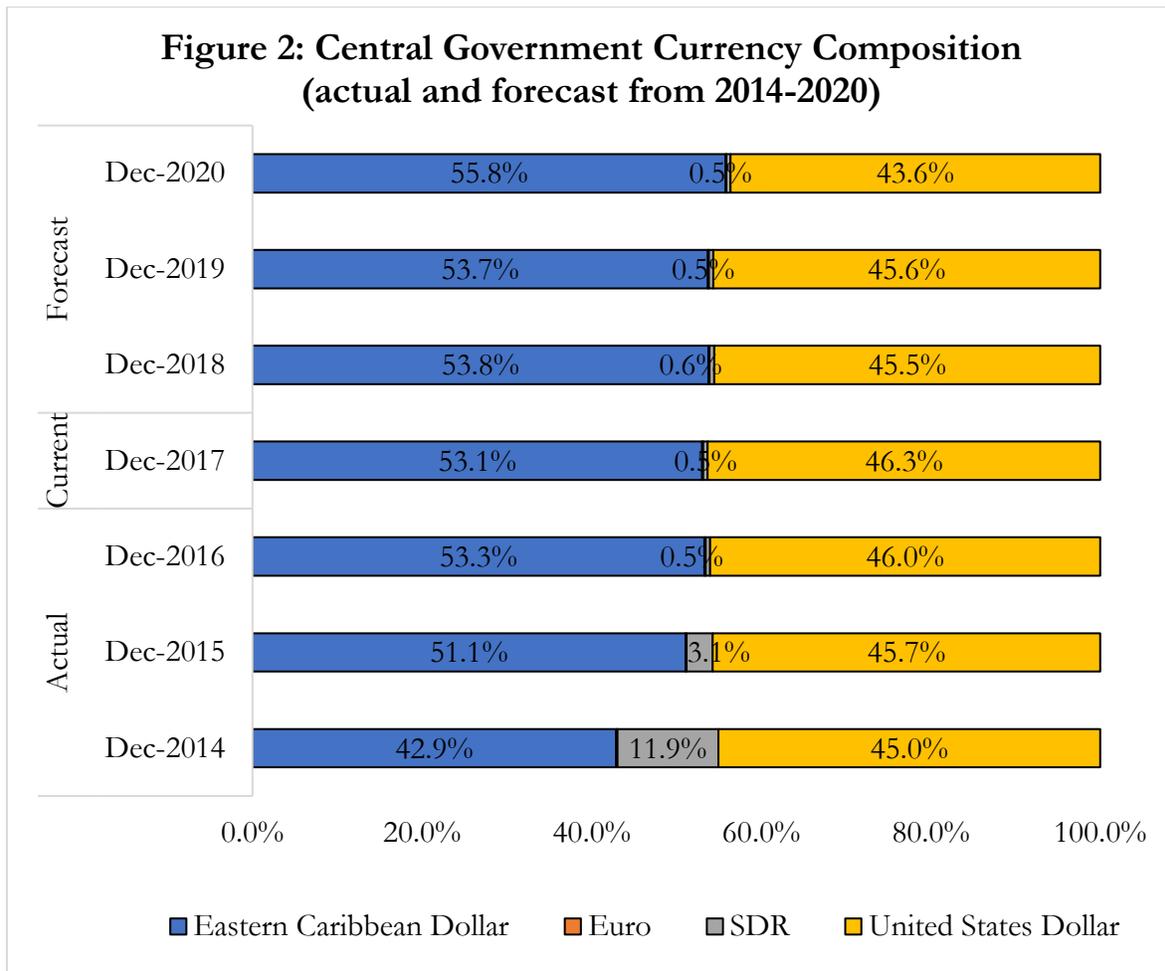
At the end of December 2017, the Total Public Sector debt stood at \$1,595.6m or 60.8 percent of GDP, a contraction of \$186.1m or 10.4 percent relative to the level at the end of December 2014. Central Government’s debt, which amounted to \$901.1m, represented 56.5 percent of the Total Public Sector Debt stock; 62.4 percent of which was in the form of domestic debt while 37.6 percent was external debt. Central Government’s debt declined by \$250.0m or 21.7 percent when compared to 2014. Over the period 2014 to 2017, the Central Government Debt-to-GDP ratio decreased from 46.1 percent to 34.4 percent. For the same period, the Total Public Sector Debt-to-GDP ratio fell by 10.5 percentage points.



Central Government’s debt declined by \$167.1m or 18.5 percent at the end of 2018 relative to 2017. The overall decrease in the Government’s debt for 2018 was primarily attributable to a reduction in the amount owed to a bilateral creditor and a decline in the Treasury Bills stock. As a result of these reductions, the Government’s Debt-to-GDP ratio fell to 27.0 percent by the end of 2018. Over the period 2018 to 2020, the Government’s Debt-to-GDP ratio is forecasted to contract by a further of 4.2 percent to reach an estimated 22.8 percent of GDP at the end of 2020 (see Figure 1).

ii. Currency Composition of Central Government’s Debt Portfolio

At the end of 2017, Central Government’s debt instruments were denominated in four currencies. The currency mix included debt in Eastern Caribbean (EC) dollars, which represented 53.1 percent of the total Government’s debt portfolio. The second largest percentage share was debt denominated in United States (US) dollars accounting for 46.3 percent. The Special Drawing Rights (SDR) and the Euro denominated debt accounted for 0.5 percent and 0.1 percent of the debt portfolio respectively (see Figure 2).

