

**Liquidity management tools in open-ended investment funds:
the right tools in the right hands?**

Dr. Katrien MORBEE*

Draft of 31 May 2022

Forthcoming, *Capital Markets Law Journal*, 2023

Do not quote or cite without author's permission

Key Points

- A number of high-profile liquidity crises have pushed liquidity risk in investment funds higher on the policy agenda in Europe. Most recently, in November 2021, the European Commission adopted a proposal for a review of the Alternative Investment Fund Managers Directive ('AIFM Directive') and the Undertakings for Collective Investment in Transferable Securities Directive ('UCITS Directive'), with liquidity risk management featuring as a central component.
- This article examines the allocation of the decision-making power over the design and application of liquidity management tools in open-ended funds. Liquidity management tools – such as pricing arrangements, notice periods, and suspension of redemption rights – can help alleviate the liquidity risk generated by investment funds. However, there is no one-size-fits-all and their use requires continuous judgment on the appropriate mix of tools given the specifics of each fund and the conditions on the market.

* Lecturer in Banking and Finance Law at Queen Mary University of London. The author would like to thank John Armour, Dan Awrey, Paul Davies, Dries Dury, Luca Enriques, Jeffrey N. Gordon, Joris Morbee, Robert Richardson, and Thom Wetzter for useful comments and discussions. This paper has benefited from comments received following seminars at Columbia Law School, Oxford Law School, and Queen Mary University of London. The author would like to thank the Economic and Social Research Council [ES/J500112/1], the Oxford-Man Institute of Quantitative Finance, Balliol College – University of Oxford, and the Scatcherd European Scholarship for financial support. The usual disclaimers apply.

- The analysis shows that asset managers tend to be best placed to make decisions on the application of liquidity management tools, especially if these decisions require fund-specific or ‘micro’ information. However, prudential authorities have an important role to play with respect to information gathering on the macro-level as well as through direct intervention in specific systemic scenarios.
- Against that context, the article outlines the policy interventions necessary to improve decision-making in this area and in doing so creates a yardstick against which policy initiatives can be evaluated. While the article focuses on European policy, the analysis and its policy implications are more widely applicable.

1. Introduction

Liquidity risk in investment funds and its potential systemic consequences has risen on the policy agenda over the last few years as a result of a number of high-profile liquidity crises. In 2016, following the Brexit referendum, significant outflows forced some of the UK’s biggest commercial property funds to suspend the redemption rights of their investors. In 2018 and 2019, three asset managers – more specifically GAM, Woodford, and H20¹ – made headlines because their funds experienced significant outflows due to a combination of poor past performance and a decrease in the fund portfolio’s liquidity. During the financial turmoil resulting from the initial COVID-19 outbreak at the beginning of 2020, the tightened liquidity² in the market combined with significant redemption requests by investors put pressure on the

¹ GAM had to gate their investors’ money after the dismissal of one of their star traders – based on alleged misconduct – resulting in significant outflows of the relevant funds. The illiquidity of the funds’ holdings threatened to hamper their ability to meet redemption requests. The Woodford equity income fund faced significant outflows after a series of bad stock picks. This resulted in the need to suspend redemption as a significant amount of its assets were invested in illiquid holdings, such as unquoted and less liquid stock. H20 experienced significant outflows after the Financial Times reported that H20 had bought significant holdings in illiquid bonds linked to the German entrepreneur Windhorst across six of its funds.

² The initial COVID-19 outbreak in March 2020 resulted in a re-assessment of the economic and financial prospects and a risk-off sentiment in the market. There was a flight to cash, affecting a wide range of assets. The resulting price uncertainty and increased transaction costs led to a deteriorating liquidity environment.

fund industry. While the majority of funds were able to meet redemptions, around 140 EEA-domiciled investment funds had to suspend redemption between March and May 2020 due to valuation uncertainty or outflows.³ From the beginning of April 2020, the interventions of central banks helped restore balance in the market and liquidity improved.⁴

There are particular concerns about liquidity risk in **open-ended** investment funds. An open-ended fund is a fund that does not have a set amount of assets under its management.⁵ Depending upon investors' demand, the fund will issue or redeem shares/units on a continuous or periodic basis. This open-ended nature can create liquidity risk when a position in a fund's portfolio cannot be liquidated at limited cost and in an adequately short timeframe in order to fulfil a redemption request. Managers will either need to have liquid reserves in place or face liquidity risks resulting from portfolio rebalancing to free up the cash necessary to meet redemption requests. In other words, manager will need to match the liquidity of the asset and liability side of their balance sheet in order to avoid liquidity problems. Moreover, as argued below, the presence of a liquidity mismatch in open-ended funds can create first-mover advantages for investors, encouraging a run on the fund in crises times, with destabilising consequences for the system as a whole. In recent years, policymakers⁶ have stressed the importance of the adequate use of liquidity management tools – such as pricing arrangements, notice periods, and suspension of redemption rights – to manage liquidity mismatches and its destabilising consequences for investors and the financial system.

³ ESMA, 'Recommendation of the European Systemic Risk Board (ESRB) on liquidity risk in investment funds of November 2020', ESMA34-39-1119, 4.

⁴ For a detailed overview of the liquidity problems in the US and Europe, see Barbara Novick and others, 'Lessons from COVID-19: Liquidity Risk Management Is Central to Open-Ended Funds' [2020] Blackrock ViewPoint 29, 4–13.

⁵ A closed-ended fund, in contrast, does not issue new shares or redeem old ones and has a fixed amount of capital invested. At a predetermined date or period, the closed-ended fund will liquidate its assets and redeem its shares.

⁶ See for example ESRB, 'Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)' ESRB/2017/6; FSB, 'Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities' (2017).

This article examines the allocation of the decision-making power over the design and application of liquidity management tools in open-ended funds. In most jurisdictions, the decision to apply liquidity management tools is in the first place the responsibility of the asset managers, who tend to have discretionary powers to assess the necessity of such measure.⁷ However, in recent years, there have been proposals to use liquidity management tools as part of the macroprudential toolkit available to prudential authorities.⁸ The article examines two important factors in deciding on the allocation of decision-making power to asset managers or prudential authorities: the incentives of the decision-makers and their access to information. The analysis shows that asset managers tend to be best placed to decide on the availability and use of liquidity management tools, especially if the application of the relevant tools requires fund-specific or ‘micro’ information. However, prudential authorities have an important role to play with respect to information gathering on the macro-level as well as through direct intervention in specific systemic scenarios. Policy proposals in this area should therefore focus on (1) the development of standards and guidelines for asset managers regarding the availability and use of liquidity management tools, (2) information gathering on the macro-level, and (3) supervisory coordination and convergence across jurisdictional boundaries.

The argument proceeds in three parts. The article first discusses the structural fragilities of open-ended funds that can exacerbate a liquidity crunch. It shows that the nature of these fragilities necessitates the careful design and continuous monitoring of a fund’s liquidity profile through the use of liquidity management tools, as ex-ante prudential regulation is inevitably incomplete. The second part tackles the governance question, i.e. the allocation of the decision-making rights over the design and application of such liquidity management tools. We analyse

⁷ AMIC/EFAMA, ‘Managing Fund Liquidity Risk in Europe - an AMIC/EFAMA Report April 2016’ (2016) 18; ESRB, ‘Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)’ (n 6) 18.

⁸ ESRB, ‘Macroprudential Policy beyond Banking’ [2016] ESRB strategy paper 1, 23; For arguments against the use of liquidity management tools as part of macroprudential policy, see Barbara Novick and others, ‘Macroprudential Policies and Asset Management’ [2017] Blackrock ViewPoint 19, 15.

the incentives and the access to information of both asset managers and prudential authorities. The final part concludes and provides policy recommendations. The focus of the analysis will be on the European regulation of open-ended funds and in particular the Undertakings for Collective Investment in Transferable Securities Directive ('UCITS Directive'). UCITS are open-ended investment funds with the objective to invest in liquid assets with capital raised from the public.⁹ The analysis is – mutatis mutandis – applicable to alternative investment funds under the Alternative Investment Fund Managers Directive ('AIFM Directive').

2. The need for liquidity management tools

This part discusses the structural fragilities of open-ended funds that can exacerbate a liquidity crunch. We show that these fragilities can be mitigated by the adequate use of liquidity management tools. The discussion will focus on liquidity risk in open-ended funds due to an asset-liability mismatch, i.e. the mismatch between the liquidity of a fund's investments ('asset side') and the redemption rights of its investors ('liability side'). To be clear, there are other sources of liquidity risk in open-ended investment funds, in particular the use of leverage. However, while leverage is an important contributing factor to liquidity risk in the investment fund industry¹⁰, it is not inherent in the structure of **open-ended** funds and relates to the use of leverage in investment funds more generally, which is outside the scope of this article.

⁹ UCITS are undertakings 'with the sole object of collective investment in transferable securities or in other liquid financial assets [...] as defined by the UCITS Directive...' of capital raised from the public and which operate on the principal of risk-spreading, and (b) with units which are, at the request of holders, repurchased or redeemed, directly or indirectly, out of those undertakings' assets', see Article 1 (2) UCITS Directive.

¹⁰ Generally speaking, there are two key systemic vulnerabilities associated with investment funds. One lies in the risks resulting from the possible liquidity mismatch between a fund's investments and the redemption rights of its investors. A second potential fragility lies in the use of leverage by funds. Leverage can be used to boost a fund's profits, but it also makes such funds more vulnerable to asset price movements and liquidity constraints, with potential systemic spillovers. The extent and nature of the systemic vulnerabilities in the asset management industry vary widely depending on the particular features of the funds in question, see FSB (n 6) 9.

