



Monetary Authority of Singapore

Consultation Paper

P019-2025 – December 2025

Consultation Paper on Updates to the Guidelines on Liquidity Risk Management Practices (Fund Management Companies)



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1. Preface

- 1.1. The Guidelines on Liquidity Risk Management Practices for Fund Management Companies (“LRM Guidelines”) were issued in 2018 to provide guidance on sound practices in managing liquidity risks in collective investment schemes (“CIS”). Since 2018, global financial market events and market volatility brought on by geopolitical factors, have highlighted:
 - (a) the need for regulators to provide further guidance to strengthen the alignment between portfolio liquidity and redemption terms of CIS;
 - (b) the importance of having a comprehensive toolkit of liquidity management measures, including the use of anti-dilution liquidity management tools (“ADTs”); and
 - (c) that investor redemptions are not the only source of potential liquidity demands for a CIS. Liquidity demands may arise from margin or collateral calls when a CIS employs leverage and/or derivatives.
- 1.2. MAS proposes to update the LRM Guidelines to provide greater clarity on MAS’ expectations on the management of liquidity risks by fund management companies (“FMCs”). The updated LRM Guidelines are consistent with the *IOSCO’s Final Report on Revised Recommendations for Liquidity Risk Management for Collective Investment Schemes* issued in May 2025 (“IOSCO Revised Recommendations”), and the *Financial Stability Board’s Final Report on Liquidity Preparedness for Margin and Collateral Calls* issued in December 2024 (“FSB Report”).
- 1.3. As with all other guidelines issued by MAS, an FMC should apply the LRM Guidelines in a proportionate manner, taking into account the nature, size and complexity of its activities.
- 1.4. MAS also proposes to update the Code on Collective Investment Schemes (“CIS Code”) to strengthen portfolio liquidity in money market funds (“MMFs”) by introducing expectations on eligible deposits that are placed with financial institutions.
- 1.5. The proposed amendments to the LRM Guidelines and the CIS Code are set out in the Annex. MAS invites interested parties to provide their comments and feedback.
- 1.6. Please note that all submissions received will be published and attributed to the respective respondent unless they expressly request MAS not to do so. As such, if respondents would like:
 - (a) their whole submission or part of it (but not their identity), or
 - (b) their identity along with their whole submission,



to be kept confidential, please expressly state so in the submission to MAS. MAS will only publish non-anonymous submissions. In addition, MAS reserves the right not to publish any submission received where MAS considers it not in the public interest to do so, such as where the submission appears to be libelous or offensive.

- 1.7. Please submit written comments by **28 February 2026** via the following link – <https://form.gov.sg/6939747cdddb43415e31cc3c>



2. Updates to the LRM Guidelines and CIS Code

Introduction

- 2.1. The LRM Guidelines provide guidance on sound liquidity risk management practices with respect to the management of CIS and are applicable to holders of a capital markets services licence for fund management.
- 2.2. The LRM Guidelines are meant to supplement Regulation 13(B)(1) of the Securities and Futures (Licensing and Conduct of Business) Regulations¹.

Key Updates to the LRM Guidelines and CIS Code

- 2.3. MAS proposes to clarify its expectations on some aspects of the existing LRM Guidelines. These include:
 - (a) **Removal of Exchange-traded funds (“ETFs”) from the scope of the LRM Guidelines.** MAS clarifies that the updated LRM Guidelines will no longer apply to ETFs. There are different liquidity considerations and distinct structural features associated with ETFs, as compared to open-ended CIS. In recent years, IOSCO has issued further guidance on ETFs² and clarified that the IOSCO Revised Recommendations do not apply to ETFs.
 - (b) **Alignment between redemption terms and liquidity of fund assets.** An FMC that manages open-ended CIS³ should maintain consistency between the CIS’ investment strategy and the CIS’ redemption terms, both at the product design and on an ongoing basis. An FMC should not provide frequent redemption (for example, daily or weekly) for CIS which hold a significant proportion of illiquid assets. There should also be adequate disclosure to investors on the illiquid nature of the CIS’ assets and its redemption terms, which may include lock-ups, or longer notice or settlement periods.

¹ Regulation 13(B)(1) of the Securities and Futures (Licensing and Conduct of Business) Regulations states that the holder of a capital markets services licence for fund management shall – (a) put in place a risk management framework (that identifies, addresses and monitors the risks associated with assets under its management) which is appropriate to the nature, scale and complexity of the assets.

