



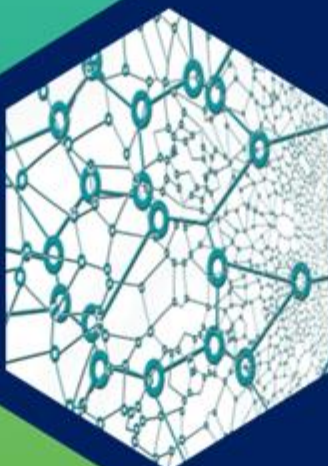
MITIGATE AND PREVENT EXCESSIVE CREDIT GROWTH AND LEVERAGE

MITIGATE AND PREVENT EXCESSIVE MATURITY MISMATCHES AND MARKET ILLIQUIDITY



LIMIT DIRECT AND INDIRECT EXPOSURE CONCENTRATIONS

LIMIT THE IMPACT OF INTERCONNECTEDNESS, SYSTEMIC IMPORTANCE AND MISALIGNED INCENTIVES



STRENGTHEN THE RESILIENCE OF THE FINANCIAL SYSTEM & INFRASTRUCTURE

# Macroprudential Policy Report

## *Highlights*

October 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

*While the Jamaican economy continued to record strong growth for the calendar year to the September 2022 quarter, inflation accelerated. Growth of 2.5 – 3.5 per cent is anticipated for the September 2022 quarter, following expansions of 6.5 per cent and 4.8 per cent recorded in the March and June 2022 quarters, respectively. The expansion in the economy has been principally driven by the performance of the tourism sector, supported by strong remittance inflows. Inflation, on the other hand, rose from an annual average of 7.4 per cent at March 2022 to 9.9 per cent at September 2022, above the central bank's target range of 4.0 – 6.0 per cent.*

*In the context of the performance of the economy, the financial system up to end-August 2022 remained generally stable. Financial institutions continued to be adequately capitalized, liquid and profitable. In addition, asset quality for the banking sector remained stable and well below the prudential benchmark. Systemic risks associated with financial cycles and the system's exposure to selected sectors continued to moderate.*

*Macro-financial risk emanating from continued monetary tightening and fears of a global recession have, however, risen. Driven by a surge in - and the uncertain outlook for - inflation, the pace of monetary tightening among Jamaica's main trading partners accelerated during the September 2022 quarter. Domestic financial institutions were, however, adequately capitalised to withstand these shocks.*

*Stress testing exercises on the impact of rising interest rates (or falling bond prices) and on a potential synchronised downturn in the global economy (including Jamaica) indicate that the financial sector remains broadly resilient to the contemplated shocks.*

*However, in the context of elevated risks, the supervisors of the financial system have continued their heightened surveillance of the financial system*

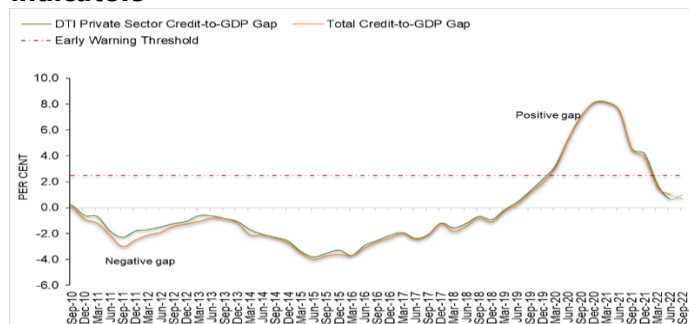
*and are working to ensure that the residual risks to the system from these potential shocks are mitigated.*

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

1.1 **There was a further moderation in credit risks related to the trade cycle in Jamaica during the June and September 2022 quarters.** The credit-to-GDP gap metric fell to 0.7 per cent at end-June 2022, relative to 1.8 per cent at end-March 2022 (see **Chart 1.0**) and is estimated to have remained broadly stable at end-September.<sup>1, 2</sup> The credit-to-GDP gap remained below the Bank of International Settlements' (BIS) upper threshold of 10.0 per cent and the BOJ early warning threshold of 2.5 per cent for trade-cycle-related credit risks.

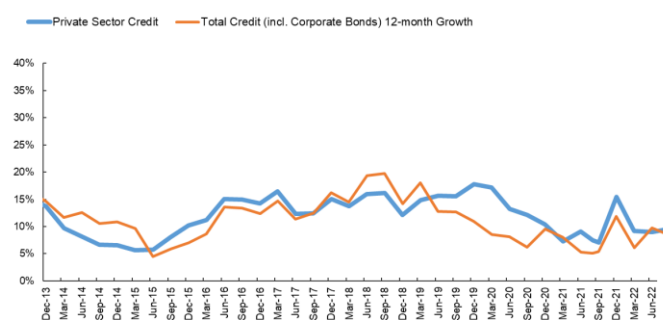
1.2 **The performance of the metric reflected an acceleration in credit growth.** Total credit, which includes corporate bond issues and public sector credit, grew by 8.8 per cent for the year ended August 2022, relative to growth of 9.7 per cent for the year ended June 2022.<sup>3</sup> Private sector credit, however, grew at an annual rate of 9.4 per cent at August 2022, which was faster than the 9.0 per cent growth recorded for the year ended June 2022 (see **Chart 1.1**).<sup>4</sup>

**Chart 1.0 Evolution of credit-to-GDP gap indicators**



Source: Bank of Jamaica

**Chart 1.1 Annual growth in credit**



Source: Bank of Jamaica

<sup>1</sup> 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 cycles 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. The trend in credit/GDP is estimated using the Hodrick Prescott (HP) filter data smoothing econometric technique.

