



MITIGATE AND PREVENT EXCESSIVE CREDIT GROWTH AND LEVERAGE

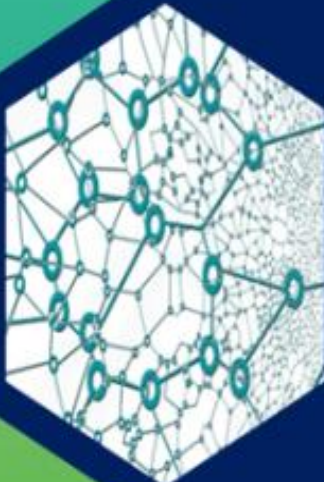
MITIGATE AND PREVENT EXCESSIVE MATURITY MISMATCHES AND MARKET ILLIQUIDITY



LIMIT DIRECT AND INDIRECT EXPOSURE CONCENTRATIONS

# Macroprudential Policy Report

LIMIT THE IMPACT OF INTERCONNECTEDNESS, SYSTEMIC IMPORTANCE AND MISALIGNED INCENTIVES



## Highlights



STRENGTHEN THE RESILIENCE OF THE FINANCIAL SYSTEM & INFRASTRUCTURE

October 2021

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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 objective 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

*Notwithstanding the ongoing effects of the COVID-19 pandemic, the Jamaican economy showed signs of improvement during the September 2021 quarter. In this context, the financial sector reflected improvements in profitability while maintaining adequate levels of capital, liquidity as well as low asset quality ratios.*

*Systemic risks associated with financial cycles declined during the quarter. At the same time, the financial sector did not show any over-leveraging or maturity mismatch pressures during the review period.*

*In terms of structural exposures, households continued to account for the bulk of deposit-taking institutions' (DTIs') lending. The loan quality for the household sector remained good and in line with historical averages.*

*Financial institutions' stress test results were largely unchanged relative to the findings at end-March 2021. There were also no notable changes in contagion risks associated with the interconnectedness of the financial system..*

*Uncertainties remain as it relates to the duration of the pandemic and the magnitude of its impact on households and businesses. In this regard, supervisors of the financial system should continue to monitor the system to ensure that it remains sound.*

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

- 1.1 The pace of growth in overall financing over the review period decelerated. Total financing, which includes credit provided by DTIs to the private sector, corporate bond issues and public sector credit, grew by 5.8 per cent for the year ended-July 2021. This growth was less than the annual growth of 8.0 per cent for the year-ended March 2021 (see Chart 1.0).<sup>1</sup> However, private sector financing (which excludes public sector credit from total financing) grew by 9.1 per cent for the year-ended July 2021, faster than the 7.3 per cent growth recorded for the year ended-March 2021.<sup>2</sup> The growth in total financing resulted in the provision of additional financing of \$36.4 billion to the private sector for the 4-month period ended July 2021 (see Chart 1.1).
- 1.2 The credit-to-GDP gap indicator fell by 0.6 percentage point, relative to end-March 2021, to 7.5 per cent at end-June 2021 (see Chart 1.2).<sup>3</sup> This gap indicator continued to remain below the Bank of International Settlements' (BIS) threshold of 10.0 per cent, which suggested the absence of risks related to the trade cycle. The credit-to-GDP gap is projected to fall further by 1.2 percentage points to 6.4 per cent at end-September 2021.

<sup>4</sup>

<sup>1</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.

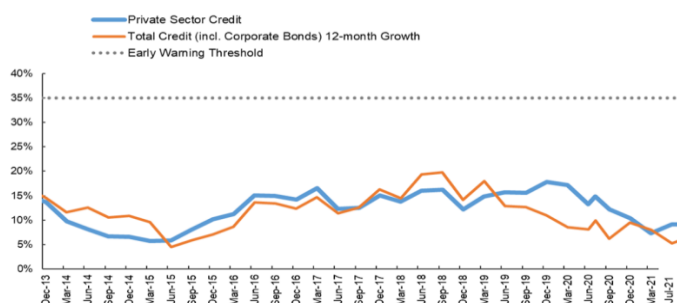
<sup>2</sup> Private Sector lending is measured as DTIs' loans and advances to the private sector excluding credit to overseas residents and other financial institutions. Total DTI credit includes private sector credit plus credit issued to the public sector plus DTIs' holdings of corporate securities.

<sup>3</sup> The credit-to-GDP gap indicator measures the deviation of credit-to-GDP from its long-term trend which is a systemic risk indicator associated with financial cycles. It 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.

<sup>4</sup> This estimate is based on estimated growth in credit and nominal GDP for the quarter of 2.0 per cent and 3.0 per cent, respectively. These variables grew by 0.2 per cent and 0.3 per cent for the June 2021 quarter.

