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FINANCIAL SERVICES COMMISSION

Consultation Paper

An Appropriate Definition and Level of a Liquidity Ratio for the Securities Sector

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FINANCIAL SERVICES COMMISION

AN APPROPRIATE DEFINITION AND LEVEL OF A LIQUIDITY RATIO FOR THE SECURITIES SECTOR
CONSULTATION PAPER
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1.0 INTRODUCTION

1.01 The purpose of this paper is to present the results of a study on the appropriate definition and level of a liquidity ratio for the securities sector as commissioned by the International Monetary Fund (IMF) under the Standby Arrangement with Jamaica as published in the Memorandum of Economic and Financial Policies (MEFP).

1.02 As at June 30, 2018, the industry consisted of 41 securities dealers (SDs). A sample of 12 SDs of varying sizes, was selected based on their on-balance sheet Funds under Management. Their liquidity positions were assessed to give an appropriate representation of the industry. The study was done using financial submissions of the licensees as at June 30, 2017. This paper has been updated to reflect the results of the June 2018 submissions.

1.03 The result of the study highlights the need for a liquidity ratio to monitor the liquidity positions of SDs within the sector. This is based on the nature of the securities industry in which short term sources of financing (repo liabilities) usually with maturities under one year are backed by assets with longer maturity. Consequently, securities dealers are exposed to significant liquidity risk as a result of the mismatch of their liquid assets and short term liabilities.

1.04 The study focused on four ratios, the components of which were believed to be reflective of the securities industry in Jamaica. These ratios are:

1. The Liquidity Coverage Ratio (LCR)
2. Liquidity Gap Ratio (LGR)
3. Volatile Funding Sources Liquidity Coverage Ratio (VFSCR)
4. Net Stable Funding Ratio (NSFR)

2.0 BACKGROUND

2.1 LIQUIDITY MANAGEMENT

2.11 In order for securities companies to operate efficiently they should have policies and procedures in place that focus on liquidity management. Liquidity management describes the ability of a company to meet *its* financial obligations through cash flow, funding activities and capital management.

2.12 In 2016 the FSC issued Guidelines to the Securities (Prudential) Regulations, 2014 (the prudential guidelines). Part 4.0 of the guidelines speaks to liquidity management by SDs and requires that SDs adopt a written strategy for the day-to-day management of liquidity. The prudential guidelines require that the strategy defines the licensee's general approach to managing liquidity, including various quantitative and qualitative targets.

2.13 Balancing the trade-off between profitability and liquidity is a challenge. A high degree of liquidity indicates a capacity to meet obligations and take advantage of business opportunities. On the other hand, too much liquidity in the form of cash and low-earning assets or expensive borrowing could potentially reduce a licensee's profitability. The key is to find the right balance between liquidity and profitability. That balance will change over time as economic and business conditions change. Finding the right balance depends in part on the licensee's ability to estimate and manage future cash flows.

2.2 SOURCES OF LIQUIDITY RISKS

2.21 Licensees have significant holdings of government securities and other assets which are in many cases funded by repurchase agreements with clients. These arrangements expose licensees to significant liquidity risks which require a high standard of liquidity management.

2.22 Liquidity risk comprises two components a) Funding risk, that is, the risk of a company being unable to borrow money at a reasonable cost to fund its assets and b) Asset price risk , that is, the risk that it will not be possible to sell a portfolio holding at its purchase price. Ideally, a liquidity risk metric will incorporate elements of both asset price and funding risk. Licensee-specific problems or systemic disturbances can trigger liquidity problems which are usually the result of other problems within a licensee. These may include:

- Poor asset quality
- Excessive interest rate risk
- High levels of maturity mismatch
- Inadequate capital
- Operational problems
- Inadequate cash flow planning

2.23 Systemic liquidity problems may result from a major financial debacle, a crisis, or other catastrophic event.

3.0 INDUSTRY OVERVIEW

3.01 The Jamaican securities industry continues to grow and remain profitable. While the on-going reforms have led to a decrease in the size of the repo market, it has accounted for an average of approximately 83.5% of the industry's total liabilities as shown in Table 1[1].