<sup>2</sup> The credit to GDP gap is estimated to have increased slightly by 0.3 percentage points to 1.0 per cent. This estimate is based on estimated growth (Q-t-Q) in credit and nominal GDP for the September 2022 quarter of 2.0 per cent and 1.9 per cent, respectively.

<sup>3</sup> The annual growth in corporate bond issues at end-April 2021 was 9.0 per cent, while public sector credit decreased by 8.2 per cent over the same period.

<sup>4</sup> Private sector credit is measured as DTIs' loans and advances to the private sector excluding credit to overseas residents and other financial institutions. Total DTI credit includes private sector credit plus credit issued to the public sector plus DTIs' holdings of corporate bond issues via exempt distribution. Exempt distribution data was only available up to end-June 2022.

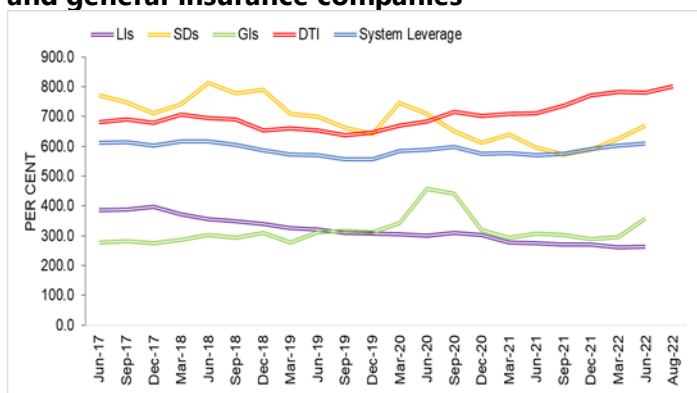
- 1.3 **For the two-month period ending August 2022, the leverage metric for the DTI sector increased further** by 20.4 percentage points to 799.8 per cent. (see **Chart 1.2**). The performance in the metric was due to greater than proportional growth in total financial assets relative to equity.<sup>5</sup> The growth in financial assets was reflected in cash and bank placements (mainly overseas), in addition to public sector loans by a leading financial institution.
- 1.4 Notwithstanding the increase in DTI's leverage, the primary ratios for all DTIs at end August 2022 were above the regulatory requirement of 6.0 per cent, with the lowest ratio being 8.0 per cent. This indicates the absence of overleverage.

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

- 2.1 **There was a reduction in maturity transformation risk in the overall financial sector for the June 2022 quarter.** The maturity transformation ratio for the financial system, which measures the maturity mismatch between assets and liabilities, declined (improved) by 1.3 percentage points to 33.8 per cent at end-June 2022, relative to end-March 2022.<sup>6</sup> The reduction in maturity transformation risk was evident for the securities dealers and the life insurance sectors.<sup>7,8</sup> However, the metric for the general insurance sector and, to a lesser extent, DTIs, increased (deteriorated) for the quarter.

- 2.2 The improvement in the maturity transformation metric for the overall financial sector was due to a faster pace of increase in long-term liabilities and equity, relative to long-term assets.<sup>9</sup> For the general Insurance sector, the increase in the ratio resulted from an increase in long-term assets and a decline in long-term liabilities and equity.

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



Source: Bank of Jamaica and Financial Services Commission

<sup>5</sup> For the two-month review period ending August 2022 both total financial assets and equity increased by 3.5 per cent and 0.9 per cent respectively.

<sup>6</sup> Maturity Transformation (Long term) = (long term assets - long term liabilities - nonredeemable equity) / total financial assets. This risk metric was analysed with DTI data at end of August 2022 and NDTI data at end of June 2022.

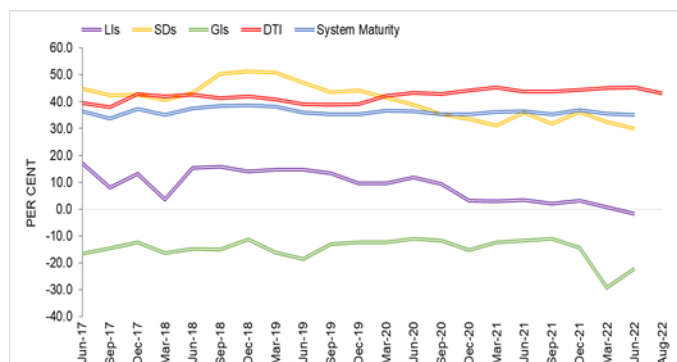
<sup>7</sup> Of note the life insurance sub-sector may at times record a negative maturity transformation metric. More specifically the negative metric for the June 2022 quarter was driven by the increased issuance of policies by these companies resulting in a rise in long-term liabilities.

