

February 14, 2023

Ms. Vanessa Countryman
Secretary
Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

*Re: Open-End Fund Liquidity Risk Management Programs and Swing Pricing;
Form N-PORT Reporting (File No. S7-26-22)*

Dear Ms. Countryman:

Mutual funds and ETFs manage more than \$28 trillion in total assets and serve more than 100 million retail investors in the United States. The vast majority of retail investors use mutual funds to save for retirement. They also use funds to save for education, home purchases, emergencies, and other important financial goals. Funds offer professional management, diversification, and exposure to a broad array of asset types and investment strategies at a reasonable cost. It is not surprising therefore that the industry has experienced robust growth. Mutual funds and ETFs play a major role in the US economy and financial markets. These funds are important investors, supplying investment capital to the US stock and fixed-income markets, including the municipal securities markets.

The Securities and Exchange Commission comprehensively regulates these funds through a robust regulatory framework that includes substantive regulations, extensive reporting and disclosure requirements, staff review of fund prospectuses and shareholder reports, on-site examinations, and enforcement. As part of its oversight of the industry, the Commission in 2016 put into place new requirements for mutual funds and ETFs, which it described as being

designed to promote effective liquidity risk management throughout the open-end investment company industry, thereby reducing the risk that funds will be unable to meet their redemption obligations and mitigating dilution of the interests of fund shareholders. The amendments also seek to enhance disclosure regarding fund liquidity and redemption practices.¹

¹ *Investment Company Liquidity Risk Management Programs*, SEC Release No. IC-32315, 81 Fed. Reg. 82142 (Nov. 18, 2016) (“2016 Adopting Release”), available at www.gpo.gov/fdsys/pkg/FR-2016-11-18/pdf/2016-25348.pdf.

The current proposal would radically change the liquidity risk management requirements for open-end funds (i.e., mutual funds and ETFs), impose on mutual funds a “hard close” on orders (typically at 4:00 p.m. (ET)), and mandate that mutual funds use swing pricing.² We are quite concerned that adoption of this proposal would not only fundamentally alter the management and operation of open-end funds and pricing of mutual funds but also how investors purchase and sell mutual funds. American retail investors could no longer be able to access certain funds and strategies that have successfully served their financial needs for decades.

The Commission has failed to ground such consequential changes in thorough evidence and careful study, analysis, and testing of proposed solutions, a prerequisite to fulfill its mandate to act in the public interest and for the protection of investors. We therefore cannot support this proposal and urge the Commission to undertake a more fulsome examination to identify any deficiencies in funds’ current liquidity risk management practices and design well-calibrated solutions. If the Commission finds that some funds are not complying with current requirements, it has existing tools to address those outliers through examinations and enforcement. This is a more reasonable and effective approach than imposing severe industry-wide requirements that ultimately will hurt fund investors.

The Investment Company Institute (ICI)³ stands ready to fully engage in such a considered approach and encourages the Commission to invite other interested parties to share their expertise and perspectives. With far more information and analysis, the Commission then could consider actions related to the fund industry’s current liquidity risk management processes. American retail investors deserve nothing less.

Section 1. Executive Summary

Open-end funds have had in place sound liquidity management practices for decades, and these practices were comprehensively examined and strengthened through SEC rulemaking in 2016.⁴ By any measure, funds have managed liquidity and met redemptions successfully while pursuing their investment objectives and strategies, including in stressed conditions such as March 2020. In light of funds’ experience in managing liquidity for over 80 years—including in multiple

² *Open-End Fund Liquidity Risk Management Programs and Swing Pricing; Form N-PORT Reporting*, SEC Release No. 33-11130, 87 Fed. Reg. 77172 (Dec. 16, 2022) (the “proposal”), available at <https://www.govinfo.gov/content/pkg/FR-2022-12-16/pdf/2022-24376.pdf>.

³ The [Investment Company Institute](#) (ICI) is the leading association representing regulated investment funds. ICI’s mission is to strengthen the foundation of the asset management industry for the ultimate benefit of the long-term individual investor. Its members include mutual funds, exchange-traded funds (ETFs), closed-end funds, and unit investment trusts (UITs) in the United States, and UCITS and similar funds offered to investors in Europe, Asia and other jurisdictions. Its members manage total assets of \$28.3 trillion in the United States, serving more than 100 million investors, and an additional \$7.4 trillion in assets outside the United States. ICI has offices in Washington, DC, Brussels, London, and Hong Kong and carries out its international work through [ICI Global](#).

⁴ See 2016 Adopting Release.

stressed periods—the proposal is extreme in scope, rigid and arbitrary in its chosen policy measures, and seemingly indifferent to the costs, both quantitative and qualitative, that it would impose on the more than 100 million fund investors. These costs and adverse impacts would be significant, varied, and far-reaching and cannot be justified.

Moreover, the comment period for a proposal of this magnitude clearly was inadequate and sharply contrasts with the longer comment period the Commission provided when it proposed the liquidity risk management rule in 2015.⁵ This 2022 proposal deserves even more time than the Commission provided for the 2015 proposal, given that the proposed swing pricing and hard close amendments would *require* mutual funds and thousands of intermediaries to make significant changes to their systems and processes. Also, the proposed Form N-PORT reporting changes—the third component of this three-part package—would pose significant challenges to registered funds generally and warrant careful consideration by affected industry participants.

The number and pace of other Commission proposals issued recently further underscore the inadequacy of the time allowed for the public to comment.⁶ As we discuss in detail below, the proposal’s economic analysis simply does not support or justify the Commission’s policy choices. The proposal includes hundreds of questions and more than half-dozen anti-dilution alternative approaches.⁷ Many of these questions contain concepts or ideas that the proposal itself does not explain, meaning that the public does not have sufficient time within which, or

⁵ *Open-End Fund Liquidity Risk Management Programs; Swing Pricing; Re-Opening of Comment Period for Investment Company Reporting Modernization Release*, SEC Release Nos. 33-9922; IC-31835, 80 Fed. Reg. 62274 (Oct. 15, 2015) (the “2015 Proposal”), available at <https://www.govinfo.gov/content/pkg/FR-2015-10-15/pdf/2015-24507.pdf>.

⁶ We are concerned that the Commission simply is not taking into account that the pace and complexity of its simultaneous rulemaking ultimately may harm, rather than benefit, fund investors. We expressed extreme concern with this approach to rulemaking in 2022. The ICI, along with several other trade associations, submitted a letter to Chair Gensler pointing out that aside from the sheer volume of rulemaking items, the Commission simultaneously was tackling issues that could result in significant shifts in industry operations and practices. The letter also pointed out that “exceedingly short comment periods associated with numerous concurrent potentially interconnected rule proposals that touch on significant changes to the operational and regulatory regime applicable to financial firms could result in rules that hurt investors, damage the financial system, implicate the Commission’s obligations under the [Administrative Procedure Act] and internal rulemaking guidelines, and ultimately violate the Commission’s tripartite mission.” Letter to SEC Chair Gensler from Alternative Credit Council; Alternative Investment Management Association; American Bankers Association; American Council of Life Insurers; American Investment Council; Banking Policy Institute; Bond Dealers of America; FIA Principal Traders Group; Financial Services Forum; Institute of International Bankers; Institute for Portfolio Alternatives; Investment Adviser Association; Investment Company Institute; Loan Syndications and Trading Association; Managed Funds Association; National Association of Corporate Treasurers; National Association of Investment Companies; National Venture Capital Association; Real Estate Roundtable; Risk Management Association; Securities Industry and Financial Markets Association; Securities Industry and Financial Markets Association Asset Management Group; Security Traders Association; Small Business Investor Alliance; and US Chamber of Commerce Center for Capital Markets (April 5, 2022), available at <https://www.ici.org/system/files/2022-04/22-ici-letter-to-sec-chair-gensler.pdf>.

⁷ The proposal includes 261 questions.

detail or evidence upon which, to respond. Pages of questions are not a fair basis for informed public comment on possible regulatory changes with such consequence. We have done our utmost in the time provided to analyze the proposal and share our views with the Commission. But that does not substitute for the rigorous analytical work that the *Commission itself* must do to responsibly design, and issue for comment, a proposal, particularly one with such far-reaching consequences for the more than 100 million American fund investors.

Careful analysis of empirical data and the costs and benefits of potential policy actions, along with impacts on investors, efficiency, competition, and capital formation, clearly must serve as the foundation for this rulemaking. This is imperative. We are extremely concerned that adopting this proposal will result in investors losing much of what they value in their funds today. Accordingly, we cannot support this proposal.

In addition to separately evaluating the proposed liquidity-related amendments (Section 2), the proposed hard close and swing pricing amendments for mutual funds (Section 3), and the proposed Form N-PORT reporting requirements (Section 4), we include the following appendixes:

- Appendix A contains ICI's economic analysis of the proposed liquidity, swing pricing, and hard close amendments and its evaluation of the proposal's economic analysis.
- Appendix B provides a history of the liquidity and dilution provisions of the Investment Company Act of 1940 ("Investment Company Act").
- Appendix C outlines the types of costs that would result from the proposed swing pricing and hard close amendments.

Proposed Liquidity-Related Amendments (Section 2)

The proposed changes to the liquidity framework would adversely and detrimentally affect portfolio management while also creating a distorted view of funds' liquidity risks. Our research indicates that some funds used by today's investors would no longer be able to comply with the new requirements and fully pursue their investment objectives and strategies. We therefore oppose many of its elements and offer tailored recommendations designed to improve funds' liquidity risk management practices where appropriate.

- We strongly object to the collective changes to the bucketing requirements, which would cause the exercise to be even less useful as a liquidity risk management and informational tool; compromise fund performance and investment operations by creating unnecessary constraints on portfolio management; limit investor access to investment strategies and asset classes; and add unwarranted compliance costs and burdens to all funds.
- Collectively, these changes would cause some funds—including some US large cap equity funds whose portfolios are highly liquid—to breach the 15% illiquid

investments limit, even in ordinary market conditions. Fund managers would have to reassess the utility and use of the open-end fund for these and other strategies.

- The proposed 10% size assumption is arbitrary and utterly disconnected from funds' actual experiences in times of stress. Instead, each fund should determine its own stressed trading size figure for bucketing purposes, based on *its* specific liquidity risk factors (most prominently, its flows in stressed conditions).
- The proposed day counting provision is unnecessary and flatly at odds with the rule text and the rule's proposing and adopting releases.
- The proposed value impact standards are overly rigid; fail to account for the wide range of investments and their differing trading characteristics; and produce anomalous results that would impede portfolio management and confuse investors.
- Eliminating asset class classification would harm funds by removing an effective means of (i) expeditiously reclassifying investments in stressed market conditions and in response to significant events; (ii) addressing gaps in vendor coverage; and (iii) classifying some or all investments in a practical and cost-effective manner.
- The removal of the "less liquid" bucket and the expansion of the "illiquid" bucket effectively eliminates open-end bank loan funds and would lead to a significant migration of (currently) liquid investments into the illiquid bucket.
- Requiring daily bucketing would generate unjustified costs and burdens for funds (particularly smaller and highly liquid funds) with little benefit.
- We strongly object to public reporting of funds' aggregated bucketing information each month. Such information by its nature is subjective, forward-looking, and hypothetical and risks misleading and confusing investors. The proposed bucketing changes make this output even worse by distorting funds' liquidity risk profiles, including by unfairly misrepresenting the liquidity of larger funds and producing anomalous results.
- With respect to the highly liquid investment minimum (HLIM) requirements, we:
 - Support eliminating the "primarily highly liquid fund" exemption (*provided the current bucketing requirements are kept in place*), which would significantly increase the number of funds subject to these requirements.
 - Oppose a mandatory 10% minimum HLIM for all funds as arbitrary and unnecessary but support it for funds primarily holding longer-settling investments (e.g., bank loans).

Further, with respect to the liquidity proposal we:

- Explain why the rule's current bucketing requirements are ill-suited for smaller funds and how the proposed amendments (e.g., the daily bucketing requirement) would make

matters worse. We recommend that the SEC ensure that any rule requirements are informed by the unique and varied characteristics of smaller funds, without diminishing investor protection.

- Discuss how bank loan funds have managed liquidity successfully for decades and recommend rule changes that could further strengthen their practices (e.g., mandating a minimum 10% HLIM and enhancing the rule's liquidity risk factors to address funds' longer-settling investments).
- Recommend that the SEC:
 - Amend Rule 17a-7 (the cross trading rule) to permit fixed-income cross trading, subject to appropriate guardrails.
 - Propose and adopt an interfund lending/borrowing exemptive rule.
- Recommend that the SEC retain existing guidance that is not superseded by any final amendments (e.g., most of the SEC staff's 2018 liquidity FAQs).

Proposed Mandatory Hard Close and Swing Pricing Amendments (Section 3)

We strongly oppose the hard close on mutual fund orders (typically set by most funds at 4:00 p.m. ET) and mandatory swing pricing for mutual funds. Neither fund experience nor the proposal's economic analysis establishes that such costly measures are warranted. The harm and disruption for everyday mutual fund investors resulting from them would be far too high. Implementing a hard close would require significant systems rebuilds across the industry, affecting the entire fund ecosystem, including intermediaries such as broker-dealers and retirement plan recordkeepers, administrators, custodians, transfer agents, and the industry utility (DTCC). The cost, resources, and effort to build these systems would be enormous and lead to lost processing efficiencies.

The hard close would negatively affect mutual fund investors in several respects. These investors would not be able to execute fund trades as they do today throughout normal market hours, and many may face cut-offs as early as 10:00 a.m. ET if they wish to receive same-day pricing. In many cases, execution and prices received would be delayed by at least one day for these investors. These delays would create a new source of involuntary investment risk for investors, as they would be unable to promptly transact and receive same-day pricing (See Appendix A, Figure 4.1).

The Commission proposes to radically change how mutual funds are purchased and sold on the premise that swing pricing has been used successfully in Europe as an anti-dilution tool. Yet, the Commission does not fully appreciate or consider the critical differences between the European and US fund markets, which include the following:

- Europe's funds have significantly larger percentages of institutional investors.

- Most European funds have several hours between their cut-off time for receiving trades and calculating their NAVs. This sequencing and timing is critical to accurate application of swing pricing.
- The European market has a smaller percentage of its total assets in “NAV-dependent” products (i.e., products that require receipt of a fund’s net asset value (NAV) before they may in turn calculate their values or perform other related transactions). In the United States, such products include funds of funds, variable insurance products, and Section 529 investment plans, and they compose a larger part of the US market.
- Most shareholder trades in Europe are denominated in currencies, which can be readily processed by funds and intermediaries without estimation.

Apart from our operational concerns with mandating swing pricing in the United States, the SEC’s proposed swing pricing amendments fundamentally differ from European regulatory frameworks, which are permissive in application (i.e., European funds need not adopt swing pricing) and significantly more flexible in their specific provisions (e.g., European funds set their own thresholds based on fund-specific factors and are not required to include market impact in their swing factors). The swing pricing amendments that the SEC adopted in 2016—which permit, but do not require, mutual funds to use swing pricing—are in greater accord with European regulation and practice and far superior to the 2022 proposed amendments. We recommend that the SEC mostly retain the 2016 amendments in their current form, with further exploration, based on data and information, of amendments to facilitate the use of swing pricing (e.g., a safe harbor) and improve the board-related provisions.

Overall, the swing pricing and hard close proposal seriously errs in requiring that (i) all mutual funds adopt an extraordinary anti-dilution measure and (ii) such measure be the same for each fund (i.e., mandatory swing pricing coupled with a hard close). For the large majority of mutual funds, dilution is *de minimis*, and adoption of extraordinary anti-dilution measures for these funds is unnecessary and unjustifiable based on their potential costs and burdens on investors. For the small sub-set of funds where dilution could be significant, the relative merits and shortcomings of various anti-dilution measures (e.g., swing pricing and liquidity fees) differ by fund.

We appreciate the proposal’s consideration of anti-dilution alternatives. In fact, we believe that the SEC should examine some of these alternatives further through roundtables and other forms of information gathering, which could be followed by a concept release. In lieu of what the SEC has proposed, we recommend that the Commission explore through the means mentioned above the following two-step approach for mutual funds:

- A fund’s adviser (or appropriate advisory personnel) must assess the fund’s dilution.
- Subject to board oversight, a fund that determines that its dilution is significant would assess various “anti-dilution approaches.” We envision defining “anti-dilution approach”

broadly to allow a range of considerations and approaches, including swing pricing (the 2016 version, as we recommend amending it herein), liquidity fees (broadly understood), other alternatives included in the proposal, and any other measure that a fund reasonably believes would address significant dilution in the interests of investors. A fund adopting an anti-dilution approach then would assess periodically its operation, adequacy, and effectiveness and make any changes as necessary and appropriate.

Carefully considering this approach (e.g., how to assess dilution, and permissible and feasible “anti-dilution approaches”) in a full and open way would be critical, and transparent input from all affected stakeholders (including investors, service providers and intermediaries) would be indispensable to that process.

Proposed Form N-PORT Amendments (Section 4)

We also have serious concerns with certain of the proposed changes to the disclosure framework. The changes would impose substantial burdens on Form N-PORT filers,⁸ requiring them to produce more detailed information, some of which is unnecessary, in a substantially compressed timeframe. In addition, the changes would provide for more frequent public disclosure of sensitive fund holdings information, which would harm certain funds and their shareholders. To address our concerns, we offer the recommendations below:

- We recommend that the SEC provide Form N-PORT filers with at least 45 days after the end of a month to file Form N-PORT. The time would allow such funds to properly review and file the information and reduce the opportunities for the misappropriation of sensitive information.
- We urge the Commission not to require more frequent public disclosure of portfolio holdings. The current quarterly disclosure approach appropriately balances the interest in public transparency against the need to protect sensitive portfolio management positions and strategies.
- We strongly oppose requiring more frequent filing of Regulation S-X-compliant Schedule of Investments information. The proposed requirement would impose excessive costs on funds and their shareholders with no clear benefits. If the SEC determines to proceed with requiring additional holdings information monthly in a reader-friendly format, there are other less costly and equally effective ways of providing the information, including:
 - Creating a tool on the SEC’s website for shareholders to extract existing Form N-PORT Part C information; or

⁸ Registered management companies and ETFs organized as UITs are subject to the Form N-PORT filing obligations.

- Permitting funds to post simplified and unstructured Form N-PORT holdings on a fund's or adviser's website.

Section 2. Assessment of the Proposed Changes to the Liquidity Rule and Related Reporting Requirements for Open-End Funds

The proposal would amend several provisions of Rule 22e-4 under the Investment Company Act (the “liquidity rule”) and related reporting requirements. We first provide background on open-end funds’ liquidity risk management, how the SEC has regulated it, the events of March 2020 and its aftermath, and the SEC’s rulemaking authority. We then assess the proposal’s economic analysis and the proposal’s individual provisions, explaining why we oppose most of them and offering alternative ways for the SEC to improve the existing liquidity framework.

Section 2.1 Background

Long-term mutual funds and open-end ETFs offer redeemable shares, which entitles a shareholder to a proportionate share of the fund’s net assets upon returning its shares to the fund. A fund must pay proceeds to the shareholder within 7 days of the redemption request.⁹ This requires sound liquidity management, which funds have had in place for decades prior to adoption of the liquidity rule in 2016. Prior to 2016, the SEC regulated funds’ liquidity risk management through limited guidance.¹⁰

Liquidity risk management of an open-end fund requires consideration of several factors, including the fund’s investment strategy, the liquidity of its portfolio investments, investor flows (in normal and reasonably foreseeable stressed conditions), characteristics of its shareholder base, fund liabilities, and available liquidity tools. The existing liquidity rule recognizes this and requires funds to assess, manage, and periodically review their liquidity risk. As the rule’s factors and related guidance make clear, liquidity risk management is multi-faceted and inherently fund-specific. Premising a liquidity risk management rule on these fundamental realities is both prudent and practically necessary: The open-end fund universe to which the rule applies is large and diverse, currently consisting of over 8,400 long-term mutual funds and about 2,900 ETFs. Liquidity risk management is *not and should not be* governed by a “one-size-fits-all” rule.

Section 2.1.1 Assessment of the Current Liquidity Rule

The 2016 liquidity rule requires a fund¹¹ to:

⁹ Section 22(e) of the Investment Company Act.

¹⁰ See, e.g., *Revisions of Guidelines to Form N-1A*, SEC Release No. IC-18612, 57 Fed. Reg. 9828 (Mar. 20, 1992).

¹¹ The rule applies to registered open-end funds, excluding money market funds. We use the term “funds” throughout Section 2 to mean open-end funds subject to the liquidity rule.

- adopt and implement a written liquidity risk management program, under which the fund must assess, manage, and periodically review its liquidity risk;
- classify each portfolio investment into one of four liquidity “buckets” at least monthly;
- determine and maintain a minimum amount of its portfolio in “highly liquid investments” (an HLIM); and
- limit illiquid investments to 15% of net assets.

The bucketing requirements are the rule’s most controversial element, and they are the focus of these proposed rule amendments. Currently, the liquidity rule requires a fund to classify each of its investments into one of four liquidity buckets using a “days to cash/days to sale” framework (depending on the bucket), generally on a monthly basis.¹² The size and “value impact” assumptions that funds use are key bucketing inputs. With respect to size, the rule requires a fund to classify investments based on “sizes that the fund would reasonably anticipate trading” (more colloquially, “RATS”). The rule does not prescribe a precise method for determining value impact (i.e., what constitutes a “significant change in market value” of an investment for purposes of bucketing), leaving funds with discretion in this area.

Reporting and disclosure requirements complement the liquidity rule. Most notably, funds must report to the SEC investment-specific bucketing information each month on Form N-PORT. None of the bucketing information reported on Form N-PORT is publicly available.¹³ Also, if a fund breaches the 15% illiquid investments limit or its HLIM (if applicable), it must promptly report this to the SEC on Form N-RN (formerly Form N-LIQUID).

Our views on the current liquidity framework are mixed. The liquidity rule’s sound elements include its written program requirement; principles-based framework for assessing, managing, and reviewing liquidity risk; and board oversight provisions. These aspects of the rule have enhanced the discipline and rigor of funds’ liquidity risk management practices, and, in our view, strengthened them, including in the face of the unprecedented global events of March 2020. We believe that the FAQs issued by the SEC staff in 2018 and 2019 are prudent and have been useful in helping funds implement and administer a complex rule.¹⁴ We also supported the liquidity-

¹² “In-Kind ETFs” (defined in the rule as “an ETF that meets redemptions through in-kind transfers of securities, positions, and assets other than a *de minimis* amount of cash and that publishes its portfolio holdings daily”) are not subject to these bucketing requirements but are subject to the rule’s 15% limit on illiquid investments.

¹³ See *Investment Company Liquidity Disclosure*, SEC Release No. IC-33142, 83 Fed. Reg. 31859 (July 10, 2018) (“2018 Liquidity Disclosure Release”), available at <https://www.govinfo.gov/content/pkg/FR-2018-07-10/pdf/2018-14366.pdf>.

¹⁴ *Investment Company Liquidity Risk Management Programs Frequently Asked Questions*, SEC Staff of the Division of Investment Management (“Liquidity FAQs”), available at <https://www.sec.gov/investment/investment-company-liquidity-risk-management-programs-faq> (last updated April 10, 2019).

related disclosure changes that the SEC adopted in 2018.¹⁵ In that same adopting release, the SEC “recognize[d] that a broad range of commenters continue to believe that alternative approaches to classification would better achieve the Commission’s goals.”¹⁶ Recognizing the validity of alternative liquidity classification methodologies, in 2020 the SEC exempted a fund complex from certain liquidity rule and related reporting requirements.¹⁷

However, we continue to believe that the rule is an uneasy amalgam of principles-based provisions and overly prescriptive bucketing requirements. Echoing this view, in its 2017 Asset Management and Insurance Report, the Department of Treasury highlighted the importance of robust liquidity risk management programs, but recommended that the SEC embrace a “principles-based approach to liquidity risk management rulemaking and any associated bucketing requirements.”¹⁸ The bucketing provisions do not exist solely to generate reporting information for the SEC. Bucketing output also is critical in determining funds’ compliance with the 15% illiquid investments limit and the HLIM. Informed by members’ careful and deliberate evaluation of their experiences, we have communicated our objections to the SEC’s bucketing scheme, as proposed and adopted, on numerous occasions.¹⁹ The bucketing requirements produce information of limited use to funds and the SEC and generate costs that exceed their value.

Bucketing has outsized importance within the rule, and we believe that excessive attention to it by funds detracts from overall liquidity risk management efforts, particularly in times of stress.²⁰

¹⁵ See generally 2018 Liquidity Disclosure Release.

¹⁶ 2018 Liquidity Disclosure Release at 31867.

¹⁷ See *J.P. Morgan Investment Management Inc., et al.*, SEC Release No. IC-34180 (Jan. 21, 2021), available at <https://www.sec.gov/rules/ic/2021/ic-34180.pdf>.

¹⁸ See *A Financial System That Creates Economic Opportunities: Asset Management and Insurance*, US Department of the Treasury (Oct. 2017), at 34.

¹⁹ See Letter from David W. Blass, General Counsel, ICI, to Brent J. Fields, Secretary, SEC, dated January 13, 2016 (“ICI 2016 Letter 1”), available at www.sec.gov/comments/s7-16-15/s71615-54.pdf; Letter from Brian K. Reid, Chief Economist, ICI, to Brent J. Fields, Secretary, SEC, dated January 13, 2016, available at <https://www.sec.gov/comments/s7-16-15/s71615-56.pdf>; Letter from David W. Blass, General Counsel, ICI, to Brent J. Fields, Secretary, SEC, dated May 17, 2016, available at <https://www.sec.gov/comments/s7-16-15/s71615-141.pdf>; Letter from Paul Schott Stevens, President and CEO, ICI, to The Honorable Jay Clayton, Chairman, SEC, dated July 20, 2017, available at <https://www.sec.gov/comments/s7-03-18/s70318-3129373-161935.pdf>; Letter from Paul Schott Stevens, President and CEO, ICI, to Brent J. Fields, Secretary, SEC, dated November 3, 2017, available at <https://www.sec.gov/comments/s7-03-18/s70318-3129402-161936.pdf>; and Letter from Paul Stevens, President and CEO, ICI, to Brent Fields, Secretary, SEC, dated May 18, 2018 (“2018 ICI Letter”), available at www.sec.gov/comments/s7-04-18/s70418-3669117-162439.pdf.

²⁰ Moreover, the SEC’s bucketing requirements have no real analog globally and extend well beyond IOSCO’s liquidity risk management recommendations for collective investment schemes. See *Recommendations for Liquidity Risk Management for Collective Investment Schemes*, IOSCO Final Report (February 2018) (“IOSCO Recommendations”), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD590.pdf>.

Section 2.1.2 March 2020 and Its Aftermath

The spring of 2020 will be remembered for the outbreak of the global COVID-19 pandemic. Within a few short weeks, the world's leading economies shut down all but the most essential activities—measures that created unprecedented uncertainty in the global capital markets. The result was a period of historic market volatility and precipitous drops in domestic and global markets.

To ensure that policy discussions (including this one) would be rooted in facts and an evidence-based analysis, ICI released a research series, *Report of the COVID-19 Market Impact Working Group*, which chronicled financial markets' reactions to the pandemic²¹ and the experiences of regulated funds and their investors, including bond funds in the United States.²²

The COVID-19 crisis was different from the 2007–2009 global financial crisis. The spring 2020 market dislocations represented a liquidity crisis driven by the economic response to a global health crisis—as compared to the collapse of a housing market bubble that created a credit crisis that roiled markets in 2007–2009. This is important because policies designed to address issues arising during the global financial crisis are not necessarily appropriate for the March 2020 crisis.

The financial turmoil that gripped the markets in March 2020 originated from market participants' sudden and immediate need for liquidity to protect against the uncertainty caused by the virus and economic shutdown. Strains in the Treasury markets eventually spilled over into short- and long-term credit markets, including the markets for municipal debt securities, commercial paper, bank certificates of deposit, and corporate bonds. In light of uncertainty about the virus and the economy, investors became extremely risk averse and sought to preserve or bolster their cash positions. As a result, sellers of short- and long-term credit securities far outstripped the number of buyers. These market dynamics affected all market participants, including money market and bond mutual funds.

By mid-March, liquidity in, and the flow of credit through, short- and long-term credit markets had evaporated, risking damage to households, businesses, governments, and financial institutions. With the demand for liquidity overwhelming the supply from the private sector,

²¹ *The Impact of COVID-19 on Economies and Financial Markets*, Report of the COVID-19 Market Impact Working Group, Investment Company Institute (October 2020), available at www.ici.org/pdf/20_rpt_covid1.pdf.

²² See Investment Company Institute COVID-19 Resource Center, available at <https://www.ici.org/covid19>.

there was little choice but for central banks to fulfill their role as lenders of last resort.²³ The combination of the Federal Reserve’s wide-ranging actions—which were appropriate, timely, flexible, and necessary—helped restore liquidity and the flow of credit. Bond funds faced challenges, but defied predictions that they would destabilize the markets.

The proposal expresses concern that during a market downturn a first-mover advantage might cause funds to sell portfolio investments at “fire sale” prices, amplifying the downturn. But the proposal offers no hard evidence of this.

As discussed in more detail in Appendix A, ICI *has* provided hard evidence on this. We collected from bond mutual funds their actual daily portfolio purchases and sales during March 2020. We found no evidence that bond mutual funds significantly amplified market stresses that month. Surprisingly, although we shared these studies with the SEC, the proposal fails to cite them.

Moreover, claims that mutual funds amplified market stresses in March 2020 often fail to specify whether the claimed amplification was economically material. Appendix A presents research measuring the effects of mutual funds’ portfolio sales on Treasury yields and corporate bond yield spreads in March 2020. Our evidence indicates that the very sharp rise in yields on Treasuries and investment grade corporate bond yield spreads can be explained almost entirely by conventional factors such as market uncertainty, and very little by mutual funds’ portfolio sales. For example, in March 2020, yield spreads on investment grade corporate debt increased a maximum of 313 basis points, of which only 5 basis points are estimated to be attributed to mutual funds (See Appendix A, Figure 2.7).

The SEC and its Investment Management staff deserve credit for acting expeditiously in March 2020 to provide liquidity-related relief.²⁴ However, while this prospective action reflected responsible and appropriate regulatory oversight, few funds availed themselves of this relief. In

²³ See e.g., John C. Williams, “Rising to the Challenge: Central Banking, Financial Markets, and the Pandemic” (Remarks delivered to the Financial Research Advisory Committee for the Treasury’s Office of Financial Research, July 16, 2020), www.newyorkfed.org/newsevents/speeches/2020/wil200716. Williams said, “These are unprecedented times, and the pandemic presents truly unique challenges. However, the actions we have undertaken harken back to why the Federal Reserve was created in the first place. That is, to do what only a central bank can do: to keep credit flowing when fear and uncertainty take hold, and in that way to foster a strong economy with maximum employment and stable prices.”

²⁴ See, e.g., *Order Under Sections 6(c), 12(d)(1)(J), 17(b), 17(d) and 38(a) of the Investment Company Act of 1940 and Rule 17d-1 Thereunder Granting Exemptions from Specified Provisions of the Investment Company Act and Certain Rules Thereunder*, SEC Release No. IC-33821 (March 23, 2020), available at www.sec.gov/rules/other/2020/ic-33821.pdf. Also, the SEC staff granted temporary no-action relief modeled on Rule 17a-9 under the Investment Company Act in response to ICI requests, available at <https://www.sec.gov/investment/investment-company-institute-031920-17a> and <https://www.sec.gov/investment/investment-company-institute-032620-17a>.

the spring and summer of 2020, ICI surveyed its members to learn more about their experiences in managing liquidity during March and April 2020.²⁵ Only one of the 74 respondents indicated that it used any form of this liquidity-related relief.²⁶

The survey contained several other interesting findings, including the following:

- Approximately 72% of respondents reported performing *ad hoc* or unscheduled liquidity-related reporting (written or oral) to their fund boards in March or April 2020 (i.e., distinct from what the rule would require upon a fund breach of the 15% illiquid investments limit or the HLIM (if applicable)).
- Approximately 46% of respondents indicated that, due to the market events in March 2020, they changed, or anticipated changing, asset classification inputs or underlying assumptions.
- Of those indicating that they had or would make changes, the most commonly chosen areas were to RATS itself (53%), inputs underlying RATS (e.g., length of look-back flow periods) (24%), and price impact (38%).
- Substantial numbers of respondents also indicated that they had changed, or anticipated changing, other items in light of those market events, as follows: written program documents (23%); standard board reporting (23%); prospectus or Statement of Additional Information disclosure (28%); shareholder report disclosure (specifically, discussion of recent events in the management’s discussion of fund performance (MDFP) section) (25%); investment policies, limitations, or strategies (9%); and available liquidity tool(s) (e.g., lines of credit) (9%).
- Respondents reported using the following liquidity management tools: redemptions in kind; lines of credit; interfund lending facility; and shortened settlement for portfolio trades.

ICI’s empirical work and member responses to this survey reflect an industry that conscientiously managed liquidity, successfully weathered a very difficult period, learned from the experience, and further refined liquidity risk management practices.

²⁵ Seventy-four ICI member firms responded to this survey, representing 75% of US registered open-end fund assets (excluding money market funds, which are not subject to the liquidity rule, and funds of funds, to avoid double counting) as of May 31, 2020 (“July 2020 ICI Survey”).

²⁶ This relief was conditioned on providing notice of use to the SEC. The SEC did not reference this data in the proposal.

Section 2.1.3 The SEC's Rulemaking Authority

The Commission focuses on the risk of dilution and cites to the Investment Company Act's legislative history as support for the Commission's proposed amendments to Rule 22e-4 and imposition of mandatory swing pricing, stating:

When the Investment Company Act was enacted, a primary concern was the potential for dilution of shareholders' interests in open-end investment companies. In addition, the ability of shareholders to redeem their shares in an investment company on demand is a defining feature of open-end investment funds. Section 22 of the Act reflects these concerns and priorities. For example, section 22(c) gives the Commission broad powers to regulate the pricing of redeemable securities for the purpose of eliminating or reducing so far as reasonably practicable any dilution of the value of outstanding fund shares. Section 22(e) of the Act establishes a shareholder right of prompt redemption in open-end funds by requiring such funds to make payments on shareholder redemption requests within seven days of receiving the request.²⁷

We urge the Commission to factor into any rulemaking Section 22's legislative history that clearly demonstrates that the Commission and Congress were not concerned about dilution and redeemability in the same way that the Commission now proposes to regulate liquidity and pricing of mutual fund shares. Today, the Commission is using Section 22 to justify rulemaking intended to limit the potential for dilution caused by: transaction costs incurred by the fund in the course of selling and redeeming fund shares; or a fund having insufficient liquid assets to meet redemption requests.

The legislative history and the Commission's report on the investment company industry²⁸ instead indicate that, with regard to dilution, Section 22(a) and (c) of the Investment Company Act were enacted to prevent certain dilutive pricing practices and insider abuses. With regard to redeemability, Section 22(e) was enacted primarily to prevent open-end funds from arbitrarily suspending redemptions.²⁹ The Commission's reliance on the legislative history of Section 22 as the basis for its authority for issuing this proposal is therefore misplaced.

²⁷ Proposal at 77173 (footnotes omitted).

²⁸ Investment Trusts and Investment Companies, Report of the Securities and Exchange Commission (1939) ("Investment Trust Study").

²⁹ See Appendix B for a more fulsome discussion of the legislative history of Section 22.

Given this mismatch, we question the Commission's authority to adopt the proposed amendments to Rule 22e-4 or to impose mandatory swing pricing.³⁰ Section 22(e) generally makes it unlawful for an open-end fund to suspend the right of redemption, or to postpone the payment of redemption proceeds for more than seven days. That section therefore appears to authorize rulemaking related to the conditions under which a fund may suspend the right of redemption or postpone the payment of redemption proceeds for more than seven days. The legislative history supports this as the more reasonable reading of Section 22(e). Similarly, Section 22(a) and (c) appear to convey only limited rulemaking authority to the SEC related to the computation of a fund's share price and the minimum holding period for fund shares. The legislative history supports this reading of Section 22(a) and (c).³¹

In its 1992 report, "Protecting Investors: A Half Century of Investment Company Regulation," the SEC's Division of Investment Management recommended legislative changes that would grant the Commission authority to prescribe liquidity requirements.³² Although the Division of Investment Management staff stated in the report that "arguably" the SEC had authority to impose such requirements by regulation,³³ the Division of Investment Management ultimately recommended that the Commission request Congress to amend the Investment Company Act to expressly grant the Commission authority to:

by rules and regulations define and prescribe requirements reasonably designed to ensure that a registered company's assets are liquid to the extent necessary or appropriate in the public interest or for the protection of investors.

Congress never took action to implement the recommendation.

Despite the fact that Congress did not expand the Commission's authority, the Commission now proposes to amend Rule 22e-4 beyond requiring registered open-end funds to honor the right of

³⁰ The Commission cites multiple sections of the Investment Company Act in support of its authority to adopt the proposed rulemaking.

³¹ The Commission also cites to other sections of the Investment Company Act for its authority, including Section 34(b) and Section 38(a), but those sections do not appear to convey the type of broad rulemaking authority necessary to adopt the proposed amendments to Rule 22e-4.

³² *Protecting Investors: A Half Century of Investment Company Regulation*, Division of Investment Management, US Securities and Exchange Commission (May 1992) ("1992 Report"). See also Appendix B.

³³ See 1992 Report at note 141 (stating that "[s]uch requirements arguably could be promulgated by rule through amendments to rule 22c-1, through any rulemaking defining the circumstances in which closed-end companies may make periodic repurchases, and through any rulemaking permitting limited redemptions. Nevertheless, we recommend that the Commission propose a statutory liquidity requirement in order to make clear the fundamental importance of the appropriate degree of liquidity in investment company portfolios. Pending the adoption of a statutory provision, however, it might be appropriate to include liquidity provisions in the recommended rules for limited redemptions and periodic closed-end repurchases.").

redemption at all times and to pay redemption proceeds within seven days.³⁴ Instead, the proposed amendments to Rule 22e-4 are designed to enhance the liquidity of a fund's portfolio especially in times of market stress. In addition, the amendments to Rule 22c-1 are styled to exact a cost on redeeming shareholders (and, at times, purchasers). Before the SEC adopts sweeping amendments of this kind, the SEC must assess and clearly articulate the basis for its authority to do so under the Investment Company Act.

In addition, the SEC has never before mandated swing pricing, and it is not clear that Congress vested in the Commission the authority to so fundamentally change the markets for mutual funds. Given the importance of mutual funds to retail investors, including those saving for retirement, and the overall US economy, it is imperative that the SEC identify "clear congressional authorization"³⁵ before proceeding in light of the economic and other consequences discussed in this comment letter.

Section 2.2 General Comments on the Proposed Liquidity Amendments and the SEC's Economic Analysis

The current liquidity rule defines "liquidity risk" as "the risk that the fund could not meet requests to redeem shares issued by the fund without significant dilution of remaining investors' interests in the fund."³⁶

By any measure, and for decades prior to adoption of the liquidity rule,³⁷ funds have managed liquidity and met redemptions successfully while pursuing their investment objectives and strategies. For instance, in 2022, long-term mutual funds' gross redemptions totaled \$5.6 trillion, or 25% of year-end 2021 assets for those funds.³⁸

Cases of funds failing to meet redemptions are exceedingly rare. Building off the analysis in our 2016 comment letter,³⁹ we have identified 12 instances in over 80 years where the SEC granted an exemptive order permitting one or more funds to suspend redemptions (excluding emergency situations outside the control of a fund's adviser). Five were funds that by policy invested

³⁴ See discussion of the legislative history of Section 22(e) above.

³⁵ See *West Virginia v. EPA*, ___ US ___ (2022) (slip opinion available at https://www.supremecourt.gov/opinions/21pdf/20-1530_n758.pdf).

³⁶ Rule 22e-4(a)(11).

³⁷ We are unaware of any enforcement actions brought against funds for violating the liquidity rule or any related reporting requirements since adoption.

³⁸ See generally *Trends in Mutual Fund Investing*, ICI (December 2022), January 30, 2023, available at https://www.ici.org/research/stats/trends_12_22.

³⁹ ICI 2016 Letter 1 at Appendix B.

primarily in Russian securities—continued operation of these funds became untenable in 2022 following Russia’s invasion of Ukraine.⁴⁰

The SEC did not grant any exemptive orders permitting one or more funds to suspend redemptions in 2008 or 2020.⁴¹

In 2022, only one (a mutual fund investing primarily in Russian securities) out of 8,469 mutual funds suspended redemptions. Put another way, 99.99% of mutual funds successfully met all redemption requests in 2022. In most prior calendar years, this percentage has been 100%.

Any assessment of whether additional regulation is needed must begin with funds’ historical performance in meeting redemptions and a thorough qualitative and quantitative understanding of funds’ dilution and their management of this inherent feature of any pooled investment vehicle. Then, any regulatory changes considered should:

- be supported by empirical data;
- recognize the causes of the March 2020 financial market turmoil and the larger ecosystem within which funds operate; and
- appropriately assess the costs and benefits of the changes while also considering their impact on investors, efficiency, competition, and capital formation.

Any comprehensive and objective review of funds’ 80+ year track record of managing liquidity (including March 2020) suggests incremental change is the way to best serve the interests of fund shareholders and remain true to the Commission’s mission.

Unfortunately, this is not the proposal’s approach. Instead, the proposed liquidity amendments would impose costs and burdens on funds, their investors, and issuers of certain investments while providing little in the way of benefits. The proposal’s citation to the March 2020 financial market turmoil does not provide a rational justification for imposing these additional costs, burdens, and changes. Nor does its overall economic analysis, the limits of which the proposal explicitly acknowledges:

⁴⁰ A much larger number of European funds suspended redemptions following Russia’s invasion of Ukraine. *See, e.g., Firms Start to Reopen Suspended Funds*, Ed Moisson, Ignites Europe (April 4, 2022), available at https://www.igniteseurope.com/c/3560124/455694?referrer_module=searchSubFromIG&highlight=fund%20redemptions (listing 50 European funds that suspended redemptions following this invasion).

⁴¹ By contrast, in March 2020, where suspensions typically do not require regulatory approval, 400 Danish UCITS, 32 Swedish UCITS, 25 Finnish UCITS, a small number of UCITS domiciled in Luxembourg and 43 UK-domiciled funds suspended redemptions. *See Experiences of European Markets, UCITS, and European ETFs During the COVID-19 Crisis*, Report of the COVID-19 Market Impact Working Group (December 2020), ICI (“ICI European Report”), at 32-33, available at www.ici.org/pdf/20_rpt_covid4.pdf.

Many of the benefits and costs discussed below are difficult to quantify. For example, we lack data that would help us predict how funds may adjust the liquidity of their portfolios in response to the proposed liquidity rule amendments... While we have attempted to quantify economic effects where possible, much of the discussion of economic effects is qualitative in nature.⁴²

Section 2.2.1 The Proposal’s Discussion of Benefits Associated with the Proposed Liquidity Amendments

The proposal identifies as potential benefits increased resiliency (for funds and markets generally) and reduced dilution.⁴³ But the proposal’s economic analysis never quantifies these benefits, or otherwise provides substantive reason to believe they would be meaningful.

The SEC provides no discussion of resiliency and no evidence of dilution. The proposal states:

We do not have specific data about the dilution fund shareholders experienced in Mar. 2020 because funds do not report information about their trading activity and the prices at which they purchase and sell each instrument.⁴⁴

Instead, on dilution the proposal makes general observations (e.g., bid-ask spreads widened in March), offers anecdotes of questionable relevance (e.g., the experience of European funds in March 2020) and provides extreme hypotheticals⁴⁵ and citations to conflicting academic literature. Nor does the analysis attempt to distinguish among fund types by level of risk.

In Appendix A, we undertake the quantitative work related to dilution and “first-mover advantage” that the proposal’s economic analysis neglects to do. We estimate that daily dilution for US mutual funds is on average far too small—typically just hundredths or tenths of basis points a day—to incentivize fund investors to redeem (See Appendix A, Figure 2.3). Even during March 2020, we estimate dilution was small, ranging from at most 1 to 5 basis points per day,

⁴² Proposal at 77236.

⁴³ More specifically: “we expect the proposal to: (1) enhance open-end funds’ liquidity; (2) improve funds’ anti-dilution and resilience mechanisms for any given level of liquidity; and (3) increase the transparency of open-end funds’ liquidity management practices. Together, the proposed amendments *may* mitigate liquidity externalities in the open-end fund sector by improving the ability of funds to meet redemptions without imposing significant trading costs on investors. This, in turn, *may* reduce the first-mover advantage associated with the dilution from trading costs and curtail run risk in open-end funds, which is consistent with recent analyses discussing how more robust liquidity management *may* mitigate this risk. The proposed amendments *may* also reduce the likelihood or the extent of future government interventions.” Proposal at 77235-36. (Emphasis added.)

⁴⁴ Proposal at n.40.

⁴⁵ The example assumes that “liquidating any portion of the portfolio to meet redemptions incurs a haircut of 10%. ... The haircut assumption in these stylized examples is used purely for illustrative purposes; haircuts on most assets held by open-end funds generally tend to be smaller.” Proposal at n.385. Incidentally, this 10% haircut is *ten times* what the SEC regards as a “significant” value impact, based on its proposed definition. Using these “smaller” and more accurate haircuts would have resulted in a far more realistic hypothetical.

and was swamped by the magnitude of market volatility at the time (See Appendix A, Figure 2.4).

Transaction costs are part of investing generally, whether in an individual account or a pooled investment vehicle such as a fund. Exiting *any* investment generates transaction costs. In a pooled vehicle, transaction costs are mutualized, as are the shared benefits of greater diversification, economies of scale, professional portfolio management, and more efficient portfolio trading—these are all part of the bargain.

Section 2.2.2 The Proposal’s Discussion of Costs Associated with the Proposed Liquidity Amendments

The proposal’s assessment of potential costs is no more concrete than its assessment of potential benefits, and even its qualitative commentary is incomplete. One of the key reasons for this is its assessment of the proposed bucketing changes in isolation. The changes must be assessed collectively—as they would be experienced by funds and other stakeholders. When they are, a more distressing picture emerges. For instance, the proposal states that it “would disproportionately affect open-end funds that hold less liquid investments” and then discusses bank loans.⁴⁶ And in discussing the proposed 10% size assumption, it states that the change could result in rebalancing of portfolios to comply with the HLIM and the 15% illiquid investments limit, which in turn could mean holding less risky investments with lower returns.⁴⁷

But these observations only scratch the surface. The proposal would not just seriously disrupt bank loan funds and the bank loan market. Based on how they currently invest, certain larger and other funds would be unable to simultaneously comply with (i) the amended bucketing requirements, *and* (ii) the 15% illiquid limit. The economic analysis fails to identify this as a possibility, much less explore what a fund would be expected to do in such a case. Funds’ resolution of these conflicting provisions would in turn generate additional direct and indirect costs, as funds would be forced to change their portfolios and investment strategies, or (more dramatically) close to new investors, liquidate, or reorganize. Nor does the economic analysis attempt to grapple with what this might mean for certain markets and their issuers (e.g., small-cap companies and municipalities). We elaborate on these points in this Section 2.

While we support some of these proposed changes and offer alternatives in several areas, the proposed changes go beyond the primary statutory purpose of Section 22(e).⁴⁸ Certain of the

⁴⁶ Proposal at 77244.

⁴⁷ Proposal at 77251.

⁴⁸ An agency’s rationale for a proposed rule must correspond to the purposes of the statute for which the rule is enacted. *See, e.g., Judulang v. Holder*, 565 US 42, 54 (2011). If an agency’s explanation does not align with the relevant statutory purposes and considerations, then its rulemaking is arbitrary and capricious. *Id.*

changes would increase ongoing compliance costs for all funds (e.g., requiring daily classifications), which investors ultimately would bear. Other changes would prevent larger funds and funds with certain other characteristics (e.g., a greater degree of concentration) from fully pursuing their investment strategies, unnecessarily limit the types of strategies that may be offered within mutual funds and ETFs, and affect certain underlying markets and issuers. The economic analysis's treatment of these matters is cursory at best.

Careful economic analysis must anchor and guide the SEC. The profound disconnect between the proposal's circumspect, constrained, and at times ambivalent⁴⁹ economic analysis and its far-reaching proposed requirements is deeply problematic. The SEC's economic uncertainty as to the proposal's effect on markets, investors, and funds strongly supports the need for more analysis before considering any policy actions.

Section 2.3 Overall Assessment of the Proposed Bucketing Changes

We are disappointed that the SEC's outsized reliance on bucketing—evident in the 2015 proposal and the 2016 rule adoption—continues in this proposal. We strongly oppose the package of proposed changes to the rule's bucketing requirements. Collectively, they would distort funds' liquidity risk profiles. More alarmingly, some existing funds would no longer be able to satisfy the rule's requirements and would need to liquidate or otherwise restructure, despite operating for decades without experiencing liquidity concerns.

Overall, the proposed bucketing changes require applying uniform standards across the large and diverse fund universe, resulting in an ill-fitting and damaging bucketing regime. We have heard repeatedly from members expert in liquidity risk management that they regard the bucketing requirements as a costly compliance exercise with little risk management value. These proposed changes would further reduce the value of this exercise, increase its costs, and harm investment strategies and portfolio management generally.

While the current rule is flawed, importantly, it has not significantly impaired portfolio management or adversely affected securities markets generally. If adopted as proposed, the amended rule would do both.

In Appendix A, we provide examples of equity funds that hold highly liquid US stocks that will become unviable under the proposed bucketing changes, unless the funds make substantial changes to their investment strategies or cap their sizes. For example, one US large cap fund—which currently has nearly all its US stocks classified as highly liquid—would have had 19%, on average, categorized as illiquid under the proposal. This fund would have breached the 15%

⁴⁹ “On the one hand, requiring daily liquidity classification could help ensure efficient implementation of funds' liquidity management programs and enhance their investor protection benefits. ... On the other hand, funds may experience a one-time set-up cost and increased ongoing costs as a result of this amendment.” Proposal at 77256.

illiquid limit on two-thirds of the days in the past three years (See Appendix A, Figure 3.4). We also find that the sole reliance on trading volume for purposes of value impact for exchange-traded investments leads to counterintuitive results—equity funds become *more* liquid in stressed periods (See Appendix A, Figure 3.6).

Our analytical work on bond funds is ongoing. Preliminarily, we believe that the proposed bucketing changes could significantly impair the ability of some open-end bond funds (e.g., high-yield bond funds, certain types of municipal bond funds, and emerging markets bond funds) to fully pursue their investment strategies while still complying with the 15% illiquid investments limit.

The current rule contemplates breaches of the 15% illiquid limit being temporary exceptions rather than the norm. The rule precludes a fund from acquiring an illiquid investment if doing so would cause the fund to breach this 15% limit. A fund that breaches this limit must promptly report the breach to its board and the SEC. The report to the board must include an explanation of the extent and causes of the occurrence, and how the fund plans to bring its illiquid investments below the 15% threshold of its net assets “within a reasonable period of time.” In other words, funds do not have *carte blanche* to remain permanently in breach of this limit.⁵⁰

But as the analysis above indicates, under the proposal, these breaches would incur in ordinary market conditions in highly liquid funds that many investors use to meet their financial goals. Aside from triggering frequent reports to fund boards⁵¹ and the SEC with no informational value, these funds would be precluded from purchasing investments that have been deemed “illiquid” under the flawed bucketing regime. To bring their illiquid investments percentages back below 15%, these funds would have to sell investments that may in fact be highly liquid and either hold the proceeds in cash or buy other investments that the SEC-mandated bucketing methodology deems highly or moderately liquid for the fund. This could lead to a dampening of investment returns, making it less useful to investors seeking a particular risk/return profile.

The proposal gives no indication what a fund should do if it cannot comply with the 15% limit simply because of its size. Indeed, it gives no indication of having considered the possibility. The necessary steps to remedy this breach described above would frustrate advisers’ ability to manage funds in accordance with their investment objective and strategies. It would increase tracking error for index funds. It would require active funds to replace higher-conviction investments with other less desirable investments. These forced reallocations also could cause

⁵⁰ These requirements also apply to In-Kind ETFs.

⁵¹ The rule also requires ongoing reporting to the fund board: “If the amount of the fund's or In-Kind ETF's illiquid investments that are assets is still above 15% of its net assets 30 days from the occurrence (and at each consecutive 30 day period thereafter), the fund or In-Kind ETF's board of directors, including a majority of directors who are not interested persons of the fund or In-Kind ETF, must assess whether the plan presented to it ... continues to be in the best interest of the fund or In-Kind ETF.” Rule 22e-4(b)(1)(iv)(B).

funds to breach their investment policies and the requirements of the fund names rule (Rule 35d-1) compliance with which would become more difficult under the SEC's 2022 proposal.⁵² It is hard to reconcile this result with a Commission so intent on making sure a fund's "label" matches its holdings.⁵³

While these larger funds could reorganize into a several smaller "clone" funds, this likely would result in significant tax liability to investors that are moved into the new funds. Unlike other corporations, regulated investment companies are not permitted under current law to split off shareholders into new funds on a tax-free basis. Investors that exchange shares in an old fund for shares in a new fund would owe tax on any gains on the old shares at the time of the restructuring, even if the underlying portfolios remain exactly the same. It thus would be a pointless and costly transaction, undertaken only to ensure continued compliance with the new and arbitrary bucketing requirements. Investors would not benefit from the one-time costs of reorganizing or ongoing costs that could result from losing economies of scale.

For funds that are investment options in retirement plans, a reorganization would result in logistical challenges for plan recordkeepers and cause confusion for plan participants and beneficiaries. For example, the recordkeeper for a plan would need time to add a new clone fund or funds to the platform and determine how to allocate participant account balances amongst the original fund and clone funds (while ensuring compliance with advance notice requirements under ERISA and any other ERISA fiduciary obligations implicated by such a reallocation). In addition, the reorganization likely would interfere with certain scheduled plan transactions, such as regular contributions to the plan each payroll period (some of which must be allocated to the fund at issue pursuant to participant investment directions), and automatic rebalancing transactions where a participant's investment allocation is rebalanced among selected plan investment options at certain pre-determined intervals. Completion of these transactions could be delayed as recordkeepers make the necessary systems changes to accommodate a capped fund and/or the addition of a new clone fund, potentially resulting in participants missing out on investment gains. Not to mention that the presence of multiple versions of the same fund within a plan inevitably will confuse participants and could impact their investment decisions.

These significant rule-driven reallocations and reorganizations would not affect only funds and their investors. Costs and adverse impacts also could be felt by other entities as well. While the current bucketing provisions are not as flexible as we would like, the areas where they provide discretion (e.g., value impact) promote and leave room for some diversity, and continued evolution, of practice. Greater prescription would mean increased likelihood of herding and

⁵² *Investment Company Names*, SEC Release No. IC-34593, 87 Fed. Reg. 36594 (June 17, 2022) ("Fund Names Rule Proposal"), available at <https://www.govinfo.gov/content/pkg/FR-2022-06-17/pdf/2022-11742.pdf>.