3.02 As seen in table 1, the amount of liquid funds (cash and cash equivalents) maintained by the SDs is minimal. SDs are required to match each dollar of clients' liabilities with appropriate assets and applicable margins for on-balance sheet investments. There is also a similar requirement for

[1] Data in Table 1 are based on the select 12 securities dealers as determined by Balance Sheet submission.

matching off-balance sheet investments with appropriate assets; however there is no margin requirement. In accordance with Section 3.5 of the Guidelines for Margin Requirements for Repurchase Agreement, dealers are required to hold assets with fair value exceeding the initial purchase price of the repurchase agreement by the prescribed minimum margin. Thus, liquid assets in the SDs Balance Sheet would comprise mostly proprietary cash and client funds not yet used to purchase assets.

Table1: Selected Indicators, 2014-2017

Selected Indicators	Dec' 2017	Dec' 2016	Dec' 2015	Dec' 2014
Total Assets (J$' Billions)	512.4	511.9	496.2	518.9
Liquid Funds (Notes & Coins) (J$' Billions)	38.0	29.2	26.0	45.6
Total Investments	425.4	438.2	427.0	429.1
Repo Liabilities (J$' Billions)	352.4	347.3	373.8	405.5
Other Client Funds (Not under Repo Agreement) Certificate of Participation	25.1	47.5	21.1	12.6
Total liabilities (J$' Billions)	439.5	443.7	431.1	454.2
Repo Liabilities as a percentage of total investments (%)	82.8%	79.3%	87.5%	94.5%
Repo Liabilities as a percentage of total liabilities (%)	80.2%	78.3%	86.7%	89.3%
Repo Liabilities with retail clients as a percentage of total repo liabilities (%)	23.1%	24.3%	28.6%	37.7%
Repo Liabilities with non-financial corporate clients as a percentage of total repo liabilities (%)	50.3%	47.7%	47.2%	40.4%
Repo liabilities with financial institutions as a percentage of total repo liabilities (%)	26.6%	28.0%	24.2%	22.0%

4.0 ASSUMPTIONS/METHODOLOGY

4.01 The FSC assessed twelve (12) SDs using four (4) possible ratios based on their appropriateness to the securities industry. The assessment process included:

- requesting that SDs share the ratios they were currently using to assess liquidity within their organization and reviewing those ratios;
- reviewing ratios proposed under BASEL III;

- the ratios collected from both the dealers and BASEL III were reviewed and then some ratios were selected and or adjusted based on their applicability to the securities industry;
- the proposed ratios were computed for the twelve securities dealers using financial data submitted as at June 30, 2017.

4.10 SELECTION OF APPROPRIATE RATIOS

4.11 The information reviewed showed that various formulae were being used by the SD's to calculate and monitor their liquidity positions. The time periods used and definitions for similar components were also inconsistent. For instance some dealers assessed liquidity positions for a 15 day window, while others used 30 days or one year. Additionally, some dealers used more complex calculations and benchmarks thus a reasonable comparison could not be made.

4.20 APPROPRIATE COMPONENTS OF AN OPTIMAL RATIO FOR SDs

4.21 In addition to daily monitoring of their liquidity positions, SDs have to plan for periods of liquidity stress and put measures in place to mitigate any possible shocks that may occur. The FSC assumes that SDs liquidity stress may arise from the following:

- A decrease in the number of new clients
- A drying up of the repo financing market, such that repos maturing in the period are not renewed
- Short-term liabilities in need of repayment
- A reduction in the market value of assets which are required to be sold under stress

4.22 The optimal ratio should have the following characteristics. It should:

- monitor the SDs exposure to their liquidity risks;
- be easy to calculate; and
- be replicable by the FSC or at least easily audited

4.23 In developing a regulatory framework credence must be given to aspects of sound liquidity management. This should include an appropriate definition for liquid assets that is reflective of the universe of instruments currently available in the market. Additionally, liquidity on the SDs' balance sheets should not only be viewed in the context of instruments with short maturity but should also consider the marketability of longer maturity instruments such as internationally traded securities that are listed on an active market.