<sup>8</sup> The ratios for the securities dealers and life insurance sub-sectors declined by 2.5 and 2.4 percentage points, respectively. The ratios for the general insurance sub-sector increased by 7.1 percentage points, relative to end-March 2022.

<sup>9</sup> Long-term assets, long-term liabilities and total financial assets increased by 1.4 per cent, 18.1 per cent, and 3.5 per cent, respectively while equity declined by 0.2 per cent.

2.3 For the two-month period ended August 2022, the maturity transformation ratio for the DTI sector improved slightly by 2.3 percentage points (see **Chart 2.0**).<sup>10</sup> This improvement was mainly due to a faster pace of increase in long-term liabilities, relative to long-term assets and equity, driven by an increase in time deposits (in excess of a year) and the securitization of credit card receivables by a large DTI.<sup>11</sup>

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



Source: Bank of Jamaica and Financial Services Commission

2.4 **While the financial sector became less liquid during the June 2022 quarter, liquidity remained more than adequate to support cash outflows under stressed conditions.** The liquidity transformation risk metric for the financial system, which measures the extent of coverage of short-term liabilities by liquid assets, increased by 17.4 percentage points to 273.9 per cent at end-June 2022, relative to end-March 2022.<sup>12, 13</sup> The reduction in liquidity was evident for the DTIs and the securities dealers, while the metric for the insurance companies fell (improved) for the quarter (see **Chart 2.1**).<sup>14</sup>

2.5 The deterioration in the overall risk metric resulted from a larger than proportional decline in liquid assets, relative to short-term liabilities.<sup>15</sup> The improvement in liquidity transformation for the two insurance sub-sectors was mainly due to a larger than proportional growth in liquid assets relative to short-term liabilities.<sup>16</sup>

<sup>10</sup> Long-term assets, long-term liabilities, equity and total financial assets increased by 2.5 per cent, 29.4 per cent, 0.9 per cent and 3.5 per cent respectively.

<sup>11</sup> This initiative was utilized by the institution to raise international funding amounting to US\$300 million.

<sup>13</sup> Liquidity Transformation = short term liabilities [ $\leq 30$  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. The risk metric for the financial system was analysed with DTI data at end of August 2022 and NDTI data at end of June 2022.

<sup>14</sup> The performance in the DTI sub-sector was due to a greater than proportional decline in liquid assets and was driven by a decline in short term balances with overseas banks and maturities in foreign government securities. While the performance of the SD sub-sector was primarily due to market instability regarding interest rates and declines in asset prices.

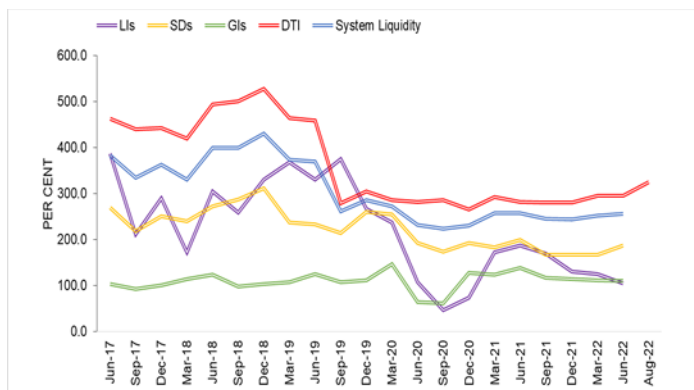
<sup>15</sup> Liquid assets declined by 6.2 per cent while short-term liabilities grew by 1.0 per cent at end June 2022, relative to end March 2022. The decline in liquid assets was driven by the SD sector which saw a 6.0 per cent decline.

<sup>16</sup> Liquid assets for the life insurance and general insurance sub-sectors increased by 5.9 per cent and 15.1 per cent for the June 2022 quarter, respectively.

2.6 For the two-month period that ended August 2022, the liquidity transformation risk metric for the DTI sector increased further (deteriorated) by 28.8 percentage points. The deterioration in this metric was primarily driven by a decline in liquid assets, compounded by a marginal increase in short-term liabilities.<sup>17</sup> The fall in liquid assets was due to a reduction in short-term overseas placements and the maturity of foreign government securities.<sup>18</sup>

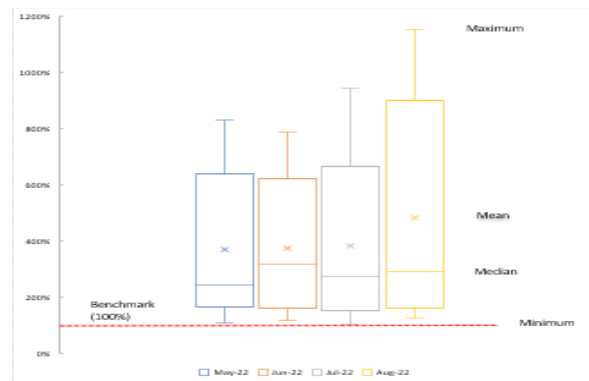
2.7 **Notwithstanding the tightening of liquidity, the liquidity coverage ratio (LCR) showed that DTIs' liquidity remained robust.**<sup>19</sup> At end-August 2022, all DTIs exceeded the LCR benchmark of 100.0 per cent, with an average ratio for the sector of 465.0 per cent, relative to 350.1 per cent at end-June 2022. With regard to the Jamaican dollar-denominated LCR, an average ratio of 318.5 per cent was recorded at end-August 2022 relative to 232.2 per cent at end-June 2022 (see **Charts 2.2** and **2.3**).