⁵³ See, e.g., *Prepared Remarks Before the Asset Management Advisory Committee*, SEC Chair Gary Gensler (July 7, 2021), available at <https://www.sec.gov/news/speech/gensler-amac-2021-07-07>.

correlation. If certain asset classes become per se illiquid for open-end funds (or illiquid for certain larger funds), then funds' collective demand for them will decline. This ultimately could adversely affect the issuers of these securities, another potential effect of the proposal that its economic analysis does not consider.

Section 2.4 Specific Comments on Proposed Bucketing Changes

We analyze each proposed bucketing change below.

Section 2.4.1 Proposed Change to the Size Assumption

Currently, the rule requires a fund to classify investments based on "sizes that the fund would reasonably anticipate trading" (i.e., RATS). The proposal instead would require a fund to assume the sale of 10% of each portfolio investment, on the theory that this is more representative of a "stressed" trade size.

We strongly object to this proposed change. We question the basis for requiring a stressed trade size at all times, particularly as the SEC would define it. The SEC arrives at this 10% figure via two extremely dubious steps. First, it relies on weekly outflow figures. Basing size on weekly flows would be credible *only if the time interval is kept consistent throughout the calculation methodology*, which the proposal does not do. If the SEC believes that a weekly outflow figure best approximates a stressed trading size, then a fund should have five trading days to meet five days of outflows, not one. Or, any volume-based value impact standard must also capture a *week* of aggregate trading activity, not a day (e.g., for exchange-traded investments, this would mean using a *weekly* trading volume test).

In fact, funds' daily flow figures are much smaller than the weekly numbers the SEC uses, as the SEC's own data make clear.⁵⁴

In Appendix A, we show that the process the SEC applied to land on the proposed daily 10% trade size requirement is flawed. We identified numerous data concerns for which the SEC's analysis does not control and which could materially impact its analysis. We also show that proposed 10% daily trade size requirement is empirically and statistically unrealistic. The proposal converts a rare weekly event (6.6% weekly outflow) into a very rare weekly event (10% weekly outflow). The proposal then converts *that* into an *extremely* rare *daily* event (10% daily outflow) for any fund, and would mandate that *all* funds classify their investments using that extremely rare event on *all* days. The SEC claims that these are "moderate" adjustments. They are not (See, Appendix A, Figure 3.2).

⁵⁴ See proposal at 77245.

The SEC’s intent—to “better emulate the potential effects of stress on the fund’s portfolio, similar to an ongoing stress test”⁵⁵—does not provide license to use of *any* extreme figure or approach. Even assuming appropriateness of this intent, it is also vitally important that stressed scenarios be *plausible*,⁵⁶ which a 10% size assumption for all funds most certainly is not.

We strongly object to the notion that *any* single stressed selling number could be appropriate for all funds. As IOSCO has stated, “Given the diversity of the [fund] universe, stress testing arrangements...should be appropriate for the size, investment strategy, underlying assets and investor profile of the [fund], taking into account other relevant market and regulatory factors.”⁵⁷ This key input must remain a fund-specific determination. For the vast majority of funds, a fund’s daily stressed trade size assumption would be well below 10%. We also would note that there is not a perfect correlation between outflows and sales of portfolio investments, as this proposed amendment appears to assume.⁵⁸

Some commenters may suggest a lower single number as “acceptable.” This too would be a mistake. These commenters are likely to pick this lower alternative based on what works for them (and not necessarily open-end funds broadly today. But even, say, a number such as 2% will not necessarily work for all funds, especially as some continue to grow. Therefore, the rule should not include numbers or assumptions that funds literally can outgrow.

Rather than mandating a single arbitrary figure for all funds, we recommend that the SEC provide guidance. While there is no single right number for all funds, there are certainly sound approaches. We have no objection to requiring funds to consider stress in determining their RATS for bucketing purposes—we read the current rule and related guidance as requiring such.⁵⁹ The SEC could provide more specific guidance regarding *how* funds should consider *their own*

⁵⁵ Proposal at 77183.

⁵⁶ See, e.g., IOSCO Recommendations at 7 (“The investment strategy and objectives should be designed to give strong assurance that redemptions can be met in both normal and reasonably foreseeable (i.e. extreme but *plausible*) stressed market conditions.”) (emphasis added); and *Open-ended Fund Liquidity and Risk Management – Good Practices and Issues for Consideration*, IOSCO (February 2018) at 48 (explaining that stress testing results could be used “to formulate action and contingency plans to deal with *plausible* stressed market conditions”) (emphasis added), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD591.pdf>.

⁵⁷ IOSCO Recommendations at 17.

⁵⁸ For instance, funds can meet redemptions through receipt of income (e.g., interest and dividends from portfolio investments, which for fixed-income funds can be regular and sizable), share purchases, and in-kind redemptions. Highly liquid investments and short-term forms of borrowing also can be used to meet redemptions, which provides flexibility to sell portfolio investments at more opportune times.

⁵⁹ See 2016 Adopting Release at 82182 (“Depending on the liquidity risk factors that a fund must consider under rule 22e-4(b)(1)(i), as well as other factors including the fund’s size, a fund could reasonably anticipate selling various portions of its position in a particular portfolio investment, or various dollar amounts or block sizes of a particular portfolio investment.”). Rule 22e-4(b)(1)(i)(B) in turn requires consideration of “[s]hort-term and long-term cash flow projections during both normal and reasonably foreseeable stressed conditions.”

stressed flows. Guidance of this nature could emphasize the importance of considering stress and cause funds to use more consistent approaches, while still generating appropriate inputs and outputs for each fund.

Section 2.4.2 Proposed Change to the Day Counting Requirement

The proposal states, “Currently, the rule does not directly specify when to begin counting the number of days an investment would be convertible to US dollars, and funds have inconsistent practices as to when they begin this measurement.”⁶⁰ The proposal would amend the bucketing provisions by requiring a fund to “include the day on which the liquidity classification is made in that measurement.”⁶¹ For example, “in order for a fund to classify an investment as highly liquid on Monday, it would need to reasonably expect that the investment could be sold and settled to US dollars by Wednesday at the latest.”⁶²

We strongly oppose this proposed change. A “directly specified” day counting approach is unnecessary—the current rule text is sufficiently clear. For instance, the current rule requires that a highly liquid investment be convertible to cash “in three business days.” A plain reading of this rule text indicates that if a fund is classifying an investment on Monday and it believes it can sell and cash settle the requisite size of that investment by Thursday (e.g., if it is a “T+3” asset that it sells on Monday), it would be a highly liquid investment.

The 2015 proposing release and the 2016 adopting release strongly support this interpretation. When establishing certain of the rule’s day-related thresholds (e.g., the proposal’s “three-day liquid asset”), the SEC clearly had in mind not just Section 22(e) of the Investment Company Act, but also Rule 15c6-1 under the Exchange Act, which at the time “establishe[d] a three-day (T+3) settlement period for security trades effected by a broker or a dealer.”⁶³ The 2015 proposal also stated that a fund “could decide it is appropriate to hold equity, debt, derivatives or asset-backed securities as the majority of its three-day liquid asset minimum holdings.”⁶⁴ At the time, these investments were largely T+3 investments.

The Commission made no changes in this regard in the final rule or adopting release. The 2016 Adopting Release stated, “we believe we have appropriately defined ‘highly liquid investments’ under rule 22e-4 notwithstanding initiatives to shorten the standard settlement cycle for most broker-dealer transactions from T+3 to T+2.”⁶⁵ Thus, the SEC very much had the day-counting

⁶⁰ Proposal at 77192.

⁶¹ Proposal at 77290.

⁶² Proposal at 77193.

⁶³ 2015 Proposal at 62277.

⁶⁴ 2015 Proposal at 62314.

⁶⁵ 2016 Adopting Release at 82175.

convention of Rule 15c6-1 in mind when proposing and adopting the liquidity rule, and the Exchange Act rule's express day thresholds were not incorporated into the liquidity rule. A shortening of settlement times in Rule 15c6-1 to T+2 (or T+1, for that matter) has not had, and should continue not to have, any effect on the liquidity rule.

Under the SEC's proposed day counting requirement, the SEC would be shaving a day off the highly liquid category (its threshold would become 2 business days) and the illiquid category (its threshold would become 6 calendar days). Doing so would impede funds' ability to comply with the 15% illiquid investment limit and their HLIMs and would not fairly represent fund liquidity. Combined with the other proposed bucketing changes, the impact on funds' aggregate bucketing output would be significant. We therefore urge that the SEC leave the rule text unchanged.

Section 2.4.3 Proposed Change to the Value Impact Assumption

Currently, the rule's bucketing scheme requires a fund to consider "value impact," i.e., whether a sale would "significantly chang[e] the market value of the investment."⁶⁶ However, the rule and related guidance do not define this term, affording funds with discretion to determine appropriate value impact assumptions. By contrast, the proposal would specifically define "significantly changing the market value of an investment" to mean:

- For exchange-listed shares, "any sale or disposition of more than 20% of the average daily trading volume of those shares, as measured over the preceding 20 business days."⁶⁷
- "For any other investment, any sale or disposition that the fund reasonably expects would result in a decrease in sale price of more than 1%."⁶⁸

We strongly oppose this proposed change and believe that the rule and related guidance in their current forms remain appropriate. Defining this term in this way would be overly rigid; fail to account for the wide range of investments and their differing trading characteristics; and produce anomalous results. Instead, funds must have the ability to calibrate the appropriate value impact standards, as they do now.

Beginning with the proposed requirement for exchange-traded investments, average daily trading volume (ADTV) measures may be used by funds, but application of fixed numbers (e.g., 20% and a 20-day period) for all applicable investments in all circumstances is not. Such a rigid requirement would produce false positives and false negatives.

⁶⁶ See the rule's "highly liquid investment," "moderately liquid investment," "less liquid investment," and "illiquid investment" definitions.

⁶⁷ The proposal would permit a stricter limitation (e.g., 15%). See proposal at n.89.

⁶⁸ See the proposed definition of "significantly changing the market value of an investment."

For instance, trading in some markets and countries has a seasonal rhythm. In the United States, trading on exchanges slows down in August and December. However, liquidity is not impaired in those months. Yet under this requirement, funds' bucketing output would look less liquid at the end of those months and for some time thereafter. Also, in the case of an extended foreign market holiday (e.g., "Golden Week" in Japan), the liquidity of investments would continue to look impaired well after the market had re-opened and trading fully resumed. A relatively short 20-day window would therefore introduce considerable "noise"—false positives—especially in ordinary (low volume) market conditions. In some circumstances, longer windows may be more appropriate to eliminate this noise; in other circumstances, using much *shorter* windows may be more appropriate, particularly in connection with sudden changes in market liquidity (e.g., March 2020).

Also, funds at times sell investments in volumes exceeding 20% of their ADTVs with little additional cost—sometimes just a few basis points. Such an impact is hardly "significant."

This ADTV standard also would produce false negatives. Reliance on a "volume only" metric can mask liquidity stress. In its recent assessment of the proposal, liquidity classification vendor MSCI "found that the new, volume-based approach would have shown improving liquidity during the COVID-19 outbreak of March 2020, as traded volumes increased in that period. Conversely, the current, price-impact approach would have captured the worsening market liquidity. This underscores that a classification methodology relying solely on traded volumes may not reflect the whole picture, especially in volatile markets."⁶⁹

We also are concerned with the "1% decrease" standard for all other assets. Value impact is relative. The number that is considered a "significant" price concession to complete a trade in the Treasury market is very different from the number that is considered "significant" in the high yield bond market—the instruments and markets are too different to accommodate a single number in all circumstances.

An absolute bright line standard of this kind across millions of investments is completely unreasonable and inappropriate, particularly when the number chosen (1%) is so low, and in many contexts, clearly not "significant." Market factors can lead to daily price changes of greater magnitude for many investments to which this standard would apply. As a price for immediacy, a 1% haircut could be quite low, depending on the investment type, its return profile, and overall market conditions.

⁶⁹ *What Would the SEC's Liquidity Proposal Mean for Equity Funds?*, MSCI, January 27, 2023, available at <https://www.msci.com/www/blog-posts/what-would-the-sec-s-liquidity/03618554751>. MSCI's analysis also found that the "10% stressed trade size may be too high for large equity funds, resulting in many funds exceeding the regulatory limit on illiquid assets."

Value impact also is subjective and difficult (if not impossible) to calculate with precision. As the SEC stated in the 2016 Adopting Release, “We recognize that it may be difficult to calculate the particular market impact that a fund’s transactions in an investment will have on that investment’s price... .”⁷⁰ Value impact is typically considered a component of cost, but it is not easily teased out and measured as such, particularly for instruments (e.g., certain bonds) that might not trade frequently.

We believe that currently, some vendors are using a total cost approach for purposes of classifying investments. This is a conservative (i.e., total costs are greater than value impact alone) and appropriate approach that the current rule rightly accommodates. But under the proposed 1% standard, a total cost approach would result in some asset classes being *per se* illiquid, particularly in times of stress. Further, it is not possible for a single value impact standard to be accurately and objectively determined and work well across all non-exchange traded instruments.

Finally, we would note that the value impact standard is implied with the 20% ADTV standard, yet would require an explicit measurement under the 1% standard. If they deem it appropriate, funds should have the discretion to use volume-based value impact standards for any asset class. Given the difficulty in measuring value impact, using volume-based standards could be appropriate. In fact, flexibility of this kind is especially important for OTC investments (e.g., bonds).

Some funds may use the proposed standards for some investments some of the time. In the Liquidity FAQs, the SEC staff states that it is “appropriate for a fund to make certain simplifying assumptions.” This is certainly true with respect to assessing value impact. Allowing funds the discretion to make reasonable simplifying assumptions differs significantly from the SEC requiring funds to apply two “simple” assumptions across all investment types in all circumstances. Doing so will not yield rational output. In 2016, the SEC recognized the importance of discretion in this area, and the SEC staff underscored its importance in 2018:

The staff recognizes that these price impact assumptions are subjective, due to the variety of inputs that may reasonably be used by any fund or portfolio manager. Accordingly, the staff believes that what constitutes a significant change in market value may vary by fund, asset class, or investment. Therefore, the staff believes that a fund does not need to employ as a price impact assumption a fixed amount or percentage, and a fund may have differing standards for different investments

⁷⁰ 2016 Adopting Release at 82159.

and/or asset classes, although a fund may also choose to use a fixed number if reasonably determined.⁷¹

Section 2.4.4 Proposed Elimination of Asset Class Classification

Currently, a fund may classify its investments according to their asset classes, subject to certain exceptions.⁷² The proposal would eliminate this permissible means of bucketing. The SEC believes that this classification method is not widely used, and that it is more likely to overestimate the liquidity of an investment.

We strongly oppose this proposed change and believe that the rule and related guidance in their current forms remain appropriate. The SEC has provided no reasoned basis for why a fund should not be permitted to use asset class classification, nor addressed the risks of eliminating this method. Asset class classification is often useful, even for funds that use vendors. Vendors do not maintain coverage of all investments, including newly-issued securities,⁷³ commercial paper, and certain derivatives, so this can complement vendor offerings.⁷⁴

Asset class classification can be useful in stressed market conditions and in response to significant events.⁷⁵ We discuss below how funds reclassified investments in March 2020 and Russian investments in early March 2022. Based on discussions with members, many used asset class classification to make prompt wholesale reclassifications of these investments in response to these events.

Incidentally, we would note that if those funds instead were mechanically using the proposed ADTV value impact standard, it would have taken longer for the investments' classifications to adjust. This is due to the backward-looking data that these methods require. Asset class

⁷¹ Liquidity FAQ 22.

⁷² A fund must separately classify and review any investment within an asset class if the fund or its adviser has information about any market, trading, or investment-specific considerations that are reasonably expected to significantly affect the liquidity characteristics of that investment as compared to the fund's other holdings within that asset class.

⁷³ Eliminating asset class classification and requiring daily bucketing would exacerbate this coverage gap for new issues. Without asset class classification, it could take weeks for funds to have any real means of classifying these investments.

⁷⁴ To the extent that eliminating asset class classification increases reliance on vendors, we would expect vendors to increase their coverage of investments and their fees.

⁷⁵ As examples of events that a fund could reasonably expect to materially affect an investment's classification, Liquidity FAQ 28 lists "a trading halt or delisting of a security, an issuer or counterparty default or bankruptcy, significant macro-economic developments (such as a sovereign default), or events like extraordinary natural disasters or political upheavals, for funds with concentrated geographic exposures." Sanctions would be another example.

classification allows funds to quickly update classifications and override models as appropriate. Often, these moves are made to *downgrade* liquidity classifications.

Nor has the SEC provided a reasoned basis for why a fund should not be permitted to use asset class classification when assigning investments to the illiquid bucket. This would be the most conservative approach and should not necessitate a bespoke analysis. Similarly, certain investments are always (or almost always) highly liquid (e.g., Treasury bills), and there should be no need for an analysis to confirm the obvious.

Importantly, the use of asset class classification is not limited to advisers that classify investments internally without the assistance of vendors, as the SEC appears to believe. In arguing for why asset class classification may no longer be necessary, the proposal states, “The burden to determine individual investment classifications may have decreased since the adoption of the rule for many funds as these funds became more familiar with and developed their liquidity risk management programs... or employed sophisticated liquidity classification vendors... .”⁷⁶ As with valuation, vendors are not relying solely on investment-specific information and trading data when assigning that investment to a liquidity bucket, particularly if the investment trades OTC. To a large degree, vendors are relying on broader pools of data for similar investments and extrapolating as appropriate to investments that might not trade frequently (e.g., on a daily basis). Whether this constitutes vendor use of “asset class classification” under the rule is unclear. However, we know that bucketing of OTC investments—whether done internally or by a vendor—generally requires some type of asset classification schema, to determine whether trading activity for one investment has any relevance for another.

We also disagree with the notion that asset class classification is inconsistent with other aspects of bucketing (e.g., the size assumption and application of a value impact standard). Liquidity FAQ 19 explains how size, asset class classification, and value impact could interact.⁷⁷ Basically, RATS of investments belonging to the same asset class could be aggregated, and the given value impact standard would be applied to that aggregate size number. All investments then would receive the same classification, based on this aggregated analysis. This is not very different from how vendors classify many OTC investments today.

Proposed changes of this nature clearly highlight the dangers to investors of prescription and prohibition in liquidity risk management in general and asset classification in particular. The

⁷⁶ Proposal at 77189.

⁷⁷ “For example, if a fund has identified ‘Asset Class X’ as appropriately grouped together, then for purposes of this analysis, the staff believes that the fund could arrive at reasonably anticipated trading sizes for all of its ‘Asset Class X’ investments, and use those reasonably anticipated trading sizes in classifying all of its ‘Asset Class X’ investments.”

SEC should continue to allow asset class classification, by both vendors and fund complexes. There is simply no practical alternative for certain investments, such as those with limited trading data.

Section 2.4.5 Proposed Elimination of the “Less Liquid” Bucket and Changes to the “Illiquid Investment” and “Highly Liquid” Definitions

The proposal would eliminate one of the four existing buckets (the “less liquid” bucket)⁷⁸ and change the definitions for the remaining three as follows:

- An “illiquid investment” would mean “any investment that the fund reasonably expects *not to be convertible to US dollars* in current market conditions in seven calendar days or less without significantly changing the market value of the investment... . Any investment whose fair value is measured using an unobservable input that is significant to the overall measurement is an illiquid investment;”⁷⁹ (emphasis added)
- A “moderately liquid investment” would mean “any investment that is neither a highly liquid investment nor an illiquid investment”; and
- A “highly liquid investment” would mean “any US dollars held by a fund and any investment that the fund reasonably expects to be convertible to US dollars in current market conditions in three business days or less without significantly changing the market value of the investment... .”⁸⁰

We strongly oppose the proposed changes to the “illiquid investments” definition and the removal of the “less liquid” bucket. Currently, illiquid investments include only those that cannot be “sold or disposed of” (as opposed to settled in US dollars) in seven calendar days or less. The “less liquid” category includes longer-settling investments (i.e., those that can be sold within seven calendar days, but not necessarily cash settled within that period), but it also may include other shorter-settling investments for which a fund may need multiple days to sell the requisite size without a significant price impact (e.g., if a fund estimates that it would need 5 trading days to sell the requisite size of a T+2 investment, that investment currently would be “less liquid”).

⁷⁸ Under the current rule, “less liquid investment” is defined as “any investment that the fund reasonably expects to be able to sell or dispose of in current market conditions in seven calendar days or less without the sale or disposition significantly changing the market value of the investment, ... but where the sale or disposition is reasonably expected to settle in more than seven calendar days.”

⁷⁹ The last sentence of this definition would require funds to classify as “illiquid” those investments that are classified as “level 3” under the US GAAP fair value hierarchy.

⁸⁰ The rule also would define “convertible to US dollars” to mean “the ability to be sold or disposed of, with the sale or disposition settled in US dollars.”

The most obvious consequence of the removal of the less liquid bucket and expansion of the illiquid bucket would be that longer-settling investments—most bank loans, certain foreign investments (including those with settlement times that may extend temporarily (e.g., due to holidays), certain debt securities, and securities with seven-day demand features—would become *per se* illiquid.

The proposal provides no evidence supporting its effective elimination of funds investing predominantly in these investments, or causing them to significantly change their operations. As mentioned above, few funds have suspended redemptions over 80 years. The current less liquid bucket appropriately recognizes the important distinction between the ability to sell and the ability to cash settle. If an investment can be sold relatively quickly (i.e., within 7 days) but requires additional time for cash settlement, funds have reliable and cost-effective tools to bridge these potential settlement gaps. The liquidity risk profiles of these investments are fundamentally different from those that cannot be sold within 7 days—there, a fund's options are more limited.

The consequences of these changes extend well beyond bank loans and other longer-settling investments. When these changes are combined with the SEC's proposed day counting change described above, the following would result:

- With respect to the illiquid bucket, a T+5 investment always would be illiquid (when factoring in weekend days), no matter how quickly a fund could contract to sell it. A T+4 investment would become illiquid simply due to the occurrence of a three-day weekend (e.g., Memorial Day weekend). A fund would have only three trading days to sell the requisite amount of a T+2 asset (or two, around the time of a three-day weekend) without it becoming illiquid.⁸¹
- With respect to the highly liquid bucket, a T+3 investment *never* could qualify as highly liquid. Many international securities settle in three days or more, rendering them, at best, moderately liquid. A T+2 investment would qualify only if the fund could fully dispose of the requisite amount on the day of the classification.

These collective changes would lead to a significant shift of investments into the illiquid bucket, which in turn would increase breaches of the 15% illiquid limit (for larger funds in particular).

We also oppose treating all investments classified as Level 3 under Accounting Standards Codification Topic 820, Fair Value Measurement (ASC Topic 820) for US Generally Accepted

⁸¹ For instance, if a fund classifies its investments on Monday, it could sell portions of a T+2 investment on Monday (day 1), Tuesday (day 2), and Wednesday (day 3) and still safely cash settle by Friday (day 5). If, however, the fund needed a fourth day to fully exit the 10% position (Thursday, day 4), the sale would not cash settle until Monday (day 8), making it illiquid.

Accounting Principles (GAAP) purposes as illiquid under the liquidity rule.⁸² There may be considerable overlap between the two categories, but observability of pricing inputs is a fundamentally different concept than liquidity. Examples of Level 3 investments that can be promptly disposed of include insurance funding agreements, certain structured credit instruments, certain new issues that (temporarily) lack vendor pricing, and securities that may temporarily be fair valued due to lack a vendor price for a variety of reasons (e.g., market closures due to weather or natural disasters, or related to exchange rules that require trading on a security to be halted due to business announcement or capital raising). For instance, the suggested modification related to fair valued securities may lead to substantial increases in illiquid investments during routine market closures that have little to do with liquidity. Classifying Level 3 securities as “illiquid” inaccurately equates the two distinct ideas of fair valuation and liquidity.

Moreover, the SEC’s data does not suggest that funds are overstating the liquidity of Level 3 investments—nearly two thirds of these investments (in dollars) are being classified as illiquid.⁸³ It is ironic that the SEC proposes to eliminate asset class classification because of its lack of granularity, while here attempting to impose a blunt and overly simplistic provision that would prevent funds from making appropriate and reasonable distinctions.

We also oppose the proposed change to the “highly liquid investment” definition (i.e., changing the reference from “cash” to “US dollars”). This would result in many non-dollar denominated international investments no longer qualifying as “highly liquid,” notwithstanding funds’ ability to easily sell them. The proposal does not address this fact. This change, combined with the 10% minimum HLIM, could impair or reduce funds’ ability to maintain the investment exposures supporting their investment objectives and policies. For instance, certain international investments take slightly longer to settle in US dollars (e.g., certain emerging markets securities). To the extent that it takes funds time to convert sales proceeds to US dollars, they have mechanisms to bridge this settlement gap (e.g., lines of credit and dollar-denominated investments).

⁸² When pricing an asset or liability, market participants use data and assumptions as inputs. Inputs form the basis of the US GAAP fair value hierarchy, which is used to categorize the fair value measurement for a portfolio investment into one of three levels. Level 3 inputs are unobservable inputs for the asset. Unobservable inputs are used to measure fair value when relevant observable inputs are not available, thereby enabling fair valuation in situations in which there is little, if any, market activity for the asset at the measurement date.

⁸³ See proposal at 77244 (“We estimate that, as of December 2021, 2,006 open-end funds reported \$76.5 billion in investments that were valued using unobservable inputs that are significant to the overall measurement, which is approximately 0.27% of all open-end fund assets. Among these, ...\$49.8 billion were classified into the illiquid category.”).

Section 2.4.6 Proposed Change to the Frequency of Bucketing

Currently, a fund must classify its investments at least monthly “and more frequently if changes in relevant market, trading, and investment-specific considerations are reasonably expected to materially affect one or more of its investments’ classifications.”⁸⁴ Liquidity FAQ 28 provides additional guidance regarding intra-month classifications.⁸⁵ The proposal instead would require a fund to classify each investment daily.

We strongly object to this proposed change and believe that the rule and related guidance in their current forms remain appropriate. Increasing the required frequency of the bucketing exercise would provide little or no benefit to funds and add substantial additional costs and burdens. We recommend that the SEC instead focus on daily compliance monitoring, which we strongly support to ensure compliance with the 15% illiquid limit and the HLIM. Funds conduct daily compliance testing but do not necessarily reclassify their investments each day. The Liquidity FAQs endorse this key distinction.⁸⁶

In support of this change, the proposal states:

[m]ost funds did not report reclassifications of their portfolio investments despite extraordinary liquidity constraints in March 2020. Based on the liquidity classification practices we observed in March 2020 and on filings covering this period, we are concerned that some funds effectively are equipped to classify their investments primarily on a monthly basis to meet reporting requirements and are not prepared to review classifications intra-month.⁸⁷

But comparing February and March 2020 N-PORT data does not capture intra-month classification or give any sense of funds’ daily compliance monitoring activity. The SEC relied on month-end N-PORT snapshots, which, by definition, would not capture offsetting

⁸⁴ Rule 22e-4(b)(1)(ii).

⁸⁵ “The staff does not believe that this intra-month review requirement creates a de facto ongoing review requirement for classification. The staff would not object if a fund complies with this intra-month review obligation by identifying in its policies and procedures events that it reasonably expects would materially affect an investment’s classification. The staff would not object if reasonable policies and procedures limits such events to those that are objectively determinable (e.g., a trading halt or delisting of a security, an issuer or counterparty default or bankruptcy, significant macro-economic developments (such as a sovereign default), or events like extraordinary natural disasters or political upheavals, for funds with concentrated geographic exposures).”

⁸⁶ “[T]he staff believes that regular monitoring [of the 15% illiquid limit and the HLIM] is essential to compliance with the rule. ... The staff notes that monitoring for compliance with these limits does not require a fund to reclassify its existing investments on a daily basis, because the fund may use the classifications that it last verified and determined as part of this monitoring process (generally the last reported classification on Form N-PORT).” Liquidity FAQ 24.

⁸⁷ Proposal at 77194.

reclassifications (e.g., reclassifying investments into less liquid buckets in mid-March and then returning those investments to more liquid buckets at or prior to month-end). Liquidity improved significantly from the middle of March to month-end, so these month-end comparisons are not instructive or supportive of the SEC's assertion.

Based on our discussions with members and member surveys, funds reclassify their investments intra-month when circumstances warrant. Russia's invasion of Ukraine provides a valuable case study.

In early March 2022, we surveyed members on their funds' exposure to Russian investments as of March 2 and asked liquidity-related questions.⁸⁸ As of that date, we asked how respondents were classifying Russian investments that trade (i) locally in Russian markets, and (ii) outside of Russia (e.g., ADRs or GDRs that trade on the London or US exchanges). 82% and 62% of respondents chose "mostly/all illiquid," respectively.

We then conducted a second survey and asked respondents to answer more liquidity-related questions as of March 9.⁸⁹ This time, we included more granular categories (i.e., local Russian equity securities, Russian ADRs and GDRs, Ruble-denominated Russian sovereign debt securities, USD- and EURO-denominated Russian sovereign debt securities, Ruble-denominated Russian corporate debt securities, and USD- and EURO-denominated Russian corporate debt securities). Across these six categories, 98, 98, 94, 85, 91, and 66% of respondents chose "mostly/all illiquid," respectively. Accordingly, when events necessitate intra-month classification reviews, funds did so and made changes promptly as appropriate.

In our July 2020 ICI Survey, we asked respondents what percentage of their funds re-classified at least one asset between February 29, 2020, and March 31, 2020 (i.e., between the ordinary month-end classifications). Nearly 75% of respondents indicated that they made changes within at least one fund, indicating that in times of stress, funds are reviewing and reclassifying investments as appropriate. Nor were funds simply accepting all model or third-party vendor output at face value—in total, nearly half of respondents indicated that the approximate frequency of overrides of model output during March 2020 was significantly (10%), moderately (14%), or slightly (23%) more frequent than usual. As noted above, in many cases funds effectuated these overrides through asset class classification. In fact, these survey results demonstrate the benefit of asset class classification as a tool for funds to use to produce adjusted outputs, in a timely manner, in response to sudden liquidity changes. Daily classification simply will not be a valid substitute because the SEC's prescribed value impact standards would take longer to produce adjusted outputs in response to sudden liquidity changes.

⁸⁸ Fifty member firms completed the survey, 45 of which had at least one fund that held Russian investments.

⁸⁹ Sixty-four member firms completed the survey, 55 of which had at least one fund that held Russian investments.

Some funds generate or receive classification information daily. However, these funds use the data in an “informational” or “provisional” way and are not necessarily reviewing every daily classification, particularly where there is no risk of a fund breaching the 15% illiquid limit or its HLIM, or it is not the last day of the month. If daily bucketing were to become a regulatory requirement, the related internal compliance obligations would increase.

And of course, daily data would come at a cost for those funds that do not currently receive it. This cost is especially hard to justify for smaller funds and funds with highly liquid portfolios (e.g., large cap equity funds), whose classifications rarely change on a *monthly* basis. We discuss these burdens on small funds in more detail in Section 2.7.1 below.

In sum, the proposal has not substantiated the need for this dramatic increase in bucketing activity. The current rule provision and related guidance on bucketing frequency should not be changed.⁹⁰

Section 2.4.7 Public Availability of Bucketing Information

Currently, funds’ reporting of liquidity classification information on Form N-PORT is nonpublic. The proposal instead would require a fund to report the aggregate percentages of its assets that fall into each of the three liquidity categories, which would be publicly available (investment-specific classifications would remain nonpublic). In explaining this departure from its 2018 liquidity disclosure amendments,⁹¹ the SEC states:

Our proposed amendments to the liquidity rule, along with the years of experience that funds have gained in complying with the current rule, also have made the concerns the Commission identified in 2018 [i.e., that bucketing information

⁹⁰ We also take exception to the proposal’s claim that the rule’s current bucketing scheme “presumed that a fund would use efficiencies such as asset class level classifications and monthly review of classifications only when market conditions or other factors did not indicate that a shift to a more granular or frequent classification is appropriate.” Proposal at 77189. The SEC appears to be suggesting that the burden is on funds to use asset class classification or bucket their investments only monthly. The rule text and Liquidity FAQs belie this notion. Rule 22e-4(b)(1)(ii)(A) states, “The fund may *generally* classify and review its portfolio investments (including the fund’s derivatives transactions) according to their asset class, provided, however,…” (emphasis added) With respect to frequency, Rule 22e-4(b)(1)(ii) states, “A fund must review its portfolio investments’ classifications, at least monthly …, and more frequently if changes in relevant market, trading, and investment-specific considerations are reasonably expected to materially affect one or more of its investments’ classifications.” Liquidity FAQ 28 states, “As discussed in section III. C. 5 of the Release, a fund generally is not required to reassess its investments’ liquidity classification on an intra-month basis.”

⁹¹ See *supra*, note 13. The SEC also recently adopted changes to Form N-1A that remove the requirement that a fund briefly discuss the operation and effectiveness of its liquidity risk management program in the shareholder report. See *Tailored Shareholder Reports for Mutual Funds and Exchange-Traded Funds; Fee Information in Investment Company Advertisements*, SEC Release Nos. 33-11125; 34-96158; IC-34731, 87 Fed. Reg. 72758 (Nov. 25, 2022) (“2022 Tailored Shareholder Reports Release”), available at <https://www.govinfo.gov/content/pkg/FR-2022-11-25/pdf/2022-23756.pdf>.

would be subjective, that it would be presented in isolation, and that it would lack the context of other disclosures about the fund] less relevant.⁹²

This assertion is not supported.

We strongly oppose this proposed change. We have consistently opposed public reporting of bucketing information, as articulated most fully in our 2018 comment letter.⁹³ As we stated in that letter, “Simply put, bucketing information is inappropriate as required public disclosure because funds will generate this information using complex and widely divergent methodologies, and such information by its nature is subjective, forward-looking, and hypothetical.” Furthermore, liquidity is multi-faceted, and any attempt to reduce liquidity risk to three aggregate numbers (one for each bucket) would be incomplete at best and seriously misleading at worst. This was well-understood by the SEC in 2018:

the subjectivity of the classification process when applied to this public disclosure concerns us for several specific reasons. First, the quantitative presentation of the aggregate liquidity information may imply precision and uniformity in a way that obscures its subjectivity. ...we believe the presentation of quantitative data may pose a significant risk of confusing and misleading investors. Second, we continue to share the concern expressed by many commenters that public dissemination of the aggregate classification information, without an accompanying full explanation to investors of the underlying subjectivity, model risk, methodological decisions, and assumptions that shape this information, may potentially be misleading to investors. ... Finally, we are concerned that disclosing funds’ aggregate liquidity profile may potentially create risks of coordinated investment behavior, if funds were to create more correlated portfolios by purchasing investments that they believed third parties, such as investors or regulators, may view as ‘more liquid.’⁹⁴

Nothing in this proposal allays these concerns—on the contrary, our concerns are substantially heightened. For all the reasons set forth above, the proposed bucketing scheme would be a significant step backward from the current requirements. This only deepens our concerns with requiring funds to publicly report the related output.

The SEC may believe that prescribing more bucketing inputs and assumptions will foster comparability and reduce subjectivity. It will not. The SEC is replacing elements of the bucketing process that necessarily require discretion (e.g., size and value impact) with fixed

⁹² Proposal at 77230.

⁹³ 2018 ICI Letter.

⁹⁴ See 2018 Liquidity Disclosure Release at 31861-31862.

metrics that are themselves arbitrary and subjective, which would produce confusing and inaccurate outputs. This is not an improvement, for the following additional reasons:

- *The SEC's prescribed requirements would make many funds look less liquid than they are.* The most prominent change in this regard would be the exaggerated 10% “stressed selling” assumption. Bucketing is already sensitive to size, and requiring a number that significantly overstates a fund’s reasonably foreseeable level of stress would distort the bucketing output. Most other proposed changes—changing the day counting requirement, redefining “highly liquid investment” and “illiquid investment;” eliminating the less liquid bucket—also work together to inappropriately push investments into less liquid buckets.
- While the bucketing assumptions would be more standardized, the outputs still would not permit accurate “apples-to-apples” comparisons. If there are two identical portfolios that differ only in size, the larger will look less liquid, irrespective of its overall liquidity. Also, as discussed above, market impact is highly imprecise, and the 1% value impact standard for non-exchange traded investments would involve funds and vendors applying differing underlying assumptions and inputs. Two identical fixed-income funds will not necessarily be classified the same way.
- *The bucketing changes would produce anomalous reporting results.* As discussed above, the use of a 20% ADTV standard would result in both false positives (e.g., deterioration in outputs by season) and false negatives (e.g., this factor could in certain cases lead to overstating portfolio liquidity).

Section 45(a) of the Investment Company Act states that the information in any reports shall be made public unless public disclosure is neither necessary nor appropriate in the public interest or for the protection of investors. Bucketing information clearly meets this standard, and we urge that the SEC not require public reporting of the output that such a deeply flawed methodology would produce for the public. This information frequently would be misleading and confusing for investors and others. Indeed, misleading disclosure itself could incentivize investors to redeem. Such public disclosure is neither necessary nor appropriate in the public interest, or for the protection of investors.

Section 2.5 Proposed Changes to the Highly Liquid Investment Minimum Requirements

Currently, a fund must determine a minimum percentage of its net assets to invest in highly liquid investments, based on the factors it uses to assess its liquidity risk. A fund must review its

HLIM at least annually. In-Kind ETFs and funds primarily holding highly liquid assets⁹⁵ are exempt from this requirement.

The proposal would require *all* funds (except for In-Kind ETFs) to “determine and maintain a highly liquid investment minimum that is equal to or higher than 10% of the fund’s net assets.” The exclusion for “primarily highly liquid funds” would be removed. The SEC believes that “a regulatory minimum of 10% for the highly liquid investment minimum would benefit investors by improving the ability of funds to meet shareholder redemptions in stressed scenarios.”⁹⁶

Provided the SEC leaves the existing bucketing requirements and related guidance in place, we support eliminating the “primarily highly liquid” exemption, which would have the effect of requiring all funds (still excluding In-Kind ETFs) to set and review HLIMs at least annually.⁹⁷ One of the salutary effects of the liquidity rule has been to increase funds’ focus on their investor flows as a key aspect of liquidity risk management. The HLIM is helpful in ensuring that funds will have sufficient liquidity to meet redemption requests, including in reasonably foreseeable stressed conditions.

However, we object to a minimum 10% HLIM for the same reason that we object to a 10% size assumption for bucketing—both are arbitrary numbers that in most cases have no reasonable relation to a fund’s specific liquidity risk factors, even in stressed conditions. Instead, a fund should continue to set and periodically review its HLIM as it does now—based on an assessment of *its* specific liquidity risk factors (including flow projections during both normal and reasonably foreseeable stressed conditions).⁹⁸ In most cases, an HLIM set primarily by flow history—even in stressed conditions—would result in a number below 10%.

We also object to the proposed prescriptive adjustments to the HLIM calculation.⁹⁹ In most cases, these adjustments would be *de minimis* (particularly where fund’s non-highly liquid derivatives exposures and liabilities are small). Yet these adjustments would be difficult to calculate on a daily basis. Fund liabilities are not static, and the derivatives-related adjustment

⁹⁵ The 2016 adopting release for the liquidity rule states, “In our view, if a fund held less than 50% of its assets in highly liquid investments it would be unlikely to qualify as ‘primarily’ holding assets that are highly liquid investments.” 2016 Adopting Release at n.726.

⁹⁶ Proposal at 77195. Moreover, “Consistent with the current rule, a fund would be required to consider a specified set of liquidity risk factors to determine whether its highly liquid investment minimum should be above 10%.” Proposal at 77195-96.

⁹⁷ We recommend continuing to exempt “In-Kind ETFs” from this requirement because they are far less likely than mutual funds or other ETFs to sell portfolio investments to meet redemption requests.

⁹⁸ See Rule 22e-4(b)(1)(iii)(A)(1).

⁹⁹ Specifically, a fund would be required to subtract: (i) the value of any highly liquid investments that are assets posted as margin or collateral in connection with any derivatives transaction that is classified as moderately liquid or illiquid; and (ii) any fund liabilities.

would require complicated daily “mapping” of specific collateral or margin assets to specific derivatives.

Setting an HLIM already requires assessment of a broad range of liquidity factors, and the SEC should instead reiterate the importance of considering other claims on fund assets (other than redemptions) in setting an HLIM. The fund then could incorporate this directly by marginally increasing the HLIM itself. For example, if a fund believes that an HLIM of 5% would be sufficient to meet redemptions and conservatively estimates that highly liquid investments committed to non-highly liquid derivatives positions and liabilities together would generally be less than 1%, the fund would simply set its HLIM at 6%, avoiding the need for complicated daily adjustments. The annual review of the HLIM would provide an opportunity to adjust these figures as appropriate.

Section 2.6 Proposed Change to the Illiquid Investments Calculation

The current 15% limit on illiquid investments would be amended to provide that the value of margin or collateral that a fund would receive upon exiting an illiquid derivatives transaction would itself be treated as illiquid for compliance purposes. We oppose the proposed adjustment to the 15% illiquid calculation for reasons similar to those set forth above. Here, the adjustment would be even smaller than the proposed HLIM adjustment, because we ordinarily would expect that a fund’s exposure to illiquid derivatives to be exceedingly small. A comprehensive multi-factor assessment of liquidity risk and management of that risk suffices and is superior to attempting to excessively fine-tune these compliance calculations.

Section 2.7 Other Liquidity-Related Comments

Section 2.7.1 Smaller Funds Generally

The proposal would do nothing to help smaller funds and much to hurt them. For smaller funds, the most problematic proposed change would be the daily bucketing requirement. Increasing the frequency of this exercise will not enhance internal liquidity risk management or investor protection generally. Currently, smaller funds’ bucketing numbers barely if ever change month-to-month. We believe that the SEC’s confidential Form N-PORT data bear this out. Day-to-day changes would be rarer still, even assuming adoption of all proposed changes.

The proposal states, “We do not believe that establishing different requirements for, or exempting, any subset of funds, including funds that are small entities, from the proposed amendments to rule 22e-4 would permit us to achieve our stated objectives.”¹⁰⁰ With respect to the liquidity classification framework, it states, “we believe there are no significant alternatives

¹⁰⁰ Proposal at 77286.

for smaller funds other than exemption...”¹⁰¹ The proposal offers only this conclusory statement, with no evidence indicating that the SEC actually considered alternatives.

We strongly disagree with the SEC’s conclusion. As discussed above, outputs from the rule’s bucketing requirements—current and proposed—are highly sensitive to fund size. Even mandating a 10% size assumption would not matter for these funds—in fact, funds at or below certain size thresholds could assume a 100% size assumption and still have all their assets in the highly liquid bucket.

The SEC should work to ensure that any rule requirements are informed by the unique and varied characteristics of smaller funds, without diminishing investor protection. We note that even without a bucketing requirement, funds are required to consider as part of their liquidity risk assessments their “investment strategy and liquidity of portfolio investments during both normal and reasonably foreseeable stressed conditions.”¹⁰²

To be clear, we are *not* suggesting excluding smaller funds from the liquidity rule, or that liquidity risk management is not equally important for all funds. Rather, our point is that each of the rule’s elements does not advance investor protection for all funds, and that the SEC should make sensible distinctions, as it has for In-Kind ETFs.

Finally, we would note that the 2016 adopting release (and the 2018 interim final rule)¹⁰³ provided an extended compliance period for some smaller funds.¹⁰⁴ Doing so is consistent with many of the Commission’s new rules and eases compliance burdens because smaller funds can leverage the experiences and learning gained by larger funds going first. Doing so is also consistent with the Investment Company Act’s requirement that whenever “the Commission is engaged in rulemaking and is required to consider or determine whether an action is consistent with the public interest, the Commission shall also consider, in addition to the protection of investors, whether the action will promote efficiency, competition, and capital formation.”¹⁰⁵ The SEC therefore should provide smaller funds more time to comply with any final amendments.

Section 2.7.2 Bank Loan Funds

Assuming settlement time conventions remain unchanged, adoption of the SEC’s proposed bucketing changes would be fatal to open-end funds (including ETFs) investing primarily in

¹⁰¹ Proposal at 77287.

¹⁰² Rule 22e-4(b)(1)(i)(A).

¹⁰³ See *infra*, note 120.

¹⁰⁴ Fund complexes with less than \$1 billion in net assets had an additional six months to comply with the new requirements.

¹⁰⁵ See Section 2(c) of Investment Company Act.

bank loans. This would be a loss to retail investors. Bank loans can be a useful income-based asset class for investors, particularly in a rising interest rate environment. This asset class also can help investors diversify their portfolios. For example, 2022 was a challenging year for stock and bond markets—the S&P 500 index was down 18%, and US investment grade bonds were down 13% even after including reinvested dividends or interest income (Figure 1). By contrast, leveraged loans were down less than 1%.

Figure 1

Total Returns on Bank Loans Fared Far Better in the Volatile 2022 Environment
Percent, 2022

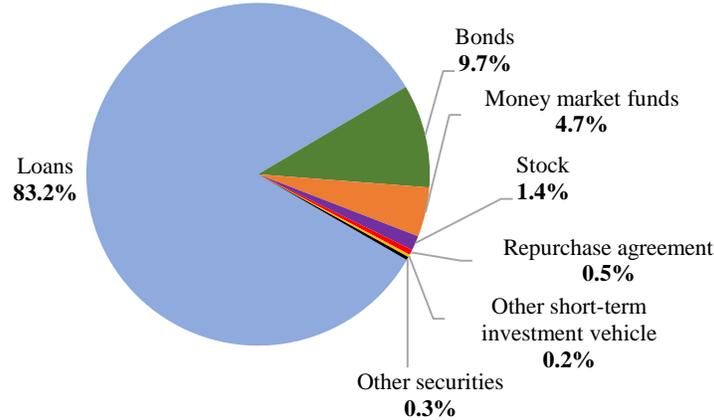
	Year-over-year percent change
S&P/LSTA US Leveraged Loan Index	-0.6%
S&P 500 Total Return index	-18.1%
FTSE US Broad Investment Grade Bond index	-13.3%

Source: ICI calculations of Refinitiv data

Bank loan funds have weathered several stressed periods over the past 20 years without incident. To date, no fund investing primarily in bank loans has suspended redemptions.

We acknowledge that this fund type has a different liquidity risk profile because of the settlement conventions of bank loans. Precisely for this reason, these funds utilize risk mitigants such as liquidity buffers (determined by setting and abiding by appropriate HLIMs), lines of credit, contractual expedited settlement provisions, and interfund lending arrangements. As Figure 2 shows, bank loan funds held 5.2% of their June 2022 assets in cash equivalents such as money market funds and repurchase agreements. These funds also held 1.4% of their assets in stocks that can be quickly converted to cash.

Figure 2
Bank Loan Funds Hold 5 Percent of Their Assets in Cash Equivalents
Percentage of total holdings,¹ data centered around June 30, 2022²



Total bank loan fund holdings: \$134 billion

¹*Bonds* include debt and asset-backed securities; *stock* includes common and preferred stock; *other securities* include derivatives and other securities.

²Data are based on Form N-PORT filings centered around June 2022: 38% of total holdings for high-yield floating-rate funds with a filing date of May 31, 2022; 25% as of June 30, 2022; and 37% as of July 31, 2022.

Note: Data include mutual funds and ETFs. Data exclude funds that invest primarily in other mutual funds.

Source: ICI calculations of SEC Form N-PORT data

Funds successfully have “bridged” lags in settlement times through use of these tools and mitigants. Furthermore, our understanding is that in stressed market conditions (including March 2020), funds have been able to (i) sell bank loans, and (ii) settle those sales more quickly than what the median settlement figures suggest. Market participants understand settlement times may matter more for funds and frequently are able to expedite the process for their benefit.

The SEC takes a puzzling view regarding bank loan funds’ use of lines of credit.¹⁰⁶ The SEC is concerned that these lines may not be available in times of stress, yet when its data indicate that funds had them and successfully used them in 2020, it expresses concern with the dilutive effects of these lines. These concerns are exaggerated. Unlike other debt securities where all accrued income is sent to the buyer, we understand that the seller receives accrued interest for a loan until the earlier of (i) the loan sale settlement, or (ii) 7 days. During this period, the fund’s continued interest on the sold loan may exceed the interest the fund may pay on its line of credit, meaning

¹⁰⁶ “We also understand that funds with significant extended settlement investments have used borrowing through lines of credit to meet redemptions, but lines of credit may not be available to all funds and borrowing imposes costs that can dilute the value of the fund for remaining investors.” Proposal at 77191.

that there is no dilution at all. And even after day 7, the buyer receives the interest on the loan but must pay the seller the base rate of the coupon, under the premise that the buyer still has its cash for the purchase and is earning interest. The fund's continued receipt of compensation on the loan after day 7 may largely offset borrowing costs on the line of credit, rendering dilution immaterial.

While we oppose the proposed bucketing changes, the SEC can take other constructive steps for open-end bank loan funds. First, for funds investing primarily in longer-settling securities (e.g., those that generally would not be settled in cash in 7 calendar days or less, including bank loans), we support a 10% minimum HLIM. Consistent with the proposal, this would be the "floor" for these funds, which still would be required to comprehensively assess their liquidity risk factors and consider whether a higher figure would be appropriate. Second, we support amending the rule's liquidity risk factors to expressly address funds' longer-settling investments. The SEC could pair this new language with guidance setting forth its expectations regarding potential liquidity risk mitigants (e.g., use of lines of credit).

We also support examining and improving the bank loan market itself. As with reductions in settlement times generally, we believe that reduced settlement times would benefit funds and others that invest in these instruments.

In the event that any final amendments render continuation of open-end bank loan funds—or any other current open-end fund, for that matter—impracticable, fund sponsors and boards would be forced to make difficult and costly decisions. In some cases, fund sponsors and their boards may conclude that these funds should be liquidated. Of course, liquidations could subject fund investors to two types of tax liability: (i) sales of portfolio investments could generate taxable gains, which would be distributed to the fund's investors, and (ii) individual investors could realize taxable gains if their shares have appreciated in value, upon the final liquidation (or upon redeeming their shares in advance of the final liquidation).

Fund boards also could consider whether conversion to another fund type (e.g., as a closed-end interval fund) would be in the best interest of investors. This would require shareholder approval,¹⁰⁷ however, and the fund proxy system remains broken.¹⁰⁸ This would therefore be a costly, challenging, and uncertain option for most bank loan funds.

¹⁰⁷ Section 13(a) of the Investment Company Act states that no fund shall, unless authorized by the vote of a majority of its outstanding voting securities, change its subclassification as an open-end or closed-end fund.

¹⁰⁸ The SEC's decision to remove fund proxy reform from its rulemaking agenda was misguided and highly disappointing. For more information on why reform in this area is so urgently needed, see *Analysis of Fund Proxy Campaigns: 2012–2019*, Investment Company Institute (December 2019), available at www.sec.gov/comments/4-725/4725-6580709-201124.pdf; and Letter from Paul Schott Stevens, President and CEO, ICI, to Vanessa Countryman, Acting Secretary, SEC, dated June 11, 2019, available at www.sec.gov/comments/4-725/4725-5658296-185774.pdf.

Section 2.7.3 Rule 17a-7 and Interfund Lending Reform

For decades funds had relied on Rule 17a-7 to “cross trade” fixed-income securities with one another to avoid costs that each would otherwise incur if transacting on the open market.¹⁰⁹ This activity was significantly restricted when the SEC’s December 2020 cross trading guidance¹¹⁰ took effect in September 2022.

We know that cross trading fixed-income securities benefits funds, provided that the trades are consistent with each fund’s investment objectives and strategies and accurately priced. Cross trades eliminate dealer costs, and based on ICI survey data,¹¹¹ we estimate that these fixed-income cross trades saved advisers’ clients (including funds) more than \$390 million in 2020. We know that cross trading facilitates efficient portfolio management and compliance with investment policies.¹¹² We know that cross trading is an important complement to transacting through dealers, particularly in times of stress—according to our survey, most respondents’ cross trading activity was either approximately the same (41%) or higher (46%) in March and April of 2020 as compared to the remainder of 2020. To the extent that dealers’ capacity to intermediate fixed-income transactions has decreased over the years and has not been sufficiently responsive in stressed conditions (e.g., in March 2020), alternatives such as cross trading help relieve the strains on all affected market participants.

In April 2021, ICI provided the SEC with comprehensive data on fixed-income cross trading for calendar year 2020, based on an extensive member survey. Reform of the cross trading rule had been on the SEC’s rulemaking agenda since 2019, and in 2020 the Technology and Electronic Trading Subcommittee of the SEC’s Fixed-Income Market Structure Advisory Committee (FIMSAC) recommended that the SEC amend Rule 17a-7 to facilitate funds’ ability to cross trade fixed-income securities.¹¹³ Despite initially indicating that it would continue work on the cross

¹⁰⁹ Section 17(a) of the Investment Company Act prohibits any affiliated person of a US fund, or any affiliated person of such a person, from selling securities to, or purchasing securities from, the fund.

¹¹⁰ *Good Faith Determinations of Fair Value*, SEC Release No. IC-34128, 86 Fed. Reg. 748 (Jan. 6, 2021) (“Fair Value Rule Adopting Release”), at 771-773, available at <https://www.govinfo.gov/content/pkg/FR-2021-01-06/pdf/2020-26971.pdf>.

¹¹¹ *See generally Rule 17a-7 at the Crossroads: The Right Path Forward*, Investment Company Institute (April 2021) (“ICI Fixed-Income Cross Trading Report”), available at www.sec.gov/file/investment-company-institute.pdf. Fifty-two ICI member firms responded to the survey whose results were summarized in the Report, representing more than \$23 trillion, or approximately 71% of US-registered fund assets, as of December 31, 2020.

¹¹² *See* Section III.B of the ICI Fixed-Income Cross Trading Report for more information.

¹¹³ *Preliminary Recommendation Regarding Modernizing Rule 17a-7 under the 1940 Act* (June 1, 2020), available at www.sec.gov/spotlight/fixed-income-advisory-committee/preliminary-recommendation-rel7a-7.pdf.

trading rule¹¹⁴ and receiving detailed data and policy recommendations from ICI and others, the SEC dropped the item from its rulemaking agenda without explanation in December 2021, over the objections of two SEC Commissioners.¹¹⁵

We understand that affiliated transactions present potential risks and conflicts of interest. But given the tangible, varied, and substantial benefits that cross trading provides, the logical policymaking step is to seek to capture those benefits and attach appropriate conditions to mitigate the potential risks.¹¹⁶ The SEC's lack of action is perplexing, particularly given this proposal's emphasis on resiliency and dilution.