We will first examine liquidity risk in open-ended funds due to a liquidity mismatch, before discussing the structural features of open-ended funds that can exacerbate liquidity crises. We will then discuss the need for continuous liquidity management and the role of liquidity management tools. Throughout the discussion we will use corporate bond funds as an example of the potential problems. Funds exposed to corporate debt were also the object of the supervisory exercise coordinated by the European Securities and Markets Authority ('ESMA') – as recommended by the European Systemic Risk Board ('ESRB') – in the wake of the COVID-19 liquidity problems in the fund industry.¹¹

¹¹ ESMA, 'Recommendation of the European Systemic Risk Board (ESRB) on liquidity risk in investment funds of November 2020', ESMA34-39-1119.

Liquidity mismatches and risk

Liquidity risk in open-ended funds can result from a ‘liquidity mismatch’ between the liability and asset side of a fund’s balance sheet, more specifically between the redemption rights of its investors (‘liability side’) and the liquidity of a fund’s investments (‘asset side’). On the liability side, redemption rights permit investors to sell their shares back to the fund in exchange for the approximate net asset value (‘NAV’), i.e. the pro rata net value of the fund’s assets.¹² The shares are not sold on the secondary market; rather investors have a periodic (e.g. daily) option to sell their shares to the fund itself.¹³ The fund’s liabilities to its investors fluctuate depending upon the current value of the underlying assets. The specifics of such redemption rights vary across funds (e.g. redemption frequency, notice periods, and fees). When assessing the liquidity risks of funds, strong redemption rights in open-ended funds are a potential red flag. In the case of large redemptions, the fund might have to sell portfolio holdings in order to generate the cash necessary to meet the redemption requests.

Strong redemption rights are not per se problematic, as long as it is matched with an equally liquid investment portfolio. The liquidity of the fund’s assets means the ease with which assets are traded. Liquidity refers to the ability to buy and sell large amounts of the asset at low trading costs (such as trade-processing costs, search and delay costs, and market impact costs). Liquid assets include for instance cash, central banks reserves, or securities guaranteed

¹² The NAV needs to be distinguished from the expected value of the investor’s share. It reflects the expected value of securities in the fund’s portfolio, but it does not include the future fees or portfolio changes expected in the fund itself, see John Morley, ‘The Separation of Funds and Managers: A Theory of Investment Fund Structure and Regulation’ (2014) 123 *Yale Law Journal* 1228, 1248.

¹³ In exchange-traded funds (‘ETFs’) – a new type of open-ended fund that has experienced massive growth in recent years – only Authorised Participants can redeem or create ETF shares. The majority of investors do not directly deal with the ETF and simply trade in ETF shares on an exchange. Authorised Participants can redeem or create ETF shares at the ETF level in exchange for the basket of the underlying securities. They will do so whenever there is a price discrepancy between the ETF shares and the underlying securities. This ensures that the market price for ETF shares stays closely aligned with the NAV of the underlying securities of the ETF. Consider the scenario where the market price of the ETF shares is lower than the market price of the underlying assets: Authorised Participants can gain from arbitrage by redeeming ETF shares in exchange for a basket of the underlying securities, which they can then sell on the underlying market.

by sovereigns that have zero per cent risk-weight. Illiquid assets include for example equity in private companies and real estate investments.

Take the example of a corporate bond fund. In recent years practitioners have voiced concerns about the liquidity in the corporate bond market.¹⁴ It is argued that due to regulatory changes post-crisis – in particular increased capital and liquidity requirements – banks, brokers and other traditional liquidity providers incur increased costs to hold inventories of securities, impairing their ability to provide market-making services. This badly affects the liquidity in the corporate bond market.¹⁵ Moreover, in the over-the-counter market, the bond issuance is fragmented, with corporations issuing a variety of bonds with different characteristics, such as maturity dates and coupon payments. As a result of such fragmentation, the different types of bonds trade on an irregular basis.¹⁶ Regulators, on the other hand, found little evidence that the liquidity of the corporate bond market has significantly deteriorated since the financial crisis.¹⁷ A study commissioned by the European Commission, however, found that if price-based measures for liquidity are conditioned on risk, the trading costs for bonds with a given level of volatility have significantly increased since the crisis.¹⁸ Moreover, another study by the European Commission found that the sensitivity of bond liquidity to the specific characteristics that drive European bond liquidity – such as duration, rating, and time to maturity – is larger when markets are under stress.¹⁹ Although we do not take a stance in this on-going debate, the concerns raised shed – at the very least – doubt on the liquidity of the corporate bond market,

¹⁴ For an overview of the arguments, see Risk Control Limited, ‘Report to EC “Drivers of Corporate Bond Market Liquidity in the European Union”’ (2017) 20–24 <https://ec.europa.eu/info/sites/info/files/171120-corporate-bonds-study_en.pdf> accessed 25 September 2018.

¹⁵ Jack Bao, O’Hara Maureen and (Alex) Zhou Xing, ‘The Volcker Rule and Corporate Bond Market Making in Times of Stress’ (2018) 130 *Journal of Financial Economics* 95; Hendrik Bessembinder and others, ‘Capital Commitment and Illiquidity in Corporate Bonds’ (2018) 73 *The Journal of Finance* 1615; Goldman Sachs, ‘A Look at Liquidity’ [2015] *Global Macro Research*; iShares, ‘Fixed Income ETFs and the Corporate Bond Liquidity Challenge’ (2015).

¹⁶ iShares (n 15).

¹⁷ For an overview of the regulatory studies on the subject, see Risk Control Limited (n 14) 25–34.

¹⁸ Risk Control Limited (n 14).

¹⁹ Clara Galliani, Giovanni Petrella and Andrea Resti, ‘The Liquidity of Corporate and Government Bonds: Drivers and Sensitivity to Different Market Conditions’ [2014] *European Commission JRC Technical Reports*.

especially during stressed times. Combined with strong redemption rights (e.g. daily redemption rights at no fee without a notice period), this could create a liquidity mismatch in corporate bond funds. In this context, ESMA simulated the resilience of 6600 UCITS bond funds for severe, but plausible, shock scenarios. The results of this exercise show that around 40 per cent of the high-yield bond funds would not be able to meet redemption requests with their holdings of liquid assets alone.²⁰

The structural fragilities of open-ended funds

Certain characteristics of open-ended funds could encourage herd behaviour by investors, amplifying liquidity problems and their consequences for the stability of the system as a whole. More specifically, a mismatch between the liquidity of the underlying investments and the redemption rights can create advantages for early redeemers, incentivising investors to run on the fund in stressed times.²¹ Empirical evidence supports the existence of first-mover advantages in open-ended funds with illiquid assets.²²

More specifically, first-mover advantages in open-ended funds arise when the costs of redemptions are partly borne by the remaining investors. Consider our example of a corporate bond fund. A shock in the corporate bond market depressing prices – such as an announcement by the Bank of England that it will increase interest rates in a context of concerns about inflationary pressures, feeding fears that a period of rising interest rates has arisen – could lead to heavy redemption requests.²³ Redemptions in excess of the fund's cash buffer will require

²⁰ ESMA, 'ESMA Economic Report – Stress simulation for investment funds 2019', ESMA50-164-2458, 3-32.

²¹ A parallel can be drawn with bank runs. The Diamond and Dybvig's model of bank runs explains runs by reference to the economic role of banks to transform short-term liquid liabilities into longer-term illiquid investments. Such transformation creates multiple equilibria. If confidence is maintained, banks provide efficient risk-sharing between depositors by insuring for liquidity shocks of depositors. If confidence is lost, investors will want to withdraw deposits before the bank's assets are depleted. Early withdrawals are more likely to be fully repaid, creating a dominant strategy for investors to run on the bank, see Douglas Diamond and Philip Dybvig, 'Bank Runs, Deposit Insurance, and Liquidity' (1983) 91 *The Journal of Political Economy* 401.

²² Qi Chen, Itay Goldstein and Wei Jiang, 'Payoff Complementarities and Financial Fragility: Evidence from Mutual Fund Outflows' (2010) 97 *Journal of Financial Economics* 239.

²³ Office of Financial Research, 'Asset Management and Financial Stability' (2013) 11–12.

portfolio rebalancing (e.g. corporate bonds will be sold into the market in order to meet redemption requests). The portfolio rebalancing will often take place in the days following the redemption request and will lead to trading costs. These trading costs include commission, fees, market makers' spread, and market impact of the sales. In illiquid markets, these transactions costs could be significant. This is so if only because sales of illiquid corporate bonds can significantly impact the price of the assets on the market, especially in the case of correlated sales across multiple bond funds. When bond funds sell off large quantities of the underlying illiquid corporate bonds in fire sales, the prices of the corporate bonds can spiral down even further.²⁴

Redemptions, in contrast, will happen based on the redemption terms of the fund. Most UCITS tend to work with daily redemption.²⁵ NAV is often calculated at the end of the business day of the redemption request. The calculated NAV will not include the trading costs related to the portfolio rebalancing after the point of NAV calculation. In other words, early redeemers will be able to externalise trading costs onto remaining shareholders. Later-to-sell investors will bear the losses of fire sales by holding onto shares in an increasingly illiquid portfolio.²⁶

First-mover advantages can generate runs with destabilising consequences for the system as a whole. Consider the example where an announcement by the Bank of England concerning interest rates leads to a run on corporate bond funds. If such redemptions are correlated across

²⁴ For research supporting this hypothesis, see Andrew Ellul, Chotibhak Jotikasthira and Christian T Lundblad, 'Regulatory Pressure and Fire Sales in the Corporate Bond Market' (2011) 101 *Journal of Financial Economics* 596; Alberto Manconi, Massimo Massa and Ayako Yasuda, 'The Role of Institutional Investors in Propagating the Crisis of 2007–2008' (2012) 104 *Journal of Financial Economics* 491; For research contradicting such hypothesis, see Brent W Ambrose, Kelly N Cai and Jean Helwege, 'Fallen Angels and Price Pressure' (2011) 21 *The Journal of Fixed Income* 74; Jaewon Choi and others, 'Corporate Bond Mutual Funds and Asset Fire Sales' (2020) 138 *Journal of Financial Economics* 432.