² Good Practices Relating to the Implementation of the IOSCO Principles for ETFs, issued by IOSCO in May 2023.

³ Refers to open-ended CIS that is constituted in Singapore and has been authorised by MAS.



- (c) **Adoption of ADTs.** An FMC should generally adopt a diversified approach to liquidity management by considering the use of ADTs, in addition to quantitative-based tools (such as suspension or gating). A well-balanced combination of liquidity management tools would allow the FMC to respond more effectively to specific market conditions and different liquidity stress scenarios whilst maintaining fair treatment of all investors. An FMC managing open-ended CIS, particularly those that invests mainly in less liquid assets, must implement at least one ADT.
- (d) **Incorporation of explicit and implicit costs, including market impact of asset sales into redemption costs.** To safeguard investors' interests especially during times of market stress, an FMC should have in place appropriate arrangements so that investors who subscribe or redeem bear the liquidity costs associated with their transactions.
- (e) **Strengthening governance and enhancing disclosures on the design and use of liquidity management tools.** An FMC should set out the circumstances under which liquidity management tools may be activated and define the roles and responsibilities of the decision makers overseeing the design and use of such tools. To provide meaningful and consistent disclosures, an FMC managing open-ended CIS must provide an overview of the CIS' liquidity, dealing arrangement, the objectives of the liquidity management tools that are provided for, and the circumstances under which such tools may be activated in the CIS' offering document.
- (f) **Holistic assessment of liquidity risks.** Liquidity risks arising from investor redemptions are not the only source of potential liquidity demands for CIS. An FMC should consider all potential sources of liquidity risks applicable to the CIS (e.g. margin calls during adverse market movements or settlement and operational delays in converting assets to cash) and incorporate the assessment of such risks in their liquidity risk management. An FMC managing CIS that uses leverage or derivatives should take into consideration the CIS' overall investment strategy and potential market exposure during normal and stressed market conditions. This includes determining the liquidity requirements that would enable the FMC to meet margin calls and collateral requirements under varying market conditions, whilst maintaining adequate contingency funding.



- 2.4. To provide further clarity on the liquidity of deposits held by MMFs, MAS also proposes to set out in the CIS Code a guidance note on the definition of “eligible deposits”, clarifying that eligible deposits made by MMFs are expected to be repayable on demand or with the right to be withdrawn by an MMF at any time. In considering early withdrawals of deposits, an MMF should also consider pertinent factors such as penalties or other costs associated with the early withdrawal of deposits.
- 2.5. The proposed updates to the LRM Guidelines and CIS Code are set out in the Annex, with the changes underlined.



3. Implementation and Transitional Arrangements

- 3.1. MAS proposes that the updates to the LRM Guidelines and CIS Code come into effect six months after the revised LRM Guidelines are published. MAS notes that some FMCs have already adopted the updated practices and requirements, and we encourage other FMCs to begin preparations as early as possible.



4. List of Questions

Question 1. On the proposal to ensure consistency between CIS' liquidity and the redemption terms: (a) Do the scenario-based examples effectively facilitate implementation? (b) What other common scenarios should be included as guidance?

Question 2. MAS seeks views on the key areas that an FMC would need to disclose to investors on the liquidity of the CIS.

Question 3. Apart from those situations highlighted in the LRM Guidelines, are there any specific scenarios where ADTs would be inappropriate or ineffective? Please provide specific examples and set out the reasons why ADTs are not appropriate or effective.

Question 4. MAS seeks views on the current approach(es) for imposing liquidity costs on transacting investors, including implicit costs. Please comment on the methodology and practical implementation considerations, if any.

Question 5. MAS seeks views on the governance requirements on the use of liquidity management tools.

Question 6. MAS seeks views on the additional guidance in relation to eligible deposits that MMFs may invest in under the CIS Code.