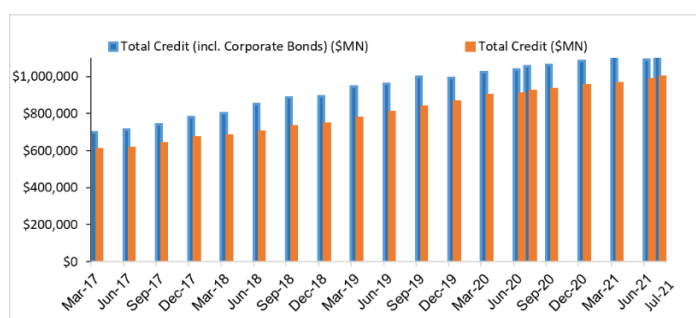


**Chart 1.0 Annual Growth in Credit**



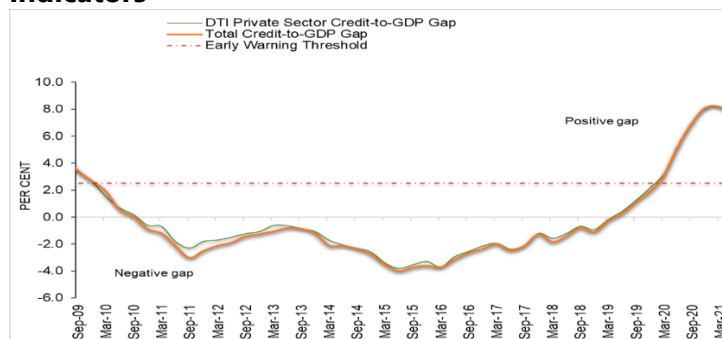
Source: Bank of Jamaica

**Chart 1.1 DTI Credit plus Corporate Bond Issues via Exempt Distribution**



Source: Bank of Jamaica and Financial Services Commission

**Chart 1.2 Evolution of Credit-to-GDP Gap Indicators**

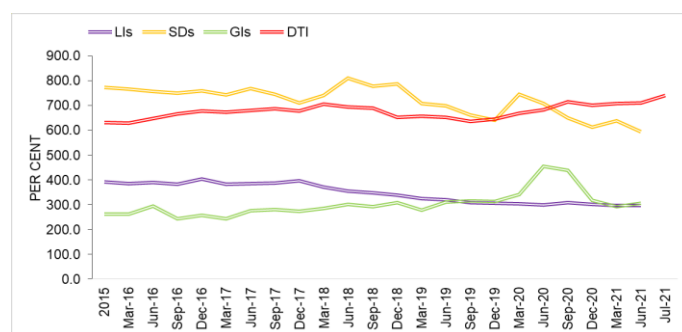


Source: Bank of Jamaica

1.3 The leverage metric for the DTI sector, which measures the extent to which financial institutions use debt to fund expansion, increased by 4.5 per cent for the 4-month period ended-July 2021 (see Chart 1.3).<sup>5</sup> This rise in the metric was largely due to a larger than proportional growth in DTI's total financial assets relative to equity and indicated DTIs increasing use of debt to fund their operations.<sup>6</sup>

1.4 The leverage metric for the the non-deposit taking financial institutions (NDTFI) sub sectors is only available for the period ended June 2021 and reflected mixed results. Specifically, leverage for the general insurance sub-sector increased by 4.4 per cent for the June 2021 quarter and was largely due to a faster pace of growth in the sub-sector's total financial assets relative to equity. On the other hand, the leverage metric for the life insurance and securities dealers sub-sectors declined, primarily driven by a greater than proportional increase in equity relative to total financial assets (see Chart 1.3).<sup>7</sup>

**Chart 1.3 Leverage – DTIs, securities dealers, life and general insurance companies**



Source: Bank of Jamaica

<sup>5</sup> Leverage is calculated as (total financial assets/equity).

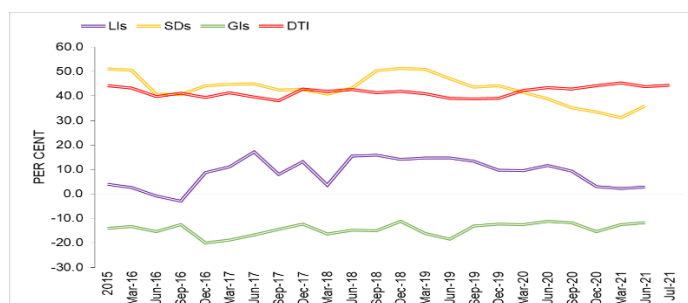
<sup>6</sup> Total Financial Assets and Equity both increased by 7.5 per cent and 2.9 per cent respectively at end July 2021 relative to March 2021

<sup>7</sup> Leverage risk metric declined for life insurance and securities dealers by 0.04 per cent and 6.9 per cent, respectively for the June 2021 quarter.

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

2.1 The maturity transformation ratio, which measures the maturity mismatch between assets and liabilities, remained relatively stable for the DTI sector over the review period. The ratio declined marginally to 44.4 per cent at end-July 2021 relative to 45.4 per cent at end-March 2021 (see Chart 2.0).<sup>8</sup> Of note, the outturn is broadly in line with historical averages.

