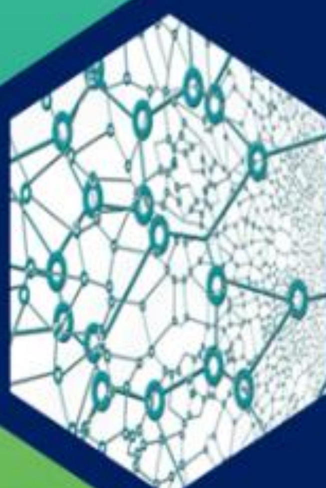

MITIGATE AND PREVENT EXCESSIVE CREDIT GROWTH AND LEVERAGE

MITIGATE AND PREVENT EXCESSIVE MATURITY MISMATCHES AND MARKET ILLIQUIDITY



LIMIT DIRECT AND INDIRECT EXPOSURE CONCENTRATIONS

LIMIT THE IMPACT OF INTERCONNECTED-NESS, SYSTEMIC IMPORTANCE AND MISALIGNED INCENTIVES



STRENGTHEN THE RESILIENCE OF THE FINANCIAL SYSTEM & INFRASTRUCTURE

BANK OF JAMAICA

# Macroprudential Policy Report

## *Highlights*

April 2022

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## Preface

Bank of Jamaica frequently conducts assessments of the resilience and strength of the financial system. These financial system stability assessments inform the Bank's macroprudential policy. This report provides highlights of those assessments for the reporting quarter. The document is organized into five assessment areas, the analysis of which utilizes leading and coincident indicators relevant to the specific type of vulnerability. The aim of the report is to:

- *Convey Bank of Jamaica's financial system stability assessment.*
- *Make clear the link between the Bank's assessment and any policy action taken.*
- *Provide information on matters related to financial system stability.*

## Overview

*The Jamaican economy continued to recover from the effects of the COVID-19 pandemic and is projected to record moderate growth in 2022. However, inflation for the year ended-February 2022 remained above the upper limit of Bank of Jamaica's target range and is projected to continue to breach the target range over the next 10 to 12 months. This development is against the background of supply chain disruptions and geopolitical instability, including the invasion of Ukraine by Russia. In this context, BOJ further tightened monetary policy in the March 2022 quarter.*

*The monetary policy actions of the central bank resulted in a tightening in financial conditions, including a notable reduction in DTIs' liquid balances held at the central bank, increases in market interest rates and a slower pace of movement in the exchange rate. Credit conditions offered by the banking system however eased marginally during the December 2022 quarter as institutions attempted to increase lending to meet profit targets. In this context, interest rates on new loans increased only marginally over the quarter. Indications from Bank of Jamaica's survey are that credit demand and supply are projected to increase in the March 2022 quarter.*

*Of note, DTIs' credit to the private sector increased by 6.6 per cent for the year ended-February 2022. Loans to the household sector continued to dominate the DTIs' loan portfolio. Mortgage loans were the main driver of growth in household loans for the review period.*

*Notwithstanding these macroeconomic risks, financial institutions continued to reflect resilience. DTI's maintain adequate levels of capital up to February 2022, while other financial soundness indicators such as liquidity and profitability, while falling, remained relatively strong. Asset quality for the overall loan portfolio, and the household sector in particular, remained below prudential benchmarks, even as the stock of loans under moratoria continued to decline. Systemic risks associated with the financial cycles have moderated while maturity mismatch and liquidity ratios remained in line with historical averages. Network statistics of the financial system showed no notable changes in contagion risks.*

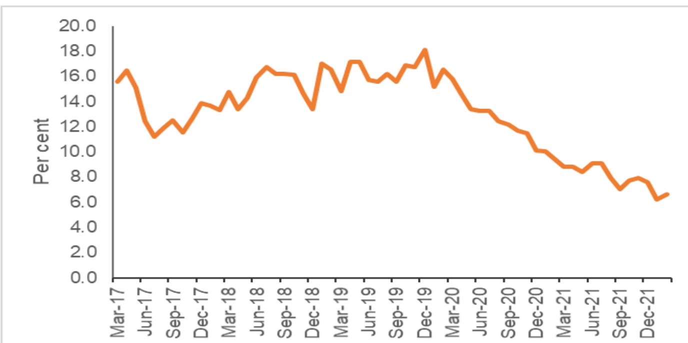
*As it relates to interest rate risk, even while financial institutions continue to proactively manage their portfolios, these entities are well capitalised to withstand the potential impact of tightened monetary policy on their balance sheets.*

## Objective 1 – Mitigate and prevent excessive credit growth and leverage

1.1 Annual growth in DTIs' credit to the private sector was 6.6 per cent for the year ended-February 2022, compared to annual growth of 7.6 per cent for the calendar year ended-December 2021 (see Chart 1.0).

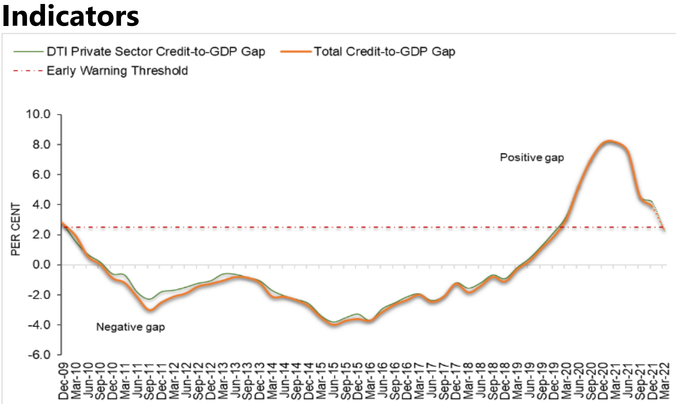
1.2 The credit-to-GDP gap fell to 4.2 per cent at end-December 2021 relative to 4.6 per cent at end-September 2021, (see Chart 1.1).[1] The credit-to-GDP gap remained below the Bank of International Settlements' (BIS) upper threshold of 10.0 per cent, which suggests the absence of risks related to the trade cycle. The credit-to-GDP gap is estimated to have decreased further by 1.9 percentage points to 2.2 per cent at end-March 2022.[2]