5. Annex – Proposed Updates to the LRM Guidelines and CIS Code

Updates to the LRM Guidelines

1. Introduction

- 1.1 These Guidelines, issued pursuant to section 321 of the Securities and Futures Act 2001 [“SFA”], aim to provide guidance to Fund Management Companies [“FMCs”] on sound liquidity risk management practices with respect to the management of collective investment schemes [“CIS”].
- 1.2 These Guidelines should be read in conjunction with the provisions of the SFA, the Securities and Futures (Licensing and Conduct of Business) Regulations (Rg. 10) [“SF(LCB)R”], Code on Collective Investment Schemes [“CIS Code”] and other relevant legislation, as well as other guidelines and FAQs issued by MAS. In particular, the requirements on authorised schemes under the CIS Code will continue to apply to operators of such schemes. FMCs should also continue to take into account MAS’ Guidelines on Risk Management Practices that provide guidance on general risk management practices for financial institutions supervised by MAS.
- 1.3 In addition to the liquidity risk management practices set out in these Guidelines, an FMC should consider adopting the standards, best practices and guidance note issued by the International Organisation of Securities Commissions [“IOSCO”]⁴ and the Financial Stability Board⁵, where relevant.
- 1.4 Effective liquidity risk management of CIS is important to mitigate potential mismatches between the liquidity of the CIS’ underlying assets and the redemption terms under which the CIS is offered to investors. It minimises the risk whereby an FMC is unable to meet investors’ redemption requests

⁴ These standards include

- (i) *Final Report on Revised Recommendations for Liquidity Risk Management for Collective Investment Schemes published in May 2025;*
- (ii) *Guidance for Open-ended Funds for Effective Implementation of the Recommendations for Liquidity Risk Management published in May 2025;*
- (iii) *Final Report Anti-Dilution Liquidity Management Tools – Guidance for Effective Implementation of the Recommendations for Liquidity Risk Management for Collective Investment Schemes published in December 2023;*
and
- (iv) *Final Report on Principles on the Suspension of Redemptions published in January 2012.*

⁵ *Final Report on Liquidity Preparedness for Margin and Collateral Calls published in December 2024*



in an orderly manner, and seeks to provide fair treatment of investors, including those who have not made redemption requests.

- 1.5 Investor redemptions are not the only source of potential liquidity demands for a CIS. Liquidity demands may also arise from margin or collateral calls from derivative counterparties where leverage and/or derivatives are used as part of the investment strategy of the CIS. An FMC managing such CIS should consider these potential sources of liquidity risks as part of its liquidity risk management.

2. Applicability of the Guidelines

- 2.1 MAS recognises the heterogeneity in the business models of FMCs and the fund structures that they employ. Open-ended CIS⁶ that are offered to retail investors typically provide them the right to redeem units on a daily basis, and with little or no advance notification. On the other hand, CIS that are offered to non-retail investors could have less frequent redemption cycles. Nonetheless, these CIS can typically invest in a wider range of assets which could include less liquid or distressed assets. In this regard, it is pertinent for managers of CIS to put in place effective liquidity risk management frameworks and practices, such that their CIS remain capable of fulfilling redemption requests in a timely manner when there are significant fund withdrawals. Generally, each FMC should consider how best to apply and adopt the liquidity risk management practices set out in these Guidelines, taking into account the size, scale and complexity of its business and the profile of the funds that they manage.

Role of FMC

- 2.2 An FMC may be appointed to different roles in the management of a CIS (e.g. investment manager, sub-manager or advisor). The applicability of these Guidelines to an FMC should be determined based on the substance of the FMC's role in the CIS design phase and subsequently, the management of the investment portfolio of the open-ended CIS. The FMC should document its reasons for the sections or guidance in this set of Guidelines that it has assessed not to apply in their context, as part of its liquidity risk management program. For instance, an FMC in Singapore which is involved in the product design or responsible for the portfolio management of open-ended CIS and has discretionary authority for making investment decisions for the CIS is expected to implement the liquidity risk management practices set out in these Guidelines. On the other hand, the Guidelines would not apply to an FMC which do not have discretionary authority for the CIS, such as FMCs which provide research or non-discretionary advice to another FMC.
- 2.3 Similarly, sub-managers which only manage a portion of the portfolio may not have influence or control over the fund's overall strategy or its redemption terms. In this regard, the requirements

⁶ Refers to open-ended CIS that is constituted in Singapore and has been authorised by MAS



under the initial design of product section will not be relevant to sub-managers who are not involved in the CIS design phase. They are nonetheless expected to operate the portfolio in line with the LRM parameters set out by the main manager, and to monitor the liquidity of the delegated portfolio under the arrangement. In addition, sub-managers may take reference from the main manager's liquidity risk management policies and procedures, instead of having an entire distinct set of policies.

- 2.4 Conversely, an FMC in Singapore which delegates investment management to sub-managers should convey the portfolio mandate and liquidity profile to the sub-manager, and retains responsibility to monitor and manage the overall liquidity profile of the CIS.

