SECURITIES AND EXCHANGE COMMISSION

17 CFR Parts 270 and 274

[Release Nos. 33–11130; IC–34746; File No. S7–26–22]

RIN 3235–AM98

Open-End Fund Liquidity Risk Management Programs and Swing Pricing; Form N–PORT Reporting

AGENCY: Securities and Exchange Commission.

ACTION: Proposed rule.

SUMMARY: The Securities and Exchange Commission (''Commission'') is proposing amendments to its current rules for open-end management investment companies (''open-end funds'') regarding liquidity risk management programs and swing pricing. The proposed amendments are designed to improve liquidity risk management programs to better prepare funds for stressed conditions and improve transparency in liquidity classifications. The amendments are also designed to mitigate dilution of shareholders' interests in a fund by requiring any open-end fund, other than a money market fund or exchange-traded fund, to use swing pricing to adjust a fund's net asset value (''NAV'') per share to pass on costs stemming from shareholder purchase or redemption activity to the shareholders engaged in that activity. In addition, to help operationalize the proposed swing pricing requirement, and to improve order processing more generally, the Commission is proposing a ''hard close'' requirement for these funds. Under this requirement, an order to purchase or redeem a fund's shares would be executed at the current day's price only if the fund, its designated transfer agent, or a registered securities clearing agency receives the order before the pricing time as of which the fund calculates its NAV. The Commission also is proposing amendments to reporting and disclosure requirements on Forms N–PORT, N–1A, and N–CEN that apply to certain registered investment companies, including registered open-end funds (other than money market funds), registered closed-end funds, and unit investment trusts. The proposed amendments would require more frequent reporting of monthly portfolio holdings and related information to the Commission and the public, amend certain reported identifiers, and make other amendments to require additional information about funds' liquidity risk management and use of swing pricing.

DATES: Comments should be received on or before February 14, 2023.

ADDRESSES: Comments may be submitted by any of the following methods:

Electronic Comments

• Use the Commission's internet comment form (*https://www.sec.gov/rules/submitcomments.htm*); or

• Send an email to *rule-comments@sec.gov.* Please include File Number S7–26–22 on the subject line.

Paper Comments

• Send paper comments to Vanessa A. Countryman, Secretary, Securities and Exchange Commission, 100 F Street NE, Washington, DC 20549–1090.

All submissions should refer to File Number S7–26–22. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method of submission. The Commission will post all comments on the Commission's website (*https://www.sec.gov/rules/proposed.shtml*). Comments are also available for website viewing and printing in the Commission's Public Reference Room, 100 F Street NE, Washington, DC 20549, on official business days between the hours of 10 a.m. and 3 p.m. Operating conditions may limit access to the Commission's Public Reference Room. All comments received will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly.

Studies, memoranda, or other substantive items may be added by the Commission or staff to the comment file during this rulemaking. A notification of the inclusion in the comment file of any such materials will be made available on our website. To ensure direct electronic receipt of such notifications, sign up through the ''Stay Connected'' option at *www.sec.gov* to receive notifications by email.

FOR FURTHER INFORMATION CONTACT: Mykaila DeLesDernier, Y. Rachel Kuo, James Maclean, Nathan R. Schuur, Senior Counsels; Angela Mokodean, Branch Chief; Brian M. Johnson, Assistant Director, at (202) 551–6792 or *IM-Rules@sec.gov,* Investment Company Regulation Office, Division of Investment Management, Securities and Exchange Commission, 100 F Street NE, Washington, DC 20549–8549.

SUPPLEMENTARY INFORMATION: The Commission is proposing to amend the following rules and forms:

Commission reference	CFR citation (17 CFR)
Investment Company Act of 1940 (''Act'' or ''Investment Company Act''): [1]	
Rule 22c–1	§ 270.22c–1.
Rule 22e–4	§ 270.22e–4.
Rule 30b1–9	§ 270.30b1–9.
Rule 31a–2	§ 270.31a–2.
Form N–PORT	§ 274.150.
Form N–CEN	§ 274.101.
Securities Act of 1933 (''Securities Act'') [2] and Investment Company Act:	
Form N–1A	§§ 239.15A and 274.11A.

Table of Contents

[1] 15 U.S.C. 80a–1 *et seq.* Unless otherwise noted, all references to statutory sections are to the Investment Company Act, and all references to rules under the Investment Company Act are to title 17, part 270 of the Code of Federal Regulations [17 CFR part 270].

[2] 15 U.S.C. 77a *et seq.*

I. Introduction

When the Investment Company Act was enacted, a primary concern was the potential for dilution of shareholders' interests in open-end investment companies.[3] 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.[4] 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.[5] 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.[6]

The open-end fund industry has grown significantly over the last six years as more Americans rely on funds to gain exposure to financial markets while having the ability to quickly redeem their investments.[7] At the end of 2021, assets in open-end funds (excluding money market funds) were approximately $26 trillion, having grown from about $15 trillion at the end of 2015.[8] An estimated 102.6 million Americans owned mutual funds at the end of 2021, up from an estimated 91 million individual investors at the end of 2015.[9] Open-end funds continue to be an important part of the financial markets, and as those markets have grown more complex, some funds are pursuing more complex investment strategies, including fixed income and

[3] *See* Investment Trusts and Investment Companies: Hearings on S. 3580 before a Subcomm. of the Senate Comm. on Banking and Currency, 76th Cong., 3d Sess. (1940), at 37, 137–145 (stating that among the abuses that served as a backdrop for the Act were practices that resulted in substantial dilution of investors' interests, including backward pricing by fund insiders to increase investment in the fund and thus enhance management fees, but causing dilution of existing investors in the fund) (statements of Commissioner Healy and Mr. Bane).

[4] *See* Investment Trusts and Investment Companies: Letter from the Acting Chairman of the SEC, A Report on Abuses and Deficiencies in the Organization and Operation of Investment Trusts and Investment Companies (1939), at n.206 (''[T]he salient characteristic of the open-end investment company. . .was that the investor was given a right of redemption so that he could liquidate his investment at or about asset value at any time that he was dissatisfied with the management or for any other reason.''). An open-end investment company is required to redeem its securities on demand from shareholders at a price approximating their proportionate share of the fund's net asset value (''NAV'') next calculated by the fund after receipt of such redemption request. *See* section 22 of the Act; rule 22c–1.

[5] Section 22(c) of the Act authorizes the Commission to make rules and regulations applicable to registered investment companies and to principal underwriters of, and dealers in, the redeemable securities of any registered investment company related to the method of computing purchase and redemption prices of redeemable securities for the purpose of eliminating or reducing so far as reasonably practicable any dilution of the value of other outstanding securities of the fund or any other result of the purchase or redemption that is unfair to investors in the fund's other outstanding securities. *See also* section 22(a) of the Act (authorizing a securities association registered under section 15A of the Securities Exchange Act of 1934 (''Exchange Act'') similarly to prescribe the prices at which a member may purchase or redeem an investment company's redeemable securities for the purposes of addressing dilution).

[6] Section 22(e) of the Act provides, in part, that no registered investment company shall suspend the right of redemption or postpone the date of payment upon redemption of any redeemable security in accordance with its terms for more than seven days after tender of the security absent specified unusual circumstances.

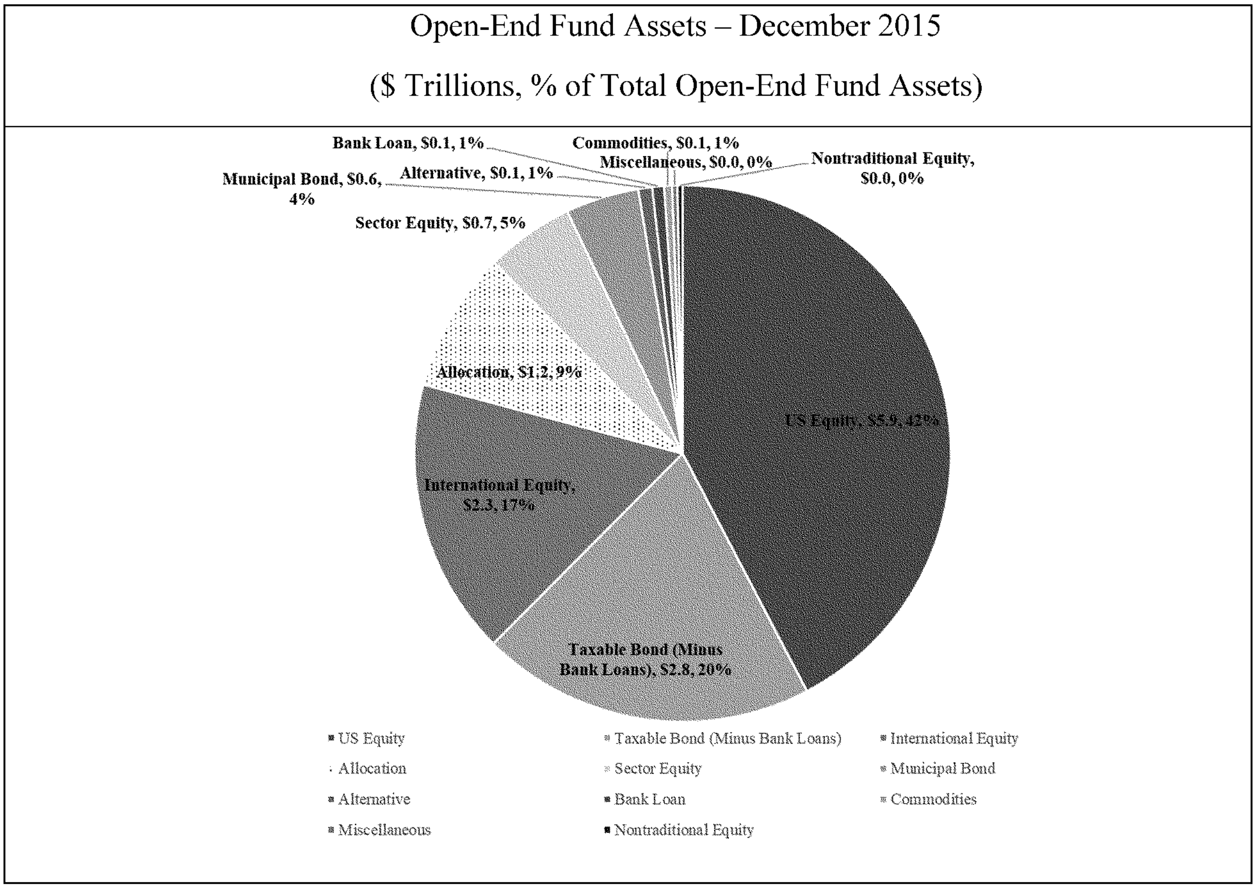
[7] For purposes of this release, the term ''fund'' or ''open-end fund'' generally refers to an open-end management investment company registered on Form N–1A or a series thereof, excluding money market funds, unless otherwise specified. Mutual funds and most exchange-traded funds (''ETFs'') are open-end management companies registered on Form N–1A. An open-end management investment company is an investment company, other than a unit investment trust or face-amount certificate company, that offers for sale or has outstanding any redeemable security of which it is the issuer. *See* sections 4 and 5(a)(1) of the Investment Company Act [15 U.S.C. 80a–4 and 80a–5(a)(1)]. While a money market fund is an open-end management investment company, money market funds generally are not subject to the amendments we are proposing and thus are not included when we refer to ''funds'' or ''open-end funds'' in this release except where specified. Although unit investment trusts, like open-end funds, issue redeemable securities, they are not included when we refer to open-end funds in this release, unless otherwise specified.

[8] The $26 trillion figure is based on Form N–CEN filing data as of Dec. 2021. Of the $26 trillion in assets, ETFs had $5.1 trillion in assets. *See* Investment Company Liquidity Risk Management Programs, Investment Company Act Release No. 32315 (Oct. 13, 2016) [81 FR 82142 (Nov. 18, 2016)] (''Liquidity Rule Adopting Release''), at text accompanying n.1046 (estimating open-end fund assets of approximately $15 trillion at the end of 2015).

[9] *See* Investment Company Institute, 2022 Investment Company Fact Book (2022) (''2022 ICI Fact Book''), at 44, *available at https://www.icifactbook.org/;* Investment Company Institute, 2016 Investment Company Fact Book (2016), at 110, *available at https://www.ici.org/fact-book.* Retail investors hold the vast majority of mutual fund net assets. *See* 2022 ICI Fact Book, at 48 (estimating that retail investors held 88% of mutual fund assets at year end 2021). An estimated 13.9 million U.S. households held ETFs in 2021, in addition to many institutional investors. *See id.* at 83.

alternative investment strategies focused on less liquid asset classes. For example, as of December 2021, bond funds had assets of more than $6 trillion, funds with alternative investment strategies had about $15 billion in assets, and bank loan funds had around $12 billion in assets.[10] Figure 1 below shows the amount of assets held by different types of open-end funds.

Figure 1: Open-End Fund Assets by Fund Type

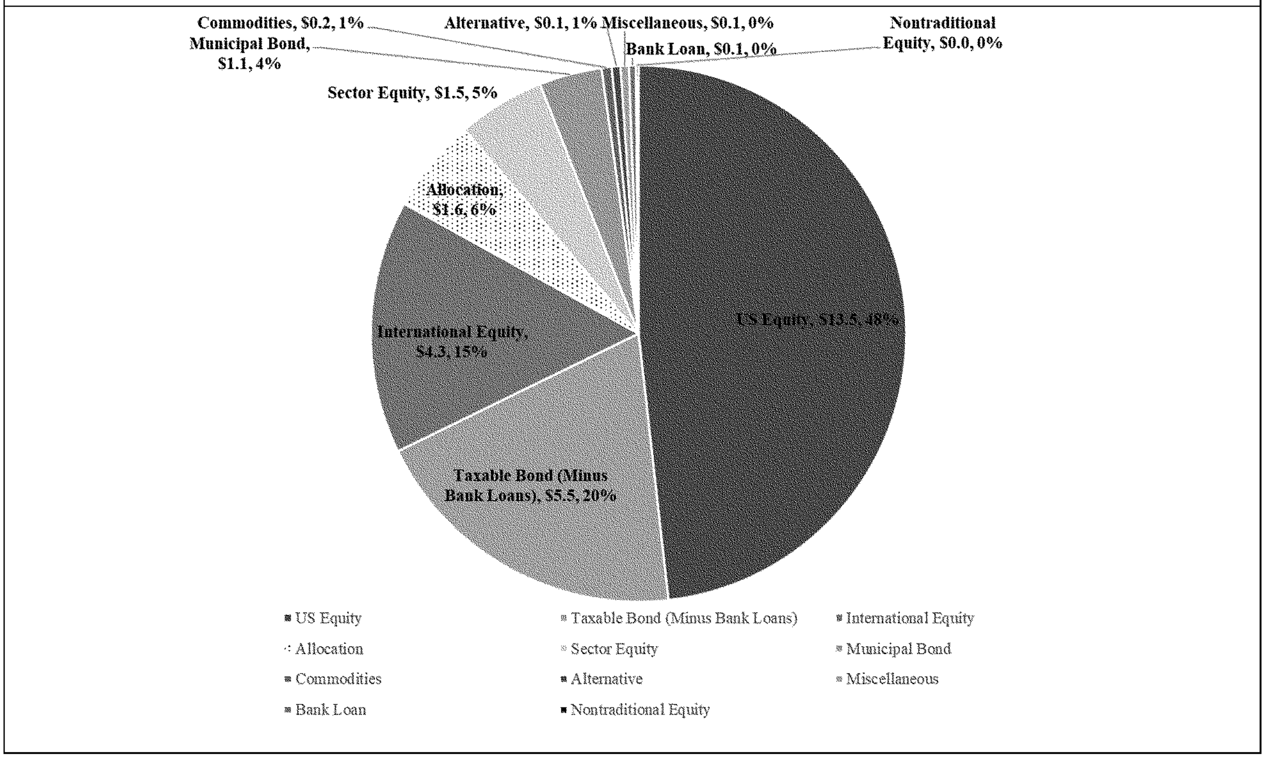


Source: Morningstar

[10] Based on Morningstar data. Unless otherwise indicated, data discussed throughout this section is based on Morningstar data. Bond funds include funds that invest in taxable bonds (approximately $5.5 trillion in assets) and funds that invest in municipal bonds (approximately $1 trillion in assets).

Open-End Fund Assets – December 2021

($ Trillions, % of Total Open-End Fund Assets)



Source: Morningstar

Without effective liquidity risk management, a fund may not be able to make timely payment on shareholder redemptions, and sales of portfolio investments to satisfy redemptions may result in the dilution of outstanding fund shares. Moreover, even when a fund is managing its liquidity effectively, the transaction costs associated with meeting redemption requests or investing the proceeds of subscriptions can create dilution for fund shareholders. These concerns are particularly heightened in times of stress or in funds invested in less liquid investments. To that end, the ability of funds to meet investor redemptions, while mitigating the impact of this redemption activity on remaining shareholders, is an important aspect of the regulatory regime for open-end funds.

Commission rules currently provide open-end funds with several tools to mitigate dilution from shareholder purchase or redemption activity and facilitate a fund's ability to meet shareholder redemptions in a timely manner. These tools include a fund's liquidity risk management program, the option to use swing pricing for certain funds, the ability to impose purchase or redemption fees, and/or the ability to redeem in kind.[11] In March 2020, in connection with the economic shock from the onset of the COVID–19 pandemic, U.S. open-end funds faced a significant volume of investor redemptions.[12] As investors sought to redeem fund investments to free up cash during a time of market uncertainty, open-end funds faced significant redemptions and liquidity concerns.[13]

In light of these events, we have reviewed the effectiveness of funds' current tools for managing liquidity and limiting dilution, including through staff outreach and review of information funds are required to report to the Commission.[14] We have identified weaknesses in funds' liquidity risk management programs that can cause delays in identifying liquidity issues in stressed periods and cause funds to over-estimate the liquidity of their investments, as well as limited use of tools such as redemption fees or swing pricing that are designed to limit dilution resulting from a fund's trading of portfolio investments in response to shareholder redemptions or purchases. As a result, we are proposing amendments to enhance funds' liquidity risk management to help better prepare them for stressed market conditions and to require the use of swing pricing for certain funds in certain circumstances to limit dilution. We believe the proposed amendments would enhance open-end fund resilience in periods of market stress by promoting funds' ability to meet redemptions in a timely manner while limiting dilution of remaining shareholders' interests in the fund.