**Chart 1.0 Annual Growth in DTIs' Credit to the Private Sector**




*Source: Bank of Jamaica*

**Chart 1.1 Evolution of Credit-to-GDP Gap Indicators**




*Source: Bank of Jamaica*

1.3 The leverage metric for the DTI sector, which measures the extent to which financial institutions use debt to fund expansion, increased by 5.8 per cent over the two month period, reflecting DTIs' increased use of debt to fund operations (see Chart 1.2).[3] The increase in the metric for DTIs was due a growth in total financial assets and a decline in equity.[4] This performance was driven by DTIs' directing significant deposit inflows into cash, bank balances (mainly overseas), investments (mainly BOJ, GOJ and foreign government securities), while reducing the supply of credit to the market.

1.4 The leverage metric for the non-deposit taking financial institutions (NDTFI) sub-sectors showed mixed results for the period ended December 2021. Leverage for the securities dealer and the life insurance sub-sectors was stable for the review period, increasing by 16.6 and 0.5 percentage points, respectively, relative to end September 2021. The performance for the securities dealer sub-sector was primarily due a faster pace of decline in equity relative to the decline in total financial assets.[5]

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[1] The credit-to-GDP gap indicator measures the deviation of credit-to-GDP from its long-term trend. It is a systemic risk indicator associated with financial cyles which signals the extent of credit risk accumulation. Total credit used to calculate the credit-to-GDP gap is comprised of private sector credit plus corporate securities held by DTIs plus public sector credit. Nominal GDP is annualised by calculating a 4 quarter moving sum.

[2] This estimate is based on estimated growth in credit and nominal GDP for the March 2022 quarter of 2.0 per cent and 4.4 per cent, respectively.

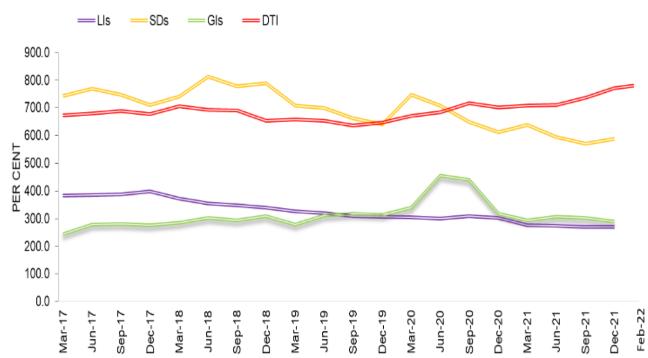
[3] Leverage is calculated as total financial assets/equity.

[4] At end February 2022 total financial assets increased by 4.6 per cent, while there was a 1.2 per cent decline in equity.

[5] The decline in total financial assets was driven by a 9.4% reduction in short term assets at end 2021, primarily as a result of declines in investments, and loans & advances.

1.5 For the life insurance sector, the increase in leverage was due to a faster pace of growth in total financial assets relative to the growth in equity. The leverage metric for the general insurance sub-sector declined by 3.9 per cent, driven by a decline in total financial assets[6] in a context where there was an increase in equity (see Chart 1.2).[7]

**Chart 1.2 Leverage – DTIs, securities dealers, life and general insurance companies**



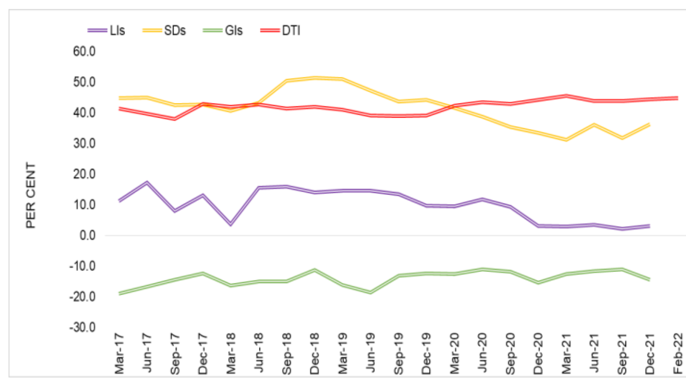

*Source: Bank of Jamaica*

## Objective 2 – Mitigate and prevent excessive maturity mismatches and market illiquidity

2.1 The maturity transformation ratio for the DTI sector, which measures the maturity mismatch between assets and liabilities, remained relatively stable, increasing by 0.3 percentage point to 44.7 per cent for the two-month period ended-February 2022 (see Chart 2.0).[8] This outturn remained in line with historical averages.

2.2 The maturity transformation risk metric for the NDTFIs reflected mixed results for the quarter ended December 2021 (see Chart 2.0). The maturity mismatch ratio for the life insurance and securities dealers' sub-sectors increased to 50.4 per cent and 14.4 per cent, respectively, while the ratio for the general insurance sub-sector increased by 3.5 percentage points, relative to end-September 2021 (see Chart 2.0). The performance in the maturity mismatch ratios for the life insurance and securities dealers' sub-sectors resulted from an increase in long-term assets relative to a decline long-term liabilities and equity. The maturity transformation metric for the general insurance sector improved (fell) over the review quarter and reflected a faster pace of growth in long-term liabilities and equity relative to the decline in long-term assets.[9]

**Chart 2.0 Maturity transformation (long term) DTIs, securities dealers, life and general insurance companies**




*Source: Bank of Jamaica and Financial Services Commission*

[6] The decline in total financial assets for the general insurance sub sector was due to a 3.1 % reduction in long term assets for the review period.

