

**Anti-dilution Liquidity Management Tools –
Guidance for Effective Implementation of the
Recommendations for Liquidity Risk Management
for Collective Investment Schemes**

Final Report



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Executive Summary

In 2021, IOSCO and the FSB jointly analysed liquidity risk and its management in open-ended funds (OEFs)¹ during the Covid-19 induced market turmoil. They found that while the ‘dash-for-cash’ was a main driver of OEF redemptions and manager decisions to sell assets in March 2020, determining the materiality and economic impact of the liquidity mismatch vulnerability contributing to the market stress is difficult. To the extent that proper asset valuation and use of liquidity management tools (LMTs) do not remove the liquidity mismatch vulnerability, redeeming investors may benefit at the expense of remaining investors. In parallel, IOSCO’s Assessment Committee conducted a thematic review² completed in 2022 of the extent to which participating IOSCO member jurisdictions implemented regulatory measures regarding the key IOSCO Liquidity Risk Management Recommendations. In 2022, the FSB undertook an assessment of the FSB Recommendations³ regarding financial stability risks arising from liquidity mismatch in OEFs in light of recent experience. The FSB noted in its assessment report that there was material variation in how anti-dilution LMTs were used. Both the FSB and IOSCO observed in their respective assessments that there is scope for greater uptake of LMTs, in particular anti-dilution LMTs.

Investor protection and financial stability concerns could arise when transacting investors in OEFs do not bear the costs of liquidity associated with fund subscriptions/redemptions, which disadvantages existing/remaining investors. Anti-dilution LMTs can address these concerns by passing on the costs of liquidity to transacting investors by adjusting the price at which they transact. These tools form an important part of an overall liquidity risk management framework for OEFs.

In particular, the greater inclusion of anti-dilution LMTs in OEF constitutional documents,⁴ and their greater and more consistent use in both normal and stressed market conditions were specifically highlighted in the FSB assessment as having relevance and benefits to ongoing efforts to support global financial stability.

IOSCO published a Consultation Report⁵ on 5 July 2023 proposing guidance to responsible entities on the use of anti-dilution LMTs. In coordination with the FSB, IOSCO held a Launch Event in Dublin on 12 July to gather preliminary feedback on the consultation report. The main takeaways from the outreach event are summarised in Annex 2. The Consultation Period was open until 4 September 2023. IOSCO received 25 responses to the Consultation Report from industry associations (17 responses) and asset managers (8 responses). All responses are publicly available on IOSCO’s website.⁶ A summary of the consultation feedback and IOSCO’s responses to it is included in Annex 1.

¹ An OEF is a registered / authorized / public collective investment scheme (CIS) which provides redemption rights to its investors from its assets, based on the net asset value of the CIS, on a regular periodic basis during its lifetime - in many cases on a daily basis, although this can be less frequently. Please note that money market funds and exchange-traded funds have been excluded from the scope of open-ended funds covered by this guidance due to their unique characteristics.

² <https://www.iosco.org/news/pdf/IOSCONEWS671.pdf>

³ <https://www.fsb.org/2022/12/assessment-of-the-effectiveness-of-the-fsbs-2017-recommendations-on-liquidity-mismatch-in-open-ended-funds/>

⁴ These include fund prospectuses, other offering documents and other documents accessible to investors on an ex-ante basis before they make their investment decisions.

⁵ Anti-dilution Liquidity Management Tools – Guidance for Effective Implementation of the Recommendations for Liquidity Risk Management for Collective Investment Schemes Consultation Report, 5 July 2023 at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD739.pdf>

⁶ https://www.iosco.org/publications/?subsection=public_comment_letters

After considering the feedback, and to support the greater use of anti-dilution LMTs by OEFs to mitigate investor dilution and potential first-mover advantage arising from structural liquidity mismatch in OEFs, IOSCO is providing in this Final Report the following guidance to responsible entities:

1. Responsible entities should have appropriate internal systems, procedures and controls in place at all times in compliance with applicable regulatory requirements for the design and use of anti-dilution LMTs as part of the everyday liquidity risk management of their OEFs to mitigate material investor dilution and potential first-mover advantage arising from structural liquidity mismatch in OEFs.
2. As part of their liquidity risk management framework, responsible entities should consider and use appropriate anti-dilution LMTs for OEFs under management (where appropriate as per the explanatory text under Guidance 2) to mitigate material investor dilution and potential first-mover advantage arising from structural liquidity mismatch in OEFs.
3. Anti-dilution LMTs used by responsible entities should impose on subscribing and redeeming investors the estimated cost of liquidity, i.e., explicit and implicit transaction costs of subscriptions or redemptions, including any significant market impact of asset purchases or sales to meet those subscriptions or redemptions. Independently of the anti-dilution LMT used, responsible entities should be able to demonstrate to authorities (in line with the authorities' supervisory approaches) that the calibration of the tool is appropriate and prudent for both normal and stressed market conditions.
4. If responsible entities set thresholds for the activation of anti-dilution LMTs, those thresholds should be appropriate and sufficiently prudent so as not to result in any material dilution impact on the fund.
5. Responsible entities should have adequate and appropriate governance arrangements in place for their liquidity risk management processes, including clear decision-making processes for the use of anti-dilution LMTs.
6. Responsible entities should publish clear disclosures of the objectives and operation (including design and use) of anti-dilution LMTs to improve awareness among investors and enable them to better incorporate the cost of liquidity into their investment decisions and mitigate potential adverse trigger effects.

Section I – Background

OEF Liquidity Risk Management

Liquidity risk management is critical to the orderly functioning of OEFs and to safeguarding the interests of and protecting investors. Effective liquidity risk management also plays an important role in reducing systemic risk by, inter alia, dampening the financial market effects possibly resulting from OEF liquidity demand during normal as well as stressed market conditions.

OEFs generally offer short-term (often daily) liquidity to their investors, notwithstanding that the liquidity of fund investments varies across different OEFs and over time for any particular fund. Some fund investors may overestimate the liquidity of the assets held by the funds in which they invest and may not expect the additional cost or difficulty associated with funds exiting their positions or rebalancing their portfolios, particularly in stressed market conditions.

Generally, investors in an OEF will subscribe to or redeem from the fund at the net asset value (NAV) per share or unit.⁷ However, the NAV may not always reflect the explicit and implicit costs of transactions⁸ associated with adjusting the portfolio of the fund in response to the subscription or redemption. As such, the costs of providing liquidity to transacting investors may be borne by those remaining in the fund, as the value of their holdings may be diluted by the transaction costs. Investor protection concerns could arise when exiting investors do not bear the true costs of asset liquidation, and remaining investors are disadvantaged.

From a financial stability perspective, concerns arise when investors in OEFs could be incentivised by ‘first mover advantage’ dynamics stemming from the open-ended structure.⁹ OEFs that invest in less liquid assets and have short redemption periods may be subject to larger liquidity mismatches, particularly during periods of market stress. Investors in these OEFs may be incentivised to redeem shares / units ahead of others if they anticipate that other fund investors will redeem shares and that remaining investors will bear the associated transaction costs. Although it is difficult to quantify and determine the materiality, a first-mover advantage may give rise to excess redemptions, and consequently OEFs’ sales of portfolio assets to meet excess redemptions may contribute to greater market volatility and additional pressure on asset prices.

To address these investor protection issues and financial stability concerns¹⁰ it is important that responsible entities¹¹ have a detailed framework with systems and controls in place to operationalise

⁷ The subscription or redemption request will typically be made prior to a defined dealing deadline or dealing cut off, after which there will be a valuation point when the assets in the fund will be valued and the NAV per share determined. The valuation might not yet represent transactions in the underlying investments of the OEF necessary to fulfil the subscription or redemption request.

⁸ These costs are further explained in Section II (ii) of the document.

⁹ This guidance is intended to address the investor dilution issue and financial stability concerns originating from the potential first mover advantage dynamics stemming from the OEF structure. There is some evidence that a first mover advantage may also exist at market-wide level stemming from wider market dynamics and may not be unique to OEFs. These findings indicate that first mover advantage may be driven by competition for finite asset market liquidity among different types of investors that hold overlapping portfolios that may lead to investor dynamics on fund redemptions that are similar to those potentially motivated by first mover advantage stemming from the OEF structure. This guidance does not intend to address these issues. See, Stahel (2022), [Strategic Complementarity among Investors with Overlapping Portfolios](#).

¹⁰ These dynamics have been a focus of regulatory attention for some time. See, for example, the Bank of England (BoE) Financial Stability Report, dated December 2019. Available at: <https://www.bankofengland.co.uk/-/media/boe/files/financial-stability-report/2019/december-2019.pdf>

¹¹ Responsible entities in this guidance generally refer to the entity / entities responsible for the overall operation

effective liquidity risk management at all times. In this respect, existing liquidity management tools used for investor protection can also mitigate financial stability risks.

Liquidity Management Tools

LMTs are various techniques and tools available to responsible entities to aid in the management of OEF liquidity needs and risks. This guidance focuses on a subset of LMTs, referred to hereafter as anti-dilution LMTs,¹² that aim to pass on the estimated costs of liquidity associated with fund subscriptions / redemptions to the subscribing / redeeming investors by adjusting the NAV of the OEF or the price at which they transact. These tools form an important part of an overall liquidity risk management framework for OEFs.

There are specific features of anti-dilution LMTs that address the investor dilution issue and may also make them a useful tool for addressing the potential first mover advantage dynamic. First, properly calibrated anti-dilution LMTs can impose on redeeming investors the explicit and implicit costs of portfolio transactions, including any significant market impact caused by asset sales to meet redemptions. This action protects remaining investors from dilution impact and also mitigates potential first-mover advantage at its source. Second, anti-dilution LMTs may be suitable for use in both normal and stressed market conditions. Incorporating anti-dilution LMTs in the daily operation of a fund and ‘normalizing’ their use, as opposed to using them only in times of stress, helps avoid a ‘cliff-edge effect’. Appropriate disclosure to investors of anti-dilution LMTs’ objectives and operation may also enhance their effectiveness by guarding against potential ‘stigma’ or reputational concerns for OEFs using them.

More broadly, a key element of the policy discussions around OEF liquidity risk management is the balance among various LMTs and liquidity risk management measures. From that perspective, quantity-based LMTs¹³, such as suspensions of redemptions and redemption gates, have typically been activated as ex-post tools in response to increased redemptions or when responsible entities face major valuation issues. Exclusive reliance on such ex-post tools may result in unintended consequences. For example, investor expectations that an OEF will use quantity-based LMTs may motivate investors to front-run potential restrictions on redemptions, which may add to redemption pressures.