**Chart 2.0 Maturity Transformation (Long term) DTIs, SDs, LIs & GIs**



Source: Bank of Jamaica and Financial Services Commission

2.2 At end-July 2021, the liquidity transformation risk metric for the DTI sector, which measures the extent of coverage of short-term liabilities by liquid assets, was generally stable, relative to end-March 2021. Specifically, the liquidity risk metric fell to 284.4 per cent at end-July 2021, relative to 292.4 per cent at end-March 2021. The performance of DTI's liquidity transformation metric reflected the impact of a greater than proportional increase in liquid assets relative to short-term liabilities (see Chart 2.1).<sup>9</sup> The high level of DTI liquidity is symptomatic of continued risk aversion of the sector as well as weak loan demand in the context of the COVID-19 pandemic.

2.3 The liquidity coverage ratio (LCR) also indicated that DTIs continued to maintain adequately levels of liquidity.<sup>10</sup> At end-July 2021, all DTIs exceeded the LCR benchmark of 100.0 per cent with a median ratio of 269.0 per cent, relative to 216.0 per cent at end-March 2021. A decomposition of the LCR by currency type also showed that all the LCRs remained above the minimum benchmark.

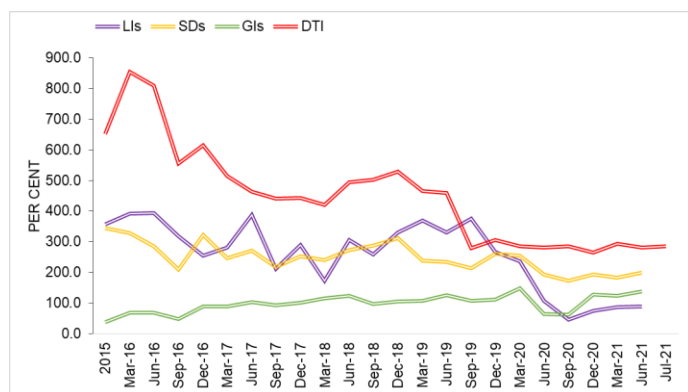
<sup>8</sup> Maturity Transformation (Long term) = (long term assets - long term liabilities - nonredeemable equity) / total financial assets. Long-term assets, long-term liabilities, equity and total financial assets increased by 4.7 per cent, 5.9 per cent, 2.9 per cent and 7.5 per cent respectively.

<sup>9</sup> Liquid assets and short-term liabilities for the DTI subsector increased by 13.3 per cent and 10.2 respectively at end July, relative to March 2021.

<sup>10</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.

2.4 Data for securities dealers and insurance companies was only available for the period ended June 2021. Liquidity transformation risk for the NDTFIs remained relatively stable over the June 2021 quarter. The liquidity transformation ratio for the securities dealers, general insurance, and the life insurance sub-sectors at end-June 2021 were higher by 16.1 pps, 14.7 pps and 1.6 pps, respectively, relative to end-March 2021 (see Chart 2.1).<sup>11</sup> These changes were mainly due to a faster pace of growth in short-term liabilities relative to liquid assets and is largely reflective of a reduction in these entities' holdings of liquid assets relative to the start of the pandemic, when the perception of liquidity risk was much higher.<sup>12</sup>

**Chart 2.1 Liquidity Transformation – DTIs, SDs, and LIs & GIs**

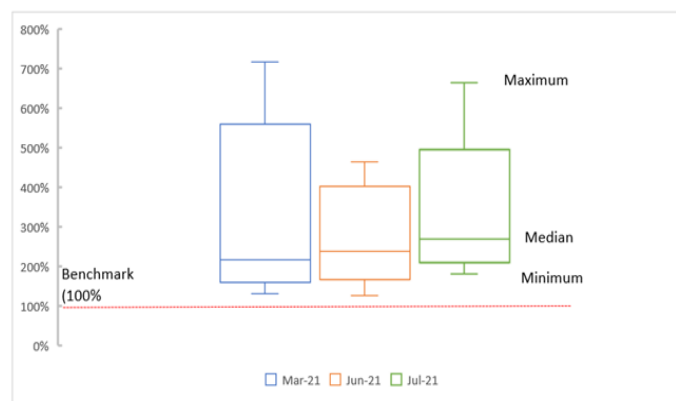


Source: Bank of Jamaica and Financial Services Commission

<sup>11</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.

<sup>12</sup> Liquid assets for securities dealers, life insurance and general insurance companies declined by 5.1 per cent, 0.4 per cent and 2.9 per cent respectively for the June 2021 quarter. Meanwhile their short-term liabilities grew by 3.3 per cent, 1.5 per cent and 8.6 per cent, respectively.

**Chart 2.2 Liquidity Coverage Ratio at end-April 2021 – DTIs**



Source: Bank of Jamaica

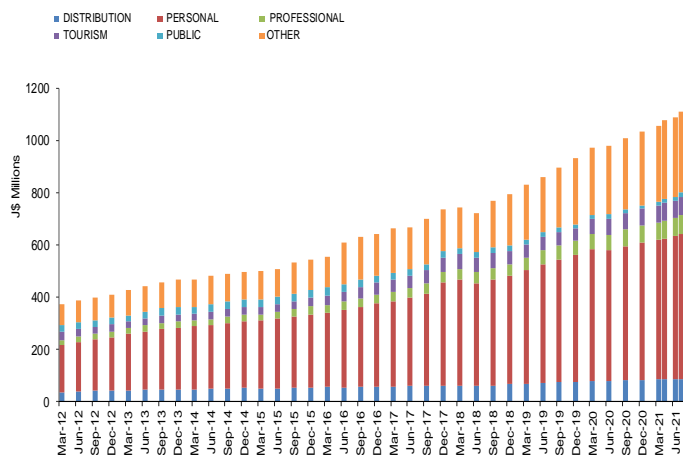
### Objective 3 – Limit direct and indirect exposure concentrations & misaligned incentives