[7] Equity grew for the life insurance and general insurance sub-sector by 3.2 per cent, and 1.8 per cent respectively,while there was a 3.6 deline for SD. Total financial assets declined for the GI and SD sub-sectors by 2.2 per cent and 0.8 per cent, while there was 3.4 increase for the life insurance sub-sector at end December 2021.

[8] Maturity Transformation (Long term) = (long term assets - long term liabilities - nonredeemable equity) / total financial assets. Long-term assets, long-term liabilities and total financial assets increased by 4.6 per cent, 4.9 per cent, and 4.7 per cent respectively, while equity decline by 1.2 per cent.

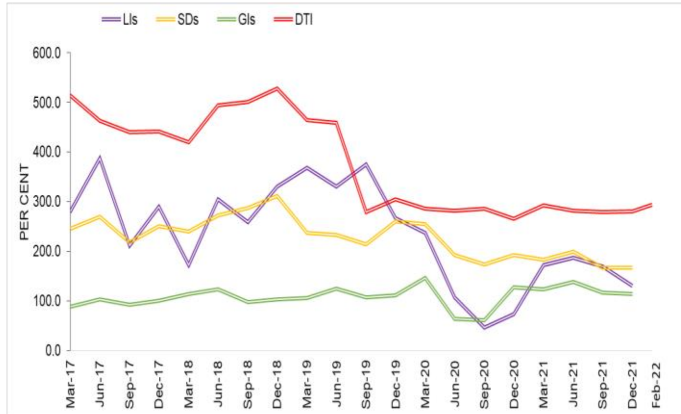
[9] The increase in equity was due to institutions' market decision to diversify their portfoloio and position theselves to take opportunities in the local and foreign equities market.-

2.3 The liquidity transformation risk metric for the DTI sector, which measures the extent of coverage of short-term liabilities by liquid assets increased by 13.7 percentage points to 294.4 per cent at end-February 2022, relative to end-December 2021.[10] This was primarily driven by a greater than proportional increase in short-term liabilities relative to liquid assets due to a rise in deposits (see Chart 2.1).[11]

2.4 The liquidity coverage ratio (LCR) also showed that DTIs' liquidity levels remained robust.[12] At end-February 2022, all DTIs exceeded the LCR benchmark of 100.0 per cent with an average ratio for the sector of 320.1 per cent, relative to 390.4 per cent at end-2021. With regard to the Jamaican dollar denominated LCR, an average ratio of 240.6 per cent was recorded at end-February 2022 relative to 250.8 per cent at end-December 2021.

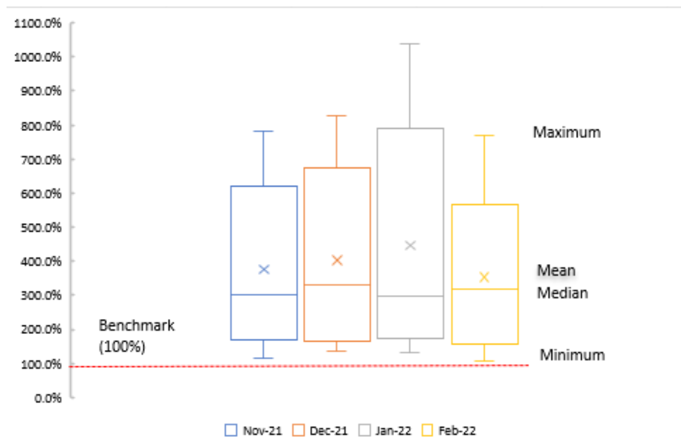
2.5 The liquidity transformation risk metric for the securities dealers and insurance sectors generally improved for the quarter ended-December 2021 (see Chart 2.1). This improvement was mainly due to a faster pace of growth in liquid assets, relative to short-term liabilities.[13] The increase in these institutions' holdings of liquid assets was largely due to the uncertainty surrounding the pandemic.

**Chart 2.1 Liquidity Transformation – DTIs, securities dealers, life and general insurance companies**




*Source: Bank of Jamaica and Financial Services Commission*

**Chart 2.2 Liquidity Coverage Ratio (JMD and USD Equivalent) at end-February 2022 – DTIs**




*Source: Bank of Jamaica*

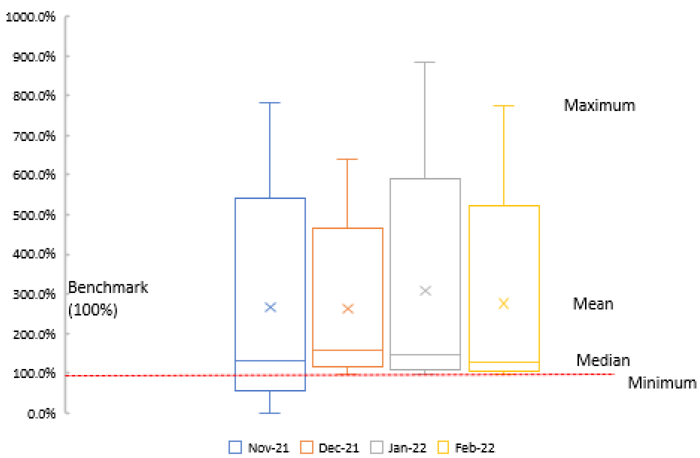
[10] Liquidity Transformation = short term liabilities [≤ 30 days] / liquid assets. Liquid assets include high quality liquid assets, such as cash and equivalents, short-term investments and government securities with a 0% risk-weight.