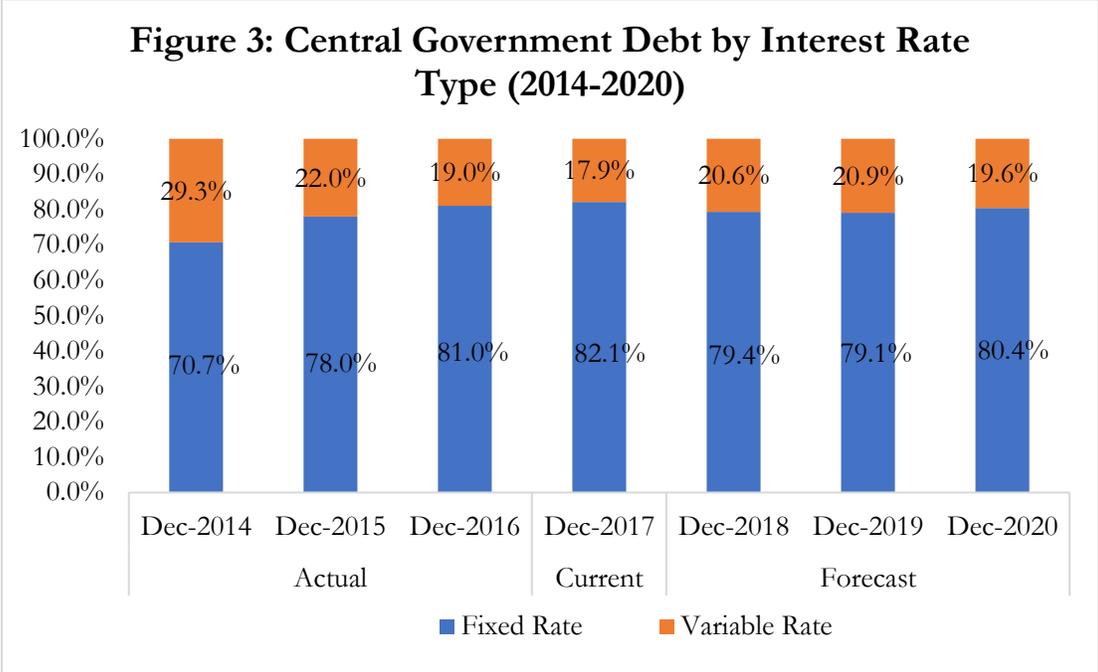


For the forecasted periods, the EC dollar is expected to remain the dominant currency, increasing to 53.5 percent in 2018. The EC dollar is projected to gradually increase in percentage share to a high of 55.8 percent by 2020. The share of US dollar denominated debt is anticipated to decrease to 45.5 percent in 2018 and decline gradually over the remaining forecasted period to a low of 43.6 percent by the end of 2020. The percentage share of SDR denominated debt is expected to decline

marginally to 0.5 percent by 2020 while the percentage share of the Euro denominated debt would remain stagnant at 0.1 percent.

iii. Interest Rate Composition of the Central Government’s Debt Portfolio

For the period 2014 to 2017, the interest rate composition of the debt was comprised mainly of fixed rate instruments. At the end of 2017, the share of fixed rate debt had grown to 82.1 percent compared to 70.7 percent in 2014. Fixed rate debt declined slightly to 79.4 percent in 2018 and subsequently is expected to increase marginally to 80.4 percent by 2020 (see Figure 3).



The share of variable rate debt has steadily declined from 29.3 percent in 2014 to 17.9 percent in 2017. Variable rate debt increased slightly to 20.6 percent in 2018. For the period 2019 to 2020, the share of variable rate debt is projected to increase marginally in 2019 to 20.9 percent and decrease to 19.6 percent by 2020.

VI. KEY ASSUMPTIONS

i. Macroeconomic Environment

Since the development of the 2015 – 2017 MTDS in 2014, the St. Kitts and Nevis economy realized an annual average growth rate of 3.3 percent. The key macroeconomic assumptions underpinning the 2018 to 2020 Debt Management Strategy are projections on real GDP growth. Over the period 2018 to 2020, real GDP growth is forecasted to average 4.8 percent per annum as the economy is projected to grow by 3.7 percent in 2018, 6.1 percent in 2019 and 4.7 percent in 2020.

The Central Government's fiscal performance is expected to be stable over the medium-term. Overall surpluses of \$42.7m, \$14.9m, and \$36.1m are estimated for 2018, 2019, and 2020 respectively.

ii. Financing and Sources of Funding

A Government's debt financing needs are determined by the primary deficit, interest costs and principal payments. Under the baseline macroeconomic assumptions, primary surpluses were projected for the Government of St. Kitts and Nevis' 3-year time horizon. The Government has undertaken two major capital projects that, over the medium-term, will require financing. These capital projects however, will be funded by a combination of revenues and development aid. The projects comprise an upgrade to the island main road, which would span the period 2018 to 2020 and the Old Road Bay Rehabilitation project, which commenced in 2019 with scheduled completion in 2020. Undisbursed amounts for loans previously contracted through the CDB are projected to comprise the totality of external financing needs. Additionally, Domestic financing is expected to be sourced from a rollover of Over-the-Counter (OTC) T-Bills and the issuance of a 5-year bond and/or a 10-year bond.