5.0 KEY DEFINITIONS FOR LIQUIDITY RATIOS

5.1 Liquid Assets

5.11 Licensees often meet liquidity needs through the sale or maturity of assets. While any asset can serve as a source of liquidity, licensees must consider the length of time it takes to dispose of an asset and the price at which it can be sold. Ideal sources of liquidity are unencumbered assets that a licensee can either sell without significant discount or borrow against with relative ease.

5.12 Liquid assets would generally include deposits with other financial institutions, short-term securities and other securities that can easily be sold, or are about to mature. In an effort to maximize their return and manage their liquidity positions, securities dealers invest in international securities including foreign government and municipal bonds. Investments are also made in highly rated and actively traded corporate bonds. Some of these securities are allowable assets based on the Securities Act and Regulations and are used within the Retail Repo Trust Framework.

5.13 The FSC recognizes these securities and have included the values of these assets in its definition of liquid assets with consideration given to the credit rating of these securities. Conservative discounts were applied as follow:

- 15% discount to all Investment Grade securities
- 30% discount to all non-investment grade securities

5.14 The FSC also recognizes Reverse Repurchase agreements (reverse repos) as liquid assets. Reverse repos are used by SDs to fund short term interdealer positions. The investment periods varied from overnight up to a maximum of one year. Reverse repos with maturities in excess of thirty days normally carry a greater interest premium as the credit risk of these repos increase. Some default risk is also inherent as there is the chance for the securities to quickly depreciate before the maturity date, so the lender receives less cash than was initially anticipated. In considering these risks the FSC will only recognise repos that mature within thirty (30) days as liquid assets.

5.15 For the purposes of this study, Liquid Assets were defined as follows:

- all cash and cash at bank
- balances with the Bank of Jamaica,
- reverse repurchase amounts due within 30 days,
- Government of Jamaica (GOJ) Treasury Bills
- GOJ instruments with nine months and under to maturity,
- GOJ Instruments designated as liquid assets by the Minister of Finance and Public Service
- Short term instruments (maturities of nine months and under) issued by the governments of US, Canada and the United Kingdom
- all investment grade international securities, discounted by 15%,

- all unrated or non-investment grade international and domestic securities, discounted at 30%[2]

5.2 Cash Needs under Stress

5.21 Cash needs under stress are assumed to include:

- 20% of retail repo liabilities (in trust arrangement)
- 100% of Classic Repo liabilities[3]
- The average month's operating cash costs
- An amount equal to 5% of the collateral placed against borrowings that are not due to mature within 30 days

5.3 Volatile Funding Sources

5.31 In addition to having liquid assets to satisfy liquidity needs, licensees have also been meeting these needs through liability sources such as institution/broker borrowings. A licensee's ability to borrow or attract funds in the markets is generally a function of its size, reputation, creditworthiness, and capital levels. In general, funds provided by financial institutions and brokers are usually more sensitive to interest rate movements causing them to pose a greater liquidity risk to the licensee.

5.32 The calculation of volatile funding sources should include:

- 20% of repos held by individual customers
- 50% of repos held by corporate customers
- 100% of repos held with financial institutions.

6.0 PROPOSED LIQUIDITY RATIOS

6.01 The ratios utilized in the study are as follows:

1. The Liquidity Coverage Ratio
2. Liquidity Gap Ratio
3. Volatile Funding Sources Liquidity Coverage Ratio
4. Net Stable Funding Ratio

6.1 Liquidity Coverage Ratio (LCR)

Liquid Assets / Cash Needs (in stress) for 30 days

[2] It is unclear that this should be considered in the definition of liquid assets in the future though considered in the study. This definitional change will impact securities dealers results

[3] An assumption of 67% of total classic repos was used as a proxy for 100% classic repos maturing within 30 days