Unlike the 2015 liquidity proposal or the 2016 adopting release, this proposal makes no mention of the cross trading rule, which is a missed opportunity and reflects a rather selective view of resiliency and dilution. We strongly recommend that the SEC amend the cross trading rule to permit fixed-income cross trading, subject to appropriate guardrails.¹¹⁷

In a similar vein, we support the SEC proposing and adopting an interfund lending/borrowing exemptive rule. Currently, many funds have exemptive orders permitting this, and at times the SEC temporarily has extended this relief to funds without these orders.¹¹⁸ We believe all funds should have access to this tool without first obtaining an exemptive order. Furthermore, we have heard from some funds with these orders that their conditions can be overly burdensome,

¹¹⁴ See Fair Value Rule Adopting Release at 773 (“Consideration of potential revisions to rule 17a-7 is on the rulemaking agenda. We welcome input from the public as we undertake our consideration of rule 17a-7.”); see also *Staff Statement on Investment Company Cross Trading*, SEC Division of Investment Management Staff (March 11, 2021), available at www.sec.gov/news/public-statement/investment-management-statement-investment-company-cross-trading-031121 (“In addition, as the Commission stated in adopting the Valuation Rule, consideration of potential amendments to rule 17a-7 is on the rulemaking agenda. . . . We believe that funds’ cross trading practices have evolved over the last several decades and, accordingly, we believe it is once again appropriate to assess what, if any, changes to rule 17a-7 may be warranted.”).

¹¹⁵ *Falling Further Back—Statement on Chair Gensler’s Regulatory Agenda*, SEC Commissioners Hester M. Pierce and Elad L. Roisman (Dec. 12, 2021), available at <https://www.sec.gov/news/statement/peirce-roisman-falling-further-back-121321> (“the [SEC’s Rulemaking] Agenda abandons the much-needed effort to amend Investment Company Act Rule 17a-7. . . . Commenters have been nearly unanimous in conveying the importance of funds’ ability to trade fixed-income securities across affiliated funds. Many commenters also have recommended conditions to ensure the protection of fund investors. . . . Yet now, despite the demonstrated need for such amendments, the Agenda simply drops the planned rewrite of Rule 17a-7. As a consequence, we will not fix a problem of which we are aware—the impending inability of funds to cross-trade fixed-income securities—and we will miss a chance to modernize an outdated rule.”).

¹¹⁶ See Section VI of the ICI Fixed-Income Cross Trading Report for policy recommendations and ways to mitigate risks of fixed-income cross trading.

¹¹⁷ We note that general fiduciary standards govern similar transactions for UCITS. We also understand that UCITS engage in cross trading for the benefit of their investors.

¹¹⁸ See *supra*, note 24.

limiting this tool's potential usefulness. Rulemaking would provide an opportunity to create a more flexible set of conditions that still would mitigate potential conflicts of interest.

Section 2.7.4 Retention of Existing Guidance

The proposal asks, "If the amendments to the liquidity rule are adopted, are there any questions and responses in the staff FAQs that would still be relevant and helpful to retain?"¹¹⁹ We believe that the SEC should retain those Liquidity FAQs not directly superseded by final amendments or contradictory guidance. At a minimum, and based on the proposal, this would include the FAQs related to sub-advised funds, ETFs (including FAQ 35), investment classifications for pooled investment vehicles, and related reporting requirements.

The existing FAQs on asset class classification, RATS, price impact, provisional investment classification activity and related compliance monitoring, timing and frequency of classification, and pre-trade activity and the 15% limitation on illiquid investments also work well with the existing rule provisions. For all the reasons set forth above, both the rule provisions and all related FAQs ought to be retained. This guidance has made the rule and related reporting requirements much more workable.

We also note that the proposal makes no mention of the SEC's 2018 interim final rule.¹²⁰ Its adopting release provided specific guidance for how In-Kind ETFs could comply with the rule's 15% illiquid limit, given that they are not subject to the rule's classification requirements. This guidance helped eliminate a gap in the rule, and the SEC should explicitly reaffirm this guidance in any adopting release.

Section 2.8 Compliance Period for Liquidity-Related Amendments

The proposed compliance period for these proposed amendments would be 12 months after the effective date of the amendments. Whether this would suffice depends entirely on what the SEC adopts. If the SEC amends the rule and provides supplemental guidance as we propose in this letter, then 18 months would suffice.

¹¹⁹ Proposal at 77234.

¹²⁰ *Investment Company Liquidity Risk Management Programs; Commission Guidance for In-Kind ETFs*, SEC Release No. IC-33010, 83 Fed. Reg. 8342 (Feb. 27, 2018), available at <https://www.govinfo.gov/content/pkg/FR-2018-02-27/pdf/2018-03917.pdf>.

If it instead adopts these amendments as proposed, funds will need at least 24 months to comply.¹²¹ The proposed changes would involve much more than updates to fund and liquidity vendor bucketing systems. Larger and certain other funds would need sufficient time to consider either (i) reallocating their portfolios to ensure ongoing compliance with the 15% illiquid limit, which could require changes to investment policies and prospectus amendments, or (ii) reorganizing into several smaller parallel “clone” funds for the same reason. Bank loan funds would have to consider either (i) liquidating, or (ii) conducting proxy campaigns to convert to closed-end funds, with the adjournments, delays, costs, and general uncertainty that typically accompany that process. All of this would require communicating changes to investors and others, which would take significant time.

The irony is that, prior to any compliance date, the rule would force funds to sell investments that they otherwise would continue to hold and incur transaction costs, even though the proposal is meant to mitigate funds’ forced sales of investments and dilution. Such a result would be seriously at odds with the SEC’s mandate to act in a manner that promotes the public interest, protects investors, and promotes efficiency, competition, and capital formation.

Section 3. Assessment of the Proposed Swing Pricing and Hard Close Amendments for Mutual Funds

The proposal would amend Rule 22c-1 under the Investment Company Act to require all mutual funds to adopt (i) swing pricing,¹²² and (ii) a hard close for mutual fund orders to facilitate adoption of swing pricing. We strongly oppose each and explain why below. We conclude by discussing how the SEC ought to proceed with its policymaking related to dilution.

Section 3.1 Background on Swing Pricing and Mutual Funds’ Order Process and Summary of the Proposal

Section 3.1.1 Swing Pricing

Many types of pooled investment vehicles, including US mutual funds, “mutualize” portfolio transaction costs among fund shareholders. Theoretically, sizable net redemptions and purchases

¹²¹ There is precedent for a 24-month compliance period. The Commission did so when it adopted Rule 30e-3 under the Investment Company Act, recognizing that funds and intermediaries needed sufficient time to educate investors about the regulatory changes and implement any necessary systems and operational changes. The proposal likely will require even more investor education and systems changes than those required by Rule 30e-3. *See Optional Internet Availability of Investment Company Shareholder Reports*, SEC Release Nos. 33-10506; 34-83380; IC-33115, 83 Fed. Reg. 29158 (June 22, 2018), at 29181, available at <https://www.govinfo.gov/content/pkg/FR-2018-06-22/pdf/2018-12423.pdf>.

¹²² Rule 22c-1 defines “swing pricing” as “the process of adjusting a fund’s current net asset value per share to mitigate dilution of the value of its outstanding redeemable securities as a result of shareholder purchase and redemption activity...”

of fund shares could generate large transaction costs if the fund manager sells (or buys) portfolio investments in response, potentially diluting the value of existing investors' fund shares.

In Europe, some funds use swing pricing to allocate transaction costs to redeeming and purchasing shareholders in certain circumstances. In effect, swing pricing involves a second step in the valuation process, whereby a fund measures daily net purchase or redemption activity, and, when any pre-determined activity threshold (usually expressed as a percentage of the fund's net assets) is exceeded, adjusts (or "swings") the per share NAV upward (in the case of a net purchase of fund shares, so that transacting shareholders bear the transaction costs from resulting fund purchases of portfolio securities) or downward (in the case of a net redemption of fund shares, so that transacting shareholders bear the transaction costs from resulting fund sales of portfolio securities).

In 2016, the SEC adopted amendments to Rule 22c-1 that permit, but do not require, mutual funds to use swing pricing (the "2016 amendments").¹²³ To date, no US mutual fund has adopted swing pricing, and the SEC cites as reasons lack of timely flow information to operationalize this tool, implementation costs, and/or US fund investors' unfamiliarity with it.

By contrast, the proposed amendments to Rule 22c-1 would *require* all mutual funds to use swing pricing.¹²⁴ The SEC believes that required use of swing pricing could benefit investors through improved performance and dilution mitigation. These proposed amendments are discussed in more detail below.

Section 3.1.2 Proposed "Hard Close" for Mutual Fund Orders

Currently, if an investor submits an order to an intermediary to purchase or redeem fund shares, that order will be executed at the current day's price as long as the intermediary receives the order before the fund's established time for determining the value of its holdings and calculating its NAV (typically 4:00 p.m. ET). The fund, however, might not receive information about that order until later, sometimes the next morning. We show the current distribution, trade processing, and NAV calculation and dissemination process graphically in Section 3.3.1 below.

Proposed amendments to Rule 22c-1 would require a "hard close" for mutual fund orders. This would provide that a direction to purchase or redeem a fund's shares is eligible to receive the current day's price solely if the fund, its designated transfer agent, or a registered securities

¹²³ *Investment Company Swing Pricing*, SEC Release No. IC-32316, 81 Fed. Reg. 82084 (Nov. 18, 2016) ("2016 Swing Pricing Release"), available at <https://www.govinfo.gov/content/pkg/FR-2016-11-18/pdf/2016-25347.pdf>.

¹²⁴ ETFs and money market funds would continue to be excluded from these amendments, as would "feeder funds" (i.e., funds that invest, pursuant to Section 12(d)(1)(E) of the Investment Company Act, in "master funds").

clearing agency¹²⁵ (collectively, “designated parties”) receives an eligible order before the pricing time as of which the fund calculates its NAV. These amendments are purportedly designed to support the proposed swing pricing amendments by facilitating the more timely receipt of fund order flow information, and help prevent late trading of fund shares.

Section 3.2 General Comments on the Swing Pricing and Hard Close Proposal and the SEC’s Economic Analysis

The mutual fund structure has served investors well for over 80 years. The benefits of redeemable shares and mutualization—greater diversification, economies of scale, professional portfolio management, more efficient portfolio trading—greatly outweigh any potential drawbacks (e.g., shared transaction costs generated when shareholders enter and exit the fund). As the Commission has stated, “Mutual funds are attractive to even the smallest investors because they offer easy access to national and international securities markets. . . . Fund shareholders share the losses and the gains of the fund, and also share its costs.”¹²⁶

As we said above with respect to the proposed liquidity rule amendments, any assessment of whether additional regulation is needed with respect to buying, selling, and pricing mutual funds shares must begin with funds’ historical performance in meeting redemptions and an understanding of dilution and funds’ management of it. Then, any regulatory changes considered should:

- be supported by empirical data;
- recognize the causes of the March 2020 financial market turmoil and the larger ecosystem within which funds operate; and
- appropriately assess the costs and benefits of the proposed changes while also considering their impact on efficiency, competition, and capital formation.

The proposal has not done this. Instead, it is extreme in scope. It makes no attempt to ascertain the resiliency and dilution risks of the roughly 8,400 mutual funds that would be affected and instead assumes that the risks for each are high enough to warrant a major regulatory intervention.

Moreover, the proposed means of reducing dilution—mandating swing pricing and a hard close for all mutual funds—would be severe and costly for shareholders, funds, and intermediaries such as broker-dealers and retirement plan recordkeepers and its benefits would be minor at best.

¹²⁵ “Currently, NSCC is the only registered clearing agency for fund shares, which operates its Fund/SERV® service for processing fund transactions.” Proposal at 77210.

¹²⁶ *Mandatory Redemption Fees for Redeemable Fund Securities*, SEC Release No. IC-26375A, 69 Fed. Reg. 11762 (Mar. 11, 2004), available at <https://www.sec.gov/rules/proposed/ic-26375a.pdf>.

The SEC is blunt in its approach, making no attempt at, and leaving funds themselves little room for, fund-specific tailoring. Daily fund pricing, relationships between mutual funds and their extensive intermediary networks (including retirement plan recordkeepers and variable insurance product issuers), and shareholders' ability to purchase and sell fund shares on a timely basis all would be dramatically impacted, adversely affecting how millions of predominantly retail fund shareholders invest and engage with the capital markets each day.

The proposal attempts to re-engineer a highly successful product with only the vaguest sense of the related costs and benefits. The mere breadth of this regulatory exercise requires much more care, analytical rigor, tailoring, and appreciation for unintended consequences than this proposal demonstrates.

Section 3.2.1 The Proposal's Discussion of Benefits of Swing Pricing and a Hard Close

The SEC believes that swing pricing: (i) would protect non-transacting mutual fund investors because it would require transacting fund shareholders to bear the estimated trading costs that arise due to their trading activity, (ii) may mitigate "first-mover" advantage, and (iii) may decrease the risk of fire sales for the funds' underlying investments. The proposal states that the hard close would facilitate swing pricing; help prevent late trading of fund shares; modernize and improve order processing and reduce operational risks; and allow funds to make portfolio and risk management decisions based on more complete and accurate flow information.

In Section 2.2 above and Appendix A, we discuss the deficiencies in the economic analysis's discussion of dilution and first-mover advantage. The proposal's swing pricing and hard close sections add little to the overall analysis. The SEC fails to quantify current levels of dilution, or the reductions that swing pricing could be expected to bring. Nor is there even a *qualitative* assessment of how dilution varies and is managed across the universe of mutual funds—funds are all treated as more or less the same in this regard. In reality, funds vary significantly in their investment portfolios and strategies, related transaction costs, and investor flows, all of which affect the amount of dilution a fund may experience. For example, a fund investing primarily in large cap equities with low and stable investor flows would have almost no dilution, a basic point that the economic analysis does not consider, let alone empirically analyze.

The proposal discusses the benefits that swing pricing has provided to investors in other jurisdictions. As discussed below, however, that comparison is inapt. Any benefits must be weighed against the costs of implementing swing pricing in the United States, which would greatly exceed the costs to implement swing pricing in other jurisdictions. Moreover, if the SEC adopts *mandatory* swing pricing, the United States would be the only major jurisdiction in the world to do so. When a European fund adopts swing pricing, it first undertakes its own cost/benefit analysis and determines that it would benefit investors. This discretion would be removed from US funds.

The SEC’s analysis also identifies as a potential benefit of mandatory swing pricing that it would “help overcome the collective action problem that may exist under the current optional framework and may have prevented voluntary swing pricing implementation due to the stigma that could be attached to being the first fund to implement swing pricing.”¹²⁷ We disagree with this conclusion. First, many US fund managers use swing pricing abroad and are comfortable with it in those jurisdictions. Second, all things equal, a fund that has adopted swing pricing and has swung its NAV during a given period will outperform one that does not use swing pricing. US funds compete fiercely on performance, and if appropriate and there were an operationally and legally feasible way to adopt swing pricing, they would have done so.

Section 3.2.2 The Proposal’s Discussion of Costs of Swing Pricing and a Hard Close

At a high and qualitative level, the proposal identifies costs of the hard close requirement.¹²⁸ These are discussed in more detail below. The proposal acknowledges that a “mandatory swing pricing requirement would impose costs on mutual funds, investors, their intermediaries, and other market participants ... [including] initial and ongoing operational costs associated with developing and administering swing pricing policies and procedures, changing their systems to accommodate swing pricing, updating fund prospectuses, as well as any costs associated with educating investors about swing pricing procedures.”¹²⁹ The proposal identifies, as additional potential costs, potential increases in fund fees (if outflows are substantial and economies of scale are reduced); a reduced set of investment choices available to investors; and delays in the publication and dissemination in fund NAVs.

With respect to both the proposed swing pricing framework and the hard close, the SEC is once again “not able to quantify many of the costs...”¹³⁰ Actually, the proposal does not attempt to quantify *any* of these costs.

The proposed hard close and swing pricing amendments would require significant systems enhancements and rebuilds across multiple areas of the mutual fund industry, including for intermediaries such as broker-dealers and retirement plan recordkeepers, fund administrators, custodians, transfer agents, and even the industry utility, DTCC. The cost, resources, and effort to ensure systems are updated timely and accurately without impacting other areas of the industry simply would be enormous. Appendix C outlines some of the required changes, all of which would involve costs.

¹²⁷ Proposal at 77257.

¹²⁸ See generally Section II.C.3 of the proposal.

¹²⁹ Proposal at 77257.

¹³⁰ Proposal at 77256 and 77261.

The costs would not be limited to systems changes. A hard close will lead to differing redemption rights for investors, depending on where the shares are held. If an investor submits an order to purchase, redeem, or exchange fund shares, they expect same-day pricing, just as they receive when transacting in most other common retail investments. Investors also value the benefits and efficiencies provided by holding their assets through intermediaries,¹³¹ which among other things include:

- Providing investors with a convenient single point of contact for investment advice, financial planning expertise, and other services for all their investments;
- Providing an array of investment choices, such as stocks, bonds, ETFs, and mutual funds;
- Providing technology to enhance the investor experience, delivering cost-effective trade, account maintenance, and communications support for all securities owned; and
- Offering a variety of service models, in line with their individual needs.

Investors should not have to choose between the convenience and benefits of working through intermediaries and timely pricing and execution of fund trades—they value and should continue to have both.

It is especially hard to square the SEC’s treatment of shareholders in retirement accounts with that of Congress, which is seeking to expand participation in employer-sponsored retirement plans (e.g., 401(k) and 403(b) plans) with the passage of the SECURE 2.0 Act of 2022 (“SECURE 2.0”). The SEC’s actions are in direct conflict with Congress’s efforts to assist Americans in saving more for their retirements.

For example, SECURE 2.0 aims to increase the number of American workers participating in retirement plans by creating new plan options that will be easier for employers to set up and maintain, making automatic enrollment a standard feature in new plans going forward, and significantly enhancing the tax credits available to small employers offering retirement plans and non-high paid workers contributing to those plans. The fact that lawmakers came together in a bipartisan way to enact this legislation shows the great importance of retirement savings to Congress. Accordingly, we urge the SEC not to trivialize the impact of the hard close proposal on retirement savers or view this as a secondary consideration.

Finally, the SEC vastly underestimates investor confusion and lack of understanding that would accompany a hard close and swing pricing. Each is far from intuitive. Investors will not understand why their fund trading privileges vary by intermediary or product held. And whatever

¹³¹ See generally *Navigating Intermediary Relationships*, Investment Company Institute and Independent Directors Council December 2022), available at: <https://www.idc.org/system/files/2022-12/22-ppr-navigating-intermediary-relationships.pdf>.

its benefits, swing pricing is not transparent or easily understandable for retail investors. Any changes in this regard would require not just prospectus changes, but changes throughout the mutual fund industry for investors and service providers to foster sufficient understanding. By way of comparison, funds spent two years and considerable resources explaining Rule 30e-3¹³² to investors after its adoption, and the hard close and swing pricing are significantly more complicated.

Section 3.2.2 How the SEC Should Proceed

By all measures, the mutual fund as an investment product for retail investors has been a success story. With this as the baseline, the SEC must carefully and deliberately examine the likelihood of regulatory changes meaningfully improving this investment product.

If the SEC wishes to continue with an ambitious re-engineering project, it needs to do far more investigation and public consultation. For instance, it should hold roundtables and/or issue one more concept releases that set forth options, in a detailed manner, that does not prejudice these matters, are not unduly time-constrained, and are not competing with dozens of other active rulemakings. These actions would produce much more thoughtful and constructive information. A deliberate process that explores these matters with the depth and care that they deserve would better serve fund investors. In Section 3.5 below, we offer recommendations that could guide this work.

Section 3.3 Specific Comments on the Hard Close Proposal

We strongly oppose the proposed hard close amendments. The SEC's proposed solution would be far worse than the supposed problem it perceives.

The Commission generally identifies potential consequences of mandating a hard close and notes the following:

- Funds and intermediaries would need to make significant changes to their business practices, including updating their computer systems, altering their batch processes, or integrating new technologies that facilitate faster order submission.
- Retirement plan recordkeepers may face particular challenges with adhering to the proposed hard close requirement.

¹³² For those shareholders who have not elected to receive shareholder reports electronically, certain funds may rely on Rule 30e-3 to satisfy shareholder report transmission requirements. Open-end funds will no longer be able to rely on this rule as of June 2024.

- Some intermediaries likely would set their own earlier internal cut-off times for receiving orders to purchase or redeem fund shares, causing their investors to lose some flexibility in submitting orders.
- Completion times would extend for certain types of transactions, where the specific number or value of fund shares to be purchased or redeemed is unknown until that day's price is available (e.g., plan loans or withdrawals).
- The time for executing an investor's request to rebalance its holdings to a target asset allocation or model portfolio could be extended. It also might affect current order processing for funds of funds.

These observations dramatically understate the impacts of a hard close and make no attempt to quantify them in dollars. The investing experience would be degraded and limited for most mutual fund investors—essentially all but the relatively small percentage that invest directly with funds. Adversely affected parties would include retirement plan participants and other retail investors that access the markets through NAV-dependent products such as variable insurance products and 529 plans, as well as the intermediaries including broker-dealers and retirement plan recordkeepers that would be forced to rebuild or redesign a multitude of systems throughout the mutual fund distribution ecosystem. These costs would be passed along to the end investors. We offer the following additional comments to provide the SEC with a more fulsome understanding of the consequences of mandating a hard close.

Section 3.3.1 Impact of a Hard Close on Intermediary Cut-Off Times and Mutual Fund Investors Generally

The proposed hard close will create an environment where only a minority of investors—holding approximately 20%¹³³ of mutual fund assets—could continue to trade up until 4:00 p.m. ET and receive same-day pricing. Investors holding the remaining 80% of mutual fund assets would be cut off from trading much earlier in the day. This would create an uneven playing field among mutual fund shareholders themselves and between mutual funds and other financial products (e.g., stocks) in which investors can efficiently trade during normal market hours.

In the proposal, the SEC states that it “generally do[es] not believe... that intermediaries would need to establish cut-off times significantly earlier than the pricing time set by the fund.”¹³⁴ Our conversations with recordkeepers and other intermediaries indicate otherwise. One recordkeeper has stated that it would have to cut off participant trading as early as 10:00 a.m. ET, and two

¹³³ ICI conducted a survey of its members to estimate the amount of long-term mutual fund assets held direct-at-fund. Seventy-two fund complexes representing 86% of long-term mutual fund assets as of year-end 2022 responded to the survey.

¹³⁴ Proposal at 77212.

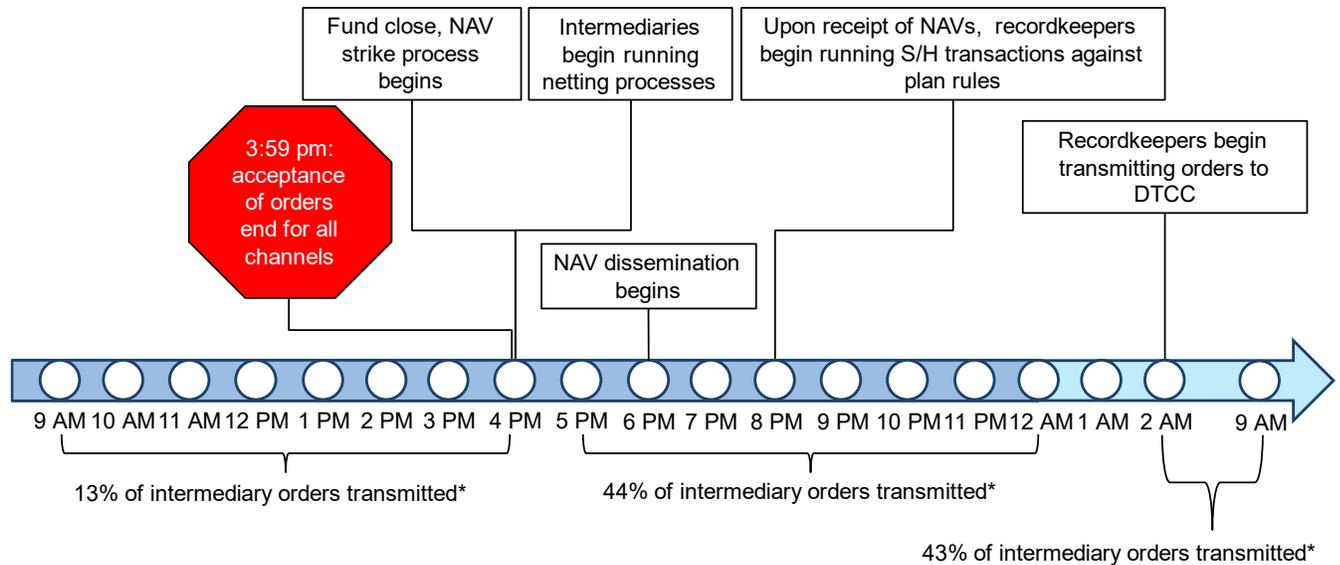
large broker-dealers have indicated that they would need to cut off trading “several hours” in advance of the funds’ typical 4:00 p.m. ET cut-off time. Furthermore, introducing broker-dealers¹³⁵ are likely to institute even earlier cut-off times for their customers to ensure that their trades are delivered to the clearing broker-dealers in time to be processed and included in the final DTCC files prior to the 4:00 p.m. ET cut-off.

In fact, it is highly likely that the hard close would lead to multiple cut-off times within the 10:00 a.m. to 2:00 p.m. ET window, with divergence based on product type (e.g., 401(k) plans), where the investor’s shares are held (e.g., recordkeeper, intermediary, direct-at-fund), and each intermediary’s system capabilities. This will result in unequal treatment of investors and create substantial investor confusion. For example, an investor who owns Fund A in its 401(k) plan and holds the same fund outside of its retirement plan (e.g., through a broker-dealer) could be subject to different trading cut-off times for that same investment.

The first graphic below shows the current distribution, trade processing, and NAV calculation and dissemination process. As it makes clear, all investors are on equal footing, and can place orders through various channels until 3:59:59 p.m. ET, even if the fund does not receive the orders until several hours later.

¹³⁵ Introducing broker-dealers are firms that outsource trade and settlement to a clearing broker-dealer. Introducing broker-dealers tend to be midsize or smaller firms.

Current Distribution, Trade Processing, and NAV Calculation and Dissemination Process
 All times in ET

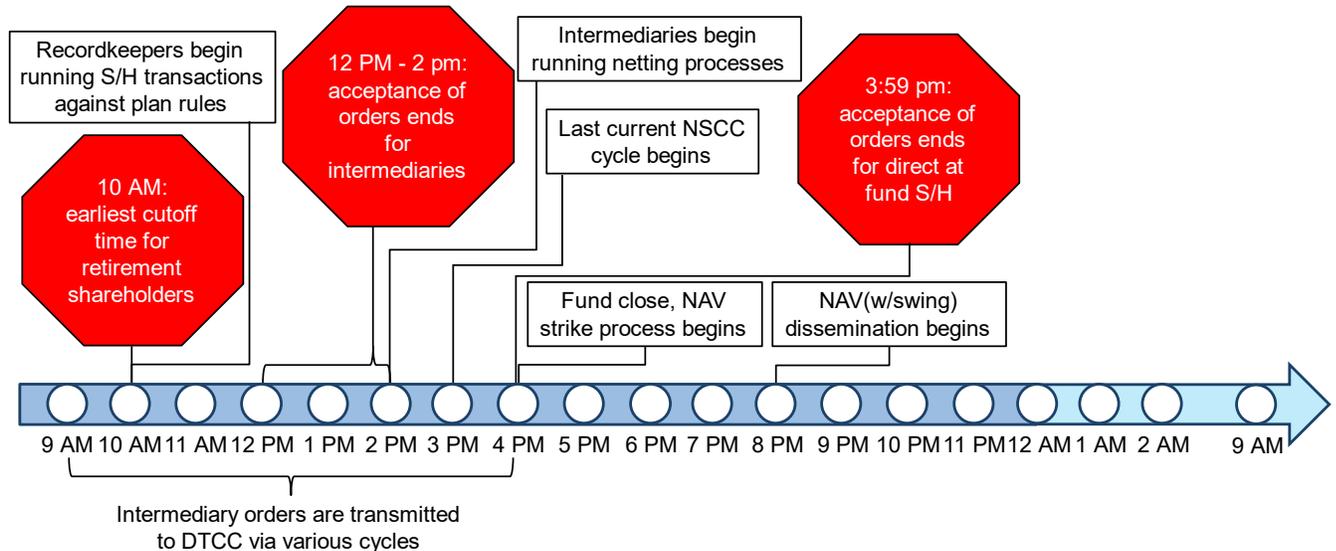


* Represents orders submitted in dollars only; does not include orders submitted in shares

The next graphic below illustrates the dramatic change that the majority (80%) of mutual fund investors would experience under the hard close. Here, there would be a multitude of cut-off times beginning as early as 10:00 a.m. through 2:00 p.m. (for simplicity, we show two “stop signs” in this four-hour window, but in fact we anticipate there would be several, depending on the range of intermediary practices). Only a small subset of shareholders (20%) would maintain the ability to trade up until 3:59:59 p.m.

Proposed Distribution, Trade Processing, and NAV Calculation and Dissemination Process

All times in ET



The graphic above does not take into account days where the New York Stock Exchange (NYSE) closes early (typically at 1:00 p.m. ET).¹³⁶ On such days, investor trading cut-off windows would be moved up by three hours to 7:00 a.m. through 11:00 a.m. ET, further reducing investors' ability to trade.

Furthermore, an investor's ability to trade will be further impacted by the time zone in which they reside, regardless of the time the NYSE closes. For example, an investor living in Hawaii may have to place its trade as early as 4:00 a.m. Hawaii-Aleutian time to receive that day's price on days the NYSE is open until 4:00 p.m.

The proposal is dismissive of the value that mutual fund investors place on trading throughout the day, claiming that "[m]ost fund shareholders are long-term investors, and thus we believe that most fund orders are not time sensitive."¹³⁷ We believe that *all* shareholders value same-day pricing and are sensitive to when their orders are executed. Further, investors subject to an earlier cut-off time would not have the ability to timely evaluate and respond to market events that take place after their applicable earlier cut-off time, such as interest rate announcements from the Federal Reserve that generally occur at 2:00 p.m. ET. This would disadvantage most mutual fund investors.

¹³⁶ The NYSE generally closes at 1:00 p.m. ET on July 3rd, the Friday after Thanksgiving, and December 24th.

¹³⁷ Proposal at 77213.

This concern is not theoretical—these mutual fund investors would be subject to a new source of involuntary investment risk. And as demonstrated in Appendix A (Figure 4.1), this additional investment risk can be material. For an SEC worried about “first-mover advantage,” it is puzzling that it would propose changes that effectively create variations in trading privileges.

Finally, the proposal greatly overestimates the ease with which investors valuing same-day pricing could reorder their existing arrangements to accommodate this preference: “For those investors who place a premium on being able to place orders up until 3:59 p.m. ET, they generally, could place orders with a fund’s transfer agent to retain this option.”¹³⁸ In fact, many impacted investors could not. This option would not be available to retirement plan participants—28%¹³⁹ mutual fund assets must trade through the retirement plan’s designated recordkeeper. The SEC also assumes that all funds are willing and able to accept more “direct” business when many are not.

Moreover, investors who currently hold their mutual fund shares through an intermediary other than a retirement plan recordkeeper (52% of industry assets) would have to move their mutual fund assets out of their existing brokerage account into a new account with the fund’s transfer agent¹⁴⁰ to maintain their full trading privileges, and they may not wish to do so. This would force investors to relinquish the benefits and efficiencies provided by holding their assets through their chosen intermediaries in return for same-day pricing. Section 3.3.2 Impact of a Hard Close on Other Transactions and Products

Section 3.3.2 Impact of a Hard Close on Other Transactions and Products

The hard close would extend completion times for certain retirement transactions and other combined transactions (e.g., rebalancing of portfolios for certain allocations) over multiple days, creating a new source of investment risk for investors, as described above. Current retirement plan recordkeeping systems are designed to require a fund’s NAV prior to processing any participant transaction. Under the proposal, only straightforward participant transactions (i.e., dollar denominated transactions, such as a request to purchase \$100 of a fund) would be processed and receive same-day pricing. Multiple types of plan transactions, including account reallocations, participant loans, and hardship and emergency distributions, simply cannot be

¹³⁸ Proposal at 77213.

¹³⁹ See Tables 16 and 28 in Investment Company Institute, 2022, “The US Retirement Market, Third Quarter 2022” (December), available at <https://www.ici.org/research/stats/retirement>.

¹⁴⁰ If an investor holds shares of different mutual funds, it would have to open multiple new accounts. For example, an investor who owns shares of unaffiliated Funds A, B, and C would have to open three new accounts, one with each fund’s transfer agent.

processed properly and promptly without the fund's NAV.¹⁴¹ In many cases, the hard close would delay retirement plan participants' access to their money. While the SEC acknowledged this possibility, it underplays the impact to investors. Retirement plan participants who have taken out loans or are seeking to rebalance their portfolios should not be needlessly penalized and treated differently than other mutual fund investors.

Furthermore, certain exchange transactions that are processed on the same day today would require two days. While the SEC includes some form of exchanges in the definition of eligible order,¹⁴² members are unclear about how exchanges, where the purchase is NAV-dependent, would be operationalized under the proposal. For example, currently an exchange is regarded as exiting one fund position within a fund complex and using those net proceeds to purchase shares of another fund within the same fund complex. The proposal appears to broaden this definition to exchange activity between two different fund complexes. A single fund complex is able to facilitate the exchange from Fund A to Fund B on the day of submission, presuming the order is submitted during market hours and received by one of the three entities outline within the proposal (e.g., a fund's transfer agent) by 4:00 p.m. ET. However, under the proposal, an "exchange" between two different fund complexes would become a two-day event. The redemption would occur on day one, with the purchase into the unaffiliated fund would take place on day two once the amount of the proceeds from Fund A were known and received. Today, an exchange between funds of two different complexes can be performed on the same day through an estimation and "true up" process preformed via Fund/SERV's[®] DCC&S platform.¹⁴³ A hard close appears to eliminate this type of efficient same-day processing because the purchase of the unaffiliated fund would be received after 4:00 p.m. ET, leaving the investor out of the market for a day.

Additionally, the hard close would upend processing for NAV-dependent products such as fund of fund structures, 529 plans, and variable insurance products, potentially rendering these widely used vehicles less viable.¹⁴⁴ The proposal pays little consideration to the impact of the hard close

¹⁴¹ See the comment letters from SPARK Institute, Inc. and the American Benefit Council for more detailed descriptions of the adverse consequences the proposal would have on retirement plan processing and retirement plan participants.

¹⁴² See the proposed definition of "eligible order."

¹⁴³ DCC&S was developed as an expansion of DTCC's Mutual Fund Services' (MF) Fund/SERV[®] platform to automate and simplify the processing and settlement of retirement transactions for the defined contribution marketplace. Through DCC&S, clients can streamline burdensome administrative processes to settle trades on a T+1 basis.

¹⁴⁴ These complexities are heightened when these products (e.g., target date funds) are held in retirement plans.

on funds of funds and their investors,¹⁴⁵ and does not address at all impacts on variable products and 529 plans and their investors. Investors rely upon these products to save for retirement and their children's education. Once again, a subset of investors would be treated dramatically differently as the result of a hard close.

We discuss the potential effects of a hard close on these products below.

Funds of Funds. The SEC barely acknowledges the impact a hard close would have on funds of funds and provides no analysis of any potential harms or costs. As December 31, 2022, 1,370 funds of funds held \$2.7 trillion in assets.¹⁴⁶ Importantly, 84% of large 401(k) plans offer target date funds, many of which are funds of funds.¹⁴⁷ A hard close would upend fund of fund order processing and trading as it occurs today. It is likely that top-tier funds would need to impose earlier cut-off times for intermediary orders compared to standalone funds. Earlier cut-off times would be necessary to facilitate top-tier funds placing their trades with underlying funds in advance of the *underlying funds'* 4:00 p.m. ET hard close and receiving same-day pricing. However, this also would create an unlevel playing field and further hardships for funds of funds investors.

Imposing a hard close on funds of funds is especially hard to justify, given that the conceptual case for mandating swing pricing for these funds is quite weak. Under both Rule 22c-1 in its current form and the proposed swing pricing amendments, feeder funds are prohibited from using swing pricing.¹⁴⁸ As the SEC stated in the 2015 swing pricing proposal, "With respect to master-feeder funds, we believe the use of swing pricing would generally be appropriate only with respect to the level (or levels) of the fund structure that actually transact in underlying portfolio assets as a result of net purchase or redemption activity."¹⁴⁹ Funds of funds are similar in that they mostly (or entirely) invest in shares of other funds, which in turn purchase and sell other portfolio investments.¹⁵⁰ Swinging NAVs of underlying funds also may present allocation

¹⁴⁵ "[T]he proposed hard close might affect current order processing for funds of funds. We understand that a lower-tier fund in a fund of funds structure may not receive purchase or redemption orders from upper-tier funds until well after 4 p.m. Under the proposed rule, the lower-tier fund (or another designated party) would have to receive an upper-tier fund's orders to purchase or redeem the lower-tier fund's shares before the lower-tier fund's pricing time to receive that day's price for the orders." Proposal at 77213.

¹⁴⁶ See *Monthly Trends in Mutual Fund Investing*, ICI, available at <https://www.ici.org/research/stats/trends>.

¹⁴⁷ 2022 Investment Company Fact Book, available at <https://www.icifactbook.org/>.

¹⁴⁸ Rule 22c-1(a)(3)(iv) and proposed Rule 22c-1(b)(5).

¹⁴⁹ 2015 Proposal at 62342.

¹⁵⁰ See ALFI Swing Pricing Update 2022, Association of the Luxembourg Fund Industry ("ALFI Guidelines"), at 26-27, available at https://www.alfi.lu/getattachment/3154f4f7-f150-4594-a9e3-fd7baaa31361/app_data-import-alfi-alfi-swing-pricing-brochure-2022.pdf. ("If, for example, the feeder fund invests solely in the master fund, then it is unlikely that there is a reason to apply swing pricing to the feeder fund. ... There are many similarities between fund of funds (FoF) structures and master-feeder fund structures.")

and rebalancing issues for top-tier funds, including those that otherwise would not need to adjust their underlying fund allocations but for swings in the underlying fund NAVs. For example, one top-tier fund's purchase and redemption activity could cause NAVs of underlying funds to swing, causing other top-tier funds to transact in the underlying funds to adjust their exposure. A top-tier index fund will be likely to experience tracking error as a result of NAVs of underlying funds being swung.

And finally, requiring fund of funds structures to apply swing pricing could result in inequitable outcomes. For instance, suppose that all underlying funds swing their NAVs down (leading to a decline in the top-tier fund's NAV) on the same day that the top tier-fund experiences inflows that do not trigger an upward swing at that level. In this case, investors purchasing shares in the top-tier fund would receive a discount, diluting the interests of the other top-tier investors.

*529 Plans and ABLÉ Plans.*¹⁵¹ The proposal neglects to consider the impact of a hard close on 529 Plan or ABLÉ Plan investors. Nor did the SEC consider Internal Revenue Code requirements¹⁵² that govern the frequency with which 529/ABLÉ plan owners may make investment elections. Mutual funds are an important component of 529 plans,¹⁵³ and 15% of mutual fund-owning households also hold a 529 plan.¹⁵⁴

Because 529 Plans have various tax and other requirements, an account holder does not make direct investment transactions. Rather, 529 Plans act as intermediaries for parents and others saving for college expenses. Contributions, account rebalances, and distributions are processed by giving instructions to the program administrator, which processes those transactions, broadly similar to a 401(k) plan or IRA. The program administrator, like other intermediaries, can process transactions in bulk and send a single trade instruction to the mutual fund, which nets all the transactions during a single day. And like other intermediaries, the program administrator generally processes transactions received during the day after the close of trading. The program administrator can do so only because the NAV of each mutual fund is known. Thus, the millions of transactions conducted yearly in 529 Plans and ABLÉ Plans are processed efficiently and settle quickly.

¹⁵¹ ABLÉ Plans are state-sponsored accounts for qualified disabled beneficiaries, for the purpose of supporting and maintaining their health, independence, and quality of life.

¹⁵² Internal Revenue Code Section 529(b)(4) states that “[a] program shall not be treated as a qualified tuition program unless it provides that any contributor to, or designated beneficiary under, such program may, directly or indirectly, direct the investment of any contributions to the program (or any earnings thereon) no more than 2 times in any calendar year.”

¹⁵³ In some cases, the investment option is a mutual fund; in others, the account will hold an interest in a trust fund maintained by the 529 Plan, but that trust fund then invests in an underlying mutual fund.

¹⁵⁴ Supplemental Tables: *ICI Profile of Mutual Fund Shareholders 2022*, Figure 1.4:
<https://www.ici.org/research/investors/ownership>

A hard close would disrupt this well-established process and lead to significantly earlier trading cut-off times for 529 and ABLE plan owners, cause extended delays for owners' rebalancing or reallocations efforts, lead to delays in receiving funds for college or medical expense, and result in delays of contributions being invested in the market. Efficient rebalancing is especially important for these investors due to the restriction in the Internal Revenue Code from making more than two investment directions in a year.¹⁵⁵

Variable Insurance Products. Variable insurance products (i.e., variable annuities and variable life insurance contracts), both registered and unregistered, are subject to state insurance law and (to varying degrees) federal securities law. The proposal fails to consider not only the potential economic impacts and costs to issuers and ultimately owners of variable products, but also whether the swing pricing/hard close framework would be consistent with the legal and regulatory requirements for these products; the characteristics of the variable product marketplace; and the investment needs of variable product investors. The SEC must address these concerns, given the importance of variable products to millions of Americans and their families,¹⁵⁶ particularly with respect to their retirement planning.¹⁵⁷

Separate accounts supporting variable products are typically structured as two-tier separate accounts.¹⁵⁸ If a two-tier separate account is registered as an investment company with the SEC, it is classified as a unit investment trust under the Investment Company Act ("UIT separate accounts"). UIT separate accounts virtually always invest all of their assets in the shares of one or more designated underlying mutual funds, which are themselves registered under the Investment Company Act. These underlying mutual funds, in turn, invest directly in portfolio investments (e.g., stocks and bonds).

By virtue of the contractual provisions to which variable product issuers are typically bound, similar to other NAV-dependent products, variable products' procedures for striking unit values, calculating account values, processing unit transactions, and transmitting net purchase or sell orders to underlying funds must begin with the dissemination of the underlying funds' NAVs.

¹⁵⁵ For more information on the burdens that a hard close would impose on 529 and ABLE Plans and their investors, see the comment letter from The College Savings Foundation.

¹⁵⁶ For example, in 2021, there were approximately 28,731,000 in-force variable annuity contracts, and approximately 1,480,000 new variable annuity contracts were issued. See ACLI, Annuity Product Line Report, 2022 (forthcoming).

¹⁵⁷ See, e.g., "The Numbers Show Workplace Annuities Gaining Some Traction," Cyril Tuohy, Ignites (Feb. 1, 2023).

¹⁵⁸ The vast majority of two-tier separate accounts support multiple investment options. Two-tier separate accounts that provide for multiple investment options are divided into accounting divisions (or subaccounts), with each subaccount constituting a single investment option. Each subaccount invests in the shares of a single underlying fund. Many insurers have several separate accounts, hundreds of subaccounts and underlying funds, and thousands of daily subaccount unit values (as each subaccount may have several daily unit values to reflect different product price points).

Under the current framework, even though the insurer transmits its net orders to the funds after 4:00 p.m. ET, the insurer still obtains same-day pricing on those orders because the related contract owner orders were received by the insurer prior to 4:00 p.m. ET.¹⁵⁹ In this regard, insurers are deemed agents of the underlying funds for purposes of receiving fund purchase and redemption orders.

Importantly, a hard close would expose two-tiered separate accounts to “breakage risk” every business day. Breakage exists when a variable contract separate account (or subaccount thereof) has an asset-liability mismatch, most notably when the potential liability (i.e., the value of the outstanding units) exceeds assets (i.e., the value of the underlying fund shares). Currently, two-tier separate accounts avoid breakage because, every business day, the same NAV of the applicable underlying fund is used to both (i) strike unit values for the separate account, and (ii) price the insurer’s net purchase/redemption order to the underlying fund. The alignment of liabilities and assets is possible because the insurer receives same-day pricing on its fund orders, even though those orders are transmitted after 4:00 p.m. ET.

However, if the proposal were adopted as written, separate accounts would incur breakage because insurers would no longer receive same-day pricing on their fund orders. Breakage therefore would occur within every subaccount of every two-tier separate account on every business day. Indeed, the separate account breakage risk would be massive and compounding. The harm to investors and/or costs to insurance companies from this breakage would be severe.

Daily separate account breakage would place insurance companies and investors in an impossible situation:¹⁶⁰

- On one hand, if the separate accounts themselves were to bear the breakage, investors and insurers would be exposed to significant harm and risk. Investors would be harmed because, in the absence of financial support from the general account, the separate account may not have sufficient assets to support contract owner account values and the separate account’s redemption obligations. This would increase the risk that investors would not realize the benefits of their contracts.¹⁶¹
- On the other hand, if the insurer instead were to absorb the breakage by providing financial support to the separate account, the insurer would be exposed to untenable

¹⁵⁹ See, e.g., *New York Life Fund, Inc.*, SEC Staff No-Action Letter (May 6, 1971).

¹⁶⁰ For a more detailed discussion of the potentially adverse implications of the proposal on variable products, see the joint comment letter from American Council of Life Insurers and the Committee of Annuity Insurers.

¹⁶¹ In addition, the insurer might be viewed as (i) being in breach of contract, as the failure to absorb the breakage could be construed as inconsistent with the unit valuation and transaction processing provisions set forth in the insurer’s contracts, and (ii) operating the two-tier separate account in a manner that violates both state and federal law requirements, as neither state nor federal law contemplates separate accounts bearing any breakage.

financial and legal risks, and the financial burden would inevitably fall upon investors.¹⁶² In the short and long term, the breakage would have to be passed onto customers to the extent possible. Insurers would be effectively forced to increase charges on existing contracts up to their maximum limits and impose higher/additional charges on future contracts. In addition, it is reasonable to assume that insurers would try to include novel breakage charges or account value true-up mechanisms in future contracts.

Importantly, putting aside the fact that it is unclear how insurance companies could deal with the breakage problem under the proposal, insurers by law cannot unilaterally change their in-force contracts, including the pricing and processing provisions therein, in a manner that limits contract owner rights. Furthermore, amending in-force contracts would approach practical impossibility. Insurers would need to go through an unpredictable, rigorous, and lengthy state-by-state approval process, and may also be required to obtain customer consent. In that regard, the amendment process would be rife with uncertainty, regulatory risk, and litigation risk.

Section 3.3.3 Assessing the Proposal's Other Rationales in Support of a Hard Close

The SEC's primary motivation for requiring a hard close is to make swing pricing "work." It offers other rationales, however. The proposal states that "the hard close proposal, when coupled with our current rules, would more effectively prevent late trading."¹⁶³ While it refers to the late trading issues that took place within the industry in the early 2000s, it provides no current evidence that late trading is still occurring. The SEC cites no enforcement actions for late trading after 2005, and in those cases, the alleged activity occurred no later than 2003. The SEC also has not issued a Risk Alert regarding late trading in recent memory.

Furthermore, funds and intermediaries, including broker-dealers and recordkeepers, worked together in the mid-2000s to remedy the issue (e.g., by implementing policies and procedures to monitor for and prevent late trading). Rule 22c-2 helped to facilitate funds' ability to monitor for late trading by requiring funds to enter into written agreements with their intermediaries under which intermediaries must, upon request, provide funds with certain shareholder identity and trading information. Additionally, funds include language in their distribution/selling agreements

¹⁶² The financial risk to insurers would be entirely unacceptable, especially from the viewpoint of state insurance departments that regulate the solvency of insurers, and the subsidization of separate account investment operations by insurers' general accounts would be fundamentally inconsistent with federal and state laws applicable to variable products.

¹⁶³ Proposal at 77209. In February 2004, ICI submitted a comment letter supporting proposed changes to Rule 22c-1 under the Investment Company Act. ICI's support of a hard close at that time was solely in response to late trading issues within the industry in the early 2000s and the apparent lack of technology at that time to effectively address those concerns. Since that time, the industry, in part through implementation of Rule 22c-2, has addressed the late trading issues of the early 2000s without the application of a hard close. Additionally, since that time, the significant growth of mutual fund assets held in both retirement accounts and with broker-dealers has made the concept of a hard close both impractical and unworkable.

or omnibus agreements addressing the intermediary's obligation to ensure that only orders received prior to 4:00 p.m. ET receive that day's price. Oversight of this contractual (and regulatory) obligation is part of every fund's intermediary oversight program. In fact, broker-dealers generally engage an outside audit firm to conduct a Financial Intermediary Controls and Compliance Assessment (FICCA),¹⁶⁴ and many recordkeepers engage a third-party audit firm to conduct a system and organization controls (SOC) 1 report issued under AT-C 320, Reporting on an Examination of Controls at a Service Organization Relevant to User Entities' Internal Control over Financial Reporting.

Finally, in Appendix A, using a well-established academic methodology, we test for and do not find current evidence of late trading (See Appendix A, Figure 4.2).

The SEC also suggests that a hard close will improve an intermediary's operational resiliency (based on the assumption that funds, under a hard close, will confirm trades earlier in the day). Again, however, it provides no evidence of issues or failures related to order acceptance, confirmation, or settlement. Instead, it offers theoretical suggestions for improvement without any evidence of benefits. The SEC fails to acknowledge that annually 99% or more of trades confirmed, settle.¹⁶⁵ For example, on average during December 2022 and January 2023 a very small percentage (0.2%)¹⁶⁶ of trades placed by intermediaries and recordkeepers were rejected by the fund. The most common reasons that trades were rejected by the fund include the order is missing a dollar or share amount, the customer's fund account number with the fund is missing from the order, and the amount of the liquidation request exceeds the amount in the customer's account.

Another problematic component of the hard close would be the elimination of cancellations and corrections submitted after the fund's pricing time. The SEC incorrectly assumes that fund shareholders are bearing the cost of errors caused by intermediaries or the fund's transfer agent. Funds have numerous policies and procedures in place to address cancellations and corrections including coverage of any losses incurred as a result of as of transactions processed to address a cancellation or to correct an error. The fund's policies and procedures generally outline who is responsible (e.g., intermediary, fund transfer agent, investor) for covering any losses incurred. Additionally, funds' agreements with intermediaries contain provisions related to the processing of as of transactions, cancellations, and corrections, including when the intermediary must

¹⁶⁴ See *Financial Intermediary Controls and Compliance Assessment Engagements*, ICI Operations (August 2020), available at https://www.ici.org/pdf/20_ppr_ficca.pdf. Control area 9 of the FICCA framework addresses controls related to transaction processing, including that controls are designed to provide reasonable assurance that specified transactions are effected at the proper price.

¹⁶⁵ We understand from conversations with DTCC that only a negligible number of trades confirmed, fail to settle. In fact, failure of a trade to settle once confirmed is an extremely rare occurrence.

¹⁶⁶ Source: DTCC.

reimburse the fund for any losses incurred. Like other justifications for the hard close in the proposal, the SEC provides no evidence of issues or manipulation occurring related to cancellations and corrections. Funds and intermediaries should have the ability to correct errors in a reasonable and timely manner.

Section 3.3.4 Overall Effects on Mutual Funds and Other Policy Considerations

Collectively, these changes would disadvantage the mutual fund as an investment type vis-à-vis other means of investing. It is not at all clear that a resulting migration of assets or flows to other investment vehicles would benefit investors or advance regulatory aims in the aggregate.

First, pooled vehicle types provide different benefits and are not fungible. Mutual funds work well in retirement plans in part because their shares price daily and they are generally offered in fractional shares, conventions that make them compatible with current systems and investor practices. Mutual funds also allow for a wide array of non-transparent investment strategies in a way that most ETFs do not.

Nor is it clear that a migration of assets from mutual funds to non-pooled products (e.g., separately managed accounts or brokerage accounts holding separate securities or other investment products) would lead to any lessening in overall selling activity in times of stress.¹⁶⁷ In stressed conditions, a certain amount of aggregate selling from investors, irrespective of vehicle or account type, is to be expected. Mutual fund investors are by no means unique in that regard. The SEC and other regulators instead should focus on strengthening and improving the resilience of the markets for the benefit of all participants, even during times of stress.

Section 3.4 Specific Comments on the Swing Pricing Proposal

We oppose the SEC's mandatory swing pricing amendments for all mutual funds. Swing pricing continues to be operationally unworkable across mutual funds generally. And as a matter of policy, the 2016 amendments are far superior to the proposed amendments. We elaborate on these points below.

¹⁶⁷ See Christof W. Stahel, *Strategic Complementarity Among Investors with Overlapping Portfolios* (working paper, May 1, 2022), available at <https://ssrn.com/abstract=3952125> (finding no difference in the responsiveness of direct and indirect investors to past underperformance, consistent with the more general explanation that strategic complementarities arise because of the finite asset market liquidity all market participants face, rather than because of the structure of mutual funds).

Section 3.4.1 Feasibility of Swing Pricing in the United States

To be clear, we do not object to swing pricing in concept. Many of our members use it outside the United States and have found it to be beneficial—in *those other markets*. To date, the differences between the US and European fund markets in particular have been too significant.

As the SEC knows—and has since at least early 2016¹⁶⁸—for swing pricing to be legally and operationally workable, funds must have complete (or at least high confidence in a near-complete) daily flow information around the time they begin calculating their NAV per share (typically 4:00 p.m. ET). Yet in many cases, intermediaries need from the fund a final NAV before finalizing and disseminating daily flow information to the fund. In short, this “chicken-and-egg” conundrum has made swing pricing unworkable in the United States.

Below we compare the European and US fund markets and explain in more detail why swing pricing has been operationalized in the former but not the latter.

Section 3.4.1.1 The Significant Differences Between the European and US Fund Markets

The SEC favorably cites Europe’s experience with swing pricing but does not account for the critical differences between the European and US markets. Importantly, use of swing pricing in Europe is *optional*, and the swing pricing framework is far less prescriptive than the SEC’s proposal. In Europe, firms may set their own swing factors and thresholds periodically and are not forced into a prescriptive one size fits all model. This flexibility is key to the success of swing pricing in Europe.

Notably, the European shareholder base, fund operating models, and fund distribution infrastructure differ significantly from those in the United States. According to the European Fund and Asset Management Association (EFAMA), about 27%¹⁶⁹ of European investment fund assets¹⁷⁰ are held by retail shareholders in Europe, versus 94%¹⁷¹ held by retail shareholders in the United States (see also Appendix A, Figure 2.1). In addition to having a large institutional shareholder base, the European market does not include 401(k) plans or the range of NAV-dependent products (e.g., variable annuities, 529 plans) that compose a large part of the US market and upon which many US investors depend. While fund of fund products are used in

¹⁶⁸ See, e.g., 2016 ICI Letter 1 at 54-69 and Appendix D.

¹⁶⁹ European Fund and Asset Management Association 2022 Fact Book available at <https://efama.vcpgraphics.online/efama-fact-book-2022>.

¹⁷⁰ Pooled investment vehicles in Europe are registered under the Undertakings for the Collective Investment in Transferable Securities (UCITS) directive or to a lesser extent, the Alternative Investment Fund Management Directive (AIFMD).

¹⁷¹ Investment Company Institute 2022 Fact Book, available at <https://www.icifactbook.org>.