A. Open-End Funds and Existing Regulatory Framework

Open-end funds are a popular investment choice for investors seeking to gain professionally managed, diversified exposure to the capital

[11] *See* Liquidity Rule Adopting Release, *supra* note 8; Investment Company Swing Pricing, Investment Company Act Release No. 32316 (Oct. 13, 2016) [81 FR 82084 (Nov. 18, 2016)] (''Swing Pricing Adopting Release'').

[12] *See infra* section I.B for a discussion of the fund flows for different types of open-end funds during the Mar. 2020 period.

[13] *See infra* section I.B discussing the events of Mar. 2020.

[14] The review consisted of outreach with funds, advisers, and liquidity vendors that funds use to help classify the liquidity of their investments. In addition, staff reviewed data provided on Form N–PORT, Form N–CEN, and Form-RN.

markets while preserving liquidity.[15] There are two kinds of open-end funds: mutual funds and ETFs. Open-end funds offer investors daily liquidity, but may invest in assets that cannot be liquidated quickly without significantly affecting market prices. Since the 1940s, the Commission has stated that open-end funds should maintain highly liquid portfolios and recognized that this may limit their ability to participate in certain transactions in the capital markets.[16]

While the Act requires open-end funds to pay redemptions within seven days, as a practical matter most investors expect to receive redemption proceeds in fewer than seven days. For example, many mutual funds represent in their prospectuses that they will pay redemption proceeds on the next business day after the redemption. In addition, open-end funds redeemed through broker-dealers must meet redemption requests within two business days because of rule 15c6–1 under the Exchange Act, which establishes a two-day (T+2) settlement period for trades effected by broker-dealers.[17]

In terms of pricing, an order to purchase or redeem fund shares must receive a price based on the current NAV next computed after receipt of the order.[18] Open-end funds typically calculate their NAVs once a day. Purchase and redemption requests submitted throughout the day receive the NAV calculated at the end of that day, which is typically calculated as of 4 p.m. ET.[19] These provisions are designed to promote equitable treatment of fund shareholders when buying and selling fund shares.

A characteristic of open-end funds is that fund shareholders share the gains and losses of the fund, as well as the costs. As a result, there are circumstances in which the transaction activity of certain investors leads to costs that are distributed across all shareholders, unfairly reducing the value (or ''diluting'') the interests of shareholders who did not engage in the underlying transactions. For example, while redemption orders receive the next computed NAV, the fund may incur costs on subsequent days to meet those redemptions, because the fund may engage in trading activity and make other changes in its portfolio holdings over multiple business days following the redemption order. As a result, the costs of providing liquidity to redeeming investors can be borne by the remaining investors in the fund and dilute the interests of non-redeeming shareholders. Similarly, when shareholders purchase shares in the fund, costs may arise when the fund buys portfolio investments to invest the proceeds of the purchase, and the fund and its shareholders may bear those costs in days following the purchase request, diluting the interests of the non-purchasing shareholders.

Transaction costs associated with redemptions or purchases can vary. The less liquid the fund's portfolio holdings, the greater the liquidity costs associated with redemption and purchase activity can become and the greater the possibility of dilution effects on fund shareholders. For example, during times of heightened market volatility and wider bid-ask spreads for the fund's underlying holdings, selling fund investments to meet investor redemptions results in greater costs to the fund. Moreover, funds also incur transaction costs outside of stressed periods. Although these costs would generally be smaller than in times of heighted market volatility, they also are borne by fund investors and, particularly over time, also can result in dilution.

In times of liquidity stress, there may be incentives for shareholders to redeem fund shares quickly to avoid further losses, to redeem fund shares for cash in times of uncertainty, or to obtain a ''first-mover'' advantage by avoiding anticipated trading costs and dilution associated with other investors' redemptions. This perceived advantage may lead to increasing outflows, further exacerbating the effect on remaining shareholders and incentivizing increased shareholder redemptions. Whether investors redeem because they need cash or want to capitalize on a first-mover advantage, the remaining investors in the fund may, particularly in times of stress, experience dilution of their interests in the fund.

1. Liquidity Risk Management

In 2016, the Commission adopted rule 22e–4 under the Act (the ''liquidity rule'') to require open-end funds to adopt and implement liquidity risk management programs. Rule 22e–4 was designed to address concerns that open-end funds investing in less liquid securities may have difficulty meeting redemption requests without significant dilution of remaining investors' interests in the fund.[20] Rule 22e–4 requires: (1) assessment, management, and periodic review of a fund's liquidity risk; (2) classification of the liquidity of each of a fund's portfolio investments into one of four prescribed categories—ranging from highly liquid investments to illiquid investments—including at-least-monthly reviews of these classifications; (3) determination and periodic review of a highly liquid investment minimum for certain funds; (4) limitation on illiquid investments; and (5) board oversight.

Funds are also subject to related reporting requirements. For example, funds must report the liquidity classifications of their holdings confidentially to the Commission on Form N–PORT. A fund also must immediately report to the Commission on Form N–RN and to the fund's board if its portfolio becomes more than 15% illiquid, as well as if the fund breaches a highly liquid investment minimum

[15] *See* Liquidity Rule Adopting Release, *supra* note 8. *See also supra* note 9 and accompanying text (discussing an estimated number of Americans who invest in mutual funds).

[16] *See* Investment Trusts and Investment Companies: Report of the Securities and Exchange Commission (1942), at 76 (''Open-end investment companies, because of their security holders' right to compel redemption of their shares by the company at any time, are compelled to invest their funds predominantly in readily marketable securities. Individual open-end investment companies, therefore, as presently constituted, could participate in the financing of small enterprises and new ventures only to a very limited extent.'').

[17] The Commission has proposed to amend rule 15c6–1 to establish a T+1 settlement period for broker-dealer trades. *See* Shortening the Securities Transaction Settlement Cycle, Exchange Act Release No. 34–94196 (Feb. 9, 2022) [87 FR 10436 (Feb. 24, 2022)].

[18] Rule 22c–1 under the Act. The process of calculating or ''striking'' the NAV of the fund's shares on any given trading day is based on several factors, including the market value of portfolio securities, fund liabilities, and the number of outstanding fund shares, among others. Rule 2a–4 requires, when determining the NAV, that funds reflect changes in holdings of portfolio securities and changes in the number of outstanding shares resulting from distributions, redemptions, and repurchases no later than the first business day following the trade date. As indicated in the adopting release for rule 2a–4, this calculation method provides funds with additional time and flexibility to incorporate last-minute portfolio transactions into their NAV calculations on the business day following the trade date, rather than on the trade date. *See* Adoption of Rule 2a–4 Defining the Term ''Current Net Asset Value'' in Reference to Redeemable Securities Issued by a Registered Investment Company, Investment Company Act Release No. 4105 (Dec. 22, 1964) [29 FR 19100 (Dec. 30, 1964)].

[19] Commission rules do not require that a fund calculate its NAV at, or as of, a specific time of day. Current NAV must be computed at least once daily, subject to limited exceptions, Monday through Friday, at the pricing time set by the board of directors. *See* rule 22c–1(b)(1).

[20] *See* Liquidity Rule Adopting Release, *supra* note 8, at section II.B.

established as part of its liquidity risk management program for seven consecutive days.[21] While the compliance dates for specific provisions of rule 22e–4 varied, most funds were required to be in compliance with all requirements of the rule in 2019.[22]

In 2018, the Commission adopted amendments designed to improve the reporting and disclosures of liquidity information by open-end funds.[23] These amendments modified certain aspects of the liquidity framework by requiring funds to disclose information about the operation and effectiveness of their liquidity risk management program in their shareholder reports instead of requiring funds to disclose aggregate liquidity classifications publicly in Form N–PORT.[24] Since that time, some individual investors have stated that they care about being able to redeem but do not need narrative information about how a fund manages its liquidity, while some other commenters have suggested that aggregate liquidity classifications would be more helpful than narrative shareholder report disclosure.[25] We recently removed the narrative disclosure requirement because, in practice, it did not meaningfully augment other information already available to shareholders.[26]

When the Commission adopted the 2018 amendments, it stated that Commission staff would continue to monitor and solicit feedback on the implementation of the liquidity framework and inform the Commission what steps, if any, the staff recommends in light of this monitoring.[27] The Commission stated its expectation that this evaluation would take into account at least one full year's worth of liquidity classification data from large and small entities to allow funds and the Commission to gain experience with the classification process and to allow analysis of its benefits and costs based on actual practice. As discussed below, we have had the opportunity since the adoption of these amendments to evaluate the liquidity framework while taking into account the data available to us regarding funds' liquidity risk management programs.[28] We discuss our evaluation of the current liquidity framework throughout this release.

2. Swing Pricing

In 2016, the Commission adopted a rule permitting registered open-end funds (except money market funds or ETFs), under certain circumstances, to use swing pricing, which is the process of adjusting the price above or below a fund's NAV per share to effectively pass on the costs stemming from shareholder purchase or redemption activity to the shareholders associated with that activity.[29] When a shareholder purchases or redeems fund shares, the price of those shares does not typically account for the transactions costs, including trading costs and changes in market prices, that may arise when the fund buys portfolio investments to invest proceeds from purchasing shareholders or sells portfolio investments to meet shareholder redemptions.[30] Swing pricing is an investor protection tool currently available to funds to mitigate potential dilution and manage fund liquidity as a result of investor redemption and purchase activity.

The 2016 swing pricing rule requires that, for funds choosing to use swing pricing, the fund's NAV is adjusted by a specified amount (the "swing factor") once the level of net purchases into or net redemptions from the fund has exceeded a specified percentage of the fund's NAV (the "swing threshold"). A fund's swing factor is permitted to take into account only the near-term costs expected to be incurred by the fund as a result of net purchases or net redemptions on that day and may not exceed an upper limit of 2% of the NAV per share. The rule also requires a fund that uses swing pricing to adopt swing pricing policies and procedures that specify the process for determining the fund's swing factor and swing threshold. The fund's board must approve the fund's swing pricing policies and procedures, the fund's swing factor upper limit, and the swing threshold. The board also must review a written report on the adequacy and effectiveness of the fund's swing pricing policies and procedures at least annually.

In the time since the adoption of the rule, no U.S. funds have implemented swing pricing. While swing pricing has been a commonly employed anti-dilution tool in Europe, including among U.S.-based fund managers that also operate funds in Europe, U.S. funds face unique operational obstacles in its implementation. When considering the adoption of the 2016 swing pricing rule, the Commission received comment letters articulating the operational issues that funds may encounter if they implemented swing pricing.[31] In response to the concerns raised by commenters, the Commission adopted an extended effective date to allow for the creation of industry-wide operational solutions to facilitate the implementation of swing pricing more effectively. In that release, the Commission stated that it had directed Commission staff to review, two years after the rule's effective date, market practices associated with funds' use of swing pricing to mitigate dilution and to provide the Commission with the results of its review.[32] Since that time, we have evaluated market practices associated with funds' lack of use of swing pricing, and this release reflects that evaluation. Despite over five years passing since adoption, the industry has not developed an operational solution to facilitate implementation of swing pricing, nor have individual market participants.[33]

[21] Form N–RN was previously titled Form N–LIQUID. *See* Use of Derivatives by Registered Investment Companies and Business Development Companies, Investment Company Act Release No. 34084 (Nov. 2, 2020) [85 FR 83162 (Dec. 21, 2020)] ("Derivatives Adopting Release").

[22] Small entities were required to be in compliance with the reporting requirements under Form N–PORT by Mar. 1, 2020. *See* Investment Company Liquidity Disclosure, Investment Company Act Release No. 33142 (June 28, 2018) [83 FR 31859 (July 10, 2018)] ("2018 Liquidity Disclosure Adopting Release").

[23] *Id.*

[24] The Commission also adopted amendments to Form N–PORT to allow funds classifying the liquidity of their investments pursuant to their liquidity risk management programs to report multiple liquidity classification categories for a single position under specified circumstances. *See* 2018 Liquidity Disclosure Adopting Release, *supra* note 22.

[25] *See infra* notes 303 to 305 and accompanying text (discussing these comments in more detail).

[26] *See* Tailored Shareholder Reports for Mutual Funds and Exchange-Traded Funds; Fee Information in Investment Company Advertisements, Investment Company Act Release No. 34731 (Oct. 26, 2022) ("Tailored Shareholder Reports Adopting Release") at nn.462–472 and accompanying text.

[27] *See* 2018 Liquidity Disclosure Adopting Release, *supra* note 22, at paragraph accompanying n.125.

[28] *See infra* sections I.B and II.A.

[29] Swing Pricing Adopting Release, *supra* note 11; rule 22c–1(a)(3).

[30] *See* Swing Pricing Adopting Release, *supra* note 11, at section II.A.1.

[31] *See* Comment Letter of BlackRock on Open-End Fund Liquidity Risk Management Programs; Swing Pricing; Re-Opening of Comment Period for Investment Company Reporting Modernization Release, Investment Company Act File No. 31835 (Sep. 22, 2015) [80 FR 62274 (Oct. 15, 2015)] ("2015 Proposing Release"), File No. S7–16–15; Comment Letter of Dodge & Cox on 2015 Proposing Release, File No. S7–16–15; Comment Letter of Pacific Investment Management Company LLC on 2015 Proposing Release, File No. S7–16–15; Comment Letter of Securities Industry and Financial Markets Association on 2015 Proposing Release, File No. S7–16–15. The comment file for the 2015 Proposing Release, where these comment letters can be accessed, is *available at https://www.sec.gov/comments/s7-16-15/s71615.shtml.*

[32] *See* Swing Pricing Adopting Release, *supra* note 11, at section II.A.1.

[33] After the Commission adopted the current swing pricing rule, the industry formed working

Continued

We understand that the industry has been unable to develop an operational solution to implement swing pricing largely because funds currently are unable to obtain sufficient fund flow information before they finalizes their NAVs, a necessary precursor to determining whether a fund needs to use swing pricing on any particular day. Generating fund flow information involves a broad network of market participants with multiple layers of systems, including, among others, funds, transfer agents, broker-dealers, retirement plan recordkeepers, banks, and the National Securities Clearing Corporation (''NSCC''). In general, many mutual funds use prices as of 4 p.m. ET (or the ''pricing time'') to value the funds' underlying holdings for purposes of computing their NAVs for the current day. This time is established by the fund's board of directors. Typically, investors may place orders to purchase or redeem mutual fund shares with the fund's transfer agent or with intermediaries as late as 3:59 p.m. ET for execution at that day's NAV. When the transfer agent or an intermediary receives an order before the pricing time, that order typically receives that day's price. An investor who submits an order after the pricing time must receive the next day's price.

While some investors may place orders by opening an account directly with the fund's transfer agent, we understand that the majority of mutual fund orders are placed with intermediaries, such as broker-dealers, banks, and retirement plan recordkeepers.[34] Some intermediaries do not transmit flow details to the fund's transfer agent or the clearing agency until after the fund has finalized its NAV calculation and disseminated the NAV to pricing vendors, media, and intermediaries (''NAV dissemination''). NAV dissemination tends to occur between 6 p.m. ET and 8 p.m. ET. Indeed, the fund's transfer agent or the clearing agency often do not receive a significant portion of orders until after midnight—*i.e.,* the next day.[35] This contributes to a mismatch between the extent of flow information funds require to implement swing pricing and the flow information funds currently have before the pricing time. For example, based on staff outreach, we understand that some funds receive only around half of their daily volume by 6 p.m. ET.[36] We are also aware of a separate review of funds' receipt of flow data for a quarter in 2016, which found that only 70% of actual and estimated trade flow could be delivered by 6 p.m. ET.[37] Without sufficient actual or estimated flow information before the fund finalizes its NAV, funds cannot implement swing pricing because the determination of whether to swing the fund's NAV depends on the size of net flows.

B. March 2020 Market Events

In March 2020, at the onset of the COVID–19 pandemic in the United States, most segments of the open-end fund market witnessed large-scale investor outflows. Investors' concerns about the potential impact of the COVID–19 pandemic led investors to reallocate their assets into cash and short-dated, near-cash investments.[38] The resulting outflows from many open-end funds placed pressure on these funds to generate liquidity quickly in order to meet investor redemptions. Equity and debt security prices fell as yields rose. Uncertainty throughout the U.S. economy and asset-price volatility rose, and credit spreads and bid-ask spreads widened.[39] The large outflows open-end funds faced during March 2020, combined with the widening bid-ask spreads funds encountered when purchasing or selling portfolio investments at that time, likely contributed to dilution of the value of funds' shares for remaining investors.[40]

Open-end funds are a large and important component of U.S. markets. At the end of 2019, assets in open-end funds totaled $21 trillion.[41] Fixed-income funds accounted for $5.3 trillion, or 25% of total open-end fund assets.[42] Bank loan assets were nearly $100 billion, or less than 2% of total fixed-income fund assets. At the end of March 2020, following the height of the COVID–19 related market stress, assets in open-end funds (including ETFs) fell

groups to explore potential operational solutions to facilitate funds' ability to implement swing pricing. *See* Evaluating Swing Pricing: Operational Considerations, Addendum (June 2017), *available at https://www.ici.org/system/files/attachments/ppr_17_swing_pricing_summary.pdf* (''2017 ICI Swing Pricing White Paper'').

[34] In 2021, an estimated 18% of U.S. households owning mutual funds purchased them directly from the mutual fund company. *See* 2022 ICI Fact Book, *supra* note 9, at Figure 7.8.

[35] NSCC currently is the only registered clearing agency for fund shares. A significant portion of mutual fund orders are processed through NSCC's Fund/SERV platform. *See* Depositary Trust and Clearing Corporation 2021 Annual Report, *available at https://www.dtcc.com/annuals/2021/performance/dashboard* (stating that the value of transactions Fund/SERV processed in 2021 was $8.5 trillion and the volume for this period was 261 million transactions). A part of the platform, referred to as Defined Contribution Clearance & Settlement, focuses on purchase, redemption, and exchange transactions in defined contribution and other retirement plans. This service handled a volume of nearly 154 million transactions in 2021. *See id.*

[36] We understand based on staff outreach that the time by which a fund receives flow information varies to some extent based on the fund's investor base. For example, funds with large investments by retirement plans generally receive a larger portion of their flow information after 6 p.m. ET than other funds.

[37] *See* 2017 ICI Swing Pricing White Paper, *supra* note 33 (stating that, for instance, intermediaries trading via traditional Fund/SERV, such as traditional brokerage and managed account activity, transmit orders to the fund by 7 p.m. ET but, with system and procedural enhancements, processing and submission of orders as actual trades might be able to occur prior to 6 p.m. ET). This paper also suggested that 90% to 100% of trade flow (actual or estimated) is required to apply swing pricing between 4 p.m. and 6 p.m. ET.