The following are pricing assumptions for external and domestic sources of borrowing that were made in the formulation of the 2018 – 2020 MTDS:

- Seek final disbursement of funds on floating rate debt from the CDB;
- Fund new financing requirements through the issuance of a 5-year bond and/or a 10-year bond;

- Continue the rollover of the current stock of OTC Treasury Bills (91-day, 182-day, and 365-day) in line with the present terms and existing policy.

VII. DEBT STRATEGY IMPLEMENTATION

The Medium-Term Debt Management Strategy (2018 – 2020) aims to ensure that the Government’s financing needs are met at the lowest possible cost while managing the exposure of the debt portfolio to risk. It also seeks to ensure the continued overall reduction in the Government’s debt portfolio. To this end, a detailed framework outlining guidelines for Government’s borrowing practices has been developed. Implementation of the Strategy will be monitored on a quarterly basis and updated annually.

A. Action Plan 2018 – 2020

In order to achieve the aforementioned objectives, the Government will undertake the following activities during the 2018 – 2020 period. The 2018 – 2020 MTDS builds on the 2015 – 2017 Strategy while maintaining similar characteristics, where warranted.

1. Consider avenues such as the following to reduce refinancing risk

A. Cap the value of the OTC T-Bills portfolio:

- i. A further assessment of the Treasury Bills portfolio will be undertaken to determine the maximum level that the Government can accommodate without increasing the debt stock and refinancing risk.
- ii. The interest rate offered on each T-Bills category will continue to be reviewed periodically to ensure that the rates offered are in line with market rates.

B. Lengthen the maturity structure of domestic debt – The high percentage of short-term debt in the domestic portfolio poses a refinancing risk. Therefore, consideration will be given to financing domestic borrowing through the issuance of a 5-year bond and/or a 10-year bond which would lengthen the maturity structure of the domestic debt portfolio and reduce refinancing risk.

2. Draw-down Undisbursed Concessional Loans – The Debt Strategy entails further loan disbursements on a Technical and Vocational Education and Training Enhancement project

and a Street and Flood Light Retrofitting project. The undisbursed amounts will constitute the sum of external borrowing.

3. **Establish a Growth and Resilience Fund** – The Government of St. Kitts and Nevis is committed to establishing a Growth and Resilience Fund to preserve and manage savings from the CBI inflows. The Fund will reduce the Federation’s vulnerability to exogenous shocks by building precautionary buffers to finance post-natural disaster activities, build resilience against natural disasters and further reduce the Government’s debt stock through the repayment of high cost debt, where warranted.

B. Risk Monitoring Parameters

In 2013, a number of risk parameters were established to facilitate the monitoring and management of costs and risks embedded in the debt portfolio. The thresholds are intended to serve as a tool that would be used to ensure that the cost, risks, and debt levels do not exceed sustainable levels. Table 1 identifies the risk parameters that will be used to monitor the performance of the Debt Management Strategy and its impact on the cost and risk indicators. The table also outlines the forecast for 2018 – 2020 with 2017 as the actual baseline year.

Table 1: Risk Parameter Targets

INDICATORS	Dec-17	Dec-18	Dec-19	Dec-20	Risk Parameters (Benchmark Targets)
	Actual	Forecast			
<i>Refinancing Risk Indicators</i>					
Debt maturing within a year (% of total)	39.6%	34.5%	34.4%	35.6%	Should not exceed 30.0% of total debt.
ATM (Years)	7.9	9.0	8.8	8.5	Should not fall below 8 years.
<i>Interest Rate Risk Indicators</i>					
Variable interest rate debt/total debt	17.9%	20.6%	20.9%	19.6%	Should not exceed 20.0% of total debt.
Re-fixed debt in one year/total debt	56.6%	60.4%	58.1%	57.9%	Should not exceed 50.0%.
ATR (Years)	6.6	6.6	6.6	6.5	Should not fall below 7 years.

INDICATORS	Dec-17	Dec-18	Dec-19	Dec-20	Risk Parameters (Benchmark Targets)
	Actual	Forecast			
<i>FX Rate Risk Indicator</i>					
% of FX debt (excluding US dollar)	0.6%	0.6%	0.5%	0.5%	Should not exceed 10.0% of total debt.
<i>Sustainability Indicators</i>					
Total Debt-to-GDP ratio	60.8%	57.5%	55.7%	51.4%	60.0% of GDP by 2030.
Central Government Debt Service/Exports	9.6%	7.1%	6.6%	6.7%	Should not exceed 15.0%.
Central Government Debt Service/GDP	3.1%	2.4%	2.3%	2.3%	Should not exceed 5.0% of GDP.
<i>Fiscal Indicators</i>					
Central Government Debt Service/Tax Revenue	19.5%	15.3%	14.6%	14.9%	Should not exceed 20.0% of Tax Revenue.
Interest Expenditure/Tax Revenue	5.9%	5.6%	5.3%	4.8%	Should not exceed 10.0% of Tax Revenue.

