SOUTH AFRICAN RESERVE BANK

Financial Stability Department

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Draft discussion paper

Repo facility to assist non-bank financial institutions with liquidity during a market dysfunction

Contents

1. Abbreviations

BIS	Bank for International Settlements
BOC	Bank of Canada
CNB	Czech National Bank
FSR Act	Financial Sector Regulation Act 9 of 2017
IMF	International Monetary Fund
LDI	liability-driven investment
MPIF	monetary policy implementation framework
NBFI	non-bank financial institution
OMO	open market operation
RBI	Reserve Bank of India
repo	repurchase
RITS	Reserve Bank Information and Transfer System
SAMOS (system)	South African Multiple Option Settlement (system)
SARB	South African Reserve Bank
SARB Act	South African Reserve Bank Act 90 of 1989
SEC	Securities and Exchange Commission

2. Definitions

For purposes of this document the following definitions apply:

'collateral' means assets pledged as security against loans;[1]

'crisis' means a financial crisis[2] which may be associated with one or more of the following phenomena:

- substantial changes in credit volume and asset prices;
- severe disruptions in financial intermediation and the supply of external financing to various actors in the economy;
- large-scale balance sheet problems (of firms, households, financial intermediaries and sovereigns); and
- large-scale government support (in the form of liquidity and recapitalisation);

'emergency liquidity assistance' means liquidity assistance provided by the South African Reserve Bank to a bank that is experiencing liquidity shortages which it is unable to alleviate through private sources of funding or its normal operations with the central bank;

'haircuts' means the difference between the market value of an asset and the value assigned to it when it is used as collateral for a loan after considering the inherent risks of the transaction;

'lender of last resort function' refers to the role of the South African Reserve Bank when providing additional liquidity in addition to its normal liquidity management operations to protect financial stability and the smooth functioning of the financial system;

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[1] South African Reserve Bank, 'Money Market Subcommittee - Triparty collateral management: concept position paper', 2021. https://www.resbank.co.za/content/dam/sarb/publications/media-releases/2021/triparty-collateral-management-concept-position-paper/Money%20Market%20Subcommitte%20Triparty%20Collateral%20Management%20Concept%20Position%20Paper.pdf

[2] S Claessens and A Kose, 'Financial crises explanations, types, and implications', *IMF Working Paper No. 2013/028,* 30 January 2013. https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Financial-Crises-Explanations-Types-and-Implications-40283

'market dysfunction' refers to episodes when financial markets are unable to establish prices and transact volumes. These episodes have the potential to cause disruptions in how credit flows to the economy, thereby having an impact in real activity and price stability;[3]

'non-bank financial institutions' refer to financial institutions such as, but not limited to, insurers, pension funds, money market funds, investment funds, hedge funds, asset managers or collective investment schemes, market infrastructures in terms of the Financial Markets Act 19 of 2012 (FMA) and broker-dealers etc. Non-bank financial institutions are broadly defined as financial institutions that are not banks but can provide bank-like financial services. Included in these services could be liquidity provision, loan provision, credit intermediation, intermediation of financial market activities, and the management of funds;

'systemic event' means systemic event as defined in the Financial Sector Regulation Act 9 of 2017.

[3] Bank for International Settlements. 'Market dysfunction and central bank tools'. Insights from a Markets Committee Working Group chaired by Andrew Hauser (Bank of England) and Lorie Logan (Federal Reserve Bank of New York), 2022. https://www.bis.org/publ/mc_insights.pdf

3. Executive summary

3.1. This discussion paper sets out considerations for a repurchase (repo) facility (facility) which the South African Reserve Bank (SARB) could offer to non-bank financial institutions (NBFI) to address liquidity shortages during episodes of severe market dysfunction to mitigate the risk of a systemic event. The purpose of the discussion paper is to solicit public comment on the necessity, feasibility, scope and design features of such a facility.

3.2. The facility would not be a standing facility or form part of the SARB's open market operations but would only be made available to certain NBFIs during times of distress or episodes of market dysfunction.

3.3. This paper focuses on market-wide dysfunction and does not consider the provision of emergency liquidity assistance to an individual institution experiencing a liquidity stress.

3.4. The paper highlights the benefits and risks of making the facility available and sets out the key conditions and design features necessary to mitigate the risks and reduce any negative consequences.

3.5. The role of the SARB's new monetary policy implementation framework in addressing market liquidity is also considered.

3.6. Lastly, the paper gives a brief overview of the work done in other jurisdictions relating to liquidity provision to the NBFI sector during periods of market distress.