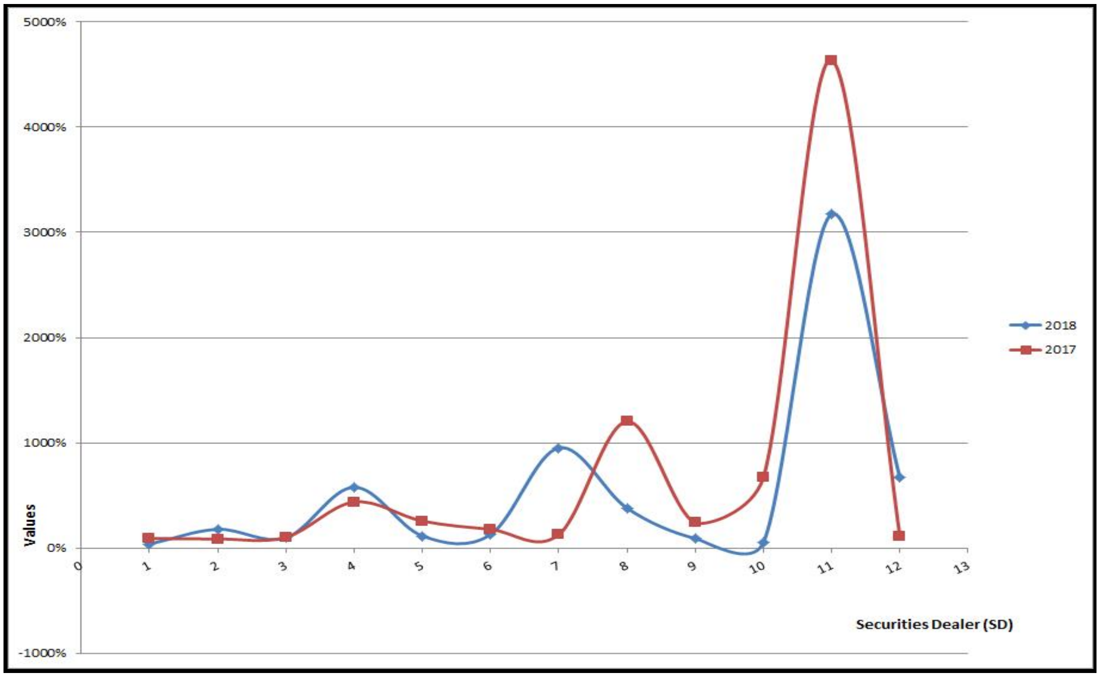
6.12 This ratio was developed from the LCR ratio promoted by BASEL for use by banks. The ratio aims to ensure that there is an adequate stock of unencumbered high-quality assets to provide liquidity in a short term liquidity stress scenario.

6.13 The assessment done on the 12 dealers (as seen in Table 2) showed that 10 dealers passed the proposed benchmark of 100%.

6.14 Limitations

- The calculation would need additional firm-specific information, including classic repos due within 30 days, the average monthly cash costs and collateral placed against borrowings.
- The ratio did not factor in the mismatch or gap that exists between actual maturing liabilities and assets.
- The ratio assumes the repayment of all classic repos maturing within 30 days. The experience of the securities industry dictates that this is not a realistic assumption.
- The ratio also did not account for any other liabilities held by SDs

Results of Ratio – Liquidity Coverage Ratio



6.2 Liquidity Gap Coverage Ratio (LGCR)

Liquid Assets that will not mature within next 30 days / (Liquid assets maturing within 30 days – liabilities maturing within 30 days)