**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-August 2022 – DTIs**



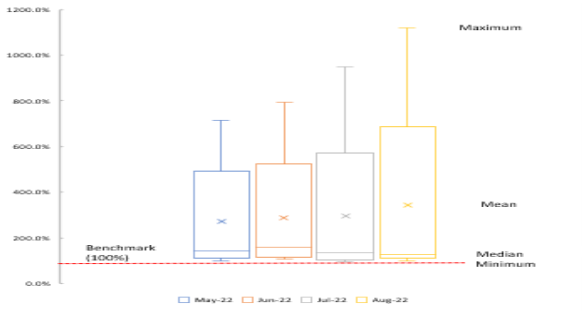
Source: Bank of Jamaica

<sup>17</sup> At end-August 2022 short-term liabilities for the DTI subsector increased by 0.4 per cent, while liquid assets declined by 8.5 per cent, relative to end-June 2022.

<sup>18</sup> The foreign government securities that matured during the review period included US treasuries. They were replaced by long-term foreign government securities.

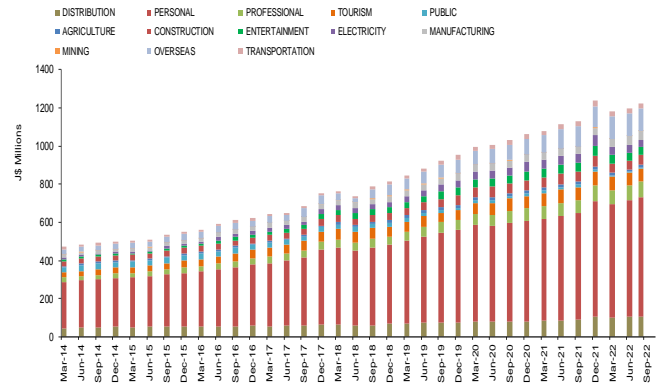
<sup>19</sup> LCR is a requirement under Basel III whereby banks are required to hold an amount of high-quality liquid assets that's enough to fund cash outflows for 30 days.

**Chart 2.3 Liquidity coverage ratio (JMD only) at end-August 2022 – DTIs**



Source: Bank of Jamaica

**Chart 3.0 Loan Concentration- Selected Industries**



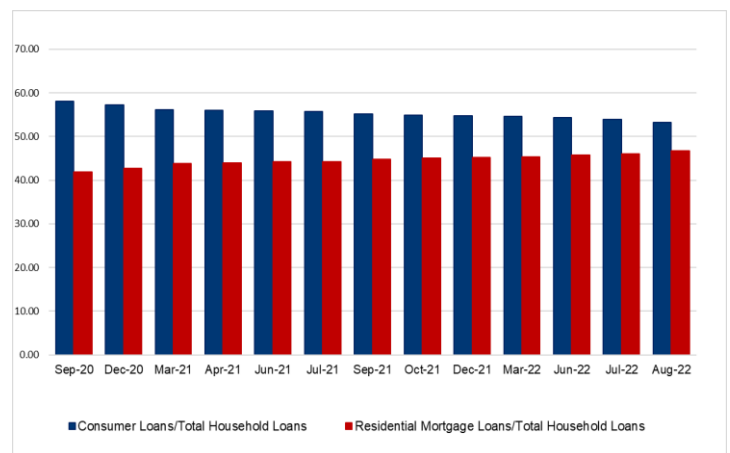
Source: Bank of Jamaica

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

3.1 **DTIs’ exposure to households, measured by the ratio of household loans to DTI assets in end-August 2022, fell slightly by 0.7 percentage point, relative to end-June 2022, to 25.9 per cent.** This fall was primarily due to a decrease in household debt, relative to the overall growth in assets.<sup>20</sup>

3.2 Household loans, which consist of consumer loans and residential mortgage loans, fell by 0.3 per cent between end-June 2022 and end-August 2022, driven by a decline of 2.1 per cent in consumer loans. Household loans continued to account for the largest share of the DTIs’ loan portfolio (see **Chart 3.1**).<sup>21</sup>

**Chart 3.1 Decomposition of household debt**



<sup>20</sup> Increase in assets were primarily due to an increase in investment holdings.