Europe, their use is limited to retirement plan products, whereas fund of fund products are widely available to both retail shareholders and retirement plan participants in the United States.

Another critical difference between the European market and the US market is the denominations used by shareholders when placing trades. Most shareholder trades in Europe are denominated in currencies, which can be readily processed by funds and intermediaries without estimation, with a lesser portion in share or unit amounts or a percentage of assets held.¹⁷² Furthermore, retirement payroll in Europe is generally processed in cash amounts versus as percentages in the US markets (e.g., purchase 35% of fund X, 35% of fund Y, and 30% of fund Z). This differs from the US experience, where there are a wide mix of orders denominated in shares, percentages of holdings, and currencies.

Most distribution in Europe does not employ an agency distribution model or arrangement between mutual funds and intermediaries. As a result, trade orders in Europe are not “in good order” until they are accepted by the investment funds’ transfer agent—unlike in the United States, where agency arrangements allow the mutual funds’ *intermediary partners* to make an initial good order determination until the fund’s closing time. Because the European model requires trades to be received by the investment funds’ transfer agent in good order, the funds have almost full visibility into the daily shareholder activity supporting computation with a high level of accuracy of estimated net capital flow for the day, before they calculate the NAV.

Similarly, the use of omnibus accounts and processing by intermediaries in Europe is extremely limited versus the extensive use of omnibus accounting and processing by intermediaries in the US market.

Most investment funds in Europe have several hours between the cut-off time for receiving trades at the fund transfer agent and calculating NAV. The example below describes timing for Luxembourg-domiciled investment funds and demonstrates how the model accommodates funds’ ability to follow daily trade activity.

1. Final cut-off for trading (subscription/redemption orders) generally runs from mid-afternoon (about 2:30 p.m. Central European Time, although possibly as early as 12:00 p.m. CET) through late evening (10:00 p.m. CET for the SWIFT electronic

¹⁷² Subscriptions (purchases of shares) are generally denominated in currencies. Share- or unit-based orders are generally used for redemptions of shares.

platform).¹⁷³ This contrasts with the United States, where most funds tie the cut-off for trading, directly or indirectly, to the NYSE market closing time of 4:00 p.m. ET.¹⁷⁴

2. Between final cut-off time and about 10:30 p.m. CET, the funds gather and review fund flow information (e.g., flow reports, transfer agent files of actual and estimated transactions, intermediary trade flows) that provides a reliable picture of the day's net capital flow and determines the net capital activity for the day.

The lack of US-style agency arrangements in Europe compels European distributors to provide all of a day's trading activity to the fund before distributors receive the fund's current-day NAV. Fund transfer agents can use this information when determining net capital flows. Because of the time available between trading cut-off and the start of the valuation process, the fund typically can estimate the effect on net capital flow of unit-based (or percentage-based) orders received by converting them to monetary value using the prior day's NAV.

3. Normally by early evening on trade date,¹⁷⁵ the fund valuation process is completed, and the fund accounting agent provides an indicative NAV to the fund manager. Once the fund manager has reviewed and approved the NAV calculation, the final NAV is published, typically between 8:00 and 11:00 p.m. CET.

In contrast, US mutual funds attempt to complete their valuation process and publish their final NAVs by 6:00 p.m. ET. This timeframe is necessary to allow intermediaries time to complete their NAV-dependent processes. These include calculating NAVs for any intermediary-created unitized products that may hold mutual funds as securities; pricing and creating exchanges; converting share- and percentage-based orders; and processing of retirement (e.g., defined contribution) instructions.

This example highlights that the operating model for determining fund flow information in Europe benefits significantly from the extensive time available between trading cut-off and initiation of the fund's NAV valuation process, and when the NAV is published.

¹⁷³ There are very rare instances where trades may arrive after the cut-off time, typically due to time zone differences for cross border trading or unexpected delays in system processing and represent a minor percentage of the overall capital flow. Over time, many funds have evaluated their procedures and capital flow activity and have determined that the capital flow information received by the fund's final cut-off is generally accurate.

¹⁷⁴ The consistent cutoff across all distribution channels in the US is foundational to support the predominant intermediary based fund distribution model and ensures equal treatment of all fund shareholders regardless of their choice of service model.

¹⁷⁵ The timing of the valuation process will vary depending on product types, fund company practices, and the fund's domicile. Generally, most European fund houses publish their NAVs on trade date in the evening after completing the valuation process.

The European market crosses two time zones (western Europe and central Europe); whereas the US market spans nine standard times zones.¹⁷⁶ While there is a minimal time difference between the western and central European time zones, there is a significant disparity between the western and eastern US time zones, making the implementation of earlier trade cut-off times similar to those used in Europe extremely difficult and disadvantageous for shareholders who live in American Samoa, Hawaii, Alaska, or even California.¹⁷⁷

The US market structure has developed over the last 80 years to provide fund shareholders with an experience that is substantially similar to that enjoyed by every investor trading any other security. To achieve this, the US market has unique, overarching features—agency, omnibus structure, and defined contribution retirement plans—that pose challenges to using certain anti-dilution tools that are not necessarily seen in other parts of the world. Comparisons of use of swing pricing or other anti-dilution tools across differing markets must take account of these structural features.

Theoretically, the hard close requirement would “solve” the daily flow conundrum. But as discussed above, the extreme costs and collateral damage caused by a hard close requirement would more than outweigh the potential for minor benefits that swing pricing might bring to a small percentage of mutual fund investors. And without a hard close, swing pricing is no more workable today than it was in 2016. We therefore oppose any mandatory swing pricing regime for mutual funds.

Section 3.4.1.2 Evaluating Swing Pricing Without the Hard Close

The small sub-set of funds for which resiliency and dilution risks could be more than *de minimis* still could not operationalize swing pricing, even if the SEC instead mandated the optional and far-superior 2016 amendments and further modified them to facilitate swing pricing (e.g., by evaluating the “high confidence” standard for estimating daily flows and considering a safe harbor). In nearly all cases, funds just do not have even a majority of their daily flow information as of 4:00 p.m. ET.¹⁷⁸

¹⁷⁶ The nine US time zones include Atlantic, Eastern, Central, Mountain, Pacific, Alaska, Hawaii-Aleutian, American Samoa, and Chamorro.

¹⁷⁷ Further, the expectations of US and European investors are inherently different. For instance, Luxembourg-based funds are offered for sale in Asia, so, inherent in product conception, design, and launch, there are different investor expectations regarding the fund’s features.

¹⁷⁸ On average, only 13% of intermediary orders denominated in dollars are transmitted via DTCC to funds by 4:00 p.m. ET each day. On average, only 23% of all intermediary orders (denominated in dollars or shares) are transmitted via DTCC to funds by 4:00 p.m. ET. Source: DTCC.

The 2016 rule requires funds to have “high confidence” in estimated daily flows when using swing pricing. For funds with limited flow information, even a more flexible standard would not suffice because estimating flows accurately for most funds on a daily basis is still not achievable.

The SEC suggests that *indicative flows* could be useful in this regard, which would require that intermediaries estimate what they anticipate the given flows for a particular day to be either before the fund’s pricing time or at a set time thereafter. But this also would require a significant set of systems changes for intermediaries and increase risk for both funds and intermediaries by requiring extra steps in their daily workflows (e.g., a reconciliation of estimates to actual figures). Also, it is unclear whether or how this would work in cases where more than one intermediary separates the investor from the fund (e.g., where a clearing and an introducing broker both are present).

The SEC also suggests that funds could *estimate flows*, using models that incorporate the information available to them (e.g., they could use flows received by a pre-established time as well as historical order flow information). But the accuracy of these estimates will depend in large part on the percentage of flows a fund actually receives, compared to those that are still outstanding as of the time the fund must strike its NAV. And in times of stress, the predictive accuracy of these models may weaken. Correlations may be informative and useful—until they’re not.

In short, far more analysis and consultation in this area must be done.

Section 3.4.2 Assessing the Policy Merits of the Proposed Swing Pricing Amendments

Setting aside operational considerations, as a matter of policy the 2022 proposal is significantly worse than the 2016 amendments and Europe’s regulatory approach to swing pricing. We compare the 2022 proposal to each below. For the most part, the 2016 amendments were a reasonable codification of swing pricing practices in Europe (Luxembourg Undertakings for the Collective Investment in Transferable Securities (UCITS) in particular).¹⁷⁹ By contrast, no other swing pricing regulatory framework worldwide comes close to matching the 2022 proposal’s degree of prescription. The SEC approvingly cites Europe’s experience with swing pricing, yet departs dramatically from the regulatory approaches taken there. We conclude by recommending specific amendments to the 2016 amendments.

Section 3.4.2.1 2022 Proposed Amendments vs. 2016 Amendments

The 2016 amendments are superior to the proposed amendments in most key respects. Most significantly, the 2016 amendments are entirely permissive. Through its 2016 rulemaking, the

¹⁷⁹ See, e.g., *Swing Pricing*, Association of the Luxembourg Fund Industry (Dec. 2015).

SEC was “providing funds the option to use swing pricing as another anti-dilution tool ... [that] may complement or be an alternative to the tools currently available to funds.”¹⁸⁰ The SEC moves away from regarding swing pricing as a potentially useful tool as determined by the fund to requiring its use and parameters for all mutual funds.

Second, the 2016 amendments require *funds* to set their own swing thresholds at amounts other than zero.¹⁸¹ As the SEC correctly noted in 2016:

We believe that different levels of net purchases and net redemptions would create different risks of dilution for funds with different strategies, shareholder bases, and other liquidity-related characteristics, and thus we do not believe that it would be appropriate to determine a single swing threshold floor to apply to all funds that elect to use swing pricing.¹⁸²

The 2016 amendments’ aim was not to rid funds entirely of shared transaction costs, particularly where they are *de minimis*. To the contrary, the amendments recognize that a certain amount would remain, even for those funds that adopted swing pricing.

This appreciation for fund-specific variation and the attendant need for flexibility is almost entirely missing from the 2022 proposal, which effectively would set these thresholds for all funds, as follows:

- In the case of net redemptions, a fund *always* would apply swing pricing (i.e., without a swing threshold).

¹⁸⁰ 2016 Swing Pricing Release at 82087.

¹⁸¹ Under the 2016 amendments, the “swing threshold” is the amount of net purchases or redemptions of fund shares, expressed as a percentage of the fund’s NAV, that triggers swing pricing. The amendments impose a partial swing pricing methodology (i.e., by requiring a threshold, a fund’s NAV per share will not swing on those days that net flows fall short of it), although they do not stipulate a minimum threshold amount. A fund must consider the following factors in setting its threshold: (i) the size, frequency, and volatility of historical net purchases or net redemptions of fund shares during normal and stressed periods; (ii) the fund’s investment strategy and the liquidity of its portfolio investments; (iii) the fund’s holdings of cash and cash equivalents, and borrowing arrangements and other funding sources; and (iv) the costs associated with transactions in the markets in which the fund invests. “[A] fund’s swing threshold should generally reflect the estimated point at which net purchases or net redemptions would trigger the fund’s investment adviser to trade portfolio assets in the near term, to a degree or of a type that may generate material liquidity or transaction costs for the fund.” 2016 Swing Pricing Release at 82096.

¹⁸² 2016 Swing Pricing Release at 82096.

- A fund would include market impacts in its swing factor if net redemptions exceed 1% of the fund’s net assets (the “market impact threshold”).¹⁸³
- When a fund has net purchases, it would swing its NAV upward—and include market impact—if the amount of net purchases exceeds 2% of the fund’s net assets (the “inflow swing threshold”).¹⁸⁴

Third, the 2016 amendments provide much more latitude to funds to set their swing factors.¹⁸⁵ The 2016 amendments do not permit funds to consider market impact in setting their swing factors; whereas the 2022 proposal would *require* incorporation of market impact¹⁸⁶ into the swing factor when daily flows exceed certain thresholds. In our 2016 comment letter, we opposed mandatory inclusion of market impact in the swing factor, stating:

estimating market impact costs *a priori* is very difficult, and requires judgments in which some fund managers may not have a high degree of confidence. ... Instead, the SEC should permit funds to build their own methodologies, shaped broadly by SEC guidance within the adopting release. Under this approach, a fund’s swing pricing methodology initially may capture only those variables that

¹⁸³ The “market impact threshold” would be defined as “an amount of net redemptions equal to 1 percent of a fund’s net assets, or such smaller amount of net redemptions as the swing pricing administrator determines is appropriate to mitigate dilution.” Proposal at 77289-90. The SEC explains that “[m]arket impact costs reflect price concessions (amounts added to the purchase price or subtracted from the selling price) that are required to find the opposite side of the trade and complete the transaction.” Proposal at n.181.

¹⁸⁴ The “inflow swing threshold” would be defined to mean “an amount of net purchases equal to 2 percent of a fund’s net assets, or such smaller amount of net purchases as the swing pricing administrator determines is appropriate to mitigate dilution.” Proposal at 77289.

¹⁸⁵ Under the 2016 amendments, the “swing factor” is the amount, expressed as a percentage of the fund’s NAV and determined pursuant to the fund’s swing pricing procedures, by which the fund adjusts its NAV per share once net purchases or redemptions exceed the applicable swing threshold. A fund must consider the following factors in setting its swing factor(s): (i) the establishment of an upper limit on the swing factor(s) used, which may not exceed two percent of the NAV per share; and (ii) the determination that the factor(s) used are reasonable in relationship to the applicable near-term costs. In setting the swing factor and upper limit, the administrator may consider only near-term costs expected to be incurred by the fund as a result of net purchases or net redemptions that occur on the day the swing factor(s) is used, including spread costs, transaction fees and charges arising from asset purchases or asset sales resulting from those purchases or redemptions, and borrowing-related costs associated with satisfying redemptions.

¹⁸⁶ Under the proposal, a fund would determine “market impact” by “(A) Establishing a market impact factor for each investment, which is an estimate of the percentage change in the value of the investment if it were purchased or sold, per dollar of the amount of the investment that would be purchased or sold; and (B) Multiplying the market impact factor for each investment by the dollar amount of the investment that would be purchased or sold if the fund purchased or sold a pro rata amount of each investment in its portfolio to invest the net purchases or meet the net redemptions.” Proposal at 77288-89.

it may estimate with greater confidence, such as transaction costs (more narrowly understood) and certain other fees.¹⁸⁷

This continues to be our view. We also would note that requiring market impact would add cost to the ongoing operation of swing pricing, as it would require many funds to obtain and review new information (including from third parties) on a daily basis. According to the Association of the Luxembourg Fund Industry (ALFI) swing pricing survey, most asset managers have not and still do not include market impact in their swing factors.¹⁸⁸ It also is incongruent for the SEC to expect funds to estimate their daily flows with “high confidence” while requiring the swing factor itself to incorporate a number in which fund advisers frequently have *no* confidence.

Additionally, the 2022 proposal would require the swing pricing administrator to make good faith estimates, supported by data, of the costs the fund would incur if it purchased or sold a *pro rata* amount of each portfolio investment to satisfy the amount of net purchases or net redemptions (i.e., a vertical slice). The 2016 amendments contain no similar provision.

We oppose this aspect of the proposal. While this type of simplifying assumption may ease administrative burdens, it should not be required. In response to outflows (inflows), funds (including index funds) do not sell (buy) portfolio investments in such a mechanistic way.

Fourth, the 2016 amendments were accompanied by helpful guidance on errors. ICI’s 2016 comment letter requested guidance regarding what would constitute an “error” in the swing pricing context, given that a fund could misstate its NAV solely because it did not have access to complete flow information at the time it had to calculate and disseminate it. The 2016 Swing Pricing Release addresses this subject,¹⁸⁹ stating in part that fund management with oversight by the fund’s board of directors is in the best position to tailor and oversee any error correction policies that may relate to swing pricing. It appropriately states:

We believe that as long as the fund has followed reasonable practices, policies and procedures in gathering sufficient information in determining whether net investor flows (which may include reasonable estimates) have exceeded the applicable threshold used for swing pricing, such differences [in actual versus estimated net flows] would not in and of itself result in a determination of a NAV pricing error

¹⁸⁷ ICI 2016 Letter 1 at 66.

¹⁸⁸ Association of the Luxembourg Fund Industry (ALFI), *Swing Pricing, 2022 Update (“ALFI Survey”)* (noting that 35% of surveyed asset managers include market impact in their swing factors), available at https://www.alfi.lu/getattachment/8417bf51-4871-41da-a892-f4670ed63265/app_data-import-alfi-alfi-swing-pricing-survey-2022.pdf.

¹⁸⁹ 2016 Swing Pricing Release at 82114-15.

requiring reprocessing of transactions or a financial statement adjustment to the fund's NAV.¹⁹⁰

In sharp contrast, the 2022 proposal contains no similar guidance, a particularly glaring and concerning omission given that swing pricing now would be required.

In one respect, we prefer the 2022 proposal to the 2016 amendments. The 2022 proposal's board-related provisions better reflect the fund board's role as one of oversight.¹⁹¹ Such an approach also is consistent with Rule 2a-5, which permits a fund board to designate the fair value determination relating to any or all fund investments to a "valuation designee."¹⁹²

We believe the 2022 proposal's decision not to impose a 2% cap on the swing factor, as the 2016 amendments do, deserves careful study. We acknowledge that removing this cap would provide additional flexibility to funds in times of stress. On the other hand, it would be rare for funds to exceed this limit—transaction costs are generally far lower. Also, in adopting the 2% cap on redemption fees in Rule 22c-2, the Commission expressed concern that "a higher redemption fee could harm ordinary shareholders who make an unexpected redemption as a result of a financial emergency. Moreover, it would in our judgment impose an undue restriction on the redeemability of shares..."¹⁹³ Such implications deserve more consideration.

Section 3.4.2.2 US Proposed Amendments vs. Swing Pricing in Europe

While the SEC cites Europe's experience with swing pricing (particularly during March 2020) in support of mandatory swing pricing, the SEC's proposed swing pricing framework departs significantly from the European model, which provides flexibility to funds and their managers in implementing swing pricing for the benefit of investors. In fact, many key elements of the European framework, which have contributed to successful implementation of swing pricing for UCITS, are noticeably absent in the proposal.

European managers view swing pricing's inherent flexibility as key to its operability and effectiveness. We believe that this flexibility is particularly important during periods of significant market and liquidity stress. Furthermore, the European framework operates without a

¹⁹⁰ 2016 Swing Pricing Release at 82115.

¹⁹¹ Under the proposal, a fund's board, including a majority of the independent directors, must: (i) approve the fund's swing pricing policies and procedures; (ii) designate the fund's swing pricing administrator; and (iii) review, no less frequently than annually, a written report prepared by the administrator. Under the 2016 amendments, a fund board also must approve the fund's swing threshold(s) and the upper limit on the swing factor(s) used, and any changes to the swing threshold(s) or the upper limit on the swing factor(s) used.

¹⁹² See *supra*, note 110.

¹⁹³ *Mutual Fund Redemption Fees*, SEC Release No. IC-26782, 70 Fed. Reg. 13328 (Mar. 18, 2005) ("Rule 22c-2 Adopting Release"), available at <https://www.sec.gov/rules/final/ic-26782fr.pdf>.

presumption of exact precision, either in determining swing pricing thresholds or factors. It relies on the fund manager's internal policies and procedures in setting an appropriate framework, rather than through rigid criteria. The SEC's proposal lacks these core European attributes.

We describe the critical differences between European practice and regulation and the SEC's proposal below.

Section 3.4.2.2.1 Critical Differences between EU Swing Pricing Framework and the SEC Proposal

In Luxembourg and Ireland, there are no specific rules that regulate funds' ability to use swing pricing,¹⁹⁴ but funds and their managers have used swing pricing under the supervision of their regulators—Commission de Surveillance du Secteur Financier (CSSF) and the Central Bank of Ireland (CBI), respectively. In Luxembourg, where swing pricing is frequently used, and has been for decades,¹⁹⁵ the CSSF has issued FAQs on swing pricing requirements.¹⁹⁶ Moreover, ALFI also has published swing pricing guidelines that have shaped swing pricing practices for Luxembourg-domiciled UCITS.¹⁹⁷ In Ireland, the CBI permits UCITS to use swing pricing as

¹⁹⁴ Currently, there is no explicit provision on swing pricing in the UCITS Directive. Proposed changes to the UCITS Directive and Alternative Investment Fund Management Directive would provide more uniformity in the liquidity management tools in the European Union. The proposed changes are still subject to amendment and negotiation among the Council, the European Parliament, and the European Commission. The European Commission's proposal would require fund managers to choose at least one of the eight enumerated tools that are included in the Directive. In proposing this approach, the Recital of the European Commission's November 2021 draft of the draft legislation notes the importance of providing flexibility to fund managers: "[F]or liquidity risk management different levels of intervention to ensure financial stability were considered. The chosen option is the least prescriptive. Fund managers of open-ended funds would be able to suspend the repurchase or redemption of the AIF or UCITS units or shares temporarily. They would also be required to choose at least one other liquidity management tool, without imposing which one, thus leaving fund managers with the final decision, which they could activate should circumstances so require." European 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 (Nov. 25, 2021), available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0721>.

¹⁹⁵ See Law of 20 December 2002 Relating to Undertakings for Collective Investment and Amending the Law of 12 February 1979 Concerning the Value Added Tax, available at www.cssf.lu/wp-content/uploads/L_201202_UCI.pdf.

¹⁹⁶ *CSSF Swing Pricing Mechanism—FAQ*, Version 4—August 2021 ("CSSF Swing Pricing FAQ"), available at www.cssf.lu/wp-content/uploads/FAQ_Swing_Pricing.pdf.

¹⁹⁷ See *supra*, note 150.

well as “anti-dilution levies,” subscription fees, redemption fees and other liquidity management tools.¹⁹⁸

We focus on Luxembourg and Ireland because they are the jurisdictions in which many US managers domicile their UCITS. Unless otherwise noted, the requirements in those jurisdictions are described together.

Section 3.4.2.2.2 Mandatory v. Discretionary Use of Swing Pricing

In Europe, swing pricing is just one of many anti-dilution and liquidity management tools available to UCITS to protect investors against potential dilution.¹⁹⁹ In Luxembourg and Ireland, there are nearly a dozen different liquidity management tools that are available to funds and their managers, and the regulators in these jurisdictions have not mandated the use of any particular tool.²⁰⁰ Moreover, even if a fund has determined to adopt swing pricing, it can retain the discretion not to employ the mechanism for any given transaction or on any given day and may choose to use a different liquidity management tool if disclosed in the fund offering document and permitted by the fund’s constitutional document.²⁰¹ Fund managers, which have detailed and up-to-date information about the funds they manage and the behavior of their respective investor

¹⁹⁸ Article 38 of the Central Bank Supervision and Enforcement) Act 2013 (Section 48(1) (Undertaking for Collective Investment in Transferable Securities) Regulations 2019 states that “a responsible person may apply an anti-dilution levy to a UCITS only if the constitutional document of the relevant UCITS provides that in calculating the redemption (or subscription) price for the UCITS the responsible person may, on any dealing day on which there are net redemptions (or subscriptions), adjust the redemption (or subscription) price by deducting (or adding) an anti-dilution levy to cover dealing costs and to preserve the value of the underlying assets of the UCITS.” Central Bank Act 2013 (Regulations 2019) (SI 230/2019) (Ir.), Art. 38, available at <https://www.centralbank.ie/docs/default-source/regulation/industry-market-sectors/funds/ucits/guidance/cbi-ucits-regs-si-230-of-2019.pdf?sfvrsn=2>.

¹⁹⁹ According to a 2020 survey of ICI member fund complexes on liquidity management tools, all of the responding fund complexes adopted at least one of the liquidity management tools permissible in Ireland, Luxembourg, and the United Kingdom. Besides suspensions and gates, the individual tools most often adopted were in-kind redemptions (86%), temporary borrowings (72%), and swing pricing (52% had partial swing pricing and 14% had full swing pricing). ICI European Report at 2. For additional information on the availability of liquidity management tools available to UCITS and AIFs across European domiciles in 2020, see European Securities and Markets Authority Report: *Recommendation of the European Systemic Risk Board (ESRB) on liquidity risk in investment funds* (12 Nov. 2020) at 36-37, available at https://www.esma.europa.eu/sites/default/files/library/esma34-39-1119-report_on_the_esrb_recommendation_on_liquidity_risks_in_funds.pdf.

²⁰⁰ ICI European Report at 2; ALFI Survey at 17-18. Aside from swing pricing, types of liquidity management techniques used as anti-dilution mechanisms include the use of bid offer pricing, assets-in-kind, redemption gates, dilution levies, dilution adjustment, redemption/settlement deferral, suspension of redemption, temporary borrowing, side pockets, and mutually agreed redemption plans for large redemption requests. *Id.* at 17.

²⁰¹ While both Ireland and Luxembourg use swing pricing, UCITS generally have discretion in relation to application. See ICI European Report at 21. CSSF Circular 19/733, which endorsed the IOSCO recommendations and good practices on liquidity risk management in a Luxembourg context, provides that the investment funds “should consider integrating an appropriate range of additional liquidity management tools which could contribute to a better management of liquidity risk.”

bases, are therefore able to deploy the most suitable tool under particular circumstances.²⁰² For example, in Ireland, a fund with an institutional investor base that experiences a large redemption from a single investor or a small number of investors may choose to apply an anti-dilution levy to allocate the transaction costs to those investors rather than swing the NAV for all investors of the fund, including those who are subscribing to the fund.²⁰³

And in both Ireland and Luxembourg, UCITS may choose to adopt a “full swing” approach, or a “partial swing” approach. For an umbrella fund, the fund manager can reserve the ability to use a different approach to swing pricing for each sub-fund provided that the potential use for a particular sub-fund of the umbrella fund is properly disclosed in the fund’s or sub-fund’s offering documents (i.e., the prospectus or supplement). Swing pricing may further be implemented on a share class by share class basis. Under full swing pricing, a fund’s NAV is swung on every dealing day where there are any net flows (in or out of the fund), regardless of the amount of flows. For partial swing pricing (which is the typical approach among UCITS that use swing pricing),²⁰⁴ a pricing adjustment will only be activated by a certain level or threshold of net flows in or out of the fund (e.g., aggregate redemptions or subscriptions reach a pre-determined threshold, assessed as a percentage of the UCITS’s net assets). Each fund individually determines its swing pricing threshold based on a variety of factors, including the characteristics of its investor base.

Funds with institutional investors more frequently use full swing pricing because those transactions are typically larger in size and more likely to incur transaction costs. Funds with many, smaller retail investors are more likely to use partial swing pricing for large flows that in the aggregate are likely to incur transaction costs.²⁰⁵ There are various considerations for setting thresholds for partial swing pricing, including the size of the fund, investor base and concentration, and the type and liquidity of portfolio securities.

By sharp contrast, the SEC’s proposal would mandate swing pricing and generally set the thresholds by rule (with any daily net outflow triggering a swing),²⁰⁶ regardless of the type of fund, fund characteristics, or market conditions. US long-term mutual funds are comprised primarily of retail investors, and their activities may not ordinarily result in material transaction

²⁰² BlackRock, *A European Perspective on Managing Liquidity Risk in Investment Funds* (July 2022), <https://www.blackrock.com/corporate/literature/whitepaper/a-european-perspective-on-managing-liquidity-risk-in-investment-funds-070822.pdf>.

²⁰³ ICI European Report at 22.

²⁰⁴ ALFI Survey at 4.

²⁰⁵ ICI European Report at n.42.

²⁰⁶ Under the proposal, however, the swing pricing administrator could set an “inflow swing threshold” of less than 2 percent. Thus, the discretion is limited and in one direction, i.e., permitting funds to move *closer* to “full swing pricing.”

costs.²⁰⁷ A requirement to use swing pricing any day a fund experiences net redemptions may result in frequent swings for smaller transaction costs. Mandating the use of swing pricing and setting uniform thresholds for all funds is very much at odds with the diverse size, investor base, and portfolio composition of US funds and would provide almost no flexibility to accommodate their unique characteristics.

Section 3.4.2.2.3 European Flexibility in Determining Swing Factors

The European swing pricing framework is based on the recognition that a level of estimation is a necessary part of determining the swing factor. Funds have flexibility in how swing factors are calculated. Although bid-offer spread information is a key component, a number of other considerations, including a fund's specific characteristics, can be incorporated in deriving a swing factor.²⁰⁸ Funds also could consider costs specific to a particular class, whether the fund is an active or passive fund, and/or whether the fund or class uses derivatives.²⁰⁹ A fund could additionally consider "tiering" the swing factor to better reflect the size of the net flows.²¹⁰ In situations where transaction costs are incurred specifically at the share class level, funds also may consider applying an additional swing factor at the share class level.²¹¹

European fund managers typically review and adjust swing factor models at intervals they deem appropriate, such as quarterly or monthly, based on fund-specific circumstances and as set out in the relevant swing pricing policy. For example, under normal market conditions, the majority of asset managers in Luxembourg review and calculate swing factors on a monthly (24%) or quarterly basis (59%).²¹² Because the calculation is not an exact science and cannot be done with complete precision, there is little need for funds to calculate swing factors on a daily basis under "normal" market conditions. The frequency of review and adjustment of swing factors do change during times of market volatility. In March and April 2020, over two-thirds of ALFI survey respondents shifted to daily or ad hoc review of swing factors during some portion of this period.²¹³ Finally, in Luxembourg, which requires disclosure of the maximum swing factor, a fund may apply a higher swing factor than the maximum disclosed if the prospectus discloses the

²⁰⁷ ICI, 2022, Investment Company Fact Book at 48, <https://www.icifactbook.org/> (finding that at year-end 2021, retail investors held 94% of the \$22.1 trillion in US long-term mutual fund net assets).

²⁰⁸ See e.g., ALFI Guidelines at 13. For example, considerations could include broker commissions paid by the fund, custody transaction charges, fiscal charges like stamp duties or sales taxes, and market impact.

²⁰⁹ *Id.* at 13.

²¹⁰ *Id.* When swing factors are "tiered," increasingly large swing factors are implemented at increasing thresholds of flow activity.

²¹¹ ALFI Guidelines at 26. In Europe, individual share classes may differ in terms of expense rates, distribution policies, currencies, or minimum holdings.

²¹² ALFI Survey at 14.

²¹³ ALFI Survey at 14.

possibility that a higher swing factor could be applied in certain predefined conditions and the fund notifies the CSSF and investors.²¹⁴

By contrast, the SEC's proposal is more prescriptive by focusing only on transaction costs rather than fund-specific characteristics. Although UCITS may consider a combination of factors they determine relevant, all US funds would follow a more highly prescribed method of determining the swing factor. UCITS may consider different factors that may vary by fund or share class, taking into account liquidity risk profiles and transaction costs, among other factors. Providing funds with the flexibility to consider fund characteristics and history is particularly valuable in volatile markets.

Section 3.4.2.2.4 Market Impact Costs

In Europe, although funds may consider market impact costs in their calculation of a swing factor, there is no requirement that they do so.²¹⁵ As discussed above, the proposal would require funds to incorporate market impact into their swing factors at certain daily flow thresholds, a highly subjective measure for which funds have no readily available and reliable data. Given the difficulty of this exercise, allowing flexibility for funds to incorporate the market impact cost if practicable and if the data is determined to be reliable (or otherwise sufficient under the circumstances) would be the far better approach.

Section 3.4.2.2.5 Public Disclosure of Swing Thresholds and Factors

Although certain European funds selectively disclose their swing factors and swing pricing thresholds to investors, many have chosen not to.²¹⁶ The CSSF and the CBI do not require UCITS to disclose swing thresholds to investors, but the CSSF does require maximum swing factors to be disclosed in the prospectus.²¹⁷ Many UCITS choose not to publicly disclose this information because of concerns that disclosure could provide an avenue to sophisticated investors to attempt to strategically time their purchases and redemptions based on expected swings.²¹⁸ By contrast, the proposal would require funds to publicly disclose on Form N-PORT

²¹⁴ CSSF Swing Pricing FAQ at questions 7 and 8.

²¹⁵ ALFI Guidelines at 13.

²¹⁶ ALFI Survey at 9.

²¹⁷ ICI European Report at 21; CSSF Swing Pricing FAQ (confirming that the prospectus shall provide “the maximum swing factor applicable (as a percentage of the NAV or in monetary value); funds can differentiate in this context between normal and unusual market conditions (e.g., higher market volatility).”).

²¹⁸ A survey on disclosure of thresholds among UCITS found that only two asset managers publicly disclose thresholds via their website, five make this available upon client request and the remaining asset managers do not disclose this information. A survey on the disclosure of swing factors among UCITS found a trend towards greater

information about the number of times the fund applied a swing factor during the month and the amount of each swing factor applied (positive or negative).

Moreover, disclosure and investor understanding of swing pricing may be easier in Europe because of the European investor base, and there is also already an understanding among European investors that swing pricing is not a precise science. US funds, on the other hand, will face enormous challenges in educating retail investors on the complexities of swing pricing mechanics, including the calculation of swing pricing thresholds, swing factors, and market impact costs.

Section 3.4.3 Recommended Changes to the 2016 Amendments

While superior to the 2022 proposal in most key respects, we recommend refining certain aspects of the 2016 amendments. In addition to our concerns with the board-related provisions, we strongly object to requiring a fund to determine daily flows “based on receipt of sufficient information about the fund investors’ daily purchase and redemption activity (“investor flow”) to allow the fund to reasonably estimate whether it has crossed the swing threshold(s) with *high confidence*...”²¹⁹ This language did not appear in the 2015 proposal, which instead would have required a fund to determine daily flows “on the basis of information obtained after reasonable inquiry.”

Given the operational challenges described in detail in the comment file and the limited fund flow information that funds have around 4:00 p.m. ET, it was interesting that the final 2016 amendments *raised* the standard to which funds are held. Also, several commenters recommended that the SEC adopt a safe harbor in the rule, which the SEC declined to do.²²⁰ And while the guidance on errors in the 2016 release is helpful, this alone does not sufficiently allay concerns with meeting a “high confidence” standard when using less-than-complete (and possibly far-from-complete) flow data.

Even if swing pricing remained optional, we believe that certain fund complexes would consider adopting it if the SEC were to (i) change the standard for determining daily fund flows (e.g., “reasonable estimates based on reasonably available information”); and (ii) adopt a safe harbor,

transparency, with 65% of respondents making this information available upon client request, three asset managers disclosing this regularly via the company website and three asset managers disclosing factors via the annual report. ALFI Survey at 9. The ALFI Guidelines warned that “if partial swinging is used and information concerning the level of thresholds were to be freely available, a large and frequent trader may be able to determine the probability that the price will swing and thereby attempt to avoid application of the swing factor by trading just below that level.” ALFI Guidelines at 16. The ALFI Guidelines also indicate that it is becoming more common to provide the swing factor applied to impacted or potential investors upon request. *Id.*

²¹⁹ Rule 22c-1(a)(3)(1)(A) (emphasis added).

²²⁰ See 2016 Swing Pricing Release at n.189 and 345 and accompanying text.

protecting funds and their advisers and boards from liability if they (in retrospect) incorrectly calculate the NAV due to incomplete flow information and/or reasonable use of estimates.

In sum, we recommend that the SEC:

- Maintain Rule 22c-1, permitting, but not requiring, mutual funds to use swing pricing.
- Further consult on ways to amend the rule to:
 - Change the standard for determining daily flows;
 - Add a safe harbor; and
 - Conform the board-related provisions to those in the 2022 proposal.

Section 3.4.4 Assessment of the Proposed Swing Pricing Reporting and Disclosure Amendments

Currently, a fund must disclose on Form N-CEN whether it engages in swing pricing during a given year and the upper limit of the swing factor. The proposal would remove that requirement and replace it with additional information about swing pricing on Form N-PORT, disclosing the number of times the fund applied a swing factor during the period and the amount of each swing factor. The Commission states that such disclosure would help the Commission assess the size of the price adjustments funds are making during normal and stressed conditions and how often funds apply swing factor adjustments. It adds that public disclosure would help facilitate the public's understanding of the frequency and size of swing factor adjustments.

As we have pointed out, we strongly oppose mandatory swing pricing for all mutual funds, and any swing pricing-related disclosure on Form N-PORT should be non-public because it is neither necessary nor appropriate in the public interest or for the protection of investors.²²¹ When the SEC adopted amendments to provide for swing pricing and related disclosure in 2016, it attempted to strike an appropriate balance between informing investors about swing pricing and its potential effects, and avoiding negative fund and market impacts that could result from excessive disclosure.²²² It therefore determined not to require funds to disclose their swing pricing threshold or swing factor, recognizing that disclosure of these items could result in unfair trading and gaming practices.²²³ For similar reasons, we believe that public disclosure of the swing factor and the number of times it is applied could result in unfair trading and gaming practices and is neither necessary nor appropriate in the public interest or for the protection of investors. At the same time, we continue to believe that investors must have an adequate

²²¹ See Section 45(a) of the Investment Company Act.

²²² See 2016 Swing Pricing Release at 82116-17.

²²³ *Id.*

understanding of how swing pricing works and how it could affect daily pricing (including for transacting investors) and investment returns. The prospectus would be the ideal place for this disclosure, and we encourage the Commission to consider whether any other enhancements to this disclosure would be appropriate, particularly if the 2% cap on the swing factor is removed.

Section 3.5 Discussion of Alternative Anti-Dilution Approaches

The proposal seriously errs in requiring that (i) all mutual funds adopt an extraordinary anti-dilution measure, and (ii) such measure be the same for each fund (i.e., mandatory swing pricing coupled with a hard close). However, the Commission rightly requests comment on whether swing pricing (i) ought to be required for all mutual funds, and (ii) should remain as an optional tool for mutual funds. These are foundational questions. We strongly believe that funds should have the option, but not be required, to use swing pricing.

We appreciate the proposal's consideration of anti-dilution alternatives. In fact, we believe that some of these alternatives deserve more careful attention. The SEC's discussion of alternatives rightly highlights the inherent tradeoffs involved for each and the extreme difficulty (if not impossibility) of identifying a single "right" approach for all funds.

We recognize that each of the alternatives has advantages and disadvantages,²²⁴ but we do not evaluate each alternative in this letter because the relative merits of each very much differ by fund. To briefly illustrate, using daily fund flows as a triggering mechanism (whether for swing pricing or a liquidity fee) might work reasonably well for a fund that receives a very large percentage of its daily flows by 4:00 p.m. ET; for a fund receiving only a small percentage of its flows as of that time, it would not work at all. For a fund with limited daily flow information (as of 4:00 p.m. ET), a liquidity fee might provide a more workable means of addressing dilution. Some funds also may prefer liquidity fees as a more targeted means to address dilution (e.g., they can be imposed only on those transacting shareholders more directly responsible for any dilution created and can be structured to avoid providing benefits to other transacting investors (e.g., those that are purchasing fund shares on days that the NAV swings down)). Liquidity risk is intensely fund-specific, and investors are best protected if funds have latitude to manage it appropriately.

Given this, the Commission should not require any of the alternatives for all funds. Instead, we outline below the general contours of an alternative approach and recommend that the Commission hold roundtables and gather more information, which could be followed by a concept release that explores collected information and key provisions of any recommendations (e.g., how to assess dilution, and permissible and feasible "anti-dilution approaches"). Carefully

²²⁴ Cf. *Open-ended Fund Liquidity and Risk Management – Good Practices and Issues for Consideration*, IOSCO (February 2018), Chapter 4, available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD591.pdf>.

considering these provisions would be critical, and transparent input from all affected stakeholders (including investors, service providers, and intermediaries) would be indispensable to that process.

In lieu of what the SEC has proposed, we recommend the Commission explore through the means mentioned above the following two-step approach for mutual funds:

- A fund’s adviser (or appropriate advisory personnel) must assess the fund’s dilution.
- Subject to board oversight, a fund that determines that its dilution is significant²²⁵ would assess various “anti-dilution approaches.”²²⁶
 - We envision defining “anti-dilution approach” broadly to allow a range of considerations and approaches, including swing pricing (the 2016 version, as we recommend amending it herein), liquidity fees (broadly understood), other alternatives included in the proposal, and any other measure that a fund reasonably believes would address dilution in the interests of shareholders.
 - A fund utilizing an anti-dilution approach then would assess periodically its operation, adequacy, and effectiveness²²⁷ and make any changes as necessary and appropriate.

Finally, we note that such an approach would be consistent with that taken in Europe, where swing pricing is just one of many anti-dilution and liquidity management measures available to UCITS to mitigate potential dilution.²²⁸

²²⁵ This standard comports with that of the liquidity rule, which defines liquidity risk as “the risk that a fund could not meet requests to redeem shares issued by the fund *without significant dilution* of remaining investors’ interests in the fund.” 2016 Adopting Release, at 82158 (emphasis added).

²²⁶ The proposal generally speaks favorably about allowing funds to choose among several anti-dilution tools as a potential alternative to mandatory swing pricing. However, it abruptly concludes that “this alternative could be more costly relative to the proposal and other alternatives discussed above because fund intermediaries and service providers would need to establish systems that accommodate all the anti-dilution options that would exist across mutual funds.” Proposal at 77271. We strongly disagree. If funds had choice in selecting an appropriate means of addressing dilution, operational feasibility (for all affected parties) and cost would be key considerations. There is no reason to believe that mandatory swing pricing as proposed could be *more* cost-effective compared to a choice-based alternative.

²²⁷ Cf. Rule 22e-4(b)(2)(iii) (requiring the liquidity program administrator to prepare for the fund board, no less frequently than annually, a written report that addresses the operation of the liquidity risk management program and assesses its adequacy and effectiveness of implementation).

²²⁸ See *supra*, note 199.

Section 4. Assessment of the Proposed Changes to Disclosure Requirements²²⁹

The proposal would substantially amend the Form N-PORT reporting and disclosure framework. We discuss these proposed changes in two main sub-sections. The first assesses proposed increases to the Form N-PORT filing and publication frequency. The second assesses other proposed Form N-PORT changes, including the proposed requirement to attach a Schedule of Investments that complies with Regulation S-X to each Form N-PORT filing.

Section 4.1 Proposed Changes to Form N-PORT Filing and Publication Frequency

The Commission would require funds to file a Form N-PORT 30 days after the end of *each* month and would make *each* Form N-PORT publicly available.²³⁰ We describe our opposition to these proposed changes in Sections 4.1.1 and 4.1.2. Fund shareholders would benefit little from these changes, and the risks of predatory trading and the attendant costs imposed on fund shareholders would far outweigh any such benefits.

Section 4.1.1 Assessment of Proposed Increase to Filing Frequency and Shortened Filing Deadline

The proposal would require a fund to file with the Commission Form N-PORT on a monthly basis 30 days after the end of each month. Currently, a fund files Form N-PORT quarterly for each month of a fiscal quarter 60 days after the fiscal quarter-end.²³¹

We strongly recommend that the Commission instead give a fund at least 45 days after a month-end to make its Form N-PORT filing, as reducing the current reporting timeframe significantly in this manner is unreasonable. Extending the proposed deadline for filing would provide a fund sufficient time to aggregate, review, and file the information to assure its accuracy. This is especially important given the proposed substantial additions to the form through this and other rulemakings. Our recommended approach still would provide the Commission with more timely information about a fund's portfolio but would reduce the opportunities for the misappropriation of sensitive fund data that predatory traders could use to harm fund shareholders.

Funds already have experience accumulating Form N-PORT data within 30 days after month-end to comply with Rule 30b1-9 under the Investment Company Act, which requires funds to collect,

²²⁹ We discuss the proposed amendments to make liquidity bucketing information public in Section 2.4.7 and the proposed amendments to swing pricing reporting and disclosure in Section 3.4.4.

²³⁰ The proposed disclosure amendments would impact Form N-PORT filers. We use the term "funds" throughout Section 4 to mean registered management companies and ETFs organized as UITs that are subject to the Form N-PORT filing obligations.

²³¹ For example, under the proposal, a fund with a fiscal year that aligns with a calendar year would file a Form N-PORT for January by the end of February. Currently, such fund would file its Form N-PORT for January by the end of May.

but not file, the Form N-PORT data. Collecting such data takes time and a fund may engage in several manual and time-consuming processes to obtain such information, especially if the fund invests in instruments other than large-cap, US exchange-traded equity securities.²³² In addition, certain adjustments necessary to accurately complete the form are dependent on information that is not received until well after the month-end covered by the form.²³³

While funds have been able to aggregate the information within 30 days for internal collection purposes, for filing purposes, they will need to take additional steps. For example, a fund must validate data and insert the Extensible Markup Language (XML) tagging.²³⁴ In addition, if the proposal is adopted, funds will have to provide additional information, reporting on Form N-PORT aggregate liquidity bucketing and swing pricing-related information, and providing a new Regulation S-X-compliant Schedule of Investments each month.²³⁵

We are concerned that the condensed timeframe and proposed new requirements would increase the likelihood of errors and lead to increased costs that shareholders ultimately will bear (e.g., through an increase to service provider fees or in the number of resubmitted filings).²³⁶ The

²³² For example, a fund may make several adjustments to the individual fixed-income and derivatives investments listed in Part C of Form N-PORT to properly compute the fund's total assets and liabilities (Item B.1 of Form N-PORT) and the assets attributable to certain types of securities (Item B.2 of Form N-PORT). Although these are not needed to accurately compute a fund's NAV daily, these adjustments are needed for Form N-PORT and impact several categories of securities, such as sell/buy back or "roll" transactions, tender option bonds, and certain types of swaps. These adjustments may require the fund to take its daily books and records, which net the value of these particular instruments, and make "gross up" adjustments to properly reflect total assets and total liabilities consistent with GAAP.

²³³ For example, in order to determine reported information related to a mortgage-backed security, a fund must first receive the paydown factors associated with the investment (e.g., the amount of cash representing scheduled interest and/or principal payments). Funds typically do not receive paydown factors until late in the subsequent month. Funds then may use that information to compute the mortgage-backed security's outstanding face/principal amount (Item C.2 of Form N-PORT) and realized gain/loss and the change in unrealized gain/loss (Item B.5 of Form N-PORT).

²³⁴ This is a time-intensive process that requires funds to check position records between internal accounting systems and custodial records to ensure their accuracy. Funds also will need to populate the forms and file the information in a structured data format.

²³⁵ We acknowledge that the Commission proposes to give funds 60 days, rather than 30 days, following the end of each month to attach the proposed Regulation S-X-compliant Schedule of Investments as an exhibit to the Form N-PORT. Nevertheless, the Commission must consider the time necessary to prepare and file these additional schedules, which are proposed to be required for each month rather than each quarter, along with all of the other additional responsibilities the Commission has heaped or proposes to heap onto financial reporting teams.

²³⁶ The proposal in its current form also easily could lead funds to add staff to already overburdened financial reporting teams to compile data, perform internal consistency and completeness checks, match new liquidity data to

teams that prepare, review, and file the Form N-PORT often are the same ones that prepare other required financial information, including shareholder reports, which the Commission recently and substantially amended.²³⁷ The Commission should consider the impact of these changes along with its recently proposed and adopted rules, and responsibly connect them.²³⁸

We simply recommend that funds have at least an additional 15-day period to prepare and review the filings on Form N-PORT to minimize errors. Importantly, a 45-day requirement still would accomplish the Commission's goal of acquiring more timely fund holdings information (as compared to the current 60- to 120-day delay following month-end).²³⁹

A 45-day reporting period also would reduce the time the SEC would retain a fund's non-public portfolio holdings, which would reduce the chances of misappropriation. As we have consistently emphasized and as the Commission has acknowledged, disclosing sensitive trading information, even with a time delay, can harm funds and their shareholders "by expanding the opportunities for professional traders to exploit this information by engaging in predatory trading practices."²⁴⁰

holdings data, and provide reasonableness and exceptions reviews at multiple levels. This would be especially true if the frequency and turnaround time of the proposed Regulation S-X-compliant Schedule of Investments requirements impact the same reporting personnel. We highlight that the proposal's cost-benefit analysis does not appear to contemplate the addition of new financial reporting staff as part of the proposed new reporting requirements.

²³⁷ See 2022 Tailored Shareholder Reports Release. We understand that funds, including their financial reporting teams, will spend significant time over the next several months to implement these substantial changes, including by creating additional, new shareholder reports for each class of a fund. In addition, the same reporting teams often prepare fund financial statements and Schedules of Investments.

²³⁸ The Commission would require these proposed new items in addition to new information about derivatives added when the Commission adopted new rules governing funds' use of derivatives. See, e.g., Items B.9 and B.10 of Form N-PORT. See also *Use of Derivatives by Registered Investment Companies and Business Development Companies*, SEC Release No. IC-34084, 85 Fed. Reg. 83162 (Dec. 21, 2020), available at <https://www.govinfo.gov/content/pkg/FR-2020-12-21/pdf/2020-24781.pdf>. In addition, the Commission proposes adding additional Form N-PORT reporting items in connection with its recent proposal to amend the fund names rule. See Fund Names Rule Proposal. See also Letter from Eric J. Pan, President and CEO, ICI, et al. to Vanessa A. Countryman, Secretary, SEC, dated Aug. 16, 2022 (noting that the Fund Names Rule Proposal would impact more than 10,000 mutual funds, ETFs, closed-end funds and UITs and, by the Commission's own estimates, could cost as much as \$5 billion to investment company investors), available at <https://www.sec.gov/comments/s7-16-22/s71622-20136238-307259.pdf>.

²³⁹ Of course, Rule 30b1-9 enables the SEC to access the information even sooner. We note that, if the Commission were to adopt the Fund Names Rule Proposal and related Form N-PORT disclosure requirements substantially in the manner proposed, we would urge the Commission to lengthen the 30-day period under Rule 30b1-9 under the Investment Company Act. Although the 30-day period may be appropriate for aggregating the current Form N-PORT information, as the Commission continues to add new requirements to the form, including substantial new information requirements, it cannot expect funds to continue to provide such information under the current timeframes. Similarly, we would urge the Commission to consider whether the period given to funds to file each Form N-PORT should be lengthened.

²⁴⁰ See, e.g., Investment Company Reporting Modernization, SEC Release No. IC-31610, 80 Fed. Reg. 33590, 33613 (June 12, 2015), available at <https://www.govinfo.gov/content/pkg/FR-2015-06-12/pdf/2015-12779.pdf>.

Although the SEC indicates that it has strengthened its cybersecurity defenses, the most recent SEC Office of Inspector General report indicates that the Commission must make several enhancements in order to simply be deemed “effective” under the Federal Information Security Modernization Act reporting metrics for agency information security programs.²⁴¹ We understand that the SEC has gained more experience with maintaining non-public information, but until the SEC demonstrates that it has an effective cybersecurity program, as continuously evaluated by an independent third party, we have significant misgivings about its ability to protect and maintain such competitively sensitive information.

As the proposal highlights, the Commission previously has taken proactive steps to protect fund shareholders from the potential harms of misappropriated trading information by lengthening the time that funds have to file the information and shortening the time the Commission holds it.²⁴² A 45-day lag between the end of a given month and the date a fund’s corresponding Form N-PORT is due (as compared to the proposed 30-day lag) would decrease the sensitivity and harm that any misappropriated information from such report might have on a fund and its shareholders.²⁴³

Section 4.1.2 Assessment of Proposed Increase to the Frequency of Public Disclosure

The proposal would provide for more frequent public disclosure of Form N-PORT information, making each Form N-PORT public 60 days after the end of each month rather than making only the Form N-PORT for the last month of a fiscal quarter public 60 days after the end of the fiscal

²⁴¹ See SEC Office of Inspector General, The Inspector General’s Statement on the SEC’s Management and Performance Challenges (Oct. 13, 2022) at 13, available at <https://www.sec.gov/files/inspector-generals-statement-sec-mgmt-and-perf-challenges-october-2022.pdf>.

²⁴² In 2016, the Commission initially adopted a Form N-PORT reporting timeframe in which each Form N-PORT would be required to be filed 30 days after each month, and only the Form N-PORT for the last month of a fiscal quarter would be publicly disclosed. See *Investment Company Reporting Modernization*, SEC Release No. IC-32314, 81 Fed. Reg. 81870 (Nov. 18, 2016) (“2016 Reporting Modernization Release”), available at <https://www.govinfo.gov/content/pkg/FR-2016-11-18/pdf/2016-25349.pdf>. Following a cybersecurity incident that resulted in unauthorized access to certain non-public information on the Commission’s EDGAR system, the Commission re-evaluated and modified the filing frequency for reports on Form N-PORT. It moved from the 30-day lag following a month-end to the current requirement to file Form N-PORT for each month in the fund’s fiscal quarter no later than 60 days after the end of each fiscal quarter. The Commission made this change to reduce the sensitivity that any potentially exposed non-public data might have. See *Amendments to the Timing Requirements for Filing Reports on Form N-PORT*, SEC Release No. IC-33384, 84 Fed. Reg. 7980 (Mar. 6, 2019), available at <https://www.govinfo.gov/content/pkg/FR-2019-03-06/pdf/2019-03958.pdf>. Until the SEC, at the very least, can meet the objective criteria that the Federal government has set for agency cybersecurity programs, we strongly urge the SEC to take a similar approach and lengthen the proposed reporting time between the end of a given month and the date that a fund’s Form N-PORT is due.

²⁴³ A 45-day period also aligns with the timeframe that institutional investment managers have to file a list of their Section 13(f) securities on Form 13F. In particular, managers that exercise investment discretion over \$100 million or more of such securities must report such holdings on Form 13F within 45 days of the end of a calendar quarter. See, e.g., Form 13F, available at <https://www.sec.gov/pdf/form13f.pdf>.

quarter. The Commission proposes this change to allow investors and others to use the additional information to make more informed investment decisions.

We strongly oppose the proposed change. Providing more public disclosure of proprietary holdings information risks harming actively managed funds and their shareholders. As the Commission previously found, more frequent public disclosure of Form N-PORT information for the first and second months of a fiscal quarter (including related portfolio holdings information) is neither necessary nor appropriate in the public interest or for the protection of investors under Section 45(a) of the Investment Company Act.²⁴⁴ In making this determination, the Commission recognized that the current quarterly disclosure approach appropriately balances the interest in public transparency of fund holdings information against the need to protect sensitive fund portfolio management positions and strategies.²⁴⁵ Nothing has changed since 2016 that would affect this analysis regarding mandatory public disclosure. If anything, strides in the use of artificial intelligence counsel against more frequent reporting.

In formulating the current public disclosure framework, the Commission recognized that more frequent portfolio holdings disclosure will lead to increased opportunities for professional traders to engage in predatory trading practices in a manner that hurts fund shareholders. More portfolio disclosure allows professional traders to trade ahead of or “front run” funds. Increased holdings disclosure also facilitates the ability of outside investors to “free ride” on a fund’s investment research by allowing those investors to reverse engineer and “copycat” the fund’s investment strategies, obtaining for free the benefits of fund research and investment strategies that fund shareholders pay for. These practices can reduce the returns of funds, negatively impacting retail investors.²⁴⁶ The Commission even has highlighted studies showing that increased portfolio holdings disclosure could decrease certain funds’ performance.²⁴⁷ Based on these studies, among other considerations, the Commission determined that public reporting four times a year was appropriate to minimize the costs of front running and reverse engineering. As the Commission

²⁴⁴ See 2016 Reporting Modernization Release at 81910. Section 45(a) of the Investment Company Act states that the information in any reports shall be made public unless public disclosure is neither necessary nor appropriate in the public interest or for the protection of investors. See Section 2.4.7.