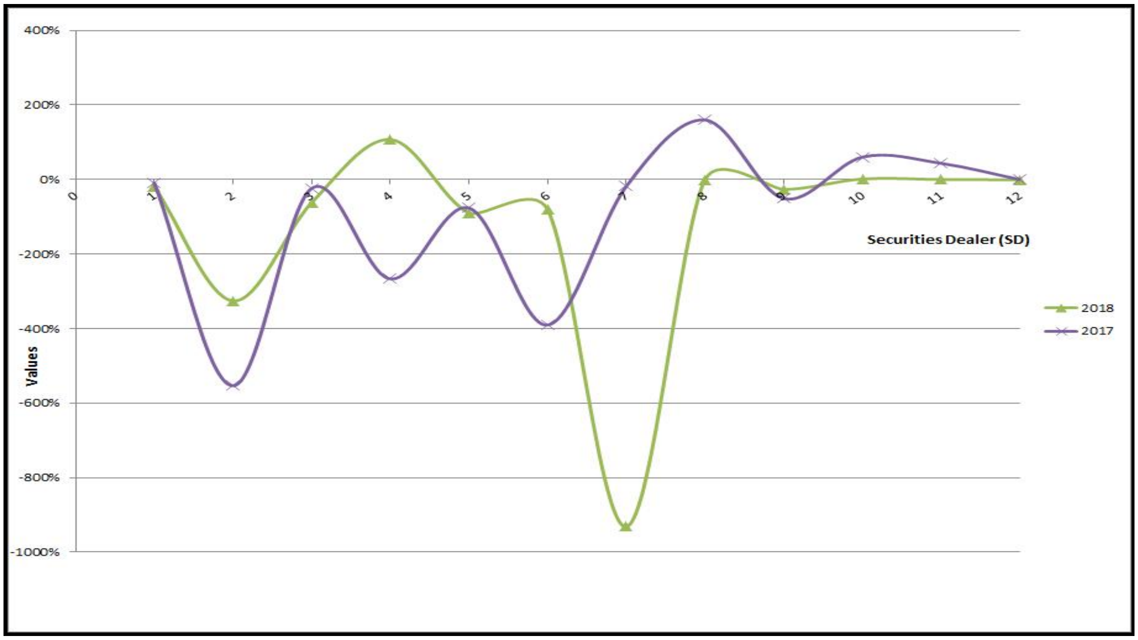
6.21 This ratio considers the coverage that liquid assets maturing after 30 days provide to cover the short-term (30 day) mismatch between assets and liabilities. It is directly related to the repo cash needs of the firm and can be adapted to stressful markets. It also provides a means for which SDs and the FSC can conceptualize possible risks in order to implement measures to address or mitigate them.

6.22 The study showed that from the sample of 12 dealers, 4 dealers were adequately covering their liquidity positions (as seen in Table 2).

6.23 Limitation

- The challenge the ratio presented was that it assumes that one hundred percent of all repo liabilities that mature within a 30 day period will not be rolled over which is not realistic within the Securities industry.

Results of Ratio – Liquidity Gap Coverage Ratio



6.3 Volatile Funding Sources Coverage Ratio (VFSCR)

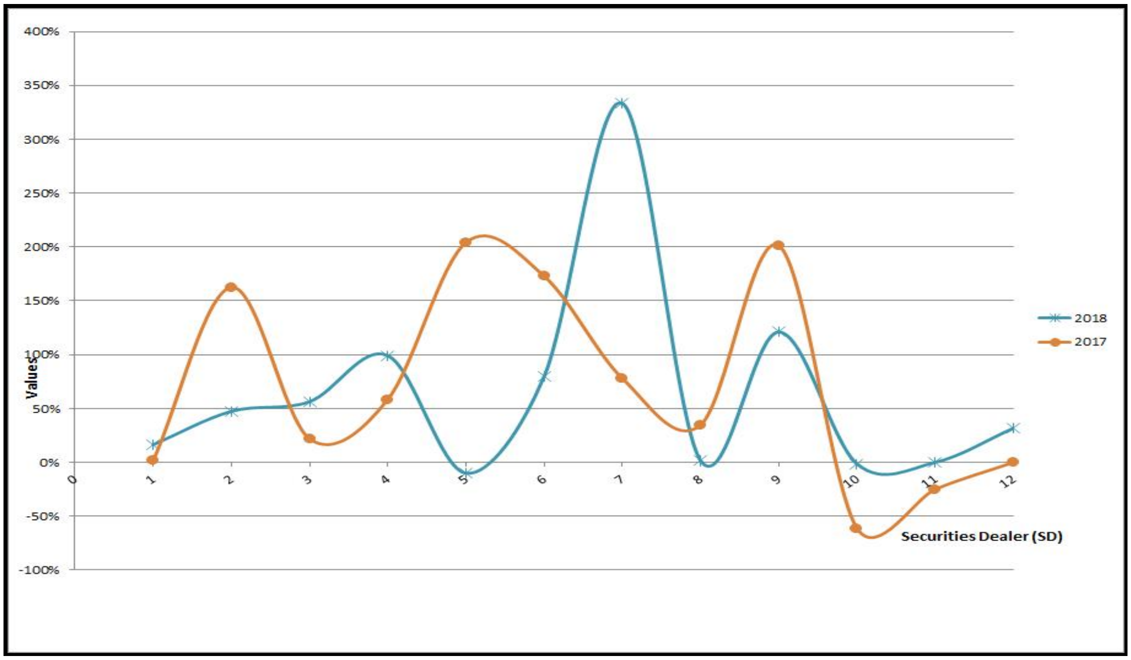
Liquid assets that will not mature within the next 90 days + Formalised Overdraft Facility/(Volatile funding sources likely to be called within 90 days + Other Liabilities) - Liquid assets maturing within 90 days