In this context, anti-dilution LMTs, if operationalised effectively, are a useful and recommended tool to address the investor dilution issue and the potential financial stability issue at their source while being less prone to the unintended consequences associated with quantity-based LMTs. This would also put fund unitholders in a similar economic position to investors that opt to invest directly in portfolio securities.

Drivers for this Guidance

The FSB *Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities* (FSB Recommendations), published in 2017, include several policy recommendations to address the risks to global financial stability arising from structural liquidity mismatch in OEFs. In 2018, IOSCO published a final report on *Recommendations for Liquidity Risk Management for Collective Investment Schemes* (IOSCO LRM Recommendations), supplemented with a set of related

of the OEF and in particular its compliance with the legal / regulatory framework in the respective jurisdiction (e.g., the fund manager or the fund board).

¹² As the anti-dilution tools adjust the final price received or paid by investors, the tools are also known as price-based tools.

¹³ Quantity-based LMTs operate by reducing the liquidity obligations of OEFs through delaying / deferring payments to investors. They are in practice a more exceptional form of intervention.

good practices published as *Open-ended Fund Liquidity and Risk Management – Good Practices and Issues for Consideration* (IOSCO Good Practices).

In March 2020, many OEFs experienced liquidity pressure and valuation challenges, facing large redemption requests and deteriorating market liquidity triggered by the flight to safety and ‘dash for cash’. In 2021 and 2022, IOSCO’s Assessment Committee conducted a thematic review of the extent to which participating IOSCO member jurisdictions had implemented regulatory measures regarding the key IOSCO LRM Recommendations. The results were published in a final *Thematic Review on Liquidity Risk Management Recommendations* on 16 November 2022 (IOSCO LRM Review). In 2022, the FSB undertook an assessment of the FSB Recommendations regarding financial stability risks arising from liquidity mismatch in OEFs in light of recent experience. The results were published in a final *Assessment of the Effectiveness of the FSB’s 2017 Recommendations on Liquidity Mismatch in Open-ended Funds* in December 2022 (FSB OEF Assessment).

The FSB OEF Assessment noted that there was material variation in how anti-dilution LMTs were used. The FSB and IOSCO observed in their respective FSB OEF Assessment and IOSCO LRM Review that there is scope for greater uptake of LMTs. The greater inclusion of anti-dilution LMTs in OEF constitutional documents, and their greater and more consistent use in both normal and stressed market conditions to pass on the explicit and implicit costs of redemptions (including any significant market impact of asset sales) to redeeming investors, were specifically highlighted in the FSB OEF Assessment as having relevance and benefits to ongoing efforts to support global financial stability.¹⁴ In particular, the FSB OEF Assessment suggested that the proper use of anti-dilution LMTs is critical for OEFs investing in less liquid assets to continue to offer daily dealing.¹⁵

Taking into consideration the outcomes of the reviews, IOSCO and the FSB committed to carry out follow-up policy work to enhance the effectiveness of the IOSCO LRM Recommendations, IOSCO Good Practices and FSB Recommendations, each in close consultation with the other. Specifically, the FSB has in parallel undertaken targeted revisions to the 2017 FSB Recommendations and IOSCO committed alongside this to the development of this detailed guidance on anti-dilution LMTs. Following the revisions to the FSB Recommendations (Revised FSB Recommendations), IOSCO will revisit the IOSCO LRM Recommendations, IOSCO Good Practices and this guidance as needed in 2024.

Objectives and Scope

This guidance aims to support effective implementation of the IOSCO LRM Recommendations related to the use of anti-dilution LMTs (i.e., *Recommendations 1, 4, 7, 11, 12, 14, 16 & 17*). It covers the design and use of anti-dilution LMTs by OEFs; the oversight by fund boards, managers’ boards or depositories; disclosure to investors; and overcoming barriers to effective implementation. It draws on (i) existing relevant policy recommendations, including the IOSCO LRM Recommendations, the FSB Recommendations and the IOSCO Good Practices; (ii) a review of recent academic literature; (iii) the observed good practices of jurisdictions where funds currently use anti-dilution LMTs; and (iv) engagement with industry stakeholders and academics through roundtables and other outreach.

Responsible entities have the primary responsibility and are best placed to manage the liquidity of their OEFs. As such, the guidance neither prescribes a specific calibration for each anti-dilution LMT nor specifies which tool should be used or when. Instead, it sets out key operational, design, oversight, disclosure and other factors and parameters that responsible entities should consider when anti-dilution

¹⁴ In this regard, the FSB OEF Assessment noted that, based on available data, there was a wide variation in how some anti-dilution LMTs (e.g., swing pricing) were applied during the COVID-19 shock in 2020.

¹⁵ See related revisions to FSB Recommendations. [[Addressing Structural Vulnerabilities from Liquidity Mismatch in Open-Ended Funds – Revisions to the FSB’s 2017 Policy Recommendations](#)].

LMTs are used, with a view to promoting their greater, more effective and more consistent use. As the OEF sector is very diverse, there is no ‘one size fits-all’ solution regarding liquidity risk management, including the use of anti-dilution LMTs. Responsible entities are expected to exercise their sound professional judgement in the best interests of investors.

Reference to and discussion of relevant IOSCO LRM Recommendations are included throughout this guidance to help illustrate how the guidance can support effective implementation of the IOSCO LRM Recommendations.

While quantity-based LMTs and other liquidity management measures, such as suspensions of redemptions/subscriptions, redemption gates, in-kind redemptions, side pockets and borrowing are not the focus of this guidance,¹⁶ responsible entities should always consider a broad set of LMTs, including anti-dilution LMTs, quantity-based LMTs and other liquidity management measures. Responsible entities should determine the most effective and suitable tools for the OEFs they manage, considering the characteristics of each OEF, prevailing market conditions and other relevant circumstances.

Lastly, as the structural features and liquidity management practices of exchange-traded funds (ETFs) and money market funds (MMFs) distinguish them from other OEFs,¹⁷ the following guidance is not applicable to ETFs and MMFs.

¹⁶ As discussed above, following revisions to the 2017 FSB Recommendations, IOSCO will revisit the IOSCO LRM Recommendations, IOSCO Good Practices and this guidance on anti-dilution LMTs as needed in 2024. This work may include consideration of revised recommendations or further guidance regarding quantity-based and other LMTs not covered by this guidance.

¹⁷ For example, see IOSCO (2021), *Exchange Traded Funds Thematic Note - Findings and Observations during COVID-19 induced market stresses* at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD682.pdf>. See, also, IOSCO (2023), *Good Practices Relating to the Implementation of the IOSCO Principles for Exchange Traded Funds, Final Report* at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD733.pdf>.

Section II – Design and Use of Anti-Dilution Liquidity Management Tools

Overall Framework for the Design and Use of Anti-Dilution LMTs

Guidance 1: Responsible entities should have appropriate internal systems, procedures and controls in place at all times in compliance with applicable regulatory requirements for the design and use of anti-dilution LMTs as part of the everyday liquidity risk management of their OEFs to mitigate material investor dilution and potential first-mover advantage arising from structural liquidity mismatch in OEFs.

Relevant LRM Recommendation(s)

Recommendation 1: The responsible entity should draw up an effective liquidity risk management process, compliant with local jurisdictional liquidity requirements.

Recommendation 16: The responsible entity should put in place and periodically test contingency plans with an aim to ensure that any applicable liquidity management tools can be used where necessary, and if being activated, can be exercised in a prompt and orderly manner.

Recommendation 17: The responsible entity should consider the implementation of additional liquidity management tools to the extent allowed by local law and regulation, in order to protect investors from unfair treatment, amongst other things, or prevent the CIS from diverging significantly from its investment strategy.

As discussed above, when investors enter or exit an OEF, fund managers have to invest the capital received (in the case of net subscriptions) or access liquidity by selling assets to meet redemptions (in the case of net redemptions). Unless fund managers attribute the associated explicit and implicit transaction costs to subscribing or redeeming investors, remaining fund investors may suffer dilution, as the NAV per share or unit may be reduced by the amount of the transaction costs incurred.¹⁸

To mitigate material dilution and to protect remaining investors, responsible entities should attribute the explicit and implicit transaction costs to entering or exiting investors with the use of anti-dilution LMTs to adjust the fund NAV or the final price to be paid / received by transacting investors. Anti-dilution LMTs also mitigate the potential risk, in particular under stressed market conditions, that investors may exit funds preemptively in order to receive a higher NAV that does not take into account the higher cost of liquidating the most illiquid assets within the OEF. This is particularly critical for daily dealing OEFs investing in less liquid assets, which could experience reduced liquidity under stressed market conditions.

To achieve the above, responsible entities should establish a detailed framework, as part of an OEF's overall liquidity risk management process and compliant with applicable regulatory requirements, to support the design and effective use of anti-dilution LMTs in both normal and stressed market conditions. The critical elements of such a framework include:

- (i) the types of anti-dilution LMTs to be used;
- (ii) appropriate calibration of liquidity costs (including a pre-set mechanism to exceed any disclosed ranges of price adjustment factors if necessary);

¹⁸ For subscriptions, fund managers may not be subject to the same timing and cash utilization pressures as compared to redemptions. Therefore, the dilution risk for subscriptions would be expected to be lower. That said, the principle underpinning the use of anti-dilution LMTs is to mitigate material dilution regardless of the direction of the net flows. Responsible entities should consider and use anti-dilution LMTs where appropriate in line with Guidance 2, whenever the dilution impact arising from subscriptions is material.

- (iii) appropriate activation thresholds;
- (iv) governance; and
- (v) disclosure to investors.

Responsible entities should fully consider these elements and put in place corresponding internal systems, procedures and controls. By doing so, the framework should enable fund managers to methodically design their anti-dilution LMTs, estimate the liquidity costs, and evaluate circumstances for activating such tools in both normal and stressed conditions, as part of the day-to-day liquidity management of the OEFs they manage. The governance and ongoing review process would help ensure the selected anti-dilution LMTs are used as intended and provide information for future enhancements to their use. Appropriate disclosure to investors on the objectives, design and use of anti-dilution LMTs would enhance their awareness of these aspects and enable them to better incorporate the costs of liquidity into their investment decisions.