²⁵ A Fitch report finds that only 4 per cent of UCITS funds do not offer daily dealing. The daily dealing was even dominant in funds invested in problematic assets, such as high yield bonds, see Alastair Sewell and Chloe Andrieu, 'Fitch Special Report: Global Mutual Fund Redemption Suspensions Highlight Liquidity Mismatches - Application of Extraordinary Liquidity-Management Tools Becoming More Common' [2020] *FitchRatings* 5.

²⁶ Chen, Goldstein and Jiang (n 22); Itay Goldstein, Hao Jiang and David T Ng, 'Investor Flows and Fragility in Corporate Bond Funds' (2017) 126 *Journal of Financial Economics* 592; Joshua S Wan, 'Systemically Important Asset Managers: Perspectives on Dodd-Frank's Systemic Designation Mechanism' (2016) 116 *Columbia Law Review* 805, 823.

corporate bond funds, it is not unlikely that the resulting sales will be significant enough to impact market prices on the corporate bond market. Indeed, due to the increased capital and liquidity constraints on traditional institutional investors, such as banks, combined with the search for yield of fund investors in a low-interest environment, open-ended funds hold an increasingly large share of the corporate bond market.²⁷

These asset price movements could then spill-over to the real economy by impairing funding markets. Returning to our example, bond financing has become an increasingly important tool in corporate finance. For instance, in the UK, the issuance of tradable securities, in particular corporate bonds, accounts for almost all net credit raised since the financial crisis by non-bank financial institutions.²⁸ Baranova et al.²⁹ find evidence that redemptions – under unlikely, but not impossible circumstances – can significantly affect corporate bond interest rates for companies, impairing their ability to raise debt financing. Moreover, the liquidity of the corporate bond market heavily relies on broker-dealers holding corporate bonds in their inventory. If the prices of the corporate bonds collapse, the broker-dealers might incur significant losses on their balance sheets. This in turn might prevent the broker-dealers from providing key functions to the market, exacerbating the shock.³⁰

The need for continuous liquidity management

There is a significant body of ex-ante – i.e. before liquidity problems arise – prudential regulation in order to prevent the liquidity issues identified in the previous sections. This section shows – using the UCITS regime as case study – that the ex-ante strategies adopted in the EU for managing liquidity risk in open-ended investment funds are incomplete. As a result,

²⁷ For some empirical evidence on the increased share of corporate bonds held through mutual funds and EFTs in the US market, see IMF, *Global Financial Stability Report Moving from Liquidity- to Growth-Driven Markets April 2014* (IMF 2014) 14.

²⁸ Yuliya Baranova and others, ‘Simulating Stress across the Financial System: The Resilience of Corporate Bond Markets and the Role of Investment Funds’ [2017] Financial Stability Paper 1, 7.

²⁹ Baranova and others (n 28).

³⁰ *ibid* 5.

there is a need for continuous liquidity management considering the specifics of each fund's liquidity profile and the ever-changing circumstances on the market more generally. In line with this, in recent years, policymakers have emphasized the importance of the adequate use of liquidity management tools to manage liquidity mismatches and its destabilising consequences for investors and the system as a whole.³¹

Under the UCITS regime, UCITS must redeem their units at the request of a unitholder.³² UCITS should – as a general rule – allow for at least fortnightly redemption of the units by the unitholder.³³ The UCITS regime aims to limit potential liquidity problems by – ex-ante – limiting the types of assets UCITS can invest in. More specifically, under the UCITS investment policy regime – as a general rule – UCITS can only invest in liquid assets. The first UCITS Directive of 1985 limited the eligible assets to listed shares and bonds. The list of eligible instruments expanded since then to include a variety of financial instruments. UCITS are now allowed to invest in 'transferable securities' and other 'liquid financial instruments' as referred to in article 50 (1) UCITS Directive.³⁴ By limiting the investments of UCITS to presumably liquid investments, UCITS should be in the position to fulfil redemption requests without liquidity issues.

A broad range of assets are eligible as investment for UCITS under article 50 (1) UCITS Directive. It covers transferable securities and money market instruments admitted to or dealt in on a regulated market as specified under the UCITS Directive.³⁵ Recently issued securities are also included, subject to conditions regarding the issue's admission to listing.³⁶ Moreover, UCITS can also invest – under specific conditions – in units of UCITS or equivalent collective

³¹ See for example ESRB, 'Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)' (n 6); FSB (n 6).

³² Article 84 (1) UCITS Directive.

³³ Article 76 UCITS Directive.

³⁴ Article 1 (2) (a) UCITS Directive.

³⁵ Article 50 (1)(a)-(c) UCITS Directive.

³⁶ Article 50 (1)(d) UCITS Directive.

investment undertakings³⁷, bank deposits³⁸, and financial derivatives³⁹. Under certain conditions, UCITS can also invest in securitised positions.⁴⁰

The difficulty in regulating the liquidity of the investments is that financial innovation entails that new investment products can constantly challenge the boundaries of the law. In order to avoid uncertainty regarding whether certain financial instruments – developed since the adoption of the UCITS regime – fall within the scope of the definitions provided by the UCITS Directive, the Commission adopted a Commission Directive on the clarification of certain definitions.⁴¹ ⁴² The Commission Directive⁴³ does not establish an exhaustive list of financial instruments rather it identifies basic criteria that can be used in assessing whether a financial instrument falls within the scope of an eligible asset as defined by the UCITS Directive.⁴⁴ In other words, the Commission uses open-ended norms in order to be able to capture new financial instruments created after the adoption of its Directive.

However, even supposedly ‘liquid’ assets can become illiquid in some states of the world. For example, during the liquidity crisis following the bankruptcy of Lehman Brothers, assets that – generally speaking – were considered highly liquid turned out to be completely illiquid

³⁷ Article 50 (1)(e) UCITS Directive.

³⁸ Article 50(1)(f) UCITS Directive.

³⁹ Article 50(1)(g) UCITS Directive.

⁴⁰ Article 50 (a) UCITS Directive.

⁴¹ Preamble (2), (3), and (4) Commission Directive 2007/16/EC of 19 March 2007 implementing Council Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) as regards the clarification of certain definitions [2007] OJ L 56M/134.

⁴² Before the Commission Directive, the national Competent Authorities adopted widely different approaches regarding eligible products ranging from risk-averse to extremely lenient, the Commission Directive aimed to solve the confusion surrounding the eligible assets under the UCITS regime, see Niamh Moloney, *EU Securities and Financial Markets Regulation* (Third, Oxford University Press 2014) 225.

⁴³ Commission Directive 2007/16/EC of 19 March 2007 implementing Council Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) as regards the clarification of certain definitions [2007] OJ L 56M/134.

⁴⁴ Preamble (4) Commission Directive 2007/16/EC of 19 March 2007 implementing Council Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) as regards the clarification of certain definitions [2007] OJ L 56M/134.

in the months following the bankruptcy.^{45 46} As a result, the anticipated matching of asset liquidity and investor redemption rights may be upset if the asset liquidity characteristics change. This means that it is difficult to completely exclude – ex-ante – a mismatch between the fund’s investments and the redemption rights.

Take the example of ‘transferable securities’. ‘Transferable securities’ are defined as ‘(i) shares in companies and other securities equivalent to shares in companies (shares); (ii) bonds and other forms of securitised debt (debt securities); (iii) any other negotiable securities which carry the right to acquire any such transferable securities by subscription or exchange’.⁴⁷ The Commission Directive identifies a range of criteria in order to assess whether an asset qualifies as a ‘transferable security’ under the UCITS Directive. The criteria concern characteristics such as liquidity, reliable valuation, availability of information, negotiability, and risk.⁴⁸

The definition can cover a wide range of instruments with varying risk profiles which are not necessarily appropriate for the open-ended UCITS structure. For example, the search for yield in the current low interest rate environment, has led some UCITS to invest in less liquid assets, for example unlisted securities, private credit, and high-yield corporate bonds. This trend was acknowledged by the Chair of ESMA, Steven Maijoor, in his keynote address at EFAMA’s Investment Management Forum in Brussels in 2019.⁴⁹ Although these types of securities comply with the formal requirements under the UCITS regime, it is less clear

⁴⁵ Aldo Soprano, *Liquidity Management : A Funding Risk Handbook* (Wiley 2015) 5.

⁴⁶ The Brunnermeier and Pederson model shows that under certain conditions liquidity can suddenly dry up. This is because when speculator’s capital is abundant, the market must be in a liquid equilibrium: liquid markets lead to favourable funding conditions for speculators, which in turn make the market liquid. If speculator’s capital is reduced to a critical point, the liquidity in the market will switch to a low liquidity equilibrium: illiquid markets result in unfavourable funding conditions, which will prevent speculators from making the market liquid, see Markus K Brunnermeier and Lasse Heje Pedersen, ‘Market Liquidity and Funding Liquidity’ (2009) 22 *Review of Financial Studies* 2201.