6.31 This ratio requires that SDs have enough liquid assets and a formalised overdraft facility with a commercial bank to cover the total cash outflow in a 90 day period under volatile or stressful conditions. It considers both repurchase agreements and any other client liabilities that the SDs may have within their portfolio. This ratio also extends the maturity periods to 90 days with the aim of covering an average high stressful period.

6.32 The ratio measures the coverage that liquid assets maturing after 90 days provide to cover a short-term (90 days) mismatch between assets and liabilities.

6.33 Seven (7) dealers from the sample of 12 (see Table 2) achieved results which indicated that their liquidity positions were adequately covered. The FSC believes that this ratio more closely captures the reality of the SDs and their liquidity management.

Results of Ratio – Volatile Funding Sources Coverage Ratio (VFSCR)



6.4 Net Stable Funding Ratio (NFSR)

Net Stable Funding Ratio = Available amount of stable funding (ASF) / Required amount of stable funding (RSF)

6.41 The aim of the NSFR is to limit over-reliance on short-term wholesale funding, encourage better assessment of funding risk across all on and off-balance sheet items, and promote funding stability. This is achieved by reducing funding risk over a longer time horizon by requiring activities to be funded by sufficiently stable sources of funding in order to mitigate the risk of future funding stress.

6.42 The funding tenor of the NFSR is generally calibrated so that longer-term liabilities are assumed to be more stable than shorter term liabilities.