[38] *See* SEC Staff Report on U.S. Credit Markets Interconnectedness and the Effects of the COVID–19 Economic Shock (Oct. 2020) (''SEC Staff Interconnectedness Report''), at 17 to 18, *available at https://www.sec.gov/files/US-Credit-Markets_COVID-19_Report.pdf.* Staff reports and other staff documents (including those cited herein) represent the views of Commission staff and are not a rule, regulation, or statement of the Commission. The Commission has neither approved nor disapproved the content of these documents and, like all staff statements, they have no legal force or effect, do not alter or amend applicable law, and create no new or additional obligations for any person.

[39] *See id.,* at 3 and 6 to 8 (discussing that the market structure of certain segments of the credit market contributed to market stress in Mar. 2020, including reduced dealer inventories and reluctance to accommodate customer demand in some cases). On Apr. 1, 2020, the Board of Governors of the Federal Reserve System (''Federal Reserve'') made a temporary change to its supplementary leverage ratio rule to allow banking organizations to expand their balance sheets as appropriate to continue to serve as financial intermediaries, stating that the rule's regulatory restrictions may constrain the firms' ability to continue to serve as financial intermediaries and to provide credit to households and businesses in the face of rapid deteriorations in Treasury market liquidity conditions and significant inflows of customer deposits and increased reserve levels. *See* Federal Reserve Board Announces Temporary Changes to its Supplementary Leverage Ratio Rule to Ease Strains in the Treasury Market Resulting from the Coronavirus and Increase Banking Organizations' Ability to Provide Credit to Households and Businesses (Apr. 1, 2020), *available at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200401a.htm.*

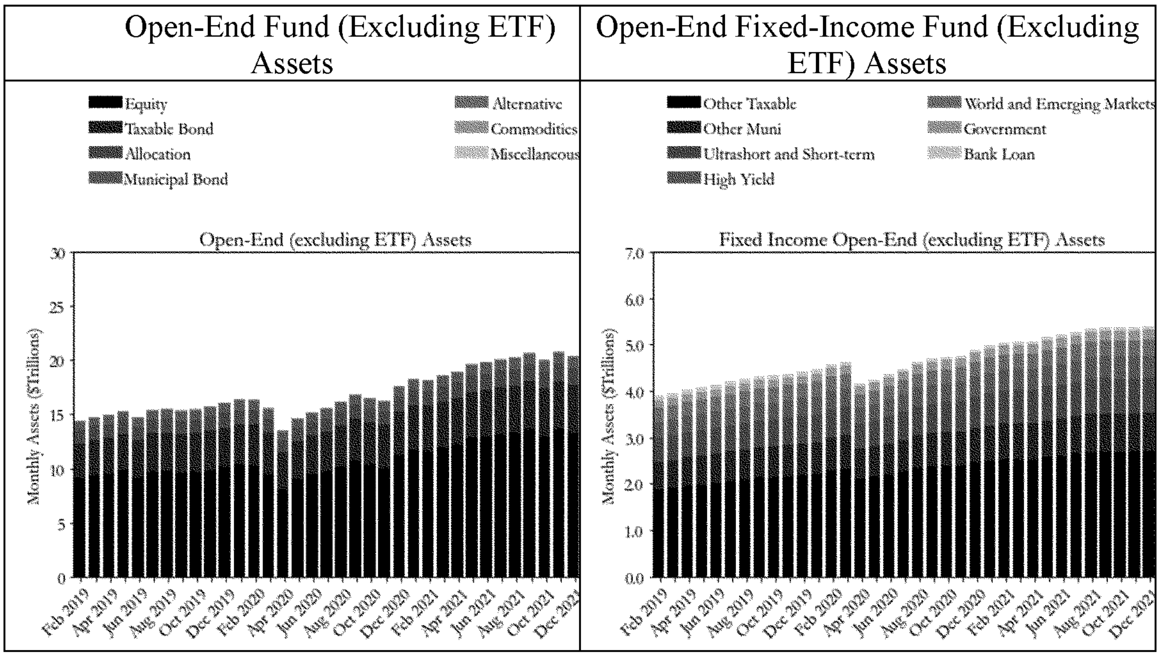
[40] We do not have specific data about the dilution fund shareholders experienced in Mar. 2020 because funds do not report information about their trading activity and the prices at which they purchase and sell each instrument. However, European funds experienced similar market conditions as U.S. funds and, to mitigate dilution during this period, many European funds increased their use of swing pricing and the size of their swing factors. *See infra* paragraph accompanying note 60. European funds are subject to regulatory regimes that differ in some respects from the U.S. regime for open-end funds. We are not aware, however, of differences between the regimes that would have significantly reduced dilution for U.S. funds relative to European funds during this period, such that European funds needed to use swing pricing to mitigate dilution that U.S. funds were not experiencing due to regulatory or other differences.

[41] Of this amount, ETFs had assets of $4.4 trillion and other open-end funds had assets of $16.4 trillion. Money market funds and funds of funds are excluded from calculations relating to the size and redemptions of open-end funds.

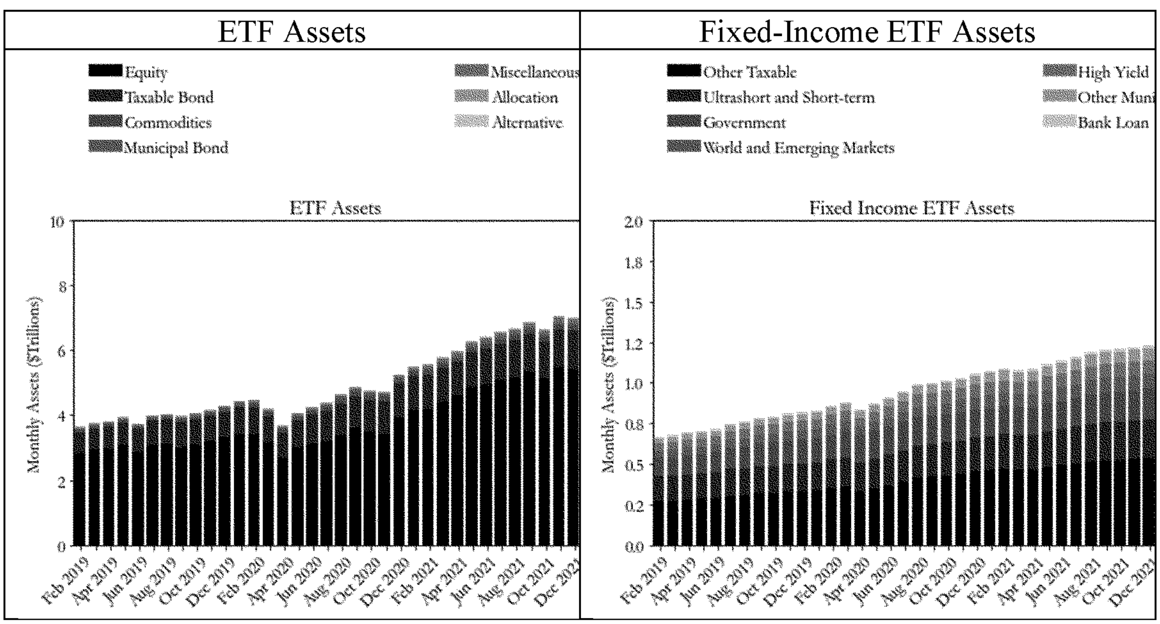
[42] Fixed-income funds, excluding ETFs, had assets of $4.5 trillion, and fixed-income ETFs had assets of $800 billion.

17% ($3.6 trillion) from $20.8 trillion in December 2019 to a total of $17.2 trillion. Assets of open-end funds excluding ETFs fell 18% ($2.9 trillion) from $16.4 trillion to $13.5 trillion, and ETF assets fell 17% (approximately $760 billion) from $4.4 trillion to $3.7 trillion. Of this amount, fixed-income mutual fund assets fell 5.5%, although fixed-income ETFs' assets increased slightly.[43] In addition, bank loan fund assets fell by 30% in March 2020, or from $100 billion to $70 billion, compared to the level of assets reported in December 2019.

Figure 2: Trends in Open-End Fund Assets



Source: Morningstar



Source: Morningstar

[43] Fixed-income funds, excluding ETFs, had assets of approximately $4.1 trillion, while fixed-income ETFs' assets increased slightly from Dec. 2019 levels to $830 billion.

The market disruptions of the March 2020 period included significant redemption activity in open-end funds.[44] Throughout 2019, net flows into open-end funds averaged approximately $32.4 billion, or 0.2% per month.[45] During this same period, fixed-income funds experienced a steady inflow of approximately $41.7 billion, or 0.9% per month on average.[46] In March 2020, however, open-end funds had outflows totaling $329.4 billion, or 1.7% of prior period assets.[47] The majority of these outflows were from fixed-income funds, which had $286.6 billion in outflows.[48] Taxable bond funds had outflows of $241.7 billion (or 5.2% of prior period assets), of which, bank loan funds had outflows of $12.4 billion (or 13.4% of prior period assets in these funds).[49] Municipal bond funds had $44.9 billion in outflows (or 4.9% of prior period assets).[50]

[44] Open-end funds also experienced heightened outflows in other stressed periods, such as the last quarter of 2008, but outflows in March 2020 surpassed those witnessed in these other periods. For example, during the last quarter of 2008, investors withdrew $65 billion from bond funds. Total outflows for bond funds during this period never exceeded 1.5% of total net assets. *See* ICI, 2009 Investment Company Fact Book, Figure 2.10 and accompanying text, *available at https://www.ici.org/system/files/attachments/2009_factbook.pdf* (calculating net flows as a three-month moving average of net flows as a percentage of previous month-end assets, and excluding high yield bond funds).

[45] Open-end funds (excluding ETFs) had average net flows of approximately $4.8 billion (or 0.04% per month). ETFs had average net flows of approximately $27.7 billion (or 0.7% per month).

[46] Fixed-income funds (excluding ETFs) had inflows of $28.8 billion (or 0.7% per month on average). Fixed-income ETFs had inflows of $12.5 billion (or 1.7% per month on average).

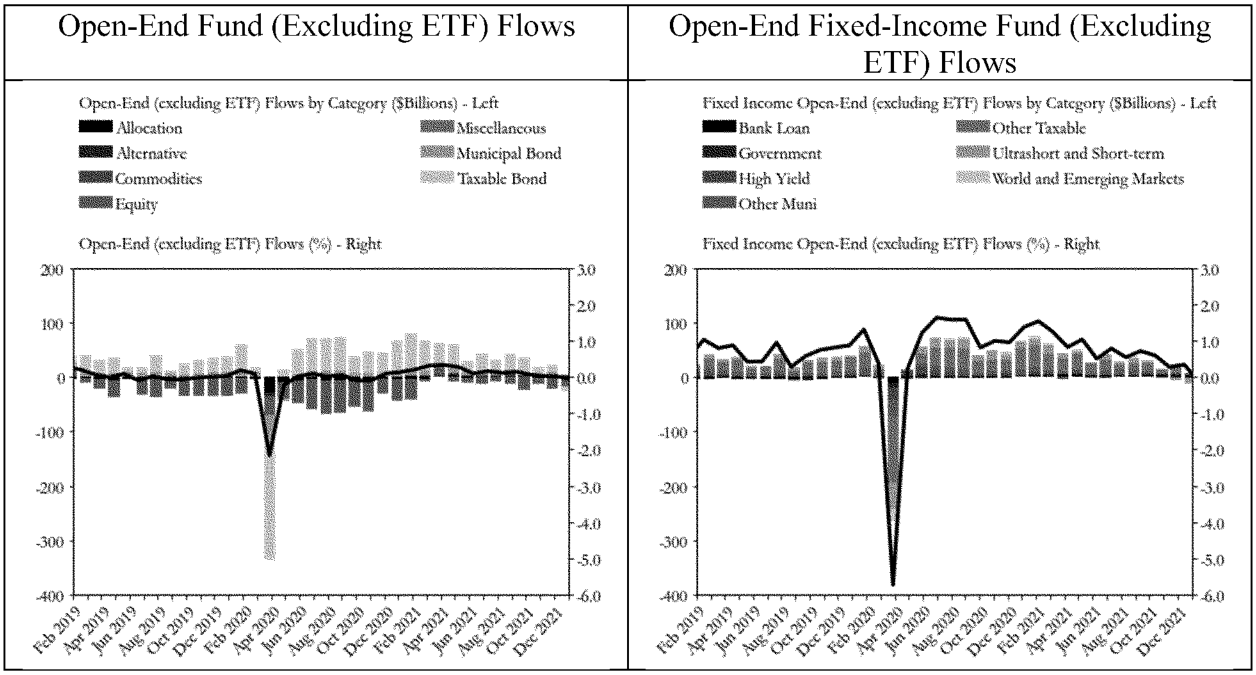
[47] Open-end funds (excluding ETFs) had outflows totaling $336.8 billion, or 1.7% of prior period assets. ETFs had inflows totaling $7.3 billion, or 2% of prior period assets. The majority of ETF inflows were for equity ETFs, which had $14.7 billion in inflows. Allocation, alternative, commodity, and miscellaneous/other ETFs had inflows of $13.2 billion. The inflows into some types of ETFs were partially offset by outflows of $20.6 billion from fixed-income ETFs.

[48] Open-end funds (excluding ETFs) had outflows of approximately $266 billion, and ETFs had outflows of approximately $20.6 billion.

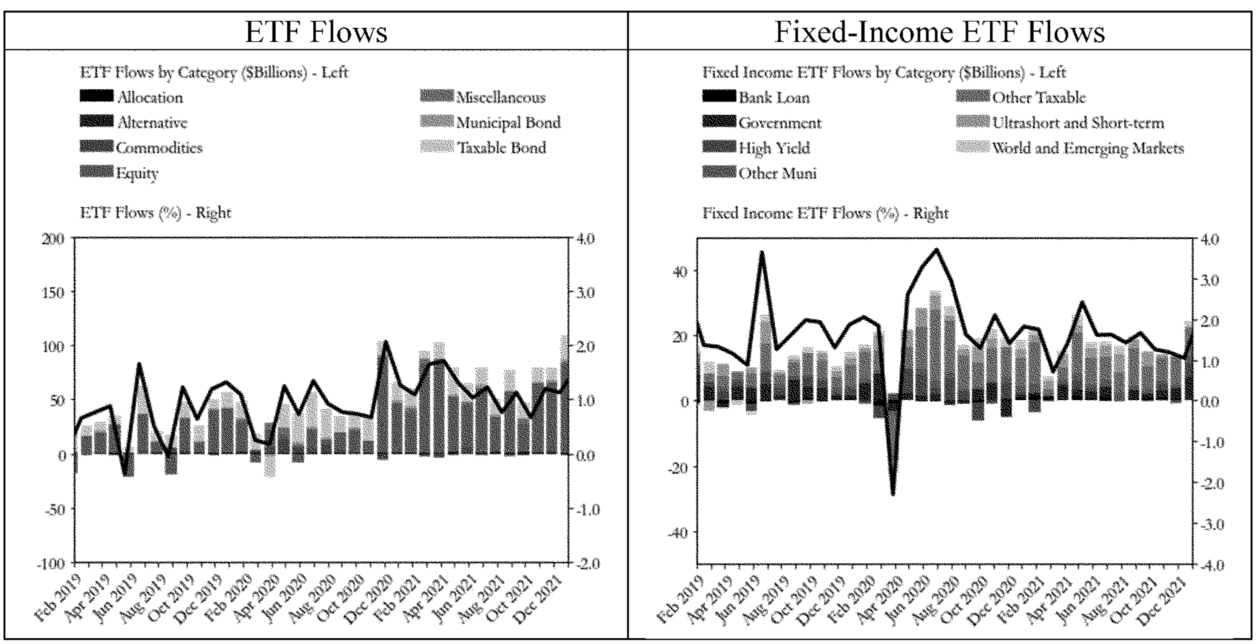
[49] For open-end funds (excluding ETFs) this included outflows of $223.3 billion (5.9%) for taxable bond funds (of which, bank loan funds had outflows of $11.4 billion (13.6%)). For ETFs this included outflows of $18.4 billion (2.2%) for taxable bond ETFs (of which, bank loan ETFs had outflows of approximately $1 billion (11.2%))

[50] For open-end funds (excluding ETFs) this included outflows of $42.6 billion (5%) for municipal bond funds. For ETFs this included outflows of $2.2 billion (4.3%) for municipal bond ETFs.

Figure 3: Open-End Fund and Fixed Income Fund Flows



Source: Morningstar



Source: Morningstar

During the period of market turmoil, bid-ask spreads spiked by as much as 100 basis points for high-yield bonds and 150–200 basis points for investment-grade bonds.[51] In general, the bond market and bank loan market experienced significant price declines in March 2020. The price for 10 year U.S. Treasuries increased by roughly 4.6%. The price of corporate bonds declined by 7%.[52] The price of leveraged loans decreased by roughly 13%.[53] The heightened volatility and demand for liquidity drove stress throughout the market, particularly in the bond fund and bank loan fund markets. Price declines were not limited to these markets, however. For example, the price for U.S. small cap equities decreased by roughly 24%.[54]

[51] *See* SEC Staff Interconnectedness Report, *supra* note 38, at 37.

[52] The decline in the price of corporate bonds is measured by the BBG U.S. Corporate Bond Index.

[53] The decline in the price of leveraged loans was measured by the S&P Leveraged Loan Price Index.

[54] The decline in the price of U.S. small cap equities was measured by the Russell 2000 Total Return Index.

Beginning in mid-March 2020, the Federal Reserve, with the approval of the Department of the Treasury, used its emergency powers to intervene by providing timely and sizable interventions in an effort to stabilize the markets. The official sector interventions included, among others, the Secondary Market Corporate Credit Facility, introduced on March 23, 2020. This facility supported market liquidity by purchasing in the secondary market corporate bonds issued by investment grade U.S. companies, as well as U.S.-listed ETFs whose investment objective is to provide broad exposure to the market for U.S. corporate bonds.[55]

After the Federal Reserve announced that it would be using its emergency powers for official sector interventions, market stress relating to the COVID–19 pandemic began to subside. Assets in open-end funds, including fixed income funds, began to increase. By December 2020, open-end fund assets had increased to $24 trillion, with fixed-income funds (excluding ETFs) reaching $6 trillion in assets, and fixed-income ETFs surpassing $1 trillion in assets.[56] Bank loan fund assets remained essentially unchanged, however, from March 2020 levels and remained at $68 billion.