[11] Short-term liabilities and liquid assets for the DTI subsector increased by 5.9 per cent and 0.9 respectively at end December, relative to September 2021. Notwithstanding the proprtionally faster increase in liquid liabilities, the skewness in the distribution of liquidity among DTIs caused a rise in market interest rates.

[12] LCR is a requirement under Basel III whereby banks are required to hold an amount of high-quality liquid assets that's enough to fund cash outflows for 30 days.

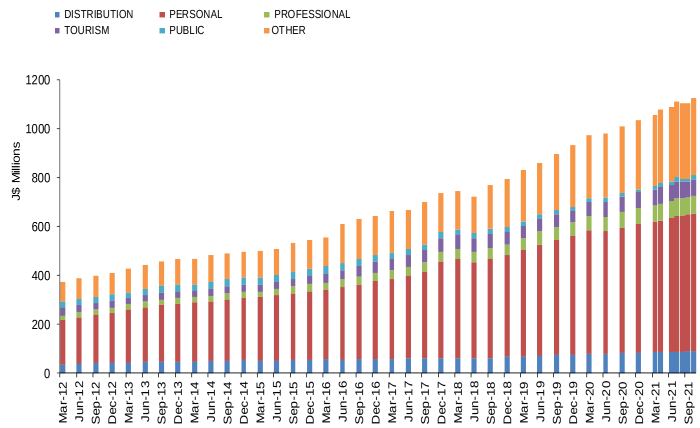
[13] Specifically, liquid assets for the life insurance, general insurance and securities dealers' sub-sectors increased by 28.8 per cent, 2.7 per cent and 0.2 per cent, respectively, for the December 2021 quarter.

**Chart 2.3 Liquidity Coverage Ratio (JMD only) at end-February 2022 – DTIs**




*Source: Bank of Jamaica*

**Chart 3.1 Loan Concentration- Selected Industries**




*Source: Bank of Jamaica*

## Objective 3 – Limit direct and indirect exposure concentrations & misaligned incentives

3.1 Household loans at end-February 2022, which consists of consumer and residential mortgage loans, increased by 5.5 per cent relative to the stock at end-December 2021. Household loans continued to account for the largest share of the DTIs' loan portfolio (see Chart 3.1).[14] The increase in personal loans was primarily driven by growth of 7.6 per cent in residential mortgage loans over the review period. The growth in residential mortgage loans was partly influenced by strong competition among DTIs in the mortgage market as well as favourable adjustments in the NHT's credit conditions.[15]

**Chart 3.2 Decomposition of Household Debt**


*Source: Bank of Jamaica*

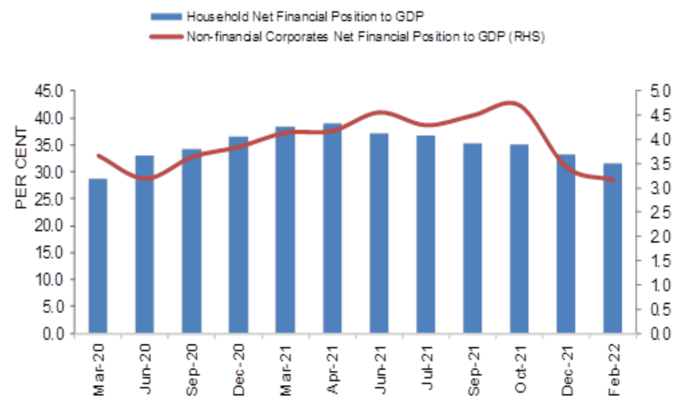
[14] Personal Loans is used as a measure of household debt. It excludes NHT loans.

[15] The growth in residential mortgage loans contributed to an increase in household mortgage loans as a share of overall personal loans to 46.2 per cent at end-February 2022 relative to 45.3 per cent at end-December 2021 (see Chart 3.2). This increased exposure is reflective of a greater appetite for this type of lending among some of the DTIs.

The quality of the household sector's loan extended by DTIs remained relatively unchanged over the review period. Households' non-performing loans (NPLs) to total household loans declined by 0.2 percentage point to 3.5 per cent at end-February 2022, relative to end-December 2021. Furthermore, the ratio of household past due loans to total household loans fell to 3.5 per cent at end-February 2022 compared with 3.6 per cent at end-December 2021. This outturn was primarily driven by greater growth in total household loans (5.5 per cent), relative to the growth in households' past due loans (4.4 per cent).[16]

3.2 Debt sustainability measures for households' and non-financial corporates (NFCs) showed mixed results over the review period. More specifically, households' net financial position to GDP at end-February 2022 reflected a decline by 1.4 percentage point to 31.9 per cent, relative to end-December 2021. This decline was due to a stronger increase in GDP, relative to an increase in households' net financial position. On the other hand, the NFCs' net financial position to GDP decreased marginally relative to end-2021, by 0.3 percentage point to 3.2 per cent. The decrease in the ratio was primarily due to an increase in NFCs' liabilities for the review period.

**Chart 3.3 Household and NFC Net Financial Positions**[17]




*Source: Bank of Jamaica*

3.3 At end-February 2022, the DTI sector recorded a net open *short* position of 14.6 per cent relative to a short position of 16.9 per cent at end-December 2021. This was within the prescribed range of +15 per cent/-25 per cent established by the Bank (see Chart 3.5).