²⁴⁵ See 2016 Reporting Modernization Release at 81910.

²⁴⁶ For example, the Commission noted that “front running” could reduce the profitability of funds by increasing the prices at which funds purchase securities and by decreasing the prices at which funds sell the securities, reducing the returns to shareholders. See *id.* at 81977. It added that “free riding” reduces the potential benefit of developing new investment strategies and engaging in proprietary market research, reducing the ability of investment companies with longer investment horizons to benefit from researching investment opportunities and developing new strategies. *Id.*

²⁴⁷ In particular, the studies showed that the ability of copycat funds to outperform actively managed funds increased and that the performance of funds with better previous performance or that invest in low-information stocks decreased, following the introduction of Form N-Q (increasing the portfolio holdings disclosure from semi-annually to quarterly). See *id.*

found true then, any increased disclosure of fund holdings information is very likely to harm retail investors.

The proposal adds that, before determining whether more frequent or more timely public disclosure would be beneficial to fund investors, it is important to “assess the impact of the data reported on Form N-PORT on the mix of information available to the public, and the extent to which these changes might affect the potential for predatory trading.”²⁴⁸ The Commission has not done this, only asserting that “many funds, including actively managed funds, voluntarily provide their complete portfolio holdings on their websites on a monthly basis, typically lagged 30 days.”²⁴⁹

We seriously question the adequacy of making such an important policy change on the basis of general observations about the current voluntary practices of “many” funds. We agree that there are funds that provide additional information publicly, but it’s not clear what “many funds” means.²⁵⁰ Indeed, providing additional voluntary portfolio holdings disclosure is far from a universal practice and even those funds that provide monthly data do so with a wide range of time lags. In addition, though some funds may voluntarily choose to provide additional information about their portfolios, the disclosed information may be something that is less than a fund’s full portfolio holdings (e.g., top 10 holdings, sectors) and is certainly less than the information that would be delivered on Form N-PORT.

We recommend that the SEC maintain the current quarterly disclosure standard, but allow each fund to determine the nature, content, and frequency of its public disclosure in a manner that would best protect investor interests.

Moreover, we agree with the Commission’s recent conclusion that more frequent public disclosure of a fund’s portfolio holdings would provide little benefit to individual investors. In 2022, the Commission concluded that the list of portfolio holdings that is part of a current fund shareholder report is not necessary and *cannot* be included in a streamlined shareholder report that is intended to highlight key information that is of particular importance for retail investors to

²⁴⁸ See proposal at 77228.

²⁴⁹ *Id.* It adds that “ETFs, including actively managed ETFs, generally are required to provide transparency into their portfolio holdings on a daily basis” and that “many funds also provide monthly information about their portfolio holdings to third-party data aggregators, generally with a lag of 30 to 90 days...” *Id.* Based on this information, the Commission states its belief that “many funds already provide public transparency of their portfolio holdings more frequently than the proposal would require, and that our proposal would ... [put] the data in a single location that all investors can access without charge...” *Id.*

²⁵⁰ For example, does “many” mean a majority of the funds or assets in the US-registered fund industry? What percentage of this number consists of index-based mutual funds and ETFs whose stated goals are to track the performance of a transparent index? What percentage consists of actively managed funds that intend to distinguish themselves from other investments through their detailed and proprietary asset selections?

assess and monitor their fund investments.²⁵¹ In making this decision, the Commission recognized that a list of the fund's portfolio holdings is not critical for retail investors in order to evaluate their fund investments. We therefore are perplexed that the Commission, a mere 7 days later, would reach the opposite conclusion.

Likewise, we are not aware of evidence that more frequent portfolio holdings disclosure helps individual investors. A static snapshot of a fund's portfolio holdings as of a particular date is of limited value to retail investors. It could focus investor attention unduly on individual portfolio securities and encourage a short-term investment perspective. Instead, retail investors benefit significantly more from the required disclosure about a fund's principal investment strategies, risks, fees, and performance.²⁵²

Further, our members have heard little from investors seeking that information, and this demand certainly has not increased of late.

Section 4.2 Other Proposed Changes to Form N-PORT

The Commission would require funds to attach a Regulation S-X-compliant Schedule of Investments with each Form N-PORT filing. We discuss our strong opposition to the proposed Schedule of Investments change and our assessment of the other proposed Form N-PORT changes below.

Section 4.2.1 Assessment of Proposed Part F Amendments

The proposal would increase the reporting of a fund's Regulation S-X-compliant Schedule of Investments from four times a year²⁵³ to twelve times a year.²⁵⁴ The SEC proposes the requirement to provide investors with monthly portfolio holdings information using the form and content that Regulation S-X specifies.

We strongly oppose this requirement, which would impose excessive costs on funds and their shareholders and is unnecessary and duplicative. If the SEC determines that fund investors need

²⁵¹ See 2022 Tailored Shareholder Reports Release.

²⁵² See, e.g., Letter from Susan Olson, General Counsel, ICI, to Brent J. Fields, Secretary, SEC, dated Oct. 24, 2018 (showing that investors strongly consider fund fees and performance when choosing a fund), available at <https://www.sec.gov/comments/s7-12-18/s71218-4932121-178430.pdf>.

²⁵³ Funds currently provide a Regulation S-X-compliant Schedule of Investments following the fiscal quarter-end for each of the first and third fiscal quarters in Part F of the fund's Form N-PORT and following the fiscal quarter-end for each of the second and fourth fiscal quarters in both the semi-annual and annual reports in the fund's Form N-CSR.

²⁵⁴ Under the proposal, funds would attach the Regulation S-X-compliant Schedule of Investments for 10 months in Part F of the fund's N-PORT filing and for one month in both the semi-annual and annual reports in Form N-CSR.

monthly portfolio holdings information in a reader-friendly format, however, the SEC can achieve this goal through alternative, less costly approaches.

First, the costs associated with preparing the Part F information monthly will far outweigh any benefit. It takes a substantial amount of time and resources to reconcile the Form N-PORT Part C holdings information into what is required by Part F, a Regulation S-X presentation that must adhere to GAAP. Almost all funds that are required to file Form N-PORT apply trade date plus one (“T+1”) accounting to record their day-to-day transactions. The proposal would force these funds to convert their daily T+1 accounting records into a trade date-based Regulation S-X/GAAP-compliant presentation, which requires a number of time intensive and possibly manual topside accounting entries. Requiring the information to be Regulation S-X/GAAP-compliant will essentially require that these T+1 funds complete a full “accounting close” process monthly instead of quarterly.

The SEC recognized the amount of work necessary for these conversions and currently requires that funds file their monthly Form N-PORT on the same basis they use to calculate their NAVs (typically on a T+1 basis). In adopting the requirement, the SEC acknowledged that there may be differences between the quarterly and monthly portfolio holdings information but that these differences are “unlikely to affect the utility of the information” reported.²⁵⁵ Requiring funds to now attach a Regulation S-X/GAAP-compliant Schedule of Investments each month would render the SEC's earlier and carefully considered determination meaningless.

The new requirement would triple the work required to prepare quarterly Regulation S-X/GAAP-compliant Schedule of Investments, considerably increasing the costs for funds and their shareholders. There are several required items (e.g., footnotes, tables) that are difficult to fully automate and will take time to determine each month.²⁵⁶ To ensure that they can meet their obligations, many funds will have to outsource the preparation of the Schedule of Investments to third-party service providers. Based on discussions with several service providers, we understand that the costs associated with preparation and compilation of Regulation S-X/GAAP-compliant Schedule of Investments range from approximately \$3,000 to \$10,000 per month per fund. Assuming these costs are correct, the incremental cost to each fund based on eight new months of schedules could range from \$24,000 to \$80,000 per year.²⁵⁷

²⁵⁵ See 2016 Reporting Modernization Release at 81878.

²⁵⁶ These burdens would add to the other work that these teams already are conducting to prepare financial statements and shareholder reports, as well as the proposed monthly Form N-PORT filings that the proposal would require, increasing costs and the risk of error.

²⁵⁷ We note that the Commission's estimated hours and costs associated with *all* proposed Form N-PORT changes are much lower than what we estimate for a third-party service provider to prepare the Regulation S-X/GAAP-compliant Schedule of Investments alone. See proposal at 77280.

We were unable to identify benefits that would justify these costs. The Regulation S-X/GAAP-compliant Schedule of Investments is not necessary for an investor to understand the securities that a fund holds, so converting the information to a Regulation S-X/GAAP-compliant Schedule of Investments would provide little benefit to an investor.²⁵⁸ We do not believe that the additional substantive costs are commensurate with this seemingly minimal benefit.

We are not aware of individual investor demand for more frequent Regulation S-X/GAAP-compliant Schedule of Investments reporting. When adopting Form N-PORT, the SEC acknowledged that individual investors likely will *not* review the Form N-PORT information.²⁵⁹ Now, however, the SEC proposes substantial, costly changes to provide investors with more frequent portfolio holdings schedules in a form that investors “*might prefer*” using the form and content specified by Regulation S-X.²⁶⁰

If the SEC continues to believe that investors want more reader-friendly and unstructured holdings information, *despite the additional information we have provided*,²⁶¹ there are multiple ways to achieve those goals without requiring the time and additional cost that Regulation S-X/GAAP-compliant holdings require. The SEC recently adopted its tailored shareholder reports rulemaking requiring that funds streamline information in a manner that it believes individual investors would find *useful*. The new tailored shareholder report omits the financial statements, including the Schedule of Investments, and requires graphical presentations that are visually engaging. We agree that simpler presentations are more effective than excessively detailed disclosure, such as the Regulation S-X/GAAP-compliant holdings information and the related footnote disclosure that is required under the proposal. In this regard, we believe that there are several alternative, less costly approaches the SEC could take to achieve its goal. These could include:

²⁵⁸ A Regulation S-X/GAAP-compliant Schedule of Investments includes certain information that the Form N-PORT holdings disclosure do not, including the: (i) reference rate and spread for variable rate securities; (ii) classification of the portfolio by security type, industry, or country, along with subtotals for each classification; (iii) identification of non-income producing securities; (iv) tick marking of securities held as collateral (though the Form N-PORT lists collateral); and (v) tick marking of and activity reporting for affiliated securities. While restricted securities are flagged on Form N-PORT, there are some additional disclosures on a Reg. S-X/GAAP-compliant Schedule of Investments (*e.g.*, acquisition date, carrying value per unit). We do not believe that most investors will care to see any of these items monthly. Even if they did, certain information already is disclosed effectively in other fund materials (*e.g.*, disclosure about the possibility of investing in affiliated securities).

²⁵⁹ See 2016 Reporting Modernization Release at n.1329 (“[w]hile we do not anticipate that many individual investors will analyze data using Form N-PORT, although some may, we believe that individual investors will benefit indirectly from the information collected on Form N-PORT, through enhanced Commission monitoring and oversight of the fund industry and through analyses provided by third-party service providers and other parties”).

²⁶⁰ See proposal at 77232 (emphasis added).

²⁶¹ See *also supra*, Section 4.1.2 (explaining why we believe that more frequent Form N-PORT disclosure, including portfolio holdings disclosure is neither necessary nor appropriate or in the public interest).

1. The SEC creating a tool on its website that could extract the existing Form N-PORT Part C information and present it in a simple and visually engaging manner.
2. The SEC permitting a T+1 presentation of certain basic fields already filed in Part C of Form N-PORT (e.g., a description of the investment, the number of units/shares in the investment, value, value as a percentage of net assets) on a fund's or adviser's website. As the SEC notes, certain fund complexes already are providing basic holdings information monthly on their websites.²⁶² This alternative would be akin to the website disclosure requirements under Rule 2a-7 under the Investment Company Act, which require money market funds to post to their website monthly a list of portfolio holdings along with basic information, but does not include the disclosure and footnotes required under Regulation S-X.²⁶³ The presentation of this information would provide substantially similar holdings information, without the additional time intensive T+1 to T accounting adjustments, disclosure, and footnotes required under Regulation S-X.²⁶⁴

Section 4.2.2 Assessment of Other Form N-PORT Changes

The SEC also proposes to make other changes to Form N-PORT to reflect the proposed increased frequency of public disclosure (i.e., requiring funds to report flow and return information for each month rather than for the preceding three months; and permitting funds to report non-public information about individual miscellaneous securities holdings for each month rather than just the last month of a fiscal quarter).

As stated above, we strongly disagree with more frequent public disclosure of Form N-PORT filings. If the SEC were to proceed with making each Form N-PORT filing public, however, we would not object to these proposed conforming changes.²⁶⁵

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²⁶² See proposal at 77228.

²⁶³ See Rule 2a-7(h)(10) under the Investment Company Act.

²⁶⁴ We note that, if the SEC were to proceed with requiring funds to provide a Regulation S-X/GAAP-compliant Schedule of Investments after the end of each month, we strongly urge the Commission to align the Part F information and the Form N-PORT filing requirements so only one filing per month is necessary. This filing could include, for example, a Form N-PORT for the month and the Regulation S-X/GAAP-compliant Schedule of Investments for the month previous to the month the Form N-PORT covers. Aligning the Form N-PORT requirements in this manner would reduce the proposed number of filings by half, eliminating the need for a fund to amend each Form N-PORT to subsequently attach the Part F information.

²⁶⁵ We also do not object to the SEC's proposed requirement for funds to provide RSSD ID information, if available, for financial institutions that do not have an assigned legal entity identifier.

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We appreciate your consideration of our comments and look forward to working with the Commission as it further evaluates actions related to the fund industry's current liquidity practices.

We developed our comments working closely with ICI members, service providers to the industry, and drawing on the deep experience and expert knowledge of ICI staff. We carefully analyzed empirical data and the costs and benefits of potential policy actions guided by how best to serve the more than 100 million fund shareholders. We provide below ICI staff to contact on the matters covered, following the order of our submission.

For questions regarding the proposed liquidity-related and swing pricing amendments, contact Susan Olson, General Counsel, Matthew Thornton, Associate General Counsel, Securities Regulation, or Dorothy Donohue, Deputy General Counsel, Securities Regulation.

For questions regarding the proposed mandatory hard close and swing pricing amendments, contact Joanne Kane, Chief Industry Operations Officer.

For questions regarding the proposed Form N-PORT amendments, contact Kenneth Fang, Associate General Counsel, Securities Regulation, or Jason Nagler, Senior Director, Accounting, Financial Reporting, Valuation and Compliance.

For questions regarding Appendix A, contact Sean Collins, Chief Economist, Shelly Antoniewicz, Senior Director, Industry and Financial Analysis, Christof Stahel, Senior Economic Adviser, Industry and Financial Analysis, or Hammad Qureshi, Senior Economist, Industry and Financial Analysis.

For questions regarding Appendix B, contact Dorothy Donohue or Erica Evans, Assistant Counsel, Securities Regulation.

For questions regarding Appendix C, contact Joanne Kane.

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Otherwise, please do not hesitate to contact me at [REDACTED].

Sincerely,

/s/ Eric J. Pan

Eric J. Pan
President and CEO

cc: The Honorable Gary Gensler
The Honorable Hester M. Peirce
The Honorable Caroline A. Crenshaw
The Honorable Mark T. Uyeda
The Honorable Jaime Lizárraga

William Birdthistle, Director
Sarah ten Siethoff, Deputy Director
Division of Investment Management

Appendix A

ICI Economic Analysis of Open-End Funds' Liquidity Risk Management and Swing Pricing Proposal

Over 100 million Americans use mutual funds to meet a primary life goal: securing their finances for retirement, especially through IRAs and 401(k) plans. Any major proposal related to mutual funds that purports to benefit funds, their investors, and the economy in general, must be judged against this standard.

At best, the proposal, if adopted, will be highly disruptive for millions of Americans. At worst, it could significantly damage mutual funds as a savings vehicle by increasing investors' costs, lowering their returns and thus their balances at retirement, and limiting their investment options and all together reducing their chances of being adequately prepared for retirement.

Therefore, the SEC must provide compelling evidence of the need for the proposal and that any potential benefits would significantly outweigh the proposal's costs. In fact, as we detail in this appendix, the SEC does not provide any compelling or sufficient evidence of the need for the proposal.

This appendix addresses three areas:

- Who benefits from mutual funds and why
- The SEC's posited economic basis for the proposal: dilution, first-mover advantage, and asset market stress amplification
- Negative economic consequences of the liquidity risk management and (separately) the swing pricing and hard close parts of the proposal

Who benefits from mutual funds and why

Given the potential for this proposal to be highly disruptive, it is noteworthy that the proposal and its economic analysis offer relatively little detail about those Americans who use mutual funds and why.

As Section 1 of this appendix discusses, mutual funds are used by over 100 million Americans as they save for important life goals, such as for first home purchase, education or emergencies, or building a nest egg for retirement. Mutual fund investors range from the young to the old, from those with very modest incomes (especially those who are younger) to those with more substantial assets (especially those who are well along in their careers and approaching retirement). The vast majority of mutual fund-owning households purchase their funds through intermediaries—retirement plans, investment professionals, and discount brokers.

As also shown, mutual funds have helped these Americans amass tens of trillions of dollars in savings. They have done this by offering US retail investors exposure to the returns on capital market instruments—stocks, bonds, and other securities. For example, the cumulative returns on mutual funds have over time vastly exceeded the returns on bank products (Figure 1.11). Moreover, because of the tremendous diversity of mutual funds available in the marketplace,

mutual funds offer investors great flexibility to tailor their portfolios to their individual circumstances. And mutual funds offer investors access to well-diversified portfolios, helping them reduce the risk of investing all their financial resources in individual stocks or bonds, all at reasonable cost.

Finally, as shown, the assets in long-term US mutual funds are almost entirely (90% plus) attributable to retail investors, in contrast with UCITS—roughly speaking, the European equivalent of US mutual funds—where institutions own the majority of fund assets (Figures 1.6 and 2.1). In addition, a large fraction of the mutual fund assets that Americans hold are through 401(k) or other defined contribution plans. Our impression is that Europe has a different profile, where individual account-based retirement savings play a much smaller role for households. The SEC failed to consider these critical differences in the swing pricing part of the proposal.

Given the tremendous benefits of mutual funds to American savers, the SEC should have considered very carefully the costs and benefits of the proposal and demonstrated that, on balance, the proposal would provide net benefits to fund investors.¹

SEC's stated economic basis for the proposal: dilution, first-mover advantage, and asset market stress amplification

The SEC's stated basis for this proposal focuses on:

- Dilution of long-term fund shareholders by those who purchase or redeem shares;
- The so-called “first-mover advantage,” which is the hypothesis that fund shareholders will redeem heavily during market stress because other shareholders might also redeem heavily, causing funds to fire-sell assets, thus diluting non-redeeming shareholders' interests, and;
- The hypothesis that funds' purported fire-sale of assets will significantly amplify market stresses (asset market stress amplification hypothesis).

As detailed in this appendix, the proposal in essence provides *no* data or other convincing evidence to demonstrate that dilution, first-mover advantage, or the asset market stress amplification hypothesis are so significant as to warrant this proposal. The basis for these claims tends to be mostly assertions or, in cases, references to academic articles. As we discuss, a close reading of these articles raises a number of questions. For example, they typically report finding *statistical* evidence of these matters but generally do not report the *economic* significance, which as we show is usually small. The articles may seek to evaluate how funds' sales of securities in March 2020 affected bond prices, but they do not have actual data on funds' sales of bonds. They may claim to have found evidence *consistent* with a first-mover hypothesis, but that evidence is

¹ Indeed, the economic analysis section of the proposal at times seems almost studious in its attempt to balance assertions that the proposal could provide benefits with statements that its potential benefits to fund shareholders are uncertain, might be nil, or could even be detrimental (for examples, in this appendix *see* Section 4: Economic effects of swing pricing and hard close portions of the proposal).

also consistent with other hypotheses they do not test for (e.g., monetary policy drives interest rates, and *all* investors respond to interest rates by adding or reducing exposure to fixed-income).

Dilution of long-term fund shareholders by those who purchase or redeem shares

Dilution is the concept that investors who buy or sell fund shares at NAV could reduce the returns of non-transacting fund investors. This is because when investors buy or sell fund shares, the fund might then need to buy or sell securities in the fund's portfolio, which can create transactions or market impact costs for the fund. The proposal provides no evidence that dilution of fund shareholders—evidently the proposal's primary concern—is economically material. The proposal cites a few academic studies for *European-domiciled* funds, but it is not clear whether these are relevant for US-registered mutual funds.

We estimate that daily dilution for US mutual funds is on average too small (typically on the order of tenths or hundredths of a basis point per day and perhaps a few basis points per day during periods of stress for certain types of funds) to motivate shareholder redemptions, even during financial stress (e.g., March 2020) and even for certain fixed-income funds that have sometimes been characterized as “illiquid” (e.g., high-yield bond funds).

To be sure, small daily dilution estimates can accumulate over time. As detailed below, for certain types of funds, our estimates indicate that dilution might average 3 to 6 basis points per year. Also, dilution estimates can vary across individual funds and day-to-day for a given fund. But any potential dilution must be set in context. For example, our analysis indicates that investors' concerns about dilution will generally be far outweighed by concerns about daily variability in market returns and are likely to be outweighed manyfold by the long-term returns that investors earn in mutual funds.

All of this suggests that dilution provides no basis for the SEC to apply to all mutual funds the proposed inflexible, one-size-fits-all approach to stressed liquidity risk management and swing pricing. For instance, daily dilution estimates for equity mutual funds are on average zero (or perhaps even *negative*).² But average fund shareholders in equity and other funds would be forced to bear the aggregate costs of adapting to the proposed amendments.³

² Of course, funds for which dilution could be more meaningful at an annual rate might respond by managing liquidity in different ways, or it could be a reason for them to address the issue by having at hand flexible and operationally feasible anti-dilution tools.

³ Moreover, the proposal seems to assume that reducing or eliminating any such minor dilution is necessary to protect fund investors. Historically and still today, the prevailing view has been that fund investors are—and have been for decades—willing to accept any such small cost in return for the option value of being able to purchase or redeem fund shares on a given day at the fund's NAV. Moreover, because investors tend to purchase or redeem rather intermittently, these small costs are likely to be spread over time across all fund shareholders (including those that purchase or redeem intermittently). Under this view, small ongoing dilution costs are not a *per se* problem that the SEC must address.

Proposal provides no evidence of a “first-mover advantage”

The proposal repeatedly voices concerns that mutual fund investors *could, might or may* redeem heavily during periods of market stress because of a so-called “first-mover advantage.”⁴ However, the proposal provides little if any evidence that this hypothesis actually plays out in the real world.

As this appendix discusses, daily dilution and a first-mover advantage go hand-in-hand: if daily dilution is small, fund investors have little to lose by remaining invested in their funds. Because our analysis indicates that daily dilution is generally economically very small (even during market stress), there is little overall economic incentive for first-movers to redeem heavily.

Why then do certain academic studies (some of which the proposal cites) report evidence of a first-mover advantage? As discussed, some of these studies provide no *direct* evidence of a first-mover advantage. Instead, they frequently *interpret* as evidence of a first-mover advantage the well-known fact that fund flows tend to follow market returns.⁵ But this relationship can be explained by other things, such as a tendency of fund and other investors to sell when monetary policy is tightening and buy when it is loosening. Also, new evidence indicates that it could simply reflect a tendency of *all* investors—whether in mutual funds or direct investors in stocks and bonds—to try to sell during market downturns (Section 2.2).⁶ Consistent with this, as discussed below, in March 2020 by far the biggest sellers of Treasury bonds were foreign investors—including non-US banks and non-US central banks (Figure 2.6). Although such investors sold heavily, they could not have been motivated by a first-mover advantage because they generally held the Treasury securities directly.

As there is little evidence of material dilution even during times of stress, and thus that first-movers have little incentive to redeem, we question the need for swing pricing and a hard close, as motivated in the proposal.

Concerns about asset market stress amplification

The proposal repeatedly voices concerns that during a market downturn a first-mover advantage might cause mutual funds to fire-sell assets, amplifying the downturn. But the proposal offers no hard evidence of this.

⁴ The term “first-mover” appears 32 times in the proposal.

⁵ The notion that fund flows and market returns are positively correlated is widely accepted, but was documented long before academic papers began to suggest the hypothetical possibility of a first-mover advantage in mutual funds. For example, the first academic papers suggesting the possibility of a first-mover advantage in mutual funds arose in the early 2010s. But *see* ICI *Investment Company Fact Book*, 2005, at 16, which shows that a positive correlation between market returns and flows to bond mutual funds has been apparent since at least 1990.

⁶ As discussed below, *see*, for instance Christof W. Stahel (2022), [“Strategic Complementarity among Investors With Overlapping Portfolios,”](#) working paper, Investment Company Institute.

ICI has provided hard evidence on this concern.⁷ We collected from bond mutual funds their actual daily portfolio purchases and sales during March 2020. We found no evidence that bond mutual funds significantly amplified market stresses that month. Surprisingly, the proposal fails to cite these studies.

Moreover, claims that mutual funds amplified market stresses in March 2020 often fail to specify whether the claimed amplification was economically material. Below, we present new research measuring the effects of mutual funds' portfolio sales on Treasury and corporate bond yields in March 2020 (Section 2.3). Our evidence indicates that very little of the rise in yields on Treasuries and investment grade corporate and high-yield bonds can be explained by mutual funds' portfolio sales, and that other more conventional factors such as market uncertainty must account for the bulk of the stresses. For example, in March 2020, yield spreads on investment grade corporate bonds increased a maximum of 313 basis points, of which perhaps 5 to 7 basis points might be attributed to mutual funds (Figure 2.7).

Economic effects of the liquidity risk management portion of the proposal

Funds must manage their liquidity carefully to accommodate share purchases and sales. To do so, they monitor and assess fund liquidity against a range of factors (e.g., largest historical outflows, liquidity of the fund's portfolio, quality of market conditions). By its nature, this monitoring and assessment is fund specific and dynamic.

In contrast, the proposal's liquidity bucketing scheme is effectively a one-size-fits-all approach. It would require all funds—regardless of investment strategy, size, or investor base—to assess liquidity by assuming that they must sell 10% of every portfolio holding (i.e., sell a 10% vertical slice of the fund's portfolio) each day. The proposal asserts that its aim is to “better emulate the potential effects of stress on [a] fund's portfolio.”⁸

However, as this appendix shows (Section 3), the daily 10% assumption is empirically unrealistic: the SEC arrived at this 10% figure using a questionable application of the principles of probability. Moreover, this analysis is subject to a series of data concerns: errors in fund flow data, merger-related breaks in fund flows, conversions of mutual funds to other products, and missing or incomplete data for large funds.

The proposed 10% vertical slice assumption could put some funds that most market observers would consider highly liquid (e.g., US large-cap equity funds) at risk of becoming unviable. For

⁷ See Shelly Antoniewicz and Sean Collins, “[Setting the Record Straight on Bond Mutual Funds' Sales of Treasuries](#),” *ICI Viewpoints*, February 24, 2022; Shelly Antoniewicz and Sean Collins, “[Policymakers Say Bond Mutual Funds Contributed Significantly to Treasury Market Stress but...](#),” *ICI Viewpoints*, March 24, 2022; Sean Collins and Shelly Antoniewicz, “[Policymakers Need to Focus on Economic Fundamentals and Not Blame Bond Mutual Funds: Examining the Evidence of Investment Grade Corporate Bond Yield Spreads in March 2020](#),” *ICI Viewpoints*, July 6, 2022; Sean Collins and Shelly Antoniewicz, “[Core Bond Mutual Funds Had Little Impact on the Investment Grade Corporate Bond Market](#),” *ICI Viewpoints*, August 4, 2022.

⁸ Proposal at 77183.

example, we show that larger large-cap equity funds may unrealistically see more than 15% of their assets shifted to the illiquid bucket.

Economic effects of swing pricing and hard close part of the proposal

The SEC argues that its swing pricing proposal is needed for three reasons: (a) to reduce dilution and therefore protect shareholders; (b) to reduce asset market stress amplification from funds' sales of securities; and (c) to reduce or eliminate late trading. As discussed below, the proposal offers no evidence of dilution or asset market stress amplification while we provide evidence to the contrary.

We discuss a range of issues that the proposal omits:

- Fund investors could face additional investment risk if because of the proposal they are forced to make buy or sell decisions today for *tomorrow's* NAV. This could easily create losses far outstripping one-day's potential dilution (Figure 4.1).
- If the swing pricing proposal is adopted, it could well force many fund investors toward other investment products. This in turn could be highly disruptive and reduce their fund choices (especially between actively managed and index products), in the process resulting in precisely the kind of significant dilution for remaining mutual fund investors that the SEC hopes to protect them against.

In addition, the proposal suggests that a hard close (typically 4:00 p.m. ET) would help eliminate late trading. This appendix considers this issue. Late trading is illegal. Although it was an issue in the early 2000s (primarily for international equity funds), the issue was addressed at the time, and the SEC has provided no evidence that late trading remains a concern. Below, using a well-established academic methodology, we test for and do not find evidence that late trading is occurring now (Figure 4.2).

1. Who benefits from mutual funds and why

A majority of US households rely on mutual funds to help them meet their financial goals. These mutual fund-owning households represent a broad range of the US population—coming from all age and income groups. For instance, Generation Z and Millennial households are well on their way to widespread mutual fund ownership. Mutual fund investors, who often are primarily saving for retirement, make informed purchasing decisions by researching their fund investment choices and often seeking the assistance of investment professionals.

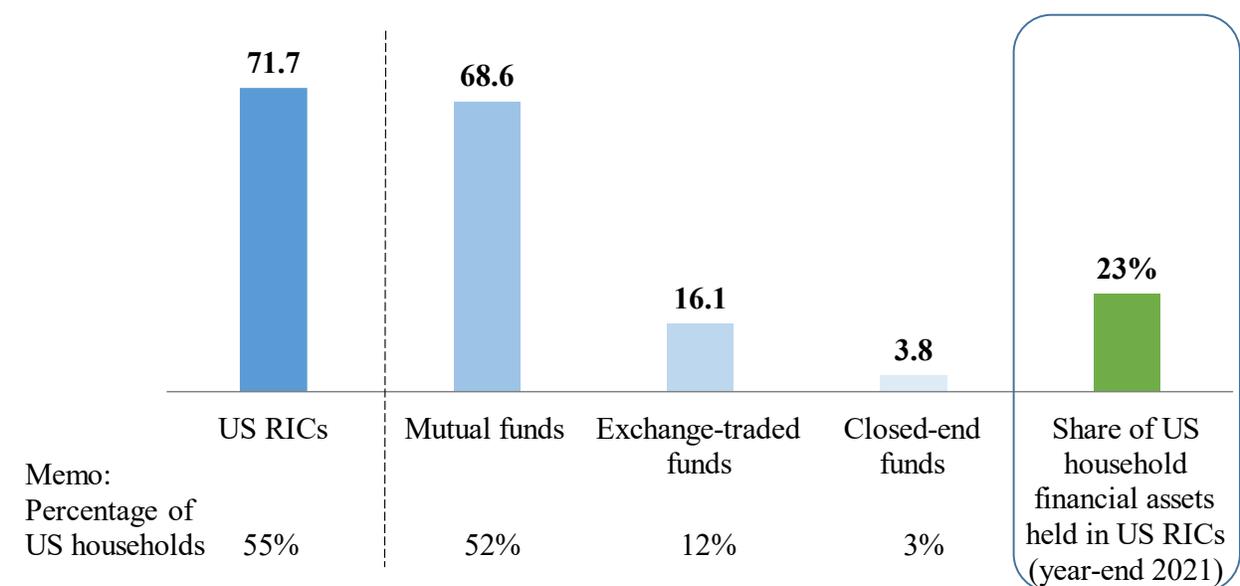
The proposal largely ignores the potential disruptions that would be imposed on the vast majority of mutual fund investors, the possible resulting limitation in investment choice, and the reverberations that would occur throughout the US retirement market. Ironically, the proposal is intensely focused on protecting shareholders by reducing fund dilution, but at the same time seems willing to accept that many Americans who use mutual funds—a highly regulated, cost-effective, diversified, professionally managed investment product—will be disadvantaged.

Thus, it is extremely important that the SEC understand who the Americans are that the proposal is likely to harm. Mutual funds are an important way US households build their financial wealth.

In 2022, about 55 percent of US households owned shares of mutual funds or other US-registered investment companies—including exchange-traded funds, closed-end funds, and unit investment trusts—representing an estimated 71.7 million households (Figure 1.1). Mutual funds are the most common type of fund owned, with 68.6 million US households, or 52 percent, owning mutual funds in 2022. All told, 115.3 million individual investors owned mutual funds in 2022.⁹

Figure 1.1
Mutual Funds Are a Key Investment Product for US Households

Ownership of US-registered investment companies (RICs), millions of US households, 2022



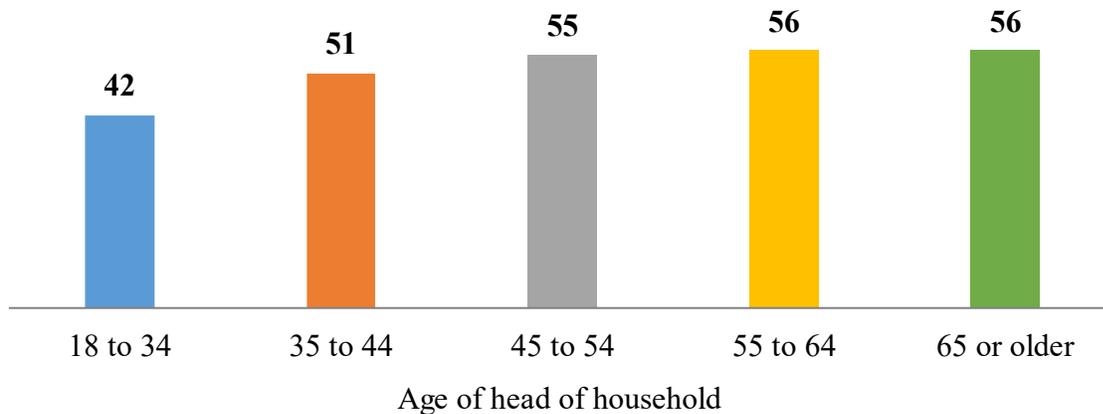
Sources: Investment Company Institute, US Census Bureau, and Federal Reserve Board

The proposal has the potential to negatively impact US households across a wide spectrum. Most mutual fund shareholders are often focused on the important financial goal of saving for retirement. People of all ages own mutual funds, but ownership is concentrated among individuals in their prime earning and saving years. For most of the past decade, rates of mutual fund ownership have been greatest among households headed by individuals between the ages of 35 and 64. In ICI’s most recent survey, a majority of households aged 35 or older owned mutual funds (Figure 1.2). In addition, 42 percent of households younger than 35 owned mutual funds. As a result, the majority (54 percent) of households owning mutual funds were headed by individuals between the ages of 35 and 64 in 2022, the age range in which saving and investing traditionally is greatest (Figure 1.3). Nearly three in 10 (29 percent) of households owning

⁹ See Sarah Holden, Daniel Schrass, and Michael Bogdan, “Ownership of Mutual Funds and Shareholder Sentiment, 2022,” *ICI Research Perspective* 28 no. 9 (October 2022), available at <https://www.ici.org/system/files/2022-10/per28-09.pdf>.

mutual funds were 65 or older, often entering their retirement years with a nest egg to manage through those years.¹⁰

Figure 1.2
Mutual Fund Ownership Rates Rise with Age But All Age Groups Own Mutual Funds
Percentage of US households by age group, 2022



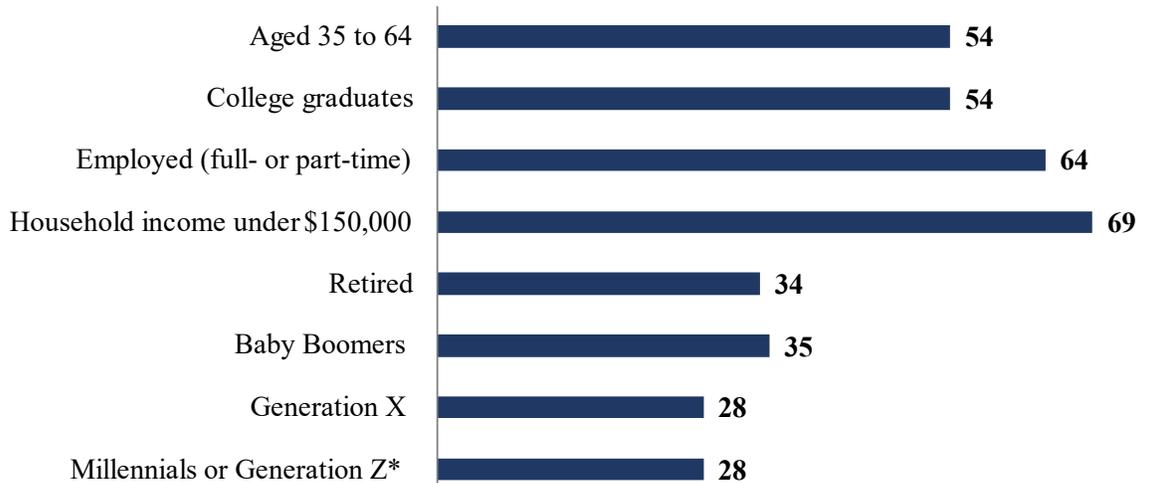
Note: Age is based on the age of the household sole or co-decisionmaker for saving and investing.
Sources: Investment Company Institute Annual Mutual Fund Shareholder Tracking Survey and US Census Bureau; see *ICI Research Perspective*, “Ownership of Mutual Funds and Shareholder Sentiment, 2022”

US mutual fund-owning households are diverse in other important ways. They represent a range of educational attainment (54 percent are college graduates); both employed and retired households; all income groups, with more than two-thirds of them having household income less than \$150,000; and all generations (Figures 1.3 and 1.7). These households hold a significant share of their financial assets in mutual funds, often through IRAs or employer-sponsored retirement plans (Figure 1.3).

¹⁰ See Figure 4 in Sarah Holden, Daniel Schrass, and Michael Bogdan, 2022, “Ownership of Mutual Funds and Shareholder Sentiment, 2022,” *ICI Research Perspective* 28 no. 9 (October 2022), available at <https://www.ici.org/system/files/2022-10/per28-09.pdf>.

Figure 1.3
Mutual Fund–Owning Households Are a Cross-Section of US Households
Percentage of mutual fund–owning households, 2022

Who are they?



What do they own?



*Generation Z (born 1997 to 2012) are aged 10 to 25 in 2022; survey respondents, however, must be 18 or older.
Source: Investment Company Institute Annual Mutual Fund Shareholder Tracking Survey; see *ICI Research Perspective*, “Ownership of Mutual Funds and Shareholder Sentiment, 2022”; *ICI Research Perspective*, “Characteristics of Mutual Fund Investors, 2022”; and *ICI Research Report*, “Profile of Mutual Fund Shareholders, 2022”

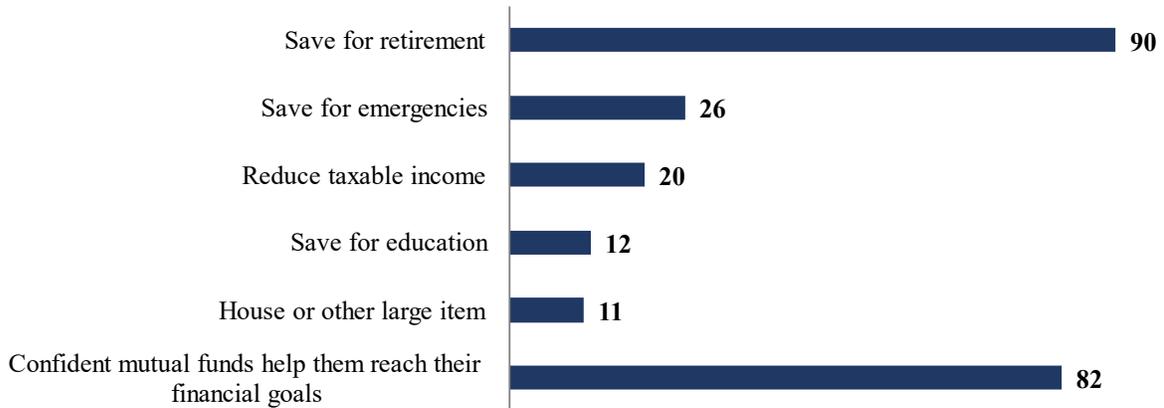
The proposal could disrupt the important financial goals of millions of US households. The vast majority of US mutual fund–owning households indicate that saving for retirement is among their financial goals; more than one-quarter are saving for emergencies; nearly one in eight use mutual funds to save for education; and more than one in 10 are saving toward a home or other large purchase (Figure 1.4). Thus, the proposal, if adopted, could disrupt the lives of Americans who are saving for retirement, preparing for emergencies, planning for children’s education, or working toward the American dream of homeownership.

Mutual fund–owning households appreciate and understand the features of mutual funds. The great majority indicate the importance to them of the diversification and cost-effectiveness of (Figure 1.4). Most also indicate that the professional management offered by funds is important to them. The majority value the ability to sell their shares on any given day.

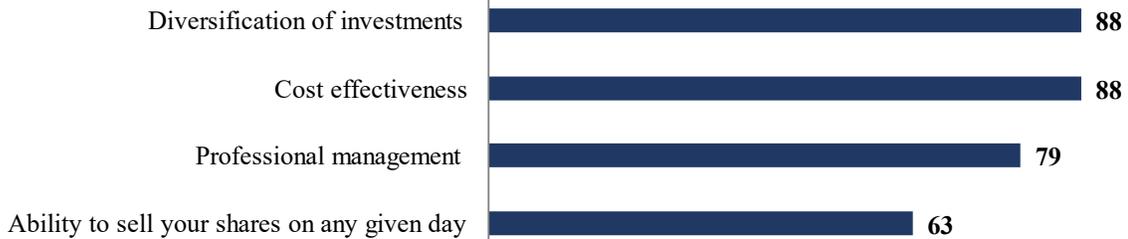
Figure 1.4
Mutual Fund–Owning Households Value Mutual Fund Investing for Their Important Financial Goals

Percentage of mutual fund–owning households, 2022

Why do they invest in mutual funds?



What features of funds do they appreciate?



Note: In the upper panel, multiple responses are included for households' financial goals. The lower panel reports the percentage of households owning mutual funds who indicated the characteristic was "very important" or "somewhat important;" the other responses were "not very important" or "not at all important."

Source: Investment Company Institute Annual Mutual Fund Shareholder Tracking Survey; see *ICI Research Perspective*, "Ownership of Mutual Funds and Shareholder Sentiment, 2022"; *ICI Research Perspective*, "Characteristics of Mutual Fund Investors, 2022"; and *ICI Research Report*, "Profile of Mutual Fund Shareholders, 2022"

As the body of our comment letter indicates, the proposal seems likely to have a heavier impact on the millions of Americans who hold their mutual funds indirectly through a financial intermediary than those who own their shares directly through a mutual fund provider. This is very significant because the vast majority (93 percent, or about 64 million) of mutual fund–owning households report that they primarily purchase their mutual funds through intermediaries

(Figure 1.5). About 49 million US households invest in mutual funds through 401(k) and other defined contribution plans.¹¹

Figure 1.5

Mutual Fund Investors Access Mutual Funds Through a Variety of Channels

Primary source for purchasing funds; percentage of mutual fund–owning households, 2022

Inside employer-sponsored retirement plans*	55
Sales force / Investment professionals	32
Full-service broker	10
Independent financial planner	16
Bank or savings institution representative	5
Insurance agent	1
Accountant	(*)
Direct market	13
Mutual fund company directly	7
Discount broker	6

*Employer-sponsored retirement plans include DC plans (such as 401(k), 403(b), or 457 plans) and employer-sponsored IRAs (SEP IRAs, SAR-SEP IRAs, and SIMPLE IRAs).

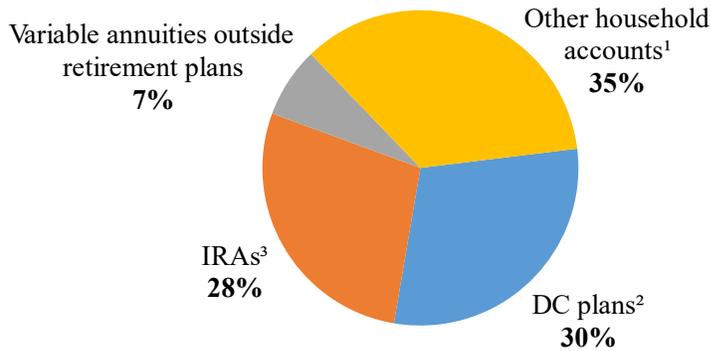
(*) = less than 0.5 percent

Source: Investment Company Institute Annual Mutual Fund Shareholder Tracking Survey; see *ICI Research Report*, “Profile of Mutual Fund Shareholders, 2022”

Moreover, assets likely to be affected by the proposal constitute a significant portion of the wealth of the 68.6 million American households that own mutual funds (Figure 1.1). At year-end 2021, 30 percent of households’ long-term mutual fund assets were held through defined contribution (DC) plans, 28 percent through IRAs, and 7 percent through variable annuities outside of retirement plans (Figure 1.6).

¹¹ See Figure 1.8 in Daniel Schrass and Michael Bogdan, 2022, “Profile of Mutual Fund Shareholders, 2022,” *ICI Research Report* (November 2022), available at <https://www.ici.org/system/files/2022-11/22-rpt-profiles.pdf>.

Figure 1.6
Households Often Hold Mutual Fund Assets Through Tax-Advantaged Accounts
Percentage of households' long-term mutual fund assets, year-end 2021



Households' long-term mutual fund assets: \$20.9 trillion

¹Mutual funds held as investments in 529 plans and Coverdell ESAs are counted in this category.

²DC plans include 401(k) plans, 403(b) plans, 457 plans, and other DC plans without 401(k) features.

³IRAs include traditional IRAs, Roth IRAs, and employer-sponsored IRAs (SEP IRAs, SAR-SEP IRAs, and SIMPLE IRAs).

Source: Investment Company Institute, *2022 Investment Company Fact Book*

The SEC should pay particular attention to the impact of the proposal on retirement plan savers. Mutual funds provide these hard-working Americans access to cost-effective, diversified, professionally managed investments to build assets for one of their most important financial goals—retirement. Households owning mutual funds only through employer-sponsored retirement plans tend to be younger; a bit more ethnically diverse; have lower to moderate incomes; and with moderate financial assets (Figure 1.7). Indeed, more than one-quarter of households that own mutual funds only through employer-sponsored retirement plans have a high school diploma or less. The SEC must recognize the key role of mutual funds in making Wall Street more accessible to Main Street:¹² many US households are introduced to US capital markets by investing in mutual funds, often through retirement plans at work.¹³

¹² See Sarah Holden and Michael Bogdan, 2021, “Main Street Owns Wall Street,” *ICI Viewpoints* (February 10); available at https://www.ici.org/viewpoints/21_view_equityownership; and Sean Collins, 2018, “Fund Investment Is Transforming American Stock Ownership,” *ICI Focus on Funds* (October 12); available at https://www.ici.org/video/fof_10_12_18_collins_mainstreet.

¹³ Employer-sponsored retirement plans are often the gateway to mutual fund ownership. Sixty-eight percent of mutual fund-owning households that purchased their first fund in 2010 or later purchased that fund through an employer-sponsored retirement plan compared with 53 percent of those that made their first purchase before 1990. In 2022, 45 percent of mutual fund-owning households owned funds both inside and outside employer-sponsored retirement plans. An additional 28 percent owned mutual funds only inside employer-sponsored retirement plans. See Figures 9 and 13 in Sarah Holden, Daniel Schrass, and Michael Bogdan, 2022, “Characteristics of Mutual Fund Investors, 2022,” *ICI Research Perspective* 28, no. 10 (October); available at <https://www.ici.org/system/files/2022-10/per28-10.pdf>.

Figure 1.7
Mutual Fund Owners Through Retirement Plans Represent Working America
 Percentage of US households owning mutual funds, 2022

	Households owning funds only inside employer-sponsored retirement plans	All households owning mutual funds
Age of household sole or co-decisionmaker for saving and investing		
Median	49 years	54 years
Education level		
High school diploma or less	27	20
Some college or associate's degree	31	26
Completed four years of college	28	33
Completed graduate school	14	21
Ethnic background*		
Caucasian	64	72
African American	15	9
Hispanic	13	9
Asian	6	8
Other	2	1
Total household income¹		
Less than \$35,000	12	10
\$35,000 to \$74,999	31	23
\$75,000 to \$149,999	37	36
\$150,000 or more	20	31
Median	\$87,500	\$100,000
Mean	\$102,300	\$133,200
Total household financial assets²		
Less than \$25,000	20	10
\$25,000 to \$49,999	14	8
\$50,000 to \$74,999	9	6
\$75,000 to \$99,999	9	6
\$100,000 or more	48	70
Median	\$87,500	\$250,000
Mean	\$253,500	\$648,900

¹Total reported is household income before taxes in 2021.

²Household financial assets include assets in employer-sponsored retirement plans but exclude the household's primary residence.

*Multiple responses are included.

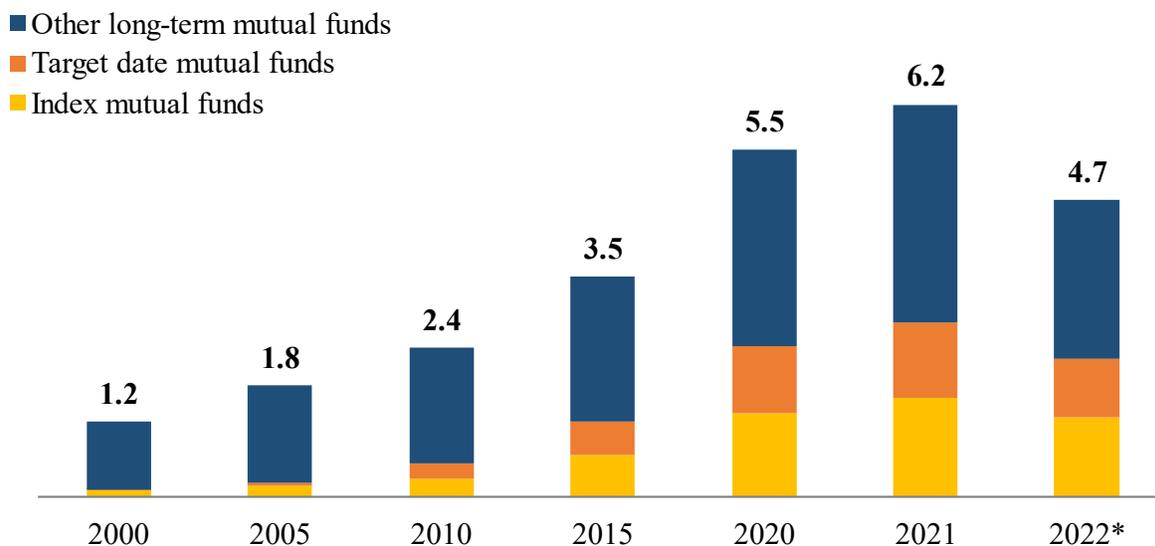
Source: Investment Company Institute Annual Mutual Fund Shareholder Tracking Survey; see *ICI Research Report*, "Profile of Mutual Fund Shareholders, 2022"

The proposal’s economic analysis notes in passing that the proposal could reduce the set of investment options available to investors.¹⁴ This is an important aspect of any potential cost-benefit analysis of the proposal that the SEC must take seriously. In today’s vibrant and competitive retirement plan market, DC plan savers enjoy access to a broad array of mutual fund types, including index mutual funds (27 percent of DC plan long-term mutual fund assets), target date mutual funds (20 percent of DC plan long-term mutual fund assets), and other actively managed long-term mutual funds (53 percent of DC plan long-term mutual fund assets) (Figure 1.8). In fall 2022, 85 percent of DC account–owning individuals agree that “my employer-sponsored retirement plan offers me a good lineup of investment options.”¹⁵

Figure 1.8

Defined Contribution Plan Retirement Savers Rely on Variety of Investment Styles Offered by Mutual Funds

Long-term mutual fund assets held in DC plans, trillions of dollars



*Data are as of 2022:Q3.

Source: Investment Company Institute, Quarterly Retirement Market Data

¹⁴ Proposal at 77251, 77253, and 77260–77261.

¹⁵ See Figure 2 in Sarah Holden, Daniel Schrass, Michael Bogdan, and Jason Seligman, 2023, “American Views on Defined Contribution Plan Saving, 2022,” *ICI Research Report* (January); available at <https://www.ici.org/system/files/2023-01/23-ppr-dc-plan-saving.pdf>.

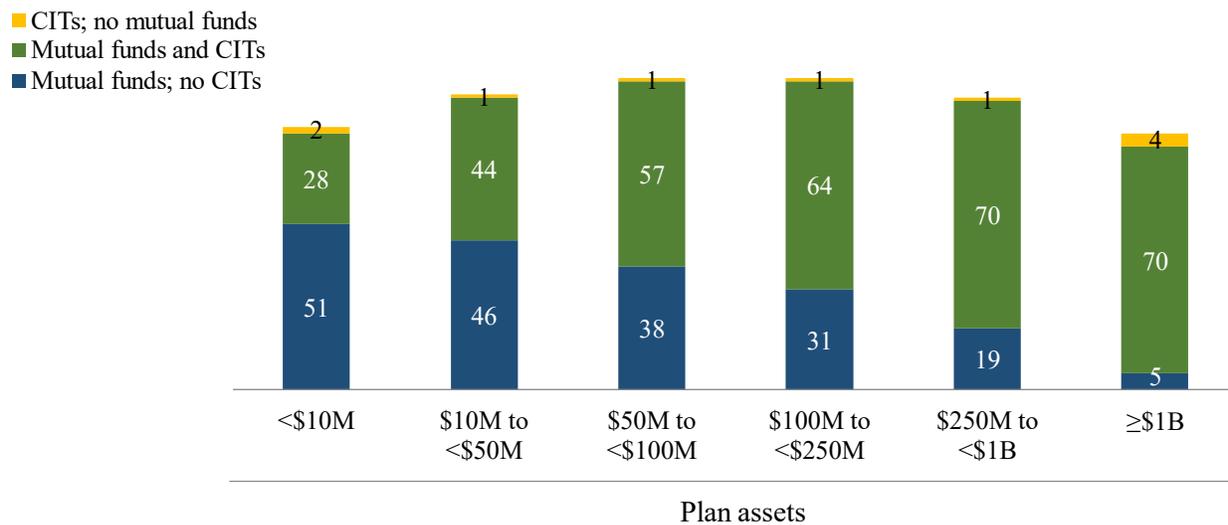
Additional evidence that mutual funds provide access to a unique array of investment options is that *both* mutual funds and CITs often are offered within a given individual 401(k) plan. The competitive retirement plan market has resulted in plan sponsors often relying on both products to provide their participants with a broad array of investment options, with different risk and return profiles.¹⁶ Indeed, analysis of DOL Form 5500 data for *large 401(k) plans*—those with 100 participants or more that file Schedule H (detailed balance sheet information)—shows that these 401(k) plans often include both mutual funds and CITs in their plan options (Figure 1.9). Because the larger of such plans are more likely to have both structures, a majority of 401(k) plan participants (57 percent of participants in large 401(k) plans) are in plans with both structures. Nevertheless, even as both CITs and mutual funds often are offered, mutual funds represent the majority of these 401(k) plans’ assets in all but the largest such plans (more than \$1.0 billion in plan assets) (Figure 1.10). While smaller 401(k) plans will be disproportionately affected,¹⁷ these results indicate that investment choices for a much broader brush of 401(k) plan participants would be impacted by the proposal.