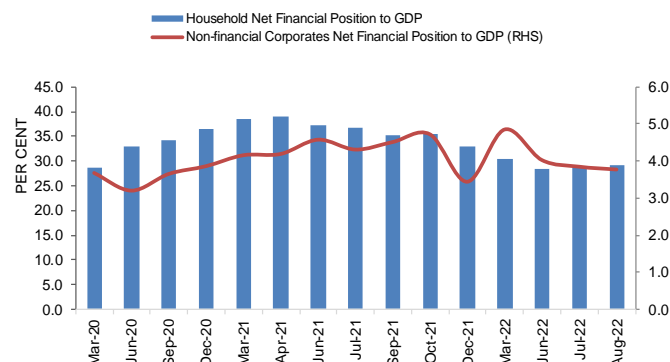
<sup>21</sup> Personal Loans is used as a measure of household debt. It excludes NHT loans.



3.3 **The quality of the household sector’s loans extended by DTIs remained relatively unchanged over the review period.** The ratio of households’ non-performing loans (NPLs) to total household loans declined by 0.3 percentage point to 3.2 per cent at end-August 2022, relative to end-June 2022. However, the ratio of household past due loans to total household loans increased to 3.6 per cent at end-August 2022 compared with 2.6 per cent at end-June 2022. This increase was primarily driven by greater growth in households’ past due loans (38.1 per cent or J\$6.1 billion), relative to the decline in total household loans.<sup>22</sup>

3.4 **Debt sustainability measures for households and non-financial corporates (NFCs) showed mixed results over the review period.** Households’ net financial position to GDP increased (improved) by 0.7 percentage point to 29.1 per cent at end-August 2022, relative to end-June 2022. This increase was due to an increase in households’ net financial position, due to a stronger increase in households’ assets, relative to liabilities. NFCs’ net financial position to GDP however fell by 6.3 per cent at end August 2022 relative to end-June 2022. The decrease in the ratio was primarily due to an increase in NFC’s liabilities.

**Chart 3.2 Household and NFC net financial positions<sup>23</sup>**



Source: Bank of Jamaica

3.5 At end-August 2022, the DTI sector recorded a net open *short* FX position of 3.9 per cent of capital relative to a short position of 13.1 per cent at end-June 2022.<sup>24</sup> This was within the prescribed range of +15 per cent/-25 per cent established by the Bank (see **Chart 3.3**).

3.6 Securities dealers recorded a net open *short* position of 6.4 per cent of capital at end-June 2022, compared to a net open *short* position of 4.0 per cent of capital at end-March 2022. This change was due to increased holdings of USD-denominated liabilities by two entities affiliated with DTI groups.<sup>25</sup>

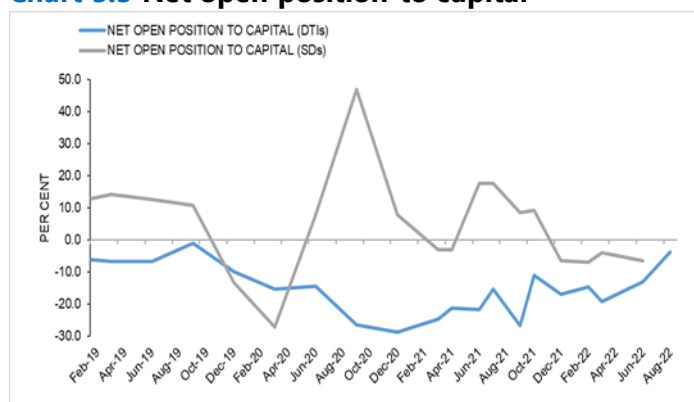
<sup>22</sup> It is possible that the household loans that were originally under moratoria became non-performing after the programme ended.

<sup>23</sup> Net financial position = financial assets minus financial liabilities; (ii) financial assets for NFCs include: deposits and repo liabilities; (iii) financial liabilities for NFCs 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.

<sup>24</sup> The net open position across the selected foreign currencies for each institution is the sum of the foreign currency spot position, net forward position and the foreign currency guarantees that are certain to be called and likely irrevocable. The spot position is calculated as foreign currency assets less foreign currency liabilities and capital items.

<sup>25</sup> 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 3.3 Net open position to capital<sup>26</sup>**



Source: Bank of Jamaica

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

**4.1 During the June 2022 quarter, there was a marginal increase in interconnectivity and counterparty risks.** The dollar value of funding exposures within the domestic financial network fell by 6.2 per cent to \$324.1 billion at end-June 2022, relative to \$345.5 billion at end-March 2022 (see **Table 4.0**).

**4.2 There was, however, a reduction in systemic risk within the domestic network.** The systemic risk score declined to 5.2 per cent at end-June 2022, relative to 5.7 per cent at end-March 2022. 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 0.1 percentage points to 15.6 per cent (see Chart 4.0).<sup>27</sup> Notably, the reciprocated links and density of the DTIs’ and securities dealers’ funding network increased to 53.8 per cent and 30.9 per cent, respectively, at end-June 2022, compared to 51.6 per cent and 30.5 per cent at end-March 2022 (see **Table 4.0**).

**4.3 Funding transactions among group affiliates and foreign institutions remained the main sources of systemic risk.** There was an increase in exposure among group affiliates over the review period. However, foreign institutions’ funding of the domestic network fell to \$179.6 billion at end-June 2022, relative to \$190.1 billion at end-March 2022.