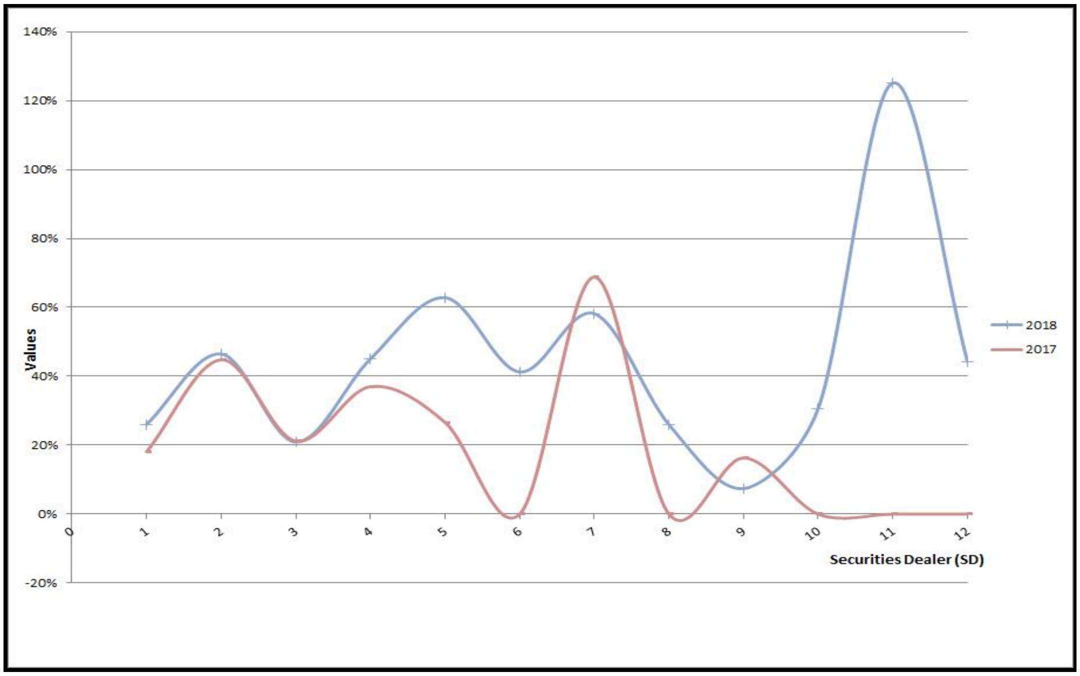
6.43 Limitations

- The ratio as formulated is for banks and gives credit to demand deposits. This may be seen as an encouragement for dealers to hold client funds for the purposes of improving or passing the ratio instead of investing client funds.

- dealers would be forced to change their business model in order to pass the benchmark for this ratio

6.44 The ratio was calculated for 7 of the 12 dealers in the sample in 2017 and all 12 in 2018. The results showed ratios ranging from 7% to 125% (see Table 2).

Results of Ratio – Net Stable Funding Ratio (NSFR)



7.0 RESULTS OF THE PROPOSED RATIOS ON 12 SDs

Table 2: Results of Considered Ratios of Selected 12 Dealers as at June 30, 2017

	Liquidity Coverage Ratio (LCR)		Liquidity Gap Coverage Ratio		Volatile Funding Sources Coverage Ratio (VFSCR)		Net Stable Funding Ratio	
	2018	*2017*	*2018*	*2017*	*2018*	*2017*	*2018*	*2017*
SD1	37%	92%	-19%	-9%	16%	2%	26%	18%
SD2	179%	86%	-326%	-554%	47%	163%	46%	45%
SD3	96%	103%	-62%	-24%	56%	22%	21%	21%
SD4	579%	438%	107%	-267%	99%	58%	45%	37%
SD5	115%	257%	-90%	-77%	-10%	204%	63%	27%
SD6	129%	178%	-81%	-390%	80%	173%	41%	0%
SD7	953%	128%	-932%	-18%	333%	78%	58%	69%
SD8	379%	1203%	-1%	160%	2%	35%	26%	0%
SD9	91%	241%	-27%	-51%	121%	201%	7%	16%
SD10	55%	675%	1%	60%	-1%	-61%	31%	0%
SD11	3172%	4636%	0%	43%	0%	-25%	125%	0%
SD12	668%	109%	-1%	0%	32%	0%	44%	0%
Number passed	***8***	***10***	***5***	***4***	***5***	***7***	***1***	***0***

1. To determine whether dealers have passed or failed a benchmark of 100% was used for the LCR and NSFR. The LGCR and the VFSCR ratios were designed to measure the gap between short term assets and liabilities and hence the benchmark was assessed differently.
2. Medium and small SDs that had significant liquid assets and minimal or no repo liabilities scored higher for the LCR

7.1 Summary Analysis of Proposed Ratios

- During the period of the study, it was noted that dealers had significant amounts of liabilities maturing within 30 days but significantly less assets liquid assets to cover these liabilities. It *was noted however, that m*ost SDs had GOJ local and global bonds assets maturing beyond 9 months. The results of the calculations showed that a number of dealers within the sample, regardless of business size, are in an unfavourable liquidity position. This result was also reflected in the 2018 data with the majority of the dealers in the study having significant 30 day liabilities unmatched by assets with similar tenor.

- In analysing the ratios it was noted that SDs with large reverse repo balances in which extended beyond thirty (30) days achieved lower results; some more significant than others. The implementation of a liquidity ratio will therefore require some SDs to adjust their financing model.

- While the LCR had more dealers achieving the natural benchmark of 100% than the VFSCR, the VFSCR illustrates the vulnerability of the retail repo business model of the Securities industry to severe stresses given the mismatch and gaps in their portfolios of investments assets and clients liabilities.