¹⁶ For a discussion of the responsibilities of the plan sponsor, as fiduciary, in selecting their plan’s investment lineup, *see* Sarah Holden, Irina Atamanchuk, and Elena Barone Chism, 2022, “The Economics of Providing 401(k) Plans: Services, Fees, and Expenses, 2021,” *ICI Research Perspective* 28, no. 6 (June); available at <https://www.ici.org/system/files/2022-06/per28-06.pdf>.

¹⁷ Proposal at 77260.

Figure 1.9
401(k) Plan Sponsors Provide a Wide Array of Choice Often Offering Both CITs and Mutual Funds

Percentage of large 401(k) plans by plan assets, 2020



Memo:	<\$10M	\$10M to <\$50M	\$50M to <\$100M	\$100M to <\$250M	\$250M to <\$1B	≥\$1B
Number of plans	29,675	23,293	4,659	3,103	2,089	910
Participants (millions)	7.3	9.2	4.5	6.4	10.7	23.8
Assets (\$billions)	\$131	\$520	\$325	\$480	\$1,011	\$3,656

Note: Figure includes large 401(k) plans (typically with 100 participants or more) that filed Schedule H of the Form 5500. Assets exclude Direct Filing Entity assets that are reinvested in collective investment trusts and/or mutual funds.

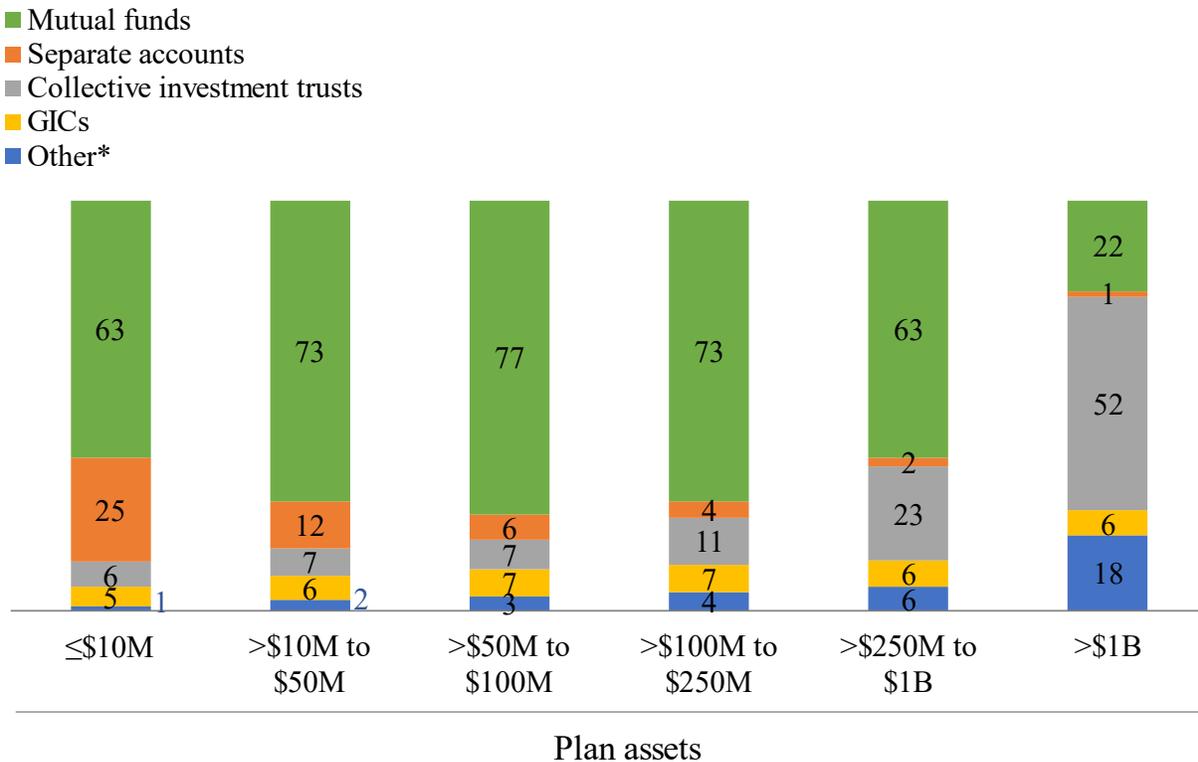
Source: Investment Company Institute calculations of Department of Labor Form 5500 Research Data Set

We are concerned that the SEC’s economic analysis suggests that 401(k) plans may simply shift entirely to CITs or other pooled investments if mutual funds become unviable as an option in 401(k) plans.¹⁸ A competitive 401(k) plan market has resulted in both mutual funds and other investment vehicles having roles for retirement savers (Figures 1.9 and 1.10); tipping the scales away from mutual funds could lessen competition to the detriment of retirement savers, in contradiction to the SEC’s mandate to support competition. The SEC notes in the proposal that smaller 401(k) plans may be more adversely impacted, whereas they rely more heavily on mutual funds. For instance, over half of the 401(k) plans with assets of less than \$10 million have mutual funds but no CITs as investment options (Figure 1.9) and these smaller plans have 63 percent of their assets invested in mutual funds (Figure 1.10). Nevertheless, mutual funds represent the majority of 401(k) plan assets in all but the largest plans (those with more than \$1 billion in plan assets). Consequently, to the extent that the proposal harms 401(k) plans, it seems

¹⁸ Proposal at 77260.

likely to cause even greater harm for small retirement plans, which are often reflective of smaller businesses or individual proprietorships.

Figure 1.10
Mutual Funds Are Majority of Plan Assets Except in the Largest 401(k) Plans
 Percentage of total assets among plans with audited 401(k) filings in the BrightScope database by plan assets, 2019



*Other includes individual stocks (including company stock), bonds, brokerage, and other investments. Participant loans are excluded.

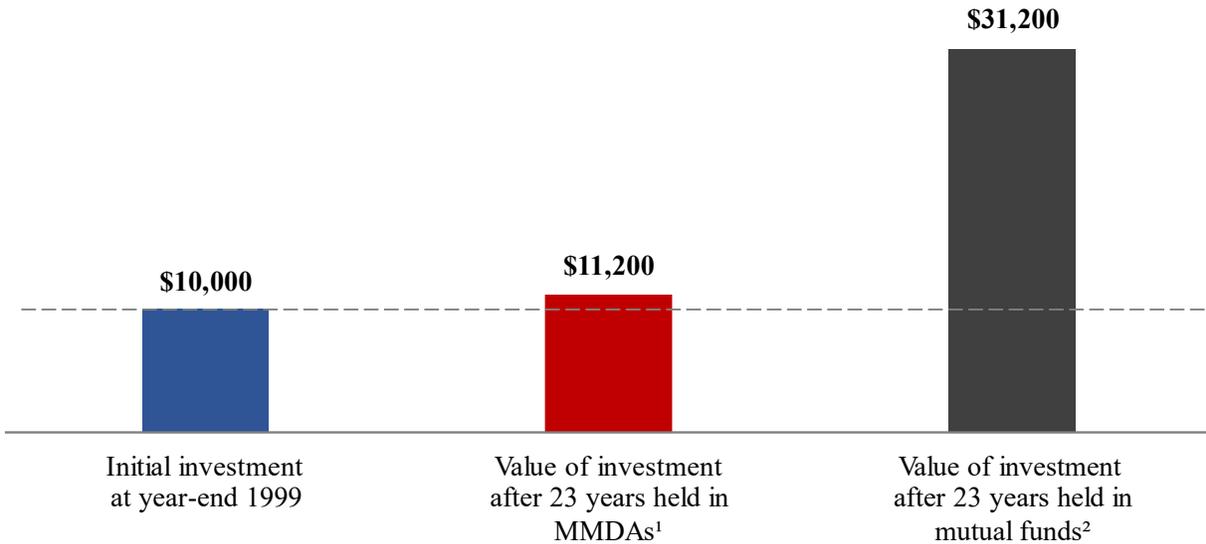
Note: The sample is 58,158 plans with 59.5 million participants and \$5.2 trillion in assets. BrightScope audited 401(k) filings generally include plans with 100 participants or more. Plans with fewer than four investment options or more than 100 investment options are excluded from BrightScope audited 401(k) filings for this analysis.

Source: BrightScope Defined Contribution Plan Database; see BrightScope and Investment Company Institute, *The BrightScope/ICI Defined Contribution Plan Profile: A Close Look at 401(k) Plans, 2019*

One of the key features of mutual funds is that they offer Americans who are saving for retirement access to returns on stocks and bonds. As Figure 1.11 shows, retirement savers investing in mutual funds would have tripled their money after making an initial investment in 1999. By comparison, bank savings accounts would have offered very little gain in nominal terms, which would likely mean losses in inflation-adjusted terms. The proposal barely touches on the importance of this aspect to US retirement savers. Instead, the hope seems to be—without evidence to support this—that if the experiment envisioned in the proposal is actually run, US

retirement savers will be just fine. That is a risky proposition for the more than 100 million Americans who invest through mutual funds.

Figure 1.11
Mutual Funds Have Helped Americans Build Wealth Through Access to Capital Markets



¹Data calculated using yields for money market deposit accounts.

²Data calculated using a weighted average of net returns of long-term mutual funds for various investing categories.

Sources: Investment Company Institute calculations of Bankrate, FDIC, and Morningstar data

2. Posited economic basis for the proposal: dilution, first-mover advantage, and asset market stress amplification

The proposal asserts that liquidity mismatch and associated trading costs in the open-end (i.e., mutual fund) sector present several potential problems:¹⁹

(1) funds may not be able to meet the statutory obligation to satisfy investor redemptions within seven days without incurring significant trading costs; (2) fund investors are subject to the risk of dilution; (3) fund investors' anticipation that they may be diluted may create a first-mover advantage that incentivizes them to redeem their shares before other investors do; and (4) fire sales that can be provoked by an increased pressure to meet redemptions could further disrupt already stressed markets.

¹⁹ Proposal at 77235.

However, the analysis in the proposal provides little in the way of hard evidence in support of these hypotheses.²⁰ This section seeks to provide hard evidence on these potential concerns, namely that:

- Estimates of daily dilution of non-transacting fund shareholders by purchasing or redeeming shareholders are generally very small (generally tenths or hundredths of basis points during normal periods and even during periods of market stress at most a few basis points) for mutual funds. While this very small estimated daily dilution will vary according to the statistical approach used and can accumulate over time and be larger or smaller at certain times and for certain funds or fund types, it is swamped by the returns Americans have earned on mutual funds. In short, the proposal's repeated claim that this kind of inflexible, one-size-fits-all approach to liquidity risk management and swing pricing is necessary to protect mutual fund shareholders against dilution does not hold up to hard evidence.
- Daily dilution and a first-mover advantage are flip sides of the same coin: if daily fund dilution is small, there is little incentive for investors to redeem out of funds to avoid dilution. In addition, in the real world, there are offsetting incentives for investors to *not* redeem out of funds in an effort to avoid this small dilution, including: capital gains taxes, being out of the market for some period owing to wash sale rules, and fund and 401(k) plan restrictions against frequent trading. Given our findings, we strongly disagree with the positing of a first-mover advantage in mutual funds as a basis for this proposal.
- We review the evidence that mutual funds' sales of portfolio securities may have amplified market stresses during March 2020. Suggestions that mutual funds added to the disruption have tended to focus on the Treasury, investment grade corporate and high-yield bond markets. The proposal cites a number of academic studies that find *statistically significant* evidence that funds' net sales of portfolio securities can affect market prices, including in March 2020. But the results in these are frequently *economically* insignificant. Moreover, these studies do not have data on funds' actual purchases and sales of securities but try to infer it from monthly or quarterly data. We provide new evidence on this matter using funds' actual portfolio purchases and sales; we find no indication that mutual funds added significantly in *economic* terms to the turmoil in March 2020. As it turns out, and as we discuss, this same conclusion can actually be gleaned from the academic studies the proposal cites, namely that although these studies often find some *statistically* significant evidence that funds' net sales of securities boosted yields on bonds in March 2020, the effects are *economically* small.

Overall, the posited bases for this proposal are not well-supported.

²⁰ Because the body of our comment letter demonstrates funds' near-perfect record of meeting redemptions over more than 80 years, we do not discuss it further in this appendix.

2.1 Dilution

The proposal is clearly concerned that investors' purchases and (especially) sales of fund shares could dilute the returns of other non-transacting investors in mutual funds.²¹ Given that the SEC must conduct a cost-benefit analysis to justify the proposal, it needs to provide dilution figures and weigh those against the likely large explicit costs of adapting to the rule amendments and the large implicit costs of disrupting and confusing the millions of Americans who use mutual funds. The proposal provides essentially no evidence quantifying dilution in mutual funds.²²

The proposal does reference a few studies about the application of swing factors to European-domiciled funds during March 2020. One of these references indicated that among surveyed Luxembourg-domiciled funds that applied swing pricing in March 2020, the average increase in the swing factor was 100 basis points, which is clearly significant.²³ On the other hand, the proposal references a different study which found that "swing pricing allowed surveyed funds to recoup roughly 0.06% [i.e., 6 basis points] of total net assets on average from redeeming investors during three weeks [i.e., about ½ basis point per day] of elevated redemptions in March 2020," which is arguably economically immaterial relative to the day-to-day volatility in financial markets that month.²⁴

A number of ICI member firms that have UCITS have indicated that swing pricing was a useful tool in Europe during March 2020. The proposal states that the SEC knows no reason why these experiences would not carry over to the US, in particular why dilution might be any less significant among US mutual funds than European-domiciled funds.²⁵ In fact, there are important differences. First, the swing pricing regime in Europe gives funds considerable flexibility to tailor to their specific circumstances, including not applying it at all if the fund feels it is unnecessary. Second, European-domiciled funds can use other anti-dilution tools, as they did in March 2020.²⁶ Third, as the body of our comment letter points out, there are very significant operational impediments to applying the proposal to US mutual funds. Fourth, there are

²¹ The term "dilution" appears 275 times in the proposal.

²² Indeed, the proposal essentially admits this. *See*, for instance, proposal at footnote 40 at 77178, stating that "We do not have specific data about the dilution fund shareholders experienced in Mar. 2020 ..." and at 77236, stating that "Many of the benefits and costs discussed below are difficult to quantify. For example, we lack data that would help us predict ... the reduction in dilution costs to investors in open-end funds as a result of the proposed amendments ...".

²³ *See* proposal at 77182, and footnote 62.

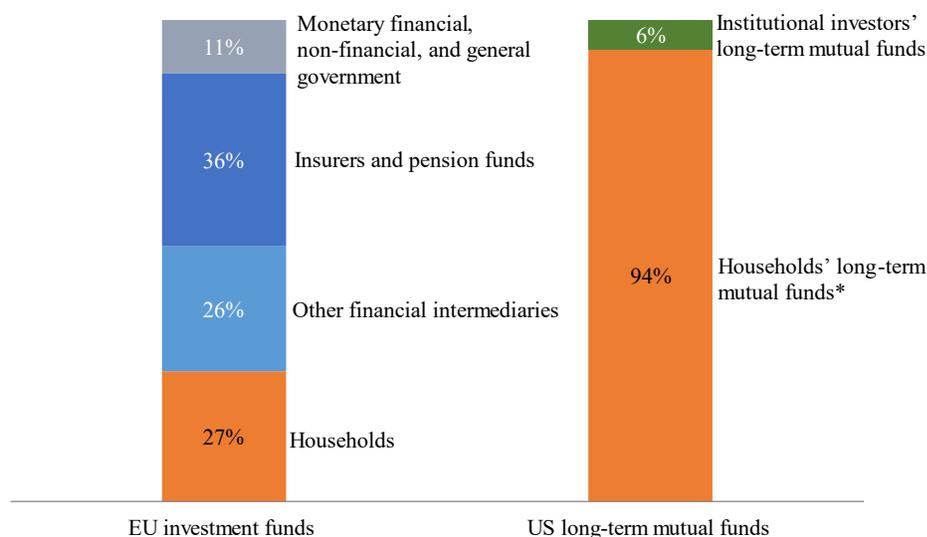
²⁴ Proposal at 77183, footnote 64, citing Claessens and Lewrick (2021), "[Open-ended bond funds: systemic risks and policy implications](#)," *BIS Quarterly Review*, December 2021.

²⁵ *See* proposal at 77178, footnote 40, stating that "European funds are subject to regulatory regimes that differ in some respects from the US regime for open-end funds. *We are not aware, however, of differences between the regimes that would have significantly reduced dilution for US funds relative to European funds* [emphasis added] during this period, such that European funds needed to use swing pricing to mitigate dilution that US funds were not experiencing due to regulatory or other differences."

²⁶ *See generally* ICI "[Experiences of European Markets, UCITS, and European ETFs During the COVID-19 Crisis](#)," *Report of the COVID-19 Market Impact Working Group*, December 2020.

significant differences in the base of investors among US mutual funds compared to European-domiciled investment funds.

Figure 2.1
The Investor Bases of EU Investment Funds and US Mutual Funds Differ Significantly
Percentage of assets, year-end 2021



Note: *US long-term mutual funds include equity, bond, and hybrid mutual funds but exclude money market funds and mutual funds that invest primarily in other mutual funds. Mutual funds held as investments in individual retirement accounts, defined contribution retirement plans, variable annuities, 529 plans, and Coverdell education savings accounts are counted as household holdings of mutual funds. EU investment funds exclude money market funds but may include funds that invest primarily in other funds—we estimate that excluding funds of funds would raise the household proportion among EU investment funds to 35 percent.

Sources: ICI and EFAMA

For instance, institutional investors appear to be the dominant holders of UCITS while retail investors (“households”) are much less significant. In the US, the situation is reversed: institutional investors hold a small minority of assets in mutual funds, and retail investors are the dominant shareholders. Although caution is always warranted in comparing and contrasting funds domiciled in one region versus another, EFAMA data indicate that households hold only 27 percent of the assets in European investment funds, with institutional investors accounting for the remainder (Figure 2.1). In contrast, ICI data indicate that households hold 94 percent of the assets in long-term (stock, bond, and hybrid) mutual funds, with institutions holding just 6 percent. This difference could be quite important because retail investors are, as a general matter, likely to be less reactive to market developments than institutional investors.

Another reason to believe the situation may be different between Europe and the US is that a heavy proportion of the assets in US mutual funds comes from 401(k) and other defined contribution plans, where investors are holding for the long term (see Figure 1.8 showing that

long-term mutual fund assets in defined contribution plans totaled \$4.7 trillion in 2022). Because these investors are saving for the long term, they have the ability to stay invested through market cycles, adding to the stability of flows from these investors.²⁷ Consistent with this, ICI data from DC plan recordkeepers show that during the quarter ending March 2020, the vast majority of DC plan participants stayed the course with their asset allocations.²⁸ In contrast, our understanding is that in European-domiciled funds, households' 27% share (Figure 2.1) is less likely to be held through defined contribution-type accounts.

Dilution can for a number of reasons be challenging to estimate. But even simple examples indicate that dilution is likely to be sizable only in very special circumstances, namely when, over short periods (days), fund outflows and portfolio transactions costs (including market impacts) are unexpectedly *very* large, and only if funds must sell securities to meet redemptions.

Figure 2.2 illustrates this. It shows hypothetical dilution for non-redeeming fund shareholders for selected levels of fund outflows and portfolio transactions costs. In the table, dilution is calculated as hypothetical fund flows times the hypothetical portfolio transactions costs of accommodating those flows. The figure gauges dilution for two hypothetical levels of outflows, which are those the proposal uses in seeking to justify its liquidity risk management portion. First, the proposal indicates that daily outflows of more than 1.6% across all funds and dates in its sample occur less than 1% of the time.²⁹ In other words, daily outflows larger than 1.6% are rare. Second, the proposal translates that into a daily stressed outflow of 10% that funds must evaluate themselves against (see section 3 below questioning the reasonableness of this translation). Daily outflows larger than 10% are *extremely* rare, by our calculation occurring less than 0.15% in the same daily data the SEC used.³⁰

²⁷ In fall 2022, 79 percent of DC account-owning individuals agreed that “knowing that I’m saving from every paycheck makes me less worried about the short-term performance of my investments.” See Figure 2 in Sarah Holden, Daniel Schrass, Michael Bogdan, and Jason Seligman, 2023, “American Views on Defined Contribution Plan Saving, 2022,” *ICI Research Report* (January); available at <https://www.ici.org/system/files/2023-01/23-ppr-dc-plan-saving.pdf>.

²⁸ During the first quarter of 2020, only 4.1 percent of DC plan participants changed the asset allocation of their contributions (portfolio purchases) and only 6.2 percent rebalanced the asset allocation of their account balances. See Figure 2 in Sarah Holden, Daniel Schrass, and Elena Barone Chism, 2022, “Defined Contribution Plan Participants’ Activities, First Quarter 2022,” *ICI Research Report* (June); available at https://www.ici.org/system/files/2022-06/22_rpt_recsurveyq1.pdf.

²⁹ See proposal at 77245, Table 3.

³⁰ As we indicate in section 3, we believe outflows as large or larger than 10% are probably even rarer than the proposal seems to indicate. In that section, we discuss data issues the SEC failed to address that, although probably not having much impact on broad averages, may have a significant effect on estimated percentiles of the tails of the fund outflow distribution in the proposal’s Table 3. Moreover, in cases where outflows of 10% or more really do occur, it is often the case that the fund has prior knowledge about the forthcoming redemption and has already structured the portfolio to accommodate that outflow or, in other cases, certain funds may be relatively small but hold portfolios (such as of derivatives) that are specifically designed to accommodate large flows. These kinds of events generally would not pose dilution concerns.

Figure 2.2
Daily Dilution Given Hypothetical Levels of Fund Outflows and Associated Portfolio Transactions Costs

Flows in percentage points, portfolio transactions costs and dilution in basis points

Daily percentage outflow	Probability of ever seeing larger outflows	Portfolio transactions costs (basis points)					
		50	100	200	300	400	500
1.6%	≤ 1%	1	2	3	5	6	8
10.0%	≤ .15%	5	10	20	30	40	50

Source: ICI calculations

As seen, in the first case with hypothetical outflows of 1.6% on a given day, hypothetical dilution is very small (8 basis points or less), even for extremely large (500 basis points) portfolio transactions costs of meeting those redemptions. If daily outflows were 10% or larger, hypothetical dilution would also be larger. But in real-world cases, the amount of actual dilution will depend on a range of factors, such as fund size, proportion of highly liquid assets on hand that can be disposed of at very low transactions costs, the type of fund (which can also affect portfolio transactions costs), and how the fund manages liquidity. For example, a fund that faces higher *potential* transactions costs is likely to manage its liquidity differently from a fund (e.g., a large cap equity fund) that faces lower *potential* transactions costs.

Therefore, it is an empirical question whether dilution in mutual funds is so economically material as to justify this costly and disruptive proposal. To provide evidence on this, we estimate average dilution for various types of mutual funds using two prominent approaches from the academic literature, one by Zitzewitz (2003) and the other by Choi et al. (2022).³¹

Intuitively, Zitzewitz (2003) and Choi et al. (2022) estimate funds' dilution as today's daily fund flows times the estimated effects those outflows have on fund returns over the next few days.³² The effects of today's flows on future daily fund returns are estimated using regression analyses. Intuitively, the idea is that fund flows today may cause a fund to sell portfolio securities in coming days and the transactions costs of those sales will be folded into the fund NAVs in coming days.³³ There is no one "correct" way to estimate dilution from publicly available data.

³¹ See Zitzewitz (2003), "Who Cares about Shareholders? Arbitrage-Proofing Mutual Funds," *Journal of Law and Economics*, October, 19(2), 245-280; Choi, Kronlund, and Oh (2022), "Sitting bucks: Stale pricing in fixed income funds," *Journal of Financial Economics*, 145, 296-317.

³² We provide full details in the Supplemental Appendix on Dilution. Here, for brevity we just summarize the data and methodology.

³³ We emphasize that these are not actual values of fund dilution, rather they are *estimates*.

Not surprisingly, the two approaches we use differ in how they predict future fund returns. Zitzewitz (2003) uses both lagged fund returns and market returns (the latter measured as returns on appropriate market indexes or ETFs) to predict tomorrow’s fund return. Choi et al. (2022) uses only past fund returns to make predictions, but predicts cumulative fund returns over the next five days (on the assumption that it may take a few days for funds to sell underlying securities).

Using these two approaches, we estimate average daily dilution, as well as annual dilution calculated from the daily dilution estimates. We do this for a range of fund types using daily fund flow data and fund returns obtained from Morningstar and market returns from Refinitiv for the 2009–2022 period. To address any concerns that we might be selectively using (“cherry-picking”) time periods or data and to illustrate the magnitude of any dilution during periods of severe market stress, we also present daily results for each day in March 2020.

Figure 2.3 summarizes the (asset-weighted) averages of estimated daily dilution for a range of fund types. The estimates are very small across all fund types, generally averaging no more than tenths to hundredths of a basis point at a daily rate and at most a few basis points at an annual rate. For example, for equity funds, we estimate dilution to be about zero (or even perhaps slightly *negative* for large- and mid-cap equity funds) even at annual rates. This is consistent with the high liquidity of the US stock market.³⁴

Although estimated dilution is larger for other types of funds, it is still quite small. For example, daily dilution for taxable bond funds is estimated to be between 0.00042 and 0.00856 basis points. That compares to daily variability of taxable bond fund returns of 16.4 basis points, indicating that daily changes in market conditions are likely to be vastly more important to fund shareholders than potential dilution over one day.

The daily estimates accumulate to higher levels at an annual rate, but they are still quite small. For example, estimates for international equity funds fall between 0.15 to 1.65 basis points at an annual rate. For taxable bond funds, the estimates range from 0.11 to 2.16 basis points at an annual rate, with estimates varying depending on the specific type of taxable bond fund. Estimates for high-yield bond funds—which some regulators and academics have characterized as “illiquid”—are still quite marginal, averaging between 3 and 6 basis points at an annual rate.

³⁴ In our analysis, a positive number for estimated dilution suggests redeeming shareholders may be gaining at the expense of non-redeeming shareholders. Negative dilution estimates indicate that redeeming shareholders would have been better off not redeeming today because the fund’s NAV rose in coming days.

Figure 2.3
Estimated Daily Dilution for Selected Types of Mutual Funds
 Basis points, 2009 to 2022

Type of mutual fund	Zitzewitz Model		Choi Model		Fund Returns		
	Dilution		Dilution		Daily variability	Average annual variability	Annual average returns
	Daily	Annual average	Daily	Annual average			
US equity	-0.00002	0.00	0.00036	0.09	96.9	1,532.4 (15.3%)	1,380 (13.8%)
Large cap	-0.00001	0.00	-0.00050	-0.13	97.8	1,545.8 (15.5%)	1,390 (13.9%)
Mid cap	-0.00007	-0.02	-0.00096	-0.24	105.2	1,663.2 (16.6%)	1,390 (13.9%)
Small cap	0.00010	0.02	0.00168	0.42	114.6	1,811.9 (18.1%)	1,300 (13.0%)
International equity	0.00059	0.15	0.00655	1.65	93.6	1,479.9 (14.8%)	750 (7.5%)
Taxable bond	0.00042	0.11	0.00856	2.16	16.4	258.7 (2.59%)	490 (3.8%)
Government	0.00003	0.01	0.00374	0.94	21.5	339.5 (3.40%)	100 (1.0%)
Core	0.00058	0.15	0.00879	2.21	18.2	287.3 (2.87%)	330 (3.3%)
High-yield	0.01175	2.96	0.02305	5.81	28.2	445.6 (4.46%)	780 (7.8%)
Municipal bond	0.00160	0.40	0.01548	3.90	17.1	270.8 (27.1%)	380 (3.8%)

Note: Dilution estimates and annual average returns are asset-weighted averages of individual fund values. Annual average variability is daily variability times the square root of 250.

Sources: ICI calculations of Morningstar and Refinitiv data. See Supplemental Appendix for Estimating Daily Dilution for a detailed discussion on these calculations.

It is important to put these annual dilution estimates in context. To do this, the final two columns in the figure show the annual variability and averages of returns in the primary markets in which these funds invest. As can be seen, return variability is hundreds to thousands of times greater than the annual average dilution estimates. This suggests that the average investor is probably far more sensitive to variability in market conditions than to dilution (which, as discussed below, is a reason to question the real-world applicability of the first-mover hypothesis).

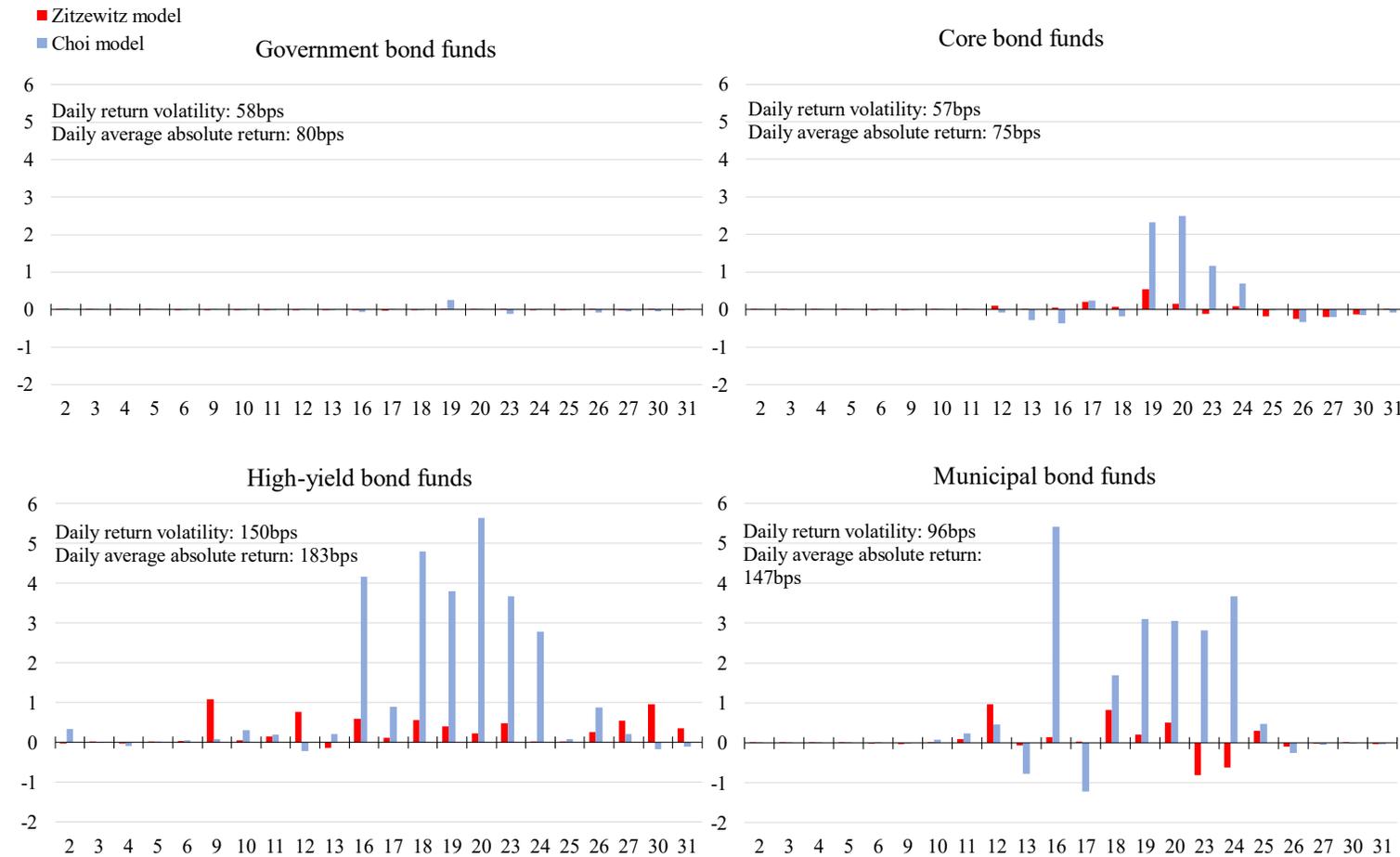
In addition, estimated average dilution is tiny compared to the returns investors have received on these funds; the final column shows annual average returns for various fund categories over the same period that we estimate dilution (2009–2022). Average annual returns vary but run from more 100 basis points for government bonds to more than 1,000 basis points for equity funds. Even for high-yield bond funds which have the highest estimated dilution, that dilution would on average barely register relative to the long-term annual returns that fund shareholders experience.

Of course, investors might be concerned about dilution during periods of market stress. To assess this, we present for March 2020 daily dilution estimates for four types of fixed-income funds: government bond, core bond, high-yield bond, and municipal bond (Figure 2.4).³⁵ As seen, even in March 2020, amid the vast stresses arising from the pandemic, estimated dilution was small. It is most sizable for high-yield and municipal bond funds, but even then, ranges only from 1 to 5 basis points per day depending on the model used. Here again, estimated daily dilution is swamped by market volatility. For example, for high-yield bond funds, the highest day of estimated dilution in March 2020 might be about 5 basis points (depending on the model used), but high-yield returns on average varied *daily* by 150 basis points that month. In other words, daily returns varied 25 to 150 times more than the dilution estimates, suggesting that fund investors—like all other investors, whether in pooled products or not—were likely focusing on overall market conditions, not any potential dilution.³⁶

³⁵ For three reasons, we do not present daily estimates for March 2020 for equity funds. First, there seems no need, given that the dilution estimates for equity funds are on average virtually zero in Figure 2.3. Second, to our knowledge, there has been little if any concern expressed by regulators or others about the performance of equity mutual funds in March 2020. Third, to the extent that regulators and others have expressed concerns about dilution and first-mover advantage among mutual funds as a factor motivating investors in March 2020, the discussions have focused on fixed-income funds.

³⁶ Moreover, the proposal seems to treat dilution as if it is a deadweight loss to non-redeeming shareholders. Although any dilution that could accumulate over time is a cost to fund shareholders, it is a cost that investors may be willing to bear (as they apparently have for decades) in return for the option value of being able to purchase or redeem shares on a daily basis at NAV in a pooled, diversified, affordable product. In addition, any potential dilution shareholders seek to avoid by redeeming out before others could be more than offset by other costs they could face, such as increased capital gains taxes or returns lost by being out of the market for some number of days or weeks.

Figure 2.4
Estimated Daily Dilution for Selected Types of Mutual Funds in March 2020
 Basis points



Sources: ICI calculations of Morningstar and Refinitiv data. See Supplemental Appendix for Estimating Daily Dilution for a detailed discussion on these calculations.

All of this has three significant implications for the proposal:

- First, the SEC must weigh the likely high aggregate cost of the proposal, its inflexibility, and its vast sweep—all of which will cause confusion and disruption for millions of American investors—against any potential aggregate benefits (which from our estimates seem very small) of reducing dilution.
- Second, although there could be differences in costs and benefits to shareholders across individual mutual funds within fund types, that is something the SEC would need to investigate carefully.
- Third, to any extent that economically material dilution can be shown to exist among some small subset of individual funds, this would not justify the proposal’s costly, inflexible, vast sweep. Instead, a far better approach to helping protect non-redeeming fund shareholders would be to try to ensure that an individual fund has the discretion and ability to select from a range of anti-dilution tools, if and when the fund deems application of such tools is appropriate.

2.2 First-mover advantage

As proponents of the first-mover hypothesis have pointed out, a first-mover advantage and fund dilution are one and the same thing.³⁷ If daily dilution is economically material, there could be an incentive for investors to redeem to avoid dilution. On the other hand, if dilution is economically small, there is little cost to investors staying put in funds, and indeed the costs to shareholders of redeeming could far exceed anticipated dilution. Given that the proposal provides no direct evidence on dilution, it follows that it provides no direct evidence on the likelihood that fund shareholders are motivated by a first-mover advantage.

The proposal argues that the academic literature has “documented” a first-mover advantage in mutual funds.³⁸ Generally, however, the studies cited do not provide direct evidence of a material first-mover advantage in mutual funds. Instead, they tend to provide evidence that fund flows track market (or fund) returns.³⁹ However, that is nothing new; it has long been accepted as an

³⁷ See for example, Malik and Lindner (2017), “On swing pricing and systemic risk mitigation.” *IMF Working Paper*, WP/17/159, who note that the first-mover hypothesis can “be described as being the result of ‘strategic complementarities’ [another term for the first-mover advantage] amongst fund investors, where redemption activity by one investor, or a group of investors, motivates other investors to also sell their shares to avoid dilution.”

³⁸ See proposal at 77241-77242, saying that the “first-mover advantage effect in mutual funds has been documented and studied as a mechanism for runs on mutual funds in the academic literature.”

³⁹ See, for instance, Goldstein et. al. (2017), “Investor Flows and Fragility in Corporate Bond Funds,” *Journal of Financial Economics*, 126, who examine the relationship between fund flows and performance using monthly data, arguing that they have found evidence that bond fund “outflows are sensitive to bad performance more than their inflows are sensitive to good performance,” a so-called “concave performance-to-flow relationship.” But Goldstein et al. (2017) does not claim to have found evidence of a first-mover advantage. Instead, as the paper’s abstract states, its findings “*may* [emphasis added] generate a first-mover advantage among investors in corporate bond funds,” leaving open the possibility that their results also may *not* imply a first-mover advantage. This is a considerably

empirical fact that fund flows and returns tend to be correlated.⁴⁰ But that correlation may or may not be evidence of a first-mover advantage in mutual funds. For example, the correlation is consistent with other more conventional explanations, such as that changes in monetary policy move short-term interest rates, influencing other market interest rates and fund returns, in turn causing *all* investors (whether in mutual funds or not) to adjust their portfolios.^{41, 42}

What is lacking, both in the proposal, and in the academic literature in general, is direct evidence of a first-mover effect. As noted earlier, dilution and any first-mover advantage in mutual funds go hand-in-hand. Thus, one way to test for a first-mover advantage is to estimate daily dilution in mutual funds.⁴³ If it turns out that dilution is economically small or immaterial (especially relative to other market factors such as stock or bond returns), then any incentive for first-movers to redeem must also be small or economically immaterial. In other words, unless daily dilution is sizable, remaining in a funds poses little incentive for first-movers to consider redeeming quickly.

Section 2.1 showed that estimated daily dilution for mutual funds is on average quite small. As noted, there were days in March 2020 when estimated daily dilution was higher for some types of funds (such as high-yield funds) but, as also noted, this must be set against the backdrop of daily changes in stock and bond prices, which were on average moving hundreds of basis points per day. Thus, dilution seems unlikely to be a strong incentive motivating first-movers, which in turn challenges the proposal's reliance on a first-mover advantage as a basis for itself.

more measured interpretation than the proposal's strong statement that the "first-mover advantage has been *documented* [emphasis added] in mutual funds."

⁴⁰ See Appendix A, footnote 5 above (citing [Investment Company Institute Fact Book \(2005\)](#), at 16, showing that flows to bond mutual funds have tended to track bond market returns since at least 1990, thus decades before the first-mover hypothesis was put forth for mutual funds).

⁴¹ See, for example, Michael Feroli et. al. (2014), "Market Tantrums and Monetary Policy," Chicago Booth Research Paper no. 14-09, arguing that they have found evidence in favor of a first-mover advantage in bond mutual funds. For a critique of Feroli et al. (2014) that challenges this view, see S. Collins and C. Plantier, "[Are Bond Mutual Fund Flows Destabilizing? Examining the Evidence from the 'Taper Tantrum'](#)", October 2014, discussing the econometric identification problems in Feroli et al. (2014) and showing that the posited evidence of a first-mover advantage in their results vanishes once variables proxying for changes in monetary policy are introduced into the analysis.

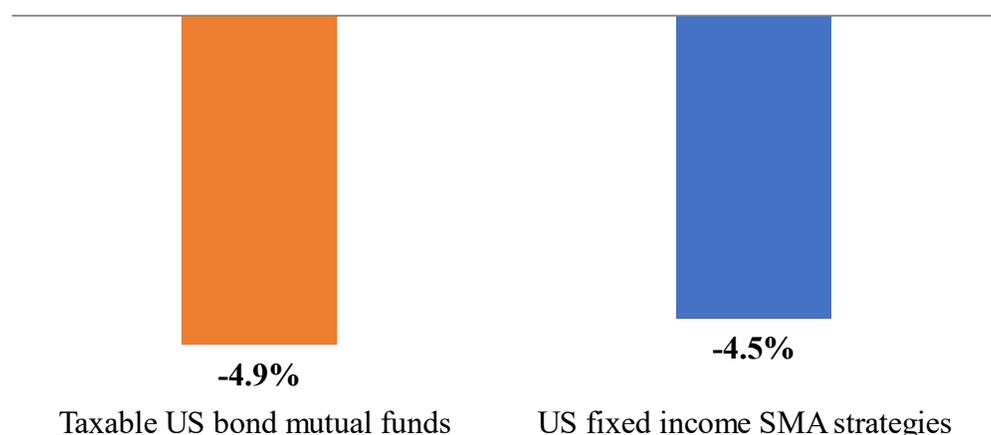
⁴² These two competing explanations can imply radically different policy prescriptions. For example, if the first-mover hypothesis is the reason fund flows and returns are correlated, policymakers could study whether unique features of mutual funds incentivize a first-mover effect (as we will discuss, we do not believe that it is the case). On the other hand, if monetary conditions create the correlation between fund flows and fund (or market) returns, it would make sense to instead focus on macroeconomic conditions. For example, if the economy and inflation were allowed to run too hot, monetary policy might need to be tightened, leading to a drop in market returns and the potential for all investors (perhaps including those in mutual funds) to want to sell. In that case, the indicated policy prescription would not be to try to impose impediments on mutual funds shareholders who seek to adjust their portfolios but to try to ensure that inflation remains contained in the first place.

⁴³ It is worth emphasizing the first-mover hypothesis assumes that fund shareholders must act very quickly (e.g., today); if they don't, their returns will be diluted by other investors who do redeem today. This indicates that it is important to focus on daily influences.

In addition, new research challenges the notion that there is something about the structure of mutual funds that generates a unique and strong incentive for first movers to redeem sharply. The first-mover hypothesis as described in the literature implies that investors in mutual funds and direct investors in stocks and bonds should behave differently during market downturns. The first-mover hypothesis asserts that the shared liquidity of investors in mutual funds can create an incentive for individual fund investors to redeem heavily during market downturns because liquidity costs can be passed on to fund shareholders who do not redeem. Direct investors have no such incentive because they bear the full liquidity cost of selling securities during a market downturn. Thus, if the first-mover hypothesis as applied to mutual funds is correct, mutual fund investors should react much more strongly to changes in market conditions than do direct investors.

Figure 2.5
If the First-Mover Hypothesis Is Correct, Bond Mutual Fund Investors Should React Much More Strongly to Market Changes than Do Direct Investors in Bonds—But that Doesn't Appear to Be True

Outflows as a percentage of net assets, March 2020



Source: ICI calculations of ICI and Morningstar Direct data

This does not appear to be the case: new evidence suggests that mutual fund investors and direct owners react similarly to changes in market conditions. Stahel (2022) shows that investors in mutual funds and those in separately managed accounts (SMAs), the latter of which are directly owned portfolios of securities, react similarly to changes in market conditions. As one striking example, we estimate that percentage outflows from taxable bond mutual funds and separately managed fixed income accounts were nearly identical in March 2020 (Figure 2.5), 4.9 percent

versus 4.5 percent, respectively.⁴⁴ As another example, Stahel (2022) reports that the so-called “concave performance-flow” relationship that academics have argued is evidence of a first-mover advantage in mutual funds can also be found in performance and flow data for SMAs.

Stahel (2022) posits that his findings reflect a more fundamental development not arising because of some feature unique to mutual funds, but because of concerns among *all* types of investors—whether indirect investors through pooled products such as mutual funds or investors that hold stocks and bond directly—about market liquidity.⁴⁵ We encourage the SEC to study this alternative hypothesis closely because it suggests quite different palliatives than the current proposal, namely that if policymakers wish to increase market resiliency and reduce the chances of stress periods like March 2020, rather than focusing narrowly on the *demand for mutual funds*, they should consider much broader-based proposals focusing on ways to increase *the supply of liquidity to the markets in general* during times of stress.⁴⁶

Another example challenging the notion that mutual fund investors sell heavily because of the pooled liquidity of mutual funds comes from the Treasury market. Academics and regulators have noted that mutual funds, and especially bond mutual funds, sold Treasury bonds during March 2020. Our research indicates that bond mutual funds sold about \$100 billion in Treasury bonds that month (Figure 2.6), in part to help meet shareholder redemptions.⁴⁷ But that same

⁴⁴ Some might be tempted to argue that in Figure 2.5, outflows from bond mutual funds *are* larger than outflows from SMAs for March 2020. But that would miss the forest for the trees: if the first-mover hypothesis as applied to mutual funds is correct, outflows from mutual funds should be relatively much greater. Moreover, it is important to remember that these figures are *statistics*, and small differences could well be explained by sampling error arising from things such as variations in data sources, data definitions, breadth of data coverage, and other data related factors. Indeed, Stahel (2022) formally tests whether mutual fund investor flows, once properly benchmarked with investor behavior in equivalent SMAs, exhibit accelerated outflows after negative performance above and beyond those of benchmark investors. His results indicate that mutual fund investors *do not* exhibit further accelerated outflows, which implies that any difference in aggregated outflows shown in Figure 2.5 is attributable to factors other than the behavior of fund investors.

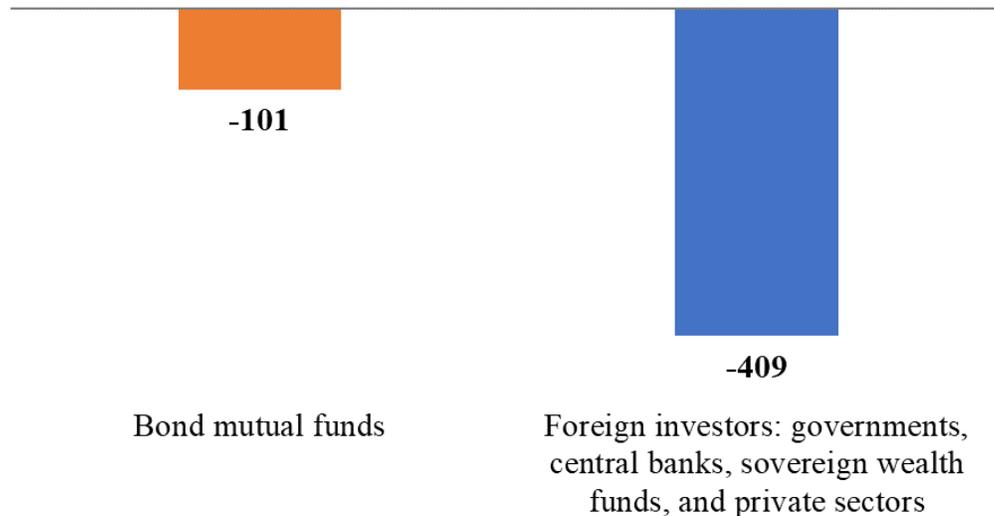
⁴⁵ Some observers have described what they call a “first-mover advantage in market liquidity.” *See*, for instance, BlackRock, *Policy Spotlight: Swing Pricing – Raising the Bar*, September 2021, at 9–10. But although going by the same moniker, this kind of first-mover advantage is fundamentally different from the usual description (which the proposal also uses) of “first-mover advantage” applied specifically to mutual funds because investors in such funds face pooled liquidity.

⁴⁶ Although the proposal cites Stahel (2022), we are concerned that it has misinterpreted or mischaracterized his results. In discussing Stahel (2022), the proposal states that “*we recognize that while dilution risk arising from trading costs can create incentives for early redemptions, redemptions may also occur for reasons unconnected to the pooled vehicle nature of the fund [emphasis added].* For example, a recent working paper [i.e., Stahel (2022)] concludes that the behavior of mutual fund investors is similar to that of direct investors with overlapping holdings ...” Here, the proposal seems to be inviting readers to infer that Stahel’s paper offers an *additional* reason to be concerned about redemptions from mutual funds over and above the usual first-mover arguments. This misses the point of Stahel’s paper, which is that the evidence academics have pointed to as supporting the notion of a first-mover advantage in mutual funds is in fact likely evidence of a more fundamental motive for *all investors* to try to trade ahead of others and not something *in addition* to the usual first-mover advantage hypothesis in mutual funds.

⁴⁷ *See* Shelly Antoniewicz and Sean Collins (2022), “[Setting the Record Straight on Bond Mutual Funds’ Sales of Treasuries](#),” *ICI Viewpoints*, February 24. Including net sales by all other mutual funds raises the estimated total to

month, foreign investors—which includes non-US banks, foreign central banks, sovereign wealth funds, and others—sold far more Treasury notes and bonds, an estimated \$409 billion. These investors sold heavily despite having no first-mover incentive (because they generally held the securities directly, they would have borne their own liquidity costs of selling).

Figure 2.6
Foreign Investors Sold Four Times More Treasuries Than Bond Mutual Funds
Net sales of Treasury notes and bonds, billions of dollars, March 2020



Sources: Investment Company Institute and Weiss (2022)⁴⁸

In sum, because the SEC provides no compelling or sufficient evidence of an economically material first-mover effect in mutual funds, the first-mover hypothesis provides no basis for adopting the proposal.

2.3 Evidence is lacking that mutual funds amplify market disruption

The proposal repeatedly evinces concerns that during a market downturn a first-mover advantage in mutual funds might cause shareholders to redeem heavily, in turn causing mutual funds to fire-sell assets, adding to market stresses or disruption. Even putting aside our evidence indicating that there are reasons to doubt the proposal’s concerns about dilution and first-mover advantage in mutual funds, the proposal offers no hard evidence that mutual funds amplify market disruptions.

\$131 in total net sales of Treasury notes and bonds. A number of commentators have reported net sales of Treasuries by mutual funds that are far higher (between \$236 billion to \$260 billion), but as Antoniewicz and Collins (2022) discuss, these reports are incorrect.

⁴⁸ See Colin R. Weiss, “Foreign Demand for US Treasury Securities During the Pandemic,” FEDS Notes, Federal Reserve Board (January 28, 2022).

ICI *has* provided hard evidence on this concern.⁴⁹ For example, regulators and academics have claimed that bond mutual funds' sales of portfolio securities significantly amplified stresses in the Treasury and corporate bond markets in March 2020. But these claims are typically based on estimates of what funds *might* have sold during the entire month of March, rather than actual data on what funds *actually* did sell in March 2020. Our results, which rely on bond mutual funds' *actual* day-by-day portfolio purchases and sales during March 2020, suggest there is no evidence that bond mutual funds significantly amplified bond market stresses that month. For example, among other things, our daily survey data show that claims that funds amplified stresses in the Treasury bond market have been based on greatly inflated estimates of their sales of Treasury bonds that month. In addition, we showed that the timing of bond mutual funds' daily sales of Treasuries did not align with daily indicators of stress in the Treasury market. We believe the SEC is aware of our studies and are puzzled as to why the proposal does not factor them into the analysis or cite to them.

Academic studies cited by the proposal

The proposal does cite some academic research that it interprets as suggesting that mutual funds' sales of portfolio securities amplify stresses in financial markets.⁵⁰ These studies typically provide evidence on whether selling by mutual funds has a *statistically* significant effect on market prices (or yields) but those effects are not necessarily *economically* significant.

For example, the proposal cites a study by Coval and Stafford (2007), suggesting that that study “constructed measures of mutual fund outflow-induced price pressure on various securities [and that the] constructed measures exploit the idea that large investor redemptions place pressure on mutual funds to sell portfolio holdings, and if these sales are sufficiently large, the funds' liquidity needs may put downward pressure on prices that is unrelated to the fundamental value of the underlying stocks.” That is certainly true in terms of statistical significance in the Coval and Stafford (2007) study, but that study itself suggests that the *economic* significance of its results could be trivial overall.⁵¹

⁴⁹ See Shelly Antoniewicz and Sean Collins, “[Setting the Record Straight on Bond Mutual Funds' Sales of Treasuries.](#)” *ICI Viewpoints*, February 24, 2022; Shelly Antoniewicz and Sean Collins, “[Policymakers Say Bond Mutual Funds Contributed Significantly to Treasury Market Stress but...](#)” *ICI Viewpoints*, March 24, 2022; Sean Collins and Shelly Antoniewicz, “[Policymakers Need to Focus on Economic Fundamentals and Not Blame Bond Mutual Funds: Examining the Evidence of Investment Grade Corporate Bond Yield Spreads in March 2020.](#)” *ICI Viewpoints*, July 6, 2022; Sean Collins and Shelly Antoniewicz, “[Core Bond Mutual Funds Had Little Impact on the Investment Grade Corporate Bond Market.](#)” *ICI Viewpoints*, August 4, 2022.

⁵⁰ See proposal at 77242, arguing that “redemption-induced sales of securities by mutual funds can create price pressure in underlying markets which may result in a fire-sale for these securities,” and the studies cited in the footnotes on that page.

⁵¹ See the discussion on economic significance in Coval and Stafford (2007), “Asset fire sales (and purchases) in equity markets,” *Journal of Financial Economics*, 86, 479–512, section 6.2 stating that “The average holding in our baseline flow-induced trading sample experiences a maximum mispricing of roughly 10%. If transactions are uniformly spread across this price decline, the average fund is forced to sell at a 5% discount to fair value, representing a relatively significant hit to fund performance. *On the other hand, considering that less than one*

The proposal further cites an article by Ma et al. (2022), which suggests that mutual funds' sales of securities in March 2020 had statistically significant effects in raising yields on Treasury and corporate bonds.⁵² However, that article also finds that mutual funds' portfolio sales had no statistically significant effects on Treasuries bonds with a maturity of less than 20 years, and no effect on on-the-run Treasury bonds with a maturity of twenty years or more. They do find a statistically significant effect on the yield of off-the-run Treasuries with a maturity of 20 years or more and on bond mutual funds' sales of corporate bonds on the yields of investment grade and high-yield corporate debt. However, the implied effects on the yields of these securities in March 2020 appear economically immaterial.⁵³ Specifically, based on the statistically significant coefficients in their Tables 6 and 7, actual net sales of Treasury and corporate bonds from long-term bond mutual funds during March 2020 appear to have resulted in increases in the yields of off-the-run Treasury bonds and corporate bonds of 0.33 and 0.55 basis points, respectively.⁵⁴ All

percent of the stocks in our sample are subject to widespread flow-induced selling during a given quarter, a fund faces relatively trivial ex ante expected costs from the possibility of being forced by fund outflows to sell holdings at discounted prices" [emphasis added].

