GOVERNMENT OF JAMAICA

MEDIUM-TERM DEBT MANAGEMENT STRATEGY

FY2023/24 - FY2026/27

MOFPS

MINISTRY OF FINANCE AND THE PUBLIC SERVICE

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LIST OF ABBREVIATIONS

ABP	Annual Borrowing Plan
ATM	Average Time-to-Maturity
ATR	Average Time-to-Refixing
BIN	Benchmark Investment Note
BOJ	Bank of Jamaica
BOP	Balance of Payments
BPS	Basis Points
B-FXITT	Bank of Jamaica Foreign Exchange Intervention Trading Tool
CAD	Current Account Deficit
CaR	Cost at Risk
CBDC	Central Bank Digital Currency
CCaR	Conditional Cost at Risk
CCFaR	Conditional Cash Flow at Risk
CFaR	Cash Flow at Risk
CCRIF-SPC	Caribbean Catastrophe Risk Insurance Facility – Segregated Portfolio Company
CNY	Chinese Yuan Renminbi
COVID-19	Coronavirus Disease 2019
CPI	Consumer Price Index
CVaR	Conditional Value at Risk
CY	Calendar Year
DMB	Debt Management Branch
DRF	Disaster Risk Financing
DTI	Deposit Taking Institution
EM	Emerging Market
EMDE	Emerging Market and Developing Economy
EME	Emerging Market Economy
EUR	Euro
FAA Act	Financial Administration and Audit Act
FED	United States Federal Reserve Bank
FFF	Flexible Financing Facility
FITP	Fixed Income Trading Platform
FR	Fixed-Rate
FRAN	Fixed-Rate Accreting Notes
FRF	Fiscal Responsibility Framework
FSC	Financial Services Commission
FY	Fiscal Year
FX	Foreign Exchange

GDP	Gross Domestic Product
GGL	Government Guaranteed Loan
GOJ	Government of Jamaica
HQLA	High-Quality Liquid Asset
ICM	International Capital Market
IDB	Inter-American Development Bank
IDR	Issuer Default Rating
IMF	International Monetary Fund
IR	Investor Relations
IRP	Investor Relations Programme
IRU	Investor Relations Unit
JAM-DEX	Jamaica's Central Bank Digital Currency
JAMAN	Jamaica's Global Bonds
JAMCLEAR-CSD	Central Securities Depository
JMD	Jamaica Dollar
JSDA	Jamaica Securities Dealer Association
JSE	Jamaica Stock Exchange
LAC	Latin America and the Caribbean
LCR	Liquidity Coverage Ratio
LMO	Liability Management Operation
LIBOR	London Inter-Bank Offered Rate
MTDS	Medium-Term Debt Management Strategy
NIR	Net International Reserves
NGL	Non-Guaranteed Loan
PB	Public Bodies
PBL	Policy-Based Loan
PBMA Act	Public Bodies Management and Accountability Act
PCDF	PetroCaribe Development Fund
PD	Primary Dealer
PDMA	Public Debt Management Act
PLL	Precautionary and Liquidity Line
RSF	Resilience and Sustainability Facility
SDR	Special Drawing Rights
SOFR	Secured Overnight Financing Rate
T-bill	Treasury Bill
USD	United States Dollar
VaR	Value at Risk
VR	Variable-Rate
XDR	Special Drawing Rights
XEU	European Currency Unit

FOREWORD

During FY2022/23, the Jamaican economy continued its recovery from the effects of the Coronavirus pandemic as reflected in the steady improvements in the country's macro-fiscal position. The economy also faced new challenges, some of that had implications for debt management operations. High levels of inflation stemming from the far-reaching effects of the Ukraine/Russia conflict resulted in tighter global financial conditions, higher borrowing costs, and lower levels of liquidity. Notwithstanding, real GDP growth for FY2022/23 is estimated at 5.1 percent, and debt-to-GDP continued its downward trajectory with a projected outturn of 79.7 percent for the end of the fiscal year.

Guided by the Medium-term Debt Management Strategy (MTDS) for FY2023/24 – FY2026/27, governed by the Public Debt Management Act (PDMA), the GOJ will continue to implement its preferred financing strategy based on a cost and risk assessment modelled against macro-fiscal forecasts. This includes the financing strategy to borrow mainly from the domestic market at fixed rates over the medium-term. As a means of insuring against future shocks, the GOJ, through a proposed staff-level agreement with the International Monetary Fund (IMF), has sought access to a Precautionary and Liquidity Line (PLL). The Government also intends to access the Fund's Resilience and Sustainability Facility (RSF) to support the country's resilience to climate-related shocks. The RSF offers favourable financing terms and will go a far way in managing the Governments exposure to refinancing risk, while improving portfolio costs.

During the upcoming fiscal year, the GOJ will continue to deepen its engagement with its stakeholders and market participants in keeping with the objective of inclusiveness and open dialogue. Accordingly, your comments on the MTDS are welcome at: invrelinfo@mof.gov.jm

Nigel Clarke, DPhil, MP	Darlene Morrison, CD
Minister of Finance and the Public Service	Financial Secretary
February 14, 2023	February 14, 2023

ACKNOWLEDGEMENTS

The Medium-Term Debt Management Strategy (MTDS) plays an integral role in guiding debt management operations to satisfy the Government of Jamaica's (GOJ's) financing needs at minimal costs and prudent levels of risk. The document provides a review of the GOJ's debt management performance throughout the first nine months of FY2022/23 and details the process through which alternate financing scenarios are assessed to select the preferred medium-term financing strategy. The Annual Borrowing Plan (ABP) and Issuance Strategy outline the GOJ's financing requirement for the upcoming fiscal year and detail the Government's intended strategy to satisfy those needs.

We would like to thank the staff of the Debt Management Branch for their commitment to the preparation of the MTDS. The team worked diligently to ensure that the document meets international standards and that the data presented is clear and accurate.

Sincere thanks, also, to Darlene Morrison CD, Financial Secretary and the members of the Public Debt Management Committee for their valued input which contributed to the development of this document.

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EXECUTIVE SUMMARY

During FY2022/23, the Government of Jamaica (GOJ) conducted debt operations against the backdrop of an economic environment still in recovery from the effects of the coronavirus pandemic and influenced by slowing global growth, rising inflation and a resultant increase in domestic and external interest rates.

Over the period April 2022 to December 2022, the economy demonstrated continued resilience evidenced by a steady but modest recovery. The GOJ registered a fiscal surplus of $14,958.1 million on the strength of tax revenues exceeding expectations. Debt-to-GDP is expected to continue its downward trajectory led by anticipated growth in real and nominal Gross Domestic Product (GDP) as well as projected declines in total public debt. Debt-to-GDP is estimated to be 79.7 percent at end-FY2022/23, a 14.5-percentage point reduction relative to end-FY2021/22. The annual point-to-point inflation rate of 9.4 percent at end-December 2022 continued the trend of elevated inflation above the upper limit of the Bank of Jamaica's targeted band of 4.0 percent to 6.0 percent. This prompted a series of adjustments, including a cumulative increase of 250 bps in the policy rate over the period, raising the rate from 4.50 percent at end-March 2022 to 7.00 percent at end-December 2022. These adjustments influenced operations in the domestic market, with the 3-month weighted average Treasury Bill yield increasing by 192 basis points (bps) relative to the 6.12 percent recorded in March 2022.

Central Government cost and risk indicators displayed mixed outcomes but were generally improved. Foreign currency risk remains the predominant risk, with 60.1 percent of total Central Government debt denominated in foreign currencies. While adjustments to interest rates over the period increased portfolio costs, the level of exposure declined, with all interest rate risk indicators improving during the review period. Inflation risk remained subdued given the marginal share of inflation-linked debt in the Central Government portfolio, even with the inflation rate remaining above the targeted range. Refinancing risk exposure improved as the share of debt maturing within the following year declined to 4.8 percent at end-December 2022 from 6.5 percent at end-March 2022, allowing flexibility to smooth bunching in the portfolio in the medium-term. The risk posed by contingent liabilities associated with Government guaranteed loans also decreased, with the GGL-to-GDP ratio decreasing by 0.8 percentage point to 2.8 percent, within the legislated ceiling of 3.0 percent for FY2026/27. The stock of public bodies' non-guaranteed loans was broadly unchanged over the period.

Comparative static simulations showed the debt portfolio being most sensitive to movements in the foreign exchange rate. A 5.0 percent depreciation in the Jamaica dollar relative to the US dollar in FY2023/24 is estimated to increase the debt stock and interest cost by $68,017.8 million or 3.1 percent and $3,389.7 million or 2.2 percent, respectively. This sensitivity to adverse exchange rate movements and the potential impact on adjusted portfolio costs supports the current debt management strategy to reduce foreign currency risk exposure.

For FY2023/24, the GOJ's financing requirement is projected at $139,472.5 million, representing an increase of $15,342.4 million, relative to FY2022/23. Financing is programmed through 55.5 percent external financing and 44.5 percent from the domestic market. Though the financing mix for the upcoming fiscal year is a departure from the selected financing strategy, **S1**, which prioritises mainly domestic, fixed-rate debt along all segments of the yield curve, an increase in domestic financing relative to external financing is programmed throughout the medium-term.

With the expectation that Jamaica's economy will continue its expansion, and that the Government will continue to achieve its budgeted fiscal targets, Standard and Poor's (S&P) Ratings Agency affirmed the Government of Jamaica's Long-Term Foreign and Local Currency Issuer Default Rating (IDR) at 'B+' with the outlook remaining 'Stable'. The stable outlook is grounded in the expectation that Jamaica will remain committed to macroeconomic and fiscal discipline and the continued downward trajectory of the debt burden.

For the new fiscal year, continued dialogue with institutional investors will be organized through strategies outlined in the comprehensive Investor Relations Programme (IRP). The planned activities are grounded in the core principles of openness, accessibility and consistency in conducting transparent debt operations.

SECTION I: INTRODUCTION

The annual update of the Medium-Term Debt Management Strategy (MTDS) outlines the Government of Jamaica's (GOJ) objectives, plans, and strategies for the management of public debt over the medium-term. The MTDS is designed to achieve an appropriate balance of cost and risks in the debt portfolio. It is developed within the context of the Fiscal Responsibility Framework (FRF) and guided by the Public Debt Management Act (PDMA).

The FY2023/24 – FY2026/27 MTDS evaluates costs and risks to the debt portfolio under alternative financing strategies relative to established annual and medium-term targets. The achievement of these targets is subject to the convergence of prudent debt management practices, sustained fiscal discipline and favourable market conditions.

The formulation of the strategy is geared towards:

- satisfying the Government's borrowing needs at the lowest possible cost and prudent levels of risk;
- mitigating risks in the portfolio;
- enhancing the development of the domestic capital market; and
- facilitating continued transparency in debt operations.

Consequently, the GOJ continues its effort to execute prudent debt management practices to lower exposure to risks—refinancing, interest rate and foreign currency—in the debt portfolio. Accordingly, the MTDS for FY2023/24 - FY2026/27 will continue to operationalize the strategy of issuing mainly domestic securities along all segments of the yield curve with emphasis on fixed interest-bearing instruments.

The scope of the analysis covers total public debt, which includes Central Government debt and that of specified public bodies[1], except the BOJ, net of any cross holdings. The stock of debt used in the analytical toolkit includes Central Government debt and Government guaranteed loans currently serviced by the GOJ.

The document is divided into nine sections, including S**ection I** which covers the Introduction. **Section II** presents a review of the current composition of the debt portfolio, while **Section III** reviews the cost and risk analysis of the portfolio inclusive of mitigation strategies. **Section IV** describes the key risk factors affecting the portfolio and estimates the portfolio's sensitivity to specific market risks. **Section V** previews the macroeconomic environment. **Section VI** explains the methodology for selection of the medium-term debt management strategy. **Section VII** details

[1] Public bodies certified by the Auditor General as primarily carrying out functions that are of a non-commercial nature.

the Annual Borrowing Plan (ABP) and issuance strategy. **Section VIII** provides an update on domestic and financial market developments, while **Section IX** details the Government's Investor Relations Programme.

SECTION II: PUBLIC DEBT PROFILE

At end-December 2022, the stock of total public debt[2] was $2,184,835.0 million, $2,762.3 million or 0.1 percent less than the $2,187,597.3 million recorded at end-March 2022. This was driven by reductions in the external component of the Central Government debt portfolio as well as a decline in net public bodies' debt, partially offset by an increase in Central Government domestic debt (see **Table 1**). Overall, reductions were attributed to exchange rate movements associated with the revaluation of the Jamaica dollar (JMD) relative to the United States dollar (USD), net amortization of external debt and an increase in crossholdings in the net public bodies' portfolio, supported by declines in guaranteed debt. Total public debt at end-FY2022/23 is projected at $2,161,674.1 million or 79.7 percent of GDP. This represents a 14.5percentage point decrease in debt-to-GDP over the end-March 2022 position and is mainly due to an estimated 16.8 percent increase in nominal GDP during FY2022/23.

Table 1: Public Debt Profile[3]

	Mar-22 J$ millions	(%) Total Public Debt	Dec-22 J$ millions	(%) Total Public Debt	YTD J$ million	YTD %
Total Debt	**2,187,597.3**	**100.0**	**2,184,835.0**	**100.0**	**(2,762.3)**	**(0.1)**
Total Central Government Debt	**2,155,893.2**	**98.6**	**2,162,231.2**	**99.0**	**6,338.0**	**0.3**
Central Government Domestic Debt	**810,089.7**	**37.0**	**845,782.3**	**38.7**	**35,692.6**	**4.4**
Marketable Securities	**810,089.6**	**37.0**	**845,782.2**	**38.7**	**35,692.6**	**4.4**
Bonds	799,789.6	36.6	835,482.2	38.2	35,692.6	4.5
Treasury Bills	10,300.0	0.5	10,300.0	0.5	0.0	0.0
Loans	**0.2**	**0.0**	**0.2**	**0.0**	**0.0**	**0.0**
Perpetual Annuities	0.2	0.0	0.2	0.0	0.0	0.0
Central Government External Debt	**1,345,803.5**	**61.5**	**1,316,448.8**	**60.3**	**(29,354.7)**	**(2.2)**
Marketable Securities	**756,535.0**	**34.6**	**748,034.5**	**34.2**	**(8,500.5)**	**(1.1)**
Bonds	756,535.0	34.6	748,034.5	34.2	(8,500.5)	(1.1)
Loans	**589,268.4**	**26.9**	**568,414.3**	**26.0**	**(20,854.2)**	**(3.5)**
Bilateral	**106,031.4**	4.8	**108,877.4**	**5.0**	**2,846.0**	**2.7**
OECD	2,229.8	0.1	1,855.4	0.1	(374.4)	(16.8)
Non-OECD	103,801.6	4.7	107,022.0	4.9	3,220.5	3.1
Multilateral	**483,237.0**	**22.1**	**459,536.8**	**21.0**	**(23,700.2)**	**(4.9)**
IDB	253,890.9	11.6	244,569.7	11.2	(9,321.2)	(3.7)
IBRD	162,193.4	7.4	156,849.8	7.2	(5,343.6)	(3.3)
IMF	0.0	0.0	30,144.3	1.4	30,144.3	0.0
Other	67,152.7	3.1	27,973.0	1.3	(39,179.7)	(58.3)
Gross Public Bodies' Debt	**248,859.6**	**11.4**	**240,576.8**	**11.0**	**(8,282.8)**	**(3.3)**
Government Guaranteed Debt	83,051.5	3.8	77,048.4	3.5	(6,003.1)	(7.2)
Loans from Central Government	135,111.3	6.2	133,110.5	6.1	(2,000.8)	(1.5)
Non Guaranteed Debt	30,696.8	1.4	30,417.9	1.4	(278.9)	(0.9)
Investments with GOJ	82,044.2	3.8	84,862.4	3.9	2,818.2	3.4
Cross-holdings	**217,155.5**	**9.9**	**217,973.0**	10.0	**817.5**	**0.4**
Net Public Bodies	**31,704.1**	**1.4**	**22,603.8**	**1.0**	**(9,100.3)**	**(28.7)**

Source: Ministry of Finance and the Public Service

[2] Public debt is defined as the consolidated debt of the Specified Public Sector (SPS), except that of the Bank of Jamaica (BOJ), net of any cross holdings.
[3] Discrepancies are due to rounding.

2.1 Central Government Debt

As at end-December 2022, total Central Government debt was $2,162,231.2 million, an increase of $6,338.0 million or 0.3 percent relative to the $2,155,893.2 million recorded at end-March 2022. The change reflected an increase in the domestic portfolio which outweighed the reduction in the external portfolio. Central Government debt is estimated to be $2,139,784.7 million at end-FY2022/23.

The stock of outstanding Central Government domestic debt rose from $810,089.7 million at end-March 2022 to $845,782.3 million at end-December 2022, representing a $35,692.6 million or 4.4 percent increase (see **Table 1**). The increase reflected net financing inflows from Benchmark Investment Notes (BINs). At end-FY2022/23, the stock of Central Government domestic debt is expected to decrease to $800,912.8 million resulting from net amortizations.

At end-December 2022, Central Government external debt was $1,316,448.8 million, a decrease of $29,354.7 million or 2.2 percent relative to the amount at end-March 2022. This reduction was mainly driven by exchange rate movements associated with the revaluation of the JMD relative to the USD and net financing outflows for multilateral and bilateral loans. Central Government external debt is projected at $1,338,871.9 million at end-FY2022/23.

2.2 Public Bodies Debt

Gross public bodies (PBs) debt was $240,576.8 million at end-December 2022, $8,282.8 million or 3.3 percent less than the $248,859.6 million recorded at end-March 2022. The decrease was attributed to a 7.2 percent, 1.5 percent and 0.9 percent reduction in Government Guaranteed Loans, Loans from Central Government and Non-Guaranteed Loans, respectively.

The net or consolidated public bodies debt[4] at end-December 2022 was $22,603.8 million, a decrease of $9,100.3 million, or 28.7 percent compared to the $31,704.1 million recorded at end-March 2022. The reduction was driven mainly by the 7.2 percent reduction in Government Guaranteed debt supported by a 0.4 percent increase in cross holdings. Net PBs debt is projected at $21,889.4 million at end-March 2023.

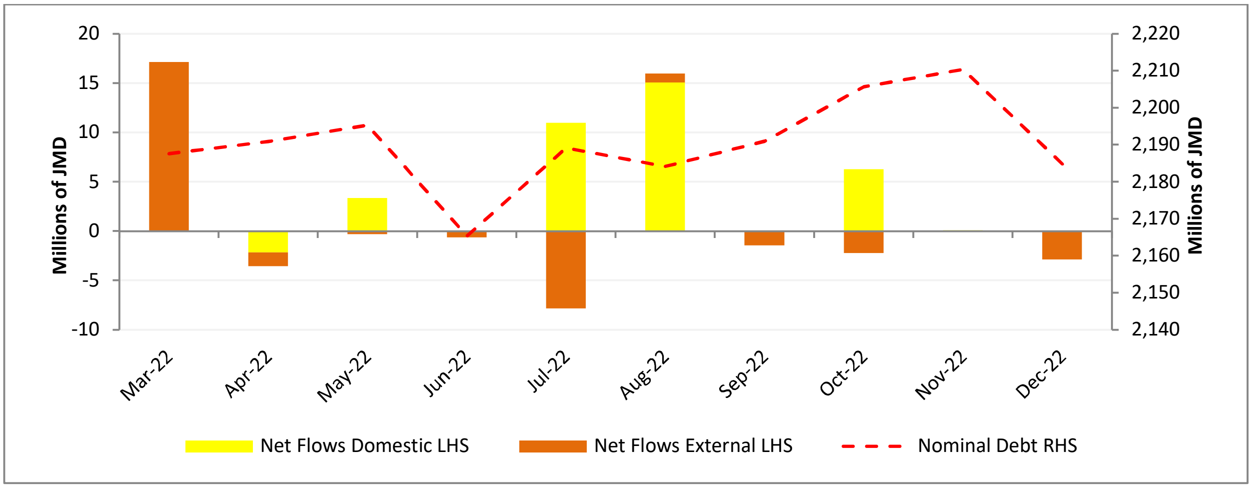
2.3 Public Debt Trajectory and Net Financing Flows

Figure 1 shows net financing flows for the Central Government domestic and external debt portfolios and highlights the trajectory of the stock of public debt from end-March 2022 to end-December 2022. Net inflows of approximately $17,635.5 million to the Central Government debt portfolio reflected net inflows of approximately $33,601.1 million to the domestic portfolio

[4] Net public bodies debt is calculated as gross public bodies' debt less cross holdings. Cross holdings include loans from Central Government or other PBs and PBs investment in GOJ securities.

and net outflows of approximately $15,965.5 million from the external portfolio. The net financing outflows in the external portfolio resulted mainly from the repayment of a $5,043.6 million bilateral loan in July 2022. An increase in BIN issuances, consistent with the Government's strategy of raising mainly domestic financing, contributed to the net inflows in the domestic portfolio. Notwithstanding the net inflows in the Central Government debt portfolio, the stock of total public debt declined by 0.1 percent at end-December 2022 compared to end-March 2022.