4. Introduction

4.1. In terms of Chapter 2 of the Financial Sector Regulation Act 9 of 2017 (FSR Act), the SARB is responsible for protecting and enhancing financial stability. This includes the responsibility to take steps to mitigate the risk that a systemic event may occur, or if a systemic event has occurred, to take the necessary actions to restore financial stability.

4.2. According to section 4 of the FSR Act, financial stability entails the ability of financial institutions to provide financial products and services without interruption and despite changes in economic circumstances, as well as the general confidence in the ability of financial institutions to continue to provide financial products and services without interruption despite changes in economic circumstances.

4.3. The South African Reserve Bank Act 90 of 1989 (SARB Act) empowers the SARB to grant loans and advances. Section 10(1)(f), read with section 10(1)(s), of the SARB Act authorises the SARB, in accordance with the recognised and established customs and functions of central banks, to provide liquidity by means of collateralised loans.

4.4. The SARB Act does not place any restrictions on the type of entities to which the SARB may lend. In addition, to fulfil its responsibility of ensuring financial stability, the SARB is authorised by the FSR Act to utilise any power granted to it in terms of the legislation.

4.5. Traditionally, central banks have relied on banks as intermediaries for transmitting policy decisions. However, when this traditional channel becomes impaired, the effectiveness of central bank interventions may decline, with liquidity failing to reach other market participants, including NBFIs. In turn, this may force these participants into fire sales, placing further pressure on a dysfunctional market and, depending on the size, the interconnectedness, complexity and substitutability of these participants may require central banks to intervene to restore financial stability.

4.6. Globally, several central banks have been considering whether to extend liquidity provision beyond banks during times of distress. Annexure A sets out some of the actions taken by other central banks.

5. Vulnerability of the NBFI sector to market dysfunction

5.1. Globally, the NBFI sector has grown to almost half of financial assets since the 2007–08 financial crisis. In South Africa, there’s a concentration in one of the financial assets by the NBFI sector. As at the end of February 2023, NBFIs’ aggregate percentage holdings of government debt was 52.1% of total NBFI assets.[4]

5.2. The nature of the activities performed by the NBFI sector can give rise to financial stability risks. NBFIs can pose financial stability risks because of their growth, interconnectedness, liquidity mismatches, leverage and the regulatory gap. Recent NBFI crises, as outlined in Annexure B, reveal how vulnerabilities in the NBFI sector can pose a risk to financial stability.

5.3. The Financial Stability Board (FSB) highlighted that the March 2020 turmoil (caused by the onset of the COVID-19 pandemic) underscored the need to strengthen the resilience of the NBFI sector. Banks and financial market infrastructures were able to absorb rather than amplify the macroeconomic shock, supported by the post-crisis reforms. The FSB noted in its progress report[5] that the availability of liquidity and its effective intermediation under stressed market conditions is a key determinant of the functioning and resilience of the NBFI ecosystem.

5.4. The FSB has a work programme for NBFIs that builds on the lessons learnt from March 2020. The programme includes analytical and policy work to examine and, where appropriate, address specific issues that contributed to the amplification of the shock. The aim is to enhance an understanding and strengthen the monitoring of systemic risks in NBFIs, and to assess policies to mitigate these risks.

5.5. There are different types of NBFIs, meaning that vulnerabilities and risks could differ among NBFIs. However, it is possible for them to be exposed to a common risk. Although NBFIs are not depository institutions, they can provide services that make them susceptible to runs during periods of market dysfunction. Short-term funding is often invested in assets that cannot be liquidated in the short

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[4] South African Reserve Bank, *Financial Stability Review*, first edition, 2023. https://www.resbank.co.za/content/dam/sarb/publications/reviews/finstab-review/2023/financial-stability-review/First%20Edition%202023%20Financial%20Stability%20Review.pdf

[5] Financial Stability Board, 'Enhancing the resilience of non-bank financial intermediation: progress report', 2021. https://www.fsb.org/2021/11/enhancing-the-resilience-of-non-bank-financial-intermediation-progress-report/

term, resulting in a liquidity mismatch. Even where there is no liquidity mismatch, the assets may become illiquid during a stress event or market dysfunction.

5.6. This inherent risk could result in runs that lead to funding withdrawals and fire sales, triggering broad-based valuation losses. NBFIs and banks are highly interconnected, which impacts on the extent to which NBFI vulnerabilities pose a systemic risk. Liquidity stress in NBFIs can give rise to liquidity pressure on individual banks, which could also have a spillover effect on other sectors of the financial system and cause liquidity spirals.