⁴⁷ Article 2 (1)(n) UCITS Directive.

⁴⁸ Article 2 (1) Commission Directive 2007/16/EC of 19 March 2007 implementing Council Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) as regards the clarification of certain definitions [2007] OJ L 56M/134.

⁴⁹ Steven Maijoor, ‘Keynote Address EFAMA Investment Management Forum 22 November 2019, Brussels’ [2019] ESMA.

whether these investments are liquid enough to withstand large redemptions in a downturn. In sum, continuous monitoring of the liquidity profile of a fund will be necessary.

The role of liquidity management tools

Asset managers can use a range of tools to manage liquidity risk in their funds. Under the current regime, each EU member state determines which liquidity management tools are available to funds domiciled under their jurisdiction. By way of exception, the UCITS Directive explicitly includes a right for UCITS to temporarily suspend redemption in exceptional cases and where necessary to safeguard the interests of the unitholders, in accordance with applicable national law, the fund rules or the instruments of incorporation of the investment company.⁵⁰ Other liquidity management tools have emerged through intervention at the national level. Alternative pricing rules for example have emerged in most member states. For instance, most European countries allow funds to use ‘swing pricing’ – as explained in more detail below – to manage liquidity.⁵¹ However, there is no harmonised EU framework yet regarding their implementation.

We can distinguish between pre-emptive (‘ex-ante’) and reactive (‘ex-post’) liquidity management tools. Pre-emptive tools allow asset managers to adopt ‘ex-ante’ measures to avoid a liquidity mismatch. Ex-ante tools are baked into the design of the fund and are meant to avoid liquidity crises. Asset managers can for example put temporal constraints on the investors’ redemption rights to allow orderly liquidation of the portfolio to meet redemption requests (e.g. notice of withdrawal⁵², initial lock-ups⁵³, and limited redemption frequency⁵⁴). Managers can also address liquidity concerns ex-ante through the terms of the execution of the

⁵⁰ Article 84 (2) UCITS Directive.

⁵¹ Novick and others (n 4) 18.

⁵² Notice requirements oblige investors to give advance notice of the withdrawal of their investment.

⁵³ In the case of an initial lock-up, investors are not allowed to redeem their shares for an initial predetermined period.

⁵⁴ The frequency of redemption rights refers to the number of withdrawal dates per unit of time.

redemptions. Specifically, redemptions can be executed in cash or in kind. In the case of the latter, the fund returns a basket of the underlying securities instead of cash. Redemption in kind prevents that early redeemers are able to impose the costs of selling illiquid assets in the market to free-up cash to meet redemption requests upon remaining investors, reducing first-mover advantages. They can also manage liquidity ex-ante through the careful design of share pricing arrangements. For example, when the NAV is calculated at the end of the business day of the redemption request, investment losses and trading costs incurred in the following business days related to the redemption request will be borne by the fund and, therefore, its remaining investors. Some funds adopt share pricing rules that impose these costs on the redeeming investors. For example, swing pricing is a widely-used⁵⁵ liquidity management tool which aims to pass on these transaction costs to the investors responsible for the activity. More specifically, swing pricing is a process where the NAV of the fund is adjusted by a ‘swing factor’, i.e. the percentage by which the NAV is adjusted to reflect these transaction costs. Swing pricing allows to protect the remaining fund investors and encourages the redeeming investors to spread their redemption requests over time.⁵⁶ In other words, it reduces first-mover advantages.

Other liquidity management tools are reactive and can be activated ‘ex-post’ – i.e. in times of distress – in order to manage dealing in the fund units to limit costs, protect the fund’s capital and ensure the fair treatment of all investors. The triggering of reactive tools can be rules-based (e.g. when outflows meet a certain threshold) or at the discretion of the asset manager. A typical example of a reactive liquidity management tool is the imposition of redemption gates. Redemption gates give managers the ability to temporarily limit redemption rights on a withdrawal date in certain circumstances. Gates partially and temporarily limit

⁵⁵ According to the joint report of the Bank of England and the Financial Conduct Authority, swing pricing is the most widely available liquidity management tool in the UK, see Bank of England, ‘Liquidity management in UK open-ended funds – report of 26 March 2021 based on a joint Bank of England and Financial Conduct Authority Survey’.

⁵⁶ Novick and others (n 4) 18.

investors' ability to redeem their capital beyond a certain threshold. For example, a 10-percent gate limits the investor's right to redeem to 10 percent of the current value of its holding. The non-executed part of the redemption order is either cancelled or transferred to the next redemption date. Gates can alleviate the redemption pressure and spread redemption over time, without completely suspending the investors' ability to redeem their capital. If carefully managed, reputational risks can be managed by maintaining a commitment to meet redemption requests within a specific timeframe. Suspension of redemption goes one step further and prevents investors – for a short period of time – from withdrawing their capital. This is the most drastic liquidity management tool and will only be used when all other options are exhausted. Suspension can be an effective tool to prevent a run on a fund, which forces managers to sell the fund's asset at heavily discounted prices. Moreover, redemption can also be necessary to solve price uncertainty.⁵⁷

Some tools are both pre-emptive and reactive. Take the example of swing pricing. In the case of a 'full swing', the adjustment is made on every dealing day for a net activity of any size. In the case of a 'partial swing', the adjustment is only made when the net redemptions or subscriptions are greater than a predetermined threshold. Swing pricing was widely used during the COVID-19 crisis.⁵⁸ While most European countries allow funds to use swing pricing⁵⁹, the procedural requirements differ across member states. As a result, the ease with which swing pricing can be implemented differs across jurisdictions.

In sum, liquidity management tools can help ease liquidity mismatches in open-ended funds, for example by limiting investors' redemption rights (e.g. through temporal constraints), reducing the first-mover advantages before a crisis occurs (e.g. by using swing pricing) or by

⁵⁷ *ibid* 16–17.

⁵⁸ For a detailed discussion of the use of liquidity management tools - including swing pricing - during the crisis, see Novick and others (n 4).

⁵⁹ For an overview of the liquidity management tools available in the EU member states, see ESRB, 'A Review of Macroprudential Policy in the EU in 2019' 114.

controlling or limiting outflows during a crisis (e.g. suspension of redemption). The types of tools available and their implementation will vary across EU member states and the specific fund. Moreover, some tools will be more appropriate for certain types of funds or market conditions. For example, redemption in kind will be difficult to execute in funds available to retail investors with limited market access. Swing pricing, moreover, will be difficult to implement if there is valuation uncertainty. In other words, there is no one-size-fits-all and the decision-makers need to exercise judgment on the appropriate mix of liquidity management tools in a specific fund. This observation lays bare the importance of the governance of liquidity management tools.

3. The allocation of decision-making power regarding liquidity management tools

The second part of the article analyses the allocation of decision-making power regarding liquidity management tools. In most EU member states, the decision to apply liquidity management tools is in the first place the responsibility of the asset managers, who tend to have discretionary powers to assess the necessity of such measure. As a general rule, fund managers can activate liquidity management tools without prior authorisation. The tools available to managers and the conditions under which they can be used must normally be listed in the fund documentation, although the specifics vary across member states and across different tools. Prudential authorities normally have no authority to activate liquidity management tools.⁶⁰ Suspension of redemption is the exception to the general rule and the UCITS regime for example stipulates that member states can grant national competent authorities the power to suspend redemption in the public interest. In recent years, there have been proposals to expand

⁶⁰ AMIC/EFAMA (n 7) 18; ESRB, 'Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)' (n 6) 18.

the use of liquidity management tools as part of the macroprudential toolkit available to supervisors.⁶¹

In this part, we analyse two important factors to decide on the allocation of decision-making power to asset managers or prudential authorities: the incentives of the decision-makers and their access to information. We argue that asset managers tend to be best placed to decide on the availability and use of liquidity management tools in a specific fund, especially if the application of the liquidity management tools requires fund-specific information. However, in limited circumstances of systemic importance, prudential authorities can play an important role.

The incentives of asset managers

First, we discuss the incentives of asset managers when applying liquidity management tools. The key question is whether the incentives of asset managers are aligned with the interests of the financial system as a whole to maintain financial stability. We start from the premise that asset managers act in the best interests of investors. This is also explicitly stipulated in the UCITS Directive.⁶² In other words, asset managers – generally speaking – do not have a mandate to consider the systemic consequences of their liquidity policies.

In line with this observation, the governance framework in funds promotes the alignment between the interests of the asset manager and the fund investors. The typical compensation for asset managers in UCITS funds for example is calculated as a percentage of the assets under management ('AUM'), which aims to align the incentives of managers and investors. More specifically, asset managers will want to increase the AUM in order to boost fee income. The

⁶¹ ESRB, 'Macroprudential Policy beyond Banking' (n 8) 23; For arguments against the use of liquidity management tools as part of macroprudential policy, see Novick and others (n 8) 15.

⁶² In the UCITS directive, for instance, UCITS are granted the right to temporarily suspend the redemption of its units, 'where suspension is justified having regard to the interests of the unit-holders' (article 84 UCITS Directive).