Figure 1: Trajectory of the Public Debt Stock

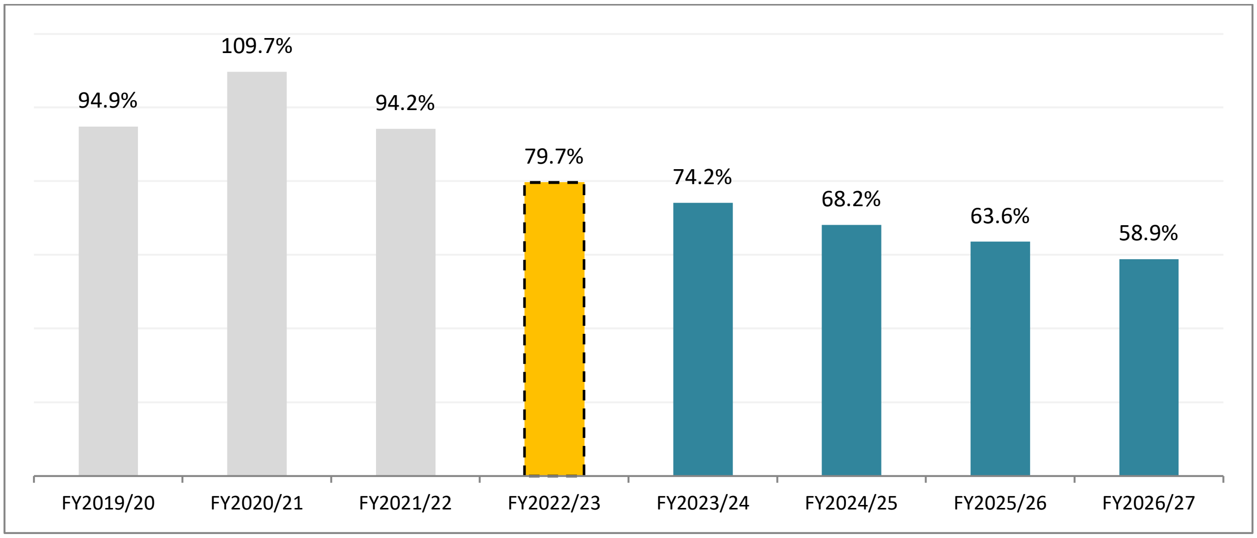


Source: Ministry of Finance and the Public Service

Jamaica's economy continues to demonstrate resilience amidst the global economic and political disruptions stemming from persistently high inflation, the Russia-Ukraine conflict and the re-emergence of the Covid-19 virus in China. The recovery was evident in various fiscal indicators as detailed in the Central Government Operations projected for the period under review. Revenue and Grants for April 2022 to December 2022 exceeded the First Supplementary Estimates by $7,733.7 million, or 1.4 percent, while Expenditure for the period was below budget by $7,621.7 million, or 1.4 percent. For FY2022/23, Central Government Operations are programmed to generate a fiscal and primary surplus of 0.3 percent and 5.8 percent of GDP, respectively.

For FY2022/23, real and nominal GDP are projected to grow by 5.1 percent and 16.8 percent, respectively. Combined with expected declines in total public debt, debt-to-GDP is expected to decline by an estimated 14.5 percentage points to 79.7 percent at end-FY2022/23. Further reductions in the debt ratio are anticipated as projected improvements in the macro-fiscal position will maintain the downward trend, consistent with meeting the legislated target of 60.0 percent or less by end-FY2027/28 (see **Figure 2**).

Figure 2: Debt-to-GDP Trajectory



Source: Ministry of Finance and the Public Service

SECTION III: COST AND RISK ANALYSIS

The GOJ continues to monitor the relative costs and risks of the debt portfolio to assess the consistency of debt operations with the Government's objectives. While the risks to sovereign debt are varied, the MTDS places greater focus on market risks relating to changes in currency exchange rates, interest rates and the inflation rate, as well as refinancing risks and those related to contingent liabilities in the form of Government Guaranteed and Non-Guaranteed Loans.

Foreign currency risk remains the predominant risk in the GOJ debt portfolio, though the level of exposure has improved, declining to within the established limit for the fiscal year. Portfolio interest costs have increased, resulting from higher domestic and external benchmark rates. Given the current financial environment, changes in interest rates have become more crucial, but the portfolio's level of exposure has declined. Even as the inflation rate remains above the targeted range, inflation risk remained subdued due to low exposure. Refinancing risk exposure has improved as the reduction in the share of debt maturing within the following year will allow some flexibility for the GOJ to address bunching in the medium-term. Despite efforts to issue longer-tenor debt, there was a marginal reduction in the portfolio's average time-to-maturity. As the Government seeks to reduce the risk associated with contingent liabilities, government guarantees have remained well within established limits, on track to meet the legislated target for FY2026/27. **Table 2** highlights changes in the key cost and risk indicators for the Central Government debt portfolio over the review period.

Table 2: Central Government Debt Cost and Risk Indicators

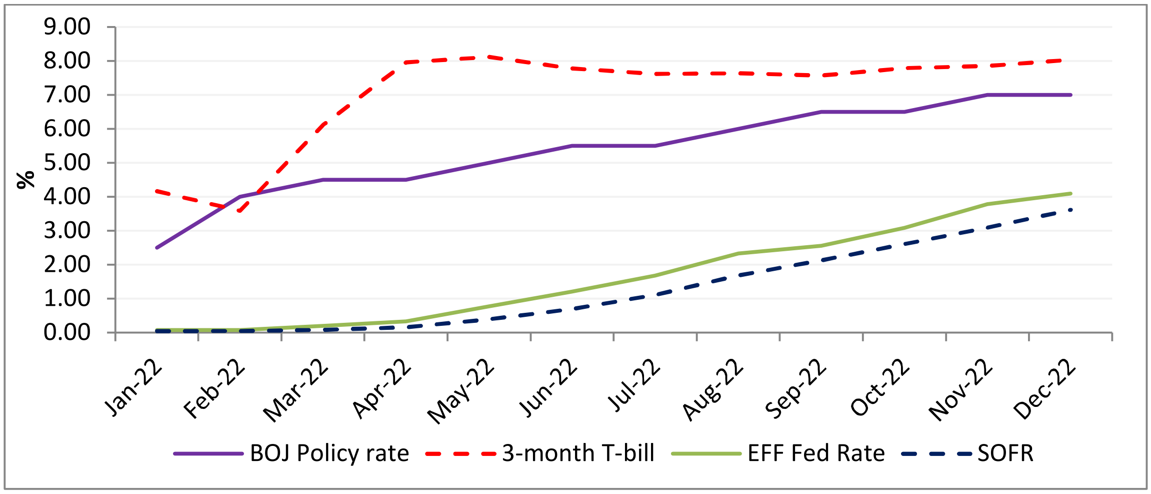
	Outcomes			Targets end-March 2023	
	End-Mar 2022	End-Dec 2022	Change	Min	Max
Implied Annual Interest Cost					
Domestic	7.8	8.3	0.5	-	-
External	4.9	5.6	0.7	-	-
Total	5.9	6.7	0.8	-	-
Interest Rate Risk					
Domestic					
Variable-rate Debt	22.9	22.2	(0.7)	28	30
Debt Refixing in 1 year (% of total)	29.9	27.9	(2.0)	-	-
Average Time to Refixing (Years)	8.6	9.3	0.7	-	-
External					
Variable Rate Debt	32.2	30.0	(2.2)	30.0	35.0
Debt Refixing in 1 year (% of total)	33.3	30.6	(2.7)	-	-
Average Time to Refixing (Years)	9.1	9.3	0.2	-	-
Total					
Variable-rate Debt	28.8	27.0	(1.8)	30.0	33.0
Debt Refixing in 1 year (% of total)	32.0	29.5	(2.5)	-	-
Average Time to Refixing	8.9	9.3	0.4	-	-
Refinancing Risk					
Domestic					
Debt maturing in 1 year (% of total)	11.8	10.8	(1.0)	-	-
ATM (Years)	10.2	10.0	(0.2)	-	-
External					
Debt maturing in 1 yr (% of total)	3.4	1.0	(2.4)	-	-
ATM (Years)	11.8	11.6	(0.2)	-	-
Total					
Debt Maturing in 1 yr (% of total)	6.5	4.8	(1.7)	-	<=10.0
ATM (Years)	11.2	11.0	(0.2)	>=9.0	-
Foreign Currency Risk					
FX debt as (% of total debt)	61.6	60.1	(1.5)		<=61.0
Inflation Risk					
CPI-Linked debt (% of total debt)	2.8	2.9	0.1	-	-
Contingent Liabilities					
Guaranteed Loans (% of GDP)	3.6	2.8	(0.8)	-	<=5.0

Source: Ministry of Finance and the Public Service

3.1 Interest Cost

At end-December 2022, the weighted average interest cost of Central Government debt was 6.7 percent. This reflects an increase of 0.8 percentage point when compared to end-March 2022 due to increases in both the domestic and the external weighted average interest cost (see **Table 2**).

Figure 3: Reference and Benchmark Interest Rates for the Debt Portfolio



Source: Bank of Jamaica and the Federal Reserve Bank of St. Louis

Figure 3 highlights the trajectory of benchmark interest rates for Calendar Year (CY) 2022. During 2022, the BOJ increased the policy rate on seven (7) occasions which resulted in a cumulative change of 450 bps, from 2.50 percent at the beginning of January 2022, to 7.00 percent at end-December 2022. This tightening was part of the Central Bank's strategy to reduce the fast-paced rate of inflation in the domestic economy. Consequently, the 3-month Treasury Bill yield increased by 387 basis points year-over-year, from 4.17 percent to 8.04 percent.

External interest rates followed the same trend. The US Federal Reserve (FED) increased the targeted range for its Fed Funds Rate by 425 bps cumulatively from 0.00 percent - 0.25 percent to 4.25 percent - 4.50 percent. This resulted in a 357-bp increase in the Secured Overnight Financing Rate (SOFR) [5], from 0.05 percent in January 2022 to 3.62 percent in December 2022.

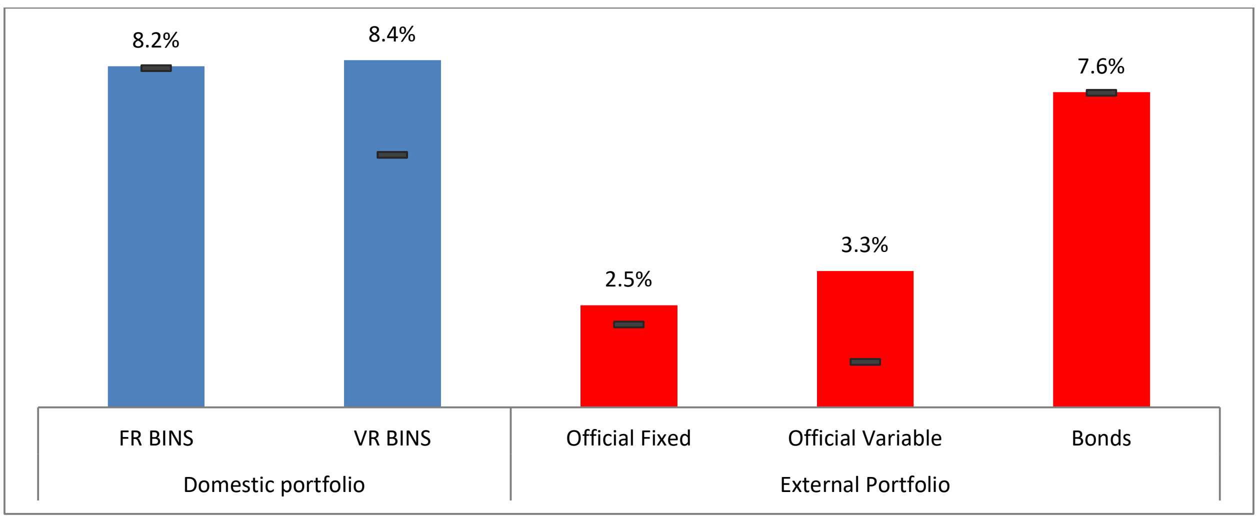
The increase in benchmark interest rates over the review period resulted in a corresponding increase in the weighted average cost of outstanding Central Government debt. **Figure 4** shows

[5] Beginning in January 2022, there was a steady transition from the use of LIBOR in financial contracts as the United Kingdom's (UK) Financial Conduct Authority no longer guarantees the publication of LIBOR. The Secured Overnight Financing Rate (SOFR) was identified as the rate that represents best practice for use in certain new USD derivatives and other financial contracts. SOFR is a broad measure of the cost of borrowing cash overnight collateralized by US Treasury securities in the repo market and is considered a better reflection of the manner in which financial institutions are funded.

the weighted average cost of domestic and external debt, grouped by instrument. The weighted average interest cost of domestic debt increased by 0.5 percentage point from 7.8 percent at end-March 2022 to 8.3 percent at end-December 2022 (see **Table 2**). This was due to an increase in the cost of variable-rate BINs from 6.1 percent to 8.4 percent[6]. The cost of fixed-rate BINs remained unchanged over the review period.

The increase in the external interest rates also had a significant impact on the variable-rate debt owed to official creditors. The weighted average cost of official variable-rate debt increased from 1.1 percent at end-March 2022 to 3.3 percent at end-December 2022. The weighted average cost of fixed-rate official debt also increased from 2.0 percent to 2.5 percent due to the amortization of lower cost debt during the review period. The weighted average cost of JAMAN bonds was unchanged when compared to end-March 2022 at 7.6 percent. Overall, the weighted average cost of external debt increased by 0.7 percentage point from 4.9 percent at end-March 2022 to 5.6 percent at end-December 2022 (see **Table 2**).

Figure 4: Weighted Average Interest Cost by Instrument



Notes: Bars show weighted average interest cost at end-December 2022, while markers depict weighted average interest cost at end-March 2022.
Source: Ministry of Finance and the Public Service

3.2 Interest Rate Risk

Interest rate risk refers to the change in debt service costs arising from the variability in interest rates. Interest rate risk can be measured by: the portfolio's share of floating-rate debt; share of debt re-fixing in 12 months; and the portfolio's average-time-to-re-fixing (ATR). All indicators for the Central Government debt portfolio improved during the review period.

[6] The Variable-rate BINS are repriced using the 3-month Treasury Bill rate.

At end-December 2022, the share of floating-rate debt in the Central Government portfolio was 27.0 percent, a 1.8-percentage point decrease when compared to end-March 2022. This decrease was attributable to a 2.2-percentage point reduction in the share of external variable-rate debt which was supported by a 0.7-percentage point reduction in domestic variable-rate debt.

The share of debt re-fixing in 12 months or less for the overall portfolio decreased by 2.5 percentage points, from 32.0 percent at end-March 2022 to 29.5 percent at end-December 2022. This was due to the reduction of variable-rate debt as well as reduction in fixed-rate debt maturing in the short-term. The share in the domestic portfolio decreased by 2.0 percentage points from 29.9 percent at end-March 2022 to 27.9 percent at end-December 2022, while the share in the external portfolio decreased by 2.7 percentage points, from 33.3 percent to 30.6 percent.

Consistent with a reduction in the share of variable-rate debt, the ATR for the debt portfolio was extended by 0.4 years, from 8.9 years at end-March 2022 to 9.3 years at end-December 2022. This was the cumulative effect of a 0.7-year extension in the domestic portfolio and a 0.2-year reduction in the external portfolio.

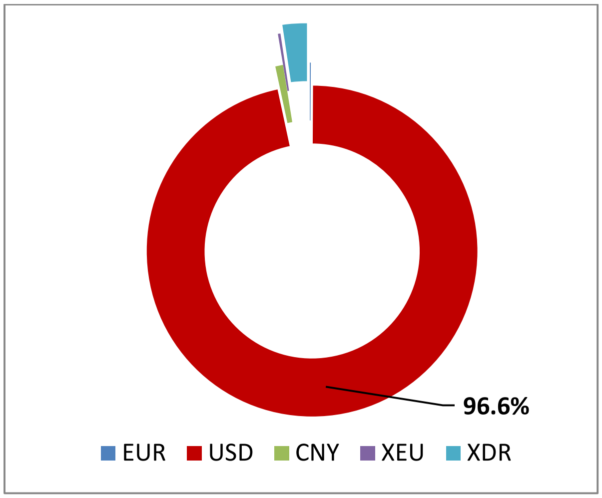
3.3 Foreign Currency Risk

Foreign currency risk refers to the variability in the debt stock and the associated debt service costs resulting from fluctuations in exchange rates. This level of risk can be measured by the share and nominal exposure of foreign currency-denominated debt in the portfolio and the volatility of the exchange rate between the local currency and foreign currencies. Currently, foreign currency risk is limited to the external portfolio as the domestic portfolio is denominated entirely in local currency.

As at end-December 2022, foreign currency-denominated debt accounted for 60.1 percent of total outstanding Central Government debt. This represents a reduction of 1.5 percentage points when compared to the outturn of 61.6 percent at end-March 2022 (see **Table 2**). During the end-March 2022 to end-December 2022 period, the nominal value of foreign currency-denominated debt in USD terms decreased by US$86.1 million or 1.0 percent from US$8,639.1 million to US$8,553.0 million. This was due to net amortization of foreign currency-denominated debt.

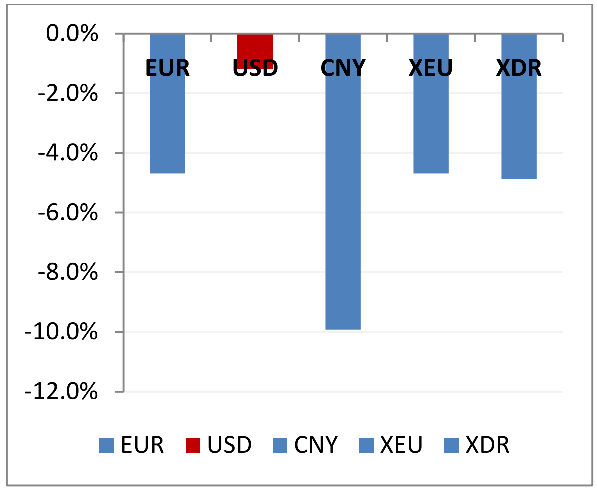
The Central Government debt portfolio was exposed to changes in the exchange rate of five foreign currencies at end-December 2022, of which the USD accounted for 96.6 percent (see **Figure 5**). Given the level of exposure, the portfolio is most sensitive to changes in the JMD/USD exchange rate. **Figure 6** shows the rate of depreciation of the Jamaica dollar relative to these currencies over the review period. Whereas the Chinese Yuan Renminbi (CNY) appreciated by 9.9 percent, representing the largest change over the period, the impact was insignificant as the currency accounted for a marginal portion of the portfolio (0.7 percent).

Figure 5: Currency Composition of Foreign Currency-Denominated Debt at end-December 2022



Source: Ministry of Finance and the Public Service

Figure 6: Rate of Depreciation of the JMD Relative to Foreign Currencies from end-March to end-December 2022



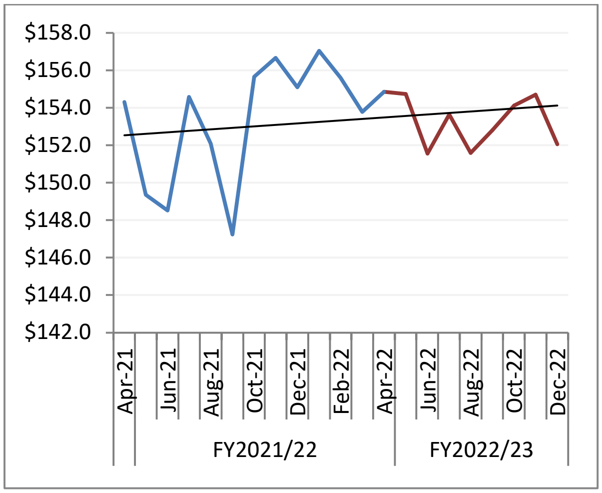
Source: Ministry of Finance and the Public Service

Figure 7 shows daily changes in the JMD/USD exchange rate for FY2021/22 as well as the period April 1, 2022 to December 31, 2022. Over the review period, the JMD appreciated vis-à-vis the USD by 1.1 percent. During the similar period in the previous fiscal year, the JMD depreciated by 5.3 percent. The exchange rate was characterized by two-way movements with periods of sharp depreciation followed by periods of appreciation. The BOJ interventions[7] in the market through its Bank of Jamaica Foreign Exchange Intervention Tool (B-FXITT) flash sale operations, as well as policy rate hikes over the period, were instrumental in achieving this appreciation of the local currency.

Figure 8 shows monthly movements in the JMD/USD exchange rate, as well as the associated valuation effects over the period. The reduction in the stock of foreign currency-denominated debt, accompanied by the appreciation of the JMD relative to the USD resulted in a $28,024.4 million or 0.7 percent reduction in foreign currency-denominated debt in JMD terms. Of this amount, 52.7 percent or $14,779.5 million was attributable to the appreciation of the JMD relative to the USD.

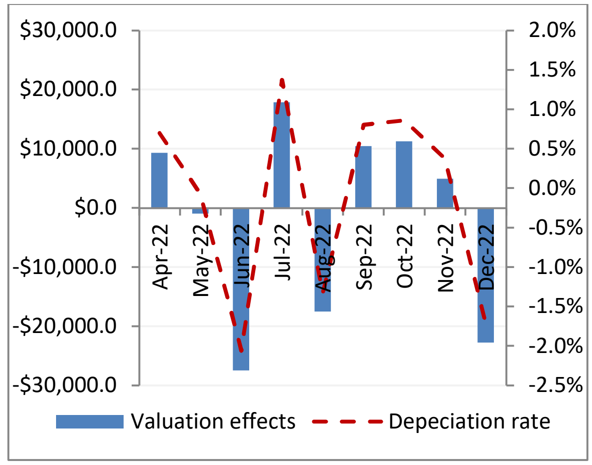
[7] The Central Bank intervened in the foreign exchange market on 13 occasions during the period April 1, 2022 to December 31, 2022.

Figure 7: Daily JMD/USD Exchange Rate



Notes: The blue line represents actual exchange rate for FY2021/22 and the red line represents actual exchange rate for FY2022/23.
Source: Ministry of Finance and the Public Service

Figure 8: Monthly Depreciation Rate and Associated Valuation Effects



Notes: Monthly percentage change in the JMD/USD exchange rate is on the right axis and the associated valuation effects for the debt stock in $mn is on the left axis.
Source: Ministry of Finance and the Public Service

3.4 Inflation Risk

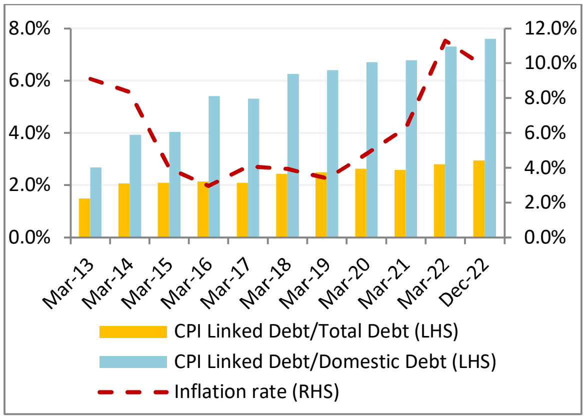
Inflation risk refers to the variability in the value of inflation-linked debt and the associated debt service costs occasioned by changes in the consumer price index (CPI). The impact of changes in the CPI on the debt stock is contingent on the level of exposure, measured by the share of inflation-linked debt in total debt, as well as the inflation rate.