Recognised CIS

- 2.5 The comparability of the regulatory requirements in the jurisdictions in which CIS are constituted to MAS' regulatory requirements is relevant in the context of recognised CIS. MAS does not expect an FMC which acts as a representative⁷ for recognised CIS to duplicate the liquidity risk management processes in Singapore. Notwithstanding, such an FMC should have adequate disclosure to investors on the liquidity approach adopted by the CIS as per paragraphs 4.16 and 4.17. The FMC should also be kept apprised of developments in the CIS that impact investors in Singapore, including the activation of liquidity management tools⁸. In its capacity as representative, the FMC should consider appropriate updates on such developments to the investors.

Closed-ended CIS and CIS with lock-up periods

- 2.6 An FMC which manages closed-ended CIS and CIS with lock-up periods should put in place a liquidity risk management framework which takes into account potential sources of liquidity risks at certain stages of the life cycle of the CIS and provide for appropriate liquidity management tools. For example, an FMC which manages illiquid funds should not allow frequent redemption and consider their ability to liquidate assets in order to meet their obligations to customers or other counterparties at the point of expiry of the lock-up period, termination or divestment of the fund.
- 2.7 These Guidelines are not applicable to segregated mandates which are set up for a single institutional investor.

⁷ The representative for recognised scheme acts as a liaison between investors and the foreign manager.

⁸ These are tools to aid FMCs in the management of liquidity needs. Examples of liquidity management tools include swing pricing, suspension, redemption gates and anti-dilution levy. Some liquidity management tools (e.g. swing pricing) can be used under normal market conditions, if they are provided for under the fund's offering documents. However, there are other liquidity management tools (e.g. suspension of redemptions) for extraordinary market conditions, and should be used in the best interest of fund investors collectively.



Exchange-traded funds

- 2.8 Exchange-traded funds [“ETFs”] have structural features that are distinct from other types of CIS. An FMC that manages or acts as sponsor to ETFs should consider incorporating requirements set out in the IOSCO’s Final Report on Good Practices Relating to the Implementation of the IOSCO Principles for ETFs published in May 2023.

3. Governance

- 3.1 The liquidity risk management process must be an integral part of an FMC’s broader risk management process. Regulation 13B(1)(a) of the SF(LCB)R requires an FMC to put in place a risk management framework to identify, address and monitor the risks associated with customer assets that it manages. This includes the liquidity risks associated with the CIS managed by the FMC.
- 3.2 An FMC’s liquidity risk management process must be supported by sound governance. In this regard, the Board and senior management of an FMC should maintain a liquidity risk management function, and subject it to effective oversight.
- 3.3 There should be clear responsibility and accountability in an FMC for implementing its liquidity risk management framework, and monitoring and managing the liquidity risks associated with its CIS. This includes establishing clear accountability and decision-making processes for the design and activation of liquidity management tools under both normal and stressed market conditions. The FMC should set out the circumstances under which such tools may be activated and define the roles and responsibilities of the decision makers.
- 3.4 It is important that key individuals in the liquidity risk management function have sufficient stature to discharge their duties effectively. They should also have direct access to the Board and senior management to highlight issues or concerns in carrying out their duties.
- 3.5 As liquidity risk can be affected by other types of risks, the Board and senior management of an FMC should have an adequate understanding of potential interactions between liquidity risk and other risk types (e.g., asset market liquidity, credit, market, operational, legal, reputational, strategic and environmental) and consider these interactions in their decision-making processes.
- 3.6 An FMC which manages open-ended CIS with daily dealing is expected to have in place a dedicated and independent risk management function whose responsibility includes liquidity risk management. Other FMCs that do not offer products to retail investors, and have assessed that the CIS they manage have less frequent redemption terms, are minimally expected to designate a senior staff to be responsible for liquidity risk management. An FMC can leverage on global risk management functions where relevant, and do not need to replicate the function in Singapore. Such



an FMC must be able to have access to the policies, processes and records which are relevant to the portfolios or CIS managed in Singapore.

Liquidity risk management policies and procedures

- 3.7 An FMC's liquidity risk management policies and procedures should cover the entire product life cycle of a CIS. These policies and procedures should be reviewed regularly and updated as and when there are material changes which affect the liquidity profile of the CIS, so that they stay current and relevant. Where the FMC introduces a CIS which invests in a new asset class, or if the investor profile of the CIS has changed substantially, the FMC should assess whether its policies and procedures for liquidity risk management warrant an update to take into account these developments.
- 3.8 An FMC should also have review, escalation and remediation processes in place for any breaches or non-adherence to the policies and procedures, such as breaches of internal liquidity thresholds. Last but not least, an FMC should maintain records of their liquidity risk management processes and systems.
- 3.9 It is important that an FMC is able to meet the liquidity needs of the CIS that it manages in an orderly manner, which may include meeting redemption requests at short notice during stressed situations. Therefore, the FMC should proactively consider contingency plans that enable the FMC to readily assess and decide on the actions required in a liquidity disruption or stress.