AUM can grow organically in the case of positive returns or through net inflows. This latter strategy will incentivize managers to perform well – relatively speaking – in order to attract fund flows and increase the AUM.⁶³ Assuming that investment decisions by investors are made by comparing the fund's performance against peers and benchmark, the compensation arrangements align the incentives of asset managers and fund investors by rewarding relative performance – indirectly – through fund inflows.⁶⁴

These compensation arrangements will impact the use of liquidity management tools. In the design phase, asset managers will want to attract investors through favourable product design. Investors want liquidity combined with strong performance. On the liability side of the fund's balance sheet, this might incentivize managers to offer generous redemption terms. For example, most UCITS allow daily redemption.⁶⁵ On the asset side of the fund's balance sheet, managers might invest in more illiquid assets than desirable from a liquidity risk perspective in order to boost returns. As discussed above, the search for yield in the current low interest rate environment, has led some UCITS to invest in less liquid assets, for instance unlisted securities, private credit, and high-yield corporate bonds.⁶⁶

Moreover, in times of crisis, the link between compensation and fund inflows entails that reputation is a key consideration for asset managers. Asset managers will want to avoid jeopardizing their ability to attract investors' money in the future. Investors could attribute the need to use certain tools to poor liquidity management by the manager rather than systemic stress, leading to lasting reputational damage for the manager. Moreover, managers will want to avoid that the use of liquidity management tools in one fund could result in investors losing

⁶³ Erik Devos, Andrew Spieler and Joseph Tenaglia, 'Portfolio Managers' in H Kent Baker, Greg Filbeck and Victor Ricciardi (eds), *Financial behavior : players, services, products, and markets* (Oxford University Press 2017) 144.

⁶⁴ BIS, *Incentive Structures in Institutional Asset Management and Their Implications for Financial Markets* (2003) 22.

⁶⁵ A Fitch report finds that only 4 per cent of UCITS funds do not offer daily dealing. The daily dealing was even dominant in funds invested in problematic assets, such as high yield bonds, see Sewell and Andrieu (n 25) 5.

⁶⁶ Maijoor (n 49).

confidence in other funds under their management.⁶⁷ For example, the suspension of redemption in one fund could lead to outflows in other funds of the same asset manager and therefore impact compensation due to reduced AUM.

The importance of reputation has at least two implications for the use of liquidity management tools in times of crisis. First, asset managers will prefer liquidity management tools that cause the least disruption to their investors' rights. Take the example of swing pricing. Asset managers want to maximise the total returns of both the redeeming and the remaining investors. Swing pricing fits within this strategy, as it discourages a run on the fund and therefore limits the additional costs of fire sales borne by investors, maximising total return. Suspension, on the other hand, prevents investors from withdrawing funds, which is a serious disruption of investors' rights. Suspension can harm the confidence of investors, especially when investors rely on strong redemption rights to access their capital. ESMA's report to the ESRB notes in this regard that during the COVID-19 crisis only six funds suspended and that swing pricing was more widely used. ESMA further states that this illustrates the managers' concerns with maintaining fair treatment of investors and passing transaction costs to redeeming investors.⁶⁸

Second, the importance of reputation entails that the 'perception' of investors will impact the use of liquidity management tools. In this context, Blackrock states that the suspensions during the COVID-19 market turmoil were linked to valuation uncertainties and therefore did not cause contagion across asset managers, asset classes and countries.⁶⁹ This shows the importance of investor education and transparency.

⁶⁷ ESRB, 'Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)' (n 6) 19.

⁶⁸ ESMA, 'Recommendation of the European Systemic Risk Board (ESRB) on liquidity risk in investment funds of November 2020', ESMA34-39-1119, 30.

⁶⁹ Novick and others (n 4) 22.

The incentives of prudential authorities

We now turn to the incentives of prudential authorities. Prudential authorities will authorize the fund and therefore approve the fund structure and design, including the use of liquidity management tools. Moreover, prudential authorities will also be in charge of supervision. In this section, we argue that prudential authorities potentially face incentives problems and do not necessarily pursue the public interest. These incentives are likely to be less strong in crisis times due to heightened public scrutiny. This observation finds theoretical support in public choice theory. Under the public choice perspective, regulators are seen as self-interested and assumed to pursue their own private objectives.⁷⁰ The government is seen as a collection of individuals pursuing income, prestige, and power to their own benefit.⁷¹ Under a public choice perspective, the incentives of prudential supervisors – as ‘un-elected officials’ – are considered tainted and influenced by factors other than the pursuit of the public interest.⁷² For example, prudential authorities might be motivated by a desire to increase the power, prestige, and budget of their agency, even if this does not necessarily further public interest.⁷³ Moreover, personal career objectives of the personnel of the prudential authorities can influence the behaviour of un-elected officials away from the public interest. For example, the prospect of ‘revolving doors’ – i.e. the movement of personnel between the government and the private sector – might induce government officials to be disproportionately sensitive to the interests of private actors that are able to provide them with interesting career options in the future.⁷⁴

In the context of the UCITS regime, the national nature of fund supervision in the EU means that the prudential authorities are limited by jurisdictional boundaries, which could

⁷⁰ A commonly used definition of the public choice theory is Dennis Mueller’s: “Public choice can be defined as the economic study of non-market decision-making, or simply the application of economics to political science. The subject matter of public choice is the same as that of political science: the theory of the state, voting rules, voter behaviour, party politics, the bureaucracy, and so on. The methodology of public choice is that of economics, however. The basic behavioral postulate of public choice, as for economics, is that man is an egoistic, rational, utility maximizer”, see Dennis C Mueller, *Public Choice II: A Revised Edition of Public Choice* (Cambridge University Press 1989) 1–2.

⁷¹ This idea was first generalised by Anthony Downs, see Anthony Downs, ‘An Economic Theory of Political Action in a Democracy’ (1957) 65 *Journal of Political Economy* 135, 137.

potentially lead to supervisory competition in the EU and a ‘race to the bottom’ amongst National Competent Authorities (‘NCAs’) regarding prudential requirements. More specifically, under the UCITS-regime, it is the NCA of the home state of the UCITS⁷⁵ which will supervise the compliance with the UCITS regime. The single rulebook for UCITS has therefore all but eliminated opportunities for a ‘race to the bottom’ as the incompleteness of the prescriptive norms leaves room for competition through supervisory practice at the level of the NCAs (i.e. **supervisory** competition).⁷⁶ Therefore, even though there is significant harmonisation with respect to regulation (‘the law on the books’), the decentralised nature of prudential supervision could lead to divergence with respect to ‘the law in action’ applicable in the different member states. A study by the Basel Committee on Banking Supervision – which looks at the implementation of risk-weighted assets (‘RWAs’) methodologies under Basel III – finds that some of the variation across banks in average RWAs could be explained through differences in supervisory practices.⁷⁷ Member states that are looking to attract businesses (e.g. to generate additional tax revenue) might have incentives to adopt a prudential

⁷² For an overview of financial supervisors’ incentives, see Luca Enriques and Gerard Hertig, ‘Improving the Governance of Financial Supervisors’ (2011) 12 *European Business Organization Law Review* 357, 361–365.

⁷³ William A Niskanen, *Bureaucracy and Representative Government* (Aldine, Atherton 1971).

⁷⁴ Mathias Dewatripont, Ian Jewitt and Jean Tirole, ‘The Economics of Career Concerns, Part I: Comparing Information Structures’ (1999) 66 *The Review of Economic Studies* 183; Donald Langevoort, ‘The SEC as a Lawmaker: Choices about Investor Protection in the Face of Uncertainty’ (2006) 84 *Washington University Law Review* 1603–1606.

⁷⁵ As a general rule, the authorities of the home member state are competent to supervise the compliance with the requirements of the UCITS Directive (article 97 UCITS Directive). The UCITS Directive imposes a general cooperation obligation on the national authorities of the member states wherever necessary for carrying out their duties or exercising their powers under the UCITS Directive. In addition, the UCITS Directive provides for some specific obligations regarding information provision, notifications, and on-the-spot verification or in an investigation on the territory of another member state (article 101 UCITS Directive). The competent authorities also need to cooperate with ESMA and provide ESMA with all the information necessary for performing its duties (article 101 (2a) UCITS Directive).

⁷⁶ The early stages of the Brexit negotiations, where NCAs of the remaining EU-27 jockeyed for a share of the UK financial services business, are illustrative in this context, see Niamh Moloney, *The Age of ESMA : Governing EU Financial Markets* (Hart Publishing 2018) 184.

⁷⁷ Basel Committee, on Banking Supervision and BIS/BCBS, *Regulatory Consistency Assessment Programme (RCAP) - Analysis of Risk-Weighted Assets for Credit Risk in the Banking Book* (Bank for International Settlements 2013).

framework favourable to business. This could induce the NCAs to be more lenient towards asset managers than is desirable from a systemic risk perspective.

Moreover, even absent any competition between supervisors, the fact that NCAs have varying resources and capabilities means that they cannot necessarily implement their supervisory role in a consistent or particularly effective way. The size of the financial system alone illustrates the magnitude of the task.⁷⁸ For example, the European asset management industry managed EUR 28.4 trillion of assets at the end of 2020.⁷⁹

During a systemic crisis, these issues are likely to be less problematic because the supervisors' actions are under heightened public scrutiny. Politicians that seek to deliver what voters want will focus on issues that are 'salient' to voters.⁸⁰ It is only in a crisis situation that financial stability becomes highly salient to voters and that supervisors might feel under pressure by elected officials to act. Moreover, prudential authorities might fear being held responsible or even legally liable for wrong actions and failure to act in the best interest of systemic stability.⁸¹

Access to information

In addition to the incentives of the decision-makers, another key factor to consider when allocating decision-making power is the access to the information necessary to make the 'right' decision. From this perspective, it is not surprising that in most member states asset managers have the primary responsibility regarding the design and implementation of liquidity management tools. Generally speaking, asset managers have an informational advantage with

⁷⁸ For example, as calculated by Armour et al., the value of the claims in the financial system in the UK, the US, Germany, and Switzerland add up to more than the size of the domestic economy in terms of the Gross Domestic Product (GDP), see John Armour and others, *Principles of Financial Regulation* (Oxford University Press 2016) 82.