In addition, responsible entities should be able to demonstrate to authorities (in line with the authorities' supervisory approaches) how the above-mentioned framework is implemented, including how anti-dilution LMTs are and will be used.

Valuation is extremely important because an OEF must redeem and sell its units or shares at its NAV. Stale valuations may contribute to first mover advantage. For example, in a scenario of declining values of a fund's assets, if the fund's NAV does not adjust to fully reflect those declines in value, investors may seek to redeem before that adjustment is made.¹⁹

Independently of whether and how an anti-dilution LMT is to be applied, to ensure that the price quoted to an investor for redeeming / buying a unit or share is fair, responsible entities should calculate a NAV that represents the fair value of the assets the fund holds and in accordance with local regulations.

In this regard, IOSCO published the Principles for the Valuation of CIS in May 2013 with an objective to treat investors fairly.²⁰ If responsible entities cannot be confident that the assets are valued fairly or cannot reasonably estimate the cost of liquidity for these assets, especially in stressed market conditions, the use of quantity-based LMTs and other liquidity management measures (applied in accordance with local regulations), such as side pockets, suspensions, longer notice or settlement periods or reduced redemption frequencies, may be more suitable than the use of anti-dilution LMTs.²¹

The remainder of **Section II – Design and Use of Anti-Dilution LMTs** focuses on elements (i) to (iii) of the framework, while **Section III – Oversight of Anti-Dilution LMTs** and **Section IV – Disclosure to Investors About the Use of Anti-Dilution LMTs** discuss elements (iv) and (v) respectively. While the framework as described above is expected to be applicable to all responsible entities in principle, some of the critical elements may vary according to the nature of each OEF. Further details on such variations are provided below.

Element (i) – Types of Anti-Dilution LMTs

Guidance 2: As part of their liquidity risk management framework, responsible entities should consider and use appropriate anti-dilution LMTs for OEFs under management (where appropriate as per the explanatory text set out below) to mitigate material investor dilution and

¹⁹ For further information see, for example, *IOSCO Best Practices Standards on Anti Market Timing and associated Issues for CIS*, available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD207.pdf>

²⁰ *IOSCO Principles for the Valuation of Collective Investment Schemes*, available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD413.pdf>

²¹ See related revisions to FSB Recommendations. [[Addressing Structural Vulnerabilities from Liquidity Mismatch in Open-Ended Funds – Revisions to the FSB's 2017 Policy Recommendations](#)].

potential first-mover advantage arising from structural liquidity mismatch in the OEFs they manage.

Relevant LRM Recommendation(s)

Recommendation 1: The responsible entity should draw up an effective liquidity risk management process, compliant with local jurisdictional liquidity requirements.

Recommendation 17: The responsible entity should consider the implementation of additional liquidity management tools to the extent allowed by local law and regulation, in order to protect investors from unfair treatment, amongst other things, or prevent the CIS from diverging significantly from its investment strategy.

The principle underlying the use of anti-dilution LMTs should be the fair treatment of both transacting and existing/remaining investors with the objectives to mitigate material dilution and potential first-mover advantage arising from structural liquidity mismatch in OEFs. Since the dilution risk differs between OEFs, the application of appropriate anti-dilution LMTs to achieve these objectives may also differ between OEFs.

In this regard, responsible entities of OEFs, particularly those falling into Category 2 (less liquid) as described under Revised FSB Recommendation 3, should consider and use such tools and should ensure that transacting investors will bear the costs of liquidity associated with fund redemptions and subscriptions in order to arrive at a more consistent approach to the use of anti-dilution LMTs by OEFs. For Category 2 funds, there would be a greater likelihood of dilution expected than for Category 1 funds. The expectation is that anti-dilution LMTs would be increasingly used by Category 2 funds as part of their day-to-day liquidity management, unless such LMTs not being used is clearly justified, subject to (i) oversight of authorities in line with their supervisory approaches and (ii) implementation of other effective liquidity risk management measures that meet the broader policy intent of reducing material structural liquidity mismatches underpinning the Revised FSB Recommendations.

In line with the above, anti-dilution LMTs should (i) be included in OEF constitutional documents; (ii) be considered and used in both normal and stressed market conditions, with a view to achieving greater use and greater consistency in their use; and (iii) account for both the explicit and implicit costs of redemptions and subscriptions, including any significant market impact of asset sales and purchases. In addition, responsible entities of such OEFs should have appropriate internal systems, procedures and controls in place that enable the use of anti-dilution LMTs as part of the day-to-day liquidity risk management of the OEFs they manage, even if such tools would not always be in use.

With respect to the above considerations, responsible entities should have proper policies and procedures in place for conducting the relevant assessment of the risk of material dilution in either normal or stressed market conditions.

While the guidance with respect to considering and using anti-dilution LMTs would vary among different OEFs, responsible entities should in any case have a general liquidity risk management framework as per the IOSCO LRM Recommendations, irrespective of the fund category under which an OEF falls per the Revised FSB Recommendation 3.

IOSCO has identified five anti-dilution LMTs²² adopted by OEFs in different jurisdictions globally. IOSCO's LRM Recommendations noted that anti-dilution levies and swing pricing, "*may be considered particularly appropriate where the fund invests in assets where investors may perceive an*

²² While these five tools are generally regarded as the most commonly used anti-dilution LMTs by the industry, the list should not be considered as exhaustive. Responsible entities may consider and use other anti-dilution LMT(s) or variations of these tools which may achieve the same objective in mitigating investor dilution.

advantage in redeeming first. By ensuring that costs of transactions required to meet redemption requests are borne by the redeeming investors, these tools provide assurance to remaining investors and remove a potential incentive for investors to redeem.” The IOSCO Good Practices also addresses anti-dilution LMTs, covering swing pricing, anti-dilution levies, and valuation according to bid or ask prices.²³ Further to these, IOSCO has also identified dual pricing and subscription / redemption fees as additional anti-dilution LMTs. Each of these anti-dilution LMTs provides for liquidity costs to be passed to transacting investors; the calculation of liquidity costs is further discussed in *Element (ii)* below.

- **Swing pricing:** refers to a process for adjusting a fund’s NAV (typically calculated at mid-price) by applying a swing factor that reflects the liquidity cost stemming from net subscriptions or redemptions. All investors pay or receive the same swung price.
- **Valuation at bid or ask prices:** refers to an asset valuation procedure that switches from valuation at mid-price to valuation according to bid or ask-price, depending on the direction of net fund flows. Accordingly, the NAV is calculated based on bid-price when there are net outflows and based on ask-price when there are net inflows (a threshold may be set out). All investors pay or receive the same price.
- **Dual pricing:** refers to the calculation of two NAVs per valuation point. One way of implementing dual pricing is to calculate one NAV which incorporates assets’ ask prices and the other NAV which incorporates assets’ bid prices. Subscribing investors pay the NAV calculated using ask asset prices; redeeming investors receive the NAV calculated using bid asset prices. Another way of implementing dual pricing is to set an ‘adjustable spread’ around the fund’s NAV under which assets are priced on a mid-market basis, with a bid price at which the fund redeems shares and an offer price at which the fund issues new shares. The difference between these two prices is known as the spread as estimated by the responsible entity, which could be dynamic to reflect the liquidity costs in prevailing market conditions.
- **Anti-dilution levy:** refers to a process whereby a variable levy / fee for the benefit of the fund is added to, or deducted from, the fund’s NAV (typically calculated at mid-price), increasing the final price paid by subscribing investors or decreasing the price received by redeeming investors, to effectively pass on the liquidity cost. The levy can be based on the fund’s net flows and the same levy may be applied to all subscribing / redeeming investors or, where possible, based on an individual investor’s in / outflows and charged to each investor accordingly.
- **Subscription / redemption fees:** refers to a process whereby a fixed levy / fee is added to / deducted from the fund’s NAV in case of subscriptions / redemptions.²⁴ The fee is charged to the transacting investors for the benefit of the fund²⁵ to cover the cost of liquidity. This tool may be

²³ *Open-ended Fund Liquidity and Risk Management – Good Practices and Issues for Consideration* at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD591.pdf> p. 22-30.

²⁴ The use of this type of fees for the benefit of the fund to cover the cost of liquidity is more common in the case of redemption. This may be because the fund has an obligation to honor redemption payments within a limited timeframe, whereas the time available for the fund manager to manage portfolio acquisitions to reduce potential dilution from subscriptions is more flexible. However, in the case of a large subscription, which may bring material dilution impact to the fund, anti-dilution LMTs such as a subscription / redemption fee should be used to attribute the cost of liquidity to the transacting investors to protect the interest of remaining investors.

²⁵ In some cases, subscription / redemption fees charged to investors may be retained by the fund managers or the intermediaries. Subscription / redemption fee structured in this manner is *not* regarded as an anti-dilution LMT as it does not mitigate the dilution impact on the existing / remaining investors in the fund resulting from the liquidity costs incurred by the subscribing / redeeming investors.

particularly appropriate for funds that invest in assets that have fixed transaction fees, such as real estate agency fees or notary fees, and / or for funds that have low-variation transaction costs.

While anti-dilution LMTs generally attribute the estimated cost of liquidity to transacting investors by either adjusting the fund NAV or the final price to be paid / received by transacting investors, they vary in terms of calibration and responsiveness to the changes in market situations. As such, some anti-dilution LMTs may need to be adjusted or supported by other anti-dilution LMTs to account for larger liquidity costs, including any significant market impact expected to arise in changing market conditions, particularly in stressed market conditions.

More specifically, subscription / redemption fees should be adjusted upward to account for larger liquidity costs or adjusted based on a tiered approach corresponding to the amount of net fund flows (akin to a tiered swing pricing approach as described on p.19 below). In addition, jurisdictional differences in OEF regulations, the operational set-up and the distribution channel²⁶ may have a bearing on whether each of these tools is available or operationally feasible in a particular jurisdiction.

Subject to the guidance as set out in Element (ii) below, the selected anti-dilution tools may have to allow for adjustments or to be complemented by other anti-dilution LMTs in stressed times to cater for different market conditions. Responsible entities are also expected to pass the benefit of the spreads, fees or levies arising from application of anti-dilution LMTs to the OEFs.²⁷

Element (ii) – Calibration of Liquidity Costs

Guidance 3: Anti-dilution LMTs used by responsible entities should impose on subscribing and redeeming investors the estimated cost of liquidity, i.e., explicit and implicit transaction costs of subscriptions or redemptions, including any significant market impact of asset purchases or sales to meet those subscriptions or redemptions.