Contingency plans

- 3.10 Contingency plans should commensurate with the liquidity risks inherent in the CIS, which would be determined by factors such as but not limited to its redemption terms and permitted cash holdings. Contingency plans should also be periodically tested, to the extent practicable, to allow the contingency arrangements to be exercised without delay and in a transparent, fair and orderly manner. To this end, the FMC is strongly encouraged to articulate clearly in its internal policy the parties responsible for making decisions on the activation of the contingency plan and the exercise of applicable liquidity management tools, and the steps to be taken in the event of a liquidity issue. An FMC should exercise judgement in the interest of investors when deciding on the appropriate liquidity management tools to use and steps to be taken when executing the contingency plan.

4. Initial Design of Product

- 4.1 The evaluation of liquidity risk that a CIS may face throughout the product cycle and the implementation of arrangements to set the foundation for effective liquidity risk management should begin at the product design stage. During the design of the CIS, an FMC should consider the potential sources of liquidity risks applicable to the CIS and incorporate the assessment of such risks



in their liquidity risk management. This includes liquidity demands associated with margin and collateral calls and investor redemptions.

- 4.2 When assessing liquidity risks arising from margined and collateralised transactions, the FMC should consider the CIS' overall investment strategy and market exposure. The FMC should consider factors such as, but not limited to (i) size and type of margined and collateralised activities; and (ii) concentration of exposures across different asset classes and counterparties.

Consistency between CIS' investment strategy and redemption terms

- 4.3 An FMC should consider whether the CIS' dealing (subscriptions and redemptions) arrangements are aligned with investors' expectations, as well as its investment strategy and the liquidity profile of the underlying assets. The FMC should also consider and implement liquidity management tools that may be used as part of robust liquidity management practices.
- 4.4 The dealing frequency of the CIS, as well as notice and/or settlement periods for redemption, should reflect the overall liquidity of the underlying assets held by the fund under both normal and stressed market conditions. The FMC should assess that the subscription and redemption policy of the CIS is realistic and appropriate, taking into consideration the profile of the underlying investors of the CIS, as well as the investment strategy and liquidity of the assets that the CIS will invest in, and the tools in place to manage the CIS' liquidity.
- 4.5 To this end, an FMC managing a CIS that allocates a significant proportion of the CIS' total holdings to illiquid assets should have lower redemption frequency than daily dealing, and/or implement longer notice or settlement periods.
- 4.6 An FMC managing open-ended CIS should provide redemption terms that are consistent with the investment strategy of the CIS, under both normal and stressed market conditions. This alignment should be maintained during product design and on an ongoing basis.



Scenario A:

If an open-ended CIS invests only in liquid transferable securities, daily redemption may be appropriate. Nevertheless, the FMC should take a prudent approach by considering the likelihood that these normally liquid assets may become illiquid during periods of market stress, and assess whether additional measures such as anti-dilution liquidity management tools [“ADTs”]⁹ are required.

Scenario B:

When structuring an open-ended CIS that invests mainly¹⁰ in less liquid instruments¹¹ such as OTC derivatives, or unrated and non-investment grade corporate debt securities, the FMC should carefully consider the appropriateness of the CIS’ redemption frequency.

Where frequent redemption (e.g. daily or weekly) is to be offered by the open-ended CIS, the FMC should provide for ADTs and consider if further liquidity management measures such as longer notice or settlement periods are required. These should be in addition to quantitative-based liquidity management tools such as suspension and redemption gating, which may be activated on an exceptional basis.

The FMC should design a comprehensive framework with preventive tools (such as notice period and anti-dilution mechanisms) used proactively, and quantitative-based liquidity management tools (such as gating or suspensions) reserved for exceptional circumstances.

- 4.7 Fundamentally, an FMC should be able to demonstrate to investors how a CIS’ liquidity is aligned with the CIS’ redemption terms and the suite of liquidity management tools and measures provided.