⁵² See, for example, Yiming Ma, Kairong Xiao, and Yao Zeng (2022), "Mutual fund liquidity transformation and reverse flight to liquidity," *The Review of Financial Studies* argue that selling pressure from fixed-income mutual funds during the COVID-19 crisis negatively impacted asset prices, even liquid asset classes such as Treasuries. See also Jiang, Hao, Yi Li, Zheng Sun, and Ashley Wang (2022). "Does Mutual Fund Illiquidity Introduce Fragility into Asset Prices? Evidence from the Corporate Bond Market." *Journal of Financial Economics*, 143 (1): 277-302. See also IMF *Global Financial Stability Report* (2002), October, Chapter 3, which relies heavily on the work of Ma et al. (2022) and Jiang et al. (2022). Haddad, Moreira, and Muir (2021), "When Selling Becomes Viral: Disruptions in Debt Markets in the COVID-19 Crisis and the Fed's Response," *Review of Financial Studies*, 34, 5309-5351.

⁵³ Ma et al. (2022) argue based on results in their Table 8 that mutual funds sales boosted yields on Treasuries with a maturity of 20 years by 22.6 basis points, relative to an increase of yields on Treasury bonds of 64 basis points (from March 8, 2020 to March 18, 2020), thus amounting to about "about one-third of the overall increase in Treasury bond yields during the COVID-19 crisis." Taking their regression results as given, we believe this overstates things by a fair margin. The authors assume bond mutual funds sold \$61.4 billion of 20-year Treasuries during the COVID-19 crisis. Our data indicate this must be a large overstatement. We found that from March 8 to March 18, 2020, bond mutual funds in total sold \$62 billion of Treasury notes and bonds across all maturities, of which one might assume perhaps \$20 billion was in maturities greater than 10 years. This would reduce their estimated 22.6 basis points to 7.4 basis points ($\$20 \text{ billion} / \$61.4 \text{ billion} \times 22.6 \text{ basis points}$). A different way to see that their 22.6 basis point must overstate matters is to note that although yields on 20-year Treasury bonds did in fact rise 69 basis points from March 3, 2020 to March 18, 2020, yields on 10-year Treasuries (for which Ma et al., 2022 find no statistical effect) rose 64 basis points. Presumably, one should attribute only the marginal increase in 20-year Treasury yields over 10-year Treasury yields—5 basis points—to bond mutual funds.

⁵⁴ The significant coefficients -1.022 and -2.004 in Tables 6 and 7 of Ma et al. (2022) imply that a 1% increase in aggregate outflows results in a 1.00 and 2.00 basis points decrease in the corresponding bond prices. Converting bond price changes into changes in bond yields and assuming durations of 20 years and 7 years for off-the-run Treasury and corporate bonds, respectively, a 1% increase in aggregate outflows results in increases in the corresponding bond yields of 0.05 and 0.29 basis points, respectively. To quantify the economic magnitude of these results, based on our data from March 9, 2020, through March 18, 2020, US long-term bond mutual funds sold roughly net \$62 billion Treasuries, or 6.5% of the aggregate amount held at the end of March 6, 2020. Similarly, US long-term bond mutual funds sold net \$21 billion corporate bonds from February 28, 2020, through March 23, 2020, or 1.9% of the aggregate amount held at the end of February 27, 2020. These percentage sales then imply increases of 0.33 and 0.55 basis points in the Treasury yield and corporate bond yield, respectively. And even if we had misread the captions to these two tables and outflows were to be measured in dollar terms and not as percentages of

the while the yields of US Treasury securities at 10-year constant maturity and the ICE BofA BBB US Corporate Index rose 64 and 276 basis points, respectively.

Although the SEC does not cite it, a recent International Monetary Fund (IMF) report⁵⁵ follows closely the methodologies used by the Ma et al. (2022) and Jiang et al. (2022), studies the SEC cites. The IMF's analysis suggests that selling pressure from mutual funds during the COVID-19 crisis might have reduced prices on investment grade corporate bonds by 1 percent and on high-yield bonds by 1.5 percent (IMF, 2022, Figure 3.12, panel 4 at page 78). By our calculations, these would translate into a very small proportion of the total increases in the yields on these types of bonds during March 2020.⁵⁶ In other words, the IMF's analysis suggests that the *economic* effects of any amplification were quite small.

In the same vein, the proposal cites Haddad et al. (2021)⁵⁷ as a study indicating that mutual funds' sales of securities in March 2020 may have amplified market stress. That study does indeed find a statistically significant relationship between mutual funds sales of corporate bonds in March 2020 and yields on corporate bonds (relative to Treasuries). For instance, they find that the elasticity of corporate bond yield spreads (over Treasuries) to mutual funds sales of corporate bonds (scaled by bonds outstanding) is about 12%. Under their assumption that bond mutual funds sold vertical slices of their portfolios in March 2020 (which as it turns out is not correct), their analysis would suggest that mutual funds' sales of investment grade corporate bonds might account for 31 basis points of the 313 basis point overall increase in yield spreads of investment grade corporate bonds over Treasuries.⁵⁸ In other words, although they find a *statistically* significant effect of mutual funds' sales of corporate bonds on their yields for March 2020, their results also imply a small *economic* effect. Moreover, because they assume bond funds sold vertical slices of their portfolios (bond mutual funds actually sold a smaller-than-vertical slice of corporate bonds), the 31-basis point estimate is too high. Adjusting for this, Collins and Antoniewicz (2022) find that the Haddad et al. (2021) paper would suggest an amplification

AUM, the increases in yields due to outflows would be 3.16 and 6.06 basis points in the Treasury and corporate bond yields, respectively, which compared to the changes in the corresponding yields are economically small.

⁵⁵ International Monetary Fund (2022), *Global Financial Stability Report*, October, Chapter 3.

⁵⁶ For example, by our calculation, the IMF's results indicate that mutual funds' sales of bonds to accommodate outflows might have boosted yields on IG corporate bonds by perhaps 14 basis points and those on high-yield bonds by 30 basis points. These would account for very small proportions of the overall rise in yield spreads (relative to Treasuries) in IG corporate bonds (14 basis points out of an overall rise from February 28, 2020, to March 23, 2020, of 313 basis points), and high-yield corporate bonds (30 basis points out of an overall rise from February 28, 2020, to March 23, 2020, of 556 basis points); March 23, 2020, was the last day before the Federal Reserve announced liquidity measures for the corporate bond market.

⁵⁷ See Haddad, Moreira, and Muir (2021) "When Selling Becomes Viral: Disruptions in Debt Markets in the COVID-19 Crisis and the Fed's Response," *Review of Financial Studies*, 34, 5309–5351.

⁵⁸ See Sean Collins and Shelly Antoniewicz (2022), "[Policymakers Need to Focus on Economic Fundamentals and Not Blame Bond Mutual Funds: Examining the Evidence of Investment Grade Corporate Bond Yield Spreads in March 2020](#)," *ICI Viewpoints*, July 6, Figure 5.

effect from bond mutual funds of 7 basis points out of the 313 basis points rise in investment grade yield spreads over the critical period in March 2020.

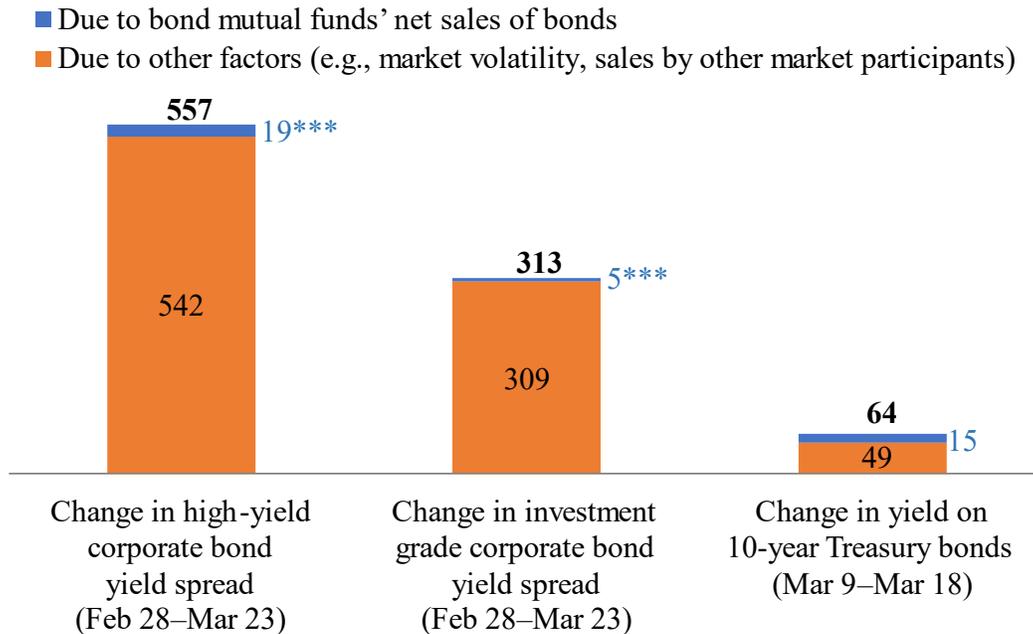
In addition, the studies the proposal cites on asset market stress amplification do not have data on funds' actual sales of bonds. Instead, they attempt to infer it from funds' month- or quarter-end holdings, fund returns and estimated fund flows, all of which could introduce errors into their analyses.

To more precisely analyze this effect, we estimate the impact of mutual funds' sales on Treasury and corporate bond yields in March 2020 using data of *actual* fund daily net sales of bonds during March 2020, the period that saw the largest sell-offs from funds during the COVID-19 crisis.⁵⁹

We find that there is a *statistically* significant effect of mutual funds' sales of high-yield bonds on their yield spreads to Treasuries. But given that mutual funds on net sold only about \$11 billion of high-yield bonds in March 2020 (see Supplemental Appendix on Asset Market Stress Amplification), the *economic* effect was very small, an estimated 19 basis points of the 557-basis point increase in the spread during this period (Figure 2.7). The estimated effect on investment grade corporate bonds was also statistically significant but economically immaterial (an estimated 5 basis points of the 313-basis point increase in the yield spread in March 2020). For Treasury bonds, we find no statistically significant effect of mutual funds' sales of Treasury bonds on Treasury yields (the 15-basis point effect shown in Figure 2.7 is based on a statistically insignificant regression coefficient). In each case, other factors (such as uncertainty as represented by stock or bond market volatility, general market sentiment, and general bond market liquidity), or other unexplained factors (such as sales by other market participants) accounts for nearly all of the increase in yield spreads (or yields in the case of Treasury bonds).

⁵⁹ Full details are given in the Supplemental Appendix on Asset Market Stress Amplification.

Figure 2.7
Mutual Funds’ Net Sales of Bonds in March 2020 Had Little Effect on Bond Markets
 Change in yield spread (high-yield and investment grade) or change in yield (Treasury)
 Basis points, March 2020



*** indicates that the regression coefficients used to estimate the influences of bond funds’ net sales of high-yield and investment grade corporate debt are statistically significant at the 1 percent level. In the regression for the 10-year Treasury bond, the coefficient used to estimate the influence of bond funds’ net sales of Treasury bonds is not statistically significant.

Note: In the figure, the heights of the bars for high-yield and investment grade bonds are changes in yield spread. For high-yield bonds, the yield spread is the difference between the ICE BofA US High-Yield Index yield and the yield on 7-year Treasury bonds from February 28, 2020, to March 23, 2020. For investment grade corporate bonds, the yield spread is the difference between the yield on the ICE BofA BBB US Corporate Index and the yield on 10-year Treasury bonds from February 28, 2020, to March 23, 2020. For Treasury bonds, the height of the bar is the change in the yield on US Treasury securities at 10-year constant maturity from March 9, 2020, to March 18, 2020. Heights of bars are in basis points.

Sources: ICI calculations of ICI bond mutual fund survey, Refinitiv, TRACE, and Federal Reserve Bank of St. Louis FRED data

In sum, the proposal’s focus on mutual funds as a source of asset market stress amplification is not well supported by the data. The proposal fails to cite research indicating that the potential for mutual funds to be a source of asset market stress amplification has been greatly overstated. This is underscored by the new analysis we have presented here. The best explanation for market stress in March 2020 is the simplest: it was not due to actions undertaken by mutual funds but to a worldwide response to the fear and uncertainty arising from the COVID-19 virus and the possibility of a resulting deep recession. That in turn led market participants across the globe to

seek to obtain liquidity by selling securities. We encourage the SEC to fold these ideas into contemplating how to make markets more resilient.

3. Economic effects of the liquidity risk management part of the proposal

Our analysis shows that the process the SEC applied to land on the proposed daily 10% trade size requirement is flawed for three critical reasons. First, a close examination of the flow data that underpins the SEC's determination reveals data errors and limitations that the SEC's analysis does not address. Second, the SEC uses *weekly* outflows, which it arbitrarily inflates by 50%, to determine the proposed *daily* 10% trade size. We believe there is no justifiable rationale to move from *weekly* outflows to a *daily* required trade size. Third, by looking at funds' flows by investment strategy and by assets under management, we show that the proposal's one-size-fits-all 10% trade size approach is inappropriate and especially will have severe consequences for some larger funds or even some moderately-sized funds with more concentrated portfolios.

The proposal estimates daily flows and weekly flows, both expressed as a percentage of fund assets, for each mutual fund in the Morningstar Direct database over a 13-year period from 2009 to 2021. The SEC then pools these flow estimates across all funds into a single daily flow distribution and a single weekly flow distribution and selects the flow estimate at the 1st, 5th, 50th, 95th, and 99th percentile of each pooled distribution (Figure 3.1).

Figure 3.1 SEC Estimates of Daily and Weekly Pooled Flow Distributions

Flows are expressed as a percent of fund assets and estimated over 2009–2021

	Percentile				
	1st	5th	50th	95th	99th
Daily	-1.6%	-0.3%	0.0%	0.4%	2.0%
Weekly	-6.6%	-1.3%	0.0%	1.8%	8.3%

Source: Table 3 in proposal at 77245

ICI carefully analyzed the underlying fund flow data used for this analysis and was able to replicate closely the SEC's estimates by applying the same filters as the SEC. However, during this review process, we identified numerous data errors and data limitations that the SEC's analysis does not control for.⁶⁰ Failure to adjust for these data issues will overstate the magnitude of funds' outflows and as a result could materially impact the SEC's analysis.

⁶⁰ The SEC's analysis excluded outflows of more than 100% and inflows of more than 300% on any given day. These filters do not sufficiently address the data issues and limitations we identified.

The data issues can be broadly summarized into the following categories:

- Flow reporting errors⁶¹
- Mergers, acquisitions, and liquidations⁶²
- Conversions of mutual fund assets to ETFs, SMAs, and collective investment trusts⁶³
- Missing or incomplete data for large funds⁶⁴
- Trading funds⁶⁵

Collectively, these issues can significantly overstate and bias the outflow distributions that the SEC's analysis relies on to get to the proposed 10% trade size requirement.⁶⁶ Accounting for these data limitations is critical to estimating the distribution of flows accurately. However, doing so requires a careful examination of millions of records of daily flows, which was not feasible in the limited comment period. As a result, we did not correct for all these errors in our analysis below. Instead, ICI generally used the underlying data "as is" (i.e., as we believe the SEC used it) but we note that the results discussed below should be considered an *upper bound* on the magnitude of extreme outflows (defined below).

⁶¹ For example, there are instances in which the underlying data shows large dollar outflows which are 90 percent or more of the fund's assets while the fund's assets remain about unchanged. As another example, we found instances of days where assets and flows are not reported for all share classes in a fund—this can incorrectly lead to large swings in a fund's percentage flows, which are then reversed on days when data for all of a fund's share classes are reported.

⁶² ICI identified numerous instances of very large outflows (e.g., 90 percent or more of the fund's assets) close to dates when funds are merged or liquidated. Funds that merge or liquidate generally sell securities several weeks, if not months, ahead of a liquidation or merger. Large outflows close to liquidation or merger dates generally entail returning cash to investors, and not stressed sales of securities. As a result, these large outflows are not relevant and should be excluded from the SEC's analysis.

⁶³ Conversions of mutual fund assets to these other investment products has become a more frequent occurrence in the past decade. While the legal structure differs across these other investment products, the underlying portfolio tends to be nearly identical to the converting mutual fund's assets. Consequently, an outflow from a mutual fund to one of these other investment products simply entails a transfer of securities. In other words, there is little selling of securities associated with these conversions.

⁶⁴ ICI identified multiple large fund families that provide limited or no daily data on flows or assets to Morningstar. As we show in Figure 3.3 below, larger funds tend to have the smallest outflows relative to their assets. As a result, missing or incomplete flow information on large funds can materially overstate the magnitude of outflows in the SEC's analysis.

⁶⁵ Trading funds routinely experience significant flows as a percentage of their assets as investors in these funds tend to make quick moves to take advantage of changing market conditions. These funds are accustomed to the fund's shares being redeemed in size and are designed to accommodate them. As a result, the flow patterns of these funds are not representative of the rest of the fund industry and should be excluded from the SEC's analysis. For the same reason, academics exclude these funds from their analysis. *See*, for example, Zitzewitz (2003) and Zitzewitz (2006).

⁶⁶ The overstatement of outflows may provide insight into the SEC's observation that fund flows appear to have "fat tails" compared to a normal distribution. In other words, the data errors and limitations discussed above may be contributing to the "fat tails" of the flow distribution.

In the proposing release, the SEC selects 6.6% as the weekly outflow level that it suggests can proxy for “extreme outflows” that funds might experience in stressed conditions (see Figure 3.1 above).⁶⁷ In the data, a level of outflows this high (i.e., 6.6%) has at best a 1 percent chance of occurring for any fund for any week (step 1 in Figure 3.2). Thus, this level already reflects “extreme outflows.” The proposal then arbitrarily rounds the 6.6% weekly outflow estimate up to a weekly outflow of 10% (Step 2 in Figure 3.2), justifying this by arguing that future stress events are hard to predict⁶⁸ and, in any case, the 10% figure is only “moderately higher” than 6.6%.⁶⁹

We agree that it is hard to predict the future but rounding up the 6.6% weekly outflow to 10% is completely arbitrary. And we strongly disagree that 10% is only “moderately higher.” The basis for determining whether 10% is “moderately higher” must be based on probabilities of events occurring, not an undefined sense of closeness. For example, is a person who is 6’5” tall “moderately” taller than someone 6’ tall, or a person 7’ tall only “moderately” taller than someone 6’5””? The appropriate question is: how likely is it that there will be people of these heights in society. As height increases, the probability of being “moderately” taller shrinks exponentially. This analogy applies to the data on fund flows—the probability that weekly outflows exceed 10% is less than half the chance that they exceed 6.6% (0.5 percent versus 1 percent, respectively). So, increasing the threshold “moderately” from 6.6% to 10% cuts the likelihood of seeing that extreme event in half, which hardly seems moderate.

The proposal compounds this problem by then arguing that it makes sense to adopt the extreme *weekly* outflow figure of 10% as a plausible level for a *daily* stress test for flows (Step 3 in Figure 3.2). This might be akin to suggesting that because some *grownups* grow to 7’ tall, we should monitor for *children* that are 7’ tall. In the daily flow data that the proposal uses, the probability of seeing daily outflows as large as 10% is 0.14 percent. If we make rough adjustments for some of the data concerns discussed earlier (i.e., dropping funds involved in mergers or liquidations and dropping trading funds), the likelihood of seeing daily outflows as large as 10% drops to 0.072 percent (Step 3* in Figure 3.2). In other words, the proposal converts a rare weekly event (6.6% weekly outflow) into a very rare weekly event (10% weekly outflow), and then converts *that* into an *extremely* rare *daily* event (10% daily outflow) and would mandate that *all* funds stress test against that extremely rare event on *all* days. These are not moderate adjustments.

⁶⁷ The SEC notes in the proposal at 77187 that “the 99th percentile is a useful approximation of the level of outflows funds may experience in future stressed conditions.” The SEC often refers to the 1st percentile of flows as the 99th percentile of outflows in the Release and uses the two terms (1st percentile of flows and 99th percentile of outflows) interchangeably. Throughout this appendix, we will only use the term 1st percentile of flows to avoid confusion.

⁶⁸ “However, because it is difficult to predict future stress events, including the effect and length of such events—particularly without official sector interventions—we believe it is appropriate to require funds to use a stressed trade size amount of 10%, which is moderately higher than the 6.6% weekly outflow figure...” See proposal at 77187.

⁶⁹ See proposal at 77187.

Figure 3.2
The Proposal Inappropriately Converts a 6.6% Weekly Outflow into a 10% Daily Outflow

	Step 1	Step 2	Step 3	Step 3*
Percentage outflow	Weekly \geq 6.6%	Weekly \geq 10.0%	Daily \geq 10.0%	Daily \geq 10.0%
Probability of seeing these flows	1%	0.5%	0.14%	0.07%
General likelihood	rare	very rare	extremely rare	extremely rare

*Adjusted for certain potential data concerns.

Sources: Proposal and ICI calculations of Morningstar Direct data

The difficulty with a one-size-fits-all approach shows up in other ways, such as differences in fund size and fund type. Small funds and funds that invest more heavily in highly liquid securities are much less likely to move markets when selling significant portions of their portfolios. But smaller funds and more liquid funds are also more likely to see larger percentage outflows at times than are other funds. Figure 3.3 shows, for instance, that the smallest US equity funds can see outflows exceeding 4.3% on about 1 percent of all days. But this is unlikely to pose problems meeting redemptions. At the other extreme, the largest municipal bond funds rarely see outflows exceeding 0.6 percent of their assets. This demonstrates that there is no one number for trade size that makes sense for all funds at all times.

Figure 3.3
One-Size-Fits-All Approach for Trade Size Doesn't Work

First percentile of daily pooled flow distribution by asset class and fund size quintiles, 2009–2021

Fund size (quintile)	Investment strategy				
	US equity	International equity	Taxable bond	Municipal bond	All
1 (smallest)	-4.3%	-2.2%	-2.6%	-1.5%	-3.3%
2	-2.5%	-1.8%	-2.0%	-1.0%	-2.0%
3	-1.5%	-1.5%	-1.7%	-0.8%	-1.4%
4	-1.2%	-1.2%	-1.4%	-0.7%	-1.2%
5 (largest)	-0.9%	-1.0%	-1.1%	-0.6%	-1.0%

Source: Investment Company Institute calculations of Morningstar Direct data

It is important to note that fund size and investment strategy are just two of many factors that can affect daily flows. Fund flows can also vary considerably by fund performance, asset allocation, investor base, and other fund characteristics — in other words, fund flows are inherently fund-specific. This underscores the importance of examining each fund’s flow distribution individually, instead of using the SEC’s approach of pooling *all* funds into a single distribution.

Proposed liquidity bucketing regime

Under the proposed liquidity bucketing regime, some funds that are highly liquid will become unviable unless they make substantial changes to their investment strategies or cap their sizes. The potential impact of the proposal’s prescriptive and standardized bucketing regime as applied to exchange-traded investments and stock funds generally—particularly its required 10% size input and its value impact standard (i.e., its 20-day trailing average daily trading volume (ADTV) standard)—can be assessed using data readily available from third-party sources.⁷⁰ We were able to perform this exercise on only a small number of domestic equity funds because of the tight timeframe for the comment period. Consequently, we selected examples that demonstrate how challenging the proposed bucketing regime will be for certain domestic equity funds. We strongly recommend the SEC undertake a more comprehensive analysis of the impact of the proposed bucketing regime across a broader cross section of funds.

From our limited analysis, a couple themes became clear. First, the 10% required trade size is a critical input that is likely to penalize many funds, especially large funds or even moderately sized funds that have more concentrated portfolios. Even index funds that track broad-based equity indexes will have difficulties under the proposed bucketing regime when they reach a certain size. Also, because actively managed equity funds tend to hold fewer stocks than index equity funds, the proposed bucketing regime generally would impede actively managed funds at lower sizes. Second, the sole reliance on trading volume for purposes of value impact leads to counterintuitive results—equity funds become *more* liquid in stressed periods.

Figure 3.4 shows the liquidity profile of five actual actively managed domestic equity mutual funds (three large-cap and two small-cap, which we label as Funds A through E) under the current and proposed bucketing regimes. ICI conducted the analysis on Funds A, B, and D, and MSCI conducted the analysis on Funds C and E.⁷¹ To get a sense of how these funds over time would operate under the proposed bucketing regime versus the current regime, ICI conducted a

⁷⁰ Assessing the impact of the proposed liquidity bucketing regime on funds that invest primarily in bonds or derivatives is not as straightforward for us to do. Our analysis here is ongoing. However, our members have indicated that certain types of bond funds—which consistently have fulfilled investor redemptions even in stressed periods—would have difficulties operating under the proposal.

⁷¹ Because ICI does not have access to the non-public Form N-PORT filings, we had to estimate the current bucketing liquidity profile for Funds A, B, and D. We did so by using these funds’ average daily outflows in March 2020 (as a proxy for their “reasonably anticipated trading sizes”) and the SEC’s proposed ADTV standard on these funds’ stock positions. MSCI was able to provide the current liquidity bucketing profile for Funds C and E using their proprietary model. ICI provided the portfolios for Funds C and E based on the funds’ public Form N-PORT filings closest to November 30, 2023. For the proposed bucketing regime, both ICI and MSCI followed the proposal’s 10% trade size and ADTV requirements.

daily bucketing analysis on Funds A, B, and D over roughly a three-year timeframe using the funds' holdings from their public N-PORT filings. The current and proposed liquidity bucketing profiles for Funds A, B, and D represent the average of the daily percentage of the value of the funds' US stocks that fall into the highly liquid (green shaded portion of the bar), moderately liquid (yellow shaded portion), and illiquid (red shaded portion) buckets over the three-year period.⁷² For Funds C and E, MSCI conducted the bucketing exercise for November 30, 2022—a relatively calm day in the US stock markets that could be characterized as “normal” conditions.

Because US large-cap stocks are among the deepest and most liquid securities in the world, one should not be too surprised that the vast majority are currently classified as highly liquid by funds. Indeed, under the current liquidity bucketing regime, nearly all of the US stocks held by Funds A, B, and C are highly liquid (Figure 3.4). In contrast, under the proposed bucketing regime, a substantial share of these funds' US large-cap stocks would be categorized as illiquid. For example, Fund A would have had on average 19% of the value of its US stocks classified as illiquid. This would not have been a one-time occurrence for this fund. Over the past three years, Fund A would have breached the 15% illiquid investments limit on two-thirds of the days. Fund B—which has somewhat more assets and has more than twice as many holdings than Fund A—would have exceeded the 15% illiquid limit on 10 percent of the days in the sample period. The main reason for the higher share in the illiquid bucket for these funds stems from the proposed 10% required trade size.

For these two funds, the proposed 10% required trade size led to some puzzling results for some of the stocks that the proposal would have deemed illiquid in 2020. These stocks are well-known names and were among the most heavily traded 100 stocks in the S&P 500 index in 2020 (Figure 3.5). For Fund A, Broadcom, Comcast, and CVS all had days in 2020 when they would have been classified as illiquid under the proposed bucketing regime. Broadcom was deemed illiquid for almost the entire year (89 percent of the days), and Comcast was illiquid for 81 percent of the days. For Fund B, Netflix was classified as illiquid on two-thirds of the days. Under the proposal, none of the five stocks shown in Figure 3.5 were ever classified as highly liquid during 2020, despite these stocks having large trading volumes.

As an external check on ICI's methodology for bucketing under the proposal, we asked MSCI to run a similar analysis using its proprietary bucketing model on a smaller but more concentrated large-cap equity fund (Fund C). As of November 30, 2022, Fund C would have had almost 50% of its US stock portfolio classified as illiquid (Figure 3.4).

Performing the bucketing exercise on two moderately sized small-cap equity funds yielded similar results (Figure 3.4). Under the proposal, ICI found that Fund D—which had between \$4 billion and \$9 billion in assets and an average of 100 holdings—would have had an average of 13 percent of the value of its US stocks deemed illiquid over the three-year period. For Fund E—

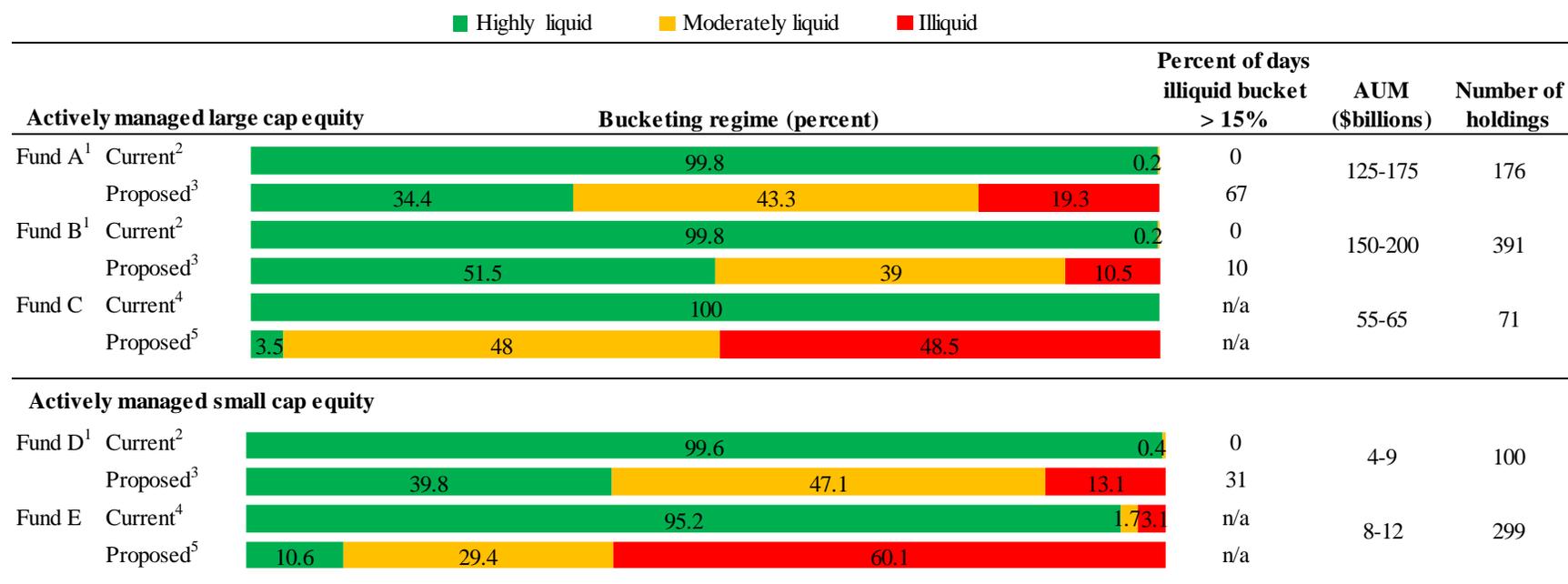
⁷² To make it easier to compare graphically the current and proposed bucketing regimes for all five funds, ICI collapsed the less liquid bucket into the illiquid bucket for the current regime.

which is larger and more diversified—MSCI estimated that under the proposal 60% of Fund E’s US stock holdings would have been classified as illiquid on November 30, 2022.

Clearly all five of these actively managed funds would have to substantially change their investment strategies under the proposal to continue to comply with the 15% illiquid limit.⁷³ They may be forced to hold more cash or other low-returning investments, which would lower returns to their investors. Alternatively, the funds would have to invest in more issuers’ stocks—even if their expected return is lower than their current holdings—in order to lower their illiquid investments percentages. Under the proposal, investment decisions for these funds would be driven primarily by the bucketing regime, rather than their stated investment objectives and strategies.

⁷³ We believe more analysis needs to be done to determine the scope of funds that would be severely impacted by the proposed bucketing regime.

Figure 3.4
Proposed Bucketing Changes Penalizes Large Equity Funds or Even Moderately Sized Funds with More Concentrated Portfolios



¹ICI conducted the daily bucketing exercise on US stock holdings from each of the funds' quarterly public Form N-PORT holdings from late 2019 to early 2023. Fund A had 805 trading days, Fund B had 756 trading days, and Fund D had 822 trading days in the analysis.

²Current bucketing for Fund A, Fund B, and Fund D was estimated by ICI using each fund's average daily March 2020 flows for the trade size assumption and the proposed ADTV standard.

³Proposed bucketing for Fund A, Fund B, and Fund D was estimated by ICI using the proposed 10% trade size and ADTV requirements.

⁴MSCI conducted the current bucketing exercise for Fund C and Fund E as of November 30, 2022 using their proprietary software.

⁵MSCI conducted the proposed bucketing exercise for Fund C and Fund E as of November 30, 2022, with proposed 10% trade size and ADTV requirements as inputs in their proprietary software.

Sources: For Fund A, Fund B, and Fund D, ICI calculations of SEC Form N-PORT, Refinitiv, and Morningstar Direct data. For Fund C and Fund E, MSCI. The data contained herein is the property of MSCI Inc. or its affiliates (collectively, "MSCI") or their information providers. MSCI and its information providers make no warranties. The data is used under license and may not be further used, distributed, or disseminated without the express written consent of MSCI.

Figure 3.5
Some of Fund A and Fund B’s Large-Cap Stock Holdings That Would Be Deemed Illiquid Under the Proposal Are Among the Most Liquid in the S&P 500¹
 Percentage of days that stocks would have been classified into each liquidity bucket² during 2020

	Liquidity bucket		
	High	Moderate	Illiquid
Large cap Fund A holdings			
Broadcom	0%	11%	89%
Comcast	0%	19%	81%
CVS	0%	79%	21%
Large cap Fund B holdings			
Netflix	0%	33%	67%
Broadcom	0%	55%	45%
United Healthcare	0%	92%	8%

¹Stocks in the highest quintile by trading volume of the S&P 500 index constituents during 2020.

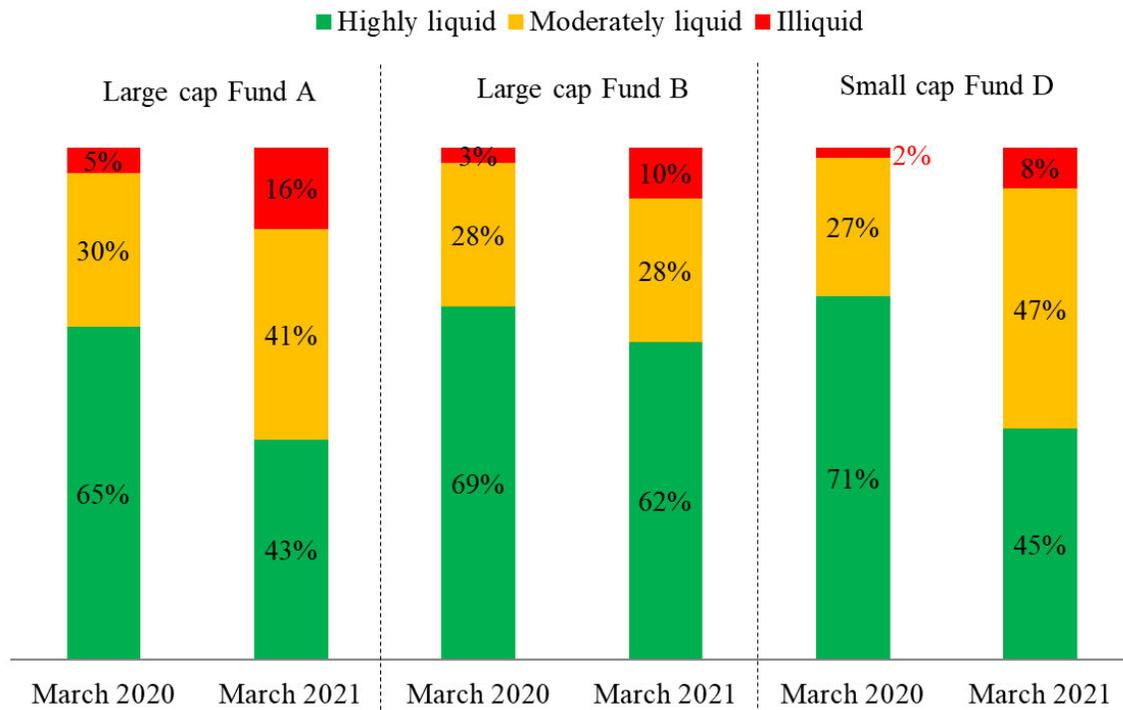
²Liquidity bucketing uses daily 10% required trade size.

Source: ICI calculations of Form N-PORT and Refinitiv data

During ICI’s bucketing exercise on Funds A, B, and D, we noticed that, under the proposal, the funds appeared more liquid during March 2020 when the stock market was reeling from the effects of the COVID-19 crisis—prices dropping, volatility spiking, and bid-ask spreads widening—than during March 2021 when the stock market was calm, and prices generally were rising (Figure 3.6). For example, under the proposal, in March 2020, 65% of Fund A’s US stocks would have been classified as highly liquid, on average, and only 5% as illiquid. In contrast, in March 2021 the highly liquid proportion would have dropped to 43% and the illiquid share would have risen to 16%. Small cap Fund D shows a similar pattern.

These counterintuitive patterns arise because (i) during crisis periods trading volumes increase dramatically, especially for US stocks, and (ii) the proposal requires funds to use a fixed 10% trade size relative to 20% of 20-day trailing ADTV to determine liquidity of exchange-traded investments. These kinds of counterintuitive results, if made public, could confuse and potentially mislead investors.

Figure 3.6
Under the Proposal, Equity Funds Will Appear More Liquid During Times of Stress
 Percent*



*Average of the daily percentage of the value of the funds' US stocks that fall into the highly liquid, moderately liquid, and illiquid buckets during March 2020 and March 2021.

Source: ICI calculations of SEC Form N-PORT and Refinitiv data

The proposal would force index funds to make the same kinds of trade-offs between diversification and fund size. Even index funds that track highly diversified equity indexes can become unviable under the proposal when they reach certain sizes. Figure 3.7 demonstrates this for funds that track the S&P 500 index. In this exercise, we (i) increase the size of a hypothetical S&P 500 fund from \$50 billion to \$800 billion by increments of \$50 billion, and (ii) assume that the funds' portfolios track the actual constituents of the S&P 500 from 2020 to 2022. Every day over the sample period, we take a 10% slice of the portfolio at each fund size and estimate the liquidity profile of the fund under the proposal.

As the size of the S&P 500 fund increases, the average percentage of S&P 500 stocks categorized as highly liquid decreases and the average share categorized as illiquid rises. The example suggests that as S&P 500 funds grow past \$500 billion, they would begin having difficulties meeting both their mandate to track the S&P 500 index and at the same time complying with the 15% illiquid limit. For S&P 500 funds at \$700 billion or more, they would have difficulties complying with the proposed 10% HLIM requirement.

Because index funds have little flexibility to alter their portfolios without creating tracking error, they would have to close their funds (even to reinvestments) before they reach a size where they breach the 15% limit on the illiquid bucket. For funds that currently are larger than \$500 billion, these funds will need to either liquidate or split into clone funds to achieve a size where they do not breach the 15% illiquid limit. This result would be highly damaging to the investors in these S&P 500 funds. The funds will lose economies of scale and their expense ratios will increase, and fund investors will experience unwanted and unexpected tax consequences.

These concerns would remain even if assets in index mutual funds move toward ETFs. If the proposal is adopted as proposed and investors move to ETFs en masse because the mutual fund product becomes less attractive, S&P 500 ETFs will likely see an influx of money and grow such that at some point they too will experience the same constraints under the proposed bucketing regime.⁷⁴

In summary, the fixed 10% size requirement is empirically and statistically unrealistic, and when combined with the other proposed bucketing changes will harm some equity mutual funds (and thus their shareholders) by reducing their returns, increasing their expense ratios, and giving them unwelcome tax bills. The 10% fixed vertical portfolio slice penalizes large funds and those with more concentrated portfolios, even though the portfolios of these funds may be highly liquid. Indeed, some funds would not be able to continue to operate in their current form despite holding the most liquid stocks in the US equity market and never having seen daily outflows approaching anything like 10%.

⁷⁴ All ETFs (including in-kind ETFs) are subject to the rule's 15% limit on illiquid investments.

Figure 3.7
Large S&P 500 Index Funds Will Not Be Viable Under Proposal
 Percent*

Fund	Fund size (\$billions)	Highly liquid	Moderately liquid	Illiquid	Number of days illiquid bucket > 15%	Percent of days illiquid bucket > 15%
SP500a	50	96.2%	0.0%	0.0%	0	0.0%
SP500b	100	96.2%	0.0%	0.0%	0	0.0%
SP500c	150	94.8%	1.4%	0.0%	0	0.0%
SP500d	200	89.8%	6.4%	0.0%	0	0.0%
SP500e	250	78.7%	17.6%	0.0%	0	0.0%
SP500f	300	65.7%	30.5%	0.0%	0	0.0%
SP500g	350	52.7%	43.4%	0.1%	0	0.0%
SP500h	400	41.9%	53.9%	0.4%	0	0.0%
SP500i	450	32.2%	62.6%	1.4%	0	0.0%
SP500j	500	25.2%	68.3%	2.8%	6	0.8%
SP500k	550	19.9%	71.9%	4.4%	20	2.6%
SP500l	600	16.1%	73.7%	6.4%	62	8.2%
SP500m	650	13.1%	74.0%	9.2%	170	22.5%
SP500n	700	10.8%	72.1%	13.3%	309	40.8%
SP500o	750	9.1%	69.6%	17.6%	396	52.3%
SP500p	800	7.8%	66.5%	21.9%	520	68.7%

*Average of the daily percentage of the value of the funds' US stocks that fall into the highly liquid, moderately liquid, and illiquid buckets over January 2, 2020, to December 31, 2022.

Source: ICI calculations of Refinitiv data

4. Economic effects of swing pricing and hard close portions of the proposal

The proposal would mandate swing pricing and a “hard close” for all mutual funds.

The proposal states that this mandate is intended to reduce the first-mover advantage that stems from the dilution of non-transacting shareholders, particularly during stressed periods.⁷⁵ Given that our analysis indicates that dilution is generally very small and thus that there is very little incentive for first movers to redeem out of funds, we question the need for the swing pricing and hard close aspect of this proposal.

The hard close aspect of the proposal seems likely to be a particularly onerous for funds, intermediaries and most importantly mutual fund shareholders. Although the proposal discusses some potential benefits of a hard closed, it does not quantify the value of those potential benefits.

⁷⁵ See proposal at 77256.

Moreover, the proposal highlights a number of significant costs to fund investors from the hard close, including that:

- *It may impose significant switching costs (e.g., changing business practices, computer systems, integrating new technologies, etc.) on funds, their intermediaries, and service providers that could ultimately be passed on to fund investors.*⁷⁶
- *A large number of small retirement plans may be disproportionately affected by the implementation costs related to the proposed hard close. To the extent that these costs are too large, some of these plans may cease to exist or choose to offer investment vehicles such as ETFs or CITs.*⁷⁷ The proposal seems to recognize that a large movement of assets from mutual funds to other investment products could potentially create for remaining mutual fund shareholders the kind of dilution the proposal seeks to reduce.
- *To the extent that not all investors have a choice of intermediary, such as those in employe[r]-provided retirement plans, the costs stemming from the proposed hard close requirement may be borne ... by investors (i.e., plan participants) ...*⁷⁸ Thus, the proposal could prove costly for the approximately 49 million US households who invest in mutual funds through 401(k) plans or other defined contribution plans.
- *Investors that use intermediaries may face a decreased ability to invest in mutual funds via certain intermediaries.*⁷⁹ We agree. Those who invest in mutual funds are likely to have less choice.
- *Investors may end up with either less diversified portfolios, or experience higher costs of investing.*⁸⁰ We agree—both are potential costly outcomes, neither of which the proposal quantifies. We would note that these higher costs of investing, even if relatively small in terms of basis points of funds' assets, could easily outweigh any potential benefits of recouping basis points of dilution for non-redeeming mutual fund shareholders. These costs should be an area of study by the Commission.
- *The hard close may disadvantage certain investors that do not have a choice of their intermediary, if it precludes them from responding to market events after a specific cut-off time that is either earlier than 4 p.m. ET or lengthens the time for completing certain types of transactions compared to investors that submit orders directly to funds ... potentially increasing a market risk for investors that trade via intermediaries with earlier cut-off times.*⁸¹ We agree. A casualty of the proposed hard close is that millions

⁷⁶ See proposal at 77260.

⁷⁷ See proposal at 77260.

⁷⁸ See proposal at 77260.

⁷⁹ See proposal at 77260.

⁸⁰ See proposal at 77260-77261.

⁸¹ See proposal at 77261.

of Americans who invest in mutual funds through 401(k) plans may be unable to place orders to buy or sell fund shares today at today’s NAV. These investors will be forced to place buy or sell orders today without knowing until after 4:00 p.m. ET tomorrow what price they received.

This will add investment risk. As Figure 4.1 suggests, this additional investment risk can be material: for example, in the past few years, returns on US large-cap stocks have tended to vary by about 1.5% to 1.58% *per day*, meaning that an investor who must be out of the market for a day could easily miss out on a gain (or avoid a loss) of 1.5%. Missed gains or avoided losses could be higher on small-cap stocks, where daily returns have varied by 1.68% to 1.86% per day over the past few years.

In addition, the hard close could be especially detrimental to the roughly 20 million mutual fund–owning Americans that live in the Pacific time zone or Hawaii and Alaska, who could be faced with having to place orders at 7:00 a.m. local time (or even earlier) if, as seems likely, some intermediaries set cut off times at 10:00 a.m. ET.⁸²

Figure 4.1
Investors That Can’t Meet Hard Close Face Additional Investment Risk
 Daily historical volatility

Index	1-year*	3-year*	10-year*
Equity			
S&P 500 Total Return Index	1.50%	1.58%	1.09%
CRSP US Small Cap Total Return Index	1.68%	1.86%	1.27%
MSCI All Country Ex USA Price Index	1.14%	1.14%	0.87%
Fixed Income			
S&P US Aggregate Bond Index Total Return	0.41%	0.30%	0.22%
Ice BofA US Treasury Index	0.46%	0.39%	0.29%

*Period ending January 10, 2023.

Source: ICI calculations of Refinitiv data

-
- *[I]n addition to the benefits related to swing pricing and helping deter late trading, we recognize these changes would also involve costs.*⁸³ Interestingly, the proposal’s cost-benefit analysis on the hard close requirement discusses neither costs nor benefits of the proposal related to late trading. However, the Commission does ask: “Would the

⁸² This estimate is based on tabulations from the Investment Company Institute Annual Mutual Fund Shareholder Tracking Survey and US Census Bureau.

⁸³ See proposal at 77211.

proposed hard close requirement help prevent late trading?”⁸⁴ The next subsection looks for, but cannot find, any evidence that late trading has been occurring recently.

Evidence Is Lacking of Late Trading in Mutual Funds

The proposal suggests that a hard close would help prevent “late trading.”⁸⁵ As the proposal notes, late trading was a concern in the early 2000s. But it was addressed at that time by the Commission and through actions taken by funds and intermediaries. The proposal provides no evidence that late trading remains a problem today. As we discuss in this subsection, we look for, but cannot find, evidence of late trading in current data.

The proposal’s concern is that “Because a financial intermediary currently can submit an order that it received before 4 p.m. ET to a designated party after 4 p.m. ET for execution at that day’s NAV, there is a risk that an intermediary could unlawfully alter orders using after-hours information to benefit the intermediary or its clients.”⁸⁶ The proposal, which uses the term “late trading” 16 different times in this context, is evidently concerned that some parties may currently be engaged in this illegal activity.

To alleviate concerns that late trading might currently be occurring, we looked for evidence of it in recent data using a well-established statistical approach from the academic literature. That approach, developed by Zitzewitz (2006),⁸⁷ looked for at the correlation between daily net flows to mutual funds and movements in futures markets after 4:00 p.m. ET on that same day. If there is a positive (and statistically significant) correlation, that is taken as evidence of late trading. The idea is that late-traders can use information that becomes available after 4:00 p.m. ET to guide their trades, buying fund shares when their current value (after 4:00 p.m. ET) is estimated to be above the fund’s NAV (calculated as of 4:00 p.m. ET) and selling when the reverse is true.

Conversely, if this correlation is not positive and statistically significant, there is no evidence of late trading. Zitzewitz (2006) found a statistically significant and sizable positive correlation between daily flows to international equity funds and after-hours futures prices and concludes that late trading was occurring over the 1998–2003 period, and that it was especially strong among international equity funds.

⁸⁴ See proposal at 77213.

⁸⁵ See proposal at 77184, stating that “The proposed hard close would facilitate the receipt of timely flow information to inform swing pricing decisions. In addition, we believe it would help prevent late trading ...”

⁸⁶ See proposal at 77209.

⁸⁷ See Zitzewitz, Eric (2006), “How Widespread Was Late Trading in Mutual Funds?” *American Economic Review*, 96 (2): 284–289. Also, see working paper draft of this paper, Zitzewitz, Eric. 2005. “How Widespread Was Late Trading in Mutual Funds?” Working Paper, available at:

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=8a032d8e16f2fcb1d65f85205be74feea6a7bb5e>.

The working paper draft includes additional late trading tests and results, including results that are cited in the published paper. We collectively refer to the working paper and the published paper as Zitzewitz (2006) in this comment letter.

ICI replicated Zitzewitz's (2006) analysis using daily flow data over the past year (February 8, 2022, to February 6, 2023),⁸⁸ for both equity mutual funds and bond mutual funds (full details are in the Supplemental Appendix on Late Trading). We first conducted the analysis using equally-weighted fund flow percentages across selected fund categories, estimating the correlation between these flows and post-4 p.m. ET market movements (Figure 4.2, panel A).⁸⁹ We next conducted a similar analysis using asset-weighted fund flows across fund categories, correlating those daily flows with post-4 p.m. ET market movements (Figure 4.2, panel B).

In neither case is there evidence of late trading. In four cases, the correlation coefficients are *negative* and thus have the wrong sign to indicate late trading. For instance, we find *statistically significant negative* correlations for international equity funds and US equity funds (Figure 4.2, Panel A). In contrast, Zitzewitz (2006) reported for the early 2000s *positive* and *statistically significant* correlations of 30.9% and 6.1% for international equity and US equity funds, respectively. In Figure 4.2, there are four cases where the correlations are positive but the correlations are very small and not statistically different from zero. Overall, our results are consistent with the view that the actions in the early-to-mid 2000s of regulators, fund firms, and intermediaries wrung late trading out of the system and that it is not occurring now.

The lack of evidence of late trading questions the proposal's contention that a hard close would help prevent late trading.

⁸⁸ This sample period corresponds to the 12-month intra-day data available to us through Refinitiv.

⁸⁹ Following Zitzewitz (2006), we used changes in CME E-mini S&P futures to test for late trading in US equity funds and international equity funds. For taxable bond funds and municipal bond funds, ICI used changes in CME Treasury futures.

Figure 4.2
Statistical Analysis Shows There Is No Evidence of Late Trading in Mutual Funds

	US equity	International equity	Taxable bond	Municipal bond
A: Equally-weighted fund flows				
Correlation between flows and post-4 p.m. market movements ¹	-0.75% **	-1.34% ***	0.12%	1.48%
Correlation positive and statistically significant? ²	No	No	No	No
B: Asset-weighted fund flows				
Correlation between flows and post-4 p.m. market movements ¹	0.74%	-0.40%	-0.66%	6.26%
Correlation positive and statistically significant? ²	No	No	No	No

¹Correlations are estimated using equally-weighted daily net flows (Panel A) and asset-weighted daily net flows (Panel B) within each investment category. Post-4 p.m. market movements are based on changes in CME E-mini S&P futures between 4:15 p.m. and 9 p.m. for US equity and international equity funds, and changes in CME Treasury futures for taxable bond funds and municipal bond funds.

²A positive and statistically significant correlation implies there is evidence of late trading. Otherwise, there is no evidence of late trading.

* p<0.1, ** p<0.05, *** p<0.01

Source: ICI calculations of Morningstar and Refinitiv data

Supplemental Appendix for Estimating Daily Dilution

We estimate dilution for a range of categories across equity and bond funds using two prominent approaches from the academic literature: one by Zitzewitz (2003) and another by Choi et al. (2022).⁹⁰ Both Zitzewitz (2003) and Choi et al. (2022) estimate dilution as:

$$\text{Estimated dilution} = \text{percentage fund flow} \times \text{predicted future fund return}$$

where percentage fund flow is today's percentage fund flows (relative to yesterday's net assets), and predicted future fund return is either a prediction (given information available no later than 4:00 p.m. ET today) for tomorrow's fund return (Zitzewitz, 2003) or fund returns over tomorrow and the next few days (Choi et al., 2022). These predictions are estimated using a regression of actual daily fund returns for tomorrow based on information publicly available at 4:00 p.m. ET today. Zitzewitz (2003) and Choi et al. (2022) use slightly different methods for predicting future fund returns. Zitzewitz (2003) predicts next day fund returns based on changes in market prices of comparable exchange-traded funds (ETFs). Choi et al. (2022) predicts future fund returns using only past fund returns but cumulates predicted fund returns over the next five days.

We use daily fund flows and returns from Morningstar and daily ETF returns from Refinitiv to estimate dilution across a range of fund categories during the 2009–2022 period.⁹¹ We identify fund categories (e.g., domestic equity, government bond, high-yield bond) using Morningstar fund classifications, and calculate asset-weighted returns and asset-weighted flows across each category. Next, we estimate the regression models of Choi et al. (2022) (“Choi model”) and Zitzewitz (2003) (“Zitzewitz model”) and use them to estimate dilution.⁹²

Choi Model

Following Choi et al. (2022), we regress today's average (asset-weighted) fund returns on five lags of those returns. Like Choi et al. (2022), the regression uses rolling three-month data windows for each fund category. We use these regressions to predict five-day ahead returns for each day and each fund type, compounding the five-day predictions into a single number that is used as an estimate of “future fund return.”

⁹⁰ See Zitzewitz (2003), “Who cares about shareholders? Arbitrage-proofing mutual funds,” *Journal of Law, Economics, and Organization*, 19, 245–280; Choi, Kronlund, and Oh, (2022), “Sitting bucks: Stale pricing in fixed income funds,” *Journal of Financial Economics*, 145(2) A, 296–317.

⁹¹ Our sample largely coincides with the 2009–2021 sample period used in the proposal's flow analysis. However, in order to capture more recent data, we extend the sample through November 11, 2022, the latest data available when we began this analysis. To be consistent with the proposal's flow analysis, we exclude outflows of more than 100% and inflows of more than 300% on any given day. The results are not sensitive to this filter.