3.1 Personal loans, which consists of consumer and mortgage loans, increased by 4.1 per cent at end-July 2021, relative to end-March 2021 (see Chart 3.0) and continued to account for the largest share of the DTIs' loan portfolio.<sup>13</sup> The increase in personal loans was driven by a growth of 5.0 per cent in residential mortgage loans over the review period (see Chart 3.1), reflecting increases in the both the number and value of loans.<sup>14</sup> This occurred in the context of some DTIs continuing to aggressively offer attractive financing in the mortgage market.

<sup>13</sup> Personal Loans is used as a measure of household debt, and it includes residential mortgage loans and consumer loans extended by the DTI sector. Therefore, it excludes NHT loans.

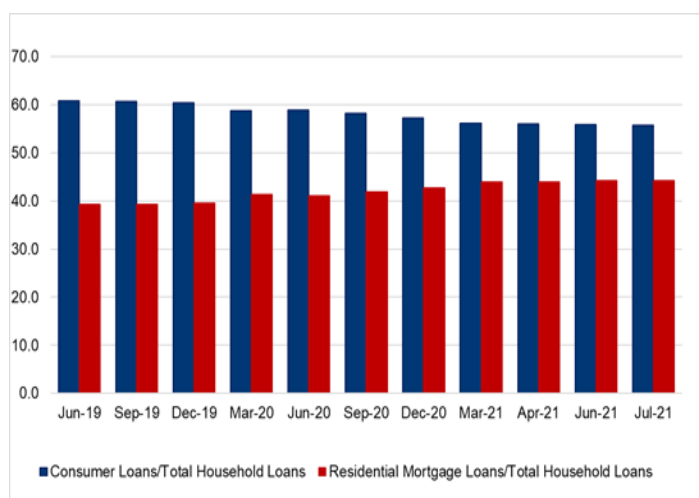
<sup>14</sup> The growth in residential mortgage loans contributed to an increase in mortgage loans as a share of overall personal loans to 42.4 per cent at end-June 2021 relative to 39.2 per cent at end-June 2019. This increased exposure is reflective of a greater appetite for this type of lending among some of the DTIs.

**Chart 3.0 Loan Concentration- Selected Industries**



Source: Bank of Jamaica

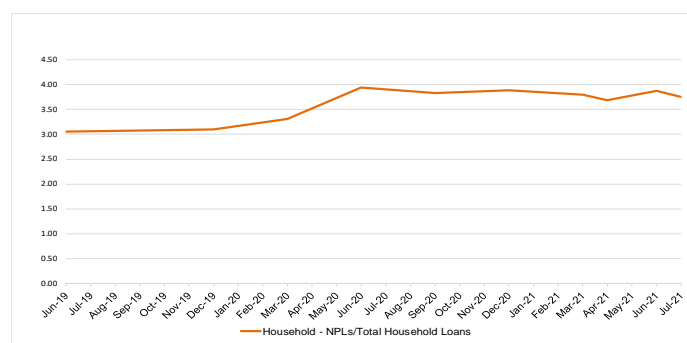
**Chart 3.1 Decomposition of Household Debt**



Source: Bank of Jamaica

3.2 Household loan quality was relatively unchanged over the review period. The ratio of household non-performing loans (NPLs) to total household loans extended by DTIs declined by 0.04 percentage points to 3.8 per cent at end-July 2021, when compared to end-March 2021 (see Chart 3.2). In addition, the ratio of household past due loans to total household loans declined by 0.4 percentage points to 3.8 per cent at end-July 2021, relative end-March 2021. This performance may be related to the ongoing effects of the loan deferral arrangements as well as other credit risk mitigation strategies by DTIs in the context of the impact of the COVID-19 pandemic on households' balance sheet.<sup>15, 16</sup>

**Chart 3.2 Household Loan Quality**



3.3 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 for the June 2021 quarter fell, due to a stronger increase in GDP, relative to the increase in households' net financial position.

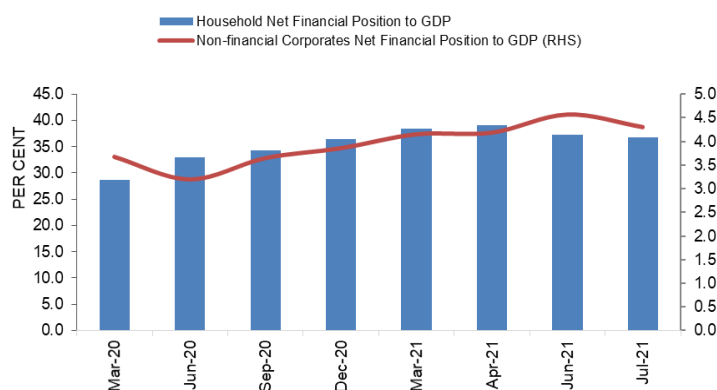
<sup>15</sup> At end July 2021, households accounted for 15.4 per cent of the outstanding loans offered by DTIs which were under moratoria, while large corporates accounted for approximately 70.5 per cent.