Other Observations From March 2020

Beyond data evidencing the liquidity stress funds faced in March 2020, we also observed the stress through staff outreach to the industry. During this period, fund managers discussed their liquidity concerns with Commission staff and the potential need for emergency relief. Fund managers explored various emergency relief actions. For example, some fund managers requested emergency relief that would provide additional flexibility for interfund lending and other short-term funding to help meet redemptions, which the Commission provided.[57] Some managers suggested emergency relief to permit funds to impose redemption fees that exceed 2% to mitigate dilution, including fees that ETFs can charge authorized participants to cover liquidity and transaction costs.[58] Some fund managers that have successfully used swing pricing in Europe urged the Commission to explore emergency actions to facilitate funds' ability to operationalize the Commission's current swing pricing rule. Some fund managers also suggested there was a need for Federal Reserve interventions. These discussions indicated that fund managers sought additional means to quickly address liquidity and dilution concerns during this period of financial stress.

During these conversations, several fund managers with operations in both the U.S. and Europe discussed their experience with swing pricing in Europe and indicated that swing pricing would have been a useful tool for U.S. funds to have had in March 2020. Swing pricing was widely used in several European jurisdictions during the March 2020 stressed period to reduce dilution from rising transaction costs.[59] In these jurisdictions, some funds used partial swing pricing (where a NAV adjustment occurs only if net flows exceed a swing threshold), some funds used full swing pricing (where a NAV adjustment occurs any time a fund has net inflows or net outflows), and some funds did not use swing pricing. Many European funds increased their use of swing pricing and increased the size of their swing factors during the stressed period. For example, a voluntary survey conducted by the Bank of England and Financial Conduct Authority of a subset of fund managers in the United Kingdom (''UK'') indicated that the use of swing pricing more than doubled from the last quarter of 2019 to the first quarter of 2020.[60] Due to increasing transaction costs, several European funds lowered their swing thresholds in March 2020, with some moving to full swing pricing for net redemptions.[61] Funds also increased the size of their swing factors to account for the increase in liquidity and transaction costs. For example, a survey of Luxembourg UCITS found that while the average swing factor for the survey sample hovered around zero before the turmoil, it increased by more than 100 basis points on average during the market stress.[62] The survey of UK-authorized

[55] *See, e.g.,* Press Release, Federal Reserve Announces Extensive New Measures to Support the Economy (Mar. 23, 2020), *available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm; https://www.federalreserve.gov/monetarypolicy/smccf.htm* (describing the Secondary Market Corporate Credit Facility in particular).

[56] From Apr. to Dec. 2020, fixed-income funds averaged $75 billion in inflows, or 1.4% per month. Ultrashort and short-term bond funds experienced average monthly inflows of $16 billion and 2% of assets over this period.

[57] *See* Order Under Sections 6(c), 12(d)(1)(J), 17(b), 17(d) and 38(b) 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, Investment Company Act Release No. 33821 (Mar. 23, 2020), *available at https://www.sec.gov/rules/other/2020/ic-33821.pdf.* Although the Commission provided this relief for a period of time, we understand funds generally did not use it.

[58] ETFs typically externalize the costs associated with purchases and redemptions of shares by redeeming in kind and by charging a fixed and/or variable fee to authorized participants to offset both transfer and other transaction costs that an ETF (or its service provider) may incur, as well as brokerage, tax-related, foreign exchange, execution, market impact, and other costs and expenses related to the execution of trades resulting from such transaction. The amount of these fixed and variable fees typically depends on whether the authorized participant effects transactions in kind or with cash and is related to the costs and expenses associated with transactions effected in kind versus in cash. For example, when an authorized participants redeems ETF shares by selling a creation unit to the ETF, the fees that the ETF imposes defray the costs of liquidity the redeeming authorized participant receives. This, in turn, mitigates the risk of diluting non-redeeming authorized participants when an ETF redeems its shares.

[59] Funds in countries such as Luxembourg, Ireland, the United Kingdom, and the Netherlands had implemented swing pricing and it was well-established market practice. In Mar. 2020, funds in some countries, such as France, Spain, and Germany, had more recently begun to employ swing pricing as an anti-dilution method. *See* Lessons from COVID–19: Liquidity Risk Management and Open-Ended Funds, BlackRock ViewPoint (Jan. 2021), *available at https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-addendum-lessons-from-covid-liquidity-risk-management-is-central-to-open-ended-funds-january-2021.pdf.*

[60] *See* Liquidity management in UK open-ended funds: Report based on a joint Bank of England and Financial Conduct Authority survey (Mar. 2021), *available at https://www.bankofengland.co.uk/report/2021/liquidity-management-in-uk-open-ended-funds* (''Bank of England Survey''). The increase in the use of partial and full swing pricing included the increase in the number of funds using swing pricing as well as the increase in the frequency of its use for funds that already used swing pricing. The survey also found that some funds did not use swing pricing or other tools during the period because, for example, net outflows of certain funds were below levels at which they would consider applying swing pricing or other tools.

[61] *See id.* (stating that, out of a total of 202 surveyed funds that were authorized to use swing pricing, 45 funds decided to reduce their swing threshold during this period, including 18 funds that switched temporarily to full swing pricing during the market stress); ICI, Experiences of European Markets, UCITS, and European ETFs During the COVID–19 Crisis (Dec. 2020), *available at https://www.ici.org/doc-server/pdf%3A20_rpt_covid4.pdf* (''Respondents reported that some UCITS lowered their partial swing thresholds during March to take into consideration the impact flows could have on investors from increased transaction costs in underlying markets. . . . Some UCITS using partial swing pricing lowered their threshold for redemptions to zero in March (which is equivalent to full swing pricing) in response to market volatility that had caused bid-ask spreads to widen on underlying securities.''); Claessens, Stijn, and Lewrick, Ulf, ''Open-ended bond funds: systemic risks and policy implications'' (Dec. 2021) *available at https://www.bis.org/publ/qtrpdf/r_qt2112c.pdf* (stating that, in a survey of 57 Luxembourg actively managed bond UCITS based on a supervisory data collection, these funds lowered swing thresholds on average from net outflows of 1% of total net assets before Mar. 2020 to less than 0.5% of total net assets) (''Claessens and Lewrick''). *See also* CSSF Working Paper: An Assessment of Investment Funds' Liquidity Management Tools (June 2022), *available at https://www.cssf.lu/en/2022/06/publication-of-cssf-working-paper-an-assessment-of-investment-funds-liquidity-management-tools/*(''*CSSF* Paper'').

[62] *See* Claessens and Lewrick, *supra* note 61; CSSF Paper, *supra* note 61 (stating that ''[t]he

funds similarly found that the size of swing factors increased during this period and that some funds that had capped the size of their swing factors needed to temporarily remove these caps.[63] In terms of the effects of using swing pricing during March 2020, one study found that swing pricing allowed surveyed funds to recoup roughly 0.06% of total net assets on average from redeeming investors during three weeks of elevated redemptions in March 2020.[64]

We also observed funds' liquidity risk management in March 2020 through funds' filings with the Commission and other staff outreach. Specifically, during and following the market events of March 2020, Commission staff assessed liquidity-related data reported on Forms N–PORT and N–RN, as well as the development of liquidity risk management programs through staff outreach to funds, advisers, and liquidity classification vendors.[65] Based on review of Form N–PORT filings for February and March 2020, approximately two-thirds of funds did not appear to reclassify any investment held in both months despite the market events described above.[66] We saw that reclassifications increased from 25% of funds that held the same investment in both January and February 2020 to 33% of funds in March 2020, and stayed elevated for April 2020. We understand that many fund and liquidity vendor classification models use data lookback periods of 30 days or more that made them slowly adjust to changing market conditions, leaving these firms unable to consider their classifications and reclassify when market conditions changed quickly. In addition, we understand that classification models generally tend to assess liquidity based on relatively small sale sizes that do not necessarily reflect the amount a fund may need to sell to meet heightened levels of redemptions in stress periods, and most models do not automatically adjust to a higher trade size when market conditions change. Moreover, our data indicate that in March 2020 cash levels in the aggregate increased and relatively few funds made use of borrowing to meet redemptions, suggesting that funds generally were selling portfolio assets to meet redemptions and potentially for other purposes, such as to raise cash in anticipation of future redemptions. During March 2020, more than a dozen funds (primarily fixed-income funds) filed reports on Form N–RN. Most of these Form N–RN filings related to breaches of the 15% limit on illiquid investments.

Overall, the market events in March 2020 show how liquidity can deteriorate rapidly and significantly. In the face of such rapid market changes, liquidity risk management program features of some funds adjusted slowly, making them less effective during the stress period for managing liquidity risk. Additionally, tools, such as swing pricing, that may have helped open-end funds limit dilution as both transaction costs and redemptions rose were unavailable because of operational challenges, although these tools were used in other jurisdictions during this period.

C. Rulemaking Overview

In March 2020, some open-end funds were not prepared for the sudden market stress that arose after many years of relative calm and, as the market stress and outflows grew, several funds began to explore emergency relief requests or suggest a need for government intervention in an effort to withstand or alleviate liquidity stress, address dilution, and improve overall market conditions. The period of market stress in March 2020 was relatively brief ending upon Federal Reserve interventions, and no funds sought to suspend redemptions during this period. We believe there are meaningful lessons from this period that our rules should reflect, while also recognizing the possibility that future stressed periods—whether specific to certain funds or the markets as a whole—may be more protracted or more severe than March 2020, particularly absent Federal Reserve action. Fundamentally, we believe funds should be better prepared for future stressed conditions, which can occur suddenly and unexpectedly, and should have well-functioning tools for managing through stress without significantly diluting the interests of their shareholders. We are proposing amendments to rules 22e–4 and 22c–1 that are designed to achieve these key objectives and to reflect our experience with the rules since they were adopted, as well as supporting amendments to Form N–PORT and other reporting and disclosure forms.

Specifically, recognizing that it can be difficult to predict when market stress will occur, the proposed amendments to rule 22e–4 would require funds to incorporate stress into their liquidity classifications by assuming the sale of a stressed trade size, which would be 10% of each portfolio investment, rather than the rule's current approach of assuming the sale of a ''reasonably anticipated trade size'' in current market conditions. Requiring a fund's classification model to assume the sale of larger-than-typical position sizes may better emulate the potential effects of stress on the fund's portfolio, similar to an ongoing stress test, and help better prepare a fund for future stress or other periods where the fund faces higher than typical redemptions. The proposal also would establish other minimum standards for classifying the liquidity of an investment, which are designed to improve the quality of classifications by preventing funds from over-estimating the liquidity of their investments and to provide clearer guideposts for liquidity classifications, reflecting the more effective practices we have observed.

In addition, we propose to remove the less liquid investment category and to treat these investments as illiquid. The less liquid category consists of investments that can be sold in seven calendar days but that take longer to settle. For example, many bank loans take longer than seven days to settle. The proposed amendment is designed to reduce the mismatch between the receipt of cash upon the sale of assets with longer settlement periods and the payment of shareholder redemptions. This would better position funds to meet redemptions, including in times of stress. Currently, treating these investments as ''less liquid''—as opposed to ''illiquid''—allows funds to invest in these assets beyond the 15% limit on illiquid investments, notwithstanding that ''less liquid'' investments settle beyond the statutory seven-day period to pay redemptions. We are also proposing to amend the definition of illiquid investment to

average swing factor of the 42 bond funds participating in the CSSF survey increased by more than 100 basis points on average during Mar. 2020 (the median and maximum swing factor were 60 and 350 basis points, respectively)'').

[63] *See* Bank of England Survey, *supra* note 60 (stating that of the 17 surveyed funds that had a cap on their swing factors, which ranged from 0.25% to 3%, 13 funds temporarily removed the caps in response to heightened outflows and a few managers overrode the caps). We also understand that in response to funds' requests to use swing factors above their disclosed caps, some jurisdictions provided guidance on when this is permitted. *See* Commission de Surveillance du Secteur Financier, Swing Pricing Mechanism—FAQ, *available at https://www.cssf.lu/en/Document/cssf-faq-swing-pricing-mechanism/* (providing guidance for increasing the swing factor above the maximum level identified in a fund's prospectus under certain circumstances, and noting that typical maximum swing factors observed in fund prospectuses are between 1% and 3%).

[64] *See* Claessens and Lewrick, *supra* note 61.

[65] The Mar. 2020 data collected on Form N–PORT often was not available to the Commission until June or July 2020 because a fund files data covering each month of its fiscal quarter on Form N–PORT no later than 60 days after the end of each fiscal quarter.

[66] *See infra* note 128 (discussing that fewer equity funds reported reclassifications of investments held in both Feb. and Mar. 2020 than fixed-income funds).

include investments whose fair value is measured using an unobservable input that is significant to the overall measurement. We understand many funds classify these investments as illiquid today.

We also propose to require daily liquidity classifications. We believe this change would promote better monitoring of a fund's liquidity and an ability to more rapidly understand and respond to changes that affect the liquidity of the fund's portfolio, including the fund's compliance with its highly liquid investment minimum and the rule's limit on illiquid investments.

As another means to prepare funds for stressed conditions, we are proposing to amend the highly liquid investment minimum provisions in the rule to require all funds to determine and maintain a minimum amount of highly liquid assets of at least 10% of net assets. This aspect of the proposal is designed to ensure that funds have sufficient liquid investments for managing heightened levels of redemptions. Finally, we are proposing amendments to how the highly liquid investment minimum calculation and the calculation of the 15% limit on illiquid investments take into account the value of assets that are posted as margin or collateral for certain derivatives transactions to reflect that the fund cannot access the value of posted assets to meet redemptions until the fund is able to exit the derivatives transactions.

In addition, to reduce shareholder dilution during stress and other periods, we are proposing to amend rule 22c–1 to require all open-end funds, other than ETFs and money market funds, to implement swing pricing. Today, no fund has implemented swing pricing, and funds rarely use redemption fees to address dilution other than in the case of short-term trading of fund shares, meaning shareholders may experience dilution both in normal and stressed conditions, particularly when purchases or redemptions are large or when funds invest in markets with high transaction costs relative to other markets.[67] We believe swing pricing is an important and effective tool for dynamically addressing such dilution by recognizing that costs associated with shareholder purchases and redemptions rise as net flows increase and liquidity and transaction costs grow.

In addition to proposing mandatory swing pricing, we are proposing to amend the swing pricing framework in rule 22c–1 to apply lessons learned from March 2020, including information about the European experience with swing pricing during that period. Specifically, we propose to amend both when and how a fund would adjust its NAV, which would vary depending on whether a fund has net purchases or net redemptions. Rather than require funds to determine their own swing thresholds, we propose to specify the amount of net inflows or net outflows that would trigger a pricing adjustment in the rule, informed by an analysis of historical flow amounts.

In addition, we propose a specific method of calculating the swing factor price adjustment, which would require a fund to make good faith estimates of the transaction costs of selling or purchasing a pro rata amount of its portfolio investments (or a ''vertical slice'') to satisfy that day's redemptions or to invest the proceeds from that day's purchases. Under the proposal, a fund would be required to apply a swing factor on any day it has net redemptions. When net redemptions exceed 1% of net assets, the swing factor would also account for market impacts of selling a vertical slice of the portfolio to capture the dilutive effect of trading in response to large outflows better. We believe trading in response to small levels of net inflows is less likely to have a dilutive effect than trading in response to net outflows and, as a result, we propose to require a fund to apply a swing factor for net purchases only if net purchases exceed 2% of net assets. In addition, we propose to remove the 2% swing factor upper limit from the current rule because we are proposing a more specific framework for determining swing factors, some European funds used swing factors above 2% in order to mitigate dilution in March 2020, and we received requests for emergency relief in the United States during this period to allow funds to charge redemptions fees exceeding 2% to mitigate dilution. The proposed swing pricing amendments are designed to reduce the dilution of an investor's interest in a fund that is caused by the redemption or purchase activity of other investors in the fund and to fairly allocate the costs associated with redemption and purchase activity. These amendments also may reduce potential first-mover advantages that might incentivize early redemptions to avoid anticipated trading costs and dilution associated with other investors' redemptions.

To operationalize the proposed swing pricing requirement and provide other benefits, we are also proposing to amend rule 22c–1 to require that the fund, its transfer agent, or a registered clearing agency receive purchase and redemption orders by an established cut-off time to receive a given day's price (a ''hard close''). Specifically, for an order to be eligible to receive a day's price, these designated parties would have to receive the order before the pricing time, which is typically 4 p.m. ET. 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 and reduce operational risk.

To promote transparency related to fund liquidity and use of swing pricing, we are proposing amendments to Form N–PORT to require funds to report their aggregate liquidity classifications publicly, as well as the frequency and amount of swing pricing adjustments. With respect to liquidity disclosure, this amendment is designed to provide investors with meaningful information about fund liquidity, taking into account that our proposed amendments to the liquidity classification framework should result in more objective and comparable liquidity classifications across funds.[68] As for the proposed swing pricing reporting requirements, we believe the proposed frequency and size information would allow investors to better understand the operation and effects of swing pricing.

We also propose broader changes to Form N–PORT to require all registered investment companies that report on the form, which include open-end funds (other than money-market funds), registered closed-end funds, and ETFs registered as unit investment trusts, to file monthly reports with the Commission within 30 days of month-end. These monthly reports would subsequently be publicly available 60 days after month-end. These proposed amendments would require filers to provide the Commission with more timely information and would provide investors with access to monthly rather than quarterly information. We observed in March 2020 that timely and full disclosure can be particularly important

[67] Based on an analysis of fund prospectuses, approximately 551 open-end funds (or around 4.6% of funds) state that they apply redemption fees under certain circumstances for at least one share class of the fund. Approximately 3.3% of fund classes have a redemption fee, or 0.6% of net fund assets.

[68] In certain cases, investors consume reported information indirectly through other data users. These other data users can include, for example, regulators such as the Commission, fund analysts, and third-party data providers. Throughout this release, references to consumption of information by investors include indirect consumption by investors enabled by other data users.

during and immediately after stress events. Finally, we propose amendments to Forms N–PORT, N–CEN, and N–1A to, among other things, conform to our other proposed amendments and to improve entity identifiers.

Taken together, these proposed amendments are designed to provide investors with increased protection regarding how liquidity in their funds is managed, thereby reducing the risk that funds will be unable to meet redemptions and mitigating dilution of the interests of fund shareholders. These reforms also are intended to give investors information to make more informed investment decisions, and to give the Commission more timely information to conduct comprehensive oversight of an ever-evolving fund industry.