i. Refinancing Risk Benchmark

The objective of monitoring refinancing risk is to minimize the occurrence of bunching of debt service payments and rollover risk, which can increase liquidity risk and debt servicing cost. The share of debt maturing in one year is expected to remain above the benchmark of 30.0 percent decreasing from 39.6 percent in 2017 to 34.5 percent in 2018, 34.4 percent in 2019, and increasing marginally to 35.6 percent in 2020. The forecasted increase is attributed to the large stock of T-Bills, which is expected to decline at a slower rate compared to the overall debt stock. The Average Time to Maturity (ATM), which is a measure of the refinancing risk expressed in years for which principal payments must be repaid, is projected to increase to 9.0 years in 2018. The ATM is projected to decline marginally in 2019 (8.8 years) and 2020 (8.5 years) however, remaining above the benchmark of 8.0 years.

ii. Interest Rate Risk Benchmark

Variable interest rate debt to total debt is projected to increase from 17.9 percent in 2017 to 20.6 percent in 2018. The ratio is expected to increase marginally to 20.9 percent in 2019 and fall below the benchmark of 20.0 percent to 19.6 percent in 2020. Debt re-fixing in one year exceeded the benchmark of 50.0 percent in 2017 (56.6 percent), and 2018 (60.4 percent), and will likely remain above the benchmark in 2019 (58.1 percent), and 2020 (57.9 percent). The breaches were attributable to the high proportion of short-term instruments in the debt portfolio. The Average Time to Re-fixing (ATR), which is a measure of the portfolio's exposure to interest rate fluctuations or the length of time for which the cost of the debt is fixed, is expected to fall below the benchmark of 7.0 years in 2017 (6.6 years) and remain stable over the medium-term and decline slightly to 6.5 years in 2020.

iii. Foreign Exchange Risk Benchmark

In the case of ECCU countries, an accurate indicator of foreign currency risk is the percentage of foreign currency debt, excluding the US dollar, that is held in the debt portfolio. It is projected that this indicator will remain stable, not exceeding 1.0 percent, significantly below the benchmark of 10.0 percent.

iv. Sustainability Benchmark

The total debt-to-GDP ratio was 60.8 percent at the end of 2017, just outside the ECCU's debt ratio target of 60.0 percent. The debt ratio is projected to decline to 57.5 percent by the end of 2018 achieving the target benchmark of 60.0 percent ahead of the 2030 time frame. The ratio is projected to decline even further to 55.7 percent and 51.4 percent by the end of 2019 and 2020 respectively. The Central Government's Debt Service to Exports ratio and the Central Government's Debt Service to GDP ratio are anticipated to remain well below the benchmark of 15.0 percent and 5.0 percent respectively over the medium-term.

v. Fiscal Benchmark

The Central Government's Debt Service to Tax Revenue ratio is expected to remain below the benchmark of 20.0 percent for the entire forecast period. Interest Expenditure as a Percentage of

Tax Revenue is also expected to perform favorably over the forecast period declining gradually from 5.9 percent in 2017 to 4.8 percent in 2020.

VIII. COST AND RISK OF THE CENTRAL GOVERNMENT'S DEBT PORTFOLIO

Assessments of the cost and the risk inherent in the existing debt portfolio of the Government facilitate the formulation of borrowing strategies that would aid the development of an optimal debt structure utilizing a variety of terms of maturity, interest rates, and exchange rates. The cost/risk exposure that is associated with the debt portfolio is measured utilizing the following risk indicators: interest rate risk, exchange rate risk, and refinancing risk.

Table 2: Cost and risk indicators for debt as at end 2017

Risk Indicators		External Debt	Domestic Debt	Total Debt
Amount (in millions of XCD)		339.1	562.0	901.1
Nominal debt as % GDP		12.9	21.4	34.4
PV as % of GDP		11.1	21.1	32.2
Cost of debt	Interest payment as % GDP	0.4	0.7	1.1
	Weighted Av. IR (%)	3.0	3.3	3.2
Refinancing risk	ATM (years)	9.4	7.0	7.9
	Debt maturing in 1yr (% of total)	8.0	58.7	39.6
	Debt maturing in 1yr (% of GDP)	1.0	12.6	13.6
Interest rate risk	ATR (years)	6.0	6.9	6.6
	Debt re-fixing in 1yr (% of total)	51.7	59.6	56.6
	Fixed rate debt (% of total)	51.2	99.1	82.1
FX risk	FX debt (% of total debt)			46.9

i. Repayment (debt service cost) risk

The weighted average interest rate is the aggregate rate of interest paid on Central Government debt. As at end of 2017, the weighted average interest rate on domestic debt was 3.3 percent while that for external debt was 3.0 percent. The weighted average interest rate on the total debt stock was 3.2 percent (see Table 2), representing a decline of 1.0 percent compared to the previous MTDS. Interest Payments as a percentage of GDP was projected to be 1.1 percent for the total debt stock and 0.4 percent and 0.7 percent for external and domestic debt respectively.

ii. Interest Rate Risk

Fixed interest rate debt accounted for 82.1 percent of the total debt portfolio for the Central Government. Fixed rate debt accounted for 99.1 percent of domestic debt and 51.2 percent of external debt. The Average Time to Re-fixing (ATR) was 6.6 years for 2017. External ATR and domestic ATR were 6.0 years and 6.9 years respectively.