<sup>16</sup> These strategies include establishing sound and well defined credit granting criteria as well as increased monitoring of the overall composition and quality of credit portfolios.

3.4 As it relates to NFCs, the sector’s net financial position to GDP increased relative to the previous quarter. The increase in the ratio was primarily due to an increase in NFC’s net financial position, due to higher repo investments by these entities (see Chart 3.3).

3.5 DTIs exposure to the public sector improved over the review period, largely due to stronger growth in GDP relative to the growth in public debt.

**Chart 3.3 Household and NFC Net Financial Positions<sup>17</sup>**



Source: Bank of Jamaica

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Source: Bank of Jamaica and Financial Services Commission

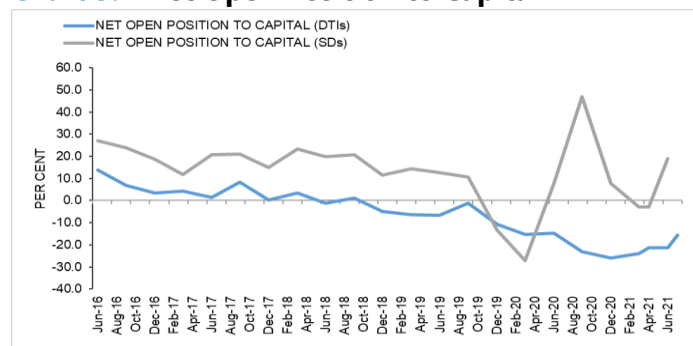
3.6 At end-July 2021, the DTI sector recorded a net open *short* position of 15.5 per cent relative to 23.9 per cent at end-March 2021. This was within the prescribed range of +15%/-25% per cent established by the Bank (see Chart 3.4). On the other hand, securities dealers’ net open

<sup>17</sup> (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.

<sup>18</sup> DTI data excludes information on foreign currency loans as it relates to the buildings societies sector.

*long* position increased to 19.1 per cent of capital at end June 2021 from -3.0 per cent at end-March 2021, due to an increased holdings of USD-denominated assets by two entities affiliated to DTI groups.<sup>19</sup>

**Chart 3.4 Net Open Position to Capital<sup>20</sup>**



Source: Bank of Jamaica

<sup>19</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 portfolio adjustments to meet client needs.

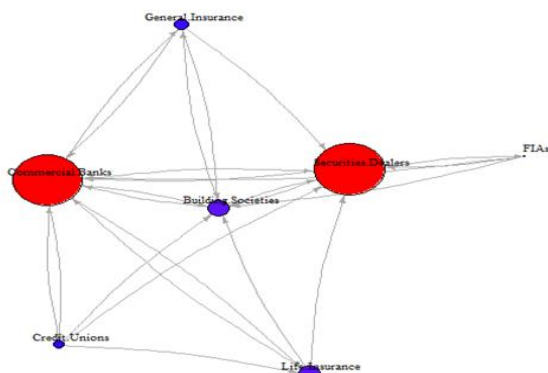
<sup>20</sup> The increase in Oct 2020 was mainly attributable to an entity affiliated to a DTI group holding a significant amount of “Other currency” assets



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

4.1 During the June 2021 quarter, interconnectivity and counterparty risks were relatively stable compared to the March 2021 quarter. Commercial banks and securities dealers continued to be the central players in the network. Furthermore, building societies and life insurance companies played an increased role in the June 2021 quarter relative to the March 2021 quarter, with an increase in the dollar value of their transactions as well as an increase in the number of funding relationships of building societies. The network remained dense and highly reciprocated over the review quarter, although there were marginal reductions in both indicators.<sup>21</sup>

**Chart 4.0 Network of gross credit exposures among financial subsectors**



Source: Bank of Jamaica

<sup>21</sup> Network nodes refer to the financial institutions/sub-sectors in the financial system. Links refer to the funding relationship, whether they send and/or receive funding from another entity. Density measures the proportion of actual funding relationships in the system against the total number of potential funding relationships in the network. Reciprocity reflects the proportion of bi-directional funding relationships (Entity X both sends and receives funding from Entity Y and vice versa) that exist in the network.