Liquidity management tools

- 4.8 The activation of liquidity management tools can help to manage the liquidity of a CIS in various ways.
- (a) Quantitative-based liquidity management tools allow an FMC to limit the liquidity available to redeeming investors when faced with increased redemption requests, thereby maintaining orderly fund operations during periods of market stress. For example, suspension of redemptions and redemption gates could pace out or provide relief on the rate of redemption and help to minimise the risk of transacting at fire-sale prices.

⁹ Examples of ADTs include swing pricing, valuation at bid or ask prices, dual pricing, anti-dilution levy and subscription / redemption fees, as set out in the *IOSCO Final Report for ADTs – Guidance for Effective Implementation of the Recommendations for Liquidity Risk Management for CIS*.

¹⁰ Investing approximately more than 50% of assets under management in less liquid assets is likely to constitute “mainly investing”.

¹¹ Refers to investments that can generally be converted to cash within a reasonable timeframe under normal market conditions, but their liquidity may be materially affected during market stress.



(b) ADTs such as swing pricing, operate by passing on the estimated costs of liquidity to transacting investors, thereby addressing investor dilution.

4.9 The use of such tools should ultimately be aimed at according fair treatment to all investors, including those who remain invested in the CIS. Investors who remain invested in the CIS should not be made to bear a disproportionate share of the costs associated with meeting redemptions.

4.10 An FMC should adopt a diversified approach to liquidity management, using both quantitative tools and ADTs to respond effectively to different market conditions and liquidity stress scenarios whilst maintaining fair treatment of all investors. To this end, an FMC managing CIS should have provisions in place for at least one appropriate liquidity management tool, preferably ADTs, and not rely solely on suspension or redemption gating.

4.11 To mitigate material investor dilution, an FMC managing open-ended CIS, particularly those that invest mainly in less liquid assets, should implement at least one ADT.

Imposition of liquidity costs to transacting investors

4.12 To safeguard the interests of all investors, especially during periods of market stress, an FMC should implement measures so that investors who subscribe or redeem bear the liquidity costs associated with their transactions. An FMC should factor in, and have provisions in place for the inclusion of liquidity costs during the calibration of liquidity management tools.

4.13 During activation of ADTs, an FMC managing open-ended CIS should impose the explicit and implicit costs of subscriptions and redemptions on investors who are redeeming from, or subscribing to the CIS.

(a) Explicit transaction costs – An FMC should incorporate transaction costs that are explicitly charged to the CIS for the acquisition or disposal of assets. These include brokerage fees and commissions, trading levies and settlement fees.

(b) Implicit transaction costs – An FMC should consider costs that are incurred indirectly upon acquisition or disposal of assets. These include:

- Bid-ask spread: An FMC should, on a best-efforts basis, obtain bid-ask spreads from more than one pricing source. Where bid-ask spreads may not be readily observable for certain assets (e.g. corporate bonds) due to unavailable or less reliable data, the FMC could estimate liquidity costs using alternative approaches such as sourcing indicative spreads from commercial databases, deriving estimates from comparable liquid assets, or applying internal or third-party valuation models.



- Market impact cost: Large transactions can exhaust available liquidity and cause trades to occur at less favourable prices. Market impact refers to the additional trading cost when a CIS' transaction is large enough to influence market prices. An FMC could estimate the market impact cost by taking reference from previous transactions under similar market conditions to compare the indicative prices provided by brokers against the price at which the order was executed. The FMC could also utilise in-house or third-party models to make estimates based on analysis of previous and similar transactions or relevant data models. The FMC should seek to refine the calibration of such costs over time, or as more data becomes available.

4.14 Liquidity costs, particularly implicit costs, may be harder to estimate during periods of market stress. An FMC could, on a best-efforts basis, analyse the variations in spread and/or price volatilities (based on the underlying assets of the CIS) under stressed and normal market conditions to better proxy actual transaction costs across time and different market developments.

4.15 Fundamentally, the FMC should be able to demonstrate that the calibration is reasonable and reflects the portfolio characteristics of the CIS.

Disclosures to investors

4.16 Disclosures relating to the liquidity of the CIS allow investors to make an informed determination as to whether their liquidity risk appetite matches the liquidity risk profile of the fund. As such, the FMC should include clear and simple-to-understand disclosures in the CIS' offering documents to explain the general approach that the FMC may take, the objectives of the liquidity management tools that are provided for in the CIS' constitutive documents, the circumstances under which such tools may be activated, and the impact that such tools may have on investors' redemption rights.