Independently of the anti-dilution LMT used, responsible entities should be able to demonstrate to authorities (in line with the authorities’ supervisory approaches) that the calibration of the tool is appropriate and prudent for both normal and stressed market conditions.

Relevant LRM Recommendation(s)

Recommendation 16: The responsible entity should put in place and periodically test contingency plans with an aim to ensure that any applicable liquidity management tools can be used where necessary, and if being activated, can be exercised in a prompt and orderly manner.

Recommendation 17: The responsible entity should consider the implementation of additional liquidity management tools to the extent allowed by local law and regulation, in order to protect investors from unfair treatment, amongst other things, or prevent the CIS from diverging significantly from its investment strategy.

Anti-dilution LMTs should pass on the estimated cost of liquidity to transacting investors. Fund managers have to estimate those liquidity costs to be incorporated in anti-dilution LMTs because the adjustment of the portfolio as a result of the net fund flow on a particular day may not take place before the calculation of the fund’s NAV for that day. This guidance seeks to provide key principles and

²⁶ For example, some fund managers expressed that, when a fund is distributed by a third party (e.g., fund platform), applying anti-dilution levies may be more operationally burdensome, compared to swing pricing, because the third party would have to correct the price provided to fund investors by adding the anti-dilution levy to the fund NAV.

²⁷ See *UK FCA Asset Management Market Study* (April 2018) for discussion of box profits at <https://www.fca.org.uk/publication/policy/ps18-08.pdf>

considerations for estimating such cost to promote a more consistent approach on the use of anti-dilution LMTs for OEFs.

Estimating liquidity cost consists of two major parts, namely determining the basis for the estimate and considering each of the liquidity cost components.

Estimation Basis

The underlying principle for estimating liquidity costs is to arrive at a fair and reasonable estimate treating all investors fairly, taking into consideration reasonably foreseeable market conditions.

To achieve this, responsible entities should duly consider the liquidity costs associated with transacting a pro-rata slice of all assets in the portfolio (“pro-rata approach”²⁸). This gives a starting point for estimating the liquidity cost to be charged to the transacting investors²⁹. However, it does not mean responsible entities will always need to buy / sell a pro-rata slice, nor pass on the costs of transacting a full pro-rata slice where that would not represent a fair estimate of the true cost.

If responsible entities make the professional judgement that buying / selling a pro-rata slice would not, overall, be in the best interest of all investors, considering the OEF’s investment strategy, the feasibility and cost of alternative of transaction approaches, the liquidity risk profile and management of the portfolio, as well as reasonably foreseeable market conditions as a whole, responsible entities may adjust that estimate to reflect more accurately the expected cost of liquidity when transacting in selected individual holdings of the portfolio.

Nevertheless, responsible entities should particularly consider using the pro-rata cost in stressed times, when it is most relevant for mitigating the potential dilution impact on the remaining investors. If managers were to use the most liquid assets first in order to meet redemptions, the remaining investors would be left with less liquid assets, at which point the cost of liquidity would be likely to increase as the stress continues. Therefore, it would be expected that the pro-rata approach should be applied to estimate liquidity costs in stressed market conditions to ensure fair treatment to all investors, particularly for funds investing in less liquid assets.

Liquidity Cost Components

The liquidity costs are comprised of two components, namely explicit transaction costs and implicit transaction costs. The latter includes potential market impact.

Explicit Transaction Costs

These are transaction costs that are explicitly charged to a fund for its acquisition or disposal of assets. They include brokerage fees, trading levies, taxes and settlement fees. They are generally stable in amount and quantifiable in advance of the transactions.

Responsible entities should be able to identify the types of explicit transaction costs that are applicable and calculate their approximate amount with a high level of certainty for each asset by using, for example, previous transactions, contractual arrangements they have in place with brokers, and referring to third parties, where appropriate, for confirmation.

²⁸ Also known as “vertical slicing approach”

²⁹ There are however cases where using a pro-rata approach to estimate the transaction cost is not possible: for example, for OEFs that allocate a significant proportion of their AUM in inherently illiquid assets, such as real estate OEFs and private equity OEFs. In these cases, a long notice period and/or a pre-determined discount of the NAV unit price (similar to a fixed redemption fee) to be received by redeeming investors, could be envisaged to protect remaining investors and reduce the risk of fire sales and first mover advantage.

Implicit Transaction Costs

These are transaction costs incurred indirectly upon acquisition or disposal of assets by a fund, with the bid-ask spread and market impact (*to be discussed next*) being the key components. These costs may vary depending on, among others, the asset in question and underlying market conditions. For example, bid-ask spreads may range from less than 10 basis points for some developed market equities in normal times, to more than 5% for high-yield corporate bonds in stressed market conditions.

In addition, the transparency of bid-ask spreads may vary across assets and their trading venues. For example, the bid-ask spreads for assets that are traded in centralized exchanges (e.g., stocks and futures) tend to be more stable and transparent. The bid-ask spreads for assets that are traded OTC (e.g., corporate bonds) may fluctuate more and may be less transparent.

When the information sources that responsible entities use to determine bid-ask spreads become less reliable or unavailable, particularly in stressed market conditions, they should use their professional judgement, trading experience and best efforts to arrive at a reasonable estimate, which should be typically larger than the costs incurred during normal times and aim at a fair treatment of all investors.

Overall, depending on the OEF's underlying assets and market conditions, responsible entities should source bid-ask spread information from the relevant commercial data bases, directly from broker dealers, and / or use estimations based on comparable assets and / or historical data, with a view to obtaining reasonable inputs to calibrate anti-dilution LMTs. Some responsible entities use pricing models when the market price is not available. However, those models should be used with caution and be adjusted as appropriate to reflect generally larger liquidity costs under stress.

Significant Market Impact

Market impact is another implicit transaction cost incurred, in addition to bid-ask spreads, when a fund takes / supplies liquidity from / in the market to complete the trading necessary to meet a net fund flow. For example, when the transaction by an OEF is large in size relative to the market liquidity, part of the transaction may be executed outside the market 'screen price' and 'move' the market price because it takes up a considerable depth of immediately available liquidity (i.e., 'on-screen' liquidity).³⁰

A reasonable input for the estimation of market impact could be to analyse previous transactions under similar market conditions to compare the difference between the price when the order was placed and the final executed price. Such price difference, after excluding all execution costs, is sometimes referred to as 'slippage'. For fixed income securities, the quote provided by data providers or brokers is likely an indicative price and not executable. This makes fixed income securities more prone to larger slippage, especially in stressed market conditions.

Responsible entities should include significant market impact in the calculation of the cost of liquidity when calibrating the anti-dilution LMTs. In order to do so, an assessment (e.g., slippage assessment) is needed before the sale / purchase is made, taking into account the size of the transaction, asset class, market structure and the prevailing market conditions. Responsible entities should use their best efforts to make estimates based on analysis of previous transactions (in consultation with subject matter experts such as their trading desks) or relevant market data / models.

³⁰ See, for example, ALFI Swing Pricing document, update 2022, p.14 at: https://www.alfi.lu/getattachment/3154f4f7-f150-4594-a9e3-fd7baaa31361/app_data-import-alfi-alfi-swing-pricing-brochure-2022.pdf.

Once the market impact is estimated, responsible entities should assess the materiality of the impact and whether it is appropriate to incorporate it in the calibration of the anti-dilution LMT, according to their own pre-set framework.

Overall, IOSCO recognises that there could be a degree of uncertainty for the market impact estimated despite the best efforts made by responsible entities. Nevertheless, responsible entities should be able to support their assessment of the market impact with appropriate documentation. Regarding the precision in estimating market impact, responsible entities should be able to demonstrate to authorities that they have made reasonable efforts aiming to arrive at fair and reasonable estimates of market impact, taking into account any limitation on data availability. The calibration of market impact is an iterative process due to the complexities involved and the forward-looking nature. While it may take time for responsible entities to develop the framework and operational processes to do so, it is expected to be improved over time based on experience gained by the fund managers and regular reviews to refine the calibration.

How Different Anti-dilution LMTs Incorporate the Cost Components

All anti-dilution LMTs adopted should aim to attribute the cost of liquidity to transacting investors by including the explicit and implicit costs (including any significant market impact) mentioned in the previous section. In principle, there should not be any caps or restrictions that prevent anti-dilution LMTs from achieving this objective. Therefore, the calibration of anti-dilution LMTs should be adjustable when needed, even if a normal range of adjustment factors / fees is disclosed or set.

By design, the swing factor of swing pricing and the anti-dilution levies are often adjustable on a regular basis. As such, they are able to incorporate both the more stable explicit transaction costs and any implicit transaction costs that are contingent on market conditions, including significant market impact. Therefore, they are useful anti-dilution LMTs for OEFs that invest mainly in assets with market-contingent liquidity costs. However, responsible entities may need the relevant expertise and operational set-up to enable their use.

Dual pricing (based on bid or ask prices) or valuation at bid / ask are more useful to OEFs that invest mainly in assets whose liquidity costs are mainly comprised of the bid-ask spread, as the fund's adjusted NAV would already reflect that spread in normal times. However, any significant market impact or explicit transaction costs would need to be accounted for separately, either by additional adjustment to the NAV or via other (anti-dilution) LMTs.

Alternatively, if dual pricing is designed with the 'adjustable spread' approach as explained in Element (i), this would enable dual pricing to be more dynamic and reflect liquidity costs at prevailing market conditions, akin to swing pricing or anti-dilution levies. That said, this may require a similar level of expertise and operational set-up for implementation.

For subscription / redemption fees, the liquidity cost calibration tends to be more static than the other anti-dilution LMTs identified by IOSCO and they are hence more appropriate to capture explicit transaction costs that are known beforehand and any implicit costs that are stable. Subscription / redemption fees may well be useful for OEFs that have constant or low-variation transaction costs in normal market conditions. In any case, the calibration of subscription / redemption fees should be fair and reasonable and should allow upward adjustments in response to changing market conditions, particularly during stressed times, to reflect the higher cost of liquidity.

These attributes are crucial to achieving the objectives of anti-dilution LMTs (i.e., to mitigate dilution and potential first mover advantage), especially when used by daily-dealing OEFs that mainly invest in less liquid assets. Otherwise, managers should adopt another anti-dilution LMT in combination with subscription / redemption fees or adopt quantity-based LMTs or other liquidity management measures under stressed market conditions.