**Table 4.0 Descriptive statistics of the financial institutions “funding to” exposures network<sup>22,23</sup>**

| J\$'000                                 | Mar-21      | Jun-21      |
|---|-------------|-------------|
| <b>Total System Funding To Exposure</b> | 250,919,669 | 249,631,740 |
| <b>Total Funding of Highest Lender</b>  | 53,922,570  | 39,962,238  |
| <b>Maximum Single Transaction</b>       | 18,584,804  | 21,173,453  |
| <b>Network Mean</b>                     | 543,116     | 540,328     |
| <b>Reciprocity (%)</b>                  | 48.5        | 44.4        |
| <b>Density (%)</b>                      | 29.4        | 29.2        |
| <b>Systemic Risk Score</b>              | 5.1         | 5.8         |
| <b>Fragility Score</b>                  | 15.8        | 15.6        |
| <b>Diameter<sup>24</sup></b>            | 6           | 6           |
| <b>Articulation Points</b>              | 0           | 0           |

Source: Bank of Jamaica

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

5.1 There was an overall improvement in financial institutions’ earnings and profitability during the June 2021 quarter. DTIs and securities dealers’ return on assets (ROA) both increased to 0.9 per cent for the June 2021 quarter, relative to 0.4 per cent and 0.6 per cent, respectively, for the March 2021 quarter. These outturns were primarily due to higher growth in profits, relative to growth in assets.

<sup>22</sup> Network Metrics (reciprocity, density, systemic and fragility score, diameter and articulation points) are based on a network without foreign transactions.

<sup>23</sup> Network Metrics as at March 2021 include DTIs and the ten main SDs.

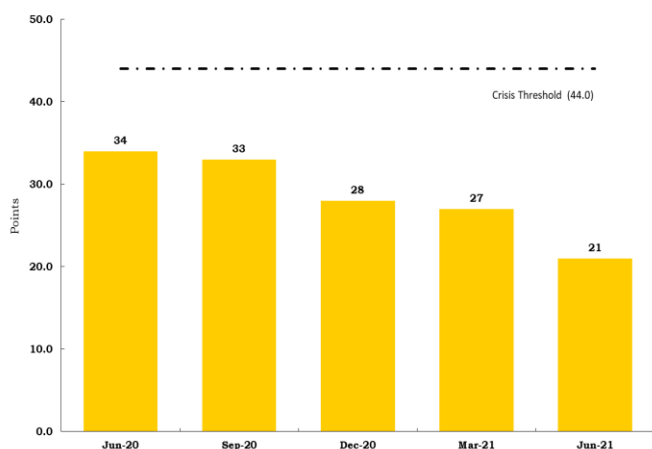
<sup>24</sup> Diameter indicates the “speed” of contagion, the more institutions on the diameter the slower the “speed” of contagion.

5.2 Aggregate measures of financial stability in Jamaica reflected improvements for the June 2021 quarter, relative to the March 2021 quarter. The macro-financial index (MaFI) improved by 6.0 points to 21.0 points at end-June 2021, relative to end-March 2021. This improvement largely reflected a positive reading for the twelve-month GDP indicator which recorded no signal for the June 2021 compared to 5.0 points for the previous quarter (see Chart 5.0)

5.4 Based on data at end-June 2021, stress test results for NDTFIs indicated that the securities dealers sub-sector were generally resilient to foreign exchange and liquidity risk shocks..

5.5 Reverse stress test results indicated that, as it relates to the credit risk, an increase of 178.0 per cent in non-performing loans would be necessary for the first DTI to fall below the prudential CAR benchmark, compared to 163.0 per cent at end-March 2021. This improvement was largely attributed to a higher buffer capital and pre-shock capital for the sector at end-July 2021 relative to end-March 2021. Securities dealers' liquidity stress test results at end-June 2021 showed that it would take a 40.0 per cent decline in repo liabilities for the first entity to fall below the 10.0 per cent CAR benchmark.

**Chart 5.0 Macro-Financial Index<sup>25</sup>**



Source: Bank of Jamaica

5.3 Stress test results for a range of shocks to DTIs balance sheets showed that DTIs' susceptibility to large exchange rate depreciation improved, while vulnerability to interest rate shocks remained unchanged. The reduction in DTIs' vulnerability to foreign currency risk was largely due to a decline in the foreign currency short position as well as higher buffer capital and pre-shock capital for one institution.

## Outlook

6.1 Jamaica's real GDP is projected to grow within the range of 7.0 and 10.0 per cent for FY 2021/22, and represent a partial recovery to pre-COVID real GDP figures. This performance is largely predicated on an improvement in tourism and other related sectors, driven largely by successful vaccination programmes in key source markets.

<sup>25</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.

- 6.2 In this context and as the capital markets regain momentum, financial entities recorded increased profits at end June 2021, relative to June 2019 (a pre-COVID benchmark). At the same time, DTIs' capitalization, which is indicative of these entities' potential to absorb potential losses, remained comfortably above the relevant prudential benchmarks.
- 6.3 The stress tests suggests that the financial sector remains largely resilient to the contemplated tail events.
- 6.4 However, uncertainties related to the duration of the COVID-19 pandemic and it's impact on households and businesses, remain. As such, it is necessary for the supervisors of the financial system to maintain enhanced monitoring of the system to ensure that risks can be mitigated as they emerge.