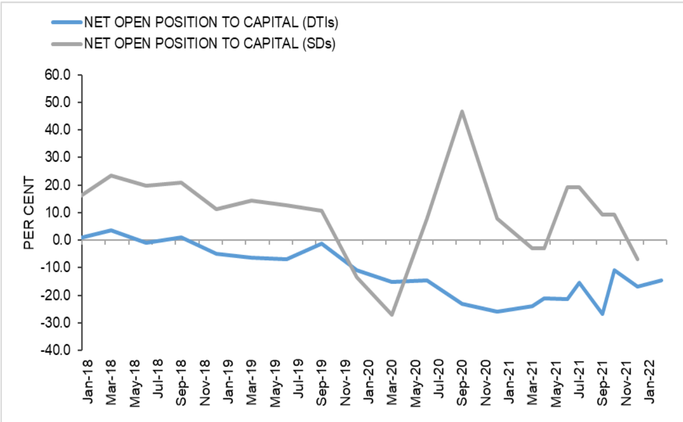
3.4 On the other hand, securities dealers recorded a net open *short* position of 6.9 per cent of capital at end-December 2021, compared to a net open *long* position of 9.2 per cent of capital at end-September 2021. This change was due to increased holdings of USD-denominated liabilities by one entity affiliated to DTI groups.[18]

[16] At end-February 2022, households accounted for 13.5 per cent of the outstanding loans offered by DTIs which were under moratoria. Meanhile, no moratoria on loans were extended to large corporates by DTIs, but loans extended to medium and small businesses as well as micro enterprises accounted for approximately 86.5 per cent of total moratoria loans at end February 2022.

[17] (i) Net financial position = financial assets minus financial liabilities; (ii) financial assets for NFCs include: deposits and repo liabilities; (iii) financial liabilities for NFSCs include: NFC loans and non-exempt distributions; (iv) financial assets for households include: pension holdings, deposits, retail repos, life assurance and annuity contracts and policyholder funds on deposit; (v) financial liabilities for households include: consumer loans and mortgage loans.

[18] The higher volatility in the securities dealers' NOP during the pandemic is largely attributable to the actions of a few large players in the market and is reflective of constant portfolio adjustments to meet client needs.

**Chart 3.4 Net Open Position to Capital**[19]




*Source: Bank of Jamaica*

## Objective 4 – Limit the impact of interconnectedness and systemic importance

4.1 During the December 2021 quarter, there was a slight reduction in interconnectivity and counterparty risks. The dollar value of funding exposures within the domestic financial network decreased by 6.0 per cent to $320.8 billion at end-December 2021, relative to $340.8 billion at end-September 2021 (see Table 4.0).

4.2 In this context, there was a reduction in systemic risk within the network, as the systemic risk score declined to 4.9 per cent at end-2021, relative to 5.5 per cent at end-September 2021. This was due to a lower concentration of risk within key financial institutions in the network. Similarly, there was a decrease in the fragility score of 0.8 percentage points to 16.3 per cent (see Chart 4.0).[20] Notably, the reciprocated links and density of the DTIs' and securities dealers' funding network decreased to 50.7 per cent and 30.7 per cent, respectively, at end-2021, compared to 57.5 per cent and 31.6 per cent at end- September 2021 (see Table 4.0 and Chart 4.1).

4.3 Funding transactions among group affiliates and foreign institutions remained the main sources of systemic risk. There was an increase in exposures among group affiliates over the review period. Foreign institutions' funding of the domestic network was $169.6 billion at end-December 2021, relative to $170.8 billion at end-September 2021.

[19] The increase in Oct 2020 was mainly attributable to an entity affiliated to a DTI group holding a significant amount of "Other currency" assets

[20] The systemic risk score utilizes an adjacency matrix (which quantifies the influence of each institution) to capture the interconnectedness of the institutions in the system, by aggregating each institutions' contribution to systemic risk. Fragility refers to how quickly the failure of any one institution would trigger failures across the network. The greater the degree of concentration in a few institutions the higher the fragility. Scores above 2 are considered fragile.

**Table 4.0 Descriptive statistics of the financial institutions "funding to" exposures network**[21,22]

| J$'000 | Sep-21 | Dec-21 |
|---|---|---|
| Total System Funding to Exposure | 340,821,856 | 320,780,059 |
| Total Funding of Highest Lender | 47,605,067 | 55,692,139 |
| Maximum Single Transaction | 26,342,284 | 29,777,644 |
| | Network Metrics | |
| Network Mean | 737,710 | 694,329 |
| Reciprocity (%) | 57.5 | 50.7 |
| Density (%) | 31.6 | 30.7 |
| Systemic Risk Score | 5.5 | 4.9 |
| Fragility Score | 17.1 | 16.3 |
| Diameter[23] | 6 | 6 |
| Articulation Points | 1 | 1 |

*Source: Bank of Jamaica*

## Objective 5 – Strengthen the resilience of the financial system

5.1 Capital adequacy remained well above prudential requirements across the financial system. The DTI sector's capital adequacy ratio was 14.1 per cent at end-February 2022, relative to 14.2 per cent at end-December 2021. The securities dealers' sub-sector reflected a CAR of 23.3 per cent at end-February 2022, relative to 21.4 per cent at end December 2021. In addition, the general insurance sub-sector had a Minimum Capital Test ratio of 276.7 per cent, which exceeded the 250.0 per cent regulatory minimum. The life insurance sub-sector recorded a Minimum Continuing Capital Surplus Requirement of 211.2 per cent at end-December 2021, which was well above the regulatory benchmark of 150.0 per cent (see Appendix – Table 1.0).