II. Discussion

A. Amendments Concerning Funds' Liquidity Risk Management Programs

1. Amendments to the Classification Framework

Rule 22e–4 currently requires a fund to classify each portfolio investment based on the number of days within which it reasonably expects the investment would be convertible to cash, sold or disposed of, without significantly changing its market value.[69] Under this framework, funds must, using information obtained after reasonable inquiry and taking into account relevant market, trading, and investment-specific considerations, classify each portfolio investment into one of four liquidity classifications: highly liquid, moderately liquid, less liquid, and illiquid.[70] A fund may generally classify and review its investments by asset class unless the fund or adviser has information about any market, trading, and investment-specific considerations that it reasonably expects to significantly affect the liquidity characteristics of an investment compared to the fund's other portfolio holdings within that asset class.[71] In classifying its investments, a fund must analyze the number of days that it reasonably expects it would take to sell, or convert to cash, portions of a position in a particular investment or asset class that the fund would reasonably anticipate trading (the ''reasonably anticipated trade size'') without significantly changing its market value (''value impact'').[72] A fund must review its liquidity classifications at least monthly in connection with reporting the liquidity classification for each investment on Form N–PORT, 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.[73]

The liquidity classifications are integral to rule 22e–4. Among other things, these classifications help a fund monitor its liquidity, including compliance with the fund's highly liquid investment minimum and the 15% limit on illiquid investments.[74] The fund's classifications also provide liquidity information to the Commission and, under our proposal, to the public.

The current rule allows funds considerable discretion in how funds determine the classification of investments.[75] Funds may choose which investments to classify individually or by asset class, with the composition of asset classes determined by the fund. Funds also may use different reasonably anticipated trade sizes and have different standards for evaluating value impact. Through staff outreach, we observed that funds had varied approaches in their classifications processes. The proposed amendments to the liquidity classifications are intended to better prepare funds for future stressed conditions. For example, the reasonably expected trade sizes and value impact standards some funds and liquidity classification vendors used tended to over-estimate a fund's liquidity in March 2020 because they considered relatively smaller trade sizes or used value impact methodologies with longer lookback periods.

Based on our observations from March 2020 and our review of funds' liquidity risk management practices and classifications, we are proposing amendments to the classification framework. The proposed amendments would provide additional standards for making liquidity determinations, amend certain aspects of the liquidity categories, and require more frequent liquidity classifications. Specifically, we propose to provide objective minimum standards that funds would use to classify investments, including by: (1) requiring funds to assume the sale of a set stressed trade size, rather than the rule's current approach of assuming the sale of a reasonably anticipated trade size in current market conditions; and (2) defining the value impact standard with more specificity on when a sale or disposition would significantly change the market value of an investment. We also propose to remove classification by asset class. These proposed amendments are designed to improve the quality of classifications by preventing funds from over-estimating the liquidity of their investments, including in times of stress, and to provide classification standards that are consistent with more effective practices the staff has observed. In addition, a more objective and comparable framework for how funds classify the liquidity of their investments would enhance the Commission's ability to analyze trends across funds' classifications and establish the groundwork for classification information that investors could use to analyze and compare funds.

We also propose to remove the less liquid investment category, which would reduce the number of liquidity categories from four to three, and expand the scope of the illiquid investment category. We believe these changes would reduce the risk of a fund not being able to meet shareholder redemptions. Finally, we propose to require daily classifications, which we believe would promote better monitoring by liquidity risk program administrators of a fund's liquidity and an ability to more rapidly understand

[69] In-kind ETFs are included when we refer to ''funds'' or ''open-end funds'' throughout this release when discussing rule 22e–4, except in the sections discussing classifying the liquidity of a fund's investments and the highly liquid investment minimum requirement, from which in-kind ETFs are excepted. *See* proposed rule 22e–4(a) (defining ''in-kind ETF'' as an ETF that meets redemptions through in-kind transfers of securities, positions, and assets other than a *de minimis* amount of U.S. dollars and that publishes its portfolio holdings daily); *see also* rule 22e–4(b)(1)(ii) and 22e–4(b)(1)(iii). In-kind ETFs do not present the same kind of liquidity risks as other funds because the redeeming shareholder typically bears the direct costs associated with its liquidity needs. *See* Liquidity Rule Adopting Release, *supra* note 8, at paragraphs accompanying n.842.

[70] *See* rule 22e–4(b)(1)(ii).

[71] *See* rule 22e–4(b)(1)(ii)(A).

[72] *See* rule 22e–4(b)(1)(ii)(B) (requiring a fund to determine whether trading varying portions of a position in sizes that the fund would reasonably anticipate trading is reasonably expected to significantly affect its liquidity). The definition of each liquidity category sets out the number of days in which a fund reasonably expects to sell, or convert to cash, an investment without significantly changing its market value. *See* rule 22e–4(a)(6), rule 22e–4(a)(8), rule 22e–4(a)(10), and rule 22e–4(a)(12).

[73] *See* rule 22e–4(b)(1)(ii).

[74] *See* rule 22e–4(b)(1)(iii) and rule 22e–4(b)(1)(iv).

[75] *See* Liquidity Rule Adopting Release, *supra* note 8, at n.163 and accompanying text (stating that the primary goals of the liquidity rule program requirements were to reduce the risk that funds would be unable to meet redemption and other legal obligations, minimize dilution, and elevate the overall quality of liquidity risk management across the fund industry while at the same time providing funds with reasonable flexibility to adopt policies and procedures that would be most appropriate to assess and manage their liquidity risk).

and respond to changes that affect the liquidity of the fund's portfolio.[76]

Table 1 sets forth the primary proposed changes to the rule's liquidity classification framework, which are described in more detail below.

TABLE 1—PROPOSED CHANGES TO THE LIQUIDITY CLASSIFICATIONS

Liquidity classifications and related terms	Current rule 22e–4	Proposed rule 22e–4
Definitions		
Highly Liquid Investment	Any cash held by a fund and any investment that the fund reasonably expects to be convertible into cash in current market conditions in three business days or less without the conversion to cash significantly changing the market value of the investment.	Any U.S. dollars held by a fund and any investment that the fund reasonably expects to be convertible to U.S. dollars in current market conditions in three business days or less without significantly changing the market value of the investment.
Moderately Liquid Investment.	Any investment that the fund reasonably expects to be convertible into cash in current market conditions in more than three calendar days but in seven calendar days or less, without the conversion to cash significantly changing the market value of the investment.	Any investment that is neither a highly liquid investment nor an illiquid investment.
Less Liquid Investment	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.	Removed.
Illiquid Investment	Any investment that the fund reasonably expects cannot be sold or disposed of in current market conditions in seven calendar days or less without the sale or disposition significantly changing the market value of the investment.	Any investment that the fund reasonably expects not to be convertible to U.S. dollars in current market conditions in seven calendar days or less without significantly changing the market value of the investment and any investment whose fair value is measured using an unobservable input that is significant to the overall measurement.
Convertible to Cash/U.S Dollars.	The ability to be sold, with the sale settled	The ability to be sold or disposed of, with the sale or disposition settled in U.S. dollars.
Related Concepts		
Assumed Trade Size	Sizes that the fund would reasonably anticipate trading	10% of the fund's net assets by reducing each investment by 10%.
Value Impact Standard	Significantly changing the market value of the investment.	Significantly changing the market value of an investment means: (1) For shares listed on a national securities exchange or a foreign exchange, any sale or disposition of more than 20% of average daily trading volume of those shares, as measured over the preceding 20 business days. (2) 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%.

a. Stressed Trade Size and Significant Changes in Market Value

i. Replacing Reasonably Anticipated Trade Size With Stressed Trade Size

Currently, when a fund makes liquidity classifications under rule 22e–4, it must determine whether trading varying portions of a position in a particular portfolio investment or asset class, in sizes that the fund would *reasonably anticipate trading,* is reasonably expected to significantly affect its liquidity.[77] This determination of a reasonably anticipated trade size helps a fund analyze market depth. For example, if a fund anticipates trading a large investment position relative to the market's total trading volume, the size of the trade might affect liquidity and price.[78]

Using a small reasonably anticipated trade size to analyze market depth leads to a more liquid classification, as a smaller position can be sold more quickly without significantly affecting the investment's liquidity than a larger position. In contrast, using a larger reasonably anticipated trade size would often lead to less liquid classifications. Under the current rule, a fund may determine its own reasonably anticipated trade size, and we have observed wide variation in practice.[79] From staff outreach, we observed that funds may consider a variety of different factors, such as their flow history, flow trends of other similar funds, and shareholder makeup and concentration,

[76] *See* rule 22e–4(a)(13) (defining ''person(s) designated to administer the program'', in part, as the investment adviser, officer, or officers responsible for administrating the program).

[77] *See* rule 22e–4(b)(1)(ii)(B).

[78] *See* Liquidity Rule Adopting Release, *supra* note 8, at paragraphs accompanying n.440 and n.450.

[79] *See* SEC staff Investment Company Liquidity Risk Management Programs Frequently Asked Questions (Apr. 10, 2019) (''Liquidity FAQs''), *available at https://www.sec.gov/investment/investment-company-liquidity-risk-management-programs-faq* for discussion of factors funds may consider in determining reasonably anticipated trading size. The Commission has observed that many funds have set reasonably anticipated trade size values at 3%. Others have set values of below 3% and up to 100%, signifying wide variation.

and a fund may weigh the importance of those factors differently to determine what it would reasonably anticipate trading. We believe that using a reasonably anticipated trade size based on these, or a subset of these factors, may not help funds prepare for future stressed conditions. Even if a fund increased its reasonably anticipated trade size during periods of stress, the resulting adjustments in the fund's liquidity risk management may be too late to help the fund prepare for the stressed environment and, thus, may have limited utility.

In response to the variability in funds' reasonably anticipated trade sizes and the potential ineffectiveness of small trade sizes in helping a fund prepare for stress, we propose to require funds to assume the sale of a set stressed trade size. Specifically, for a fund to determine the liquidity classification of each investment, we propose that it must measure the number of days in which the investment is reasonably expected to be convertible to U.S. dollars without significantly changing the market value of the investment, while assuming the sale of 10% of the fund's net assets by reducing each investment by 10%.[80] The proposed stressed trade size may result in funds classifying fewer investments as highly liquid, and may increase the number of investments that are subject to the 15% limit on illiquid investments. These changes, in turn, may lead some funds to rebalance their portfolio holdings to comply with the proposed changes, which could negatively affect the performance of these funds. However, a lack of preparation for higher than normal redemptions also can negatively affect fund performance when such redemptions occur.[81] We believe that requiring a fund's classification model to assume the sale of larger-than-typical position sizes would better emulate the potential effects of stress on the fund's portfolio, similar to an ongoing stress test, and help better prepare a fund for future stress or other periods where the fund faces higher than typical redemptions.

Based on an analysis of weekly flows of equity and fixed-income funds over a period of more than ten years, outflows greater than 6.6% occurred 1% of the time in a pooled sample across weeks and funds.[82] Based on this analysis, we estimate that a random fund in a random week has approximately a 0.5% chance of experiencing redemptions in excess of the 10% stressed trade size, and there were 3.4% of weeks where more than 1% of funds experienced net redemptions exceeding the proposed stressed trade size. We believe that weekly outflows at the 99th percentile is a useful approximation of the level of outflows funds may experience in future stressed conditions.[83] 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 discussed above. We also considered, during this same historical period, equity and fixed-income funds had weekly inflows of greater than 8% for 1% of the time in a pooled sample across weeks and funds. In addition, large, concentrated inflows have the possibility of translating to similarly large outflows. For example, if the large inflows are the result of investment by an institutional investor or a fund's inclusion in a model portfolio, the fund may experience similarly large outflows if the investor mandate changes or if the fund is removed from the model portfolio.

Under the proposed approach, a fund would apply its stressed trade size to each investment to determine its liquidity classifications. We have observed that funds generally determine and apply a reasonably anticipated trade size to each investment or asset class currently (commonly referred to as *pro rata* or vertical slice methods). We have also observed, however, that some funds have applied the reasonably anticipated trade size in such a manner that the trading would be satisfied largely by selling the fund's most liquid investments, resulting in smaller assumed trade sizes for purposes of classifying the fund's less liquid investments.[84] As recognized above, small assumed sale sizes can result in more liquid classifications generally, as sales of small amounts are less likely to affect the market value of the investment significantly and typically can be converted to U.S. dollars more quickly. We are particularly concerned that use of small assumed sale sizes for non-highly liquid investments can overstate the liquidity of these investments and reduce the effectiveness of a fund's liquidity risk management program when a fund needs to sell a larger-than-assumed portion to meet redemptions under stressed conditions or for any other portfolio management reason. Requiring funds to apply the 10% stressed trade size to each investment would better prepare funds to manage their liquidity in stressed conditions, when a fund may be required to sell positions that are larger than the assumed sale sizes some funds are using currently. The amendments to replace the determination of a reasonably anticipated trade size with a stressed trade size are designed to enhance a fund's preparation for stressed conditions, including the potential for sizeable outflows.

We request comment on the proposed requirement for funds to apply a stressed trade size to each investment in their liquidity classification determinations:

1. Should we require funds to use a stressed trade size, as proposed? Would the change from reasonably anticipated trade size to stressed trade size materially change the proportion of investments classified in a given liquidity category? If yes, how? Would the proposed stressed trade size affect certain types of funds more than others? Would the proposed stressed trade size be likely to overstate or understate liquidity?

2. Is the proposed stressed trade size of 10% appropriate? If not, what minimum trade size would be appropriate and why? For example, should we increase or decrease the stressed trade size to, for example, 15% or 5% or some other threshold? Is there

---

[80] The liquidity classifications define the number of days as business days for highly liquid investments or calendar days for illiquid investments. *See* Table 1. *See also* rule 22e–4(a)(2) (defining "business day" to exclude customary business holidays).

[81] *See* Liquidity Rule Adopting Release, *supra* note 8, at paragraphs accompanying nn.109 and 110 (stating that staff had observed that some funds with more thorough liquidity risk management practices appeared to be able to better meet periods of higher than typical redemptions without significantly altering their risk profile or materially affecting their performance, while some funds with substantially less rigorous liquidity risk management practices experienced particularly poor performance compared with their benchmark when faced with higher than normal redemptions).

[82] Based on an analysis of historical Morningstar weekly fund flow data for equity and fixed income funds from 2009 through 2021. *See infra* sections III.B.4.a and III.C.1.a.i (providing additional equity and fixed income flow data and discussing this analysis in more detail). While some Morningstar data is available for 2008, we have not included that data in our historical flow analyses in this release because of gaps in the 2008 data (*e.g.,* the 2008 dataset covers a more limited set of funds). Other available flow information for 2008, such as from the ICI Fact Book, is not granular enough for purposes of our analyses.

[83] We believe weekly outflows is a better proxy for the stressed trade size than daily outflows because stressed conditions may take some time to fully present in flows and often result in outflows that continue over several days or more.

[84] *See* Liquidity Rule Adopting Release, *supra* note 8, at paragraph accompanying n.1084. We do not suggest that a fund should only, or primarily, use its most liquid investments to meet shareholder redemptions. *See id.,* at n.661 and accompanying paragraph.

other data that should factor into setting the stressed trade size?

3. Should the stressed trade size vary for different types of funds and, if so, how? For instance, should the stressed trade size be a function of the fund's flow history, such as the 99th percentile highest week of the fund's absolute or net flows over a given period (*e.g.,* 3 years, 5 years, 10 years, or the life of the fund)? Should the stressed trade size be the higher of a specified value applied to each investment or the 99th percentile highest week of absolute flows?

4. Should the method of applying the stressed trade size to each investment vary for different types of funds and, if so, how? Are there types of investments that should be excluded or use a different stressed trade size? Are there other, more appropriate methods of applying a stressed trade size across different type of investments and portfolios?

5. Instead of establishing a set stressed trade size, should we set a minimum stressed trade size and provide factors for determining if a fund should have a higher stressed trade size? If so, what factors should funds consider in setting their stressed trade size?

ii. Determining a Significant Change to Market Value

Currently, when a fund makes liquidity classifications under rule 22e–4, it must analyze whether a sale or disposition would significantly change the market value of the investment. In the adopting release for rule 22e–4, the Commission explained that this value impact analysis captures the risk of a fund only being able to meet redemption requests in a manner that significantly dilutes the non-redeeming shareholders.[85] The Commission established the value impact standard to capture the risk of dilution in cases of inadequate liquidity, while not requiring funds to account for every possible value movement.[86] We propose to establish a minimum value impact standard that defines more specifically what constitutes a significant change in market value.[87] We believe the proposed change would improve the quality of funds' liquidity classifications by preventing funds from over-estimating the liquidity of their investments and would improve comparability of funds' liquidity classifications. In addition, the proposed approach is consistent with more effective practices we have observed from some funds and liquidity classification vendors, as discussed below.

Under the current rule, a fund may determine value impact in a variety of ways, depending on the type of asset, or vendor, model, or system used. There also is variation in the depth and sophistication of funds' analyses. We believe the variation in how a fund may determine value impact leads to differences in the quality of funds' classifications, limits comparability of funds' classifications across the same or similar investments, and may cause funds to over-estimate the liquidity of their investments.

The proposed definition of a significant change in market value would require a fund to consider the size of the sale relative to the depth of the market for the instrument.[88] This would vary depending on the type of investment. For shares listed on a national securities exchange or a foreign exchange, we believe selling or disposing of more than 20% of the security's average daily trading volume would indicate a level of market participation that is significant.[89] We understand that if a fund sold more than 20% of the average daily trading volume of a listed equity security, such a large sale is likely to result in a significant change in the security's market value, which would dilute remaining investors in the fund. We have observed that a standard based on average daily trading volume is consistent with practices many funds and vendors apply for assessing value impact for listed equity investments today.[90] To determine average daily trading volume, we propose to require funds to measure the average daily trading volume over the preceding 20 business days. We believe using a period of 20 business days provides an appropriate measure of daily trading volume, which would reflect current market conditions as well as consider a period of recent market history. The 20 business day period is intended to strike a balance between longer periods that are less reflective of current conditions and shorter periods that can be skewed easily by an abnormally high or low volume day. For purposes of measuring average daily trading volume, the preceding 20 business days include those days where U.S. markets are open but where one or more international markets are closed, such as ''Golden Week,'' a week in Japan including multiple Japanese public holidays. A fund would count these and any other trading days where shares were not traded as zero volume days for the relevant investment.

For any investments other than shares listed on a national securities exchange or a foreign exchange, such as fixed-income securities and derivatives, we propose to define a significant change in market value as any sale or disposition that a fund reasonably expects would result in a decrease in sale price of more than 1%. Funds currently use a variety of methods to determine significant changes in market value in fixed-income securities, taking into account different groups of comparable securities, asset class characteristics and volatility, number and depth of market makers, bid-offer spread size, volume of the security or similar securities, and elasticity of prices in the security or similar securities. For purposes of the proposed rule, a decrease of more than 1% would indicate a level of value impact that is significant because the fund is selling or disposing of a relatively large position or because the market for the investment has constricted, and bid-ask spreads have widened. We also understand that several commonly employed liquidity models currently use this price decrease measure. We acknowledge that not all liquidity models specify a price decrease explicitly as the determination for a significant change in market value and some funds would have to make changes to convert to this more

[85] *See* Liquidity Rule Adopting Release, *supra* note 8, at paragraph accompanying n.334.