## Appendix

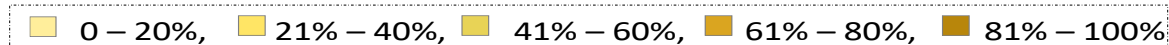
**Table 1.0 Select Financial Soundness Indicators**

|  | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 | Jul-21 |
|--|--------|--------|--------|--------|--------|--------|
| <b>Asset to GDP (%)</b>                        |        |        |        |        |        |        |
| DTI  | 92.91  | 100.64 | 102.89 | 106.93 | 108.24 | n/a    |
| SDs  | 30.83  | 33.49  | 35.21  | 36.19  | 36.60  | n/a    |
| Lls  | 17.74  | 18.11  | 18.67  | 19.08  | 18.84  | n/a    |
| Gls  | 4.82   | 4.75   | 4.67   | 4.65   | 5.27   | n/a    |
| <b>Capital Adequacy (%)</b>                    |        |        |        |        |        |        |
| DTI (CAR)                                      | 14.16  | 14.23  | 14.31  | 14.33  | 14.26  | 14.19  |
| SDs (CAR)                                      | 21.17  | 22.37  | 22.33  | 21.77  | 19.82  | n/a    |
| Lls (MCSSR)                                    | 243.16 | 207.21 | 214.63 | 214.98 | 248.69 | n/a    |
| Gls (MCT)                                      | 223.09 | 263.14 | 281.14 | 266.41 | 277.37 | n/a    |
| <b>ROA (%)</b>                                 |        |        |        |        |        |        |
| DTI  | 0.20   | 0.27   | 0.56   | 0.36   | 0.89   | n/a    |
| SDs  | 0.23   | 0.91   | 0.74   | 0.63   | 0.87   | n/a    |
| Lls  | 3.05   | 4.73   | 3.42   | 1.31   | 1.23   | n/a    |
| Gls  | 0.48   | 0.63   | 0.65   | 0.38   | 0.63   | n/a    |
| <b>Liquidity (%)</b>                           |        |        |        |        |        |        |
| DTIs Liquidity Coverage Ratio (LCR)            | 156.05 | 204.43 | 211.33 | 211.78 | 258.20 | 249.36 |
| DTIs (liquid assets to short term liabilities) | 28.72  | 28.14  | 30.54  | 28.56  | 28.24  | n/a    |
| SDs (liquid assets to total assets)            | 16.20  | 15.59  | 14.63  | 14.89  | 13.99  | n/a    |
| Lls (liquid assets to total liabilities)       | 25.96  | 23.39  | 21.08  | 23.52  | 22.67  | n/a    |
| Gls (liquid assets to total liabilities)       | 66.07  | 64.68  | 63.86  | 65.16  | 65.56  | n/a    |
| <b>Non-Performing Loans to Total Loans (%)</b> |        |        |        |        |        |        |
| DTIs   | 2.85   | 2.65   | 2.84   | 2.89   | 2.90   | 2.82   |
| SDs  | 2.60   | 0.00   | 2.40   | 2.60   | 2.50   | n/a    |
| <b>Past Due Loans to Total Loans (%)</b>       |        |        |        |        |        |        |
| DTIs   | 3.64   | 4.85   | 2.99   | 3.36   | 3.74   | 5.01   |

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.



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

|   |   |  | Mar-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 |
|---|---|--|--------|--------|--------|--------|--------|--------|
| <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          | 4.44   | 5.01   | 7.52   | 8.07   | 8.13   | 7.53   |
|   |   | Total credit-to-GDP gap                | 4.32   | 4.92   | 7.45   | 8.12   | 8.18   | 7.55   |
|   | <b>Credit Indicators: year-on-year growth (%)</b> | Total Credit                           | 15.85  | 12.44  | 11.15  | 10.05  | 6.83   | 8.45   |
|   |   | DTI Credit to Households               | 16.74  | 10.48  | 9.66   | 8.71   | 5.06   | 6.40   |
|   |   | DTI Credit to Non-financial Corporates | 14.61  | 15.12  | 13.78  | 11.98  | 10.44  | 5.36   |
|   | <b>Leverage<sup>2/</sup></b>                      | DTI                                    | 670.49 | 684.38 | 716.62 | 702.72 | 709.42 | 710.89 |
|   |   | SDs                                    | 746.55 | 708.75 | 650.39 | 612.68 | 638.61 | 594.53 |
|   |   | LIIs                                   | 305.08 | 300.90 | 309.84 | 301.99 | 297.12 | 297.00 |
|   |   | GIs                                    | 340.65 | 456.21 | 440.14 | 317.96 | 293.74 | 306.52 |