⁷⁹ EFAMA, 'Asset Management in Europe - Facts and Figures' (2021).

⁸⁰ The phenomenon of salience was emphasised by Pepper Culpepper in relation to the regulation of M&A, see PD Culpepper, *Quiet Politics and Business Power: Corporate Control in Europe and Japan* (Cambridge University Press 2010).

⁸¹ Enriques and Hertig (n 72).

respect of the liquidity characteristics of their funds. The application of liquidity management tools – to a greater or lesser extent – will require fund-specific knowledge of the design and operations of the fund. Take the example of a partial swing. In order to determine the swing threshold, an asset manager will need to consider elements such as the size, frequency, and volatility of historical net flows in normal and stressed times, the liquidity of the portfolio, the available cash buffer, borrowing arrangements, and the transaction costs on the relevant market. Asset managers will be better placed to make such assessments.

However, the allocation of the decision-making power will also need to consider who has access to the necessary information from a **systemic risk** point of view. Managers might not have access to the necessary information to assess the macroprudential situation in the market. For example, the suspension of redemption will require limited fund-specific information and will mainly be used in the most extreme cases to address price uncertainty or a liquidity crunch in the underlying asset market.⁸² Prudential authorities – in theory – have better access to such macroprudential information. As we will argue below, this is not always the case.

The allocation of decision-making rights: an analysis

The discussion above makes clear that asset managers will focus on strong performance, liberal redemption rights, and maintaining a good reputation in order to attract investors. During a crisis, they will want to avoid disruption to the investors' rights as well as ensure that they manage investors' perceptions. They will also have the best access to fund specific information.

These incentives are often aligned with maintaining financial stability. For example, as discussed above, the use of swing pricing could mitigate first-mover advantages and run

⁸² Novick and others (n 4) 18.

incentives of fund investors.⁸³ Swing pricing will therefore be beneficial for financial stability, as it will reduce the risk of destabilising fire sales of illiquid assets in the market during a run. Asset managers, however, also have strong incentives to use swing pricing. Indeed, swing pricing can prevent the dilution of fund performance by limiting the cost of fire sales due to runs. In other words, swing pricing can have a positive impact on fund performance and therefore future inflows.⁸⁴ In addition, asset managers are also best placed to apply swing pricing, as they have access to the necessary fund-specific information.

However, in specific circumstances, the incentives of asset managers are not aligned with the interests of the financial system as a whole. In particular, asset managers will not apply liquidity management tools if they would suffer reputational damage, can externalise the costs on the financial system as a whole (rather than their own investors), or would act against the interests of their investors more generally. For example, there is empirical evidence in the context of equity funds that funds that can externalise the costs of fire sales are more likely to sell off non-cash assets in the market than funds that internalise these costs.⁸⁵

In these circumstances, prudential authorities have a role to play in the governance of liquidity management tools. To start, prudential authorities can play a role in mitigating predetermined features of liquidity management tools in extreme circumstances. For example, during the COVID-19 liquidity crunch, some regulators provided relief to asset managers regarding the maximum swing factors stipulated in the fund documentation. Absent such intervention, the cap on the swing factor would have prevented asset managers to pass on the full transaction costs to the redeeming investors.⁸⁶ Such interventions can also limit

⁸³ Dunhong Jin and others, 'Swing Pricing and Fragility in Open-End Mutual Fund' [2021] *The Review of Financial Studies*.

⁸⁴ James Oliver, Craig Roodt and James Paull, 'Liquidity Risk Management - a Look at the Tools Available' [2019] *Performance Magazine* (Deloitte) 64.

⁸⁵ Sergey Chernenko and Adi Sunderam, 'Do Fire Sales Create Externalities?' (2020) 135 *Journal of Financial Economics* 602.

⁸⁶ Novick and others (n 4) 25.

reputational damage by imposing similar measures across similar funds. Moreover, prudential authorities should also intervene in the governance of funds when necessary for protecting the financial system as a whole. In these crisis situations, the incentives for supervisory competition amongst member states will be less strong due to enhanced public scrutiny. Moreover, they are in the best position to collect and analyse macro-level information.

4. Policy recommendations

The final part of the article will provide policy recommendations based on the analysis above. Liquidity risk in investment funds has risen on the policy agenda over the last few years. In 2017, the Financial Stability Board (FSB) issued recommendations to address structural systemic vulnerabilities from asset management activities, including the management of liquidity mismatches in open-ended funds.⁸⁷ The Board of the International Organization of Securities Commissions (IOSCO) published its recommendations for liquidity risk management for collective investment schemes in 2018.⁸⁸ In Europe, the ESRB published its recommendations on liquidity and leverage risks in investment funds in 2017.⁸⁹ In the wake of the liquidity crisis resulting from the initial COVID-19 outbreak in March 2020, the ESRB issued new recommendations in which it called upon ESMA to test the preparedness of real estate funds and corporate bond funds for redemption and valuation shocks.⁹⁰ In response, ESMA and the national supervisors engaged in a data collection exercise, which resulted in the ESMA report to the ESRB at the end of 2020.⁹¹ Prior to the COVID-19 financial turmoil, ESMA had already launched a common supervisory action on UCITS liquidity risk

⁸⁷ FSB (n 6).

⁸⁸ IOSCO, 'Recommendations for Liquidity Risk Management for Collective Investment Schemes of February 2018' 1.

⁸⁹ ESRB, 'Recommendation of the European Systemic Risk Board of 7 December 2017 on liquidity and leverage risks in investment funds', ESRB/2017/6.

⁹⁰ ESRB, 'Recommendation of the European Systemic Risk Board of 6 May 2020 on liquidity risks in investment funds', ESRB/2020/4.

⁹¹ ESMA, 'Recommendation of the European Systemic Risk Board (ESRB) on liquidity risk in investment funds of November 2020', ESMA34-39-1119.

management in January 2020.⁹² ESMA also issued guidelines on liquidity stress testing in July 2020.⁹³ In November 2021, the European Commission adopted a package of measures in the context of the 2020 Capital Markets Union action plan, which includes a proposal for a review of the AIFM Directive and the UCITS Directive.⁹⁴ Liquidity risk management is a central component of the review.

In this final part, the article will provide policy recommendations in light of the analysis above. More specifically, the analysis made clear that – except in the circumstances identified above – asset managers have incentives to use liquidity management tools in order to mitigate first-mover advantages in open-ended funds. Prudential authorities, however, have an important role to play with respect to information gathering on the macro-level as well as through direct interventions in specific circumstances. Policy proposals in this area should therefore focus on (1) the development of standards and guidelines for asset managers regarding the availability and use of liquidity management tools, (2) information gathering on the macro-level, and (3) supervisory coordination and convergence across jurisdictional boundaries. The discussion below discusses each area in more detail and uses the analysis to evaluate the recent European policy initiatives.

The development of European standards and guidelines

First, it is important to develop European standards and guidelines on the availability and adequate application of liquidity management tools. Used correctly, liquidity management

⁹² ESMA, ‘Public Statement of 24 March 2021: ESMA presents the results of the 2020 Common Supervisory Action (CSA) on UCITS liquidity risk management’, ESMA34-43-880.

⁹³ ESMA, ‘Guidelines on liquidity stress testing in UCITS and AIFs’, ESMA34-39-897.

⁹⁴ Commission, ‘Proposal for a Directive of the European Parliament and of the Council amending Directives 2011/61/EU and 2009/65/EC as regards delegation arrangements, liquidity risk management, supervisory reporting, provision of depositary and custody services and loan origination by alternative investment funds’ COM(2021) 721 final (hereafter ‘The 2021 Commission Review Proposal for the AIFM Directive and UCITS Directive’)

tools can increase the capacity of managers to reduce the structural fragilities inherent in the open-ended fund structure.

Regarding the availability of liquidity management tools, it is important to make a variety of tools available to asset managers. It is for the asset managers to decide what the appropriate mix of liquidity management tools is given the specifics of each fund and the market conditions. For example, swing pricing is well-suited to manage first-mover advantages in funds that invest in long-term assets and manage subscription and redemption requests by buying and selling these assets.⁹⁵ Take our example of a corporate bond fund. In times of a liquidity crisis – without the availability of swing pricing or an alternative anti-dilution mechanism – managers of a corporate bond fund might have to resort to more disruptive tools such as suspension. Asset managers might be reluctant – due to reputational concerns – to use suspension to remove first-mover advantages created by the open-ended fund structure. Moreover, from a public interest perspective, suspension might also unfairly prejudice investors in open-ended funds compared to investors invested directly in the underlying asset (e.g. investor directly invested in corporate bonds). That said, in extreme market conditions, swing pricing might not be sufficient to manage a liquidity crisis. For example, swing pricing cannot be applied if the assets can no longer be fairly valued in the market. Suspension can then be usefully employed by asset managers to manage a liquidity crisis. In sum, making a wide range of liquidity management tools available will allow asset managers to make the necessary trade-offs between the different tools in specific circumstances.

Regarding the adequate use of liquidity management tools, the capacity of these tools to mitigate structural fragilities relies on the ability of asset managers to adequately apply these tools to specific situations. EU standards and guidelines could set the underlying principles underpinning the application of liquidity management tools as well as require a robust

⁹⁵ BlackRock, 'Policy Spotlight: Swing Pricing – Raising the Bar' [2021] Blackrock Policy Spotlight 2.

governance system to be in place. Such provisions would support and guide asset managers' decision-making. For example, in a recent report, Blackrock calls upon regulators to develop guidelines regarding swing pricing. These guidelines should determine the principles governing the setting of swing factors and thresholds as well as the management and governance processes.⁹⁶ That said, it is important that these guidelines should not be overly prescriptive and should allow discretion to managers to decide on the best course of action. A prescriptive approach is not suitable given the variety of funds available and the continuous nature of liquidity risk management. One size is unlikely to fit all.