5.7. Another vulnerability is the use of leverage by NBFIs. The low interest rate and asset price volatility environment has incentivised NBFIs to use leverage to enhance their expected returns. Hedge funds and asset managers purchase securities with borrowed funds. Leveraged NBFIs may face an increased risk of market dysfunction as they could be vulnerable to sudden changes in asset prices, potentially forcing them to deleverage, which would further amplify stresses on asset prices.

5.8. The regulatory gap between NBFIs and banks is another vulnerability associated with NBFIs. Some NBFIs have business models similar to banks, which allow them to intermediate market instruments to engage in liquidity/maturity transformation and the creation of leverage. Because of these activities, these NBFIs have previously been referred to as 'shadow banks' because they are not as stringently regulated and supervised as banks.

5.9. Relative to other financial institutions, banks are extensively regulated. Many requirements are placed on banks to reduce the likelihood of various financial risks materialising. Some of these requirements enable the banks to have enough liquidity or be in a position to access liquidity if needed with a small probability of default.

5.10. The recent episodes of market dysfunction,[6] as discussed in Annexure B, show that NBFIs lacked the ability to meet unexpected and large increases in margin

[6] These include the liability-driven investment (LDI) crisis and Archegos collapse.

calls because their existing liquidity buffers were insufficient and other assets in their portfolios were too illiquid to be sold quickly to meet their obligations.

6. The design features of an NBFI repo facility

6.1. In determining the appropriate features of an NBFI repo facility, the SARB considered the International Monetary Fund's (IMF) *Global Financial Stability Report*, released in April 2023. The report outlines the guidelines for central bank intervention to provide liquidity. The following guidelines are considering when evaluating such a facility:

6.1.1. Counterparties must be regulated and supervised entities.

6.1.2. It should be offered at a penalty rate.

6.1.3. It should be offered against collateral with applicable haircuts.

6.1.4. It should be for a short period of time.

6.1.5. It should be self-liquidating.

6.2. An NBFI repo facility would allow the SARB to intervene, during periods of market dysfunction, on terms comparable with those offered to banks. Sections 6.3 to 6.8 set out some of the key design features being considered by the SARB to ensure that any possible facility does not introduce additional risk and that it mitigates unintended negative consequences.

6.3. Scope

6.3.1. Any facility considered by the SARB should not substitute efficient supervision and regulation. The purpose of the facility would not be to address a lack of appropriate risk management.

6.3.2. To address the above concern, NBFIs will only qualify for the facility if they are licensed and supervised by both the Prudential Authority and Financial Sector Conduct Authority and meet all the regulatory requirements set by these authorities.

6.4. Backstop principle

6.4.1. The overarching principle in designing a facility to provide liquidity during episodes of market dysfunction is that it should only serve as a backstop facility. The backstop principle ensures that central banks do not interfere with the normal activities of the financial markets such as price discovery or market allocation of resources.

6.5. Structure

6.5.1. The SARB would consider expanding its list of counterparties to include regulated and supervised NBFIs for the purposes of the facility. NBFIs would need to register for the facility during normal times and apply for the facility should the SARB make it available during a distressed event. The SARB would reserve the right to approve or reject the application.

6.6. Pricing

6.6.1. The facility would be priced at a penalty rate to ensure it is only attractive during crises and that the use of the facility would automatically become unattractive as conditions normalise. The SARB currently offers a penalty rate lending facility to banks, priced at repo plus 100 basis points, and the same rate would be used for NBFIs.

6.7. Collateral

6.7.1. The SARB Act empowers the SARB to only lend against collateral. The collateral and haircut ratios that would be accepted would be the same as that which the SARB considers to be eligible collateral for banks.[7] The following high-quality liquid assets (HQLAs) would be considered as collateral for refinancing operations:

[7] South African Reserve Bank, 'List of eligible collateral', May 2020. https://www.resbank.co.za/en/home/publications/publication-detail-pages/Financial-Markets/Eligible-Collateral/9957

a. government bonds (rand-denominated);

b. Treasury bills;

c. Separate Trading of Registered Interest and Principal of Securities; and

d. SARB debentures.

6.8. Term

6.8.1. The availability of the facility should be broadly the same as the period of the dysfunction as this will ensure that the SARB does not intervene even when the market has normalised. The repos would have a term of one week and be accessed by means of an auction only when there is a market-wide crisis . It should also enable NBFIs to roll over the facility to the following week, if necessary.