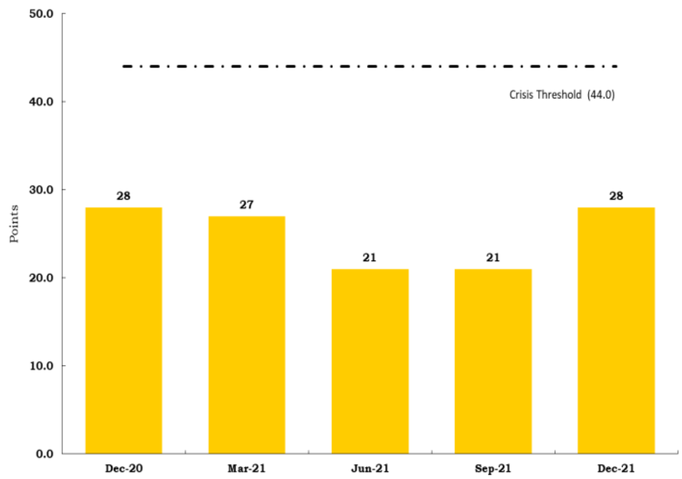
5.2 There was a marginal reduction in financial institutions' earnings and profitability for the December 2021 quarter. DTIs' and securities dealers' return on assets (ROA) both decreased to 0.3 per cent for the December 2021 quarter, relative to 0.6 per cent for the two sub-sectors for the September 2021 quarter. These outturns were primarily due to lower growth in profits, relative to growth in assets.

5.3 Aggregate measures of financial stability in Jamaica showed mixed results for the December 2021 quarter. The macro-financial index (MaFI) deteriorated to 28.0 points for the December 2021 quarter relative to 21.0 points for the previous quarter. There was increased volatility in exchange rates, which moved to a signal of 5.0 points at end-December 2021, from a signal of 2.0 points at end-September 2021. Furthermore, there was slower annual growth in the stock market at end-2021 relative to end-September 2021 (see Chart 5.1).

[21] Network Metrics (reciprocity, density, systemic and fragility score, diameter and articulation points) are based on a network without foreign transactions.
[22] Network Metrics as at September 2021 include DTIs and the ten main SDs.

[23] Diameter indicates the "speed" of contagion, the more institutions on the diameter the slower the "speed" of contagion.

**Chart 5.1 Macro-Financial Index**[24]




*Source: Bank of Jamaica*

***Stress Test Results:***

5.4 Stress test results for market risk and credit risk shocks to DTIs' balance sheets showed that these institutions were generally robust to the hypothetical shocks.

5.5 Stress simulations on the interbank funding network involving the default of any one institution on its credit obligations to the others indicated that, on average, financial institutions within the network would experience a 3.1 per cent loss in their capital at end December 2021.

## Outlook

6.1 Jamaica's economic activity continued to recover. For the December quarter, real GDP grew by 6.7 per cent. Furthermore, for the FY 2021/2022, real GDP is anticipated to increase in the range 7 – 10 per cent. The projections for FY2022/2023 envisage growth in the range 2 – 4 per cent.

6.2 Financial soundness indicators have remained robust. In particular, DTIs' capitalization, remained comfortably above the relevant prudential benchmarks while liquidity levels have remained adequate.

6.3 Geopolitical tensions continue to rise as well as supply chain disruptions leading to rising commodity prices internationally and, with it, higher domestic inflation. These effects are projected to persist in the near term and as such have been met with tighter monetary policy aimed at limiting the second-round effects from these commodity price shock.

6.4 The stress tests carried out in light of these risks suggest that the financial sector will remain largely resilient to the contemplated tail events.

[24] The MaFI is a signal-based index computed using scores for indicators based on the number of standard deviations of each indicator from its 'tranquil period' mean value. The tranquil period for both indices spans the period March 2002 to March 2003. The scores range from 0 to 5 with a score of 5 representing the most severe signal. The higher the aggregate score, the more severe the signal.

# Appendix

## Table 1.0 Select Financial Soundness Indicators

| | Sep-20 | Dec-20 | Mar-21 | Jun-21 | Sep-21 | Dec-21 | Jan-22 | Feb-22 |
|---|---|---|---|---|---|---|---|---|
| **Asset to GDP (%)** | | | | | | | | |
| DTI | 100.64 | 102.89 | 106.91 | 105.42 | 104.37 | 105.59 | 106.50 | 106.60 |
| SDs | 33.49 | 35.21 | 36.18 | 35.64 | 35.70 | 35.67 | 36.08 | 35.97 |
| LIs | 18.11 | 18.67 | 19.08 | 18.35 | 17.99 | 18.25 | n/a | n/a |
| GIs | 4.75 | 4.67 | 4.65 | 5.13 | 4.92 | 4.69 | n/a | n/a |
| **Capital Adequacy (%)** | | | | | | | | |
| DTI (CAR) | 14.23 | 14.31 | 14.33 | 14.26 | 14.35 | 14.15 | 14.17 | 14.12 |
| SDs (CAR) | 22.37 | 22.33 | 21.77 | 19.82 | 21.64 | 21.44 | 22.81 | 23.26 |
| LIs (MCSSR) | 207.21 | 214.63 | 214.98 | 204.97 | 210.77 | 211.15 | n/a | n/a |
| GIs (MCT) | 263.14 | 281.14 | 266.41 | 277.37 | 276.73 | 276.73 | n/a | n/a |
| **ROA (%)** | | | | | | | | |
| DTI | 0.27 | 0.56 | 0.36 | 0.89 | 0.62 | 0.32 | 0.11 | 0.12 |
| SDs | 0.91 | 0.74 | 0.63 | 0.87 | 0.62 | 0.26 | 0.03 | n/a |
| LIs | 4.73 | 3.42 | 1.31 | 1.23 | 2.66 | 2.35 | n/a | n/a |
| GIs | 0.63 | 0.65 | 0.38 | 0.63 | 0.40 | 0.53 | n/a | n/a |
| **Liquidity (%)** | | | | | | | | |
| DTIs Liquidity Coverage Ratio (LCR) | 204.43 | 211.33 | 211.78 | 258.20 | 259.20 | 260.20 | 254.92 | 226.87 |
| DTIs (liquid assets to short term liabilities) | 28.14 | 30.54 | 28.56 | 28.19 | 28.34 | 27.84 | n/a | n/a |
| SDs (liquid assets to total assets) | 15.59 | 14.63 | 14.89 | 13.99 | 15.33 | 13.39 | n/a | n/a |
| LIs (liquid assets to total liabilities) | 23.39 | 21.08 | 23.52 | 22.67 | 22.17 | 24.86 | n/a | n/a |
| GIs (liquid assets to total liabilities) | 64.68 | 63.86 | 65.16 | 65.56 | 64.81 | 67.76 | n/a | n/a |
| **Non-Performing Loans to Total Loans (%)** | | | | | | | | |
| DTIs | 2.65 | 2.84 | 2.89 | 2.90 | 2.99 | 2.92 | 2.95 | 2.94 |
| SDs | 0.00 | 2.40 | 2.60 | 2.50 | 1.37 | 0.75 | n/a | n/a |
| **Past Due Loans to Total Loans (%)** | | | | | | | | |
| DTIs | 4.85 | 2.99 | 3.36 | 3.74 | 2.99 | 2.58 | 4.12 | 4.35 |