Moreover, standards and guidelines can help increase transparency and investor education regarding the application of liquidity management tools. In particular, a robust European framework can facilitate the adoption and use of liquidity management tools by removing the negative image they might have with investors. This could be achieved by improving the documentation, transparency, and governance processes in place.

In 2017, the ESRB already recommended an increased availability of risk management tools across the EU and gave ESMA a mandate to develop good practices harmonising the use of liquidity management tools.⁹⁷ The availability of liquidity management tools has improved significantly in recent years through interventions at the national level.⁹⁸ Alternative pricing rules for example have emerged in most member states. For instance, most European countries allow funds to use 'swing pricing' to manage liquidity (swing pricing is available in 90 percent of the AUM by UCITS and alternative investment funds⁹⁹).¹⁰⁰ Nevertheless, the ESMA 2020 report to the ESRB found that the availability and use of liquidity management tools still varies

⁹⁶ *ibid* 3.

⁹⁷ ESRB, 'Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)' (n 6).

⁹⁸ See for example regulatory interventions in France in 2014, Spain in 2019, and Germany in 2020, see Novick and others (n 4) 18.

⁹⁹ BlackRock (n 95) 13.

¹⁰⁰ Novick and others (n 4) 18.

considerably across the EU due to differences in the applicable national rules and supervisory practices to foster their use.¹⁰¹ Moreover, the results from the common supervisory action coordinated by ESMA identified a few areas of potential improvements, including the better documentation of liquidity risk management arrangements, processes, and techniques, enhanced disclosures on liquidity risk and liquidity management tools to investors, and improved governance processes in some funds.¹⁰² ESMA recommends the development of clear definitions, transparency requirements, provisions related to the documentation, and control mechanisms.¹⁰³ In providing guidance, the authorities/ESMA should consider the systemic consequences of the use of the liquidity management tools. This was also suggested by the FSB's recommendations.¹⁰⁴

The 2021 Commission proposal for the review of the AIFM Directive and UCITS Directive stipulates that management companies will be required to include – at least – one liquidity management tool in addition to the suspension of redemption rights in their documentation. The proposal also includes a minimum list of liquidity management tools that members states should make available to asset managers in their jurisdiction. The list includes a panoply of tools, more specifically suspension of redemptions and subscriptions, redemption gates, notice periods, redemption fees, swing pricing, anti-dilution levy, redemptions in kind, and side pockets. ESMA is tasked with developing draft regulatory standards, which includes providing definitions and specifying the characteristics of the different liquidity management tools.¹⁰⁵ The expansion of the tools available to asset managers combined with regulatory

¹⁰¹ ESMA, 'Recommendation of the European Systemic Risk Board (ESRB) on liquidity risk in investment funds of November 2020', ESMA34-39-1119, 20.

¹⁰² ESMA, 'Public Statement of 24 March 2021: ESMA presents the results of the 2020 Common Supervisory Action (CSA) on UCITS liquidity risk management', ESMA34-43-880.

¹⁰³ ESMA, 'Recommendation of the European Systemic Risk Board (ESRB) on liquidity risk in investment funds of November 2020', ESMA34-39-1119, 20.

¹⁰⁴ FSB (n 6) 40.

¹⁰⁵ The 2021 Commission Review Proposal for the AIFM Directive and UCITS Directive, 12 (AIFMD) and 15 (UCITS).

guidance on their application is a welcome addition to the rules applicable to open-ended funds in the EU. Moreover, the proposal avoids a too prescriptive approach by leaving asset managers the discretion to decide on the most appropriate liquidity management tools for each specific fund.

Information gathering

As a second policy focus, the EU should step up its efforts regarding the collection and monitoring of data relevant for the management of liquidity risk in open-ended funds. This information gathering serves two purposes. On the one hand, it should put prudential authorities in the position to monitor correlations at the macro-level and the build-up of crises in order to intervene where necessary. On the other hand, the information gathering at the macro-level can improve access to information by asset managers when making decisions regarding liquidity management on the fund-level. This section discusses each rationale in more detail.

First, the information gathering and monitoring should allow prudential authorities to monitor correlations at the macro-level and the build-up of crises. Above we argued that in some circumstances prudential authorities might have an informational advantage compared to financial institutions in assessing the impact of liquidity management decisions on the system as a whole. For example, the prudential authorities are potentially in a better position to assess the market liquidity of a specific asset class. However, for this to be true, prudential authorities must engage in a thorough collection of data and monitoring of the stability of the financial system as a whole.

However, the ESRB – as macroprudential authority in the EU – is not considered very effective in this regard.¹⁰⁶ In particular, in order to perform its tasks, the ESRB relies on access

¹⁰⁶ See for example as argued by Rosa María Lastra, *International Financial and Monetary Law* (2nd edn, Oxford University Press 2015) 396.

to information. Yet, the framework in place to provide the ESRB with the necessary data to perform its functions effectively turned out to be weak. More specifically, the ESRB heavily relies on other agencies to access relevant information. First, the ESRB relies on the information collected by the ECB through the Eurosystem.¹⁰⁷ Moreover, upon request of the ESRB's Secretariat, the European Supervisory Authorities ('ESAs') should provide relevant information to the ESRB. If this is not available or provided, the ESRB can request information from national authorities, in particular supervisory authorities and national central banks. All institutions operate under a general obligation to provide the ESRB with the necessary information to fulfil its tasks.¹⁰⁸ In practice, the system is leading to delays on information requests, irregular data flows and insufficient access.¹⁰⁹

ESMA, in contrast, has significantly increased its data capacity as well as its ability to assess the data and identify risks.¹¹⁰ Although the data collection mechanism under the ESMA Regulation is rather limited and convoluted¹¹¹, ESMA has developed itself as a central data hub through empowerments in sectoral EU financial market regulation as well as through ESMA's own-initiative activities.¹¹² For example, ESMA is a central node in the data collection regarding OTC derivatives.¹¹³ ESMA has also developed its risk assessment

¹⁰⁷ The monetary authority in the eurozone, which consists of the ECB and the national central banks of those member states that adopted the euro.

¹⁰⁸ Article 15 ESRB Regulation; Commission, 'Proposal for a Regulation of the European Parliament and of the Council on Community macro prudential oversight of the financial system and establishing a European Systemic Risk Board' (Explanatory Memorandum) COM(2009) 499 final, 6.

¹⁰⁹ A problem also identified by the High-Level Group on the ESRB Review, see High-Level Group on the ESRB Review, 'Contribution to the Review of the ESRB March 2013'; Lastra (n 106) 392.

¹¹⁰ For a detailed account of ESMA as a 'Burgeoning Data Hub' see Moloney (n 76) 192–199.

¹¹¹ The process operates as follows. First, ESMA can request information from the national competent authorities. If the information is not available or if the national competent authorities do not provide the information in a timely fashion, the ESAs can request information from other supervisory authorities, the ministry responsible for finance, the national central bank or the statistical office of the Member State concerned. Moreover, if such information is not available or made available in a timely fashion, the ESAs can request information from the market participants directly (article 35 ESMA Regulation).

¹¹² See for more detail ESMA, 'Supervisory Convergence Work Programme 6 February 2019' ESMA42-114-647, 11-12.

¹¹³ For example, ESMA hosts the 'single EU access point' for the NCAs' access to data from trade repositories, holds data directly reported by derivatives market participants under their reporting and notification obligations, and hosts different trade repositories, for more detail see Moloney (n 76) 194.

capacity. This is for example illustrated by the launching of its liquidity assessment of bonds under the Markets in Financial Instruments Directive (MiFID II) and Regulation (MiFIR).¹¹⁴ These developments should be welcomed given the importance of assessing macro-level correlations.

Moreover, the collected data should then be used to intervene in the liquidity management of funds in the interest of financial stability. Such interventions could take the form of relaxing predetermined requirements imposed by the fund documents. For example, during the COVID-19 liquidity crisis, the French Competent Authority – Autorité des Marchés Financiers (‘AMF’) – had to temporarily relax the national procedural requirements for the use of swing pricing to inform each investor on an individual basis in the interest of financial stability.¹¹⁵ Moreover, the collected information can also be used to directly intervene in the fund governance when asset managers can externalise the costs of a liquidity crisis, fear reputational damage, or want to protect the interests of their investors.¹¹⁶ The importance of supervisory coordination and convergence in this regard will be discussed in more detail in the next section.

As a second purpose, the information gathering should improve the access to information for asset managers when making decisions on the use of liquidity management tools. For example, Blackrock’s recent policy report suggests that asset managers’ decision-making could be improved by providing access to detailed data on the types of end-investors, the size and concentration of the investors’ holdings, and market-wide and historical redemption behaviour.¹¹⁷ The many intermediaries involved in selling investment funds entails that no

¹¹⁴ ESMA, ‘Press Release 2 May 2018 ‘ESMA launches bond liquidity system under MiFID II’’, <https://www.esma.europa.eu/press-news/esma-news/esma-launches-bond-liquidity-system-under-mifid-ii> .

¹¹⁵ Pierre-Emmanuel Darpeix and others, ‘Overview and Inventory of French Funds’ Liquidity Management Tools’ [2020] Banque de France Working Paper 37, 14.