[86] *See id.,* at paragraph accompanying n.339.

[87] See proposed rule 22e–4(a) (definition of ''Significantly changing the market value of an investment'').

[88] The proposed rule would continue to provide that an investment's classification is based on a fund's reasonable expectations in current market conditions. *See* Liquidity Rule Adopting Release, *supra* note 8, at section III.C.1.d (discussing comments and suggestions on the consideration of market conditions). Thus, a fund would be able to rely on its reasonable expectations at the time it makes the value impact assessment. Although we are proposing to require funds to assume an element of stressed conditions in their liquidity classifications through the stressed trade size, a broader requirement to predict how an investment may trade in stressed market conditions would introduce additional variables into the classification process that could increase the risk of misclassifications and decrease the data quality of funds' liquidity-related reporting and disclosure.

[89] Under this proposal, the sale or disposition must be below 20% of the security's average daily trading volume. A fund may choose to impose a stricter limitation of any percentage under 20%, for example, 15% of average daily trading volume.

[90] Through staff outreach, we observed many funds using some percent of average daily trading volume (*e.g.,* 15%, 20%, or 25%) that the fund's investment can represent if it wants to be able to sell into daily volume without affecting market prices. In practice, this meant funds would estimate the number of days it would take to sell or dispose of the reasonably anticipated trade size without approaching the set percentage of average daily trading volume to avoid impacting the value significantly. We observed funds calculating the average daily trading volume taking into account different sources, and for different time periods, ranging from 10 days to 6 months.

objective threshold. The proposed value impact standard would improve funds' abilities to perform quality checks and back testing and would allow the Commission to better analyze classification data across funds.

In considering whether a sale is reasonably expected to result in a price decrease of more than 1%, the fund would be required to consider the size of the sale relative to the depth of the market for the instrument. As part of that analysis, we believe a fund generally should consider, among other things, the width of bid-offer spreads. This is because the width of bid-offer spreads is an important consideration in analyzing the costs of selling a security and thus whether a sale would result in a price decrease exceeding 1%. For example, a sale would be more likely to result in a price decline of more than 1% if the trade size is large in relation to the market for that instrument or if bid-ask spreads are wide, or if both are the case. Wide, or widening, bid-ask spreads may indicate a lower level of demand for the instrument, which makes it more likely that a sale of the instrument would result in a price decline of more than 1%.

We request comment on our proposed definition of significant change in market value:

6. Would funds have to make significant changes to their liquidity classification methodologies to reflect the proposed amendments to the value impact standard? If so, what effect would those changes have on a fund's liquidity risk management program?

7. Should we define value impact through average daily trading volume or price decline, as proposed? Should we use a different definition of value impact instead, and if so, should it depend on the type of investment? Should different types of funds have different value impact standards? If yes, what standards, and for what types of funds?

8. For shares listed on a national securities exchange or a foreign exchange, should we define a significant change in market value as selling or disposing of more than 20% of the average daily trading volume, as proposed? Are there other types of investments for which an average daily trading volume test would be appropriate? For example, is there data available for fixed-income securities that funds could use objectively to analyze market participation under a value impact standard?

9. Should the percent of average daily trading volume be higher or lower (*e.g.,* 15% or 25%)? Should the measurement period for the average daily trading volume be longer or shorter than the proposed 20 business days (*e.g.,* 10, 30, or 40 business days)? Should days where shares were not traded be counted as zero volume days as proposed or in some other manner? Are there circumstances in which the average daily trading volume test should vary by instrument, type of instrument, or trading venue?

10. For investments that are not listed on a national securities exchange or foreign exchange, should we define a significant change in market value as any sale or disposition that the fund reasonably expects would result in a price decline of more than 1%, as proposed? Should the identified percentage be higher or lower (*e.g.,* 0.5% or 2%)? Should this standard for determining a significant change in market value apply to all investments? Would funds need additional guidance or parameters to measure this standard consistently, including what inputs or comparable investments may be used in determining the price decline?

11. Should the 1% price decline definition of value impact be applied against the fund's last valuation of an investment, which would include both the effect of the fund's sale and market moves?

iii. Removing Asset Class Classification

Under current rule 22e–4, a fund may generally classify and review its portfolio investments (including the fund's derivatives transactions) according to their asset class. However, 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 portfolio holdings within that asset class.[91] The current provision was intended to strike a balance between reducing operational burdens associated with classification and providing reasonably precise liquidity classifications that appropriately reflect investments' liquidity characteristics.[92] 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 and, in some cases, developed automated processes for classifying investments or employed sophisticated liquidity classification vendors that provide economies of scale. In addition, in practice there may be weaknesses in asset class level classifications that may result in a lack of reasonably precise classifications. Therefore, we propose to remove the asset class method of classification from the rule.

Through outreach, we understand that asset class level classifications are not widely used by many funds. But, where these asset class level classifications are used, this method runs the risk of over-estimating the liquidity of a fund's investments and not adjusting quickly in times of stress. After a fund has begun to use asset class level classifications, and particularly if classifications are reviewed only on a monthly basis, it might be difficult for a fund to identify instances where a given investment's liquidity characteristics do not align with the characteristics of other investments in the asset class because individual investment liquidity data is not being collected and analyzed. Through outreach, we observed that funds generally established a process and timing for liquidity assessments and did not change those processes or timing as market conditions changed, and particularly were unlikely to do so under stressed conditions. For example, during a stress event like March 2020, a fund using asset class level classifications may not be equipped to re-classify a subset of investments in an asset class adeptly in response to changing conditions that affect those investments directly. Also, because funds classify a significant portion of their holdings as highly liquid, we believe this potential gap in identifying investments that a fund should classify differently from other investments in the asset class is more likely to over-estimate, rather than under-estimate, the liquidity of a fund's investments. These tendencies run counter to the premise of the current rule's classification system, which 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.[93] Therefore, we are

[91] *See* rule 22e–4(b)(1)(ii)(A).

[92] *See* Liquidity Rule Adopting Release, *supra* note 8, at section III.C.3.a. The current approach was also intended to leverage fund managers' current practices and to recognize that many investments within an asset class may be considered interchangeable from a liquidity perspective.

[93] *See* rule 22e–4(b)(1)(ii) (identifying the circumstances in which a fund must review its portfolio investments' classifications more

Continued

proposing to remove asset class level classifications to provide more precise liquidity classifications that appropriately reflect investments' liquidity characteristics.

Moreover, asset class level classifications are not compatible with the other changes we are proposing to the classification framework, including the proposed definitions of the value impact standard. It would also be difficult for a fund to meaningfully apply at the asset class level a standard based on average daily trading volume or a price decline in a given investment because the average trading volume, or market depth generally, can vary from investment to investment even within the same asset class. Classifying each investment separately therefore allows a more precise assessment of that investment's liquidity. In addition, because the proposed rule would include specific minimum standards for classifying investments, it may reduce burdens of classifying investments while improving the quality of classifications relative to the current rule, consistent with the Commission's objectives in originally allowing asset class level classifications. Finally, staff has observed through outreach that liquidity risk management programs have developed so that specific and individual portfolio investment liquidity classifications are widely used and the removal of asset class level classifications is consistent with that approach.

We request comment on the proposed removal of the provision permitting funds to classify the liquidity of their investments by asset class.

12. Should we preserve the ability of funds to use asset classes for liquidity determinations, as currently permitted? To what extent do funds currently rely on the provision allowing liquidity classifications by asset class? Would it be more or less burdensome for funds to classify investments individually under the proposal's specific minimum standards (such as the stressed trade size and the defining the value impact standard) than to separately classify any investment within an asset class whenever the fund or its adviser has market, trading, or investment-specific information indicating that the investment should be classified separately rather than as part of the relevant asset class?

13. Would the operational burden of individually classifying be balanced by the improved quality of data for each individual investment as compared to classifying by asset class? To what extent would investment-by-investment classifications differ compared to asset class level classification? Are there other benefits to removing asset class level classification, such as timely, useful, improved, or increased data?

14. Is reliance on this provision more common for certain types of funds or certain asset classes? Should asset class level classifications be limited to specific types of funds or asset classes?

15. If we permitted asset class level classifications, how should the stressed trade size and value impact standard in the proposal apply to asset class level classifications?

b. Amendments to Liquidity Classification Categories

We are proposing changes to the liquidity classification categories to improve funds' abilities to make timely payment on shareholder redemptions, without the sale of portfolio investments resulting in the dilution of outstanding fund shares. Section 22(e) of the Act establishes a 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. In March 2020, in connection with the economic shock from the onset of the COVID–19 pandemic, open-end funds faced a significant amount of investor redemptions, and we believe additional changes to rule 22e–4 would assist funds in managing investor redemptions in future stressed conditions.

Rule 22e–4 currently allows funds to classify as less liquid investments those that the fund reasonably expects to be able to sell or dispose of in seven calendar days or less without significantly changing the market value of the investment, but that are reasonably expected to settle in more than seven calendar days.[94] Under the current rule, an investment is classified as illiquid if it cannot be sold or disposed of in seven calendar days or less without significantly changing the market value of the investment.[95] We propose to eliminate the less liquid classification category and amend the definition of illiquid investment to include those investments that a fund reasonably expects not to be convertible to U.S. dollars in current market conditions in seven calendar days or less without significantly changing the market value of the investment, as well as those investments whose fair value is measured using an unobservable input that is significant to the overall measurement.[96] Under the proposal to eliminate the less liquid classification category, the rule would therefore have only three liquidity classifications: highly liquid investments, moderately liquid investments, and illiquid investments. We also propose to amend the term ''convertible to cash'' to ''convertible to U.S. dollars,'' codifying prior Commission statements.[97] Finally, we propose to specify how to count the identified number of days an investment is convertible to U.S. dollars for purposes of the liquidity categories.

i. Removing the Less Liquid Investment Category and Classifying These Investments as Illiquid

We propose to eliminate the less liquid classification category and amend the definition of illiquid investment to include investments, in part, that a fund reasonably expects not to be convertible to U.S. dollars in seven calendar days or less without significantly changing the market value of the investment. Investments that funds currently classify as less liquid would become illiquid investments under the proposed amendments, absent changes to shorten the settlement time of many of those investments. Section 22(e) of the Act requires open-end funds to make payment on shareholder redemption requests within seven days of receiving the request. The proposed amendment to define an investment as illiquid if it does not settle to U.S. dollars in seven calendar days is designed to reduce the mismatch between the receipt of cash upon the sale of assets with longer settlement periods and the payment of shareholder redemptions. This would help prepare funds for future stressed conditions by reducing the risk of a fund not being able to meet shareholder redemptions. Unlike the current rule, the proposed rule would directly limit to 15% the amount of fund assets that are not reasonably expected to be convertible to U.S. dollars in seven days.

While funds may classify different types of investments as less liquid investments today, the most common type of investment in this category is bank loans.[98] Fund investments make

frequently than monthly); rule 22e–4(b)(1)(ii)(A) (identifying the circumstances in which a fund must separately classify and review an investment within an asset class instead of classifying according to the investment's asset class).

[94] *See* rule 22e–4(a)(10) (defining ''less liquid investment'').

[95] *See* rule 22e–4(a)(8) (defining ''illiquid investment'').

[96] *See* proposed rule 22e–4(a).

[97] *See* Liquidity Rule Adopting Release, *supra* note 8, at n.848 (''Cash means cash held in U.S. dollars, and would not include, for example, cash equivalents or foreign currency.'').

[98] Based on Form N–PORT data, bank loans made up 77% and 60% of investments reported as less liquid in Feb. and Mar. 2020, respectively. In

up approximately 15% of the bank loan market.[99] Filings on Form N–PORT show that over 90% of bank loan investments reported by open-end funds are classified as less liquid.[100] In 2015, commenters addressing concerns about liquidity in the bank loan market stated that significant efforts were then underway to materially improve settlement times in the bank loan market, which are typically longer than other asset classes.[101] Bank loans are not standardized and have individualized legal documentation. This provides flexibility of terms for bank loans, but also increases the time for a fund to settle a bank loan trade and receive proceeds from the sale, thus increasing the risk of the fund not being able to meet shareholder redemptions.[102]

Around the time that the Commission adopted the liquidity rule, the median settlement time for a loan sale was about 12 days.[103] In the Liquidity Rule Adopting Release, the Commission stated that a fund may need to consider re-classifying an investment as illiquid in the event of an extended settlement period.[104] By July 2021, the average time to settle a bank loan par trade in the secondary market increased to a then seven-year high of T+23, and the median was at T+15.[105] While median settlement time for bank loans in which funds invest has generally increased, Form N–PORT data has not shown funds reclassifying these investments to take into account extended settlement times.

We are proposing changes to remove the less liquid investment classification to reduce the risk that funds that invest significantly in less liquid investments may not be able to meet shareholder redemptions. While bank loan funds were able to meet redemption requests during March 2020, a period of significant outflows, we are concerned that they may not be able to meet shareholder redemptions in future stressed conditions, especially as investments in this asset class increase. During the month of March 2020, bank loan funds experienced outflows of approximately 13% of assets, more than any other type of fund. In addition, since March 2020, total registered investment company investments in bank loans have increased 50% to approximately $200 billion.[106] We understand that in past times of large outflows, the median buy-side settlement time for bank loans generally decreased and funds had a degree of success in effecting shorter settlement periods for these investments to help meet redemptions.[107] We are concerned, however, that in future stress events these attempts to shorten settlement times may fail since loans are not standardized, have individualized legal documentation, and rely on manual processes for settlement. 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. Based on Form N–CEN filings, several bank loan funds have accessed their lines of credit in their most recent reporting period.[108] We understand that the costs of borrowing have risen and credit has become more difficult to obtain over time.

We believe that investments that funds currently classify as less liquid should be classified as illiquid investments and be subject to the 15% limit on illiquid investments, so that funds may be better prepared to satisfy redemptions in future stressed conditions without delay and without significant dilution. Using Form N–PORT data, we estimate that approximately 200 funds during March 2020 would have had illiquid investments over the 15% limit if this proposed change had been in effect, with bank loan funds being the largest type of affected fund.[109] As a result of the proposed amendments, more bank loan funds may contract for expedited settlement, which would involve costs. Alternatively, advisers with strategies that have 15% or more of assets in investments classified as less liquid and illiquid may change those strategies, close funds, or consider using a closed-end fund or other investment vehicle structure that is not subject to rule 22e–4. Further, potential additional demand for these investments could provide incentives to shorten the settlement cycle for bank loans more generally, which may reduce trading costs.[110] We believe that these amendments would reduce the risk of a fund not being able to satisfy redemptions without diluting the interests of remaining shareholders while waiting for the proceeds from the sale of an investment with extended settlement.

ii. Additional Amendments to the Definition of Illiquid Investment

We also propose to amend the definition of illiquid investment to include investments whose fair value is measured using an unobservable input that is significant to the overall measurement. U.S. GAAP establishes a fair value hierarchy that categorizes into three levels the inputs to valuation techniques used to measure fair value.[111] The fair value measurements of investments are categorized in accordance with this three-level

addition to bank loans, a smaller number of fixed-income securities, mortgage-backed securities, and equities are categorized as less liquid investments.

[99] *See* Leveraged Loan Primer (last visited Oct. 4, 2022), *available at https://pitchbook.com/leveraged-commentary-data/leveraged-loan-primer#market-size* (stating that the Morningstar LSTA U.S. Leveraged Loan Index, which is used as a proxy for market size in the U.S., totaled approximately $1.375 trillion as of Feb. 2022). As of Dec. 2021, there are 746 open-end funds that classified approximately $204 billion in bank loan interests as reported on Form N–PORT. Using this data, we estimate that funds held approximately 15% of the bank loan market.

[100] Based on Form N–PORT data, in 2021, more than 90% of the gross value of loans reported by open-end funds were classified as less liquid. This was also the case in Feb. and Mar. 2020.

[101] *See, e.g.,* Comment Letter of the Loan Syndications and Trading Association on 2015 Proposing Release, *supra* note 31, File No. S7–16–15, *available at https://www.sec.gov/comments/s7-16-15/s71615-57.pdf* (''LSTA Comment Letter'') (stating the goal of transforming syndicated loan settlement to a similar settlement period as most other asset classes).

[102] *See id.*

[103] *See* LSTA Comment Letter.

[104] *See* Liquidity Rule Adopting Release, *supra* note 8, at n.380 and accompanying text.

[105] *See* LSTA, Secondary Trading & Settlement: Monthly July Executive Summary (Aug. 19, 2021), *available at https://www.lsta.org/news-resources/secondary-trading-settlement-monthly-july-executive-summary/?utm_source=rss&utm_medium=rss&utm_campaign=secondary-trading-settlement-monthly-july-executive-summary.* In addition, fewer trades settled within T+7, (just 20% of trades settled within the LSTA guideline during July, a nine-percentage point reduction from the previous year's monthly average) and settlements wider than T+20 increased 10-percentage points as of July 2021, to a 39% market share, nearly double that of the T+7 distribution.

[106] This is based on Form N–PORT information as of Jan. 31, 2022.

[107] *See* LSTA Comment Letter (stating that settlement times have decreased in periods of large outflows, for example, in Aug. 2011, when bank loan funds experienced $8 billion of outflows (approximately 13% of assets). Similarly, in Mar. 2020, when bank loan funds experienced $12 billion of outflows (approximately 13% of assets), we understand that settlement times also generally decreased.

[108] *See infra* note 459 and accompanying text (providing information about bank loan funds' use of lines of credit as of Dec. 2021).

[109] The number of funds is estimated by dividing the aggregate gross value in the relevant categories by the aggregate gross value reported.

[110] *See infra* section III.C.1.b.