At the end of 2017, the percentage of the debt stock that would have been due for re-fixing in one year amounted to 56.6 percent. The percentage of External debt and Domestic debt maturing in one year was 51.7 percent and 59.6 percent respectively. The higher domestic ATR relative to the external ATR was due to the significant proportion (32.8 percent) of the domestic debt being comprised of T-Bills. The inherent short-term nature of T-Bills resulted in an elevated refinancing risk.

iii. Foreign Currency Risk

Foreign currency debt as a percentage of total debt was 46.9 percent. Given that the US dollar is pegged to the local currency, the actual exposure to exchange rate fluctuations, after excluding the US dollar denominated debt, was 0.6 percent. This represented the minimal exposure of the debt portfolio to foreign currency risk.

iv. Refinancing Risk

The Average Time to Maturity (ATM) was 7.9 years at the end of 2017. The average maturity profile of external debt was 9.4 years while that for domestic debt was 7.0 years. The proportion of the total debt maturing within one year was 39.6 percent or 13.6 percent of GDP.

Figure 4: Central Government: Redemption Profile at end-2017

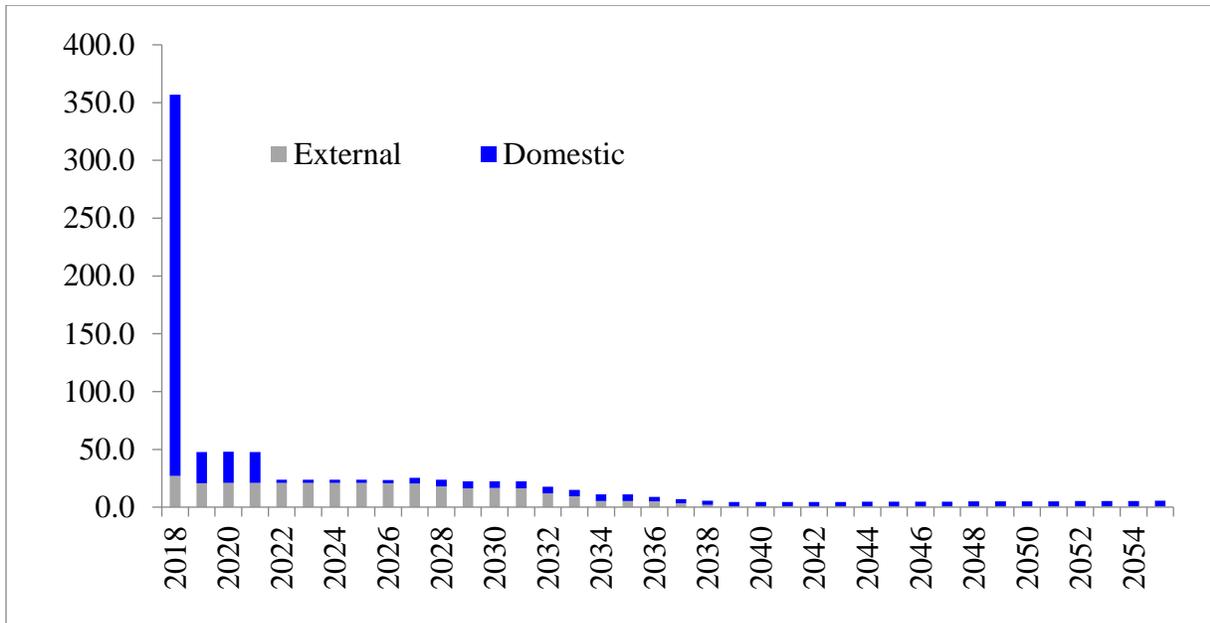


Figure 4 illustrates the high amount of domestic debt maturing in 2018, which reflects the large share of T-Bills in the domestic debt portfolio. The spike in the Redemption Profile noted in 2018 was attributed to the redemption of short-term instruments (T-Bills). Over the remaining period under review (2019 to 2020), the ratio of external debt to domestic debt maturing was more evenly distributed because of projected repayments on fuel arrears owed to PDV St. Kitts and Nevis Ltd.

IX. METHODOLOGY USED FOR MTDS ANALYSIS

The methodology for the MTDS comprised quantitative analyses of alternative financing strategies that utilized an analytical model developed by the World Bank and the IMF in order to assist Developing Countries with their debt management decision-making processes. The model calculates debt flows in the medium-term which are dependent on the various inputs entered into the model for each of the possible strategies.

X. DESCRIPTION OF ALTERNATIVE STRATEGIES

The fiscal outlook, for which Primary Surpluses are forecasted over the medium-term, envisions further disbursements for two loan facilities that were contracted in 2016 and 2017 and the continued rollover of the T-Bills portfolio (which presents a refinancing risk). Four (4) alternative debt management strategies were formulated for the 2018 – 2020 MTDS to assess the impact of different financing alternatives on the cost and risk trade-offs on the Central Government's projected debt structure. A summary of the alternative debt management strategy allocations is illustrated in Table 3. The following is a summary of each strategy:

- a) **Strategy 1 – Maintain the Status Quo.** This strategy would be continuation of the approach outlined in the 2015 – 2017 MTDS. It assumes that 100 percent of external financing needs would be fully funded by previously contracted undisbursed CDB floating rate debt. Further, it assumes that 100 percent of domestic borrowing would constitute the rollover of the OTC T-Bills portfolio. Interest rates offered on the various T-Bill instruments would remain consistent with the current portfolio. Apart from these transactions no additional borrowing would be undertaken.
- b) **Strategy 2 – Issue a 5-year Domestic Bond.** This financing strategy assumes that external borrowing would be consistent with Strategy 1. The Government would fund 40.0 percent of domestic financing needs through the issuance of a 5-year bond in the domestic market. The remaining 60.0 percent would be financed with the rollover of the OTC T-Bills portfolio.
- c) **Strategy 3 – Issue a 10-year Domestic Bond.** This strategy assumes that the funding of external financing needs would be consistent with Strategy 1. The assumption is that 40.0 percent of Domestic financing needs would comprise a 10-year bond issued in the domestic market while the remaining 60.0 percent would be met by the rollover of the OTC T-Bills portfolio. The interest rates offered on the various OTC T-Bill instruments would be adjusted to account for the domestic bond issuance.
- d) **Strategy 4 – Combined Issuance of a 5-year and 10-year Domestic Bond.** This strategy assumes that the funding of external financing needs would be consistent with Strategy 1. Domestic financing needs would be supported through the issuance of a 5-year bond (15.0

percent) and a 10-year bond (25.0 percent) in the domestic market. It is also assumed that funding for the remaining 60.0 percent of domestic financing needs would be derived from the rollover of the OTC T-Bills portfolio, adjusting the interest rates offered on the various OTC T-Bill instruments to account for the issuance of domestic bonds.

Table 3 provides a breakdown of the gross financing needs in relative terms according to the instruments that could be selected for the borrowing strategies articulated above. External financing for Strategy 1 would be 0.02 percent of total funding. Meanwhile, domestic funding for Strategy 1 utilizing OTC T-Bills would account for the remaining 99.98 percent of total funding. External funding for Strategies 2, 3, and 4 would remain fixed at 0.03 percent of total funding whereas, domestic funding for Strategy 2 would be comprised of 82.05 percent in new OTC T-Bills and 17.92 percent in a 5-year bond. Domestic funding for Strategy 3 proposes 81.08 percent of total funding in new OTC T-bills and the remaining 18.89 percent of total funding on a 10-year bond. Domestic funding for Strategy 4 proposes a combination of 81.46 percent of total funding for a new OTC T-Bills, 11.57 percent for a 10-year bond, and 6.94 percent for a 5-year bond.

Table 3: Alternative Debt Management Strategies

Average Percentage Share of Gross Borrowing over the Projection Period					
Strategies					
New Debt		S1	S2	S3	S4
External Sources		0.02%	0.03%	0.03%	0.03%
CDB Floating Rate	FX	0.02%	0.03%	0.03%	0.03%
Domestic Sources		99.98%	99.97%	99.97%	99.97%
OTC T-Bills	DX	99.98%	0.00%	0.00%	0.00%
New OTC T-Bills	DX	0.00%	82.05%	81.08%	81.46%
5-yr T-Bond	DX	0.00%	17.92%	0.00%	6.94%
10-yr T-Bond	DX	0.00%	0.00%	18.89%	11.57%
		100.00%	100.00%	100.00%	100.00%

XI. STRESS TEST SCENARIOS

Stress tests are undertaken to assist with the evaluation of the robustness of the possible debt management strategies. In assessing the Alternative Debt Management Strategies that were outlined above, four (4) stress scenarios for interest rates and exchange rates were simulated. The stress tests assumed that all the shocks would be sustained throughout the medium-term (2018 – 2020) as a one-off but permanent shock. The scenarios were designed to illustrate the impact of varying financing strategies on the cost and risk trade-offs on the Central Government's debt profile.

- i. Scenario 1: assumes an extremely unlikely 30.0 percent depreciation of the EC dollar to the US dollar in 2018.
- ii. Scenario 2: assumes a moderate shock of 200 basis points to the interest rate for the three-year time horizon.
- iii. Scenario 3: assumes an extreme shock of 500 basis points to the interest rate for the three-year time horizon.
- iv. Scenario 4: assumes a combination shock of 15.0 percent depreciation to the exchange rate and an extreme shock of 500 basis points to interest rates.

XII. RESULTS OF ANALYSIS OF STRATEGIES

The four (4) alternative financing strategies were assessed under the four (4) stress test scenarios in terms of their impact on cost and risk. The following key indicators were considered: the Debt-to-GDP ratio and the Interest Payments-to-GDP ratio (see Table 4). The maximum risk is defined as the largest impact of the stress test on the baseline of each strategy for the two indicators.

For the end of 2020, the baseline projections for the Debt-to-GDP ratio illustrated that Strategy 2 would provide the lowest Debt-to-GDP ratio at 22.94 percent. Of the four (4) stress tests, the exchange rate shock of 30.0 percent proved to be the most impactful on the Debt-to-GDP ratio. Analyzing the impact of this shock on the four (4) strategies showed that Strategy 2 was least impacted, increasing to a Debt-to-GDP ratio of 26.63 percent.