¹¹⁶ The ESRB made a similar recommendation, see ESRB, ‘Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)’ (n 6).

¹¹⁷ BlackRock (n 95) 14.

single link in the chain has access to the full picture of ownership. Indeed, funds are sold through distribution networks (e.g. banks, online brokers, financial advisor), which aggregate transactions of different end investors, hiding the end investors identity. Allowing asset managers access to information related to investor types, could improve predictions of redemption patterns of different types of investors and allow for better estimates of liquidity needs.¹¹⁸ Policymakers can facilitate information exchange between the different links in the distribution chain in order to improve transparency.

Moreover, decision-making by asset managers could be improved by the development of a consolidated data system in equities and fixed income markets.¹¹⁹ A consolidated data system or ‘consolidated tape’ is an electronic system which consolidates real-time or delayed pre- and post-trade data (e.g. volume and price) from different sources and venues across the entire financial system.¹²⁰ MiFID II already includes provisions for the consolidation of market data by recognising consolidated tape providers and by stipulating rules related to the data they should receive from market participants. However, to date, no commercial consolidated tape provider has emerged and the data available remains fragmented across different sources and venues. The development of such a system would provide an overview of market activity, allowing a better assessment of the liquidity profile of a fund’s investment portfolio. To this effect, the European Commission could use its powers under MiFID II to establish an exclusive consolidated data provider. This was also recommended by a recent report to the European Commission by Market Structure Partners.¹²¹

¹¹⁸ *ibid.*

¹¹⁹ *ibid.*

¹²⁰ See for example the definition provided by Market Structure Partners, *Final Report to the European Commission - The Study on the Creation of an EU Consolidated Tape* (2020) 13.

¹²¹ Market Structure Partners (n 120).

Supervisory coordination and convergence

Finally, EU policy in this area should focus on supervisory coordination and convergence across the EU. As argued above, fund managers might not intervene through the use of liquidity management tools if they would suffer reputational damage, can externalise the costs on the financial system as a whole, or would act against the interests of their investors more generally. In these situations, prudential authorities have a role to play in the governance of liquidity management tools. Coordination and convergence of such supervisory actions serves at least three purposes.

First, it could avoid a race-to-the-bottom – as discussed above – where supervisors are more lenient towards asset managers than desirable from a systemic risk perspective in order to attract fund business. The EU has been actively working towards more supervisory convergence in order to prevent supervisory arbitrage and a ‘race to the bottom’ between member states.¹²² ESMA was charged with fostering supervisory convergence and supervisory cooperation across borders.¹²³ In order to achieve this goal, ESMA has a variety of tools at its disposal.¹²⁴ More specifically, ESMA coordinates the colleges of supervisors established under the legislative acts within ESMA’s competence¹²⁵, is allocated tasks related to the monitoring and identification of systemic risk¹²⁶, periodically organises and conducts peer reviews of competent authorities¹²⁷, has capacity to act in emergency situations¹²⁸, settles disputes

¹²² See for example ESMA, ‘Supervisory Convergence Work Programme 6 February 2019’ ESMA42-114-647, 5.

¹²³ Preamble 41 ESMA Regulation.

¹²⁴ Commission, ‘Public Consultation on the Operations of the European Supervisory Authorities, Brussels, 21 March 2017 (Consultation Paper)’ 8.

¹²⁵ Such as powers regarding information collection rights and the initiation of EU-wide stress tests, see article 21 ESMA Regulation.

¹²⁶ In particular, ESMA can conduct an inquiry into a type of financial activity, product, or conduct in order to assess the potential threats to the integrity and stability of the financial system. If it is considered necessary, ESMA can make appropriate recommendations for action to the relevant competent authorities (article 22 (4) ESMA Regulation). Moreover, together with the ESRB, ESMA is also in charge of developing criteria for the identification and measurement of systemic risk and an adequate stress testing regime (article 23 ESMA Regulation).

¹²⁷ Article 30 ESMA Regulation.

¹²⁸ More specifically, ESMA has powers to take actions in emergency situations to coordinate and facilitate the actions of the national competent supervisory authorities (article 18 ESMA Regulation).

between competent authorities through a binding mediation procedure¹²⁹, and can investigate a breach of Union laws by a NCAs¹³⁰. Since 2015¹³¹, ESMA has become a dynamic actor in the supervisory convergence scene and has made active use of its new supervisory convergence powers. For example, in 2020, ESMA issued guidelines on performance fees in the fund sector.¹³² At the start of 2020, ESMA launched a Common Supervisory Action with NCAs regarding the supervision of liquidity risk management in UCITS in order to promote supervisory convergence.¹³³ As a result, ESMA is increasingly influencing the NCAs' supervisory practices and moulding it into a European template.¹³⁴

Second, supervisory coordination and convergence could be useful in managing the cross-border effects of interventions. Periods of market stress at the national level can impact investors in other members states and financial stability across the EU more generally. Supervisory coordination and convergence are crucial in order to manage the risk of such cross-border activities.

Finally, supervisory coordination and convergence could serve an educational function – both for investors and NCAs – by establishing the use of liquidity management tools as a macro-prudential instrument across the EU, reducing the negative image the use of such tools might have in the market. For example, UCITS' home Member State can allow the NCAs¹³⁵

¹²⁹ Article 19 and 20 ESMA Regulation.

¹³⁰ More specifically, if a competent authority is in breach of Union laws within ESMA's competence – in particular by failing to ensure compliance by individual financial institutions, ESMA can investigate the breach and issue a recommendation to the competent authority. Where the competent authority does not comply with the recommendation, the Commission may issue a formal opinion requiring action from the competent authority. If the non-compliance persists, ESMA can adopt an individual decision addressed to a financial institution – under the condition that the relevant acts are directly applicable to the financial institutions – with a requirement to take the actions necessary to comply with Union law (article 17 ESMA Regulation).

¹³¹ ESMA, 'ESMA Strategic Orientation 2016-2020'.

¹³² ESMA, 'Guidelines on performance fees in UCITS and certain types of AIFs 5 November 2020', ESMA34-39-992.

¹³³ ESMA, 'ESMA Launches a Common Supervisory Action with NCAs on UCITS Liquidity Risk Management' (30 January 2020) <<https://www.esma.europa.eu/press-news/esma-news/esma-launches-common-supervisory-action-ncas-ucits-liquidity-risk-management>> accessed 4 June 2020.

¹³⁴ Moloney (n 76) 178.

¹³⁵ In Germany, for example, BaFin is empowered to order the suspension of redemption of fund units in the interests of investors or the public, see IMF, 'IMF Country Report Germany - Fund Management: Regulation, Supervision and Systemic Risk Monitoring - Technical Note' (2016) IMF Country Report No. 16/193.

to require the suspension of redemption in the interest of the unitholders or of the public.¹³⁶ There is no harmonised definition of ‘public interest’, but it would be plausible that financial stability is captured.¹³⁷ ESMA could take the lead by developing a uniform definition of what is considered public interest. This would not only result in a more harmonised regime reducing supervisory competition, but could also help establish suspension as a tool to mitigate systemic risk.¹³⁸

The 2021 Commission proposal recognises the importance of addressing macro-prudential risks for open-ended investment funds. The text not only empowers the competent authorities to require management companies to activate or deactivate a relevant liquidity management tool, it also includes a notification requirement to other relevant authorities, ESMA and ESRB prior to doing so. The proposal also determines the principles of cooperation in such cases. ESMA is tasked with developing regulatory technical standards indicating when interventions in the fund governance in relation to liquidity management tools by the competent authorities is warranted.¹³⁹ Such amendments to the UCITS and AIFM regime are a welcome step in the right direction of improving supervisory convergence and coordination across the EU.

¹³⁶ Article 84 (2) UCITS Directive.

¹³⁷ ESRB, ‘Recommendation of the European Systemic Risk Board of 7 December 2017 on Liquidity and Leverage Risks in Investment Funds (Recommendation)’ (n 6) 18.

¹³⁸ *ibid.*

¹³⁹ The 2021 Commission Review Proposal for the AIFM Directive and UCITS Directive, 12 (AIFMD) and 15 (UCITS).

5. Conclusion

This article examined the allocation of the decision-making power over the design and application of liquidity management tools in open-ended investment funds. It first showed that the structure of open-ended funds can exacerbate a liquidity crunch. More specifically, the presence of a liquidity mismatch in open-ended funds can create first-mover advantages for investors, encouraging a run on the fund in crises times, with destabilising consequences for the system as a whole. Liquidity management tools can help alleviate the liquidity risk generated by the open-ended fund structure. However, there is no one-size-fits-all and the application of liquidity management tools requires continuous judgment on the appropriate mix of tools given the specifics of each fund and the conditions on the market.

The article then argued that asset managers tend to be best placed to make such judgements, especially if the application of the liquidity management tools requires micro-level or fund-specific information. However, prudential authorities have an important role to play with respect to information gathering on the macro-level as well as through direct intervention in specific systemic scenarios.

Against this background, the article outlines the policy interventions necessary to improve decision-making in this area. More specifically, policy proposals in this area should focus on (1) the development of standards and guidelines for asset managers regarding the availability and use of liquidity management tools, (2) information gathering on the macro-level, and (3) supervisory coordination and convergence across jurisdictional boundaries. The 2021 Commission proposal for the review of the AIFM Directive and UCITS Directive makes some important adjustments in line with these recommendations. Addressing liquidity risk in open-ended fund is key to protect investors and maintain financial stability. The ‘right’ liquidity management tools in the ‘right’ hands can be an important step forward in improving the resilience of the fund industry against liquidity shocks.