4.17 Specifically for open-ended CIS, an FMC should provide the following within its disclosure:

- An overview of the CIS' investment strategy and the potential liquidity risks;
- The features of the redemption terms, such as the dealing frequency, lock-up period, and/or notice and settlement periods; and
- The objective and circumstances under which the tools may be activated.

4.18 Where the CIS is distributed through third-party distributors, the FMC should partner with its distributors to communicate these implications effectively to end-investors.



5. Ongoing Liquidity Risk Management

- 5.1 An FMC is expected to monitor and manage the liquidity risk of a CIS throughout its lifecycle. This includes ongoing monitoring of investors' profile and redemption patterns and conducting regular assessments on the liquidity profile of the CIS' liabilities and assets. This is to facilitate the FMC's ability to anticipate or identify an emerging liquidity shortage before it occurs, and take appropriate steps to minimise disruption or detriment to investors. An FMC should also regularly monitor market depth, liquidity and concentration of their portfolio positions, so that liquidity risks arising from margin and collateral calls are adequately managed and mitigated. This section describes some of the considerations that are relevant to an FMC's ongoing monitoring and management of liquidity risk.
- 5.2 The assessment of the profile and liquidity needs of investors could include reviews of the investors' historical redemption patterns and expected future liquidity demands of the CIS at different stages of its life cycle under varying market conditions. For example, the FMC could actively engage key investors so that it is aware if they intend to make any large redemptions, to enable the FMC to assess the liquidity implications on the CIS and take appropriate steps to manage the redemption in an orderly manner. Where the CIS is distributed through third-party distributors and granular investor information is not available to the FMC, the FMC should take reasonable steps to monitor aggregated information about fund flows, overall investor profile and concentration of the CIS, such as through establishing arrangements with fund platforms and distributors to keep abreast of subscriptions and redemptions via the various distribution channels and customer segments.
- 5.3 The investment strategy, liquidity profile and redemption policy of the CIS are also relevant factors which have implications for the FMC's ongoing liquidity risk management process. Any changes to the underlying assumptions which affect liquidity risk assessment at the initial design of the CIS would also have to be taken into consideration when reviewing the processes during the life of the CIS. These processes include but are not limited to, assessing the liquidity of underlying assets of the CIS, determining the internal liquidity thresholds and performing stress testing.
- 5.4 Regular reviews should also be performed to assess the effectiveness of the liquidity management tools applied and whether additional tools are needed in the management of liquidity mismatches and to provide fair treatment of all investors, where relevant.

Factors to consider during assessment of liquidity of CIS' assets

- 5.5 In order to facilitate the FMC's ability to meet its redemption obligations and other liabilities, the FMC should integrate liquidity as one of the relevant considerations in the FMC's investment management decisions. The FMC should also regularly assess and evaluate the liquidity of the underlying assets of the CIS, individually and on a portfolio basis.



- 5.6 The FMC should monitor its liquidity risk so that the CIS can meet all margin and collateral obligations under normal and stressed market conditions, whilst maintaining sufficient contingency funding.
- 5.7 In performing the assessment, an FMC could:
- (a) use appropriate liquidity metrics or indicators relevant to the CIS' investment strategy. For instance, an FMC may consider the number of days and cost to liquidate assets without significant market impact, redemption coverage ratio, bid-ask spread volatility, average daily turnover or trading frequency and market depth, where available;
 - (b) consider other quantitative and qualitative factors, such as asset class, credit quality, asset and investment concentration and cash flow projections;
 - (c) monitor the use of temporary borrowing to meet redemptions; and
 - (d) consider the use of collateral arrangements and appropriate haircuts for collaterals, and monitor the liquidity of underlying securities held as collateral, especially when these holdings amount to a significant portion of the CIS' net asset value.

Establishing internal thresholds for CIS' liquidity

- 5.8 An FMC should establish appropriate internal thresholds for the CIS' liquidity which are proportionate to the redemption obligations and liabilities of the CIS as part of their ongoing liquidity risk monitoring procedures. These thresholds should act as early warning indicators to flag potential deterioration in the CIS' liquidity and for the FMC to conduct further liquidity analysis as part of its risk management process. The FMC should implement formalised processes to monitor these indicators, and have in place escalation and reporting procedures. This allows the FMC to take remedial actions on a timely basis when the analysis reveals vulnerabilities. Stricter liquidity requirements should be imposed for daily dealing CIS, which may, for example include requiring the CIS to hold a larger proportion of liquid assets, as compared to a CIS which allows redemption of units on a less frequent basis.