The baseline projections for the Interest Payments-to-GDP ratio at the end of 2020, illustrated that Strategy 2 would provide the best results (0.78 percent). The most significant impact on the

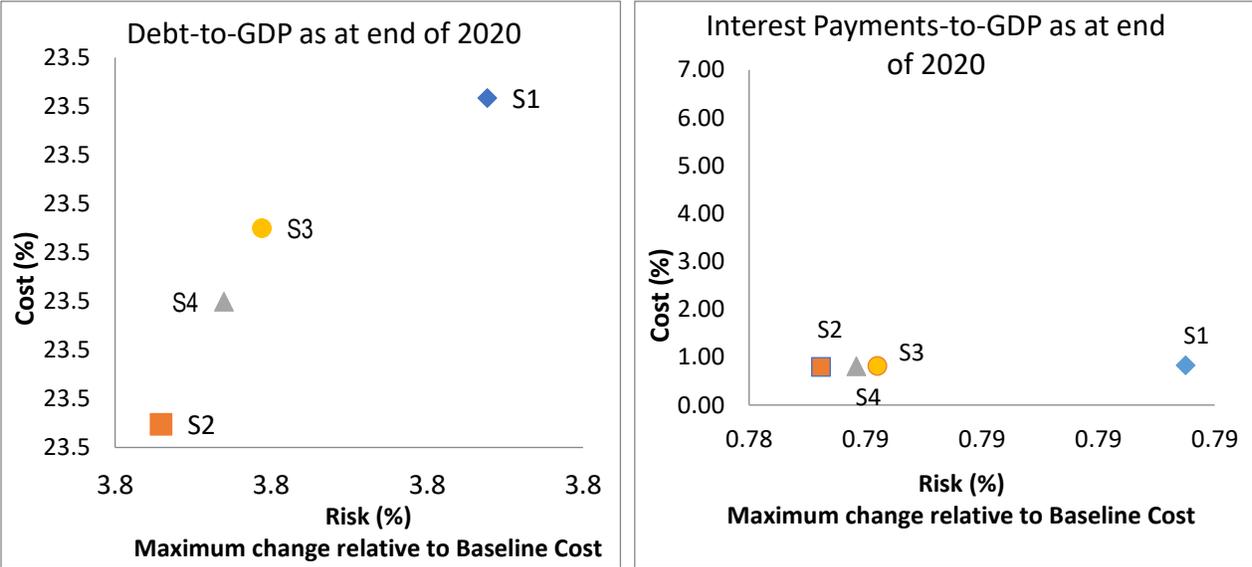
Interest Payments-to-GDP ratio resulted from the extreme interest rate shock which caused an increase in risk of 0.76 percent. Compared to all other strategies, Strategy 2 was least impacted, increasing the Interest Payment-to-GDP ratio to 1.54 percent.

Table 4: Results of Stress Test Scenarios on Financing Strategies - Debt Indicators

Debt-to-GDP ratio as at end 2020 (expressed in percent)				
	Strategies			
Scenarios	S1	S2	S3	S4
Baseline	23.01	22.94	22.98	22.97
Exchange rate shock (30%)	26.70	26.63	26.67	26.66
Interest rate shock 1 (Moderate Shock)	23.60	23.53	23.58	23.56
Interest rate shock 2 (Extreme Shock)	24.51	24.44	24.48	24.47
Combined shock (15% depreciation and interest rate shock 1)	26.08	25.49	25.42	25.46
Max Risk	3.69	3.69	3.69	3.69
Interest Payments-to-GDP Ratio as at end 2020 (expressed in percent)				
	Strategies			
Scenarios	S1	S2	S3	S4
Baseline	0.81	0.78	0.80	0.79
Exchange rate shock (30%)	0.93	0.89	0.91	0.90
Interest rate shock 1 (Moderate Shock)	1.11	1.07	1.09	1.08
Interest rate shock 2 (Extreme Shock)	1.58	1.54	1.56	1.55
Combined shock (15% depreciation and interest rate shock 1)	1.19	1.15	1.17	1.16
Max Risk	0.77	0.76	0.76	0.76

The results of the impact of the stress tests relative to the baseline cost highlighted in Table 4 are further illustrated in Figure 5 below. Evaluating the impact of the stress tests on the Debt-to-GDP ratio, Strategy 2 (S2) is clearly the least costly of all the four (4) strategies while its risk is also the lowest. This result suggests that it should be considered as the preferred strategy. An analysis of the impact of the stress test on the Interest Payments-to-GDP ratio showed that Strategies 1, 2, and 4 are relatively similar in both cost and risk, however, Strategy 2 is the least impacted of all the strategies. Strategy 2, more so than any other strategy, would lower the refinancing risk of the large proportion of short-term instruments in the portfolio.