Disclosed Ranges of Liquidity Cost Adjustment

While disclosing a normal range of liquidity cost adjustment (e.g., a range of swing factors or anti-dilution levies) to be applied may help set the expectation on anti-dilution LMTs' effect and may satisfy a regulatory disclosure requirement in some jurisdictions with a view to benefitting investor communication and help reduce the incentive to redeem due to first mover advantage, the range should not be regarded as a cap or restriction that would prevent anti-dilution LMTs from achieving their objectives to pass the relevant liquidity costs to transacting investors.

Therefore, where such parameters are disclosed, responsible entities should put in place mechanisms to allow an adjustment beyond the disclosed ranges if necessary to sufficiently cover the costs of liquidity (including any significant market impact), particularly in stressed market conditions. An example would be to include a clause in the fund documentation that explicitly states that the ranges of liquidity cost adjustment could be exceeded on an exceptional basis and if justified by the market conditions.

Expectations on the Level of Confidence and Sophistication of Estimations

As bid-ask spreads and market impact cannot be calculated definitively ex-ante, the overall cost of liquidity to be incorporated in anti-dilution LMTs is expected to be estimated on a best-effort basis. Under normal market conditions, the cost of liquidity could usually be estimated with a higher level of confidence. Under stressed market conditions, transaction costs may become more unpredictable and econometric models may not be fit for purpose. In such cases, it would be appropriate for responsible entities to rely on expert judgement to account for uncertainty based on available information.

Independently of the type(s) of anti-dilution LMT(s) used, responsible entities should be able to demonstrate to authorities that their calibration is fair and reasonable for both normal and stressed market conditions, taking into account the best interests of investors. This should be supported by a strong liquidity risk management framework, which should include periodic back-testing and strong governance.

The degree of sophistication of the estimation is expected to be commensurate with the fund's overall portfolio profile, such as fund size, complexity of strategies, types of asset classes and their market liquidity, investment sectors, redemption terms and conditions of the OEF, as well as the overall liquidity risk management framework.³¹ Responsible entities should also document how judgement and discretion were applied and review their models regularly to continuously improve their estimations. The review should take into account experience of past stress events as well as the results of liquidity risk assessments and stress testing.

Example – Calculation of Significant Market Impact

Market impact could be calculated for each asset in the portfolio (i.e., bottom-up approach), using previous transaction data to model the calculation. Back-testing is used a posteriori to enhance the accuracy of that model over time.

Alternatively, in particular when under stress or when adequate data is not available, the discounts required by the market in asset sales may be estimated based on a representative sample of assets which, in the case of fixed income, could be done by type of asset (e.g., public or private debt, sector,

³¹ For clarity, it may be appropriate for a large OEF or an OEF with a complex investment strategy / portfolio to use a simple calibration model for their anti-dilution tools, if such a model is consistent with the OEF's overall portfolio profile, liquidity risk management framework and local regulatory guidance.

rating, priority level, etc.) or, in the case of equities, could be based on information from transactions carried out or observed in the market for similar volumes (especially through block transactions).

In the early stages of adopting an anti-dilution tool, fund managers could start by relying on simple models to estimate the implicit costs, including the market impact, then gradually move to more advanced models using their historical transactional data.

When using dual pricing, estimated transaction costs for buying and selling can be applied to the respective bid and ask valuations, so it should be possible to adjust these to include the market impact estimates.

Example – Tiered Swing Pricing Approach

Some managers use a tiered swing pricing approach by pre-setting and applying a progressively increasing swing factor based on the net fund flow amount and market conditions. For example, when the net fund flow is less than x% of the OEF's NAV, the swing factor to be applied is set to be less than y%. When the net fund flow exceeds x%, the swing factor will be adjusted upward accordingly to an appropriate level (which is higher than y%). The same mechanism could apply based on market conditions (e.g., market volatility). This approach facilitates a clear and systematic implementation of anti-dilution mechanisms while taking proportionality into account. However, its implementation may be operationally more complex.

Element (iii) – Appropriate Activation Threshold

Guidance 4: If responsible entities set thresholds for the activation of anti-dilution LMTs, those thresholds should be appropriate and sufficiently prudent so as not to result in any material dilution impact on the fund.

Relevant LRM Recommendation(s)

Recommendation 8: The responsible entity's liquidity risk management process must be supported by strong and effective governance.

Recommendation 16: The responsible entity should put in place and periodically test contingency plans with an aim to ensure that any applicable liquidity management tools can be used where necessary, and if being activated, can be exercised in a prompt and orderly manner.

Recognising that OEFs provide investors with the benefits of collective investing, investors in OEFs should also collectively bear the reasonable costs of investing via such vehicles. As such, they should expect to share transaction costs as well as other costs of the OEF in a reasonable manner. In this regard, while proper procedures are expected to be put in place to enable the use of anti-dilution LMTs as part of the ongoing liquidity management, such LMTs are not necessarily expected to be activated at all times.

It is appropriate for responsible entities to set different levels for the activation of anti-dilution LMTs for each OEF they manage. The activation threshold should be set appropriately and prudently so as not to result in any material dilution impact in the fund if it is set too high, taking into account factors such as the OEF's AUM size and portfolio characteristics (including the investment strategy and asset liquidity), estimated cost of liquidity (as defined under Element (ii) above), investor profile and historical fund flows. If it is set too low, it can create unnecessary costs for both transacting and remaining investors and increase the volatility of the OEF's NAV.

For example, some OEFs may adopt a partial swing pricing mechanism, which is activated only when net subscriptions or net redemptions are greater than a pre-determined threshold. This threshold can also be based on the cumulative flows registered in a pre-determined period. In that case, the swing adjustment will be activated the day when the cumulative flows exceed that threshold. The activation thresholds in respect of net fund flows for OEFs investing in less liquid assets should be set more prudently, compared to OEFs investing in more liquid assets, as less liquid assets usually involve relatively higher liquidity costs.

Another type of partial swing pricing is the tiered swing pricing model, where the OEF's NAV is adjusted based on multiple pre-determined thresholds and factors. Depending on the pre-defined inflow / outflow threshold breached, the OEF applies a different swing factor. OEFs may use different factors for subscriptions and redemptions or have several differently tiered factors, depending on the asset class, fund size and market conditions. The tiered approach potentially reflects the trading curve better by taking into account different potential dilution impacts when trade sizes vary. In addition, it may help to reduce the opportunity for some investors to try to 'game' the use of swing pricing, as smaller fund flows can also trigger its use. The tiered approach also facilitates the use of swing pricing during the whole life of the fund from its inception, and under both normal and stressed market conditions (also see the *Box* above for example).

Both approaches can be applied when using other anti-dilution LMTs such as anti-dilution levies.

Alternatively, an activation threshold can be set in terms of the estimated liquidity cost of the assets in which the OEF invests. For example, in times of market stress and when that estimated liquidity cost exceeds a pre-determined level, the anti-dilution LMT will be activated independently of the total amount of flows.

The appropriateness of the activation threshold for each OEF should be subject to ongoing review, taking into account changing market conditions. For example, some OEFs may adjust their activation threshold (even reducing it to zero) during market stress to account for the increase in estimated liquidity costs and apply the anti-dilution LMT independently of the amount of flows.

Section III – Oversight of Anti-dilution LMTs by Fund / Manager Boards and Depositaries

Element (iv) - Governance

Guidance 5: Responsible entities should have adequate and appropriate governance arrangements in place for their liquidity risk management processes, including clear decision-making processes for the use of anti-dilution LMTs.

Relevant LRM Recommendation(s)

Recommendation 8: The responsible entity's liquidity risk management process must be supported by strong and effective governance.

Recommendation 15: The responsible entity should ensure appropriate records are kept, and relevant disclosures made, relating to the performance of its liquidity risk management process.

Recommendation 16: The responsible entity should put in place and periodically test contingency plans with an aim to ensure that any applicable liquidity management tools can be used where necessary, and if being activated, can be exercised in a prompt and orderly manner.

The LRM Recommendations 8, 15 and 16 highlight the importance of governance for an effective liquidity risk management process, for example by establishing independent oversight, appropriate escalation procedures, periodic review and proper recordkeeping. The same applies to the effective use of anti-dilution LMTs. In particular, responsible entities should regularly review and refine the factors applied in the calibration of anti-dilution LMTs against the characteristics of an OEF, expected redemption patterns and prevailing market conditions so that the use of anti-dilution LMTs is effective in achieving the intended objectives. Responsible entities should incorporate the following guidance into the governance arrangements of the OEFs they manage.

Governance Committee

The responsible entity should have adequate and appropriate arrangements for internal governance of the use of anti-dilution LMTs. The objective is to ensure that anti-dilution LMTs are applied in accordance with the internal procedure and that extraordinary decisions to reflect changing market situations can be made in a timely and efficient way, especially in a stressed situation, taking into consideration external stakeholders such as fund administrators and distributors.

To achieve that, the internal governance arrangements should include at least the following elements: (i) objective criteria (e.g., activation thresholds) for the application of anti-dilution LMTs; (ii) methodology, including calibration,³² of anti-dilution LMTs; (iii) parties involved (e.g., senior management, risk management, administration, etc.), their respective functions and responsibilities as well as how these parties should be coordinated; (iv) sources of information and data used; (v) controls to be carried out (including reviews on the use of anti-dilution LMTs) and their frequency; (vi) documentation of recommendations and decisions made about the use of anti-dilution LMTs and the basis of them; (vii) escalation processes and (viii) oversight by the governing body.

These arrangements should be commensurate with the portfolio profile (e.g., fund size, complexity of strategies, types of asset classes, investment sectors, etc.) of the funds under management and be properly documented. The governance framework should also foresee adequate approval levels for the internal procedure to ensure there are no unwanted or inappropriate modifications.

³² The calibration should set out how all relevant explicit and implicit costs of subscriptions / redemptions (including any significant market impact of asset purchases / sales) should be taken into account.

In this regard, an internal governance committee³³, bringing together the various parts of the business that have an interest in fund pricing, would be appropriate for most responsible entities. Such a committee might be dedicated to oversight of anti-dilution LMTs, or it might have broader responsibilities (e.g., for oversight of all aspects of liquidity risk management or have responsibility to seek fair outcomes for investors).