The Bank of Jamaica's monetary policy objective is to achieve and maintain an inflation rate within the targeted band of 4.0 percent to 6.0 percent per annum over the medium-term. In September 2021, the range was breached due to supply-chain disruptions caused by the COVID-19 pandemic, with point-to-point inflation recorded at 8.2 percent. The December 2022 point-to-point inflation rate was 9.4 percent, a 1.9-percentage point improvement relative to 11.3 percent at end-March 2022, but 3.4 percentage points above the targeted band. Point-to-point inflation is projected to close FY2022/23 at 7.1 percent.

Despite the upward movements in the CPI, the level of risk remains low, as a relatively small share of the portfolio is exposed to the risk. For the review period, the value of CPI-linked debt increased by $4,784.6 million or 8.1 percent to $63,498.1 million due to CPI revaluations and represented 7.6 percent of outstanding Central Government domestic debt and 2.9 percent of total Central Government debt (see **Figure 9**). Notably, movements in the CPI have increased the value of inflation-linked debt by $26,799.1 million or 73.0 percent since the date of original issuance.

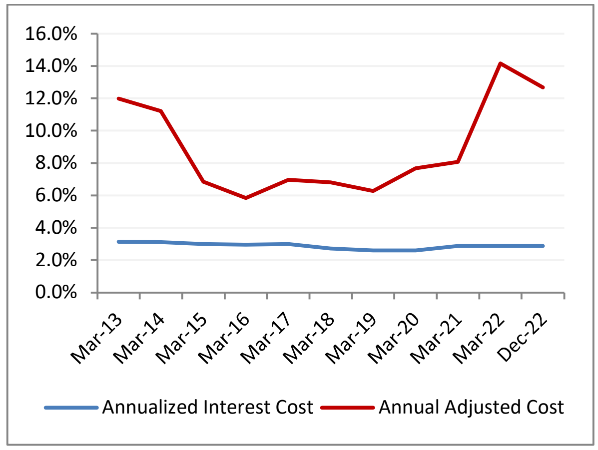
The weighted average annual implied interest cost on CPI-linked bonds was estimated at 2.9 percent at end-December 2022. When adjusted for inflation, the implied interest cost was estimated at 12.7 percent, which is higher than the cost of fixed-rate BINs of comparable tenors (see **Figure 10**).[8]

Figure 9: Share of CPI-Linked Debt in the Central Government Debt



Source: Ministry of Finance and the Public Service

Figure 10: Cost of CPI-Linked Bonds



Source: Ministry of Finance and the Public Service

3.5 Refinancing Risk

Refinancing risk is the probability that debt will have to be rolled over at an unusually high cost, or, in extreme cases cannot be rolled over. In general, refinancing risk indicators relate to the size or proportion of maturities due within some specified period. It is measured by the portfolio's average time-to-maturity (ATM), the share of debt maturing in one year or less and the redemption profile.

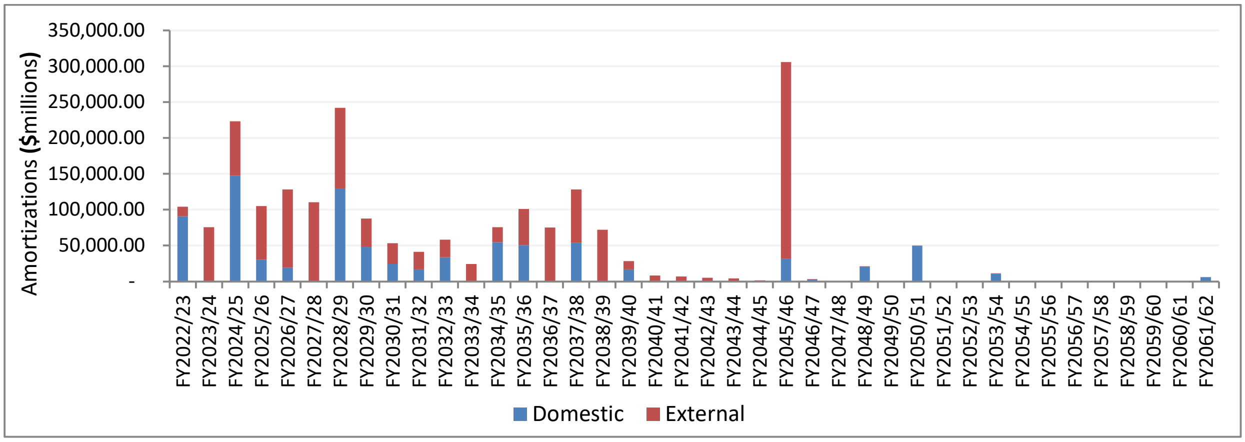
The share of debt maturing in one year or less was 4.8 percent at end-December 2022. This is 1.7 percentage points less than the 6.5 percent that obtained at end-March 2022. The decrease was attributed to reductions of 1.0 percentage point and 2.4 percentage points for the domestic and external portfolios, respectively. Accordingly, at end-December 2022, the share of domestic debt maturing in one year or less was 10.8 percent, while the share of external debt maturing in one year or less was 1.0 percent.

The ATM measures the weighted average time until all principal payments in the debt portfolio become due. A reduction of this indicator suggests that the portfolio is being rolled over more frequently, thereby increasing exposure to refinancing risk. The ATM for the Central Government debt portfolio decreased by 0.2 year to 11.0 years when compared to end-March 2022. This was the combined effect of a 0.2-year reduction in the ATMs of both the external and domestic portfolios (see **Table 2**).

[8] The weighted cost of fixed-rate BINs with maturity in and around 2025, 2033 and 2040 is 6.1 percent.

Figure 11 shows the redemption profile of the Central Government debt portfolio at end-December 2022. The maturity of a $91,922.9 million Variable-Rate Step-up BIN and the $129,332.9 million Fixed-Rate Accreting Notes (FRAN) reflect bunching in FY2024/25 and FY2028/29, respectively. There is also significant bunching in FY2045/46 associated with the maturity of a fixed-rate global bond with principal outstanding of US$1,815.0 million in July 2045.

Figure 11: Redemption Profile of Central Governemnt Debt at end-December 2022



Source: Ministry of Finance and the Public Service

3.6 Contingent Liability – Government Guaranteed Loans

Government guaranteed loans are explicit contingent liabilities, which if called or assumed, will increase the debt service costs of the GOJ. At end-December 2022, the stock of GGLs was $77,048.4 million, of which $54,107.4 million or 70.2 percent were external guarantees and $22,941.0 million or 29.8 percent were domestic guarantees (see **Table 3**). When compared to end-March 2022, the stock of GGLs decreased by $6,003.1 million or 7.2 percent. This reduction was mainly attributed to the external portfolio, which decreased by $5,515.5 million, resulting from net amortization, as well as the appreciation of the Jamaica dollar relative to the US dollar.

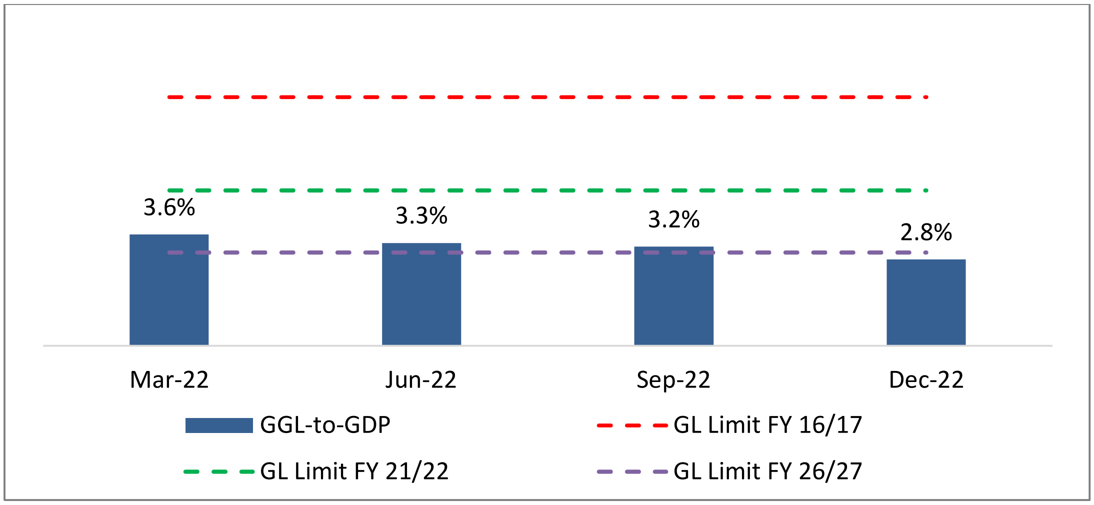
Table 3: Stock of Government Guaranteed Loans

	Mar-22		Dec-22		Change	
	J$mn	% of total	J$mn	% of total	J$mn	%
External GGL	59,622.9	71.8	54,107.4	70.2	(5,515.5)	(9.3)
Domestic GGL	23,428.6	28.2	22,941.0	29.8	(487.6)	(2.1)
Total	**83,051.5**		**77,048.4**		(6,003.1)	(7.2)

Source: Ministry of Finance and the Public Service

Figure 12 highlights the quarterly share of GGL-to-GDP relative to legislated ceilings[9]. At end-December 2022, the GGL-to-GDP ratio was 2.8 percent, which was 0.2 percentage point lower than the legislated ceiling for end-FY2026/27, and 0.8 percentage point lower than the ratio recorded at end-March 2022.

Figure 12: Government Guaranteed Loans as a Share of GDP



Source: Ministry of Finance and the Public Service

3.6.1 Cost and Risk Indicators for Government Guaranteed Loans

The Government continued to monitor the GGL portfolio with respect to key cost and risk indicators. **Table 4** compares key risk indicators for the portfolio at end-March 2022 and end-December 2022.

An improvement in the interest rate risk exposure of the portfolio was reflected in the reduction in both the variable-rate share of debt and the share of debt re-fixing in one year or less. At end-December 2022, the GGL portfolio's share of variable-rate debt was 25.0 percent, a reduction of 4.1 percentage points when compared to end-March 2022. This was mainly attributed to the domestic portfolio, where the share of variable-rate debt reduced by 8.1 percentage points, owing to the maturity of the domestic portfolio's only remaining variable-rate loan. The GGL portfolio's share of debt re-fixing in one year or less was 27.1 percent at end-December 2022, a reduction of 5.0 percentage points when compared to end-March 2022. The ATR for the GGL portfolio was 3.8 years at end-December 2022 and reflected a reduction of 1.9 years when compared to end-March 2022. This was due to reductions of 0.8 year and 2.8 years in the ATR for the domestic and external GGL portfolios, respectively.

[9] The PDMA limits the GGL-to-GDP ratio to 8.0 percent, 5.0 percent and 3.0 percent for end-FY 2016/17, end-FY2021/22 and end-FY2026/27, respectively.

Table 4: GGL Portfolio Risk Indicators

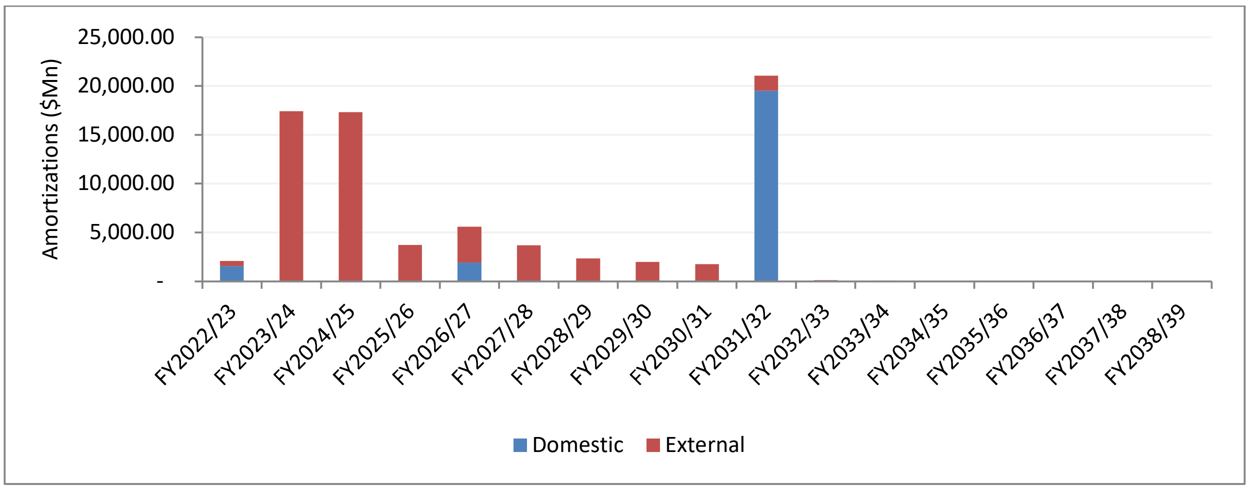
		Outcomes	
	End-Mar 2022	End-Dec 2022	Change
Implied Interest Cost			
Domestic	6.0	4.9	(1.1)
External	5.2	6.4	1.2
Total	5.8	5.9	0.1
Interest Rate Risk			
Domestic			
Variable-Rate Debt	8.1	0.0	(8.1)
Debt Re-fixing in 1 year (% of total)	14.7	6.7	(8.0)
Average Time to Re-fixing (Years)	9.3	8.5	(0.8)
External			
Variable-Rate Debt	37.4	36.0	(1.4)
Debt Re-fixing in 1 year (% of total)	40.1	35.8	(4.3)
Average Time to Re-fixing (Years)	4.6	1.8	(2.8)
Total			
Variable-Rate Debt	29.1	25.0	(4.1)
Debt Re-fixing in 1 year (% of total)	32.1	27.1	(5.0)
Average Time to Re-fixing (Years)	5.7	3.8	(1.9)
Refinancing Risk			
Domestic			
ATM (Years)	8.4	8.5	0.1
External			
ATM (Years)	3.6	3.4	(0.2)
Total			
ATM (Years)	5.0	4.9	(0.1)
Foreign Currency Risk			
FX debt as (% of total GGLs)	74.1	72.1	(2.0)
Inflation Risk			
Inflation-linked debt (as % of total GGLs)	21.8	25.9	4.1

Source: Ministry of Finance and the Public Service

At end-December 2022, the weighted average interest cost for the GGL portfolio was 5.9 percent, which was 0.1 percentage point higher than that recorded at end-March 2022. This was attributed to a 1.2-percentage point increase in the interest cost for the external portfolio, as external reference rates increased over the period. Conversely, the interest cost for the domestic portfolio decreased by 1.1 percentage points, partially offsetting the increase in external portfolio costs. The decrease in domestic portfolio costs resulted from net amortization of high-cost debt during the review period.

The portfolio's exposure to refinancing risk changed marginally over the review period, as the ATM reduced from 5.0 years at end-March 2022 to 4.9 years at end-December 2022, owing to a 0.2- year reduction in the external portfolio. The ATM for the domestic portfolio increased marginally from 8.4 years to 8.5 years. The redemption profile in **Figure 13** highlights the concentration of maturities in FY2023/24, FY2024/25 and FY2031/32 owing to scheduled amortization amounts of $17,418.9 million, $17,306.8 million and $19,513.1 million, respectively.

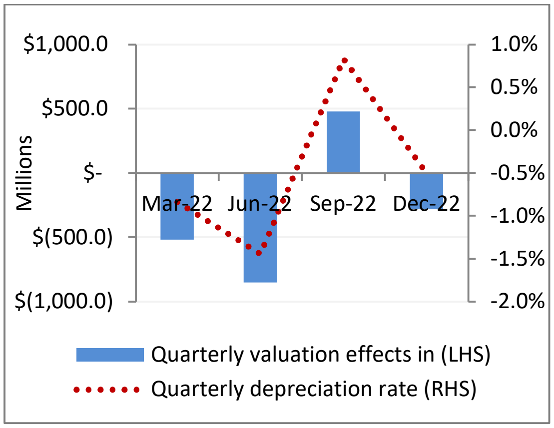
Figure 13: Redemption Profile of GGLs at end-December 2022



Source: Ministry of Finance and the Public Service

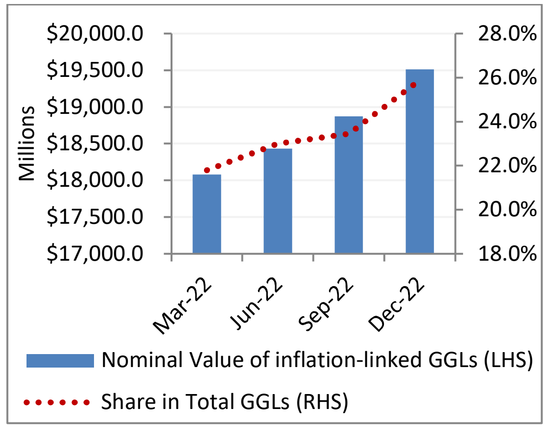
Notwithstanding a reduction in the nominal value of foreign currency-denominated GGLs, the portfolio remains exposed to revaluation effects. At end-December 2022, the share of foreign currency-denominated GGLs decreased by 2.0 percentage points to 72.1 percent. This was due to a US$31.9 million reduction in the nominal value of foreign currency-denominated GGLs. Over the period, the JMD appreciated by 1.1 percent relative to the USD, contributing $636.6 million to the stock reduction. At end-December 2022, the stock of inflation-linked GGLs was $19,513.1 million, an increase of $1,433.0 million when compared to end-March 2022. Inflation-linked GGLs accounted for 25.9 percent of total GGLs, an increase of 4.1 percentage points over the period (see **Figure 14**). This increase was attributed to CPI revaluation effects, as well as the net amortization of non-inflation-linked debt over the period.

Figure 14: Quarterly Valuation Effects from Exchange Rate Changes



Source: Ministry of Finance and the Public Service

Figure 15: Nominal Value of Inflation-Linked GGLs



Source: Ministry of Finance and the Public Service

3.7 Contingent Liability – Public Bodies' Non-Guaranteed Loans

Public bodies' non-guaranteed loans (NGLs) are implicit contingent liabilities which, though not legally binding, may increase the Government of Jamaica's debt stock and debt service cost due to moral obligations. NGLs are acquired by public bodies to fulfil mandated operational activities. At end-December 2022, the stock of NGLs decreased by $278.9 million or 0.9 percent to $30,417.9 million in comparison to the $30,696.8 million at end-March 2022 (see **Table 5**). This was due to net decreases of $162.9 million and $116.0 million in the domestic and external portfolios, respectively. The decrease in the domestic portfolio resulted from amortization payments totalling $670.7 million dollars, partially offset by inflows of $507.8 million, while the external portfolio's decline resulted from net amortizations as well as the appreciation of the JMD relative to the USD.

Table 5: Stock of Non-Guaranteed Loans

	End-March 2022		End-December 2022		Change	
	J$mn	**% of total**	**J$mn**	**% of total**	**J$mn**	**% change**
Domestic NGLs	29,003.8	94.5	28,840.9	94.8	(162.9)	(0.6)
External NGLs	1,693.0	5.5	1,577.0	5.2	(116.0)	(6.9)
Total	**30,696.8**		**30,417.9**		**(278.9)**	**(0.9)**

Source: Ministry of Finance and the Public Service

3.7.1 Cost and Risk Indicators for Non-Guaranteed Loans

Table 6 compares the cost and risk indicators for the NGL portfolio at end-March 2022 and end-December 2022. Overall, the level of risk in the portfolio has been assessed as low. During the review period, the weighted average interest cost for NGLs was unchanged at 10.0 percent, relative to end-March 2022, as a result of the marginal change in the portfolio's composition.

Table 6: NGL Portfolio Risk Indicators

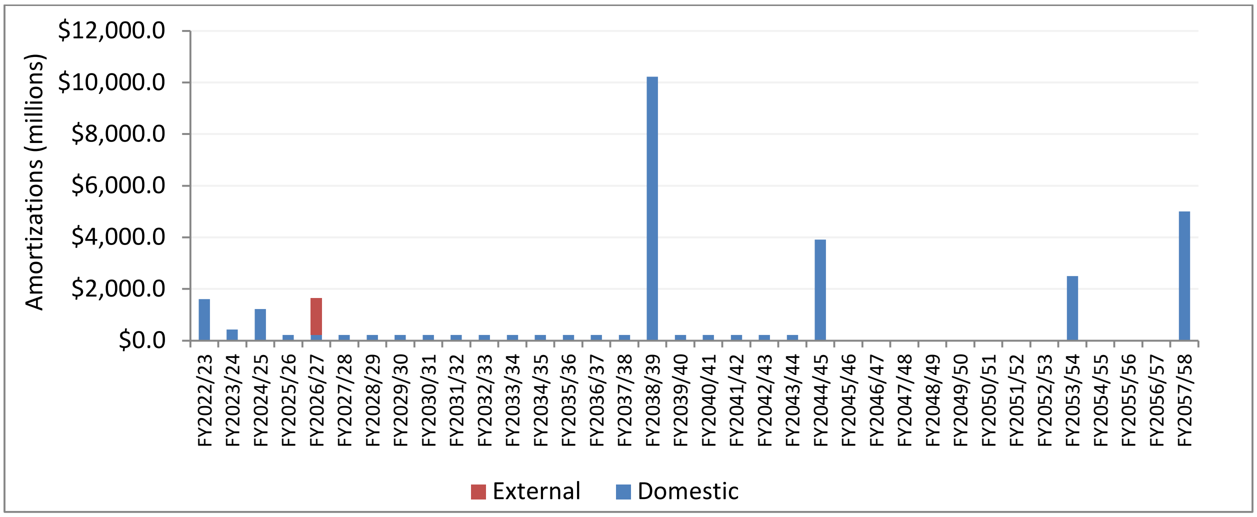
	Outcomes		
	End-March 2022	**End-December 2022**	**Change**
Annual Interest Cost			
Domestic	10.4	10.4	0.0
External	2.5	2.5	0.0
Total	10.0	10.0	0.0
Interest Rate Risk			
Domestic			
Variable Rate Debt (%)	1.0	0.0	(1.0)
Debt Re-fixing in 1 Year (%)	4.0	5.6	1.6
Average Time to Re-fixing (Years)	19.6	19.6	0.0
External			
Variable Rate (%)	0.0	0.0	0.0
Debt Re-fixing in 1 Year (%)	0.0	0.0	0.0
Average Time to Re-fixing (Years)	4.4	4.4	0.0
Total			
Variable Rate (%)	1.0	0.0	(1.0)
Debt Re-fixing in 1 Year (%)	3.8	5.3	1.5
Average Time to Re-fixing (Years)	18.9	18.9	0.0
Refinancing Risk			
Domestic			
Average Time to Maturity (Years)	19.6	19.6	0.0
External			
Average Time to Maturity (Years)	4.4	4.4	0.0
Total			
Average Time to Maturity (Years)	18.9	18.9	0.0
Foreign Currency Risk			
FX Debt (as % of total NGLs)	4.7	5.0	0.3

Source: Ministry of Finance and the Public Service

In the first nine months of the fiscal year, the only two variable-rate bonds in the portfolio matured, decreasing the portfolio's exposure to interest rate risk. Despite the amortisation of all variable-rate debt in the portfolio, a 5.3 percent share of NGLs is subject to new interest rates within one year, an increase of 1.5 percentage points relative to the 3.8 percent at end-March 2022. The increase resulted from additional debt acquired during the period having maturity dates within a one-year period. Notwithstanding, the ATR remained at 18.9 years.