<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

|   |  |                       | Mar-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 |
|---|--|-----------------------|--------|--------|--------|--------|--------|--------|
| <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  | -42.12 | -42.71 | -38.24 | -40.26 | -40.36 | -41.32 |
|   |  | DTIs - up to 90 days  | -44.56 | -44.96 | -42.23 | -42.92 | -44.02 | -45.90 |
|   |  | DTIs - up to 365 days | -43.83 | -44.36 | -43.73 | -44.87 | -44.42 | -45.92 |
|   |  | SDs - up to 30 days   | -20.27 | -16.01 | -9.11  | -13.79 | -15.86 | -14.82 |
|   |  | SDs - up to 90 days   | -33.90 | -30.35 | -24.93 | -28.82 | -31.38 | -28.48 |
|   |  | SDs - up to 365 days  | -46.28 | -37.28 | -31.06 | -32.74 | -31.82 | -33.73 |
|   | <b>Maturity Transformation (%)<sup>1/</sup></b>    | DTI - MT1             | 42.27  | 43.35  | 42.84  | 44.24  | 45.42  | 43.78  |
|   |  | SDs - MT1             | 41.60  | 38.77  | 35.28  | 33.53  | 31.14  | 36.03  |
|   |  | LIs - MT1             | 9.57   | 11.68  | 9.31   | 3.07   | 2.16   | 2.75   |
|   |  | GIs - MT1             | -12.51 | -11.12 | -11.81 | -15.36 | -12.51 | -11.68 |
|   | <b>Liquidity Transformation (%)<sup>2/</sup></b>   | DTI - LT3             | 285.98 | 281.91 | 286.00 | 265.37 | 292.44 | 281.72 |
|   |  | SDs - LT3             | 255.43 | 193.07 | 173.47 | 193.14 | 183.13 | 199.27 |
|   |  | LIs - LT3             | 236.99 | 107.74 | 46.68  | 74.28  | 86.97  | 88.60  |
|   |  | GIs - LT3             | 147.51 | 64.65  | 61.61  | 128.32 | 123.72 | 138.47 |

<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

|   |  | Mar-20   | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 |        |
|---|--|--|--------|--------|--------|--------|--------|--------|
| <b>Objective 3: Limit direct and indirect exposure concentrations</b> | <b>Exposure to Financial Markets (%)</b>         | Composite Indicator of Systemic Stress                   | 0.45   | 0.34   | 0.39   | 0.39   | 0.38   | 0.32   |
|   |  | DTIs - Net open position to capital                      | -15.41 | -14.63 | -23.10 | -26.02 | -23.94 | -21.47 |
|   |  | Securities Dealers - Net open position to capital        | -27.07 | 7.75   | 46.87  | 7.75   | -2.96  | 19.14  |
|   | <b>Exposure to Sovereign Risk (%)</b>            | DTIs - Public Sector Debt to total assets                | 8.33   | 9.40   | 9.65   | 10.11  | 9.88   | 9.72   |
|   |  | Securities Dealers - Public Sector Debt to total assets  | 17.32  | 16.05  | 14.98  | 14.63  | 15.47  | 15.14  |
|   |  | Insurance Companies - Public Sector Debt to total assets | 29.48  | 37.78  | 37.48  | 24.39  | 36.47  | 35.29  |
|   | <b>Exposure to Households and Corporates (%)</b> | Household debt to GDP                                    | 32.08  | 31.72  | 34.62  | 35.66  | 36.85  | 38.44  |
|   |  | Household Net Financial Position to GDP                  | 19.34  | 20.05  | 24.75  | 25.60  | 36.65  | 38.97  |
|   |  | Corporate debt to GDP                                    | 13.43  | 14.00  | 15.26  | 15.90  | 20.22  | 20.67  |
|   |  | Corporate Net Financial Position to GDP                  | 5.77   | 5.44   | 7.72   | 8.03   | 4.14   | -7.44  |
|   | <b>Exposure to Real Estate (%)</b>               | DTIs - Mortgages to Assets                               | 11.35  | 10.94  | 10.77  | 11.14  | 11.26  | 11.19  |

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

|   |  | Mar-20   | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 |       |
|---|--|--|--------|--------|--------|--------|--------|-------|
| <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           | 64.88  | 64.37  | 63.12  | 61.40  | 60.40  | 68.99 |
|   | <b>Non-Deposit Taking Financial Institution (NDTFIs)</b>     | NDTFIs asset share to total system assets                | 35.74  | 36.50  | 35.89  | 36.27  | 35.98  | 35.92 |
|   | <b>Dollarization Indicators (%)</b>                          | FX investment holdings to total investment - SDs         | 46.64  | 54.87  | 55.77  | 55.95  | 53.35  | 55.98 |
|   |  | FX loan & investment holdings to total investment - DTIs | 31.12  | 32.14  | 30.82  | 30.44  | 31.97  | 31.73 |
|   |  | FX deposits to total deposits - DTIs                     | 39.01  | 39.41  | 39.42  | 38.65  | 38.50  | 38.90 |

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

|  |                          | Mar-20                              | Jun-20 | Sep-20 | Dec-20 | Mar-21 | Jun-21 |       |
|--|--------------------------|-------------------------------------|--------|--------|--------|--------|--------|-------|
| <b>Objective 5: Strengthen the resilience of the financial system &amp; infrastructure</b> | <b>Composite Indices</b> | Macro-Financial Index               | 26.00  | 34.00  | 34.00  | 34.00  | 22.00  | 21.00 |
|  |                          | Micro-Prudential Index - DTIs       | 28.00  | 27.00  | 25.00  | 23.00  | 26.00  | 21.00 |
|  |                          | Banking Stability Index             | -0.11  | -0.23  | -0.01  | 0.35   | -0.11  | 0.41  |
|  |                          | Aggregate Financial Stability Index | 0.48   | 0.46   | 0.55   | 0.50   | 0.51   | 0.60  |

<sup>1/</sup> The interest stress test scenario applies interest rate increases of 1100 bps/ 100 bps & 275 bps/ 15 bps on domestic and foreign rate sensitive assets.