The exact composition of any internal governance committee should be appropriate to the size and organization of the responsible entity, bearing in mind any potential conflicts of interests, and the characteristics of the OEFs managed by it.³⁴ If the portfolio manager is not a member of the committee, the responsible entity should have a process in place to keep the portfolio manager informed of decisions about the use of anti-dilution LMTs and to require the manager to give proper weight to them when making investment decisions.

Skills, Knowledge and Data

The internal governance committee should ensure that persons of suitable seniority, who individually or collectively possess adequate skills and knowledge, are involved in decisions about the use of anti-dilution LMTs.

The internal governance committee should have an informed understanding of, or reliable data about, all relevant aspects of the OEFs under management by the responsible entity to support its recommendations / decisions, for example:

- The liquidity profile of the portfolio of each fund, in particular its exposure to less liquid or illiquid assets based on the analysis of relevant factors such as volumes traded, days to trade, valuation certainty and the number of intermediaries that quote bid / ask prices;
- The investor profile of the fund(s);
- Historical and predicted inflows / outflows of cash;
- The current state of the market(s) for the assets held, including current bid-ask spread information, executed prices and differences with quoted bid-ask prices;
- Assessments of the ability to execute transactions in underlying instruments, in terms of likely market impact of transacting in average / above-average lot sizes;
- Liquidity stress testing data; and
- Operational readiness to apply or adjust relevant anti-dilution LMTs, both for the responsible entity itself, its delegates / agents, and others in the distribution network.

Committee Recommendations and Decisions

Recommendations and decisions of the internal governance committee should be appropriate for each OEF under management, having regard to its individual profile (e.g., investment strategy, investor profiles, nature, size and complexity) and circumstances. This may result in different factors / calibrations being applied to different OEFs in different situations.

³³ Depending on the corporate organization structure, responsible entities may adopt other appropriate governance arrangements, for example, through a board or an existing specialist committee overseeing liquidity risk and/or fund pricing.

³⁴ The oversight arrangements are expected to be commensurate with the operations of the responsible entity including its size and nature of the OEFs (e.g., their size and complexity) it manages. In some cases, the oversight may be performed by an individual.

All recommendations and decisions made by the internal governance committee on the use of anti-dilution LMTs should be properly documented. For example, the responsible entity should keep a record of the days on which the adjustment to the NAV was made or should have been made, the basis and the supporting documentation of the decisions adopted (whether or not the adjustment factor was finally applied).

Review and Escalation Processes

The internal governance committee should conduct both ex-ante and ex-post reviews on the use and calibration of anti-dilution LMTs on a sufficiently frequent basis and in a documented manner, having regard to the frequency of dealing in shares / units. For example, risk management procedures should set a minimum frequency at which arrangements will be reviewed. The responsible entity should consider whether to specify, in its procedures, thresholds for trigger events that would automatically trigger an escalation or cause a review to be carried out, e.g., a market movement above a certain percentage, or a dealing order above a certain percentage of fund assets.

Ex-ante reviews could enable LMTs to reflect frequent changes in market conditions, dealing trends and portfolio investment decisions. There should be an escalation process in circumstances when liquidity is becoming more stressed, to ensure that oversight arrangements are promptly stepped up. Contingency plans (e.g., specific operational arrangements for stressed market conditions) should also be in place and tested periodically to ensure LMTs can be used in a prompt and orderly manner.

Ex-post reviews of decisions / recommendations against data (i.e., back-testing) could enable senior management to assess how effective LMTs were in practice and to make informed future decisions on the use of anti-dilution LMTs (including the calibration of adjustment factors and whether actual dilution occurred). Such ex-post reviews could include, for example:

- An assessment of the execution quality of transactions in portfolio assets carried out following a particular dealing point,³⁵ comparing the adjustment factors (which reflect the cost of liquidity) with the actual dealing prices achieved with a view to improving estimates of market impact for future trading;
- An assessment of the implementation of anti-dilution LMTs during the fund valuation process, for example, by reviewing the causes for anti-dilution LMT related NAV errors: incorrect swing factors, prices swung in the wrong direction, failure to apply a swing where the criteria for doing so were met, etc. with a view to improving implementation effectiveness;
- Comparisons of portfolios, pre- and post-execution of significant investor redemptions, with particular focus on the portfolio's 'category' of least liquid assets and the pricing thereof, to treat redeeming and remaining investors fairly.

Reporting to Senior Management or Board

The oversight process should result in adequate and timely management information being produced and reported to the senior management / board of the responsible entity. The board should consider this information and appropriately address any weaknesses that have been identified.

The content and amount of management information to be produced and the arrangements for who considers it should be decided in a proportionate way, taking account of the size of the responsible entity, the characteristics of the OEFs it manages (e.g., their size and complexity) and the levels of management within its corporate structure. Such arrangements should however ensure that the most senior level of management explicitly considers liquidity risk management processes on a periodic

³⁵ Thereby, risk management may be able to leverage from work done and data gathered from other departments, in particular, best execution checks on trades performed by compliance.

basis, making use of relevant management information when doing so, in order to satisfy itself that the processes are adequate and are operating in the best interests of the funds and their investors. This might also be done with review reports from the internal audit function.

Depositary and External Auditor Roles

Where an external third party, such as a fund depositary or external auditor, has duties of oversight of the responsible entity's valuation, pricing and dealing processes, they should periodically review the implementation of the processes put in place for the use of anti-dilution LMTs.³⁶

A depositary or auditor may have a role in independently checking the calculation of unit prices and / or the relevant governance framework, for example to verify that they are calculated in accordance with the procedures in place and within parameters set by national regulation. It is not expected that these third parties would need to carry out additional real-time checks at each dealing point in line with these recommendations, but rather on an ex-post basis. The review might be done through direct testing of samples or a review of the responsible entity's own back-testing controls.

The resulting report of findings should be considered by the responsible entity's board alongside internal management information. It may be useful for such reports to be shared with the responsible entity's regulator.

³⁶ It is recognised that not all jurisdictions impose an obligation for an independent third party to have an oversight of the responsible entity's relevant processes. This section applies when such an obligation is required under the relevant regulatory requirements or agreed between the relevant parties.

Section IV – Disclosure to Investors about the Use of Anti-dilution LMTs

Element (v) – Disclosure to Investors

Guidance 6: Responsible entities should publish clear disclosures of the objectives and operation (including design and use) of anti-dilution LMTs to improve awareness among investors and enable them to better incorporate the cost of liquidity into their investment decisions and mitigate potential adverse trigger effects.

Relevant LRM Recommendation(s)

Recommendation 7: The responsible entity should ensure that liquidity risk and its liquidity risk management process are effectively disclosed to investors and prospective investors.

LRM Recommendation 7 sets out guidance on disclosure related to the general LRM process as well as the design, use and implications of LMTs. Transparency of anti-dilution LMTs is important to investors and careful consideration is needed on the extent and timing of information to be provided to them, to strike an appropriate balance between transparency and the efficacy of the tool. It is important that the level of transparency is appropriate (i) to help investors better incorporate the liquidity cost into their investment decisions and (ii) to avoid any unintentional counter-productive effect (e.g., any trigger effects which may lead to pre-emptive redemptions by investors or any actions taken by investors to game the mechanism and thereby reduce the effectiveness of the anti-dilution LMTs). This is relevant both in terms of investor protection and financial stability.

Investors should be given enough information prior to investing in the OEF to enable them to have a good understanding of the implications of anti-dilution LMTs, which facilitates investors' incorporation of liquidity costs into their investment decisions. Investors subscribing to or redeeming from the OEF should be aware in broad terms of the liquidity profile of the portfolio and be prepared to bear the liquidity cost associated with portfolio transactions passed on to them through the use of anti-dilution LMTs.

The relevant OEF constitutional document (such as the prospectus) should disclose the anti-dilution LMTs that may be applied, the basis on which they may operate and the objective and implications of the mechanisms. The disclosure should indicate that the main purpose of anti-dilution LMTs is to facilitate fair treatment of investors by protecting the ones that remain invested from bearing the costs generated by the subscription and redemption activities of others. In particular, the fund documents should set out details of the constituents of the costs taken into account to calculate the adjustment factor, including the calculation or estimation basis. The disclosure may also differentiate between the contexts of normal and stressed market conditions.

To enable liquidity costs to be sufficiently passed on to transacting investors, the relevant OEF constitutional document should not constrain the adjustment factors to be applied. It is observed that some OEFs may disclose a range of adjustment factors, in particular those applicable under normal market conditions, to facilitate investors' understanding of the potential implications of anti-dilution LMTs or to satisfy disclosure requirements in some jurisdictions, with an aim to benefit investor communication and discourage any potential first mover advantage. However, to the extent permitted in relevant jurisdictions and OEF constitutional documents, disclosures of such OEFs should also state that such a range may be exceeded to allow for changes, if necessary, to reflect higher liquidity costs in changing market situations. The circumstances under which such a range may be exceeded should also be disclosed.

Periodic ex-post disclosures of an OEF's historical use of anti-dilution LMTs³⁷ may (i) help investors understand the potential cost implications of redeeming from, and subscribing to, an investment fund at different points in time; and (ii) enhance the ability of oversight by authorities or other stakeholders. Such periodic disclosure could be included in the investment fund's annual or semi-annual financial statements or websites. Consideration is also required of what information should be disclosed to investors at the time they submit a subscription or redemption request and after such a request has been executed.

However, the type of information and the timing to disclose it should be carefully considered to balance the benefits of providing transparency and useful information to investors and any potential risk of unintended consequences. There are concerns that disclosure of detailed calibration of anti-dilution LMTs and the activation thresholds may allow some investors to game the mechanism to the detriment of other investors, which will circumvent the objective of anti-dilution LMTs. There may also be concerns that the disclosure in public reports of the actual adjustment factors that have been used by OEFs could result in stigma effects or front-running which may jeopardize the effectiveness of anti-dilution LMTs. For example, a manager may anticipate that the adjustment factors applied historically will become a selection criterion for investors, which may incentivise applying an arbitrarily low factor that does not appropriately reflect the full cost of liquidity. Disclosing a range of thresholds and factors that have been used, rather than specific figures, or delayed disclosure after application, could help to mitigate this risk.

Examples of Good Practices

Guides and / or FAQs could supplement legal disclosure to provide information in a language accessible to all investors.