The portfolio's ATM was also unchanged relative to end-March 2022 at 18.9 years. This may be attributed to the fact that 50.0 percent of outstanding NGLs have maturities greater than fifteen years, and implies low exposure to refinancing risk as a relatively small share of debt will mature in the short-term. Additionally, in line with the Estimates of Revenue and Expenditure for FY2022/23, the public bodies with amortizations due during the remainder of the fiscal year have made provisions to honour these obligations. While the domestic portfolio's ATM was 19.6 years, the ATM for the external portfolio was significantly lower at 4.4 years. The redemption profile in **Figure 16** highlights the concentration of maturities in the NGL portfolio at end-December 2022. There is bunching of maturities in the domestic portfolio for FY2038/39, FY2044/45, FY2053/54 and FY2057/58.

Figure 16: Redemption Profile of NGLs at end-December 2022



Source: Ministry of Finance and the Public Service

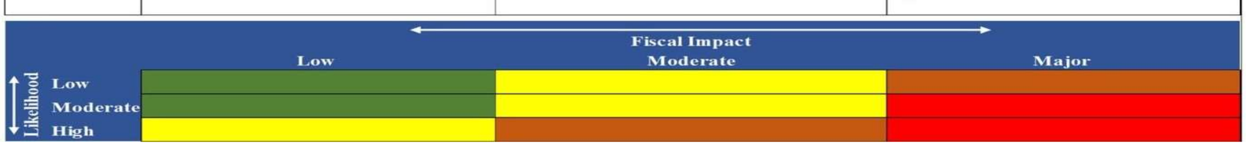
At end-December 2022, the nominal value of foreign currency-denominated debt was US$9.9 million, an increase of US$0.6 million relative to end-March 2022, resulting from foreign currency inflows during the nine-month period. This increased the portfolio's level of exposure to foreign currency risk, as the share of foreign currency-denominated debt in total debt increased by 0.3 percentage point to 5.0 percent. Notably, the foreign currency-denominated debt acquired over the period is expected to mature during the remainder of this fiscal year, reversing this increase.

SECTION IV: RISK FACTORS AFFECTING THE DEBT PORTFOLIO

Public debt dynamics are susceptible to various exogenous factors such as health crises, natural disasters, deteriorating social dynamics and financial crises, through their impact on macroeconomic and market variables. The relative risk to the portfolio is determined by the probability of occurrence and the estimated fiscal or financial impact. **Figure 17** outlines selected risk factors, the estimated likelihood of occurrence and the potential impact on the debt portfolio.

Figure 17: Selected Risks and implications for the Debt Portfolio

Likelihood of Event / Fiscal Impact	Low	Moderate	Major
Low	**Public Private Partnerships (PPPs):** The use of PPPs as a modality to mobilize investment, particularly in infrastructure development and energy and water generation are common in many developing economies. These types of arrangements impose potentially significant fiscal risks if not properly managed and monitored. The GOJ's PPP Policy provides a framework to support the monitoring of PPPs in Jamaica. PPPs are adjudged to pose minimal risk to the debt portfolio at this point in time. However, their growing popularity suggests increasing risks from PPPs over the medium term.	**Shocks in Commodity Prices:** Adverse shocks in commodity prices, especially oil prices, can have major effects on the Government's BOP and overall fiscal accounts. Though potentially large on the fiscal, the pass through to the debt portfolio is expected to be more moderate. While crude oil prices are expected to fall throughout the medium-term, risks to the outlook remain, such as a prolongment of the Russia-Ukraine crisis.	**Financial Crises:** Financial crises can have significant negative effects on the economy and the sovereign debt. The financial crisis in Jamaica is estimated to have cost upwards of 40.0 percent of GDP. While there have been concerns in recent times surrounding bank fraud and the possibility of a financial crisis, strengthening of financial regulations and the adoption of best practices in Jamaica is expected to provide protection against this risk.
Moderate	**Government Guaranteed Loans (GGLs):** As public bodies aim to address financial challenges arising from the Covid-19 pandemic, as well as high costs of financing resulting from elevated interest rates, the risk of crystallization of guarantees has increased. However, consistent with the legislated limits as per the PDMA, the GOJ has been successfully reducing its exposure to risks from GGLs. The share of GGLs to GDP has decreased over the review period and is estimated at 2.8 percent at end-December 2022, after meeting the FY2021/22 legislated target with 3.6 percent at end-March 2022.	**Weakened Fiscal Accounts:** The fiscal balance is projected at 0.3 percent of GDP for FY2023/24, unchanged relative to the estimate for FY2022/23. While Jamaica's medium-term growth outlook is positive, global risks and associated spill-over effects remain. High inflation and elevated interest rates may curtail demand, inducing recessions in major partner economies. This could impair the Government's fiscal accounts with mounting pressures also placed on the domestic financial markets.	**Natural Disasters:** Natural disasters (floods, hurricanes and earthquakes) pose significant fiscal risks to the GOJ. The annual average fiscal cost associated with hydrogeological events is estimated at 0.85 percent of GDP but has been as high as 26.0 percent of GDP. The adoption of a suite of disaster risk finance instruments including indemnity type insurance coverage, contingent lines of credit and a catastrophe bond, will aid in reducing the fiscal impact of natural disasters. **Health Crises:** In FY2020/21, the coronavirus pandemic led to a slowdown of economic activity, curtailing revenue generation while necessitating increased expenditure to address health, social and financial needs. In that year, the Government recorded a fiscal deficit of 3.1 percent of GDP, 3.8 percentage points lower than the budgeted surplus of 0.7 percent. Additionally, an 11.0 percent contraction in real GDP resulted in an uptick in debt-to-GDP of 14.9 percentage points. In an increasingly globalised world, the occurrence of pandemics have become more likely with potentially major fiscal impacts.
High		**High Crime Rate:** High rates of crime pose a significant risk to prospects for improvements in productivity and economic growth. Some estimates of the direct impact of crime on the health system are as high as $12.0 billion. Higher crime-related expenditures will also impact the budget directly. The attendant impact on economic growth (GDP) will affect the fiscal through low revenue generation and potentially higher demand for social spending, which could lead to increases in Government borrowing.	**Market Volatility:** Volatility in macroeconomic and market variables can result in higher debt service costs and stock valuation. It also has implications for governments' ability to access markets for financing which could impose liquidity challenges. Given the current state of the global economy, characterized by high rates of inflation, low levels of liquidity and high borrowing costs, this risk is assessed to be a high probability with potentially major financial implications.



Source: Ministry of Finance and the Public Service

4.1 Comparative Static Simulations of Changes in Key Macroeconomic and Market Variables on the Debt Portfolio

Table 7 compares the debt portfolio's sensitivity to changes in key macroeconomic and market variables. Results from comparative static simulations show that the debt portfolio is most sensitive to movements in the foreign exchange rate. A 5.0 percent depreciation in the JMD relative to the USD in FY2023/24 will increase the debt stock and interest cost by an estimated $68,017.8 million and $3,389.7 million, respectively. Additionally, a 500-bp increase in benchmark domestic and external interest rates is estimated to increase interest costs by $7,285.7 million and $22,257.5 million, respectively. A similar adjustment to the CPI would increase the debt stock by $3,187.6 million. Heightened sensitivity to adverse movements in the foreign exchange rate and its potential impact on adjusted portfolio costs supports the current debt management strategy to reduce foreign currency risk exposure over the medium-term.

Table 7: Estimated Portfolio Effects of Changes in Key Market Variables

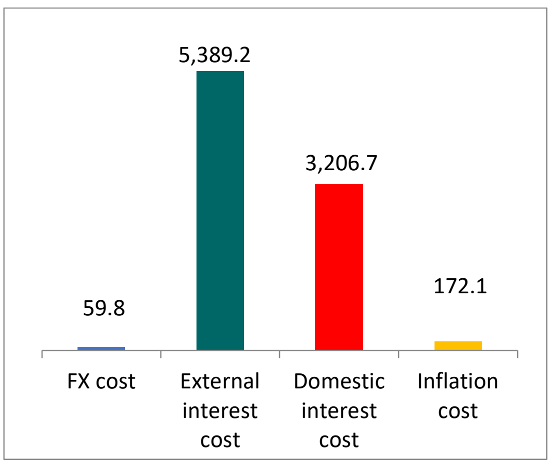
		Change in Macroeconomic Variables		
		1.0%	3.0%	5.0%
			J$ Millions	
Foreign Exchange Depreciation				
	Effect on Debt Stock	13,603.6	40,810.7	68,017.8
	Effect on Interest Cost	677.9	2,033.8	3,389.7
	Total	14,281.5	42,844.5	71,407.5
	% of GDP	0.5%	1.4%	2.4%
Increase in Benchmark Interest Rates				
	Domestic	1,457.1	4,371.4	7,285.7
	External	4,451.5	13,354.5	22,257.5
	Total	5,908.6	17,725.9	29,543.2
	% of GDP	0.2%	0.6%	1.0%
Inflation Rate				
	Effect on Debt Stock	637.5	1,912.6	3,187.6
	Effect on Interest Cost	16.6	49.9	83.2
	Total	654.2	1,962.5	3,270.8
	% of GDP	0.0%	0.1%	0.1%
Aggregated Effects				
	Total	**20,844.3**	**62,532.9**	**104,221.5**
	% of GDP	**0.7%**	**2.1%**	**3.5%**

Source: Ministry of Finance and the Public Service

Figure 18 highlights the estimated portfolio costs associated with actual financing flows and the changes in key macroeconomic and market variables over the review period. Notwithstanding the 1.1 percent point-to-point appreciation of the JMD relative to the USD, the timing of payments contributed to a $59.8 million increase in costs. Benchmark interest rates in both the domestic and external portfolios increased over the period, as the BOJ and the US Fed pursued monetary tightening to temper rising inflation. The 90-day average SOFR increased by 159 bps over the review period, resulting in an estimated $5,389.2 million increase in external interest costs. Similarly, between end-March and end-December 2022, domestic interest costs increased by $3,206.7 million.

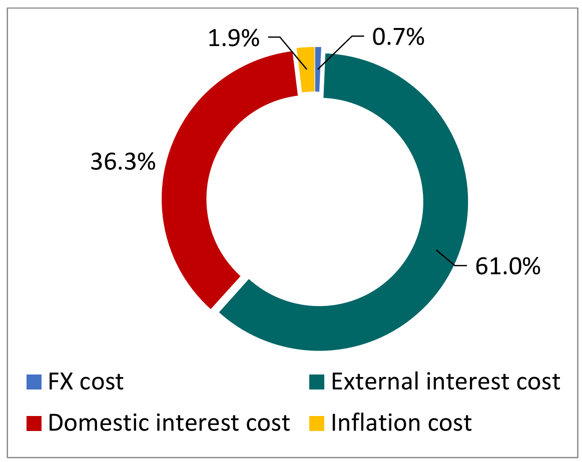
Over the review period, changes in the domestic and external benchmark interest rates accounted for 36.3 percent and 61.0 percent of the total variation in portfolio costs, respectively (see **Figure 19**). When compared to the previous year, this represents an increase of 8.1 percentage points and 58.7 percentage points, respectively. The inflation effects were constrained to the pass-through to interest payments and accounted for 1.9 percent of the total variation in portfolio costs for the review period. Changes in the exchange rate were more negligible and accounted for 0.7 percent of the total variation in costs.

Figure 18: Effects on Adjusted Costs from Changes in Macroeconomic and Market Variables – Apr. to Dec. 2022 ($millions)



Source: Ministry of Finance and the Public Service

Figure 19: Relative Sensitivity to Changes in Macroeconomic and Market Variables - Apr to Dec. 2022



Source: Ministry of Finance and the Public Service

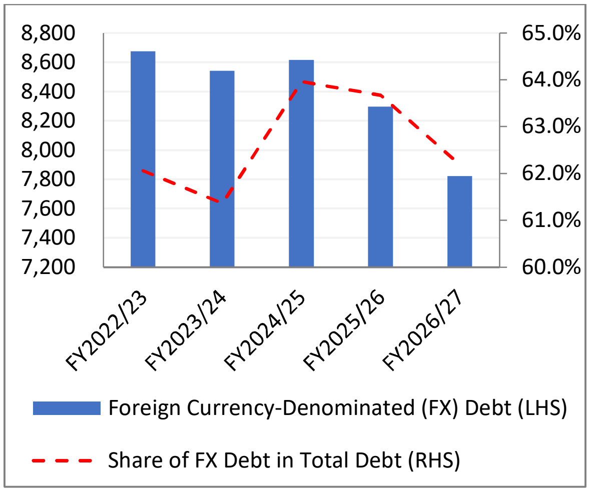
4.2 Dynamic Simulations of Changes in Key Macroeconomic Variables

Reducing the nominal exposure to foreign currency and interest rate risks remains a strategic objective of the MTDS. The nominal value of foreign currency debt is expected to decrease by US$875.4 million or 10.1 percent over the medium-term, resulting in an estimated interest cost savings of $268.8 million. Despite the nominal reduction, the share of foreign currency-denominated debt as a share of total debt is projected to increase by 0.1 percentage point, resulting from depreciation of the JMD relative to the USD, and net amortization of local currency-denominated debt.

Figure 20 highlights the revaluation effects associated with a 5.0 percent shock to the JMD/USD exchange rate in each year. The revaluation effects on the debt stock is estimated to decline from

$73,007.5 million or 2.5 percent of GDP in FY2023/24 to $72,600.8 million or 2.0 percent of GDP in FY2026/27.

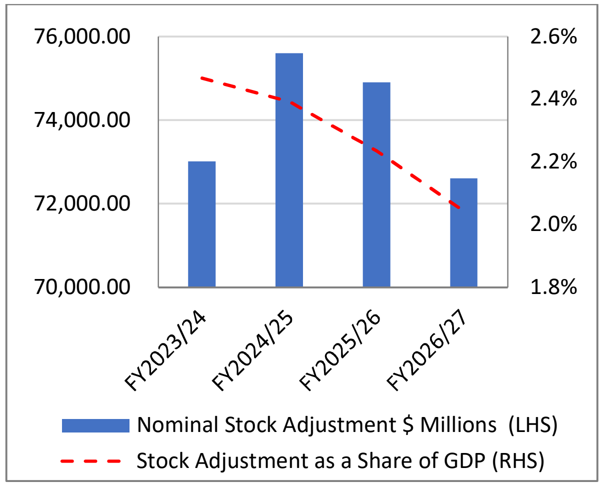
Figure 20: Change in Foreign Currency-Denominated Debt over the Medium-Term



Notes: Figure shows foreign currency-denominated debt in millions of USD on the left axis and the share of foreign currency-denominated debt in total debt on the right axis.

Source: Ministry of Finance and the Public Service

Figure 21: Sensitivity to Changes in the Exchange Rate over the Medium-Term



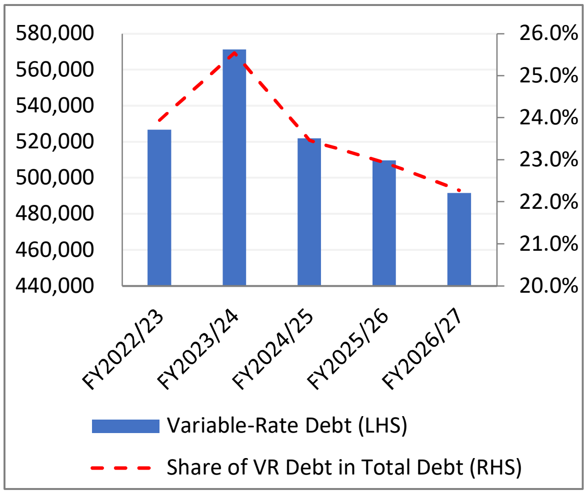
Notes: Figure shows nominal stock adjustment in millions of JMD on the left axis, and stock adjustment as a share of GDP on the right axis.

Simulation assumes a 5.0 percent shock to the projected JMD/USD exchange rate in each year.

Source: Ministry of Finance and the Public Service

The nominal value of variable-rate debt and its share in total debt is projected to decrease over the medium-term by $35,223.6 million and 1.7 percentage points, respectively (see **Figure 21**). This reduction is entirely attributed to the domestic portfolio, where the nominal value of variable-rate debt is expected to decrease by $93,886.7 million or 64.5 percent, partially offsetting a $58,663.1 million or 15.4 percent increase in variable-rate debt in the external portfolio. Concomitantly, the domestic portfolio's sensitivity to changes in benchmark interest rates is expected to decrease by 0.1 percent of GDP, compared to a 0.2-percent of GDP reduction for the external portfolio (see **Figure 22**).

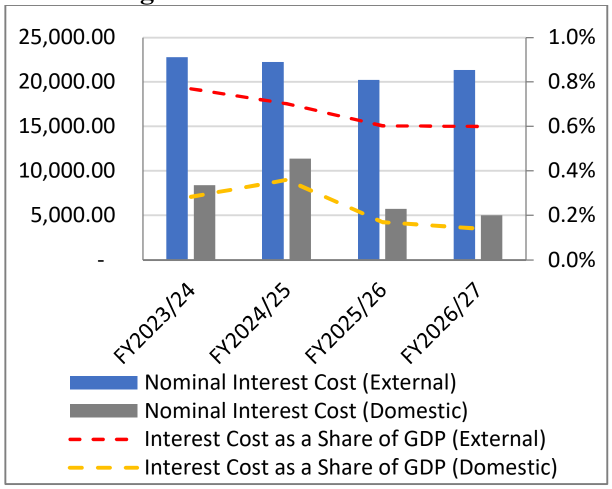
Figure 22: Change in Variable-Rate Debt over the Medium-Term



Notes: Figure shows variable-rate debt in millions of JMD on the left axis and share of variable-rate debt in total debt on the right axis.

Source: Ministry of Finance and the Public Service.

Figure 23: Portfolio Sensitivity to Interest Rate Changes over the Medium-Term



Notes: Simulation assumes a 500-bp shock to baseline benchmark interest rates in each year.

Figure shows nominal adjusted costs in millions of JMD on the left axis, and adjusted cost as a share of GDP on the right axis.

Source: Ministry of Finance and the Public Service

4.3 Natural Disaster Shock Simulation

The MTDS toolkit was used to simulate the impact of a tropical cyclone on key portfolio indicators and the medium-term debt trajectory. The modelled loss for Natural Disaster Shock was estimated at $821,794.7 million or 26.0 percent of GDP in FY2024/25[10]. **Figure 24** compares the simulated effects to historical losses incurred under major weather events in Jamaica.

The simulation assumes that the direct fiscal cost of the storm is limited to emergency losses[11], estimated at $123,269.2 million or 3.9 percent of GDP. These emergency losses are assumed to be financed from a suite of disaster risk financing (DRF) instruments currently available to the Government[12], estimated at $100,938.3 million. Given the available resources, the financing gap

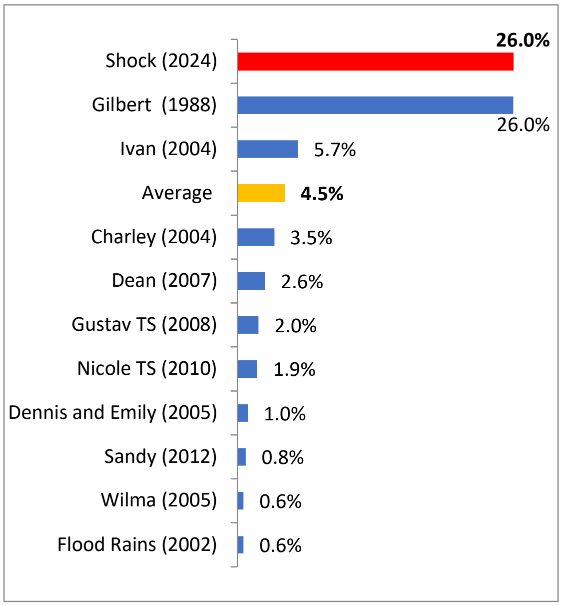
[10] The World Bank Group (2018) Country Risk Profile for Jamaica estimates the probable maximum loss for hurricanes at 25.3 percent of GDP, with a return period of 1-in-250 years.

[11] These costs are inclusive of the costs associated with emergency repairs to public infrastructure, clean-up and relief and recovery activities as well as social expenditure to assist the indigent and other vulnerable populations.

[12] Applicable DRF instruments include a Catastrophe Bond (US$185.0 million), the Caribbean Catastrophe Risk Insurance Facility-Segregated Portfolio Company (CCRIF-SPC) insurance policy for Tropical Cyclone (US$81.8 million) and Excess Rainfall (US$35.3 million), IDB Contingent Credit Facility (US$285.0 million), the Contingencies Fund ($4,904.2 million) and the National Disaster Fund ($460.1 million). Though the Catastrophe Bond is expected to mature in December 2023, the simulation assumes the GOJ will reissue the bond with similar coverage.

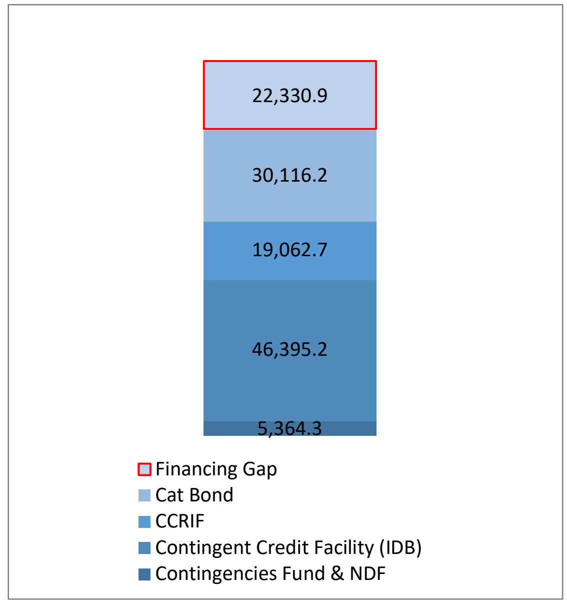
following the storm is estimated at approximately $22,330.9 million and is assumed to be sourced from the external market at less favourable terms than ex-ante financing (see **Figure 25**).