Suspension of redemptions

- 5.9 The FMC may suspend redemptions under exceptional circumstances after having determined that a suspension is in the best interest of investors. Essentially the FMC should be able to demonstrate that the objective criteria for reaching the decision to suspend are met and that any alternative course of action, such as sale of remaining fund assets, has been considered and assessed to be not feasible and/or not in the best interest of investors. The decision to suspend redemptions should be reviewed and approved by the senior management and/or Board of the FMC. This decision and the reason(s) for the suspension should also be documented. Further, the FMC should work closely with its distributors and other service providers to inform the relevant stakeholders (e.g. investors and regulators) of developments relating to the suspension. The FMC should also regularly re-assess



whether to continue with the suspension against the interests of its investors, with the view to resuming normal operations as soon as practicable. Where redemptions have been suspended, the FMC should not accept new subscriptions. Any suspension of redemptions and activation of gating measures should be notified to MAS immediately.

6. Stress Testing

6.1 A good liquidity risk management framework does not only consider redemptions or margin calls in a business-as-usual setting. The FMC should also satisfy itself that the CIS can withstand liquidity stresses during extended periods of market disruptions or idiosyncratic concerns. The FMC should complement its liquidity risk management tools with regular stress testing. Liquidity stress testing of the CIS should be performed at a frequency relevant to the specific CIS. An FMC is strongly encouraged to perform more regular stress tests on CIS with daily dealing, or CIS which are more susceptible to varying market conditions, such as those which invest in thinly traded markets.

Factors to consider in stress test

6.2 An FMC is strongly encouraged to consider factors that may enhance the effectiveness of their stress tests. The FMC is encouraged to take into account a combination of stress factors that can happen concurrently (e.g. a sudden increase in redemptions may coincide with or contribute to the worsening of market liquidity for the underlying CIS assets and the ease of unwinding the portfolio). The FMC could consider using stress test scenarios based on (i) backward-looking historical market conditions and redemption patterns of the CIS; and (ii) forward-looking hypothetical scenarios, where appropriate. In general, the FMC should explore extreme but plausible scenarios in their stress tests. Examples of factors that the FMC can consider in its stress testing include the following:

- (a) a specific redemption amount which is a percentage of the fund size (e.g. highest historical or worst case redemption rate);
- (b) a simulation of the behaviour of different types of investors;
- (c) redemption by its largest investor(s) or distributor(s);
- (d) market shocks leading to margin and collateral calls by multiple counterparties; and
- (e) the actions which may be taken by the FMC's counterparties that may be experiencing liquidity stresses, and that may have knock-on effects on the FMC.

The FMC should apply stress factors consistently to all assets of a CIS during stress testing, where appropriate.

As the stress test results could provide useful insights on the FMC's liquidity risk management processes, the FMC should have in place reporting channels to escalate significant findings to the relevant governance bodies with oversight of the liquidity risk management process, where appropriate.



Review of stress test assumptions

- 6.3 As financial markets and the operating environment are dynamic, stress test scenarios and assumptions should correspondingly not remain static. Hence, an FMC should regularly review the reasonableness and relevance of its stress test assumptions, and satisfy themselves that stress tests are based on reliable and up-to-date information. The FMC should maintain proper documentation on the key features of the stress tests, such as the choice of stressed scenarios used, assessment of the stress tests results, considerations on the need to take further actions and the actual actions taken to address the issues identified from stress test results. The feedback from actual stress events experienced by the FMC could also be used to improve the quality of future stress tests.
- 6.4 If the FMC decides not to perform stress testing, the FMC is expected to maintain documentation of the rationale as these factors should be considered when the FMC reviews this decision on a regular basis. The decision not to perform stress testing should be reviewed and approved by the senior management and/or Board of the FMC.



Updates to the CIS Code

APPENDIX 2

INVESTMENT: MONEY MARKET FUNDS

[...]

3 Permissible Investments

[...]

3.2 For the purposes of paragraph 3.1 of this Appendix:

[...]

- b) “eligible deposits” refer to deposits with banks licensed under the Banking Act 1970, finance companies licensed under the Finance Companies Act 1967, merchant banks licensed under the Banking Act or any other deposit-taking institution licensed under an equivalent law in a foreign jurisdiction; and

Guidance

Eligible deposits made by a money market fund are expected to be repayable on demand or with the right to be withdrawn by the money market fund at any time. In considering early withdrawals of deposits, the money market fund should also consider pertinent factors such as penalties or other costs associated with early withdrawal of deposits.