The prospectus disclosures should provide for the possibility to go beyond the disclosed ranges of adjustment factors under certain, predefined conditions. In exceptionally stressed market conditions, fund managers may wish to set a temporary anti-dilution factor that goes beyond the ranges disclosed in the prospectus. In this case, communication should be made to investors through the usual communication channels, such as the ordinary notice to investors, through the fund's internet website, or another way as disclosed in the prospectus.³⁸

A fund manager may also publish the average swing factors applied for all their funds in their website in the previous year.

Section V – Overcoming Barriers and Disincentives to Implementation of Anti-dilution Liquidity Management Tools

Responsible entities should put in place measures to enable LMTs that are permitted under applicable laws and regulations to be used promptly and in an orderly manner. However, there are some challenges and disincentives associated with the use of anti-dilution LMTs. These can be grouped into two types: negative perceptions regarding the use of anti-dilution LMTs and market-wide structural or operational barriers to their use.

Negative Perceptions

³⁷ Some consultation respondents suggested that ex-post information about the use of anti-dilution LMTs may include, for example, the date on which anti-dilution LMT was applied, the amount of dilution cost adjustment applied, or the NAV per share before and after application of anti-dilution LMTs.

³⁸ Based on the CSSF experience of the Covid-driven market turbulence in the year 2020. please refer to the CSSF's FAQ on swing pricing available at https://www.cssf.lu/wp-content/uploads/FAQ_Swing_Pricing.pdf

There may be ‘stigma’ / reputational / commercial concerns as the design and implementation of anti-dilution LMTs could impact negatively the relationship between managers and their investors.

Under normal market conditions, it has been raised that OEFs implementing such tools could face difficulties in attracting new investors for two main reasons:³⁹

- First, some investors fear that they might be penalised more than warranted by the imposition of existing liquidation costs. To some extent, certain investors, particularly retail investors, may also perceive liquidation costs as extra costs and therefore prefer not to invest in funds implementing anti-dilution LMTs.
- Second, dilution adjustment in fund prices can increase an OEF’s tracking error (when compared to a benchmark / index) and make the fund prices more volatile.

Thus, such ‘stigma effect’ may discourage an OEF from implementing anti-dilution LMTs if its peers do not.

Market-wide Structural and Operational Barriers

The second type of barrier relates to costs and operational challenges in the employment of anti-dilution LMTs:

- Fund managers are likely to face costs to implement anti-dilution LMTs, especially during the initial design and preparation phase. Besides some ongoing fixed costs, for instance those charged by fund administrators, auditors or data providers, fund managers may face upfront costs related to the development of anti-dilution LMTs (model developments, IT costs to automate processes).
- The use of certain anti-dilution LMTs⁴⁰ may require the cooperation of third parties, such as fund administrators or accountants. These parties may not have the expertise or the resources enabling a proper implementation of the anti-dilution LMTs. This may also result in an increase in operational risks, attached to the activation of anti-dilution LMTs: while these risks could be reduced by automation of managers’ processes, they may still occur from the activities performed by third-party entities they engage.
- In some jurisdictions, the inclusion and use of certain anti-dilution LMTs, despite their availability, may face market-wide operational barriers such as the need for substantial reconfiguration of current distribution and order-processing practices in order to have reliable net fund flow data as an input to the calculation of liquidity cost. Intermediaries may not communicate fund flows to the fund managers until after the responsible entity has calculated the NAV of the OEF, meaning that the fund managers may have to determine the NAV (including whether to apply swing pricing) before knowing the inflows and outflows with reasonable certainty. The current processes of intermediaries therefore introduce delay or complexities in implementing anti-dilution LMTs in these jurisdictions.
- Apart from a lack or delay of fund flow data, there may also be a lack of relevant data (e.g., reliable bid-ask spread information). These barriers make the calculation of dilution adjustment factors particularly challenging.

³⁹ See the Financial Conduct Authority Occasional Paper 48, May 2019. Available at: <https://www.fca.org.uk/publication/occasional-papers/occasional-paper-48.pdf>

⁴⁰ For example, some consultation respondents commented that it may be more challenging to use anti-dilution levies to incorporate all components of liquidity costs or apply redemption fees to specific investors where fund distribution is significantly intermediated.

- Operational issues are more likely to surface under stressed market conditions, as fund managers may face the need to recalibrate their anti-dilution LMTs at a more sustained pace (for instance, recalculating the dilution adjustment factors and sharing it with fund administrators).

Potential Solutions

With greater use and greater consistency in use of anti-dilution LMT by OEFs in accordance with this guidance, together with enhanced investor disclosures, the above-mentioned negative perceptions could be alleviated. Some managers are of the view that proper use of anti-dilution LMTs has potential benefits on the OEF's performance. It is expected that the use of these LMTs will become market practice which will result, with time, in standardisation and automatisisation of processes.⁴¹ This could also reduce some of the operational barriers such as operational costs and operational risk associated with manual processes.

In addition, responsible entities could adopt other measures to facilitate the greater use of anti-dilution tools, for example:

- further investor education to raise awareness about the role of anti-dilution LMTs and the rationale in favour of their appropriate use;
- closer communication with intermediaries and service providers such as administrators in designing anti-dilution LMTs to enable effective implementation of such tools; and
- ongoing review of the use of anti-dilution LMTs to inform possible improvements to their effectiveness over time.

Close communication and engagement between responsible entities and authorities may also help to identify any potential issues (e.g., regulatory hurdles) that may prevent effective use of LMTs and facilitate formulation of solutions to such issues.

Nevertheless, market-wide barriers such as certain market structures or lack of appropriate systems of fund service providers would be more difficult for individual fund managers to overcome. These would require complex solutions to be implemented by parties other than fund managers.

⁴¹ For example, over the years Luxembourg's industry body, ALFI, has attempted to standardize swing practices, enabling its consistent application and leading to a relatively high adoption rate. The 2022 survey is available at https://www.alfi.lu/getattachment/8417bf51-4871-41da-a892-f4670ed63265/app_data-import-alfi-alfi-swing-pricing-survey-2022.pdf

ANNEX 1: SUMMARY FEEDBACK STATEMENT

OVERALL

Although the consultation responses reflected general support for the objective of expanding the use of anti-dilution LMTs, particularly from the perspective of investor protection, most respondents expressed that the proposed guidance should be adjusted to incorporate more proportionality under a principles-based approach, so that responsible entities would have greater flexibility in their consideration and use of anti-dilution LMTs. Most respondents supported IOSCO's recognition that "one size does not fit all" with respect to funds' use of anti-dilution LMTs, due to the diversity of OEFs and investors, as well as differences in markets and regulations across jurisdictions. Respondents strongly agreed that responsible entities are best placed to manage the liquidity of their OEFs and stated that they should have discretion on when and how to use anti-dilution LMTs.

The consultation responses also included strong disagreement with some specifics of the proposed guidance. In particular, they objected to the mandatory adoption of at least one anti-dilution tool for each OEF (Proposed Guidance 2) and inclusion of market impact in liquidity cost calibration (Proposed Guidance 3). Some respondents also questioned the financial stability rationale for the proposed guidance, arguing that there is insufficient evidence for first-mover advantage related to the liquidity cost.

KEY COMMENTS ON EACH PROPOSED GUIDANCE

The Consultation Report included 6 proposed points of guidance for the design and use of anti-dilution LMTs. Key comments on each of them are summarized below.

Proposed Guidance 1: *Responsible entities should have appropriate internal systems, procedures and controls in place at all times in compliance with applicable regulatory requirements for the design and use of anti-dilution LMTs as part of the everyday liquidity risk management of their OEFs to mitigate investor dilution and potential first-mover advantage arising from structural liquidity mismatch in OEFs.*

- The majority of responses were generally supportive of IOSCO's goal of promoting the use of anti-dilution LMTs as part of a fund manager's toolbox; if implemented appropriately, proportionately and with sufficient flexibility. However, most respondents called for additional flexibility, some noting the guidance should not be overly prescriptive.
- Some respondents expressed concerns about the underlying concept of "first-mover advantage" that may give rise to "excess" redemptions in stressed market conditions for which they believed there is insufficient data-backed evidence.
- Generally, the focus on mitigating material dilution was welcomed to avoid implementation costs that might outweigh the benefits (for instance, in smaller OEFs).

Proposed Guidance 2: *As part of their liquidity risk management framework, responsible entities should consider and use at least one appropriate anti-dilution LMT for each OEF under management to mitigate investor dilution and potential first-mover advantage arising from structural liquidity mismatch in the OEFs they manage.*

- Respondents generally agreed that the five ADTs detailed in the Consultation Report are the most commonly used by the industry, and that they are correctly described in the Consultation Report; however, some respondents pointed out that the list should not be considered exhaustive and that any tool (whether existing or to be developed) that allows managers to mitigate dilution should be considered relevant.
- A large majority of respondents expressed opposition to a mandatory adoption of at least one anti-dilution LMT for all OEFs. Respondents supported a larger availability of ADTs, but stated that the actual adoption of ADTs should be left at the sole discretion of managers, depending on the characteristics of the funds. The two reasons generally provided were that, for certain funds, i) the cost of implementation does not cover the benefits to investors and ii) dilution is usually not material enough to create first-mover advantage, including in stressed market conditions.

Proposed Guidance 3: *Anti-dilution LMTs used by responsible entities should impose on subscribing and redeeming investors the estimated cost of liquidity, i.e., explicit and implicit transaction costs of subscriptions*

or redemptions, including any significant market impact of asset purchases or sales to meet those subscriptions or redemptions.

Independently of the anti-dilution LMT used, responsible entities should be able to demonstrate to authorities (in line with the authorities' supervisory approaches) that the calibration of the tool is appropriate and prudent for both normal and stressed market conditions.

- While there was overall agreement on the proposed objectives as set out in Guidance 3, most respondents suggested allowing responsible entities discretion in calibration and promoting a fair and reasonable calibration instead of a conservative calibration, which may overestimate the liquidity costs and prejudice redeeming investors.
- Most respondents objected to the mandatory inclusion of market impact in liquidity cost calibration, citing challenges in estimating market impact with precision such as lack of timely and reliable data, and operational complexity.
- Some respondents opposed the proposed pro-rata slice approach as it may deviate from how responsible entities meet redemptions in practice and tends to overestimate the liquidity costs and unfairly penalize redeeming investors.
- In addition, respondents noted limitations on incorporating liquidity costs in subscription and redemptions fees, and in anti-dilution levies given that their calibration tends to be relatively more static.