Figure 24: Estimated Impact of Natural Disasters as a Share of GDP



Source: Planning Institute of Jamaica and Ministry of Finance and the Public Service

Figure 25: Estimated Financing Gap for Major Hurricane ($mn)

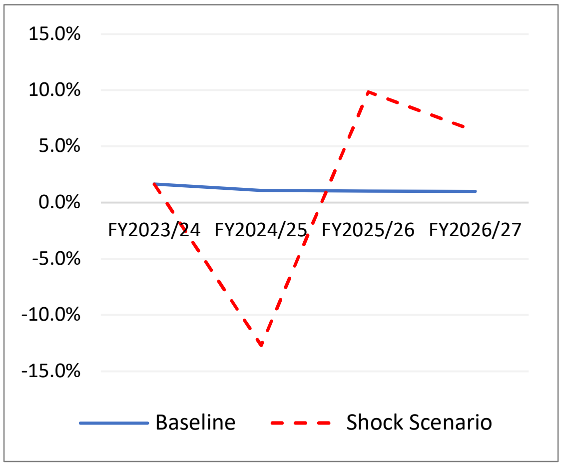


Notes: Figure shows estimates of the financing gap associated with the tropical cyclone given the DRF financing options that the GOJ currently has in place.
Source: Ministry of Finance and the Public Service

The associated impact on key macroeconomic and market variables was modelled using additive adjustments to baseline assumptions for real GDP growth, inflation, exchange rates, interest rates and the primary balance. The projected impact on real GDP growth is depicted in **Figure 26**. While baseline real GDP growth is projected at 1.1 percent in FY2024/25, the storm scenario is estimated to result in a 12.7-percent contraction in the economy, with a growth rebound of 9.9 percent in the following year. The simulations assume an increase in inflation beyond the targeted band in the year of impact contributing to an estimated contraction in nominal growth of 3.7 percent, and an initial exchange rate depreciation which exceeds baseline assumptions by 3.7 percentage points. An outward shift of the domestic yield curve by 300 bps in FY2024/25 and FY2025/26 is estimated based on increased credit risk following a disaster. JAMAN yields are also estimated to increase by 300 bps in both years, after which the risk spread is assumed to return to the baseline. Bilateral rates were adjusted upward by 50 bps while multilateral rates were unchanged.

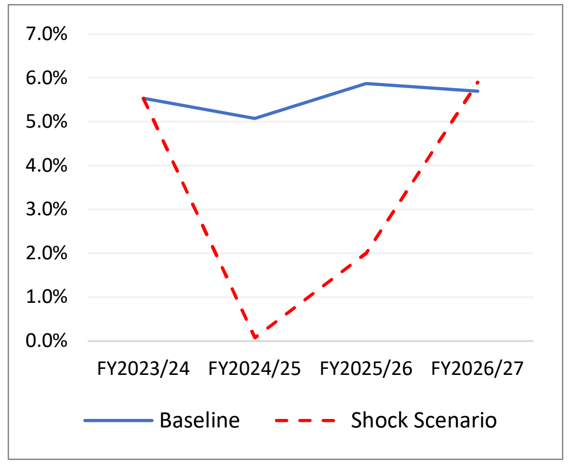
Under the shock scenario, a deterioration in the primary balance is assumed since revenues are expected to underperform in the advent of slower economic activity, and expenditures are projected to increase to address disaster relief and recovery (see **Figure 27**). The pass-through in the year of impact is, however, tempered by the availability of funding from the Contingencies Fund and NDF, CCRIF-SPC and the Catastrophe Bond.

Figure 26: Real GDP Growth under Baseline and Shock Scenario



Source: Ministry of Finance and the Public Service and Planning Institute of Jamaica

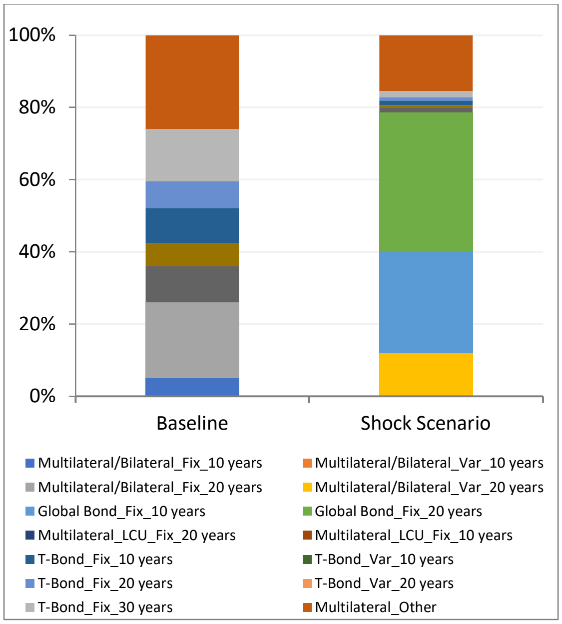
Figure 27: Primary Balance-to-GDP under Baseline and Shock Scenarios



Source: Ministry of Finance and the Public Service

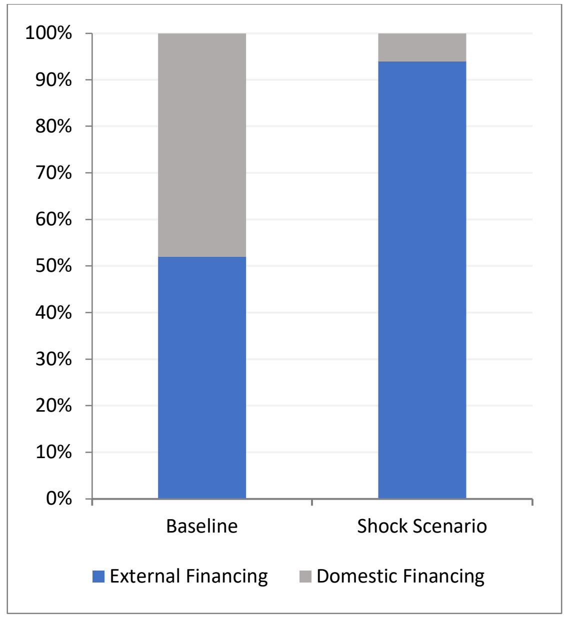
The attendant changes in the composition of the debt portfolio arise from the changes to key macroeconomic and market variables, as well as the additional financing requirements to address the costs associated with the disaster. In the year of impact, additional financing is necessary to fill the financing gap for emergency losses, as well as to compensate for lost revenue resulting from the economic contraction. This is estimated at $165,272.8 million and is assumed to be sourced primarily from multilateral/bilateral sources and the international capital markets (ICM), as domestic market liquidity is likely to be constrained. The drawdown on the US$285.0 million contingent credit facility from the IDB represents variable-rate financing from a multilateral source. Otherwise, financing is assumed to be contracted at fixed interest rates and reasonably long tenors. The resultant change in the financing mix is highlighted in **Figures 28** and **29**.

Figure 28: Gross Financing by Instrument under Baseline and Shock Scenario FY2024/25



Source: Ministry of Finance and the Public Service

Figure 29: External and Domestic Financing under Baseline and Shock Scenario FY2024/25

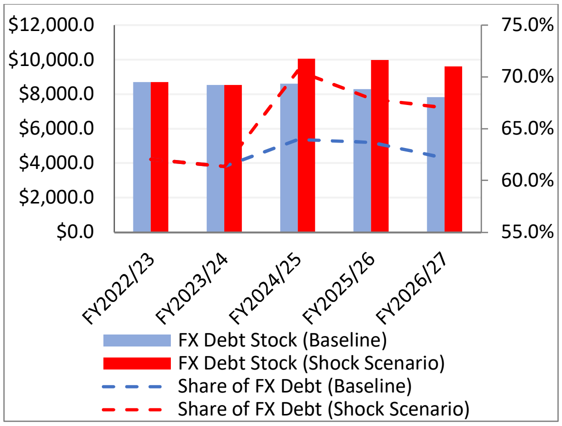


Source: Ministry of Finance and the Public Service

Figure 30 illustrates the projected change in foreign currency-denominated debt over the medium-term under the baseline and shock scenarios. While the stock of foreign currency-denominated debt is projected to decline by US$875.4 million under baseline assumptions, increased external borrowing under the shock scenario results in an increase of US$920.5 million or 10.6 percent. The stock of foreign currency-denominated debt at end-FY2026/27 is therefore estimated to be US$1,795.8 million greater than the amount projected under the baseline. Accordingly, the share of foreign currency-denominated debt in total debt is projected to increase by 4.9 percentage points over the medium-term.

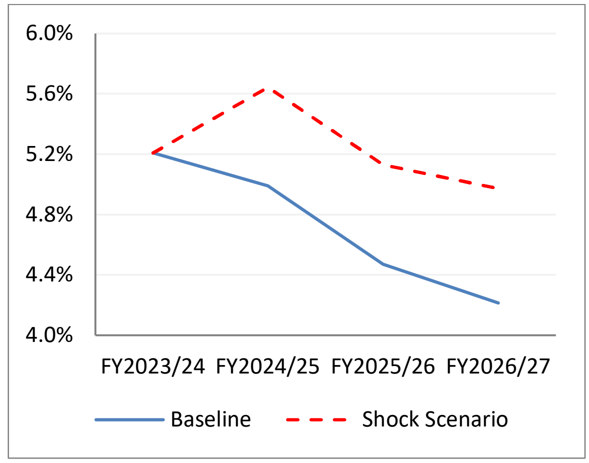
In the aftermath of a disaster, increased credit risk, as well as the need to seek relatively higher cost financing in the ICM is expected to increase interest cost-to-GDP. Over the medium-term, baseline interest cost-to-GDP is estimated at an average 4.7 percent. The disaster shock increases this average by 0.5 percentage point to 5.2 percent (see **Figure 31**).

Figure 30: Stock of Foreign Currency-Denominated Debt under Baseline and Shock Scenario



Notes: Figure shows stock of foreign currency-denominated debt in USD Millions on the left axis and the share of foreign currency-denominated debt in total debt on the right axis.
Source: Ministry of Finance and the Public Service

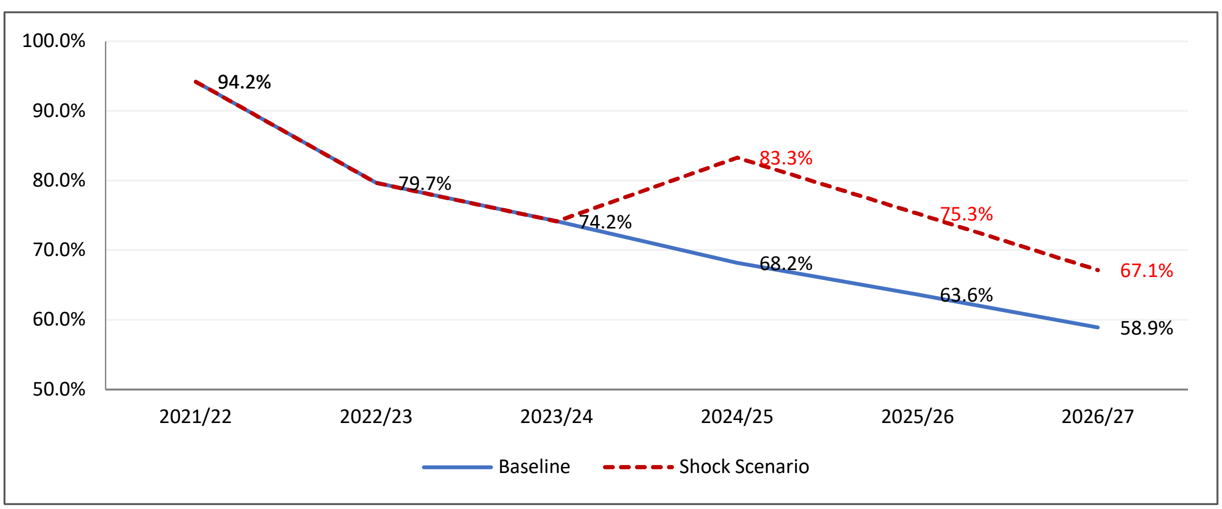
Figure 31: Interest Cost-to-GDP under Baseline and Shock Scenario



Source: Ministry of Finance and the Public Service

Figure 32 highlights the estimated impact of the natural disaster shock on the trajectory of debt-to-GDP over the medium-term. Following the disaster, debt-to-GDP is estimated to increase by 9.1 percentage points relative to end-FY2023/24, due to the increase in nominal debt, as well as the contraction in GDP. Subsequent to this spike, the ratio is projected to return to a downward trajectory as the economy recovers, ending FY2026/27 at 67.1 percent, 8.2 percentage points higher than the baseline projection.

Figure 32: Trajectory of Debt-to-GDP under Baseline and Shock Scenario

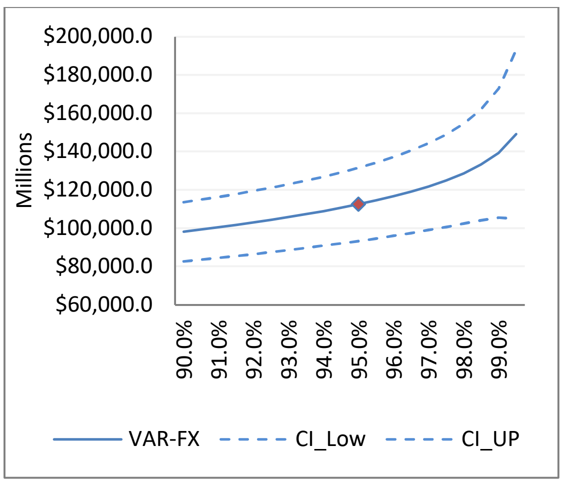


Source: Ministry of Finance and the Public Service

4.4 Value at Risk (VaR) and Cost at Risk (CaR) Estimates for FY2023/24

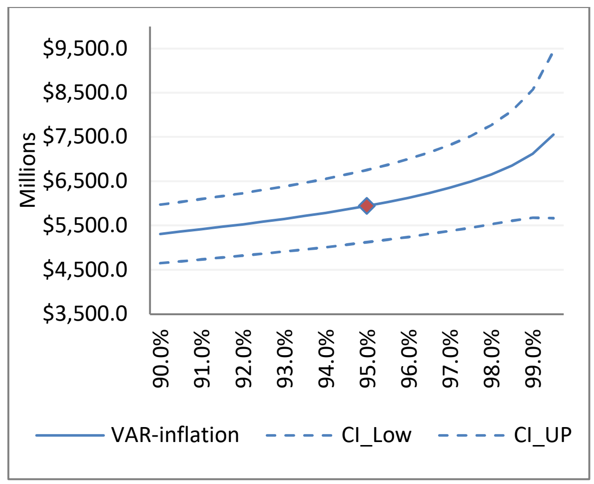
Value at Risk (VaR) and Cost at Risk (CaR) are measures of the maximum likely increase in value and cost of the debt portfolio for a given confidence level based on the historical changes in macroeconomic and market variables. Conditional VaR (CVaR) measures tail risk by capturing the average of extreme values beyond the VaR or CaR level. VaR estimates for FY2023/24 suggest that there is a 95.0 percent probability that changes in the JMD/USD exchange rate and the inflation rate will not increase the debt stock by more than $112,420.0 million and $5,942.2 million, respectively (see **Figures 33 and 34**). CVaR estimates for FY2023/24 at the 95.0 percent confidence level was $128,863.5 million for the JMD/USD exchange rate and $6,664.9 million for the inflation rate.

Figure 33: VaR JMD/USD Exchange Rate



Source: Ministry of Finance and the Public Service

Figure 34: VaR Inflation Rate

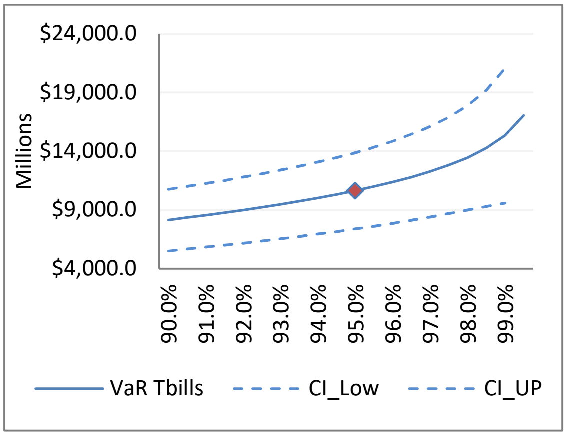


Source: Ministry of Finance and the Public Service

CaR estimates for changes in benchmark interest rates in the domestic and external markets suggest that there is a 95.0 percent probability that changes in the 3-month T-bill rate and 3-month average SOFR will increase debt service costs by a maximum of $10,639.1 million during the upcoming fiscal year and $2,747.3 million in any given month, respectively[13] (**see Figures 35 & 36**). This compares to Conditional Cost at Risk (CCaR) estimates of $13,512.8 million for the 3-month T-bill and $3,236.1 million for the 3-month average SOFR.

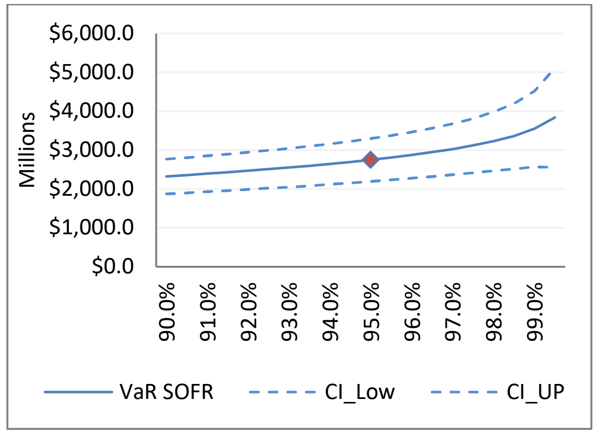
[13] Cost at risk for the external portfolio was calculated using monthly changes in the SOFR, while Cost at risk for the domestic portfolio was estimated using the yearly changes in the 3-month treasury bill rate. This is due to the unavailability of sufficient yearly data points for the SOFR.

Figure 35: CaR Domestic Benchmark Interest Rate



Source: Ministry of Finance and the Public Service

Figure 36: CaR External Benchmark Interest Rate

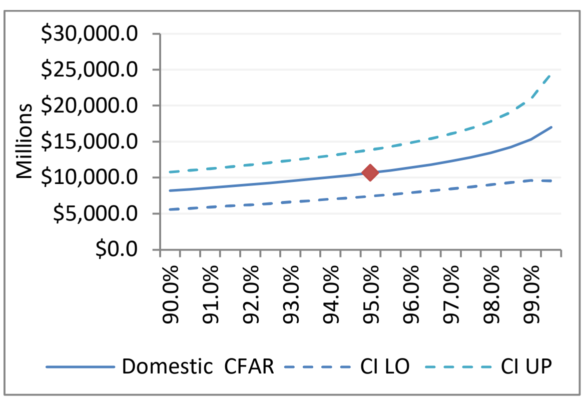


Source: Ministry of Finance and the Public Service

4.5 Cash Flow at Risk (CFaR) Estimates for FY2023/24

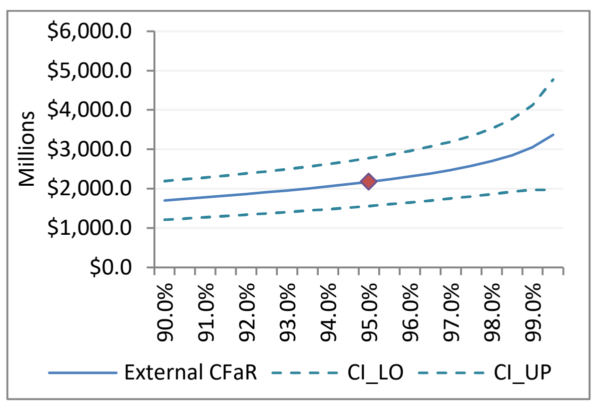
Figure 37 and **Figure 38** highlight the CFaR for FY2023/24 for the external and domestic portfolios. Cash Flow at Risk assesses the maximum increase in debt service costs that is likely over a given period, based on the historical realisation of market variables. The CFaR estimate for the domestic portfolio accounts for interest rate and inflation risks, while the estimate for the external portfolio captures foreign currency and interest rate risks. The 95.0 percent CFaR for the domestic and external portfolios were estimated at $10,661.7 million and $2,171.6 million, respectively. Conditional Cash Flow at Risk (CCFaR) for the domestic portfolio was estimated at $13,504.2 million compared to $2,708.8 million for the external portfolio[14].

Figure 37: CFaR for the Domestic Portfolio



Source: Ministry of Finance and the Public Service

Figure 38: CFaR for the External Portfolio



Source: Ministry of Finance and the Public Service

[14] Cash flow at risk for the external portfolio was calculated using monthly changes in the SOFR and JMD/USD exchange rate, while Cash flow at risk for the domestic portfolio was estimated using the yearly changes in the 3-month Treasury bill rate and the inflation rate. This is due to the unavailability of sufficient yearly data points for the SOFR.

SECTION V: MACROECONOMIC OVERVIEW

Global growth has slowed significantly, from 6.2 percent in 2021 to an estimated 3.4 percent in 2022 and is expected to slow further to a projected 2.9 percent in 2023. This represents a downward revision of 0.1 percentage point, 0.2 percentage point and 0.7 percentage point, respectively, relative to April 2022 projections. The economic and humanitarian crisis resulting from the conflict in Ukraine, tighter monetary conditions in some regions triggered by persistently rising inflation, and a worse-than-expected slowdown in China stemming from the emergence of a new strain of the COVID-19 virus, contributed to the slowdown in global economic activity. Despite these significant economic uncertainties, risks to the 2023 growth projections are balanced with an anticipated ease in global inflationary pressures as well as expected growth in China's economy by 5.2 percent, exceeding previous growth projections.