7. New monetary policy implementation framework[8]

7.1. From 1998 the SARB used a shortage or classic cash reserve system, which functioned reasonably well. In June 2022, the SARB changed the monetary policy implementation framework (MPIF) from a shortage system to a surplus system. This system provides more flexibility to offer facilities such as an NBFI a lending window. It also makes it less likely that banks will hoard cash.

7.2. Under the new MPIF, banks have more liquidity through SAMOS and it is also easier for the SARB to provide banks with additional liquidity during crises. This suggests liquidity might flow to non-banks more smoothly during severe episodes of market dysfunction. At the same time, it is simpler for the SARB to inject further liquidity into the system, including for NBFIs, without compromising monetary policy transmission (or being forced to simultaneously drain liquidity from banks to offset NBFIs' lending).

[8] South African Reserve Bank, 'A new framework for implementing monetary policy in South Africa', 2022. https://www.resbank.co.za/content/dam/sarb/publications/media-releases/2022/mpif-may-2022/A%20new%20framework%20for%20implementing%20Monetary%20Policy%20in%20South%20Africa.pdf

7.3. The main constraint on NBFI lending under the new MPIF is quotas. The framework cannot seamlessly absorb large quantities of additional reserves unless certain other changes are made. To enable NBFI lending, these could include adjusting quota sizes or adjusting standing facility rates. Smaller changes in liquidity could be accommodated within existing quotas, given that quotas are designed to be large enough to accommodate some volatility in liquidity.

8. Risk posed by an NBFI repo facility

8.1. Central bank interventions aimed at addressing a financial market that is dysfunctional are not without cost or risk. If the participants of a financial market know that, regardless of their actions, a central bank is likely to intervene in a severe episode of market dysfunction, then they are likely to be reckless in how they operate their financial institution. Central banks' interventions can lead to moral hazard if participants are not required to meet certain conditions that are meant to disincentivise them from acting irresponsibly and taking excessive risks.

8.2. Moral hazard risk can be mitigated by the scope and the design features of the facility. The facility will only be made available during a market dysfunction and prudentially regulated NBFIs will not be guaranteed access to the facility. The facility will be a temporary lending window which will be offered against collateral, emphasising its nature as a loan rather than a bailout.

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Annexure A: Different countries on NBFI liquidity assistance

Country	NBFIs eligible for lending operations	Market operations counterparties
Developed markets		
Canada	Members of the Canadian Payments Association, including trust and loan companies, life insurance companies, securities dealers and money market mutual funds	The Bank of Canada (BoC) may buy and sell from or to any person securities and any other financial instruments that comply with BoC policy.
Hong Kong*	Deposit-taking companies	Deposit-taking companies
United States	The Federal Reserve Act empowers the Federal Reserve Board to authorise any Federal Reserve Bank to lend to any entity in "unusual and exigent circumstances".	Standing repo: none Reverse repo (RRP): expanded RRP counterparties (including some US government-sponsored enterprises, money market mutual funds and depository institutions). Outright sales and purchases: primary dealers
Sweden*	None	Not applicable
South Korea	None	No restriction on non-lending open market operations (OMOs)
New Zealand*	Financial institutions with a regular presence in the wholesale financial markets as market participants that contribute to the soundness and efficiency of the New Zealand financial system	Registered counterparties
Australia	Registered financial service providers that are members of the Reserve Bank of Australia's settlement system, the Reserve Bank Information and Transfer System (RITS)	Registered financial service providers that are members of the Bank's settlement system, RITS

United Kingdom*	Building societies and broker-dealers. Central counterparties (CCPs) have access to operational standing facilities	Building societies, broker-dealers
Singapore	None	None
Euro area	None	No restrictions on range of counterparties
Japan	Financial institutions, including non-banks, deposit-taking institutions, those in funds transfers in the course of trade, and other financial business entities specified by a Cabinet Order	Financial institutions, "defined as "banks and other deposit-taking institutions, those in funds transfers in the course of trade, and other financial business entities specified by a Cabinet Order"
Emerging markets		
Czech Republic	Determined pursuant to Czech National Bank (CNB) mandate	CNB determines the types of transactions and counterparties pursuant to its mandate
Mexico	None	No restriction on who the Bank of Mexico (Banxico) may trade securities with
Colombia	None	No restriction on the type of counterparty the Central Bank of Colombia may conduct OMOs with, including repos
Peru	The Central Reserve Bank of Peru may grant collateralised loans to supervised entities, including insurers and other financial institutions subject to certain conditions.	No restrictions on who the Central Reserve Bank of Peru may trade public treasury securities with
Indonesia	Intermediary institutions with licensed monetary operations	Commercial banks or intermediary institutions with licensed monetary operations
Poland*	None	No restriction on the type of counterparty the Central Bank of Poland may undertake OMOs with