Proposed Guidance 4: *If responsible entities set thresholds for the activation of antidilution LMTs, those thresholds should be appropriate and sufficiently prudent so as not to result in any material dilution impact in the fund.*

- Most respondents emphasized that anti-dilution LMTs aim to mitigate “material” or “significant” dilution of non-transacting investors and that the fund managers are best placed to set the activation thresholds and adjustment factors, accordingly.
- Most respondents linked the risk of triggering / cliff-effect with the disclosure of detailed calibration to investors and suggested therefore not to disclose the thresholds.
- Regarding a tiered approach to activation thresholds and adjustment factors, several respondents raised the complexity of implementation for the managers but also for service providers (fund administrators and depositaries), as well as increased cost of maintenance.

Proposed Guidance 5: *Responsible entities should have adequate and appropriate governance arrangements in place for their liquidity risk management processes, including clear decision-making processes for the use of anti-dilution LMTs.*

- Comments were broadly supportive, acknowledging the importance of governance in relation to the use of LMTs.
- There was broad agreement on the role of the governing body / senior management, although some respondents disagreed, possibly due to a misunderstanding of the guidance, that responsible entities must have a dedicated committee to consider the use of LMTs (which is not prescribed under the guidance).
- Most respondents were content with the material factors identified, though there were a few suggested points that could be added or given more weight.

Proposed Guidance 6: *Responsible entities should publish clear disclosures of the objectives and operation (including design and use) of anti-dilution LMTs to improve awareness among investors and enable them to better incorporate the cost of liquidity into their investment decisions and mitigate potential adverse trigger effects.*

- There was broad agreement with a balanced and reasonable approach to disclosures on the objectives and operation of anti-dilution LMTs. One respondent suggested the inclusion of an explanation of dilution and how it affects investments over time.

- A number of respondents preferred limited disclosure of details regarding the calibration of anti-dilution LMTs and thresholds for use, to prevent attempts by investors to “game the system.”

In addition, the Consultation Report included a section on **barriers and disincentives** to implementation of anti-dilution LMTs. Key comments on this section included:

- Most respondents agreed with the identified list of barriers and disincentives, specifically highlighting high cost of implementation, lack of data, issues with third parties, investor attitudes towards funds that use specific kinds of anti-dilution tools, and lack of understanding or familiarity.
- They identified market structure and operational barriers as the most significant barriers or disincentives to the implementation of anti-dilution LMTs. These entailed challenges with fund flow information, availability of other data, and challenges in operationalising LMTs for third parties such as distributors, intermediaries, and record keepers.
- To account for these challenges, respondents asked for more flexibility in the application of the guidance, including recognition that not all funds should be required to have anti-dilution LMTs, and a long transition period.

RESPONSES TO THE COMMENTS:

With the general support for proposed **Guidance 1, 4, 5 and 6**, no substantive change is considered necessary to these points of guidance, other than some clarificatory changes to incorporate suggestions by respondents and, in respect of misunderstandings by some respondents, to further explain IOSCO’s expectations on activation thresholds, governance arrangements and disclosure.

The concerns that costs of implementing anti-dilution LMTs might outweigh the benefits due to **barriers and disincentives** may be addressed by clarifying that the proposed guidance is intended to focus on mitigating material dilution and by incorporating more flexibility in the proposed guidance as discussed below.

Regarding the strong opposition relating to the specifics of Guidance 2 and Guidance 3, C5 is adjusting the proposed guidance as discussed below.

Guidance 2 (*Types of Anti-dilution LMTs*)

Key oppositions:

Many respondents objected to the proposed guidance that responsible entities should consider and use at least one anti-dilution LMT for each OEF. Respondents noted, in particular, that anti-dilution LMTs might not be appropriate for funds investing in very liquid assets with immaterial liquidity costs (e.g., large cap equity funds), or real estate funds, where the redemption frequency is generally non-daily and other LMTs or measures are in place (e.g., long notice periods, deferred settlements) and are more commonly used.

Changes:

C5 is revising Guidance 2 to read:

Guidance 2: As part of their liquidity risk management framework, responsible entities should consider and use appropriate anti-dilution LMTs for OEFs under management (where appropriate as per the explanatory text set out below) to mitigate material investor dilution and potential first-mover advantage arising from structural liquidity mismatch in the OEFs they manage.

C5 is also revising the explanatory text to read:

The principle underlying the use of anti-dilution LMTs should be the fair treatment of both transacting and existing/remaining investors with the objectives to mitigate material dilution and potential first-mover advantage arising from structural liquidity mismatch in OEFs. Since the dilution risk differs between OEFs, the application of appropriate anti-dilution LMTs to achieve these objectives may also differ between OEFs.

In this regard, responsible entities of OEFs, particularly those falling into Category 2 (less liquid) as described under Revised FSB Recommendation 3, should consider and use such tools and should ensure that transacting investors will bear the costs of liquidity associated with fund redemptions and subscriptions, in order to arrive at a more consistent approach to the use of anti-dilution LMTs by OEFs. For Category 2 funds, there would be

a greater likelihood of dilution expected than for Category 1 funds. The expectation is that anti-dilution LMTs would be increasingly used by Category 2 funds as part of their day-to-day liquidity management, unless such LMTs not being used is clearly justified, subject to (i) oversight of authorities in line with their supervisory approaches and (ii) implementation of other effective liquidity risk management measures that meet the broader policy intent of reducing material structural liquidity mismatches underpinning the Revised FSB Recommendations.

In line with the above, anti-dilution LMTs should (i) be included in OEF constitutional documents⁴²; (ii) be considered and used in both normal and stressed market conditions, with a view to achieving greater use and greater consistency in their use; and (iii) account for both the explicit and implicit costs of redemptions and subscriptions, including any significant market impact of asset sales and purchases. In addition, responsible entities of such OEFs should have appropriate internal systems, procedures and controls in place that enable the use of anti-dilution LMTs as part of the day-to-day liquidity risk management of the OEFs they manage, even if such tools would not always be in use.

The explanatory text for Guidance 2 would also state that responsible entities should have proper policies and procedures in place for conducting the relevant assessment of the risk of material dilution in either normal or stressed market conditions.

The explanatory text will also make it clear that responsible entities should have a general liquidity risk management framework in any case as per the IOSCO LRM Recommendations *for Liquidity Risk Management for Collective Investment Schemes*,⁴³ and only the guidance with respect to considering and using anti-dilution LMTs would vary depending on the fund category, as above.

Other comments:

IOSCO received a number of comments advocating for exceptions to the LMT Guidance for large cap equity funds investing in very liquid assets with immaterial liquidity costs, or real estate funds, where redemption frequency is generally non-daily and other LMTs or measures are in place (e.g., long notice periods, deferred settlements) and are more commonly used. However, C5 is not considering revisions to the LMT Guidance to provide exclusions based on the type of investment fund or its underlying asset classes. Defining fund types by asset class is difficult, funds and their investments are not static, and liquidity risks related to underlying asset classes of funds may not remain the same over time.

The additional flexibility and proportionality for category 1 and category 2 funds provided under the principles-based approach outlined above should address the concerns raised by commenters, while avoiding the practical difficulties associated with exceptions based on fund types and asset classes. It will also maintain the consistency of the LMT Guidance with the FSB Consultation Report, as well as the focus on liquidity risk and material dilution.

Proposed Guidance 3 (*Calibration of Liquidity Costs*)

Key oppositions:

Most respondents objected to the proposed mandatory adoption of market impact in anti-dilution LMTs, citing challenges in estimating market impact with any level of precision due to lack of timely and reliable data, and operational complexity. They suggested that the inclusion of market impact should be voluntary and should be left to the discretion of the responsible entities to incorporate only when estimation is practicable.

Some respondents opposed the proposed pro-rata slice approach in estimating liquidity costs, expressing concerns that it may deviate from how responsible entities meet redemptions in practice and tends to overestimate the liquidity costs and unfairly penalize redeeming investors.

⁴² These include fund prospectuses, other offering documents and other documents accessible to investors on an ex-ante basis before they make their investment decision.

⁴³ <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD590.pdf>

Most respondents also suggested a fair and reasonable calibration instead of a conservative calibration, so as to not to prejudice redeeming investors.

Changes:

C5 is acknowledging in the explanatory text under Guidance 3 the concerns raised by commenters with respect to the inclusion of market impact, and emphasizing or providing additional clarity that responsible entities will have flexibility in relation to the precision in estimating market impact. Revisions include clarification that IOSCO recognises that responsible entities will estimate market impact with a degree of uncertainty. However, market impact would remain as one of the key considerations in liquidity cost calibration.

- C5 is cognisant of the challenges in estimating market impact, and it has already been set out in the Consultation Report that market impact is expected to be an estimate on a best effort basis.
- C5 believes that, despite the challenges, incorporating significant market impact will be a meaningful enhancement to the use of anti-dilution LMTs in passing the liquidity costs to transacting investors. Therefore, C5 is maintaining the guidance of mandating the assessment of market impact, and if it is significant, including it in the use of anti-dilution LMTs. Nevertheless, C5 is clarifying the expectation to provide sufficient flexibility to responsible entities in relation to the precision in estimating market impact. Revisions would include clarification that IOSCO recognises that responsible entities will estimate market impact on a best-efforts basis, but there could be a degree of uncertainty.

For example:

- Regarding the precision of market impact responsible entities should be able to demonstrate to authorities that they have made reasonable efforts aiming to arrive at fair and reasonable estimates of market impact, taking into account any limitation on data availability.
- Acknowledging that it may take time and is an iterative process for responsible entities to develop the framework and operational processes to incorporate significant market impact in the liquidity cost calibration. Further collaboration with the industry regarding the calculation of market impact could be envisaged.
- C5 is revising the explanatory text under Guidance 3 to reposition the pro-rata slice approach as an example for liquidity cost calibration and to clarify the expectation that responsible entities should estimate liquidity costs with their professional judgement on a fair and reasonable basis This would include clarifying that:
 - With the different approaches responsible entities may adopt to meet redemptions / subscriptions, the proposed pro-rata approach is a key consideration in estimating costs of liquidity, especially in stressed market conditions.
 - If responsible entities make the professional judgement that buying / selling a pro-rata slice would not, overall, be in the best interest of all investors, considering the OEF's investment strategy, the feasibility and cost of alternative of transaction approaches, the liquidity risk profile and management of the portfolio, as well as reasonably foreseeable market conditions as a whole, responsible entities may adjust that estimate to reflect more accurately the expected cost of liquidity when transacting in selected individual holdings of the portfolio.