Economic growth in advanced economies moderated to an estimated 2.7 percent in 2022 from 5.4 percent in 2021 and is projected at 1.2 percent in 2023, driven in part by a severe energy crisis in Europe that caused economic activity to contract by approximately 1.8 percentage points to 3.5 percent in 2022. Amidst high inflation and a tight monetary policy stance, a significant slowdown is projected for the United Kingdom (UK) from an estimated 4.1 percent in 2022 to a forecasted -0.6 percent in 2023, prompting the government to announce plans to introduce a sizable fiscal package. The erosion of investment and consumer confidence constrained growth prospects in the United States (US) from an estimated 2.0 percent in 2022 to a projected 1.4 percent in 2023. Notwithstanding, the resilience in the US and the Euro labour market is expected to reverse negative growth trends towards a higher growth trajectory in the fourth quarter of 2023.

Growth in emerging market economies is projected to decline by 2.8 percentage points to 3.9 percent in 2022 relative to 2021, reflecting a slowdown of economic activity in China caused by their zero COVID-19 policy and a protracted property sector crisis. Growth in the Latin America and Caribbean (LAC) sub-region slowed to an estimated 3.9 percent in 2022, down from an estimated 7.0 percent in 2021 and is expected to slow even further to 1.8 percent in 2023. The decline was driven in part by weakening economic growth in partner countries, tightening of financial conditions, and a reduction in commodity prices. Notwithstanding, activities in the contact-intensive sectors have normalized, inflows remained resilient and commodity prices were favourable in the second half of 2022.

The global financial market remains increasingly unstable amidst economic and political uncertainties. In response to persistently high inflation, interest rates and interest-rate spreads across yield curves have risen exponentially, inducing volatility in financial markets while deteriorating market liquidity especially in the sovereign bond markets. Throughout 2022, emerging market currencies generally depreciated against the United States dollar, causing currency volatility, and are at risk of further depreciation as the Federal Reserve signals plans for further rate increases. Notwithstanding, policy rates in advanced economies are expected to peak in 2023, driving reductions in global bond yields, tightening of corporate spreads, and a rebound in the equity markets.

The Jamaican economy continued to demonstrate resilience amidst a modest but steady recovery, registering higher tax revenue for each month from April 2022 to December 2022, relative to the corresponding months in the pre-COVID-19 period of April 2019 to December 2019. At end-December 2022, the Government's fiscal surplus stood at $14,958.1 million, $15,355.4 million more than the $397.3 million deficit budgeted for the period. The improvement reflected higher than targeted Revenue & Grants and lower than planned Expenditure. At end-December 2022, Revenue and Grants exceeded budget by $7,733.7 million, or 1.4 percent, owing to the over-performance of both tax revenue and non-tax revenue. Total expenditure at end-December 2022 was $552,649.8 million, $7,621.7 million or 1.4 percent lower than programmed, due to below-budget capital spending which reflects a slower than planned pace of project execution. The primary balance for the review period registered a surplus of $119,267.1 million, $15,654.7 million more than the $103,612.4 million projected in initial estimates. The primary and fiscal balances are projected at 5.8 percent and 0.3 percent of GDP, respectively for FY2022/23. The primary balance is expected to decrease to 5.5 percent of GDP for FY2023/24, while the fiscal balance is expected to remain at 0.3 percent of GDP.

The annual point-to-point inflation rate at end-December 2022 was 9.4 percent, reflecting an increase in the All Jamaica "All Divisions" Consumer Price Index from 117.0 in December 2021 to 127.9 in December 2022. The inflation rate remained elevated above the upper limit of the targeted band of 4.0 percent – 6.0 percent. The main contributors were 'Food and Non-Alcoholic Beverages', 'Transport', and 'Restaurants and Accommodation Services'. The point-to-point inflation rate for FY2022/23 is projected to be 7.1 percent before moderating to 5.0 percent over the medium-term.

In line with BOJ's mandate of maintaining price stability, the Central Bank adjusted its policy rate by a cumulative 250 bps over the period to 7.00 percent at end-December 2022, in an effort to return inflation to a rate within the targeted band. The increase in the policy rate is expected to subdue price increases through a reduction in investors' willingness to borrow, thereby limiting excess liquidity and weakening domestic demand. Further, an increase in the policy rate may cause interest rates on deposits and loans to rise, making savings in Jamaica dollars more attractive relative to foreign currency assets. The BOJ will continue to monitor the interest rate differential between JMD and USD assets in order to limit capital outflow pressures and moderate the pace of currency depreciation. Following the hike in the BOJ's signal rate, yields on the benchmark 3-month T-bill averaged 8.04 percent in December 2022, 192 bps higher than the 6.12 percent recorded in March 2022, and 395 bps higher than the 4.09 percent recorded in December 2021.

The current account deficit of the balance of payments (BOP) for the 12-month period ending September 2022 was US$555.3 million, a deterioration over the US$177.5 million surplus recorded in the previous year. This resulted from a worsening of the merchandise trade balance due mainly to an increase in the imports of fuel, raw materials, consumer goods and transport equipment, as well as a decline in the income subaccounts which resulted from higher investment outflows. The services balance improved, reflecting higher stop-over visitor arrivals, higher average daily expenditure and higher cruise passenger arrivals. In the near- to medium-term, the current account deficit is expected to improve as in import prices decrease. The Net International Reserves (NIR) at end-December 2022 was US$3,978.0 million, an improvement of US$302.0 million relative to end-March 2022, driven by an increase in foreign asset securities and a reduction in total foreign liabilities.

The recovery of the Jamaican economy from the impact of the COVID-19 pandemic has moderated due to the elevated rate of inflation. Real GDP is currently projected to grow by 5.1 percent for FY2022/23, down from 8.2 percent in FY2021/22. The growth is expected to be driven by expansions in 'Hotels & Restaurants', 'Other Services', 'Transport', 'Storage & Communication', 'Wholesale & Retail Trade', 'Manufacturing' and 'Agriculture, Forestry & Fishing'. In the medium-term, real GDP growth is expected to average 1.1 percent, reflecting a downward revision in the growth of 'Hotels & Restaurants', 'Other Services', 'Mining & Quarrying' and 'Construction'. Potential downside risks include elevated external prices and high inflation in the domestic market (see **Table 8**).

Table 8: Medium-Term Macroeconomic Framework

	FY2020/21 Actual	FY2021/22 Estimated	FY2022/23 Projected	FY2023/24 Projected	FY2024/25 Projected	FY2025/26 Projected	FY2026/27 Projected
Nominal GDP ($mn)	1,948,842.0	2,322,084.3	2,712,759.2	2,959,326.3	3,160,748.9	3,352,010.5	3,554,807.2
Nominal GDP Growth Rate (%)	-8.1	19.2	16.8	9.1	6.8	6.1	6.1
Real GDP Growth Rate (%)	-11.1	8.2	5.1	1.6	1.1	1.0	1.0
Annual Inflation Pt. to Pt.	5.2	11.3	7.1	5.2	5.0	5.0	5.0
Fiscal Balance (%)	-3.1%	0.9%	0.3%	0.3%	0.3%	1.7%	2.0%
Primary Balance (%)	3.5%	6.8%	5.8%	5.5%	5.1%	5.9%	5.7%
Benchmark Interest Rates							
90-day Treasury Bill Yield (average)	1.13	2.57					
90-day Treasury Bill Yield (eop)	1.23	6.12					
Net International Reserves (NIR) (US$mn)	3,319.3	3,675.9	3,987.4	3,898.8	4,209.5	4,312.7	4,409.4
Currenct Account Balance (% GDP)	-1.1	-1.2	-0.6	-3.5	-2.4	-1.9	-1.4
Oil Prices (WTI) Average US$/barrel)	42.3	77.0	90.6	80.7	81.3	75.2	74.5

Source: Ministry of Finance and the Public Service and Bank of Jamaica

SECTION VI: MODELLING OF THE MEDIUM-TERM DEBT MANAGEMENT STRATEGY

The Medium-Term Debt Management Strategy (MTDS) for FY2023/24-FY2026/27 is developed using the IMF/World Bank MTDS Toolkit, which enables a quantitative assessment of five alternative strategies geared towards meeting established medium-term targets for key debt and risk indicators. The analysis utilizes the stock of Central Government debt and Government guaranteed loans currently serviced by the Government.

6.1 Baseline Assumptions and Exogenous Shock Scenarios

The modelling of the MTDS relies on baseline assumptions of the Government's fiscal balances as well as key macroeconomic and market variables to produce medium-term estimates for portfolio cost and risk indicators under varied financing strategies. To determine sensitivity of the main portfolio indicators under the respective strategies, stress tests were conducted, whereby exogenous shocks were applied to the baseline interest and exchange rate assumptions. Four stress scenarios were examined:

- **Scenario 1** represents an extreme shock to the JMD/USD exchange rate and assumes that the rate depreciates by an additional 30.0 percent in year two of projections;
- **Scenario 2** is a moderate shock to interest rates in year two, and assumes 1.00-, 2.00- and 3.00- percentage point increases in interest rates (across the entire yield curve) for multilateral/bilateral loans, global bonds and domestic issuances, respectively;
- **Scenario 3** is an extreme interest rate shock and applies similarly to **Scenario 2**, but is twice the size; and
- **Scenario 4** combines a moderate exchange rate shock of an additional 15.0 percent in year two with the moderate interest rate shock described under **Scenario 2**.[15]

6.2 Medium-Term Targets

Table 9 outlines the projected outturns for key risk indicators for FY2022/23 alongside the targets set out in the MTDS for FY2022/23-FY2025/26, and new targets established for FY2023/24 and the end of the medium-term (FY2026/27). Debt-to-GDP for FY2023/24 is projected to be 8.3 percentage points lower than the upper limit of the target, on track to meet the medium-term (FY2026/27) target of 65.0 percent or less. For end-FY2022/23, refinancing risk indicators are estimated to be in line with their targets, with the ATM estimated at 10.3 years, and the share of debt maturing in one year projected at 7.1 percent. As it concerns interest rate risk, the portfolio's share of variable-rate debt is estimated at 23.9 percent for end-FY2022/23, below the 30.0 percent

[15] All shocks are applied as additive adjustments to baseline assumptions for interest and exchange rates.

target for the fiscal year. With the expectation of declining interest rates over the medium-term, there is potential for the share to move closer to this target as variable-rate debt is incorporated in the financing mix. The share of foreign currency-denominated debt in total debt is projected to end the fiscal year at 62.1 percent, only 0.1 percentage point higher than the targeted upper bound. The Government will continue to manage foreign currency risk exposure over the medium-term through opportunistic liability management operations in order to meet the target of 60.0 percent or less set for end-FY2026/27.

Table 9: Key Portfolio Targets for FY2023/24 and the Medium-Term

	Projected	Targets		
Risk Indicators	End-Mar 2023	End-Mar 2023	End-Mar 2024	End-Mar 2027
Nominal Debt-to-GDP (%)	**79.7**	**<=88**	**<=75**	**<=65**
Refinancing Risk				
Average Time-to-Maturity (ATM - years)	10.3	>=9	>=9	>=9
Share Maturing within one year (%)	7.1	<=10.0	<=10.0	<=10.0
Interest rate risk				
Domestic				
Share Variable-Rate (%)	17.0	30.0	20.0	20.0
Debt Refixing in 1 year (%)	19.6	35.0	35.0	30.0
Average Time-to-Refixing (ATR - years)	9.1	8.0	8.0	10.0
External				
Share Variable-Rate (%)	27.8	30.0	30.0	30.0
Debt Refixing in 1 year (%)	32.7	30.0	30.0	35.0
Average Time-to-Refixing (ATR - years)	8.4	8.0	8.0	9.0
Total				
Share Variable-Rate (%)	23.9	30.0	30.0	30.0
Debt Refixing in 1 year (%)	28.0	32.0	35.0	35.0
Average Time-to-Refixing (ATR - years)	8.7	8.0	8.0	9.0
Foreign Currency Risk				
Share of Foreign Currency Debt (%)	62.1	<=62.0	<=62.0	<=60.0

Source: Ministry of Finance and the Public Service

Risks to the achievement of the medium-term targets include a higher-than-projected rate of depreciation of the JMD relative to the USD, slower-than-anticipated economic growth, and exogenous shocks such as natural disasters or the realization of other contingent liabilities.

6.3 Financing Strategies

The MTDS Analytical Toolkit was used to assess cost/risk trade-offs of alternative financing strategies, in order to arrive at a preferred option. Five contending strategies were formulated based on discussions with market participants and multilateral partners, as well as expectations regarding domestic and external market conditions over the medium-term. Three of the five strategies focus on majority domestic financing as a means of developing the domestic debt market and reducing exposure to foreign currency risk in the debt portfolio (see **Figure 39**).

Figure 39: Summary of Alternative Medium-Term Financing Strategies

Under **Strategy 1 (S1)**, an average of 60.0 percent of total financing over the medium-term will be sourced from the domestic market. The Strategy assumes increased financing from multilateral creditors. While financing in the domestic market is programmed along all segments of the yield curve to further develop the domestic debt market, the strategy seeks to reduce the portfolio's exposure to refinancing risks by borrowing at longer tenors in the external market. The strategy features mainly fixed-rate debt, though external financing is programmed through a mix of variable-rate and fixed-rate multilateral loans.

Strategy 2 (S2) also assumes an operating target for domestic financing of 60.0 percent, all at fixed rates. However, this strategy seeks to more firmly anchor the domestic yield curve by increasing short term issuances over the medium-term. While mitigating exposure to foreign currency risk and interest rate risk, this strategy increases refinancing risk. The focus on shorter tenors is expected to result in lower costs, but higher refinancing risk relative to **S1**. External financing under this strategy is programmed through multilateral/bilateral fixed-rate loans.

Strategy 3 (S3) also assumes an operating target for domestic financing of 60.0 percent. However, it assumes financing mainly through variable-rate and short-term instruments in the domestic market. Compared to **S1**, this strategy poses greater refinancing and interest rate risks but potentially lower costs over the medium-term.

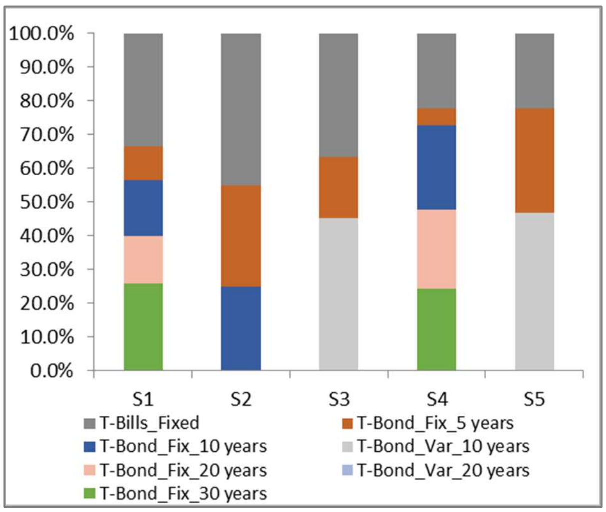
Strategies 4 (S4) and **5 (S5)** exacerbate the imbalance in the debt portfolio by increasing reliance on external financing. Both strategies assume that the domestic market is not sufficiently deep and liquid to absorb total financing requirements and as such, 70.0 percent of total financing needs will be sourced from the external market.

S4 assumes most of the external financing will be sourced from private creditors through issuances in the ICM and a smaller amount from official multilateral/bilateral partners. This strategy further assumes that all external financing will be at fixed rates. The focus on ICM financing may be supported based on the strong performance of JAMAN bonds in the ICM.

S5 assumes less favourable conditions in the ICM as investors become cautious about investing in emerging market (EM) bonds. This strategy therefore assumes that external financing will be programmed mainly through official multilateral/bilateral sources at variable-rates, with a smaller amount from short-term fixed-rate global bonds.

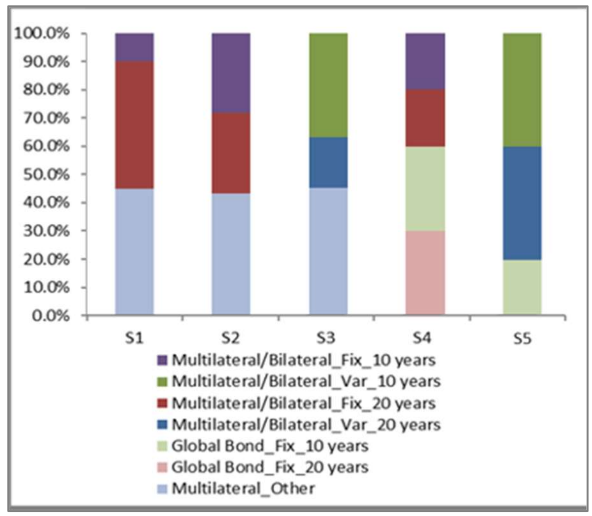
Financing details for domestic and external borrowing for all five strategies are summarized in **Figures 40 and 41**.

Figure 40: Domestic Financing by Instrument



Source: Ministry of Finance and the Public Service

Figure 41: External Financing by Instrument

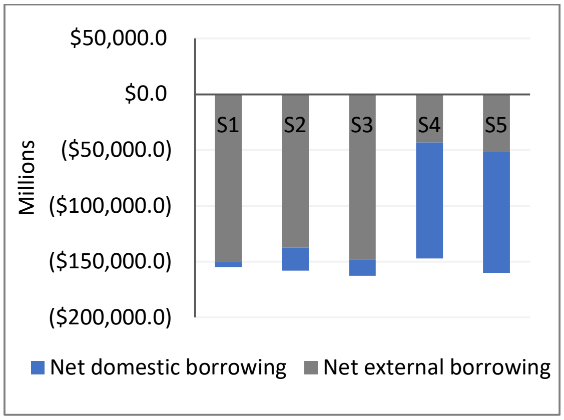


Source: Ministry of Finance and the Public Service

6.4 Toolkit Output – Results for Alternative Financing Strategies

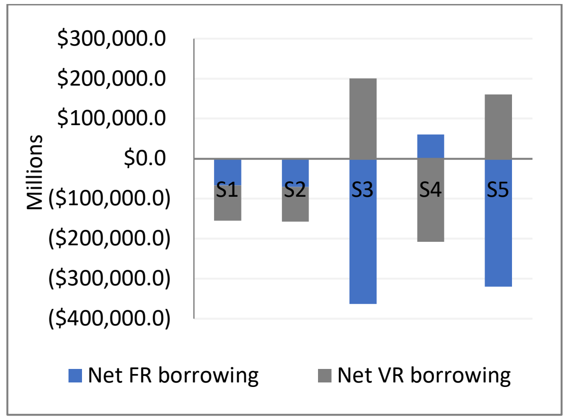
The MTDS Toolkit was used to assess the effectiveness of the five financing strategies in fulfilling medium-term debt management objectives. Key among these is the reduction in exposure to foreign currency risk and achieving an appropriate balance between fixed- and variable-rate debt. **Figures 42** and **43** show net financing flows to the domestic and external portfolios, and the fixed-rate and variable-rate portfolios, respectively. While all strategies result in net outflows from the domestic and external portfolios, the outflows from the domestic portfolio for **S1**, **S2** and **S3** are eclipsed by outflows from the external portfolio (see **Figure 42**). The opposite obtains for **S4** and **S5**. As it relates to the fixed-rate and variable-rate debt portfolios, **S1**, **S2** and **S4** record net outflows from the variable-rate portfolio, while **S3** and **S5** depict the opposite (see **Figure 43**). Overall, all financing strategies result in net outflows from the debt portfolio over the medium-term, consistent with debt reduction goals.

Figure 42: Net Financing Flows to the External and Domestic Portfolio



Source: Ministry of Finance and the Public Service

Figure 43: Net Financing Flows to the FR and VR Portfolio



Source: Ministry of Finance and the Public Service

Table 10 outlines key cost and risk indicators projected for end-FY2026/27 for each strategy, as well as the quantitative score assigned to each strategy. With a quantitative score of 8.4 out of 10, **S1** is selected as the preferred financing strategy. The strategy performs best in managing exposure to refinancing and foreign currency risks, but second-best in addressing interest rate risk, as variable-rate borrowing is programmed with the expectation of lower interest rates over the medium-term. Nonetheless, a 1.5-percentage point reduction in variable-rate debt as a percentage of total debt is projected. Though the strategy relies mainly on domestic financing, the share of foreign currency-denominated debt in total debt at end-FY2026/27 is expected to be broadly unchanged under **S1**. This compares to a 4.8-percentage point increase in the case of **S4** and **S5**, which focus mainly on external financing. As it concerns cost, for **S1**, the implied interest rate for the debt portfolio is expected to decline by 0.4 percentage point over the medium-term. While **S3** and **S5** would result in a greater improvement in the cost profile, this is attributed to shorter tenor debt in the case of **S3**, and greater reliance on low-cost multilateral financing in the case of **S5**. The selection of either of these strategies would therefore exacerbate the portfolio's exposure to refinancing and foreign currency risks. Overall, **S3** performed second-best with a quantitative score of 6.9 out of 10. While the cost outturn is lower than that projected for **S1**, the projected balance of variable-rate and fixed-rate debt is less desirable, with the share of variable-rate debt projected to increase to 35.8 percent over the medium-term.