<sup>26</sup> The increase in Oct 2020 was mainly attributable to an entity affiliated to a DTI group holding a significant amount of “Other currency” assets

<sup>27</sup> 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<sup>28,29</sup>

J\$'000	Mar-22	Jun-22
Total System Funding to Exposure	345,521,672	324,072,343
Total Funding of Highest Lender	57,285,895	55,790,380
Maximum Single Transaction	23,021,988	24,349,955
<b>Network Metrics</b>		
Network Mean	747,882	701,455
Reciprocity (%)	51.6	53.8
Density (%)	30.5	30.9
Systemic Risk Score	5.7	5.2
Fragility Score	15.7	15.6
Diameter <sup>30</sup>	6.0	3.0
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 while financial institutions’ earnings and profitability improved for the June 2022 and September 2022 quarters.** The DTI sector’s capital adequacy ratio (CAR) remained at 14.1 per cent at end-August 2022, relative to end-June 2022. The securities dealers’ sub-sector reflected a CAR of 22.1 per cent at end-August 2022, relative to 22.3 per cent at end-June 2022. In addition, the general insurance sub-sector had a Minimum Capital Test ratio of 268.9 per cent at end-June 2022, which exceeded the 250.0 per cent regulatory minimum. The life insurance sub-sector recorded a Minimum Continuing Capital Surplus Requirement of 232.8 per cent at end-June 2021, which was well above the regulatory benchmark of 150.0 per cent (see **Appendix – Table 1.0**).

5.2 There was a marginal increase in financial institutions’ earnings and profitability for the June 2022 quarter. DTIs’, securities dealers’ and life insurance company’s return on assets (ROA) increased to 0.6 per cent, 0.4 per cent and 2.8 per cent respectively for the June 2022 quarter, relative to 0.0 per cent, 0.2 per cent and 1.7 per cent for the March 2022 quarter. These outturns were primarily due to higher growth in profits, relative to growth in assets.

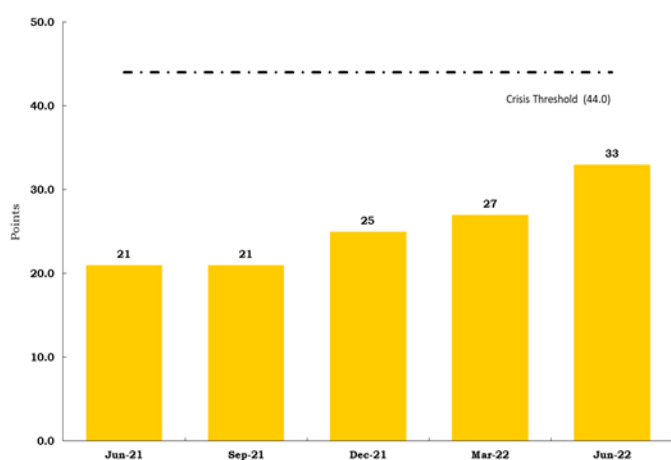
<sup>28</sup> Network Metrics (reciprocity, density, systemic and fragility score, diameter and articulation points) are based on a network without foreign transactions.

<sup>29</sup> Network Metrics as at September 2021 include DTIs and the ten main SDs.

<sup>30</sup> Diameter indicates the “speed” of contagion, the more institutions on the diameter the slower the “speed” of contagion.

5.3 **Aggregate measures of financial stability in Jamaica showed a downturn in macro-financial conditions for the June 2022 quarter.** The macro-financial index (MaFI) deteriorated to 33.0 points for the June 2022 quarter, relative to 27.0 points for the previous quarter. There was a material increase in annual average inflation, which moved to a signal of 5.0 points at end-June 2022, from a signal of 0.0 points at end-March 2022. Furthermore, there was slower annual growth in the stock market for the June 2022 quarter relative to the March 2022 quarter (see **Chart 5.1**).

**Chart 5.1 Macro-financial index<sup>31</sup>**



Source: Bank of Jamaica

### Stress Tests

5.4 Stress tests were conducted to ascertain financial institutions' resilience to the impact of further increases in bond yields as well as deterioration in the quality of selected loans (based on data as at end-August 2022).<sup>32</sup> Given the uncertainty surrounding the future path of the domestic and the external economy, two scenarios (moderate and severe) relating to further increases in GOJ bond yields and a mild recession in the US, which leads to increases in NPLs for selected sectors, were contemplated.

5.5 The results of the interest rate risk assessment show that the balance sheets of financial institutions (DTIs and securities dealers) are generally resilient to the contemplated increases in GOJ Bond yields. This resilience is largely due to the size of the sector's buffer capital and strong levels of regulatory capital.

5.6 The credit risk assessment indicates that DTIs were generally robust to the hypothetical shocks under both scenarios.

## 6.0 Summary & Policy Implications

6.1 For the review period, DTIs' capitalization remained comfortably above the relevant prudential benchmarks, liquidity remained adequate, while profitability continued to improve.