Figure 5: Results of Stress Test Scenarios on Debt Indicators



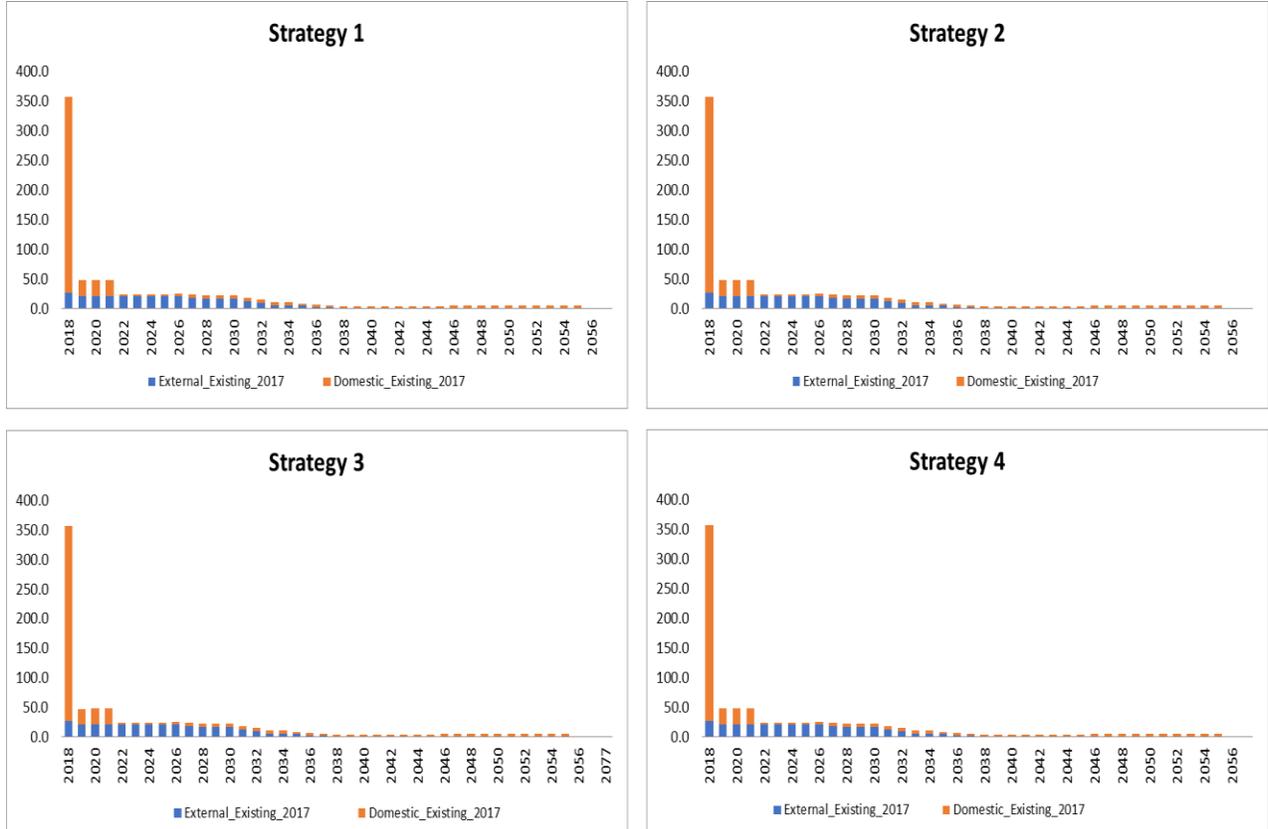
In analyzing the various strategies, consideration should be given to the results of other cost indicators that are used to evaluate the impact on refinancing risk, interest rate risk and foreign currency risk. Table 5 provides a comparative analysis of the impact of the alternative borrowing strategies on the risk indicators as at the end of 2020. In terms of the refinancing risk, Average Time to Maturity (ATM), Strategy 3 (S3) proved most effective at increasing this indicator to 7.94 years. Strategy 3 is the only strategy which has a higher ATM compared to the current ATM. With regards to the percentage of debt maturing in one year, Strategy 3 outperforms all other strategies with the percentage share declining to 30.45 percent as at 2020 compared to the current amount of 39.61 percent.

An analysis of interest rate risk showed that, to effectively mitigate interest rate risk, Strategy 3 proved the most effective. For Strategy 3, Average Time to Refixing (ATR), improved to 7.00 years compared to 2017 (6.60 years). Strategies 4 (6.86 years) and 2 (6.63 years) also improved compared to the current portfolio.

Table 5: Results of Other Key Cost Indicators

Risk Indicators		2017	As at end 2020			
		Current	S1	S2	S3	S4
Nominal debt as % of GDP		34.36	23.01	22.94	22.98	22.97
Present value debt as % of GDP		32.21	21.71	21.64	21.68	21.67
Interest payment as % of GDP		1.09	0.81	0.78	0.80	0.79
Implied interest rate (%)		3.17	3.16	3.02	3.10	3.07
Refinancing risk	Debt maturing in 1yr (% of total)	39.61	42.31	35.39	30.45	32.30
	Debt maturing in 1yr (% of GDP)	13.61	9.74	8.12	7.00	7.42
	ATM External Portfolio (years)	9.36	7.87	7.87	7.87	7.87
	ATM Domestic Portfolio (years)	7.01	7.19	7.39	7.98	7.76
	ATM Total Portfolio (years)	7.90	7.44	7.57	7.94	7.80
Interest rate risk	ATR (years)	6.60	6.51	6.63	7.00	6.86
	Debt re-fixing in 1yr (% of total)	56.63	59.52	52.65	47.68	49.54
	Fixed rate debt (% of total)	82.10	81.17	81.12	81.15	81.14
FX risk	FX debt as % of total	46.90	38.92	39.03	38.96	38.99

Figure 6: Redemption Profile for the Alternative Debt Management Strategies



XIII. CONCLUSION

The Central Government remains committed to reducing its debt stock and to meet any financing requirements with a prudent degree of risk. The goal is to maintain the Debt-to-GDP ratio below the 60.0 percent benchmark which was met by the end of December 2018. An analysis of the results of the various alternative financing strategies showed that the cost-risk implications are not significant. A deviation from the current strategy will therefore not be that impactful. Moreover, the outlook for the Central Government's financial position suggests that there would not be a financing gap in the medium term and as such it is unlikely that there would be a need to seek financing. The Government will therefore maintain the status quo (Strategy 1) over the medium term. Nonetheless, if for any reason the financial outlook deteriorates, the results of the MTDS exercise would serve as a guide for a borrowing strategy.