Table 10: Cost and Risk Indicators for Alternative Financing Strategies

Cost and Risk Indicators		end-FY2022/23 (est)	as at end-FY2026/27				
			S1	S2	S3	S4	S5
Cost	Interest payment (% of GDP)	5.7	4.2	4.2	4.1	4.3	4.1
	Implied interest rate (%)	7.1	6.7	6.6	6.4	6.8	6.4
Refinancing risk	Debt maturing in 1yr (% of total)	5.2	7.1	7.5	7.2	6.3	6.4
	Debt maturing in 1yr (% of GDP)	4.6	4.4	4.7	4.4	3.9	3.9
	ATM External Portfolio (years)	10.5	10.0	9.8	9.6	9.8	9.1
	ATM Domestic Portfolio (years)	10.0	10.7	7.9	8.2	10.3	8.5
	ATM Total Portfolio (years)	10.3	10.3	9.1	9.1	10.0	8.9
Interest rate risk	ATR (years)	8.7	8.6	7.4	6.5	9.0	6.7
	Debt re-fixing in 1yr (% of total)	28.0	27.9	28.4	41.4	21.1	38.5
	Fixed-rate debt (% of total)	76.1	77.7	77.6	64.2	83.7	66.1
FX risk	FX debt (% of total)	62.1	62.2	62.9	62.5	66.9	66.9

Quantitative Ranking of Alternative Strategies				S1	S2	S3	S4	S5
Key	Scores							
Most Favoured Outcome	10	Portfolio Indicators	Weights	Scores				
Second Best Outcome	8	Cost	0.15	0.8	0.9	1.5	0.2	1.5
Third Best Outcome	6	Refinancing risk	0.25	1.8	0.7	1.3	2.3	1.6
Fourth Best Outcome	4	Interest rate risk	0.10	0.8	0.6	0.1	1.0	0.4
Least Favoured Outcome	1	FX risk	0.50	5.0	3.0	4.0	0.5	0.5
			1.00	**8.4**	**5.2**	**6.9**	**4.0**	**4.0**

Source: Ministry of Finance and the Public Service

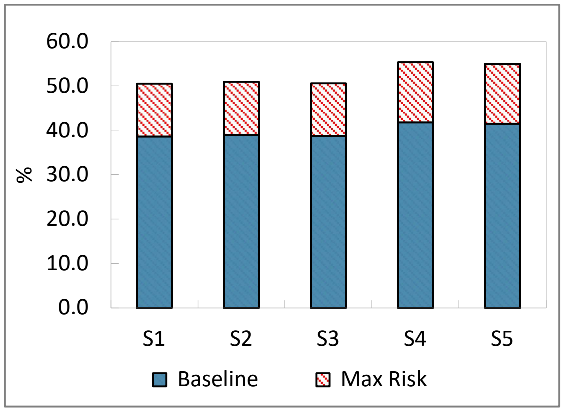
6.4.1 Risk to Baseline Projections for the Respective Strategies under Stress Scenarios

The maximum risk for key portfolio indicators under each of the five financing strategies is depicted in **Figures 44** to **47**. Using projected outturns for end-FY2026/27, the maximum risk is determined by the largest impact on each of the indicators arising from the four stress scenarios outlined in **Section 6.1**. External debt-to-GDP is highest under **S4** with a projected outturn of 41.7 percent (see **Figure 44**). This compares to the lowest projected outturn of 38.6 percent under **S1**. Similarly, **S4** projects the highest maximum risk of 13.5 percentage points, while **S1** and **S3** project the lowest at 11.9 percentage points.

While baseline interest cost-to-GDP under **S1** is higher than the cost-minimizing strategies, **S3** and **S4**, the difference is marginal at 0.1 percentage point (see **Figure 45)**. All five strategies displayed similar levels of maximum risk. Total debt service-to-GDP is lowest under **S5** and **S4**, the strategies which prioritise external debt. This stems from the estimated lower cost of external financing, as well as longer times-to-maturity associated with global bonds with bullet payments, a feature of **S4**. When compared among the strategies which feature mainly domestic financing, **S1** performs second-best to **S3**. This results from lower-cost financing of shorter-tenor debt instruments associated with **S3**. However, both strategies recorded a maximum risk of 2.3 percentage points (see **Figure 46**). External debt service-to-reserves is lowest under **S3** with a projected outturn of 31.4 percent and maximum risk of 7.8 percentage points (see **Figure**

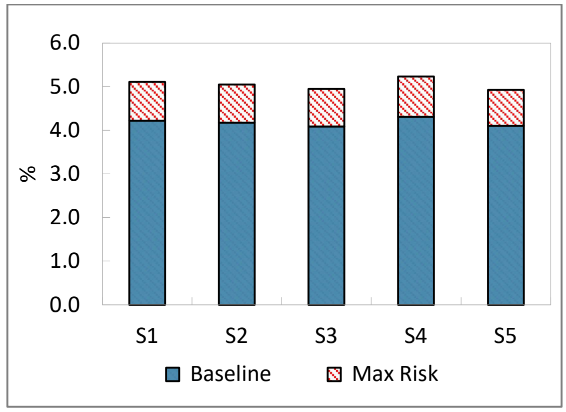
47). However, **S1** performed second best, with a projected baseline outturn of 31.8 percent, and maximum risk of 7.9 percentage points. Overall, assessment of the cost-risk trade-offs support the selection of **S1** as the optimal strategy.

Figure 44: Sensitivity of External Debt-to-GDP to Shocks



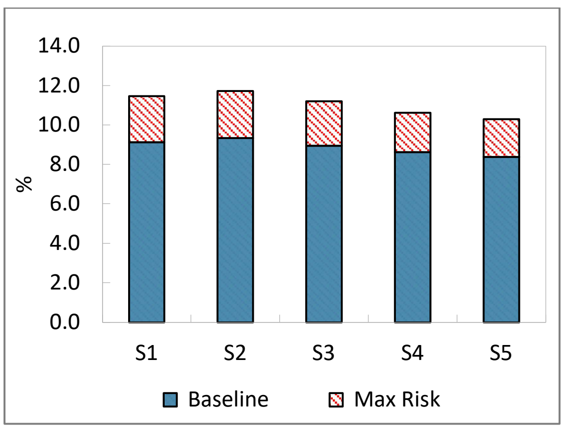
Source: Ministry of Finance and the Public Service

Figure 45: Sensitivity of Interest Cost-to-GDP to Shocks



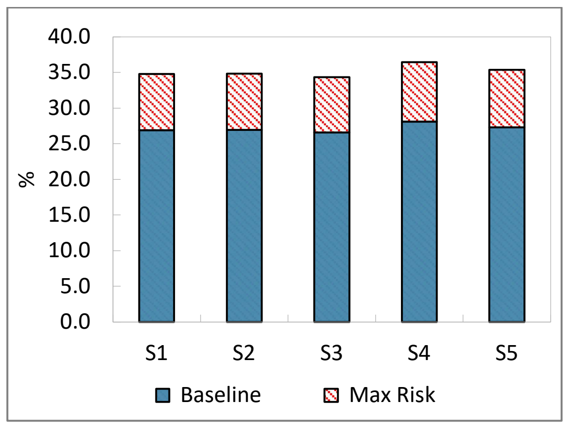
Source: Ministry of Finance and the Public Service

Figure 46: Sensitivity of Debt Service-to-GDP to Shocks



Source: Ministry of Finance and the Public Service

Figure 47: Sensitivity of External Debt Service-to-Net International Reserves



Source: Ministry of Finance and the Public Service

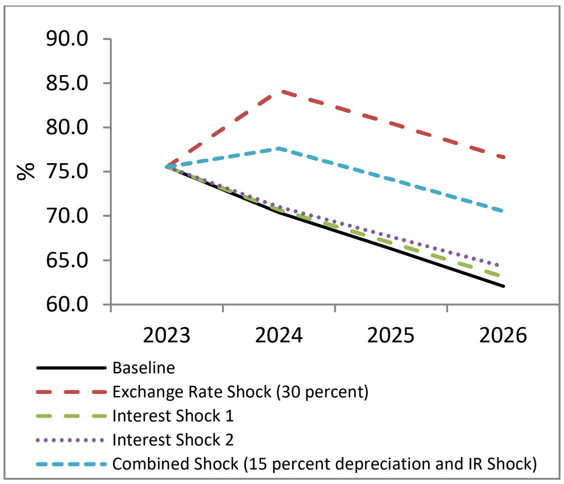
6.4.2 Dynamic Effects of Shocks to Baseline Macroeconomic Variables

Figures 48 to **51** show the dynamic effects of the four shock scenarios outlined in **Section 6.1,** on baseline projections for **S1** over the medium-term. Results show that shocks to the exchange rate have the most significant impact on the debt portfolio.

Scenario 1, which applies a 30.0 percent shock to the baseline exchange rate assumption for FY2024/25 is projected to add 14.6 percentage points to baseline debt-to-GDP at end-FY2026/27 (see **Figure 48**). The combined shock described in **Scenario 4** increases the baseline by 8.5 percentage points. The moderate and extreme interest rate shocks (**Scenarios 2** and

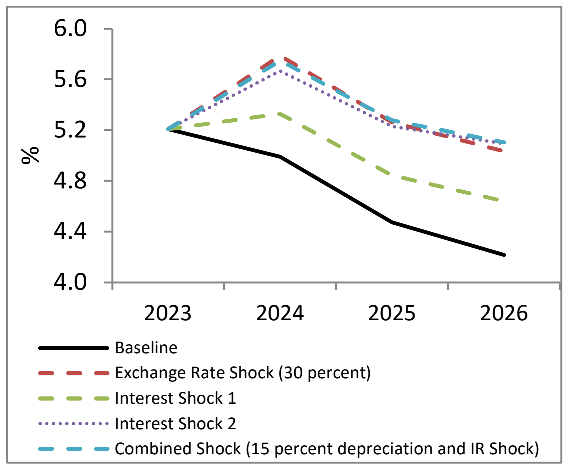
3) are estimated to add 1.1 and 2.2 percentage points, respectively (see **Figure 49**). Baseline interest cost-to-GDP is projected to average 4.7 percent over the medium-term. When a 30.0 percent shock is applied to the exchange rate (**Scenario 1**), this average increases by 0.6 percentage point to 5.3 percent. An extreme shock to interest rates (**Scenario 3**) and the Combined Shock (**Scenario 4**) yield similar results, while a moderate interest rate shock (**Scenario 2**) increases the average by 0.3 percentage point. Debt service-to-GDP and external debt service are similarly affected, with the medium-term average for debt service-to-GDP increasing by as much as 1.5 percentage points, and external debt service by as much as US$243.3 million (see **Figures 50** and **51**).

Figure 48: Dynamic Sensitivity of Debt-to-GDP to Shocks



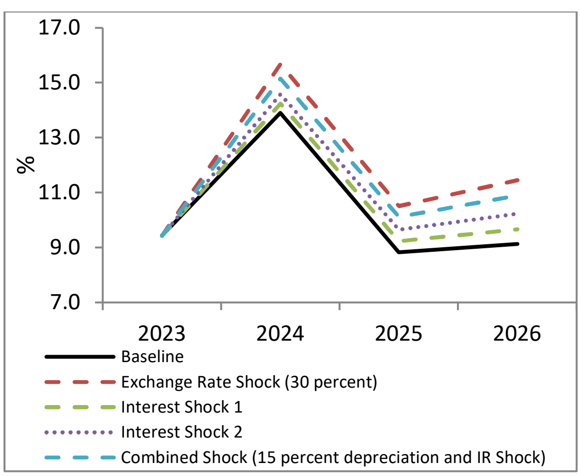
Source: Ministry of Finance and the Public Service

Figure 49: Dynamic Sensitivity of Interest Cost-to-GDP to Shocks



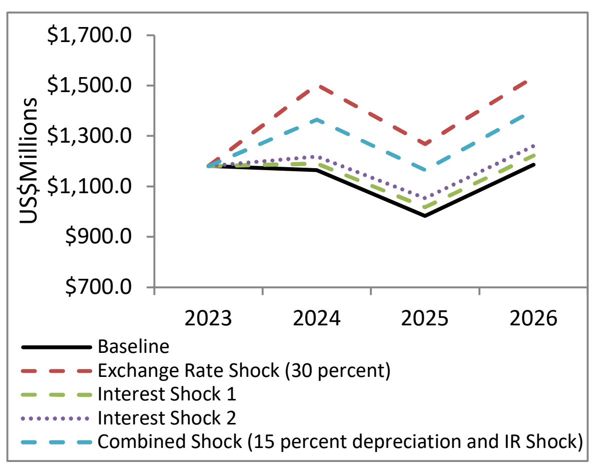
Source: Ministry of Finance and the Public Service

Figure 50: Dynamic Sensitivity of Debt Service-to-GDP to Shocks



Source: Ministry of Finance and the Public Service

Figure 51: Dynamic Sensitivity of External Debt Service to Shocks



Source: Ministry of Finance and the Public Service

SECTION VII: ANNUAL BORROWING PLAN

The Annual Borrowing Plan (ABP) was prepared based on requirements of the MTDS for FY2023/24 - FY2026/27 and identifies the sources of funding that the Government intends to utilize in satisfying the financing requirement throughout the new fiscal year. The ABP details the breakdown of the financing sources that will be used to finance the fiscal gap. This is related to external and domestic sources, including securities and loans. Based on the programmed Revenue and Expenditure Estimates for FY2023/24, the financing requirement is projected to be $139,472.5 million or 4.7 percent of GDP. This represents an increase of $15,342.4 million or 12.4 percent relative to the previous fiscal year.

The Government's fiscal operations continue to perform well above target amidst volatility and long-lasting uncertainties in the global economy. Though inflation is slowly subsiding, its lingering effects are expected to continue throughout the fiscal year as the predictions of a technical recession towards the end of 2023 persist. Currently, the volatility and fragility of the market have increased the degree of difficulty in forecasting. Furthermore, the unfavourable economic environment is exacerbated by the on-going war in Ukraine, the surge in goods and services costs, the risk associated with climate change, and the continued effects of COVID-19 affecting economic activities.

Notwithstanding these risks, the GOJ has intensified engagement with multilateral agencies to bolster its fiscal position over the medium-term. Consequently, the Government intends to access a concessional loan under the International Monetary Fund's Resilience and Sustainability Facility (RSF) in the amount of US$763.0 million, with disbursements programmed during FY2023/24 and FY2024/25. The RSF loan will strengthen the Government's financing position at a reasonable cost and will assist Jamaica's overall performance towards achieving the Sustainable Development Goals. Although the expected inflows from the RSF will increase the portfolio's exposure to foreign currency risk, this will be mollified by the lower interest cost compared to borrowing cost in the domestic market. Therefore, the cost/risk trade-off is favourable, and the Government will remain on track to achieve its legislative debt-to-GDP target of 60.0 percent or less by end-FY2027/28.

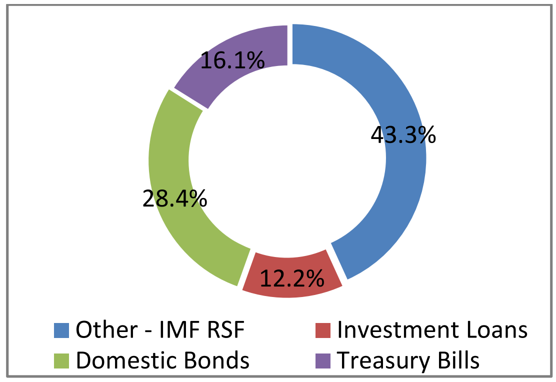
The Government's financing requirement for FY2023/24 will be met from both domestic and external sources, through programmed amounts of $62,075.3 million or 44.5 percent, and $77,397.2 million or 55.5 percent, respectively. The selected financing strategy favours borrowing mainly from the domestic market over the medium-term; however, external borrowing is estimated to exceed domestic borrowing in FY2023/24. Domestic financing will continue to be raised through Treasury Bills and Benchmark Investment Notes in the amount of $22,400.0 million or 16.1 percent and $39,675.3 million or 28.4 percent, respectively. Scheduled disbursements from external sources are programmed to comprise multilateral and bilateral loans, representing the RSF of $60,330.8 million or 43.3 percent and Investment Loans totalling $17,066.4 million or 12.2 percent. (See **Table 11** and **Figure 52)**

Table 11: GOJ's Annual Borrowing Plan for FY2023/24

Financing Sources	Budgeted ($mn.)	% Total
Domestic Financing	62,075.3	44.5
Domestic Bonds	39,675.3	28.4
Treasury Bills	22,400.0	16.1
External Financing	77,397.2	55.5
Investment Loans	17,066.4	12.2
IMF	60,330.8	43.3
Total	139,472.5	100.0

Source: Ministry of Finance and the Public Service

Figure 52: Annual Borrowing Plan FY2023/24



Source: Ministry of Finance and the Public Service

7.1 Issuance Strategy for FY2023/24

Over the medium-term, the Government's issuance strategy will continue to rebalance the currency component of the debt portfolio through local currency issuances, while facilitating a vibrant domestic debt market. Consequently, Strategy 1 (S1) remains the preferred strategy, which focuses on securing majority financing from the domestic market throughout the medium-term. However, for FY2023/24, 44.5 percent of financing will be from the domestic market, as the Government intends to utilize foreign currency-denominated financing from the IMF Resilience and Sustainability Facility (RSF) in order to assist in financing its operations. In the execution of the Issuance Strategy, the GOJ intends to:

- Satisfy investors' demand at all segments of the yield curve, thereby achieving the GOJ's objectives of satisfying the borrowing requirements and maintaining a presence in the domestic market while facilitating the development of the domestic market;
- Focus on building liquidity by developing benchmarks along the short, medium and long segments of the yield curve;
- Issue all securities via the auction mechanism, which will facilitate continued efficiency in pricing;
- Utilize proceeds from the RSF to supplement proceeds from the domestic market;

- Schedule long-term instruments for maturity beyond FY2028/29, a significant repayment year, in order to avoid bunching of maturities; and

- Continue to issue 3- and 6-month Treasury bills on a monthly basis, while the 9-month Treasury bill will continue to be issued at least once per quarter during the fiscal year. The subscription amount for the 3-month and 6-month tranches will remain at $700.0 million, while the subscription amount for the 9-month tranche will remain at $800.0 million. As a result, the Treasury bill offer amount for FY2023/24 is expected to be $22,400.0 million. This will assist financial institutions to fulfil liquid asset requirements.

7.2 Challenges to the Issuance Strategy

Generally, investor appetite for GOJ bonds remains steady. However, in light of reduced liquidity, increased Treasury bill yields and adjustments to the Bank of Jamaica Policy Rate in FY2022/23, bid yields for domestic Benchmark Investment Note (BIN) issuances, especially short-term bonds, have increased. As a result, this has increased the service cost to the Government, which does not align with the Debt Management Branch's core objective to ensure that the Government's financing needs are satisfied at minimum cost while maintaining risks at manageable levels. Additionally, given the perpetuated uncertainty in the financial market environment, the Government issuance strategy could be affected by potential exogenous challenges outlined below:

- **Higher interest rates** - Between August 2019 and September 2021, the Central Bank maintained its policy rate at 0.50 percent. However, since August 2021, the monthly inflation rate has consistently exceeded BOJ's targeted range of 4.0 percent to 6.0 percent. As a result, the BOJ increased the policy rate by a total of 650 bps to 7.00 percent between 1st October, 2021 and 21st November, 2022. Unless the inflation rate is significantly reduced, the policy rate will remain high, which will in turn cause interest rates to remain high. This will adversely affect the cost of borrowing to the GOJ;

- **Ongoing geopolitical tensions** – The conflict between Russia and Ukraine, compounded by a slowdown in economic growth in China and the United States, may negatively affect bilateral financing from partner countries. This may result in global economic instability and uncertainty, which may reduce prospects for economic growth. As a result, revenue performance may be adversely affected, which may in turn necessitate an adjustment of the ABP;

- **Negative effects of natural disasters** - In 2022, more than 5,000 people were killed by floods, earthquakes and droughts in countries such as Brazil, Afghanistan, India, Indonesia, Pakistan, Nigeria and South Africa. In the event of a natural disaster in Jamaica during

FY2023/24, depending on the extent of variation in related cost relative to available cash resources under the Disaster Risk Management Framework, resources may have to be redirected from programmed budgeted activities to disaster recovery activities. This may necessitate adjustment to the ABP;

- **Resurgence of COVID-19** - Owing to an increased rate of vaccination, as well as the presence of a milder than usual strain of COVID-19, economic activity has continued to rebound in the country. However, there are indications of a resurgence of the disease in China. This is an indication that the pandemic is not yet at an end, and may adversely affect global economic activity, which may in turn negatively affect GOJ's issuance strategy; and
- **Competition from Corporate Bonds** - In the current unpredictable economic climate of reduced liquidity, increased competition from high yielding corporate bonds may reduce demand for GOJ issuances by introducing demand-side risk exposure.

7.3 Active Liability Management Operations

Consistent with Section 6 of the PDMA, the Minister with responsibility for Finance is authorized to employ liability management operations (LMOs) that focus on improving the debt portfolio risk parameters/indicators in line with medium-term benchmark targets. This involves using innovative tools or structures to design transactions aimed at reducing the debt stock or achieving stock neutrality, while reducing cost, achieving net interest cost savings, and mitigating predominant risks.

During FY2023/24, the Government of Jamaica will continue to explore opportunities to execute LMOs aimed at rebalancing the debt portfolio to be in line with an optimal structure. Over the medium- to long-term, the redemption profile of Jamaica's debt reflects significant bunching in FY2024/25, FY2028/29, and FY2045/46. Therefore, smoothing the debt service schedule, while extending maturities, remains an important objective of any GOJ liability management initiative.

Consequent on the protracted effects of the COVID-19 pandemic on global economies, coupled with rising commodity prices resulting in a high inflationary economic environment, interest rates have increased significantly, which has resulted in higher debt service costs. Over the short-term, global interest rates are expected to maintain an upward movement, particularly due to anticipated increases in the Federal Funds Rate, higher inflation forecasts, and geopolitical tensions. Accordingly, market instruments may attract higher prices in both the domestic and external markets. These conditions necessitate on-going monitoring of the markets in order to lower cost and reduce exposure to risks through the utilization of effective liability management tools such as buybacks, swaps, switches, exchanges, and roll-overs.