<sup>31</sup> 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.

<sup>32</sup> The data for securities dealers is as at end-June 2022 due to availability.

6.2 The Jamaican economy is projected to continue to recover over the near term but there are risks that this recovery could be impeded by weakening external demand. Protracted inflation, continued tightening of financial conditions, both externally and domestically, and geopolitical tensions could also continue to place strains on the international economy and, in turn, the domestic economy. The assessment however indicates that the financial sector remains largely resilient to these shocks.

## Appendix

**Table 1.0 Select Financial Soundness Indicators**

	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Jul-22	Aug-22
<b>Asset to GDP (%)</b>								
DTI	106.91	105.42	104.37	105.59	108.90	101.40	101.70	100.40
SDs	36.18	35.64	35.70	35.67	27.07	33.55	36.34	36.90
LIs	19.08	18.35	17.99	18.25	22.58	16.37	n/a	n/a
GIs	4.65	5.13	4.92	4.69	4.69	4.80	n/a	n/a
<b>Capital Adequacy (%)</b>								
DTI (CAR)	14.33	14.26	14.35	14.15	14.26	14.08	14.13	14.10
SDs (CAR)	21.77	19.82	21.64	21.44	21.44	22.29	22.48	22.13
LIs (MCSSR)	214.98	204.97	210.77	211.15	212.75	232.80	n/a	n/a
GIs (MCT)	266.41	277.37	276.73	281.90	276.31	268.94	n/a	n/a
<b>ROA (%)</b>								
DTI	0.36	0.89	0.62	0.32	(0.00)	0.55	0.18	0.18
SDs	0.63	0.87	0.62	0.26	0.16	0.40	n/a	n/a
LIs	1.31	1.23	2.66	2.35	1.71	2.75	n/a	n/a
GIs	0.38	0.63	0.40	0.53	(0.08)	(0.16)	n/a	n/a
<b>Liquidity (%)</b>								
DTIs Liquidity Coverage Ratio (LCR)	211.78	258.20	259.20	260.20	230.96	211.59	204.80	245.36
DTIs (liquid assets to short-term liabilities)	28.56	28.19	28.34	27.84	29.52	30.24	n/a	n/a
SDs (liquid assets to short-term liabilities)	20.18	18.79	21.06	18.20	17.31	16.42	n/a	n/a
LIs (liquid assets to total liabilities)	23.52	22.67	22.17	24.86	22.71	24.21	n/a	n/a
GIs (liquid assets to total liabilities)	65.16	65.56	64.81	67.76	69.44	69.65	n/a	n/a
<b>Non-Performing Loans to Total Loans (%)</b>								
DTIs	2.89	2.90	2.99	2.92	2.75	2.69	2.63	2.46
SDs	2.60	2.50	1.37	0.75	0.58	0.90	n/a	n/a
<b>Past Due Loans to Total Loans (%)</b>								
DTIs	3.36	3.74	2.99	2.58	3.03	1.96	2.75	3.07

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

			Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22
<b>Objective 1: Mitigate and prevent excessive credit growth and leverage</b>	<b>Credit-to-GDP measures<sup>1/</sup></b>	DTI private credit-to-GDP gap	5.01	7.52	8.07	8.13	7.53	4.55	4.18	1.80	0.68
		Total credit-to-GDP gap	4.92	7.45	8.12	8.18	7.55	4.55	3.89	1.56	1.03
	<b>Credit Indicators: year-on-year growth (%)</b>	Total Credit	12.44	11.15	10.05	8.45	6.83	7.08	7.08	8.05	7.64
		DTI Credit to Households	10.48	7.59	8.71	5.06	6.40	4.80	5.56	10.81	9.60
		DTI Credit to Non-financial Corporates	15.12	17.76	11.98	10.44	5.36	1.74	12.17	12.10	5.48
	<b>Leverage<sup>2/</sup></b>	DTI	684.38	716.62	702.72	709.42	710.89	737.13	771.07	782.52	779.58
		SDs	708.75	650.39	612.68	638.61	594.53	571.96	588.55	625.20	669.73
		LIs	300.90	309.84	301.99	297.12	274.98	269.28	269.80	261.81	262.41
		GIs	456.21	440.14	317.96	293.74	306.52	298.63	289.77	296.78	358.71

<sup>1/</sup> Total credit is DTI credit plus public sector credit (gross loans to public sector)