Chile*	None	
Russia*	None	
India (from BIS, RBI website is unavailable)	None	Entities that have securities accounts and funds accounts with the Reserve Bank of India (RBI), and no restriction on OMOs
Brazil	Financial institutions	No restrictions on who the Bank of Brazil may trade securities with
Malaysia*	None	No restriction
China	None	No restriction
Turkey	None	No restriction

Annexure B: Recent NBFI crises

Name	Description
Liability-driven investment (LDI) crisis	The LDI crisis refers to the episode in the gilt markets when gilt yields on pension funds that were using liability-driven investment strategies rose sharply. These strategies were using derivatives such as swaps and options to match assets to liabilities. A sharp rise in gilt yields followed after the UK 'mini budget' announcement in September 2022. This led to liquidity shortages as defined benefit pension funds with leveraged LDI strategies were forced to raise large amounts of cash to meet margin and collateral calls, resulting in fire sales of longer-dated gilts. The effect was compounded by rising long-term interest rates in the preceding months. At the centre of the crisis were the leverage, liquidity mismatches and concentrated positions of the LDI strategies. In response to the financial stability risks that were facing the investment sector, the Bank of England was forced to intervene in a temporary and targeted way to restore market function while allowing the sector time to recapitalise.
	In March 2021, the equity price of ViacomCBS dropped sharply, which triggered margin calls on the leveraged positions of Archegos, which the fund was unable to pay. Because of this, Archegos' prime brokers were left holding long unhedged positions in the underlying stocks, which they sold to unwind their positions. The fire sale resulted in sharp price drops for the stocks affected. Prime brokers that were slower to unwind their positions faced large losses. This included Credit Suisse as a

Archegos collapse[9]	global systemically important bank (G-SIB) reporting US$5.5 billion in losses, which contributed to the damaged reputation of the bank. Other entities also reported huge losses. The failure of Archegos highlighted that it is possible for leverage to accumulate without the awareness of regulators and market participants, posing threats to financial stability. Archegos' status as a family office enabled the build-up of concentrated leveraged exposures because it was subject to minimal regulatory oversight. The Securities and Exchange Commission (SEC) charged the Archegos executives with misleading their counterparties. The SEC also responded to the scandal by proposing new rules aimed at all the market participants.
	The Bank for International Settlements (BIS) observed that the COVID-19 crisis exposed structural NBFI vulnerabilities and spillovers that affected other participants in the financial system.[10] NBFI vulnerabilities were a catalyst to the global 'dash for cash' where market participants were rapidly selling securities. The dash for cash started in February 2020 with market participants seeking the safety of government securities, causing government bond yields to fall in tandem with the equity market. In March 2020, the trend continued because the public health measures triggered sudden spikes in volatility and a sharp escalation of selling pressure as NBFI market participants began liquidating their long-

[9] R Choudhary, S Mathur and P Wallis. 2023. 'Leverage, liquidity and non-bank financial institutions: key lessons from recent market events', Reserve Bank of Australia *Bulletin*, June 2023. https://www.rba.gov.au/publications/bulletin/2023/jun/pdf/leverage-liquidity-and-non-bank-financial-institutions.pdf

[10] Bank for International Settlements, 'Non-bank financial sector: systemic regulation needed', foreword by Agustín Carstens, BIS *Quarterly Review*, December 2021. https://www.bis.org/publ/qtrpdf/r_qt2112_foreword.pdf

COVID-19	term assets to raise cash. These market participants also attempted to use repo markets to raise short-term funding, but the demand for cash exceed supply. The result of this was that liquidity in the cash and bond market dried up and financing conditions tightened. The liquidity needs of the NBFIs were driven by margin calls, large redemptions and precautionary liquidity hoarding by some market participants. These liquidity demands amplified the COVID-19 shock and had an impact on market participants because of the structure and interconnectedness of the financial system. Central banks across the globe, together with fiscal authorities, responded quickly and on a large scale managed to restore market functioning. The COVID-19 crisis led to the SARB intervening and expanding its regular liquidity tools. The SARB announced a comprehensive set of measures to ensure the smooth flow of liquidity. However, some of the NBFIs complained that this liquidity did not flow through to them, or it took some time to get to them. There is no quantitative analysis to confirm the effective transmission of liquidity to the NBFIs through SARB measures, only anecdotal evidence.