[111] *See* FASB ASC 820–10–35–37, which sets out a fair value hierarchy for accounting purposes, as compared to rule 2a–5, which provides a framework for fund valuation practices and determining fair value (including applying an appropriate methodology consistent with the principles of FASB Accounting Standard Codification Topic 820: Fair Value Measurement (''ASC Topic 820'')) for purposes of the Act. *See* Good Faith Determinations of Fair Value, Investment Company Act Release No. 34128 (Dec. 3, 2020) [86 FR 748 (Jan. 6, 2021) (''Valuation Adopting Release'')].

hierarchy. The highest-level measurements are those developed using quoted, observable inputs in active markets for identical assets and liabilities (Level 1), such as prices for identical investments on a securities exchange; the lowest are those developed using unobservable inputs (Level 3).[112] We acknowledge that observability is a valuation concept and may not always correspond to liquidity. The proposed amendment would require those funds not already classifying investments valued using unobservable inputs that are significant to the overall measurement as illiquid to change their classification practices and may change the liquidity profile for those funds under the rule to be less liquid. To the extent there is a liquid market for affected investments, this proposed amendment would cause funds to over-estimate the illiquidity of their portfolios. As of December 2021, 2,006 open-end funds held investments that were valued using unobservable inputs that are significant to the overall measurement (Level 3 investments), comprising $76.3 billion, or 0.27% of all open-end fund assets.[113] Among these, $16.9 billion were classified as highly liquid investments and $2.1 billion as moderately liquid investments.[114] Accordingly, we estimate that approximately 0.07% of all open-end fund assets would be affected by this amendment.

Where an investment is valued using unobservable inputs that are significant to the overall measurement, this may indicate that an active, liquid, and visible market for the investment does not exist. Where there is no active, liquid, and visible market for an investment, there may be a corresponding risk that the fund cannot sell the investment in time to meet redemptions without dilution. The proposal defines investments whose fair value is measured using unobservable inputs that are significant to the overall measurement as illiquid for purposes of this rule, which is intended to reduce this risk. By classifying these investments as illiquid, the proposal would establish a minimum standard for classifying the liquidity of an investment, which is designed to provide more consistent guideposts for liquidity classifications.

iii. Other Amendments Related to Liquidity Classification Categories

Amendments to the Definition of Moderately Liquid Investment

We propose to simplify the definition of moderately liquid investment to mean any investment that is neither a highly liquid investment nor an illiquid investment.[115] The moderately liquid investment category would continue to provide information about the portion of a fund's portfolio that is not on the most liquid end of the spectrum, but that still is sufficiently liquid to meet redemption requests within the statutory seven day period.

Amendments to the Definition of Convertible to Cash and References to Cash

We propose to amend the term ''convertible to cash'' to ''convertible to U.S. dollars'' and to make conforming amendments to the definition of this term to refer to the ability for a fund to sell or dispose of an investment, and for it to settle in U.S. dollars.[116] These amendments codify prior Commission statements. In the adopting release for rule 22e–4, the Commission stated that cash means ''cash held in U.S. dollars, and would not include, for example, cash equivalents or foreign currency.'' [117] The Commission also provided an example in that release in which the period of time it took to repatriate or convert a foreign currency to dollars factored into the analysis of how quickly a foreign security could convert to cash.[118] Some funds are classifying foreign investments as highly liquid taking into account solely the time it would take to convert the proceeds of a sale to the foreign currency. Similarly, some funds classify foreign currency as highly liquid without further analysis about the time that would be needed to convert that currency to U.S. dollars. We believe it is important to view the liquidity of fund investments in terms of convertibility to U.S. dollars within a specified period so that a fund is able to satisfy redemption requests in U.S. dollars.[119] This amendment is intended to promote the ability of funds to meet redemptions without diluting the interests of the remaining shareholders and increase consistency in how funds classify the liquidity of investments, including in foreign investments and foreign currencies. In addition to the definition of convertible to cash, we also propose to amend other references in rule 22e–4 to refer to U.S. dollars instead of cash for consistency and clarity.[120]

Method for Counting the Number of Days

We propose to specify when a fund must start to measure the identified number of days in which it reasonably expects a stressed trade size of an investment would be convertible to U.S. dollars without significantly changing its market value. Currently, the rule does not directly specify when to begin counting the number of days an investment would be convertible to U.S. dollars, and funds have inconsistent practices as to when they begin this measurement. This inconsistency may lead certain funds to overestimate their liquidity classifications, and reduce

[112] *See* ASC Topic 820. U.S. GAAP requires funds to maximize the use of relevant observable inputs and minimize the use of unobservable inputs in valuing any asset or liability. In some cases, the inputs used to measure fair value might be categorized within different levels of the fair value hierarchy. In those cases, the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the overall measurement. *See* ASC 820–10–35–16AA and 820–10–35–37A. Examples of particular assets and liabilities that may be measured using Level 3 inputs include long-dated currency swaps, three-year options on exchange-traded shares, interest rate swaps, asset retirement obligations at initial recognition, and reporting units. *See* FASB ASC 820–10–55–22.

[113] *See infra* note 424 and accompanying paragraph. We observed that the investments classified as highly liquid that were Level 3 investments primarily were mortgage-backed securities.

[114] We recognize that, in light of the proposed removal of the less liquid category, only those investments valued using unobservable inputs that are significant to the overall measurement that are classified as highly liquid or moderately liquid would be affected by this proposed amendment.

[115] We also are proposing to remove a provision that addresses how to classify an investment that could be viewed as either a highly liquid investment or a moderately liquid investment because the ambiguity in classification that provision addresses is no longer present under the proposed amendments to those classifications. *See* note to paragraph (b)(1)(ii) introductory text in current rule 22e–4.

[116] *See* proposed rule 22e–4(a) (defining ''convertible to *U.S. dollars*'' as the ability to be sold or disposed of, with the sale or disposition settled *in U.S. dollars*) (emphasis added). We also propose to amend the definition of convertible to U.S. dollars to refer to disposition of an investment, and not only sales. This is a conforming amendment, as current rule 22e–4 classifications otherwise refer to the ability to sell or dispose of an investment.

[117] *See* Liquidity Rule Adopting Release, *supra* note 8, at n.848.

[118] *See id.,* at paragraph accompanying n.379 (providing an example where certain foreign securities may be able to be sold in seven calendar days or less, but may be subject to capital controls that would limit the extent to which the foreign currency could be repatriated or converted to dollars within this time frame and explaining that these securities would be considered to be less liquid investments because they would be reasonably expected to settle in more than seven calendar days).

[119] *See id.,* at n.105 and accompanying text (noting concerns about the potential mismatch between the timing of receipt of cash for sales of fund assets and the payment of cash for shareholder redemptions).

[120] *See* proposed rule 22e–4(a) (defining ''highly liquid investment'' and ''in-kind exchange traded fund''); and proposed rule 22e–4(b)(1)(i)(C) (listing liquidity risk factors).

their ability to meet redemptions. This also detracts from comparability when analyzing trends across funds. For example, some funds may consider an investment highly liquid if it could be converted to U.S. dollars three business days after the date of the classification analysis, while others include the date of classification when counting the number of days. Those funds that begin counting after the date of the classification would have the advantage of counting an additional day as compared to those funds that include the date of classification, and their liquidity classifications may appear to be more liquid than a similar fund that begins counting on the date of classification. Therefore, we propose to specify that funds must count the day of classification when determining the period in which an investment is reasonably expected to be convertible to U.S. dollars.[121] 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 U.S. dollars by Wednesday at the latest.

We request comment on the proposed amendments to the liquidity classification categories:

16. As proposed, should we eliminate the less liquid investment category and amend the illiquid investment definition to include an investment that a fund reasonably expects can be sold within seven calendar days without significantly changing the market value but is not convertible to U.S. dollars within that period (*i.e.,* investments that are currently classified as less liquid under the rule)? What effect would these proposed amendments have and how would those funds that significantly invest in such less liquid investments likely change?

17. Would the proposed amendment cause funds that currently hold less liquid investments to contract for expedited settlement for such investments? What are the advantages or limitations of contracting for expedited settlement? Would the proposed amendments provide an incentive to reduce settlement times in bank loan and other relevant markets more generally? If so, how long might it take to reduce settlement times in response to the rule and what would be the burdens associated with this change? Are there certain categories of bank loans or other investments for which market participants may be unable to reduce the settlement time to seven calendar days or less? Which investments and why? What other effects may occur, for example, would some funds change their strategies, liquidate, or choose to be structured as a different investment vehicle, such as a closed-end fund? If some funds would convert to closed-end funds, what type of closed-end fund would they likely choose (*e.g.,* interval fund, or a closed-end fund listed on an exchange)? Should we amend other rules, or provide relief from any specific rules or provisions of the Federal securities laws, to expedite changes to strategies or conversions to closed-end funds or other investment vehicles?

18. Some funds classify certain bank loans as highly liquid or moderately liquid today. What characteristics of these bank loans lead to a reasonable expectation that they will be convertible to cash in seven days or less without significantly changing the market value? Are funds considering contracts for expedited settlement? Would funds need additional guidance on how to assess the period in which a bank loan or other investment is *reasonably expected* to be convertible to U.S. dollars? For example, should we revise the proposed rule to require that funds consider, or provide guidance suggesting that funds may wish to consider: settlement time history for the individual or similar investments, average settlement times for the market, and guarantees for settlement or expedited settlement, as well as the contractual settlement period?

19. Have the costs of borrowing risen and has credit become more difficult to obtain over time for bank loan funds, particularly during stressed periods?

20. As proposed, should we remove the less liquid category and require funds to use a three category classification framework? Would the proposed changes simplify classifications and reduce burdens over time, after funds updated systems to reflect the change? Would the proposed changes appropriately reflect the liquidity of a fund, or would the current framework be more appropriate? Should funds be permitted to invest above 15% in less liquid investments if there are other methods or mechanisms to reduce the mismatch between the receipt of cash upon the sale of assets with longer settlement periods and the payment of shareholder redemptions or to address potential dilution associated with this mismatch? If so, what other methods or mechanisms should these funds be required or permitted to use (for example, swing pricing, gates to suspend redemptions, redemption fees, redemptions in kind, additional limits on less liquid investments, notice periods, or lengthening the settlement period for paying redemptions)?[122] If we permit (to the extent not already permitted) or require use of one or more of these tools, how should they be used (individually, in some combination with each other, or with other protections, such as disclosure, board approval, and Commission reporting)? Should we amend other rules, or provide relief from any specific rules or provisions of the Federal securities laws, to expedite or permit use of these methods and mechanisms?[123]

21. Should we provide that an investment is illiquid if it is not reasonably expected to be convertible to U.S. dollars in a shorter or longer period than seven calendar days? How would a shorter or longer period align with the requirement in section 22(e) of the Act for a fund to satisfy redemptions within seven days? If we provided a longer period of time to convert to U.S. dollars before an investment is classified as illiquid, how would funds prepare for the potential mismatch during stressed situations between the amount of available cash and the size of shareholder redemptions? Should we provide additional exemptions to allow funds to delay redemptions to shareholders under certain limited circumstances and conditions, such as independent director approval?

22. Are there circumstances in which an investment is fair valued using an unobservable input that is significant to the overall measurement, but the investment should not be treated as illiquid for purposes of the rule? Please explain and provide supporting data. Should we permit a fund to classify certain types of investments that are fair valued using unobservable inputs that are significant to the overall measurement as highly liquid or moderately liquid and, if so, which types? Should we instead treat investments that are fair valued using unobservable inputs that are significant to the overall measurement as presumptively illiquid, but permit funds to rebut this presumption? If so, what process should we require for rebutting the presumption? For example, should

[121] *See* proposed rule 22e–4(b)(1)(ii)(A).

[122] With a notice period, an investor's redemption request would not be processed until the end of a notice period (*e.g.,* after 2 to 5 days). The investor would receive the next calculated price after the notice period ends, with payment occurring at the end of a settlement period. With a lengthened settlement period, a redeeming investor would receive the price next calculated after submitting the redemption order but would not receive payment until the end of a lengthened settlement period (*e.g.,* 5 to 7 days after trade date).

[123] *See, e.g.,* section 22(e) of the Act (providing the conditions under which a registered investment company may suspend the right, or postpone the date, of redemption for more than seven days).

we require funds to maintain records describing why they did not classify such an investment as illiquid? Should we require funds to disclose on Form N–PORT any circumstances in which they did not classify such an investment as illiquid?

23. Are there other types or characteristics of investments that we should include in the definition of illiquid investment? If so, which ones?

24. Should we amend the definition of moderately liquid investment, as proposed? Alternatively, should we retain the details in the current definition that specify the number of days in which a fund must reasonably expect an investment to be convertible to U.S. dollars in order to classify it as moderately liquid?

25. Would the proposed changes to the liquidity classifications affect investment options available to investors? For example, would bank loan funds only be available in non-open-end investment vehicles? What effect would these proposed changes have on those asset classes that are less available for investment by open-end funds for liquidity reasons, the availability of credit to borrowers, and more generally, on capital formation?

26. Should we amend the definition of convertible to cash and other references to cash in rule 22e–4 to refer to U.S. dollars, as proposed? Would these amendments raise issues for specific types of funds? If so, which ones and how? Would these amendments affect funds' investment strategies, including their allocation to foreign investments and U.S. dollars, or their performance?

27. Are there circumstances in which a fund would pay redemptions in a different currency than U.S. dollars? If so, would it be appropriate for that fund to be able to assess the time in which an investment could convert to that other currency for purposes of the rule?

28. In addition to sale and disposition, are there other ways an investment may be converted to U.S. dollars that should be included in the definition of convertible to U.S. dollars? If so, what are they?

29. Would the amendment to refer to U.S. dollars instead of cash in the definitions of highly liquid investment and convertible to cash materially change how funds classify highly liquid investments currently? If so, how?

30. Should we require funds to include the day of classification when counting the number of days to convert to U.S. dollars as proposed, or should we require funds to begin to count the number of days to convert to U.S. dollars on the following day? What are the advantages and disadvantages of this alternative? Would this alternative result in less conservative liquidity classifications for some funds or investments (*i.e.,* by causing some investments that otherwise would have been classified as moderately liquid to be classified as highly liquid) or impair a fund's ability to meet redemptions?

31. Instead of using the days an investment would be convertible to U.S. dollars in the liquidity classifications as proposed, should we separately set the number of days to: (1) make the trade; and (2) settle the trade or otherwise dispose of an investment, in determining liquidity classifications? Why or why not? Is there a different way the rule should measure the period that an investment is convertible to U.S. dollars?

c. Frequency of Classifications

Rule 22e–4 currently requires that funds review their liquidity classifications at least monthly in connection with reporting on Form N–PORT, and more frequently if changes in relevant market, trading, and investment-specific considerations are reasonably expected to materially affect one or more of their investments' classifications.[124] The current rule also requires a fund to monitor and take timely actions related to the liquidity of its investments, including changes to its liquidity profile. Specifically, the rule prohibits a fund from acquiring any illiquid investment if, immediately after the acquisition, the fund would have invested more than 15% of its net assets in illiquid investments that are assets.[125] In addition, the rule requires a fund to provide timely notice to its board, and to the Commission on Form N–RN, if the fund exceeds the 15% limit on illiquid investments, or if there is a shortfall of the fund's highly liquid investments below its highly liquid investment minimum for seven consecutive calendar days.[126]

We propose amendments to require a fund to classify all of its portfolio investments each business day instead of at least monthly.[127] Daily classification would reflect current market conditions more accurately and would provide funds with more data for analysis to prepare for future stressed conditions. We believe that daily classifications would assist liquidity risk program administrators in better monitoring of a fund's liquidity and enhance a fund's ability to more rapidly respond to changes that affect the liquidity of the fund's portfolio, reflecting more effective practices we have observed. In addition, daily classifications would help ensure that funds timely report shortfalls below the highly liquid investment minimum or breaches of the 15% limit on illiquid investments to the fund's board and to the Commission, which would better achieve the goals of the current provisions to provide board and Commission oversight of the fund's liquidity risk management program and its effectiveness.

Most funds did not report reclassifications of their portfolio investments despite extraordinary liquidity constraints in March 2020.[128] 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. Because intra-month analyses for these funds would be out of the ordinary and only occur when a fund determines that changes in relevant market, trading, and investment-specific considerations are reasonably expected to materially affect one or more of their investments' classifications, it may be especially challenging during stressed conditions for these funds to reclassify their investments intra-month. Requiring daily classification, while involving costs, may ultimately lead to a more efficient classification process for funds than monitoring trading conditions to determine if and when intra-month classifications are required. For

[124] *See* rule 22e–4(b)(1)(ii).

[125] *See* rule 22e–4(b)(1)(iv).

[126] *See* rule 22e–4(b)(1)(iv)(A) and rule 22e–4(b)(1)(iii)(A)(*3*); Form N–RN Parts B through D.

[127] *See* proposed rule 22e–4(b)(1)(ii). Although rule 22e–4 currently requires funds to classify each of the fund's portfolio investments (including each of the fund's derivatives transactions), we have observed that some funds are not classifying all investments in their portfolios, such as positions in to-be-announced (TBA) contracts to trade mortgage-backed securities or the reinvestment of cash collateral received in securities lending arrangements.

[128] Despite the liquidity constraints in Mar. 2020, we observed through Form N–PORT filings that roughly 75% of funds did not reclassify any investment held in both Feb. and Mar. 2020. Specifically, roughly 80% of U.S. equity funds did not reclassify any holding that was held in both Feb. and Mar. 2020, while roughly 10% reclassified at least one investment into a more liquid category and roughly 13% reclassified at least one investment into a less liquid category. Roughly 55% of taxable bond funds reclassified on average 4% of their portfolios, with the median fund reclassifying 1% of its portfolio. Of the funds that reclassified, roughly 30% reclassified at least one investment into a more liquid category and roughly 44% reclassified at least one investment into a less liquid category. More funds did, however, reclassify in Mar. 2020 period than for either Feb. or Apr. 2020.

example, a daily classification requirement, in combination with the minimum standards we propose for trade size and value impact, may lead funds to modify their liquidity classification processes, which would make the process more standardized, timely, and efficient.

We request comment on the proposed amendments to require funds to classify the liquidity of their investments on a daily basis.

32. Should we require funds to classify all portfolio investments on a daily basis, as proposed? Would this proposed amendment result in a material change to how funds are currently classifying? To what extent do funds already classify the liquidity of their investments on a daily basis or collect the information they would need to classify daily? Would this proposed amendment better integrate liquidity risk management and portfolio management systems?

33. We also are proposing that funds use a stressed trade size and a defined value impact standard in determining liquidity classifications. Would those changes affect the burdens of classifying on a daily basis? Would those effects be different for different types of funds? For example, would it be easier to determine on a daily basis whether the sale of a stressed trade size of shares listed on an exchange would exceed 20% of the average daily trading volume for those shares than to determine whether the sale of a stressed trade size of other investments would result in a price decline of more than 1%?