<sup>2/</sup> Leverage = (total financial assets) / equity

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



		Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	
<b>Objective 2: Mitigate and prevent excessive maturity mismatches and market illiquidity</b>	<b>Cumulative Maturity Gap to Total Assets (%)</b>	DTIs - up to 30 days	-42.71	-38.24	-40.26	-40.36	-42.04	-41.92	-40.66	-43.21	-44.89
		DTIs - up to 90 days	-44.96	-42.23	-42.92	-44.02	-46.61	-45.95	-44.35	-47.83	-47.86
		DTIs - up to 365 days	-44.36	-43.73	-44.87	-44.42	-44.85	-44.69	-45.38	-46.06	-46.50
		SDs - up to 30 days	-16.01	-9.34	-13.79	-15.86	-14.82	-11.16	-9.63	-6.17	-7.68
		SDs - up to 90 days	-30.35	-25.57	-28.82	-31.38	-28.48	-24.26	-20.76	-22.75	-21.95
		SDs - up to 365 days	-37.28	-31.86	-32.74	-31.82	-33.73	-27.85	-32.40	-28.33	-29.40
	<b>Maturity Transformation (%)<sup>1/</sup></b>	DTI - MT1	43.35	42.84	44.24	45.42	43.78	43.71	44.41	45.01	45.41
		SDs - MT1	38.77	35.28	33.53	31.14	36.03	31.71	36.19	32.44	29.90
		LIs - MT1	11.68	9.31	3.07	2.16	3.39	2.12	3.18	0.59	-1.77
		GIs - MT1	-11.12	-11.81	-15.36	-12.51	-11.68	-11.13	-14.48	-29.34	-22.28
	<b>Liquidity Transformation (%)<sup>2/</sup></b>	DTI - LT3	281.91	286.00	265.37	292.44	281.72	280.18	281.05	295.91	296.11
		SDs - LT3	193.07	173.47	193.14	183.13	199.27	167.46	167.20	166.84	187.64
		LIs - LT3	107.74	46.68	74.28	86.97	187.18	169.50	130.83	125.59	104.84
		GIs - LT3	64.65	61.61	128.32	123.72	138.47	122.59	114.32	112.02	110.02

<sup>1/</sup> MT1 = (long term assets - long term liabilities - nonredeemable equity) / total financial assets

<sup>2/</sup> LT3 = short term liabilities [ $\leq$  30 days] / liquid assets [broad]

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





			Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22
<b>Objective 3: Limit direct and indirect exposure concentrations</b>	<b>Exposure to Financial Markets (%)</b>	Composite Indicator of Systemic Stress	0.34	0.38	0.38	0.36	0.30	0.29	0.39	0.24	0.39
		DTIs - Net open position to capital	-14.63	-23.10	-26.02	-23.94	-21.47	-26.78	-16.86	-19.00	-13.12
		Securities Dealers - Net open position to capital	7.75	46.87	7.75	-2.96	17.64	8.50	-6.42	-9.74	-6.41
	<b>Exposure to Sovereign Risk (%)</b>	DTIs - Public Sector Debt to total assets	9.40	9.65	10.11	9.88	9.72	10.00	9.32	9.67	8.83
		Securities Dealers - Public Sector Debt to total assets	16.05	14.98	14.63	15.47	15.14	15.27	15.45	14.55	14.39
		Insurance Companies - Public Sector Debt to total assets	37.78	37.48	24.39	36.47	35.29	35.62	36.44	23.43	34.97
	<b>Exposure to Households and Corporates (%)</b>	Household debt to GDP	31.72	34.62	35.66	36.85	38.44	37.29	36.90	37.25	37.13
		Household Net Financial Position to GDP	20.05	24.75	25.60	36.65	38.97	36.54	34.42	31.57	31.70
		Corporate debt to GDP	14.00	15.26	15.90	20.22	20.67	19.65	21.39	20.87	19.28
		Corporate Net Financial Position to GDP	5.44	7.72	8.03	4.14	4.79	4.67	2.10	3.17	4.76
	<b>Exposure to Real Estate (%)</b>	DTIs - Mortgages to Assets	10.94	10.77	11.14	11.26	11.19	11.31	11.48	12.53	12.16

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

			Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22
<b>Objective 4: Limit the impact of interconnectedness, systemic importance and misaligned incentives</b>	<b>Systemically Important Financial Institutions (SIFIs)</b>	Total SIFI group assets to total system assets	64.37	67.90	66.58	76.95	77.26	76.87	77.00	76.74	77.00
	<b>Non-Deposit Taking Financial Institution (NDTFIs)</b>	NDTFIs asset share to total system assets	36.50	35.89	36.27	35.98	35.93	35.96	35.70	36.00	34.35
	<b>Dollarization Indicators (%)</b>	FX investment holdings to total investment - SDs	54.87	55.77	55.95	53.35	55.98	53.14	53.66	55.98	55.10
		FX loan & investment holdings to total investment - DTIs	32.14	30.82	30.44	31.97	31.73	30.83	32.11	31.56	30.71
		FX deposits to total deposits - DTIs	39.41	39.42	38.65	38.50	38.90	38.82	39.64	41.05	40.11

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

		Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	
<b>Objective 5: Strengthen the resilience of the financial system &amp; infrastructure</b>	<b>Composite Indices</b>	Macro-Financial Index	34.00	34.00	34.00	22.00	21.00	21.00	25.00	28.00	33.00
		Micro-Prudential Index - DTIs	27.00	25.00	23.00	26.00	21.00	25.00	29.00	28.00	26.00
		Banking Stability Index	-0.23	-0.01	0.35	-0.11	0.39	0.21	-0.16	0.08	0.39
		Aggregate Financial Stability Index	0.45	0.50	0.49	0.56	0.59	0.53	0.53	0.49	0.48