Table 12: Proposed Issuance Calendar for GOJ Instruments during FY2023/24

SUBSCRIPTION DATE	INSTRUMENT TYPE	METHOD OF ISSUE
Q1		
April 12, 2023	3-month, 6-month and 9-month T-Bill Tenders	Auction
April 26, 2023	**New Issue:** Five-year BIN	Auction
May 10, 2023	3-month, 6-month and 9-month T-Bill Tenders	Auction
May 26, 2023	Reopen FR 9.625% BIN 2031 – **8-yr**	Auction
June 7, 2023	3-month and 6-month T-Bill Tenders	Auction
Q2		
July 12, 2023	3-month, 6-month and 9-month T-Bill Tenders	Auction
July 21, 2023	Reopen FR 10.00% BIN Due 2037 – **14-yr**	Auction
August 9, 2023	3-month, 6-month and 9-month T-Bill Tenders	Auction
August 25, 2023	Reopen FR 9.50% BIN 2026 – **3-yr** Reopen FR 5.80% BIN Due 2034 – **11-yr**	Auction Auction
September 6, 2023	3-month and 6-month Treasury Bill Tenders	Auction
Q3		
October 11, 2023	3-month and 6-month T-Bill Tenders	Auction
October 13, 2023	Reopen FR 11.25% BIN Due 2046 – **23-yr**	Auction
November 8, 2023	3-month, 6-month and 9-month T-Bill Tenders	Auction
November 24, 2023	Reopen FR 10.00% BIN Due 2037 – **14-yr**	Auction
December 6, 2023	3-month and 6-month Treasury Bill Tenders	Auction
Q4		
January 10, 2024	3-month, 6-month and 9-month Treasury Bill Tenders	Auction
January 26, 2024	Reopen FR BIN 2028 – **4-yr** Reopen FR 12.25% BIN 2050 – **27-yr**	Auction Auction
February 7, 2024	3-month, 6-month and 9-month T-Bill Tenders	Auction
March 6, 2024	3-month and 6-month T-Bill Tenders	Auction
March 22, 2024	Reopen FR BIN 2028 – **4-yr** **New Issue:** FR BIN 2044 – **20**-yr	Auction Auction

*Benchmark Investment Note (BIN)
Note: Schedule is subject to change.
Source: Ministry of Finance and the Public Service

Table 13: Proposed Schedule for Treasury Bills

For Fiscal Year 2023/24		
Proposed Treasury Bill Tranche	**Proposed Tender Date**	**Proposed Issue Date**
Quarter 1		
3, 6 & 9 month T/Bills	April 12, 2023	April 14, 2023
3, 6 & 9 month T/Bills	May 10, 2023	May 12, 2023
3 & 6 month T/Bills	June 7, 2023	June 9, 2023
Quarter 2		
3, 6 & 9 month T/Bills	July 12, 2023	July 14, 2023
3, 6 & 9 month T/Bills	August 9, 2023	August 11, 2023
3 & 6 month T/Bills	September 6, 2023	September 8, 2023
Quarter 3		
3 & 6 month T/Bills	October 11, 2023	October 13, 2023
3, 6 & 9 month T/Bills	November 8, 2023	November 10, 2023
3 & 6 month T/Bills	December 6, 2023	December 8, 2023
Quarter 4		
3, 6 & 9 month T/Bills	January 10, 2024	January 12, 2024
3, 6 & 9 month T/Bills	February 7, 2024	February 9, 2024
3 & 6 month T/Bills	March 6, 2024	March 8, 2024

Notes: Please note that the Schedule is subject to change. The actual amounts in each tender will be determined at the time of invitation to tender.

Source: Ministry of Finance and the Public Service

SECTION VIII: DEVELOPMENT OF THE DOMESTIC MARKET

8.1 Government Domestic Debt Market

As the anxiety related to the coronavirus infections relaxed and business sectors rebounded, the world was greeted with Russia's announcement of a 'special military operation' in Ukraine, marking the start of a full-scale invasion of Ukraine in early 2022. At the advent of the war, the global economic environment was fragile, despite the recovery mood from the pandemic. Consequently, the geopolitical tension quickly disrupted supply chains throughout the world. The far-reaching effects of the war on global trade exacerbated an inflationary impact that has underlined the world economy over the last two financial years. The magnitude of the war served to compound the uncertainty that existed since the beginning of COVID-19.

Despite the impact of the war in Ukraine and predictions of a possible economic recession, the Jamaican financial system continues to be resilient. This is due, *inter alia,* to sound fiscal and economic reforms, prudent debt management, sound legal and regulatory frameworks and institutional infrastructures implemented by GOJ in prior years to the pandemic. Additionally, the Bank of Jamaica in its continued efforts to suppress inflationary pressure, maintained a restrictive monetary policy throughout FY2022/23. Although inflation is slowly declining, there is great concern regarding a potential resurgence of the COVID-19 pandemic which could further negatively affect the domestic market.

Notwithstanding the vulnerabilities characterizing the prevailing market environment, the Government's effort to further develop the domestic debt market has been immense. This has facilitated strengthening of the monetary and financial markets, boosting private savings and stimulating investment. Likewise, the yields on GOJ's securities have served as a pricing benchmark for corporate debt issued by banks or other entities which has helped to promote the development of a corporate bond market that boosts competition in the domestic debt market.

In spite of the global financial and economic challenges that have slowed activities, the GOJ remains committed to the primary objective of its medium-term debt strategy to continue its pursuit of furthering the development of the domestic debt market. Subject to favourable market conditions, the GOJ intends to:

- Continue to maintain a presence in the domestic market, in keeping with the MTDS objectives for minimum costs and risks;
- Continue to offer securities along all segments of the yield curve by utilizing the auction mechanism; and

- Further improve the yield curve and achieve price discovery through the introduction of new and innovative instruments in the domestic market.

8.2 Financial Market Development

An undeveloped domestic debt market is characterised by the inability to borrow locally in the domestic currency. While domestic markets are not immune to the vulnerability to external shocks or recurrent financial crises, domestic debt issuance is a substitute and not a complement to external debt issuance. Borrowing domestically can assist in the reduction of foreign currency exchange risks embedded in the debt portfolio and generally reduce the cost of funds associated with borrowing.

While the Government of Jamaica has made significant strides in the development of the domestic debt market, there is scope for further development. During FY2023/24, GOJ intends to continue the issuance of a variety of instruments along different segments of the yield curve to satisfy budgetary requirements as well as to meet investors' needs. The issuances are designed to meet the Government's financing needs at the lowest possible cost while limiting the portfolio exposure to market risks. In addition, the issuances will assist in furthering the development of the domestic debt market through increasing liquidity levels in various benchmark instruments; it should be noted that highly liquid benchmark instruments facilitate secondary market trading. Sufficient secondary market trading facilitates price efficiency that is required to construct the yield curve for the domestic market. In the primary market, the auction mechanism will be utilized to price the Government's securities.

Consistent with the requests from market players for GOJ to offer more innovative instruments and given its objective to develop an efficient yield curve, during FY2023/24, GOJ intends to continue coordinating with BOJ to fast track modifications to the JamClear-CSD that will facilitate the introduction of new instrument types into the debt portfolio.

On July 22, 2022, the MOFPS chaired its inaugural Primary Dealers (PD) meeting. Arising from an IMF Technical Assistance undertaken in December 2019, it was agreed that a PD working group should be established and chaired by MOFPS. The other participants in the working group are the BOJ, Financial Services Commission (FSC) and PDs. The BOJ and the FSC will continue to provide technical assistance in the areas of market surveillance, performance assessment, and regulation and compliance.

A review of the current PD system is essential to further the development of the domestic market. In order to, *inter alia,* boost secondary market trading, widen the investor base and reduce market cost and risk, the role of PDs as market makers is crucial to the process. During FY2022/23, it was the intention of the GOJ in collaboration with the stakeholders to embark on the review of the PD system; however, the review did not materialise. The Government remains steadfast in achieving this important developmental goal. In the upcoming fiscal year, GOJ will refocus efforts to reform the PD system.

The significance of secondary market trading in an efficient domestic debt market cannot be overstated. The GOJ recognises that in order to achieve the desired level of secondary market trading, a Fixed Income Trading Platform (FITP) is required. To that end, during FY2023/24, GOJ will continue to coordinate with the Jamaica Stock Exchange (JSE) and the BOJ to realize the goal of implementing the FITP. The implementation of the FITP is expected to promote a deeper, more liquid and transparent market, while enabling real-time price discovery.

A medium-term strategic objective of GOJ is to de-dollarize the debt portfolio in order to reduce the country's risk, thereby providing a stable and secure economic and investment climate. The Government is of the view that this objective can be achieved, *inter alia,* through the issuance of local currency-denominated debt in the ICM. During the upcoming fiscal year, GOJ intends to resume exploratory discussions with an international clearance and settlement agency and the Bank of Jamaica, regarding the possibility of establishing a link between the JamClear CSD and the agency's platform.

During FY2023/24, market conditions permitting, the Government will explore the feasibility of conducting opportunistic LMOs in the domestic market, which aims to achieve net savings, debt reduction or debt neutrality while extending the maturity profile of the debt portfolio. GOJ will utilize buybacks, swaps or switches to execute LMOs.

Subsequent to the minting of $230.0 million worth of Central Bank Digital Currency (CBDC) in August 2021, BOJ through a competitive process officially named its digital currency JAM-DEX. The CBDC is legal tender issued by BOJ in digital form, which is not held in a bank account, but in a CBDC wallet which is issued by banks or authorized Payment Service Providers. Similar to cash in a wallet, no interest is earned on CBDC in a CBDC wallet. Additionally, CBDC reduces the owners' costs as there are no fees charged for CBDC transactions. While there is no need to open or have an existing bank account to get a CBDC wallet, CBDC encourages financial inclusion. As a result, persons who are unbanked (do not have a bank account) or are underbanked, can become a part of the financial system as long as they possess a CBDC wallet. Getting a CBDC wallet is easier than opening a bank account. By spending, transferring and receiving CBDC, individuals create a transaction history that can be used to gain access to loan financing. Currently JAM-DEX is offered by two financial institutions. Other wallet providers are being assessed in Bank of Jamaica Fintech Regulatory Sandbox in preparation for the distribution of JAM-DEX.

The financial system will benefit from the introduction of the CBDC through increases in systemic efficiency and significant reductions in costs for cash distribution and storage. Other benefits include an increase in the type of services available to customers as well as an opportunity to innovate unique products and systems complementary to CBDC use. Given that digital transactions remain pivotal to driving financial inclusion across Jamaica, it is anticipated that more retail investors will become aware and interested in GOJ securities, which will assist in boosting secondary market trading.

In order to further the development of the domestic debt market during FY2023/24, the Government will continue its policy to:

- Conduct debt operations openly, equitably and transparently;
- Disseminate the terms and conditions of instruments to the market in a timely manner, prior to subscription days;
- Publish results of market issues at the latest one business day after settlement; and
- Continue the dialogue with all players on debt management issues.

SECTION IX: INVESTOR RELATIONS

The DMB's Investor Relations Programme (IRP) remains the key communication link between the GOJ and its financial stakeholders. The IRP constitutes a two-way dialogue construct of engaging domestic and external stakeholders—including investors, creditors, analysts, and ratings agencies, with strategic actions geared toward the GOJ achieving its debt management objective of raising adequate budgetary financing within acceptable cost/risk trade-offs.

During April 2022 to December 2022, the DMB continued to engage domestic market financial stakeholders, inclusive of securities dealers, insurance companies, pension funds, and commercial banks, through one-on-one meetings. Additionally, in July 2022, as recommended by the International Monetary Fund (IMF), the Ministry of Finance and the Public Service through the DMB assumed the chairmanship of the quarterly Primary Dealers' meeting, a responsibility formerly held by the Bank of Jamaica. These meetings seek to further advance relations between the DMB and Primary Dealers in order to facilitate the development of the domestic market.

In September 2022, the Government of Jamaica resumed face-to-face engagement in the ICM with a series of limited Non-Deal Roadshows in New York and London. These Roadshows served to update stakeholders and prospective investors on the progress of the Jamaican economy. The Investor Relations Unit also supported the Standard and Poor's (S&P) Ratings Agency's assessment of the country's creditworthiness by coordinating virtual meetings with key stakeholders in the private and public sectors. S&P subsequently affirmed the Government of Jamaica's Long-Term Foreign and Local Currency Issuer Default Rating (IDR) at 'B+' with the outlook remaining 'Stable'.

For FY2023/24, the launch of the revamped DMB website will be top priority as the Branch will work through challenges encountered during this fiscal year to ensure completion by the end of the first quarter. Furthermore, the Branch will continue to support the GOJ's financial literacy initiative through organized seminars and forums, as well as other strategic activities to improve awareness of debt management operations. The DMB will continue to implement IR best practices that will enable the GOJ to disclose comprehensive and timely data in the interest of accountability and transparency.

SECTION X: CONCLUSION

The Government of Jamaica's (GOJ's) Medium-Term Debt Management Strategy (MTDS) for FY2023/24 – FY2026/27 is designed to guide debt operations over the medium-term and strengthen the Government's debt management objectives of raising adequate financing at the lowest possible cost and prudent levels of risk, while supporting the development of the domestic debt market. The document assesses portfolio costs and risks associated with alternative financing strategies to aid in the selection of a medium-term strategy which is consistent with the GOJ's cost/risk preferences. Over the medium-term, in line with the selected strategy, **S1**, the GOJ will prioritize domestic financing at fixed rates, along all segments of the yield curve.

Jamaica's economic recovery from the impact of the pandemic continued in an environment characterized by inflationary pressures and resulting monetary policy interventions. During the first nine months of FY2022/23, the BOJ made several policy rate adjustments, a cumulative increase of 250 bps, to slow down the rate of inflation which remains above the upper limit of the targeted range of 4.0 percent to 6.0 percent. Notwithstanding, estimated expansions in real and nominal GDP, 5.1 percent and 16.8 percent, respectively, will facilitate the continued downward trajectory of debt-to-GDP by 14.5 percentage points to 79.7 percent at end-FY2022/23, on track to meet the target of 60.0 percent or less by end-FY2027/28.

Overall, there were marginal improvements in the debt portfolio's risk profile. Despite declining to within established targets for the fiscal year, foreign currency risk remained the predominant risk and a continued priority for the GOJ. Though interest-rate increases led to higher portfolio costs, the impact was mitigated by a reduction in the portfolio's share of variable-rate debt. Similarly, at end-December 2022, a reduction in the share of debt maturing within the following year lowered exposure to refinancing risk. As a result of marginal exposure within the portfolio, inflation risk remained low. Additionally, a reduction in the GGL-to-GDP ratio by 0.8 percentage point to 2.8 percent, within the legislated ceiling of 3.0 percent for FY2026/27, contained the risk posed by contingent liabilities associated with Government guarantees.

For the upcoming fiscal year, the GOJ will continue its strategy to manage the portfolio's risk exposure, while reducing public debt to sustainable levels. Through the Investor Relations Programme (IRP), the Government will facilitate continued development of the domestic market, by maintaining dialogue with institutional investors and promoting transparency, openness, and accessibility in debt operations. The launch of the modernized DMB website will be a priority for the first quarter of the fiscal year.

GLOSSARY

Amortization

Amortisation refers to principal repayments on loans. These repayments reduce the borrowed money by portions, which are usually fixed amounts or expressed as a percentage of the whole.

Auction

An auction is a system by which securities are bought and sold on a competitive bidding process. The auctions are conducted on a multiple-price-bidding basis, which means that the successful investor will receive stocks at the price he bids.

Benchmark Investment Notes

These are bonds that are sufficiently large and actively traded, such that their prices serve as reference for other bonds of similar maturities. More specifically, the benchmark is the latest issue within a given maturity. For a comparison to be appropriate and useful, the benchmark and the bond being measured against it should have a comparable liquidity, issue size and coupon. Government bonds are almost always used as benchmark.

Cash Flow at Risk (CFaR)

Cash Flow at Risk of the debt portfolio estimates the maximum increase in debt service cash flows relative to the expected costs due to changes in market variables, with a given probability over a given period.

Catastrophe Bond

Catastrophe (Cat) bonds are insurance-linked securities that transfer risks, usually from a catastrophe or natural disaster, from an issuer to investors. Depending on how a cat bond is structured, if losses reach the threshold specified in the bond offering, the investor may lose all or part of the principal or interest. Cat bonds do not constitute a part of a government’s debt stock.

Central Government

Central Government includes ministries, departments and agencies which are responsible for carrying out core government functions.

Conditional Cash Flow at Risk (CCFaR)

Conditional Cash Flow at Risk is the extended risk measure of cash flow at risk that quantifies the average increase in debt service cash flows in unlikely scenarios over a specified time period (see **Cash Flow at Risk**).

Conditional Cost at Risk (CCaR)

Conditional Cost at Risk is the extended risk measure of cost at risk that quantifies the average increase in interest costs in unlikely scenarios over a specified time period (see **Cost at Risk**).

Conditional Value at Risk (CVaR)

Conditional Value at Risk is the extended risk measure of value at risk that quantifies the average increase in debt stock in unlikely scenarios over a specified time period (see **Value at Risk**).

Contingent Liabilities

Contingent liabilities are obligations that materialise if a particular event occurs. They can be explicit, if the sovereign contractually acknowledges its responsibility to cover the beneficiary under specific circumstances, or implicit, when the government is expected to do so because it has a "moral" obligation to act, in most cases related to a high opportunity cost of not intervening.

Contingent Line of Credit

A contingent line of credit is a loan which is prepared in advance, but disbursed after a specified occurrence, for example, a natural disaster.

Cost at Risk (CaR)

Cost at Risk of the debt portfolio estimates the maximum increase in interest costs relative to the expected costs due to changes in market variables, with a given probability over a given period.

Currency Conversion/Swap

A currency swap, sometimes referred to as a cross-currency swap, involves the exchange of interest – and sometimes of principal – in one currency for the same in another currency. The agreement consists of swapping principal and interest payments on a loan made in one currency for principal and interest payments of a loan of equal value in another currency.

Debt Service Payments

Debt service payments cover interest charges on a loan. Some sources also include amortisation under debt service payments. These payments liquidate the accrued interest (and loan obligations if amortisation is included).

Emerging Market Economy

An emerging market economy refers to a developing nation that is becoming more engaged with global markets as it grows. Countries classified as emerging market economies are those with some, but not all, of the characteristics of a developed market.

Federal Funds Rate

The federal funds rate refers to the interest rate that banks charge other institutions for lending excess cash to them from their reserve balances on an overnight basis. The federal funds rate is a monetary policy tool of the United States Federal Reserve.

Fiscal Responsibility Framework

The Fiscal Responsibility Framework, which came into effect October 1, 2010, is an encompassing framework which has, at its centre, fiscal rules that are designed to achieve desired fiscal outcomes, most notably, a reduction in, and maintenance of, a sustainable level of debt.

Fiscal Risk

Fiscal risk refers to the probability that an actual fiscal outturn will deviate from that which is expected or budgeted.

Global/Euro bond

A bond underwritten by international investors and sold in countries other than the country of the currency in which the issue is denominated. Usually, a global/euro bond is issued by a corporate or sovereign and categorised according to the currency in which it is denominated. In July 1997 Jamaica issued a five-year US$200mn global bond, which was its first ever.

Government Guaranteed Loans

The term government guaranteed loans refers to the debt of public bodies for which the Central Government is required to assume obligations in the event that the public entity defaults.

High-Quality Liquid Asset

Assets which are liquid in market during a time of stress, and can be converted into cash at minimal or no loss of value in private markets to meet liquidity needs.

Inflation-Indexed Bonds

Inflation-Indexed bonds are securities with the principal linked to the Consumer Price Index. The principal changes with inflation, guaranteeing the investor that the real purchasing power of the investment will keep pace with the rate of inflation. Although deflation can cause the principal to decline, at maturity the investor will receive the higher of the inflation-adjusted principal or the principal amount of the bonds on the date of the original issue.

Investment Loans

The terms refer to loans, which fund capital development activities. The term capital refers to lasting systems, institutions and physical structures. Investment loans are typically funded from foreign sources by bilateral arrangements and multilateral institution.

Issuer Default Rating

An Issuer Default Rating (IDR) is an assessment of an issuer's relative vulnerability to default on financial obligations, and is intended to be comparable across industry groups and countries. Issuers may often carry both Long-Term and Short-Term IDRs.

Liability Management Operation

Liability management (LM) is the process of rebalancing outstanding debt in order to improve the composition of the public debt portfolio. LM operations have five main functions: (i) to increase liquidity in government securities markets, (ii) to manage risks in the debt portfolio, (iii) to decrease the cost of new funding, (iv) to correct and/or take advantage of market distortions, and (v) to stabilize the market during periods of stress.

Liquidity

Liquidity refers to the ease with which an asset, or security, can be converted into ready cash without affecting its market price.

MTDS Analytical Toolkit

The MTDS analytical toolkit is designed to assist country authorities in developing a sound debt management strategy, by analyzing cost and risk tradeoffs inherent in alternative financing strategies. The tool was developed by the International Monetary Fund and the World Bank Group.

Non-Central Government Debt

Non-central government debt refers to the debt of public bodies, excluding those certified by the Auditor General as carrying out functions of a commercial nature. In the case of Jamaica, non-central government debt is included in total public debt.

Non-Guaranteed Loans

Non-guaranteed loans refers to the debt of specified public bodies which is not formally guaranteed by the Government of Jamaica. While the Government has no legal obligation to assume non-guaranteed debt, liabilities may result from moral obligation.

Official Creditor

Official Creditor is a government or international organization that lends mainly to another government or international organization. This includes multilateral and bilateral creditors.

Policy Rate

The policy interest rate is the rate at which a central bank will pay or charge deposit taking institutions for their deposits or loans. The Bank of Jamaica uses its policy interest rate as a key instrument of monetary policy.

Policy-Based Loan

This term refers to loans which fund or support policy reforms and/or institutional changes in particular sectors. Policy based loans are usually funded by multilateral creditors.

Price Discovery

Price discovery is the process whereby the price of a security, commodity, or currency is efficiently determined through market driven factors such as supply, demand and investors risk attitude at the time of transaction.

Primary Dealers

Primary dealers are security dealers who have been given the right to participate in initial issuances or reopening of GOJ and BOJ securities to the market.

Public Debt

Public debt is defined as the consolidated debt of the Specified Public Sector except that of the Bank of Jamaica, net of any cross holdings.

Public Debt Charges

Public debt charges are interest payments on the loan obligations and include related incidental expenses such as service fees, late payment penalties and commitment fees.

Sovereign Rating

A sovereign rating is an assessment of the default risk for medium and/or long-term debt obligations issued by a national Government (denominated in foreign currency), either in its own name or with its guarantee. Ratings are produced by independent agencies (Moody's Investors Service, Standard & Poor's and others). The ratings provide a guide for investment risk to capital market investors.

Special Drawing Rights

Special Drawing Rights (SDRs) are an international reserve asset, created by the International Monetary Fund (IMF) in 1969 to supplement its member countries' official reserves. It serves as the unit of account of the IMF.

Technical Recession

A technical recession refers to two consecutive quarters of negative growth in a country's gross domestic product.

Tender-Switch

A tender-switch is a form of liability management operation in which a government retires a portion of its debt securities, and makes an offer to holders of those securities to repurchase a predetermined number of bonds at a specified price.

Treasury Bills

Treasury Bills are short-term debt obligations backed by the government with maturities less than one year. The Government of Jamaica issues Treasury Bills with 30-, 60- and 180-day tenors. Treasury Bills are issued through a competitive bidding process at a discount from par, which means that rather than paying fixed interest payments like conventional bonds, the appreciation of the instrument provides the return to the holder.

Value at Risk (VaR)

Value at Risk of the debt portfolio estimates the maximum increase in the debt stock due to changes in market variables, with a given probability over a given period.

Yield Curve

A line graph showing the interest rates at specific points in time by plotting the yields of all securities with the same risk but with maturities ranging from the shortest to the longest available. The yield curve for Government securities is often used as a benchmark for pricing other debt in the market. The curve is also used as an indicator of macroeconomic conditions.