NB: SDs ROA as at end-January 2022 represents monthly calculations and not quarterly as represented prior.

*Source: Bank of Jamaica and Financial Services Commission*

## Heat Maps of Core Indicators

The below tables provide the values over time of core indicators associated with macro-prudential assessment objectives. Each indicator is ranked according to five percentiles based on the empirical distribution of historical values. Each percentile is shaded according to the below key.

0 – 20%, 21% – 40%, 41% – 60%, 61% – 80%, 81% – 100%

**Objective 1:** Core indicators associated asset price and credit boom-bust cycles

| | | | Dec-19 | Mar-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 | Sep-21 | Dec-21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Objective 1: Mitigate and prevent excessive credit growth and leverage** | **Credit-to-GDP measures[1/]** | DTI private credit-to-GDP gap | 3.40 | 4.44 | 5.01 | 7.52 | 8.07 | 8.13 | 7.53 | 4.55 | 4.18 |
| | | Total credit-to-GDP gap | 3.13 | 4.32 | 4.92 | 7.45 | 8.12 | 8.18 | 7.55 | 4.55 | 3.89 |
| | **Credit Indicators: year-on-year growth (%)** | Total Credit | 16.36 | 15.85 | 12.44 | 11.15 | 10.05 | 6.83 | 6.83 | 7.08 | 7.08 |
| | | DTI Credit to Households | 16.29 | 16.74 | 10.48 | 7.59 | 8.71 | 5.06 | 6.40 | 4.80 | 5.56 |
| | | DTI Credit to Non-financial Corporates | 19.04 | 14.61 | 15.12 | 17.76 | 11.98 | 10.44 | 5.36 | 1.74 | 12.17 |
| | **Leverage 2[/]** | DTI | 647.14 | 670.49 | 684.38 | 716.62 | 702.72 | 709.42 | 710.89 | 737.13 | 710.89 |
| | | SDs | 641.64 | 746.55 | 708.75 | 650.39 | 612.68 | 638.61 | 594.53 | 571.96 | 594.53 |
| | | LIs | 306.74 | 305.08 | 300.90 | 309.84 | 301.99 | 297.12 | 297.00 | 269.28 | 269.28 |
| | | GIs | 312.74 | 340.65 | 456.21 | 440.14 | 317.96 | 293.74 | 306.52 | 298.63 | 301.53 |

[1/] Total credit is DTI credit plus public sector credit (gross loans to public sector)

[2/] Leverage = (total financial assets) / equity

## **Objective 2:** Core indicators associated with the intermediation of funds

| | | | Dec-19 | Mar-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 | Sep-21 | Dec-21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Objective 2: Mitigate and prevent excessive maturity mismatches and market illiquidity | Cumulative Maturity Gap to Total Assets (%) | DTIs - up to 30 days | -40.48 | -42.12 | -42.71 | -38.24 | -40.26 | -40.36 | -41.32 | -40.04 | -39.62 |
| | | DTIs - up to 90 days | -42.41 | -44.56 | -44.96 | -42.23 | -42.92 | -44.02 | -45.90 | -45.23 | -43.93 |
| | | DTIs - up to 365 days | -40.33 | -43.83 | -44.36 | -43.73 | -44.87 | -44.42 | -45.92 | -44.29 | -42.27 |
| | | SDs - up to 30 days | -22.52 | -20.27 | -16.01 | -9.34 | -13.79 | -15.86 | -14.82 | -11.16 | -9.84 |
| | | SDs - up to 90 days | -37.41 | -33.90 | -30.35 | -25.57 | -28.82 | -31.38 | -28.48 | -24.26 | -21.22 |
| | | SDs - up to 365 days | -42.88 | -46.28 | -37.28 | -31.86 | -32.74 | -31.82 | -33.73 | -27.85 | -33.13 |
| | Maturity Transformation (%)[1/] | DTI - MT1 | 39.07 | 42.27 | 43.35 | 42.84 | 44.24 | 45.42 | 43.78 | 43.71 | 44.41 |
| | | SDs - MT1 | 44.19 | 41.60 | 38.77 | 35.28 | 33.53 | 31.14 | 36.03 | 31.71 | 36.19 |
| | | LIs - MT1 | 9.67 | 9.57 | 11.68 | 9.31 | 3.07 | 2.16 | 2.75 | 2.12 | 3.18 |
| | | GIs - MT1 | -12.39 | -12.51 | -11.12 | -11.81 | -15.36 | -12.51 | -11.68 | -11.13 | -14.48 |
| | Liquidity Transformation (%)[2/] | DTI - LT3 | 305.02 | 285.98 | 281.91 | 286.00 | 265.37 | 292.44 | 281.72 | 280.18 | 281.05 |
| | | SDs - LT3 | 260.53 | 255.43 | 193.07 | 173.47 | 193.14 | 183.13 | 199.27 | 167.46 | 167.20 |
| | | LIs - LT3 | 267.62 | 236.99 | 107.74 | 46.68 | 74.28 | 86.97 | 88.60 | 169.50 | 130.83 |
| | | GIs - LT3 | 112.23 | 147.51 | 64.65 | 61.61 | 128.32 | 123.72 | 138.47 | 122.59 | 114.32 |