- The VFSCR results for some dealers was either negative or zero as they had sufficient short term assets (less than 90 days) to cover their short term liabilities.

8.0 FSC RECOMMENDED RATIO AND BENCHMARK

8.01 The FSC believes that the VFSCR is the most appropriate ratio as its components are reflective of the liquidity risk facing the securities sector based on their funding models. One major factor was that it accounted for all client liabilities and not only repo liabilities. Additionally, the results indicated that an applicable benchmark of one hundred percent (100%) can be achieved over time, for dealers who presently have more short term client liabilities than liquid assets.

8.02 The FSC will incorporate the VFSCR liquidity ratio into its supervisory framework as an on-going monitoring tool which will guide the intensity of supervision of SDs.

8.03 This will be achieved as follows:

a. The FSC will begin conducting calculations of the ratio on a quarterly basis using the June 30, 2019 data. During this time the FSC will take steps to refine the data necessary to ensure the accuracy of the results inclusive of possible request for additional information. .
b. Monitoring will occur based on an established range of 50% to 100% coverage.
c. Divergence from the minimum coverage of 50% will result in enhanced monitoring of the relevant dealers which may include:

    i. Convening meeting with dealers to discuss concerns
    ii. Requesting the submission of a Board approved action plan to improve liquidity position
    iii. Enforcement actions if deemed necessary

d. The FSC is in the process of adopting a Risk Based Supervisory Framework for assessment of risk across the sector. Liquidity will be an essential component of this framework so dealers are encouraged to ensure that their liquidity positions are in keeping with the appropriate coverage.

9.0 LIMITATIONS THAT IMPACTED THE STUDY

- The recommended ratio, VFSCR, was calculated using 90 days for the maturity periods, while the FSC believes that a 30 day period would have been more realistic. The FSC intends to revisit these calculations at a more opportune time to assess the dealers within the sample using a 30 day maturity period.

- It was observed that dealers were not consistent in reporting their asset values across the different financial reports submitted to the FSC, which posed a challenge in collating the data. The FSC will employ strategies aimed at improving the quality and accuracy of the data received from the SDs to ensure accurate calculation of the liquidity ratio.

- Traditionally, SDs regard liquid assets as assets maturing within 1 year and not 9 months as defined in this study. In addition reverse repos with a year or less to maturity were also considered as liquid.

- Junk, non-rated and suspended bonds are presently difficult to determine based on the reporting structure of the dealers. These bonds will not be eligible to be classified as liquid assets and thus a determination will be needed on how best to deal with these securities.

- The following mitigants which may exist for SDs were not considered in this study:

    1. Parental support for SDs who are part of a group structure
    2. Overseas overdraft facilities and margin arrangements
    3. Intra-group funding arrangements

10.0 Conclusion

10.01 This study reflects the liquidity challenges of the securities sector due to the long term nature of the instruments that are backing client liabilities and the available funding sources to address potential liquidity needs under stressful conditions. Consequently, an applicable measure in the form of a liquidity ratio with an appropriate benchmark is necessary for the prudential framework.

10.02 Arising from the study the FSC is recommending the VFSCR to be used a monitoring tool to assess dealers liquidity positions. The ratio will be monitored against an initial benchmark of 50%.

10.03 The ratio will be monitored in conjunction with the results of the various reforms on the SDs such as the implementation of a Retail Repo Mismatch Ratio (RRMR) and new large exposure limits (SR-GUID-17/12-0024). It is anticipated that, while the RRMR specifically targets interest rate risks arising from maturity mismatches, a reduction in maturity mismatches will also reduce liquidity risk.

10.04 While the study reflects the general need for a liquidity ratio, the implementation of such a ratio will need to consider the impacts on the varying stakeholders inclusive of the Government of Jamaica which relies heavily on the dealers to fund its budget on an annual basis to facilitate debt raising and market making. A final approved implementation plan will therefore require additional consultation.

The FSC invites comments on any and all aspects of the proposal presented in this paper. Comments should be submitted in hard copy or via email, on or before Monday, October 31, 2018 to:

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