⁹² Choi et al. (2022) estimates dilution on individual funds and then aggregates their estimates within each bond fund category (i.e., government, investment-grade, high-yield, and municipal) by calculating asset-weighted average dilution for each category. We use asset-weighted returns and flows instead, in order to directly estimate aggregate dilution for each fund category. To be consistent with Choi et al. (2022), we winsorize percentage fund flows and returns at the 1% and 99% level. Sensitivity analysis indicates winsorization does not alter the results materially.

Figure A1.1
Regressions and Dilution Estimates Based on Choi Model

	US equity	Large cap	Mid cap	Small cap	International equity	Taxable bond	Government bond	Investment grade bond	High-yield bond	Municipal bond
Panel A: regressions¹										
Fund return [t-1]	-0.150 (-1.007)	-0.144 (-0.956)	-0.149 (-0.944)	-0.143 (-1.004)	-0.0473 (-0.366)	-0.0589 (-0.419)	-0.107 (-0.703)	-0.0998 (-0.764)	0.166 (1.111)	0.248** (2.131)
Fund return [t-2]	0.0900 (0.585)	0.0507 (0.328)	0.122 (0.795)	0.249* (1.698)	0.0399 (0.273)	-0.0699 (-0.609)	-0.164 (-1.364)	-0.0731 (-0.609)	0.174 (1.385)	0.264 (1.669)
Fund return [t-3]	0.0756 (0.540)	0.0741 (0.530)	0.0597 (0.454)	-0.00400 (-0.0280)	0.0911 (0.763)	-0.149 (-0.905)	-0.214 (-1.373)	-0.147 (-0.874)	-0.0191 (-0.168)	0.0335 (0.452)
Fund return [t-4]	-0.148 (-1.140)	-0.156 (-1.179)	-0.131 (-1.045)	-0.117 (-0.908)	0.0357 (0.254)	-0.217* (-1.685)	-0.245** (-2.058)	-0.239* (-1.917)	0.0965 (0.990)	-0.146 (-1.077)
Fund return [t-5]	-0.116 (-0.895)	-0.133 (-1.037)	-0.0557 (-0.409)	-0.0465 (-0.343)	-0.0676 (-0.542)	-0.0454 (-0.349)	-0.122 (-0.845)	-0.0452 (-0.334)	-0.212** (-2.084)	0.0803 (0.666)
Constant	0.0014 (1.048)	0.0016 (1.186)	0.0009 (0.633)	0.0007 (0.482)	0.000382 (0.371)	0.0000 (-0.179)	0.0002 (0.748)	-0.0001 (-0.298)	0.0001 (0.307)	0.0001 (1.165)
Observations	64	64	64	64	64	64	64	64	64	64
R-squared	0.065	0.067	0.058	0.094	0.018	0.073	0.114	0.080	0.117	0.181
Panel B: dilution estimates²										
Daily dilution (bps)	0.000	0.000	-0.001	0.002	0.007	0.009	0.004	0.009	0.023	0.015
Annualized dilution (bps)	0.09	-0.13	-0.24	0.42	1.65	2.16	0.94	2.21	5.81	3.90

¹Regression coefficients are based on regressions of fund return[t] on fund return[t-1], fund return[t-2],..., fund return[t-5] over the last 3-months in 2021 (October 1, 2022–December 31, 2021). Fund returns are calculated as asset-weighted returns within each fund category.

²Dilution estimates are based on average estimated dilution during our sample period (January 1, 2009–November 11, 2022).

Note: Robust t-statistics in parentheses. * p<0.1, ** p<0.05, *** p<0.01.

Source: ICI calculations of Morningstar data

Figure A1.1 (Panel A) shows regression coefficients of the Choi model estimated during the most recent 3-month period in our sample.^{93, 94} Panel B shows average dilution estimates during our sample period; these are largely consistent with Choi et al. (2022).⁹⁵

Zitzewitz Model

Following Zitzewitz (2003), we predict next day fund returns using daily secondary market returns on comparable ETFs. For example, for US equity funds we use returns of an ETF that tracks the CRSP US Total Market Index. For large-cap, mid-cap, and small-cap equity funds, we use ETFs that track the S&P 500 (large cap), S&P 400 (mid cap), S&P 600 (small cap) indexes, respectively. For international equity, we use an ETF tracking the MSCI ACWI (ex US) index. For taxable bond funds, we use an ETF that tracks the Bloomberg US Aggregate Bond index. For government, investment grade, and high-yield bond funds, we use ETFs that track the ICE US Treasury Core Bond index, Markit iBoxx USD Liquid Investment Grade index, and the Markit iBoxx USD Liquid High Yield index, respectively. For municipal bond funds, we use an ETF that tracks the ICE AMT-Free US National Municipal index.⁹⁶

Following Zitzewitz (2003), to predict next day fund returns, we regress tomorrow's fund return on that day's ETF return and ETF returns over the previous four days.⁹⁷ Like Zitzewitz (2003), we use a two-year rolling estimation window of daily data. Finally, we calculate dilution on a given day t as percentage fund flows on that day times the fund's predicted return for tomorrow.

⁹³As discussed above, predictions for the Choi model are based on 3-month rolling regressions, meaning the estimation window and the regression coefficients change each day. Figure A1.1 shows regression coefficients for the last model estimated in each fund category in 2021.

⁹⁴ Several studies, including Choi et al. (2022) and Zitzewitz (2003), have suggested that because of reporting differences, reported daily flow and asset data for today might sometimes actually represent fund flows and assets for yesterday, which could introduce error into dilution estimates. Choi et al. (2022) acknowledge this but conduct sensitivity tests using different assumptions about timing of flows and assets and they find their results are essentially unchanged. We also conducted sensitivity tests by shifting the flow and asset data backward one day and obtained similar results. In contrast, Zitzewitz (2003) suggests shifting the flow and asset data backward one day. We adopt this approach in Figure A1.2 when using Zitzewitz's (2003) method. We also examined sensitivity of this adjustment by estimating dilution without shifting the flows and obtained similar results.

⁹⁵ Differences between our estimates and those in Choi et al. (2022) could arise for various reasons. For example, our sample is slightly longer than theirs. Also, our analysis uses Morningstar fund categories, while they used CRSP fund categories.

⁹⁶ Ticker symbols for these ETFs are: VTI, SPY, MDY, SLY, ACWX, AGG, GOVT, LQD, HYG, and MUB.

⁹⁷ This regression model can be expressed as: $r_{t+1} = \alpha + \beta_0 r_{t+1}^{etf} + \beta_1 r_t^{etf} + \beta_2 r_{t-1}^{etf} + \dots + \beta_5 r_{t-4}^{etf}$, where r_{t+1} represents the fund's return tomorrow, r_{t+1}^{etf} is the secondary market return on the comparable ETF that day, and so forth. We choose five lags to be consistent with Choi et al. (2022). Additionally, we include r_{t+1}^{etf} to control for same-day market changes. However, to avoid look-ahead bias, when predicting tomorrow's fund return based on information available today, we set the term r_{t+1}^{etf} to zero.

Figure A1.2 summarizes the results. Panel A shows regressions coefficients for the most recent two-year period in our sample.⁹⁸ Panel B shows average dilution during the entire sample.

As noted earlier, there is no one “best” approach to estimating dilution or predicting fund returns, and these two methods do have a number of differences that could be reflected in the dilution estimates the produce. One difference that we would highlight is that the Zitzewitz model for predicting fund returns tends to fit the data much better than the Choi approach. For example, the R^2 for high-yield bond funds is 0.854 with the Zitzewitz model and 0.117 for the Choi model.

⁹⁸ As discussed above, predictions for Zitzewitz model are based on 2-year rolling regressions. Therefore, regression results in Table A1.2 correspond to the last regression model for each fund category in 2021.

Figure A1.2
Regressions and Dilution Estimated Based on Zitzewitz Model

	US equity	Large cap	Mid cap	Small cap	International equity	Taxable bond	Government bond	Investment grade bond	High-yield bond	Municipal bond
Panel A: regressions¹										
ETF return [t-1]	0.000609 (0.0648)	-0.00931 (-1.208)	-0.00766 (-0.633)	-0.0236 (-1.423)	0.0486*** (3.639)	0.152*** (3.841)	0.0406 (1.026)	0.0682*** (3.522)	0.222*** (11.08)	0.273*** (4.737)
ETF return [t-2]	0.0170* (1.916)	0.0133 (1.543)	0.0197 (1.459)	0.0352* (1.764)	0.0277** (2.473)	0.118** (2.582)	-0.00526 (-0.178)	0.0129 (0.767)	0.0910*** (4.087)	0.0867 (1.119)
ETF return [t-3]	-0.00133 (-0.0923)	0.00682 (0.424)	0.0136 (0.985)	0.0146 (0.763)	0.0135 (0.933)	0.122*** (3.222)	-0.0464 (-1.447)	0.0320** (2.073)	0.0387* (1.748)	0.0931** (2.087)
ETF return [t-4]	0.00620 (0.647)	0.000525 (0.0542)	0.00253 (0.196)	-0.0163 (-1.049)	-0.0176 (-1.543)	0.0991*** (3.111)	-0.00415 (-0.120)	0.0842*** (6.666)	0.0185 (0.669)	-0.0477 (-1.047)
ETF return [t-5]	0.000774 (0.0803)	-0.00262 (-0.242)	-0.00152 (-0.123)	0.0172 (1.074)	0.00913 (0.763)	0.136*** (3.114)	0.0154 (0.447)	0.0180 (1.409)	0.0905*** (4.719)	-0.0961** (-2.145)
ETF return [t]	0.981*** (110.1)	0.993*** (121.6)	0.827*** (53.83)	0.87*** (55.61)	0.898*** (68.77)	0.362*** (8.000)	0.568*** (14.55)	0.189*** (8.586)	0.484*** (13.89)	0.400*** (6.931)
Constant	0.0001 (0.696)	0.0001 (0.827)	0.0002 (1.136)	0.0001 (0.575)	0.0002 (1.521)	0.0000 (0.631)	0.0002** (2.238)	0.0001 (1.054)	0.0001 (0.697)	0.0001 (0.857)
Observations	505	505	505	505	505	505	505	505	505	505
R-squared	0.952	0.943	0.927	0.944	0.963	0.665	0.519	0.665	0.854	0.843
Panel B: dilution estimates²										
Daily dilution (bps)	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.012	0.002
Annualized dilution (bps)	0.00	0.00	-0.02	0.02	0.15	0.11	0.01	0.15	2.96	0.40

¹Regression coefficients are based on regressions of fund return[t] on ETF return[t], ETF return[t-1], ..., ETF return[t-5] over the 2020–2021 period. Fund returns are calculated as asset-weighted returns within each fund category.

²Dilution estimates are based on average estimated dilution during our sample period (January 1, 2009–November 11, 2022).

Note: Robust t-statistics in parentheses. * p<0.1, ** p<0.05, *** p<0.01.

Source: ICI calculations of Morningstar and Refinitiv data

Supplemental Appendix for Late Trading

We test for late trading across equity and bond mutual funds using a well-established statistical model in the academic literature. Using this model, we find *no evidence of late trading* in equity and bond mutual funds.

This model, developed by Zitzewitz (2006),⁹⁹ looks for correlation between daily net flows into mutual funds and movements in futures markets after 4:00 p.m. ET. Considering that post-4 p.m. ET market movements in liquid markets are difficult to predict as of 4 p.m., *a positive and statistically significant correlation* between fund flows and post-4 p.m. ET market movements is taken as evidence of trading decisions being made after 4 p.m. ET. Conversely, if this correlation is not positive and statistically significant, there is no evidence of late trading.

Following Zitzewitz (2006), we estimate the correlation between daily net flows and post-4 p.m. ET market movements using the following regression model:

$$\frac{flow_t}{asset_{t-1}} = \beta_0 + \beta_1 market_t^{3:00-11:30} + \beta_2 market_t^{11:30-16:00} + \beta_3 market_t^{16:15-21:00} + \epsilon_t,$$

where $\frac{flow_t}{asset_{t-1}}$ is today's flows (relative to previous day's net assets), $market_t^{3:00-11:30}$ and $market_t^{11:30-16:00}$ represent market movements during 3 a.m.–11:30 a.m. and 11:30 a.m.–4 p.m., and control for pre-4 p.m. changes in markets that can affect fund flows. The last term, $r_t^{16:15-21:00}$, represents market movements between 4:15 p.m. and 9 p.m., and tests for late trading by examining the correlation between flows and post-4 p.m. market movements.

We estimate Zitzewitz's (2006) model using daily flow data from Morningstar and intra-day market data from Refinitiv over the past year (February 8, 2022, to February 6, 2023).¹⁰⁰ We winsorized daily flow percentages at the 1% and 99% levels to exclude outliers, and calculated equally-weighted flow percentages across four categories of mutual funds: US equity,

⁹⁹ See Zitzewitz, Eric. 2006. "How Widespread Was Late Trading in Mutual Funds?" *American Economic Review*, 96 (2): 284–289. Also, see working paper draft of this paper, Zitzewitz, Eric. 2005. "How Widespread Was Late Trading in Mutual Funds?" Working Paper, available at: <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=8a032d8e16f2fcb1d65f85205be74f6ea6a7bb5e>. The working paper draft includes additional late trading tests and results, including results that are cited in the published paper. We collectively refer to the working paper and the published paper as Zitzewitz (2006) in this comment letter.

¹⁰⁰ This sample period corresponds to the 12-month intra-day data available to us through Refinitiv. Zitzewitz (2006) used daily asset and return data from Trimtabs and Lipper to estimate daily flows, measured as the difference between a fund's current day assets and its prior-day assets adjusted for current-day fund returns and distributions. He indicates that an issue with his sample is that flows are reported with a one-day lag for almost all funds, and as a result suggests shifting flows and asset data backward one day. We used fund flows reported in Morningstar and shifted them backward by one day to be consistent with Zitzewitz (2006). We examined sensitivity of our results to this adjustment by testing for late trading without shifting the flows and found consistence results (i.e., no evidence of late trading).

international equity, taxable bond and municipal bond funds.¹⁰¹ We used changes in the nearest-month CME E-mini S&P 500 futures contracts to test for late trading in US equity funds and international equity funds. For taxable bond funds and municipal bond funds, we used changes in the nearest-month CME Treasury futures.¹⁰²

Figure A2.1
Regressions Based on Equally-Weighted Fund Flows

	US equity	International equity	Taxable bond	Municipal bond
ΔE-mini S&P, 3 a.m.–11:30 a.m.	0.000329 (0.341)	0.000423 (0.305)		
ΔE-mini S&P, 11:30 a.m.–4 p.m.	0.000138 (0.127)	0.00240 (1.388)		
ΔE-mini S&P, 4:15 p.m.–9 p.m.	-0.00749** (-2.494)	-0.0134*** (-3.00)		
ΔTreasury futures, 3 a.m.–11:30 a.m.			-0.00283 (-0.511)	-0.00112 (-0.131)
ΔTreasury futures, 11:30 a.m.–4 p.m.			0.0188 (1.175)	0.0248* (1.834)
ΔTreasury futures, 4:15 p.m.–9 p.m.			0.00121 (0.0563)	0.0148 (0.539)
Constant	-0.00016*** (-17.25)	-0.000175*** (-11.75)	-0.000319*** (-12.33)	-0.000508*** (-13.86)
Observations	196	196	193	193
R-squared	0.028	0.044	0.019	0.014

Note: Zitzewitz (2006) regressions of daily equally-weighted flows within each investment strategy on post-4 p.m. change in market futures while controlling for pre-4 p.m. changes in market futures. Sample period is February 8, 2022, to February 6, 2023. Robust t-statistics are in parentheses. * p<0.1, ** p<0.05, *** p<0.01
 Source: ICI calculations of Morningstar and Refinitiv data

Following Zitzewitz (2006), we conducted the analysis using equally-weighted fund flows, across selected fund categories, estimating the correlation between these flows and post-4 p.m. ET market movements. Figure A2.1 summarizes these results. As seen, the coefficients—which the body of this Appendix calls “correlations” in keeping with Zitzewitz’s terminology—on changes in E-mini S&P 500 futures from 4:15 p.m.–9 p.m. ET are *negative* for US equity and international equity funds, whereas they should be positive if there is to be evidence of late trading. For taxable and municipal bond funds, the coefficients on changes in Treasury futures

¹⁰¹ Zitzewitz (2006) defined outliers in his sample as observations where “log of shares outstanding changes by more than 3 or with log returns greater than 30 percent in absolute” and excluded them. Additionally, he excluded flows for “funds that cater to high-frequency traders” from his analysis.

¹⁰² Futures contracts trade from 4:45 p.m. through to the following trading day, every day except Friday (and other days preceding a market closure due to holidays). As a result, post-4 p.m. futures prices are not available on Fridays and days preceding holidays, and these days are dropped from the regression analysis.

from 4:15 p.m.–9 p.m. ET are positive but statistically insignificant, meaning that there is also no evidence of late trading for these two types of funds.

For completeness, we conducted a similar analysis on asset-weighted fund flows. These results are shown in Figure A2.2. Although the coefficients differ a bit from those in Figure A2.1, the implication is the same: there is no evidence of late trading.

Figure A2.2
Regressions Based on Asset-Weighted Fund Flows

	US equity	International equity	Taxable bond	Municipal bond
Δ E-mini S&P, 3 a.m.–11:30 a.m.	0.00254 (0.681)	-0.00102 (-0.261)		
Δ E-mini S&P, 11:30 a.m.–4 p.m.	-0.000191 (-0.0758)	0.00183 (0.450)		
Δ E-mini S&P, 4:15 p.m.–9 p.m.	0.00736 (0.552)	-0.00404 (-0.587)		
Δ Treasury futures, 3 a.m.–11:30 a.m.			0.00091 (0.0923)	0.00239 (0.162)
Δ Treasury futures, 11:30 a.m.–4 p.m.			0.0319 (1.545)	0.0396 (1.608)
Δ Treasury futures, 4:15 p.m.–9 p.m.			-0.00659 (0.206)	0.0626 (1.380)
Constant	-0.00013*** (-4.227)	-0.00024*** (-7.95)	-0.00044*** (-11.16)	-0.00066*** (11.36)
Observations	196	196	193	193
R-squared	0.007	0.003	0.022	0.020

Note: Zitzewitz (2006) regressions estimated on asset-weighted fund flows within each asset-class on post-4 p.m. change in market futures while controlling for pre-4 p.m. changes in market futures. Sample period is February 8, 2022, to February 6, 2023. Robust t-statistics are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Source: ICI calculations of Morningstar and Refinitiv data

Supplemental Appendix on Asset Market Stress Amplification

Our analysis uses a two-step approach and shows that mutual fund net sales of portfolio securities during the worst part of the COVID-19 crisis had *no economically significant impact* on the values of US Treasury or corporate bonds.

In the first step, we regress monthly variables measuring bond market pressure (changes in yield spreads or changes in yield) on bond mutual funds' actual monthly net purchases of high-yield, investment grade corporate, or Treasury bonds over the period February 2005 to February 2022.¹⁰³ These regressions control for other factors that could also affect yields on bonds, such as market volatility, liquidity, and sentiment.

Second, based on these regressions, we gauge the influence of bond mutual funds' net sales of these securities on the measures of bond market pressure during the days of greatest bond market stress in March 2020. This involves multiplying the estimated regression coefficients on bond mutual funds' net purchases of bonds by their actual net sales of Treasuries or corporate bonds during the critical stress periods in March 2020.

We measure changes in yield spreads on high-yield corporate bonds as the monthly change in differences in yields between the ICE BofA US High-Yield index and a 7-year Treasury yield. We measure changes in yield spreads on investment grade corporate bonds as the monthly change in differences in yields between the ICE BofA BBB US Corporate index and the yield on 10-year Treasuries. To gauge the effect, if any, of funds' sales of Treasuries bonds, we regress the change in the yield of 10-year Treasuries on bond mutual funds' net sales of government bonds and other variables; in the second step, we multiply the coefficient on net sales of government bonds by the actual amount of Treasury bonds that these funds sold from March 9 to March 18, 2020. All changes in yields or yield spreads are month-over-month differences in monthly average yields or yield spreads of these indices and are expressed in percentage points.

To estimate in the first step the relationship between changes in bond market yields and yield spreads and actual mutual fund net purchases of bonds, we collect ICI monthly data on funds' purchases and sales of government and corporate bonds.¹⁰⁴ Every month, funds report to ICI the value of their actual transactions in corporate bonds and government bonds that are unrelated to purchases and sales related to hedging instruments. To compute the monthly net purchases of high-yield corporate bonds and investment grade corporate bonds, we aggregate for each month the net purchases of corporate bonds from all high-yield bond funds and core bond funds,

¹⁰³ The academic articles cited in the proposal use estimates of mutual funds' net sales and purchases of portfolio securities extrapolated from funds' month- or quarter-end holdings, monthly or quarterly returns, and estimated monthly or quarterly fund flows. This introduces some unknown level of imprecision into their estimates. Our approach improves on this by using funds' actual net purchases and sales of various types of portfolio securities, as reported to ICI on a monthly basis, and actual daily net sales during February and March 2020 reported to ICI's fixed income fund survey; see *infra*.

¹⁰⁴ The monthly survey does not distinguish between high-yield and investment grade bonds and between long-term Treasury and other long-term government securities.

respectively, where core bonds funds include investment grade, multi-sector, and investment grade ultrashort bond funds. For Treasury bonds, we aggregate across all long-term bond funds their net purchases of government securities during the month. To account for the trend in trading volumes over the sample period, we scaled these net purchases by the corresponding one-month lagged market-wide trading volumes. We collect from FINRA daily secondary market trading volumes in corporate bonds and 144A securities for investment grade and high-yield corporate bonds. We also collect from the Federal Reserve Bank of New York's Primary Dealer Statistics the weekly statistics of daily average transaction volumes of Treasury coupon bonds, Treasury inflation-protected securities (TIPS), federal agency coupon bonds, and federal agency and government-sponsored enterprise (GSE) mortgage-backed securities (MBS) and assign the constant daily average to each trading days during the week. We then compute monthly trading volumes from these daily data by aggregating over the month.

In the regressions, we further control for changes in fundamental macroeconomic factors that affect changes in bond market yields and yield spreads. From the Federal Reserve Bank of St. Louis, Federal Reserve Economic Data (FRED), Federal Reserve Bank of Philadelphia, and the Federal Reserve Bank of San Francisco, we collect the Business Conditions Index,¹⁰⁵ a News Sentiment Index,¹⁰⁶ and smoothed US recession probabilities.¹⁰⁷ From Refinitiv, we collect the VIX and the MOVE indices that reflect implied, future volatilities in the US equity and US Treasury markets. Finally, we compute aggregate corporate bond market illiquidity measures using transaction data reported in FINRA's TRACE.¹⁰⁸ We include the VIX index when analyzing changes in the yield spreads of high-yield and investment grade corporate bonds and the MOVE index when analyzing changes in the yields of Treasury bonds. All changes in these fundamental macroeconomic factors are month-over-month differences in monthly averages or reported monthly levels.

¹⁰⁵ The Aruoba-Diebold-Scotti Business Conditions Index is designed to track real business conditions at high observation frequencies. Its underlying (seasonally adjusted) economic indicators (weekly initial jobless claims; monthly payroll employment, monthly industrial production, monthly real personal income less transfer payments, monthly real manufacturing, and trade sales; and quarterly real GDP) blend high-frequency and low-frequency data.

¹⁰⁶ The Daily News Sentiment Index is a high-frequency measure of economic sentiment based on lexical analysis of economics-related news articles.

¹⁰⁷ The Probability Index of a US recession is from Marcelle Chauvet and Jeremy Max Piger, "Smoothed US Recession Probabilities [RECPROUSM156N]."

¹⁰⁸ We compute the aggregate effective spread following Hong and Warga (2000), "An Empirical Study of Bond Market Transactions," *Financial Analyst Journal*. Alternatively, we use the aggregate bid-ask spread based on imputed roundtrip trades—as proposed by Dick-Nielsen, Feldhütter, and Lando (2012), "Corporate bond liquidity before and after the onset of the subprime crisis," *Journal of Financial Economics*—and find qualitatively similar results.

We then estimate these regressions using monthly data from February 2005 to February 2022. Results are shown in Figure A3.1 along with robust standard errors.¹⁰⁹

Figure A3.1
Regression Models of Changes in Yields and Yield Spreads
 Monthly data, February 2005–February 2022

	High-yield bonds	Investment grade bonds	Treasury bonds
Constant	0.07041 (0.0436)	0.07244** (0.0306)	0.00305 (0.0215)
Scaled Net Purchases _t	-2.73289*** (0.9929)	-1.18655*** (0.4244)	-10.45762 (10.6290)
<i>Fundamental macroeconomic factors</i>			
ΔVIX_t or $\Delta MOVE_t$	0.08585*** (0.0215)	0.02927*** (0.0056)	0.00134 (0.0014)
ΔBCI_t	0.04003 (0.0430)	0.01996 (0.0216)	-0.00126 (0.0196)
ΔNSI_t	-0.71471* (0.3676)	-0.40370** (0.1799)	0.82437*** (0.1586)
ΔREP_t	0.00415 (0.0087)	0.0061 (0.0041)	-0.00267 (0.0038)
ΔLIQ_{t-1}	2.60116*** (0.6917)	1.09232*** (0.2078)	-0.20306 (0.1631)
Adj. R ²	0.60	0.60	0.12
Number of observations	205	205	205

Note: The table presents results from estimating the following regression models:

$$\Delta \text{Spreads}_t = a_0 + a_1 \text{Scaled net purchases}_t + a_2 \Delta \text{Fundamental Macroeconomic Factors}_t + \varepsilon_t,$$

where $\Delta X_t = X_t - X_{t-1}$. The Fundamental Macroeconomic Factors include proxies for equity (VIX) and bond (MOVE) market volatility; the Aruoba-Diebold-Scotti Business Conditions Index (BCI); the News Sentiment Index (NSI); and smoothed US recession probabilities (REP). We also include Hong and Warga's (2000) lagged aggregate effective bid-ask spread (LIQ) to capture changes in bond market-wide illiquidity. The table reports robust standard errors in parentheses below the coefficient estimates. * p<0.1, ** p<0.05, *** p<0.01.

Source: ICI calculations of ICI bond mutual fund survey, System of Federal Reserve Banks, FINRA, and Refinitiv data

¹⁰⁹ The results from the regressions are robust to using monthly unscaled net purchases or net purchases scaled by contemporaneous or lagged monthly corporate bond market or Treasury market trading volumes in the first-step regressions. The regression results are also robust to using an IV estimation approach instrumenting net purchases in a first stage with lagged fund flows, lagged fund returns, and contemporaneous changes in fundamental macroeconomic factors.

Based on these model estimates, we impute the impact of mutual funds' net purchases on changes in yields and yield spreads during the COVID-19 crisis by multiplying the estimated coefficients on the variable Scaled Net Purchases in Figure A3.1 with the actual net sales of bonds from fixed income mutual funds during the periods when the changes in yields and yield spreads were the largest during the COVID-19 crisis. The impact due to changes in fundamental macroeconomic factors, other market participants selling bonds, and other bond market characteristics is the difference between the actual increase in yield spreads (or yield) over the period and the contribution of fund net purchases.

Figure A3.2
Net Bond Purchases
 Billions of dollars

	Net purchases
High-yield corporate bonds, Feb 28, 2020–Mar 23, 2020	-11.0
Investment grade corporate bonds, Feb 28, 2020–Mar 23, 2020	-10.2
Treasury bonds Mar 9, 2020–Mar 18, 2020	-61.8

Source: ICI calculations of ICI bond mutual fund survey data

Figure A3.3
Yields, Yield Spreads, and Changes in Yield Spreads
 Yield and yield spreads in basis points, daily, 2020

	February 28	March 9	March 18	March 23	Change
ICE BofA BBB US Corporate Index (1)	280			556	
ICE BofA US High-Yield Index (2)	602			1,138	
US Treasury securities at 10-year constant maturity (3)	113	54	118	76	64
US Treasury securities at 7-year constant maturity (4)	103			63	
(1) - (3)	167			480	313
(2) - (4)	499			1,075	576

Source: ICI calculations of the System of Federal Reserve Banks and Refinitiv data

We obtain the actual daily net purchases of Treasury and corporate bonds for bond mutual funds from a special ICI survey that collected from bond mutual funds their daily portfolio transactions for a range of types of securities for trading days in March 2020. To assess the effects on high-yield and investment grade bonds, we summed funds' daily net purchases of each of those types of bonds from February 28, 2020, to March 23, 2020. For Treasury bonds, we calculated bond mutual funds' net sales of Treasury bonds over trading days from March 9, 2020, to March 18,

2020. We report these aggregated net purchases in Figure A3.2. Finally, we present for completeness in Figure A3.3 the yields and yield spreads on February 28, March 9, March 18, and March 23, 2020, used in the second step of the analysis. The change in the yield on US Treasury securities at 10-year constant maturity of 64 basis points is computed over the period from March 9 to March 18, 2020, and the changes in the spreads of the high-yield and investment grade corporate bond indexes of 576 and 313 basis points, respectively, are computed over the period February 28 to March 23, 2020.

Appendix B

Investment Company Act Section 22's Legislative History on Dilution and Liquidity

The SEC views shareholder dilution as a “primary concern” underlying the Investment Company Act and the redeemability of shares as a “defining feature” of open-end funds.¹ In the proposal, the SEC cites to its Section 22(c) rulemaking authority and proposes to require open-end funds to use swing pricing to “mitigate dilution of shareholders’ interests in a fund.”² Given the SEC’s focus on dilution as a “primary concern” underlying the Investment Company Act, this Appendix reviews the legislative history of the Investment Company Act as it relates to Sections 22(a), (c), and (e). This Appendix also reviews certain related regulatory history that may provide insight into the SEC’s views on dilution, redeemability, and the regulation of liquidity prior to the adoption of current Rules 22e-4 and 22c-1(a)(3) regulating liquidity and optional swing pricing, respectively.

I. Dilution and Redeemability

a. Legislative History

The Investment Company Act grew out of the SEC’s 1939 Investment Trusts Study and was enacted to address a variety of issues and abuses in the fund industry. The Investment Trust Study set forth the SEC’s findings and recommendations based on a comprehensive study of the industry.

i. Sections 22(a) and (c)

One such issue facing the fund industry was the dilution of open-end fund shares as a result of certain pricing practices.³ To address these concerns, Sections 22(a) and (c) of the Investment Company Act sought to “protect investors against dilution of their equity caused by pricing abuses in the distribution and redemption of the companies’ securities.”⁴ A Senate report contained similar statements regarding dilution, stating “[i]n the open-end companies the method of pricing their securities, which they are continuously selling and redeeming, may lead at times to substantial dilution of the investors’ equity in the companies, and in some instances has even been used by persons closely connected with the companies to realize riskless trading profits.”⁵ Sections 22(a) and (c) therefore “empowered [an association of securities dealers and the SEC] to make rules to protect investors, so far as is reasonably practicable, against any dilution of their

¹ Proposal at 77173.

² *Id.* at 77172.

³ Explanatory Statement by Mr. Wagner on S. 3580, Mar. 14, 1940, 86 Cong. Rec. 2844-47 (1940), at 2845.

⁴ *Id.* at 2846.

⁵ S. Rep. No. 1775, 76th Cong., 3d Sess. (1940), at 7 (accompanying S. 4108, 76th Cong., 3d Sess. (1940)) (“Senate Report”).

equity due to the methods of pricing, distribution, and redemption of redeemable securities and to prevent grossly excessive sales loads on such securities.”⁶

While the Senate- and House of Representatives-level hearings provide relatively little insight into the specific concerns and abuses underlying Section 22 of the Investment Company Act, congressional sub-committee records and the Investment Trust Study illustrate that the SEC and Congress were primarily concerned about: (i) dilution that resulted from the “two-price system;” and (ii) dilution caused by insider abuses and “riskless trading.”

The Two-Price System. In the two-price system, “practically all” of a fund’s portfolio securities were listed on an exchange, so the listing value for the fund’s portfolio, and thus, the fund’s net asset value, could generally be calculated shortly after 3:00 p.m. each day. However, the price calculated shortly after 3:00 p.m. on a given day generally did not take effect until 10:00 a.m. the next day, even if “the value of the securities in the portfolio, and therefore the net asset value of the shares, [was] substantially higher in the interim because of a rise in the market price of the underlying portfolio securities.”⁷ Thus, there were generally two known prices for a fund’s shares available from shortly after 3:00 p.m. to 10:00 a.m. the next day. This pricing feature was used as a principal selling argument for open-end funds, and investors could use their knowledge of two prices to buy shares at a lower price than the shares’ actual current price, diluting the value of existing outstanding shares.⁸ To illustrate this concept, SEC testimony provided quantitative examples of the dilutive effects of the two-price system, noting that the SEC had undertaken a study to determine the magnitude of dilution during a dramatic rise in markets in September 1939 and had found that in certain cases, the two-price system and investors’ ability to know the next day’s price resulted in substantial dilution to fund shares.⁹

⁶ Senate Report at 16. A report introduced in the House of Representatives, as well as House of Representative hearings, included substantively the same explanatory statements regarding Section 22 of the Act. *See* H.R. Rep. No. 2639, 76th Cong., 3d Sess. (1940), at 8, 20 (accompanying H.R. 10065, 76th Cong., 3d Sess. (1940)) (“House Report”); House consideration and passage of H.R. 10065, Aug. 1, 1940, 86 Cong. Rec. 9807-19 (1940), at 9811.

⁷ Statement of Baldwin B. Bane, Director, Registration Division, Securities and Exchange Commission, Washington D.C., Hearings before a Subcommittee of the Committee on Banking and Currency on S. 3580, U.S. Senate, 76th Cong., 3d Sess. (1940) (the “Bane Statement”), at 136.

⁸ *Id.* at 137 (stating, “[t]he interest of [an existing] security holder has been diluted by allowing the second security holder to go in and purchase at less than the value of the share at the time he bought it”). *See also* Jaretzki, Alfred Jr., The Investment Company Act of 1940, 26 WA. U. Law Quarterly 303, 329-32 (1941) (defining dilution in the context of Section 22’s legislative history as “dilution of the equity of existing stockholders in the assets of an investment company caused by the sale of new stock at a price to the company below its then per share asset value” and discussing the two-price system).

⁹ *See id.* at 138-145. *See also* Investment Trust Study, Chapter 3, at 865-867 (discussing dilution caused by the two-price system, and stating “[t]his diminution of asset value which always resulted from riskless trading, arose basically from the lag in the effective price”). Certain industry representatives challenged the accuracy and meaning of the SEC’s data.

Insider Abuses. The sub-committee hearings and Investment Trust Study also highlighted certain abuses by insiders that the SEC believed had dilutive effects. The SEC found that “some insiders—that is officers of the sponsors, managers, and underwriters—took advantage of the two-price system to buy shares before the advance price went into operation and then almost immediately redeemed them at the higher known prices.”¹⁰ In addition, “there were sometimes dealers . . . who made more or less regular practice of purchasing shares and immediately offering them for redemption, at a profit.”¹¹ With the two-price system, dealers could also withhold orders until the two prices were known and, if the next day’s price was lower than the price at which the dealer accepted the order, the dealer could wait to place the order until the next day at the lower price, “pocketing the difference.”¹²

ii. Section 22(e)

Another abuse that the SEC reported was funds suspending shareholders’ right of redemption of open-end fund shares. Accordingly, “[Section 22(e)] of the [Investment Company Act] prohibits the suspension of redemption of a redeemable security for a period of more than 7 days except during certain specified emergency periods or other period fixed by the Commission.”¹³

SEC testimony in sub-committee hearings on the Investment Company Act again provides some insight into concerns underlying Section 22(e). The SEC representatives indicated their concern about funds that held their securities out as redeemable but then suspended redemptions, typically based on obscure provisions in a fund’s trust instrument or other governing documents, potentially for the purpose of maintaining higher levels of management fees.¹⁴

SEC representative testimony also stressed the importance of the redeemability of open-end fund shares, stating, “[u]ndoubtedly, the most important single attribute which induces purchases of the securities of open-end companies by the public is the so-called ‘redemption feature’ of such securities—that is, the assurance that the shareholder may tender his shares to the company and

¹⁰ Bane Statement at 142.

¹¹ *Id.*

¹² *Id.* at 144. *See also* Investment Trust Study, Chapter 3, at 861-65 (discussing “riskless trading” by insiders made possible by the two-price system); 1992 Report (summarizing the history of Section 22 and citing abuses associated with “backward pricing” and practices by “insiders and favored customers” to take advantage of the pricing system).”

¹³ Senate Report at 16. Similar statements are made in the corresponding report to the House of Representatives. *See*, House Report at 20.

¹⁴ Statement of David Schenker, Securities and Exchange Commission, Washington D.C., Hearings before a Subcommittee of the Committee on Banking and Currency on S. 3580, U.S. Senate, 76th Cong., 3d Sess. (1940), at 291-92 (“Schenker Statement”). *See also* 1992 Report (summarizing the history of Section 22 and explaining that, with respect to redemptions, Congress and the SEC were focused on abusive practices that “instituted barriers to redemption,” including suspending the right of redemption).

receive at once, or in a very short time, the approximate cash asset value of such shares as of the time of tender.”¹⁵

b. Adoption of Rule 22c-1

In 1968, the SEC took steps to address dilution caused by the two-price system by adopting “forward pricing.” Rule 22c-1 now requires that the price of fund shares be based on the fund’s net asset value next computed after the fund receives the order or redemption request.¹⁶ The proposing and adopting releases for Rule 22c-1 explain certain consequences of the two-price system, including the dilution of fund shares and the ability of speculative traders to take advantage of the system to the detriment of long-term shareholders.¹⁷ Rule 22c-1 was therefore intended to directly address the dilution-related concerns underlying the Investment Company Act, and the specific practices underlying the historical concerns about dilution.

c. Adoption of Rule 22c-2

In 2005, the SEC adopted Rule 22c-2, which permits investment companies to impose a redemption fee of not more than 2% of the amount redeemed. The Rule 22c-2 Adopting Release focused on the SEC’s concerns related to excessive and short-term trading of fund shares, as well as practices such as market timing, by “a small group of investors” who use these strategies. The SEC stated that such practices occur “at the expense of long-term investors, diluting the value of their shares.”¹⁸ The SEC initially proposed a mandatory 2% redemption fee; however, in adopting the final rule, the Commission left the imposition of a redemption fee to the discretion of fund boards, stating that “[b]oards of directors, as several commenters suggested, are better positioned to determine whether the fund needs a redemption fee and, if so, the amount of the fee.”¹⁹

In setting the 2% limit on fund redemption fees, the SEC highlighted the importance of the redeemability of fund shares and stated its view that a redemption fee higher than 2% “could harm ordinary shareholders who make an unexpected redemption as a result of a financial emergency” and “would in our judgment impose an undue restriction on the redeemability of

¹⁵ Schenker Statement at 985.

¹⁶ *Pricing of Redeemable Securities for Distribution, Redemption and Repurchase and Time-Stamping of Orders by Dealers*, SEC Release No. IC-5519 (1968).

¹⁷ *See id.* at 1-3. *See also Pricing of Redeemable Securities for Distribution, Redemption, and Repurchase and Time-Stamping of Orders by Dealers*, SEC Release No. IC-5413, 33 Fed. Reg. 9557 (1968), at 9557-58.

¹⁸ Rule 22c-2 Adopting Release at 13328.

¹⁹ *Id.* at 13330.

shares required by the [Investment Company] Act.”²⁰ The SEC continued, “[t]he two percent limit is designed to strike a balance between two competing goals of the Commission—preserving the redeemability of mutual fund shares while reducing or eliminating the ability of shareholders who rapidly trade their shares to profit at the expense of their fellow shareholders.”²¹ By making redemption fees voluntary and delegating oversight over redemption fees to the board and by setting a 2% redemption fee limit, the SEC sought to provide funds the flexibility to assess their own needs in this respect and to appropriately balance the goals of reducing dilution and maintaining redeemability.

d. Adoption of Requirements to Disclose Market Timing Policies

In 2004, the SEC adopted amendments to Form N-1A requiring funds to disclose both the risks to fund shareholders of frequent purchases and redemptions of fund shares and a fund’s policies and procedures with respect to such frequent purchases and redemptions.²² In the proposing release, the SEC focused on market timing and noted that “market timing may dilute the value of long-term shareholders’ interests in a mutual fund if the fund calculates NAV using closing prices that are no longer accurate.”²³ By requiring risk disclosure regarding the potential for dilution, the SEC seems to have acknowledged that the potential for dilution is an inherent risk of the mutual fund structure, and that disclosure, along with tailored policies, can be effective ways to inform and protect investors.

II. Liquidity (Prior to Adoption of Rule 22e-4)

a. Legislative History

The Investment Company Act itself does not address investment in illiquid securities or include any provisions regarding fund liquidity, and we are not aware of any congressional testimony or reports from enactment of the Investment Company Act, or any portions of the Investment Trust Study, that raised specific concerns about fund liquidity.

²⁰ *Id.* at 13331. *See also* John P. Reilly & Associates, SEC Staff No-Action Letter (July 12, 1979) (stating that if a charge to cover the administrative costs of redemption exceeded 2%, the fund’s shares may not be considered redeemable and the fund may not be able to hold itself out as a mutual fund).

²¹ Rule 22c-2 Adopting Release at 13331.

²² *See Disclosure Regarding Market Timing and Selective Disclosure of Portfolio Holdings*, SEC Release No. IC-26418, 69 Fed. Reg. 22300 (Apr. 23, 2004), available at <https://www.govinfo.gov/content/pkg/FR-2004-04-23/pdf/04-9150.pdf>.

²³ *Disclosure Regarding Market Timing and Selective Disclosure of Portfolio Holdings*, SEC Release No. IC-26287, 68 Fed. Reg. 70402 (Dec. 17, 2003), available at <https://www.govinfo.gov/content/pkg/FR-2003-12-17/pdf/03-31070.pdf>. The adopting release for the amendments similarly notes that one risk of market timing and frequent trading is the potential for dilution of fund shares.

b. Limit on Illiquid Securities

The SEC first provided guidance on mutual fund liquidity in 1969, nearly three decades after the Investment Company Act was enacted.²⁴ That guidance set forth a 15% limit on open-end funds' investments in "illiquid assets of all kinds, including restricted securities."²⁵ Later in 1969, the SEC issued an Accounting Series Release that decreased the limit for illiquid securities from 15% to 10%, stating the Commission's view that "a prudent limit on any open-end company's acquisition of restricted securities, or other assets not having readily available market quotations, would be 10 per cent."²⁶

In 1992, the SEC revised its guidelines and increased the limit on illiquid securities from 10% back to 15%.²⁷ The 1992 release states the Commission's view that "it is consistent with investor protection to increase the limit in the Guidelines to 15%" and that "[t]he Commission believes that a 15% standard should satisfactorily assure the mutual funds will be able to make timely payment for redeemed shares."²⁸ The release further states, "[e]xperience has shown that mutual funds generally have not had difficulty in meeting redemption requests from available cash reserves, even during times of abnormally high selling activities in the securities markets."²⁹ By

²⁴ See *Proposed Guidelines for the Preparation of Form N-8B-1*, SEC Release No. IC-5633 (Mar. 11, 1969), at 7. See also Matthew A. Chambers and Jonathan L. Wiggins, *BNA Insights: Assessing the SEC's Authority to Regulate Liquidity of Mutual Funds*, Bloomberg Government (Mar. 25, 2016) (reciting the history of SEC guidance on fund investment in illiquid securities).

²⁵ *Id.*

²⁶ *Accounting Series Release No. 113*; SEC Release No. IC-5847 (Oct. 21, 1969), at 7. A footnote in this release explains the SEC's view that, if a fund currently had more than 10% of its assets in illiquid securities, "[i]t is assumed that such companies will not undertake commitments, beyond any obligation existing on this date, to acquire restricted securities until, in the normal course of business, such holdings are not in excess of 10 per cent of current net asset value." *Id.* at n.3. See also *Guidelines for the Preparation of Form N-8B-1*, SEC Release No. IC-7221 (June 9, 1972) and *Registration Form Used by Open-End Management Investment Companies; Guidelines*, 48 Fed. Reg. 37928, SEC Release No. IC-13436 (Aug. 22, 1983) at 37961 (each reiterating a 10% limit on illiquid securities).

²⁷ *Revisions of Guidelines to Form N-1A*, SEC Release No. IC-18612, 57 Fed. Reg. 9828 (Mar. 20, 1992).

²⁸ *Id.* at 9828.

²⁹ *Id.* In this respect, the release cites data from October 1987, noting that "approximately 2% of all equity mutual fund shares were redeemed on October 16 and 19, 1987, and most funds were able to meet these redemptions from available cash reserves." *Id.* at n.9.

This release also stated, "the Commission expects funds to monitor portfolio liquidity on an ongoing basis to determine whether, in light of current circumstances, an adequate level of liquidity is being maintained. For example, an equity fund that begins to experience a net outflow of assets because investors increasingly shift their money from equity to income funds should consider reducing its holdings of illiquid securities in an orderly fashion in order to maintain adequate liquidity." *Id.* at 9829.

increasing the illiquid security limit to 15%, the SEC sought to “make a significant amount of capital available to small business without significantly increasing the risk to any fund.”³⁰

c. 1992 SEC Staff Report

The SEC’s Division of Investment Management’s 1992 report on investment company regulation discussed the history of Section 22 of the Investment Company Act, and recommended certain legislative changes.³¹ With respect to Section 22(e) and the regulation of liquidity, the 1992 Report explained:

If a certain level of liquidity were not required, an open-end company could maintain a portfolio that would make it difficult to meet the seven day deadline in section 22(e). The company might be forced to sell illiquid assets for less than the best price, diluting the company’s net asset value for the non-redeeming shareholders. Alternatively, if the level of liquidity were simply inadequate, the investment manager may have to sell more liquid assets that otherwise would have been kept on the basis of comparative investment merit. These transactions could affect performance, thus harming shareholders who did not redeem.³²

Accordingly, the Division of Investment Management recommended that “express liquidity standards be established for all management investment companies that redeem or periodically repurchase their shares.”³³ To accomplish this, the Division recommended “that the Commission seek legislation to amend section 12 of the Investment Company Act to impose” such liquidity standards.³⁴ Although the Division acknowledged that the Commission “arguably” had authority to impose liquidity requirements, the Division ultimately recommended that Congress provide the Commission with express authority to

define and prescribe requirements reasonably designed to ensure that a registered company’s assets are liquid to the extent necessary or appropriate in the public interest or for the protection of investors.³⁵

³⁰ *Id.* at 9828.

³¹ *Protecting Investors: A Half Century of Investment Company Regulation*, Division of Investment Management, U.S. Securities and Exchange Commission (May 1992) (“1992 Report”).

³² *Id.*

³³ *Id.* at 464.

³⁴ *Id.* at 464-65.

³⁵ *Id.* at 465, 471.

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The Commission staff therefore seemingly concluded that it would be preferable to seek express statutory authority rather than relying on questionable existing statutory authority.

Appendix C

Inventory of Costs Resulting from the SEC's Swing Pricing and Hard Close Requirements

As noted earlier, the proposed hard close and swing pricing amendments would require significant systems enhancements and rebuilds across multiple areas of the mutual fund industry, as well as substantial revisions to existing policies, procedures, and contractual agreements, including for intermediaries such as broker-dealers and retirement plan recordkeepers, fund administrators, custodians, transfer agents, and even the industry utility, DTCC. The cost, resources, and effort to ensure systems are designed and updated accurately (and tested), in a timely manner, without adversely impacting other areas of the industry simply would be enormous.

We are highly concerned that the SEC appears to have failed to recognize that such a sweeping industry-wide initiative to rethink, redesign, and rebuild the overall industry ecosystem carries with it enormous risk, based upon the sheer number of systems and interfaces that would need to be modified.

Before proposing such an across-the-board overhaul of the mutual fund and its related infrastructure, including areas that are not under the SEC's regulatory purview (e.g., retirement plan recordkeepers), the SEC must devote considerably more time and resources to understanding the overall industry ecosystem.

This type of wholesale complex redesign requires thorough and open evaluation by the SEC and all stakeholders, working together over a number of years.

The following chart organizes, at a high level and by functional area, potential costs that would result from the proposed swing pricing and hard close requirements. It is not exhaustive. Rather, it seeks to provide insight into the complexity and far-reaching impacts of the proposal. An inventory with contributions from all affected parties no doubt would be more fulsome and extensive.

Functional Area	Activity/Cost Area
Administration	Fund accounting software <ul style="list-style-type: none"> • Additional module to calculate amount of swing • Intraday interface to obtain estimated/actual trading information (increased transmissions and storage) • Reengineer workflow to incorporate swing calculation and validation processes (adding time and complexity) • Development of systems to back test effectiveness/appropriateness of the swing factor • Providers that calculate a contingent NAV would need to modify systems to support swing pricing calculation and process • Additional resources to manage additional calculations/processes included in NAV strike processes
Administration	Performance <ul style="list-style-type: none"> • Track swung/unswung performance (especially if swing occurs on month/quarter/semi-annual/year-end)
Administration	Pricing information <ul style="list-style-type: none"> • Swing factor calculations – establish processes and procedures and obtain necessary data (including from third parties) to calculate the swing factor (including spread costs, other fees, and market impact factor) • Market impact – unclear how market impact would be calculated and what data and systems would be needed
Administration	Audit requirements <ul style="list-style-type: none"> • Swing pricing process and procedures likely need to be incorporated into standard audits, thereby increasing their overall costs
General	Other ancillary system impacts to related accounting/administrative systems, including generation of internal fund reporting and data administration/management

Intermediary	<p>Intraday trading estimates</p> <ul style="list-style-type: none">• System changes will vary by intermediary, but will need to extract and accumulate trading information, tag those that have been reported, and “deliver” them (to fund, centralized entity, proprietary trading portal, etc.) <p>Pricing</p> <ul style="list-style-type: none">• Dissemination of NAVs by funds to intermediaries likely to be delayed when calculating swing factor (especially when market impact is included), affecting intermediaries and recordkeepers’ overnight cycle and processing times <p>Hard close</p> <ul style="list-style-type: none">• Need to implement earlier cut-off times across multiple systems (e.g., subaccounting system, brokerage systems, voice response systems (VRU), websites, and other digital platforms) for receipt of shareholder trades that are eligible for same-day pricing• Significant modification of brokerage, subaccounting/recordkeeping, and other systems to implement hard close and/or any earlier close time put in place by intermediary• Some intermediaries will need to significantly modify systems, including batch processing methodologies, and develop ability to send trades to DTCC/NSCC throughout the day up to 3:59:59 p.m. ET (to ensure all eligible trades are received by DTCC or fund by designated hard close time)• Modification of trade correction processes based on proposal’s prohibition on trade corrections and as of processing• Significant modification of fund distribution process for omnibus accounts; no longer able process distribution reinvestments as of record date once amount of reinvestment has been calculated• Other system changes likely needed to support the hard close <p>Recordkeepers</p> <ul style="list-style-type: none">• Need to implement substantially earlier cut-off times for receipt of participant trades across multiple systems, similar to other intermediaries• Significant redesign/modification of systems to eliminate requirement of receiving a fund’s NAV (if at all possible) prior to processing trades received against retirement plan rules and other trading systems• Develop ability to process trades earlier in day and transmit trades to DTCC up to 3:59:59 p.m. ET• Modification of trade correction processes based on proposal’s prohibition on trade corrections and as of processing
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Functional Area	Activity/Cost Area
<p>Intermediary</p>	<p>DTCC/NSCC Updates</p> <ul style="list-style-type: none"> • Modify cycles for sending trades from intermediaries to funds to allow for more cycles earlier in trading day • Add additional cycles prior to 4:00 p.m. ET • Remove or reduce number of later cycles (those after 4:00 p.m. ET) • Possible modifications needed related to hard close, and trades received in cycles after 4:00 p.m. ET • Modifying current or adopting new intake processes for DTCC orders, such as moving from batch cycles to more real-time intake • If there is a reason to communicate when a NAV was swung, the NSCC Mutual Fund Profile Price/Rate file will need to be modified <p>General</p> <ul style="list-style-type: none"> • Training for financial advisors (registered reps and IARs) who serve retail investors – As policies and procedures are updated, training would be needed to educate advisors on how to discuss changes to the product with retail investors
<p>Regulatory</p>	<p>Fund boards</p> <ul style="list-style-type: none"> • Education of board regarding swing pricing and related oversight responsibilities • Board review of and approval of swing pricing policy and procedures • Board review of swing pricing administrator’s annual report
<p>Regulatory</p>	<p>Fund documents/disclosures/reporting</p> <ul style="list-style-type: none"> • Shareholder education regarding various close times by intermediary—broker-dealers and recordkeepers, and funds • Shareholder education related to swing pricing and why and how fund’s NAV is adjusted • Prospectus updates • Changes to financial statements • Enhancements to N-PORT process for extracting and compiling appropriate data

Functional Area	Activity/Cost Area
Regulatory	<p>Performance</p> <ul style="list-style-type: none"> • Calculate/report actual and GAAP performance – different information may be reported if swing occurs on reporting period-end (e.g., monthly, quarterly, semi-annually, annually) • Shareholder reporting – Education regarding the difference in the variety of materials that investors receive that disclose NAV. Most likely includes educational resources, website, and other considerations.
Regulatory	<p>Legal Advice</p> <ul style="list-style-type: none"> • Use of outside counsel to review or draft policies and procedures, various disclosures, etc. • Legal advice for fund boards
Regulatory	<p>Swing pricing administrator (appointed by fund board)</p> <ul style="list-style-type: none"> • New resource • Overall responsibility for day-to-day application of program • Determine swing factor • Annual report to the board on adequacy of and material changes to the program
Transfer Agent	<p>Intermediary oversight</p> <ul style="list-style-type: none"> • Modification of current distribution/selling and service/omnibus agreements to account for hard close as well as significant updates to policies/procedures governing corrections and as of trades¹ • Oversight of hard close would require monitoring of intermediaries' compliance with the hard close • Industry-wide effort to modify existing industry FICCA)² engagement framework and process

¹ This would require a range of resources (legal and operations personnel), time to negotiate, and a large volume of agreements. One ICI member has indicated that it has over 2,300 intermediary agreements that would require amendment under the proposal, and we estimate that many members each have well over 1,000 intermediary agreements that would require amendment.

² See Financial Intermediary Controls and Compliance Assessment Engagements, ICI Operations (August 2020), available at https://www.ici.org/pdf/20_ppr_ficca.pdf.

Functional Area	Activity/Cost Area
Transfer Agent	Policies and procedures <ul style="list-style-type: none">• Develop swing pricing policies and procedures, in conjunction with Fund Administration• Development of policies and procedure related the hard close and fund of fund, 529 plan, variable product trade processing to underlying accounts and other NAV dependent products as well as the application of swing pricing
Transfer Agent	Transfer agent systems <ul style="list-style-type: none">• System enhancements likely to accommodate hard close – in particular related to trades received via the DTCC/NSCC. Need to modify systems based on DTCC/NSCC cycle times to ensure proper trade date.• Review other ways shareholders trade (e.g., website, telephone, VRU, portals) to ensure no impact related to the hard close• Consider if necessary or helpful for the TA system to reflect when a NAV has been swung – is that needed for call center associates to answer shareholder inquiries