[1/] MT1 = (long term assets - long term liabilities - nonredeemable equity) / total financial assets
[2/] LT3 = short term liabilities [≤ 30 days] / liquid assets [broad]

**Objective 3:** Core indicators associated with exposure concentrations

| | | | Dec-19 | Mar-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 | Sep-21 | Dec-21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Objective 3: Limit direct and indirect exposure concentrations | Exposure to Financial Markets (%) | Composite Indicator of Systemic Stress | 0.32 | 0.45 | 0.34 | 0.38 | 0.39 | 0.38 | 0.32 | 0.29 | 0.40 |
| | | DTIs - Net open position to capital | -10.77 | -15.41 | -14.63 | -23.10 | -26.02 | -23.94 | -21.47 | -26.78 | -16.86 |
| | | Securities Dealers - Net open position to capital | -13.31 | -27.07 | 7.75 | 46.87 | 7.75 | -2.96 | 19.14 | 9.16 | -6.91 |
| | Exposure to Sovereign Risk (%) | DTIs - Public Sector Debt to total assets | 10.02 | 8.33 | 9.40 | 9.65 | 10.11 | 9.88 | 9.72 | 10.00 | 9.32 |
| | | Securities Dealers - Public Sector Debt to total assets | 18.55 | 17.32 | 16.05 | 14.98 | 14.63 | 15.47 | 15.14 | 15.27 | 15.45 |
| | | Insurance Companies - Public Sector Debt to total assets | 29.60 | 29.48 | 37.78 | 37.48 | 24.39 | 36.47 | 35.29 | 35.62 | 36.44 |
| | Exposure to Households and Corporates (%) | Household debt to GDP | 31.09 | 32.08 | 31.72 | 34.62 | 35.66 | 36.85 | 38.44 | 37.29 | 36.90 |
| | | Household Net Financial Position to GDP | 18.61 | 19.34 | 20.05 | 24.75 | 25.60 | 36.65 | 38.97 | 36.54 | 34.42 |
| | | Corporate debt to GDP | 13.17 | 13.43 | 14.00 | 15.26 | 15.90 | 20.22 | 20.67 | 19.65 | 21.39 |
| | | Corporate Net Financial Position to GDP | 5.37 | 5.77 | 5.44 | 7.72 | 8.03 | 4.14 | 4.79 | 4.67 | 2.10 |
| | Exposure to Real Estate (%) | DTIs - Mortgages to Assets | 10.60 | 11.35 | 10.94 | 10.77 | 11.14 | 11.26 | 11.19 | 11.31 | 11.48 |

**Objective 4** Core indicators associated with systemic importance and interconnectedness

| | | | Dec-19 | Mar-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 | Sep-21 | Dec-21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Objective 4: Limit the impact of interconnectedness, systemic importance and misaligned incentives | Systemically Important Financial Institutions (SIFIs) | Total SIFI group assets to total system assets | 64.15 | 64.88 | 64.37 | 67.90 | 66.58 | 76.95 | 77.26 | 76.87 | 77.00 |
| | Non-Deposit Taking Financial Institution (NDTFIs) | NDTFIs asset share to total system assets | 36.40 | 35.74 | 36.50 | 35.89 | 36.27 | 35.98 | 35.93 | 35.96 | 35.70 |
| | Dollarization Indicators (%) | FX investment holdings to total investment - SDs | 47.54 | 46.64 | 54.87 | 55.77 | 55.95 | 53.35 | 55.98 | 53.14 | 53.66 |
| | | FX loan & investment holdings to total investment - DTIs | 30.14 | 31.12 | 32.14 | 30.82 | 30.44 | 31.97 | 31.73 | 30.83 | 32.11 |
| | | FX deposits to total deposits - DTIs | 38.13 | 39.01 | 39.41 | 39.42 | 38.65 | 38.50 | 38.90 | 38.82 | 39.64 |

**Objective 5** Core indicators associated with resilience of financial institutions and the macro-financial environment.

| | | | Dec-19 | Mar-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 | Sep-21 | Dec-21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Objective 5: Strengthen the resilience of the financial system & infrastructure | Composite Indices | Macro-Financial Index | 23.00 | 26.00 | 34.00 | 34.00 | 34.00 | 22.00 | 21.00 | 21.00 | 28.00 |
| | | Micro-Prudential Index - DTIs | 25.00 | 28.00 | 27.00 | 25.00 | 23.00 | 26.00 | 21.00 | 26.00 | 25.00 |
| | | Banking Stability Index | 0.06 | -0.11 | -0.23 | -0.01 | 0.35 | -0.11 | 0.40 | 0.21 | -0.16 |
| | | Aggregate Financial Stability Index | 0.50 | 0.48 | 0.46 | 0.55 | 0.50 | 0.58 | 0.60 | 0.54 | 0.53 |