34. Instead of classifying on a daily basis, should we require funds to classify the liquidity of their investments at some other frequency (*e.g.,* weekly, biweekly, or monthly)? If so, should we maintain the requirement for a fund to classify 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? Is there a different approach we should use effectively to require a fund to classify its investments in response to changing conditions? Are there certain types of funds that should be excluded from daily classifications? If so, which funds?

35. If we require funds to classify on a non-daily frequency, how would they monitor for compliance with the 15% limit on illiquid investments and the highly liquid investment minimum? How are those limits monitored for compliance now?

2. Highly Liquid Investment Minimums

a. Proposed Scope of the Requirement and Determination of the Minimum

Rule 22e–4 currently requires a fund to determine a highly liquid investment minimum if it does not primarily hold assets that are highly liquid investments. Funds that are subject to the highly liquid investment minimum requirements must determine a highly liquid investment minimum considering several factors, review the minimum at least annually, and adopt policies and procedures to respond to a shortfall of the fund's highly liquid investments below the minimum required.[129] We propose to require all funds to determine and maintain a highly liquid investment minimum of at least 10% of the fund's net assets, which is equivalent to the stressed trade size. In connection with this proposed requirement, we would remove the exclusion for funds that primarily invest in highly liquid investments (the ''primarily exclusion''). The proposed amendments are designed to ensure that funds have sufficient liquid investments for managing stressed conditions and heightened levels of redemptions.

We assessed liquidity-related data reported on Forms N–PORT, as well as the development of liquidity risk management programs, through staff outreach to funds and advisers. Based on Form N–PORT filings, most funds do not determine a highly liquid investment minimum and instead rely on the primarily exclusion.[130] For those funds that have highly liquid investment minimums, the rule currently requires that they consider various liquidity factors, such as their investment strategy and cash-flow projections, in both normal and reasonably foreseeable stressed conditions.[131] We understand that those funds additionally consider factors such as asset class, market volatility, and shareholder concentration in their determinations.

As discussed above, by requiring fund liquidity classifications to assume the sale or disposition of a set stressed trade size, the proposal is intended to better prepare all funds for future stressed conditions.[132] To help further prepare a fund for heightened levels of redemptions in stressed conditions, we are proposing to require the highly liquid investment minimum to be equal to or higher than the assumed stressed trade size. In setting the highly liquid investment minimum to be at least the stressed trade size, we considered data on fund flows for setting the stressed trade size as well as data reported on Form N–PORT on funds' current highly liquid investment minimums. As of March 2020, for funds that had determined a highly liquid investment minimum, the majority of those funds reported setting a highly liquid investment minimum of less than 10% of the fund's net assets. In contrast, approximately 8% of those funds reported setting a highly liquid investment minimum of more than 50% of the fund's net assets. Thus, while there is a wide divergence in highly liquid investment minimums, most of these funds have a minimum that is lower than the proposed 10% level. Given the level of weekly outflows some funds have experienced and the difficulty in predicting future stress events, we believe 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.

In addition, the proposal's requirement for funds to both assume a stressed trade size to determine liquidity classifications and also maintain an equal or higher minimum of highly liquid investments is intended to work together to better prepare them for future stressed conditions and to reduce the risk of dilution. Not only would funds have highly liquid investments in an amount needed to meet the stressed trade size, they would also have more highly liquid assets to meet redemptions without having to sell less liquid investments at discounted prices. Funds would continue to be required to periodically review the highly liquid investment minimum and have policies and procedures to address any shortfall in highly liquid investments below the minimum.

While the proposed minimum of 10% of a fund's net assets may be a suitable highly liquid investment minimum for most funds, certain funds may find a higher amount appropriate depending on a fund's liquidity risk factors and investment objectives. 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

[129] *See* rule 22e–4(b)(1)(iii).

[130] Approximately 83% of funds holding 85% of net assets do not report setting a highly liquid investment minimum on Form N–PORT.

[131] For these purposes, funds are required to consider certain factors during stressed conditions only to the extent they are reasonably foreseeable during the period until the next review of the highly liquid investment minimum. *See* rule 22e–4(b)(1)(iii)(A)(*1*).

[132] *See supra* section II.A.1.a.i for discussion of the stressed trade size and of fund flow data.

minimum should be above 10%.[133] We continue to believe that the liquidity risk factors funds must consider in determining a highly liquid investment minimum under the current rule and the associated guidance the Commission provided in the Liquidity Rule Adopting Release regarding these factors are appropriate for a fund to take into account for these purposes.[134]

A broad variety of investments, as well as cash, may qualify towards the highly liquid investment minimum.[135] Since approximately 83% of funds currently rely on the primarily exclusion, we would not expect this proposal to affect their strategies. We recognize, however, that imposing a highly liquid investment minimum of at least 10% would require some other funds to hold a larger amount of highly liquid assets than they currently do, and thus may affect these funds' performance or strategies.[136] For funds with strategies focused on investments that would not be considered highly liquid, they would have to determine how to constitute a portfolio of investments that would allow the fund to meet its strategy and investing parameters while maintaining a highly liquid investment minimum of at least 10%. All funds would be subject to the same highly liquid investment minimum of at least 10%, which would minimize any competitive advantage for similar funds associated with the proposed highly liquid investment minimum requirements. We believe it is important that all funds be prepared to meet redemptions in future stressed scenarios, and that funds would be better able to do so with the proposed highly liquid investment minimum requirements.

In establishing a uniform floor for the highly liquid investment minimum, we are also proposing to remove the exclusion for funds that invest *primarily* in highly liquid investments. The Commission adopted the primarily exclusion because it believed the benefits associated with requiring such funds to determine and review a highly liquid investment minimum, or to adopt shortfall procedures, would not justify the associated burdens.[137] Since that time, however, we have observed that a fund relying on the primarily exclusion may experience significant declines in its liquidity that result in the fund holding less than 50% of its portfolio in highly liquid investments for a period of time. For example, a fund that invests significantly in a given foreign market and that generally classifies those investments as highly liquid can experience substantial declines in the amount of its highly liquid investments if, for example, there is political or economic turmoil in or an extended holiday closure of that foreign market. Funds that currently use the primarily exclusion instead of determining and maintaining a highly liquid investment minimum do not have the benefit of shortfall procedures, including board oversight, to respond to events or market conditions that may cause the fund to fall under its previously determined level of primarily held highly liquid investments. By requiring a highly liquid investment minimum for all funds, investors would enjoy the benefit of policies and procedures that are designed to ensure not only oversight by the liquidity risk program administrator but also the fund's board.

Moreover, the burdens of complying with highly liquid investment minimum requirements for funds that currently use the primarily exclusion may be reduced because many fund complexes already have experience developing highly liquid investment minimum shortfall policies and procedures. It may be possible for funds in the same complex to leverage this experience to reduce the burdens of developing these policies and procedures for funds that previously qualified for the primarily exclusion. As liquidity risk management programs have matured, and continue to mature, many fund complexes continue to gain experience with highly liquid investment minimum shortfall policies and procedures, which may also reduce burdens. By requiring all funds to adopt a highly liquid investment minimum, we are seeking to help ensure that funds would be better prepared to handle future stressed conditions, which may occur suddenly and unexpectedly, as they would have sufficient liquid investments for managing heightened levels of redemptions.

We request comment on the proposed amendments to highly liquid investment minimum requirements.

36. Should we require all funds to determine and maintain a highly liquid investment minimum, as proposed? What effect would this proposal have on funds? For example, would some funds have to change their strategies or expect effects on performance?

37. Should some types of funds be excluded from the requirement to have a highly liquid investment minimum? If yes, which ones and why? For example, should we preserve the exclusion for funds that primarily hold highly liquid assets? Alternatively, should funds currently using the primarily exclusion have a higher highly liquid investment minimum requirement? Would funds using the primarily exclusion be as prepared to meet redemptions in stressed scenarios without a highly liquid investment minimum and its corresponding policies and procedures?

38. If the primarily exclusion is kept, should we define the amount of highly liquid assets a fund must maintain under this standard (*e.g.,* investing at least 51% of the fund's net assets in highly liquid assets, or a higher or lower amount)?

39. Should we establish a regulatory minimum for the amount of highly liquid investments of 10%, as proposed, or should it be set at 15% or 5% (or some other higher or lower amount)? Would establishing a regulatory minimum reduce the burdens associated with determining and periodically reviewing the fund's highly liquid investment minimum?

40. Rather than propose a regulatory minimum with factors that a fund must consider to determine whether its own highly liquid investment minimum should be higher, should we require all funds to use the same highly liquid investment minimum? Would this set a level playing field for all funds and diminish any competitive advantage for a fund with a lower highly liquid investment minimum? If so, what amount would be appropriate for a uniform highly liquid investment minimum for all funds (*e.g.,* 5%, 10%, 15%, or a higher or lower amount)?

41. Would providing more detail or guidance on the liquidity risk factors be helpful? If so, which factors?

42. Would funds that do not currently have a highly liquid investment minimum be able to leverage policies and procedures already developed for highly liquid investment minimums, for example by other funds in the same complex, to reduce the burdens of developing these policies and procedures? If not, what costs would funds incur to adopt and implement highly liquid investment minimum policies and procedures?

[133] *See* Liquidity Rule Adopting Release, *supra* note 8, at paragraph following n.669.

[134] *See id.,* at section III.B.2.

[135] *See id.,* at n.663 and accompanying text.

[136] As recognized above, being unprepared for higher than normal redemptions also can affect a fund's performance when such redemptions occur. *See supra* note 81. For instance, although less liquid assets generally offer a higher return, the trading costs associated with selling these assets during periods of increased redemptions may offset this risk premium, potentially resulting in a lower overall return for fund investors. *See infra* note 351 and accompanying text.

[137] Liquidity Rule Adopting Release, *supra* note 8, at paragraph accompanying n.724.

b. Calculation of the Highly Liquid Investment Minimum

We are proposing amendments to rule 22e–4 that are designed to help ensure that the highly liquid investments a fund holds to meet its highly liquid investment minimum are available to support the fund's ability to meet redemptions. A key aim of the highly liquid investment minimum requirement is to decrease the likelihood that funds would be unable to meet their redemption obligations.[138] Building on existing aspects of rule 22e–4, the proposed amendments would require that, when determining the amount of assets a fund has classified as highly liquid that count toward the highly liquid investment minimum, the fund account for limitations in its ability to use some of those assets to meet redemptions.[139] Specifically, in assessing compliance with the fund's highly liquid investment minimum, the fund would be required to: (1) subtract the value of any highly liquid assets that are posted as margin or collateral in connection with any derivatives transaction that is classified as moderately liquid or illiquid; and (2) subtract any fund liabilities.[140]

i. Margin or Collateral of Moderately Liquid and Illiquid Derivatives

The requirement for a fund to reduce the value of its highly liquid assets by the amount posted as margin or collateral in connection with a non-highly liquid derivatives transaction reflects that this amount of highly liquid assets is not available for the fund to use to meet redemptions.[141] This is because, where a fund enters into a moderately liquid or illiquid derivative and posts highly liquid assets as margin or collateral, the posted collateral is highly liquid, but the fund cannot access the value of posted assets unless the fund exits the derivatives transaction. Since the fund has classified the derivative as moderately liquid or illiquid, it does not reasonably expect to be able to exit the derivatives transaction within three business days. We recognize that the fund may be able to access the specific assets posted as margin or collateral by replacing them with other assets acceptable to the fund's counterparty. But regardless of the specific assets posted, the value of collateral posted in connection with a moderately liquid or illiquid derivative would not be convertible to U.S. dollars within three business days or less.

Under the current rule, a fund is required to identify the percentage of the fund's highly liquid investments that it has posted as margin or collateral in connection with derivatives transactions that the fund has classified as less than highly liquid.[142] The Commission believed that this approach struck an appropriate balance between providing transparency and reducing burdens on funds.[143] The Commission observed that a fund generally would not need to specifically identify particular assets that are posted as margin or collateral to cover particular derivatives transactions, but instead would calculate the percentage of highly liquid investments posted as margin or collateral for derivatives transactions classified in each of the other classification categories.[144] Under the rule, a fund that has posted both highly liquid investments and non-highly liquid investments as margin or collateral in connection with a non-highly liquid derivatives transaction should reduce its highly liquid investments, rather than assume that posted non-highly liquid investments would first cover the derivatives transaction, unless the fund specifically identifies non-highly liquid investments as margin or collateral in connection with a derivatives transaction.[145] Finally, the Commission observed that the current approach responds to commenters' concerns that linking the liquidity of specific assets posted as margin or collateral to the liquidity of a fund's derivatives transactions could understate the liquidity of those assets, since a fund may be able to readily substitute another liquid asset for the asset posted as margin or collateral.[146]

The proposed approach is intended to enhance investor protection while continuing to strike an appropriate balance with the potential increased burdens on funds. The proposed approach would not require funds to identify and reclassify specific assets posted as margin or collateral, but rather to reduce the value of the fund's highly liquid assets available to meet the fund's highly liquid investment minimum by the value of the assets posted as margin or collateral. We also propose to maintain, with conforming changes, the explanatory note discussed above guiding the allocation of amounts posted as margin or collateral.[147] By reducing the fund's highly liquid investments by the value of amounts posted as margin or collateral, the proposed approach would avoid burdens associated with tracking specific securities posted as margin or collateral and reclassifying investments as they are posted as margin or collateral and recalled. It also would not

[138] *See* Liquidity Rule Adopting Release, *supra* note 8, at text following n.117.

[139] As the Commission explained at the time it adopted rule 22e–4, this is not meant to suggest that a fund should only, or primarily, use highly liquid investments to meet shareholder redemptions. Instead, we believe that a fund holding sufficient highly liquid assets will support the fund in meeting redemption requests in a non-dilutive manner, and assist it in readjusting its portfolio in times of market stress, heightened volatility, and managing its obligations to derivatives counterparties. *See* Liquidity Rule Adopting Release, *supra* note 8, at n.680 and accompanying text.

[140] Proposed rule 22e–4(b)(1)(iii)(B)(*1*); 22e–4(b)(1)(iii)(B)(*2*). Rule 22e–4 currently refers to a ''pledge'' of margin or collateral, rather than ''posting.'' We are proposing to use the term ''post'' because we believe this term is more commonly used within the industry and by other regulators to refer to instances where a party provides margin or collateral to its counterparty to meet the performance of its obligation under one or more derivatives transactions as a result of a change in the value of such obligations since the trade was executed or the last time such collateral was provided (commonly referred to as variation margin) or is provided to secure potential future exposure following default of a counterparty (commonly referred to as initial margin). *See, e.g.,* Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 86 FR 6850 (Jan. 25, 2021).

[141] *See* Liquidity Rule Adopting Release, *supra* note 8, at nn.727–730 and accompanying text. This aspect of the proposed rule would only require an adjustment to the amount of a fund's highly liquid investments that are *assets,* since investments that are in a liability position are unable to be used to meet redemption requests. *See* proposed rule 22e–4(b)(1)(iii)(B)(*1*).

[142] Rule 22e–4(b)(1)(ii)(C). In addition, funds currently also are required to exclude highly liquid assets that are posted as margin or collateral in connection with non-highly liquid derivatives transactions when determining whether the fund primarily holds highly liquid assets. Rule 22e–4(b)(1)(iii)(B).

[143] *See* Liquidity Rule Adopting Release, *supra* note 8, at n.476 and accompanying text.

[144] *Id.* at n.489 and accompanying text.

[145] Note 1 to proposed rule 22e–4(b)(1)(iii)(B)(*1*). *Cf.* Note 1 to rule 22e–4(b)(1)(ii)(C). *See also* Liquidity Rule Adopting Release, *supra* note 8, at nn.489–490 and accompanying text (explaining that in the absence of such an instruction, some funds might instead take the opposite approach, and assume that posted non-highly liquid investments first cover these less liquid derivatives transactions, creating inconsistencies between funds).

[146] We recognize that margin or collateral may be determined and paid by funds on the basis of a group of derivatives transactions, with the fund posting or receiving a net amount of margin or collateral. When a fund pays margin or collateral in connection with a group that includes derivatives transactions that are highly liquid and non-highly liquid, funds already must determine the amount of margin or collateral attributable to the non-highly liquid derivatives under the current rule. For example, a fund must perform this attribution in order to identify the percentage of the fund's highly liquid investments that it has posted as margin or collateral in connection with derivatives transactions that are not themselves highly liquid.

[147] *See supra* note 145. In connection with the proposed amendments to the rule's highly liquid investment minimum provisions, we propose to re-number certain existing paragraphs and to add paragraphs to the rule. As a result, we propose to update cross-references to the highly liquid investment minimum provisions within the rule. *See* proposed rule 22e–4(b)(1)(iii)(C) through (E) and proposed rule 22e–4(b)(3)(iii).

understate the liquidity of specific securities that are posted as margin or collateral because each security would continue to be classified based on its own characteristics, and instead the adjustments would only be made at the aggregate level.[148] Moreover, many of the operational concerns commenters raised when rule 22e–4 was proposed, which led the Commission to adopt the current approach, related to the treatment of assets segregated under the Commission's Investment Company Act Release 10666, which the Commission has since rescinded, effective August 19, 2022.[149] We therefore believe the proposed amendments would enhance investor protections by helping to ensure a fund's highly liquid assets are in fact available to meet redemptions, while continuing to balance the value of the provision against the operational burdens to implement it.

ii. Fund Liabilities

Under the proposal, a fund would also be required to reduce the amount of highly liquid assets that count toward the fund's highly liquid investment minimum by the amount of the fund's liabilities. This proposed change is intended to result in a more accurate calculation of the highly liquid investment minimum.[150] The proposed approach would include any liabilities, as defined in 17 CFR 210.6–04 (rule 6.04 of Regulation S–X). For example, this would include investment liabilities and amounts payable for investment advisory, management, and service fees. Reducing the amount of highly liquid assets by fund liabilities reflects that fund liabilities are generally paid in cash, meaning that highly liquid assets may need to be liquidated in order to satisfy those liabilities rather than to meet redemptions.

Based on staff outreach, it is our understanding that the proposal reflects many funds' existing practices. For example, when a fund has significant liabilities, they generally will be incurred in connection with derivatives transactions or other investments that give rise to a fund liability. Because funds are required to classify all investments, including liabilities, investments such as highly liquid derivatives in a liability position will reduce the value of the fund's highly liquid investments that are assets. To enhance investor protection by preventing assets that a fund may in the future use to pay liabilities from also being counted toward the fund's highly liquid investment minimum, and to promote consistency in how funds calculate their highly liquid investment minimum, we are proposing to require that all funds reduce their highly liquid assets used to satisfy their highly liquid investment minimum by the amount of the fund's liabilities.[151]

We request comment on these aspects of the proposal, including:

43. Should we, as proposed, require a fund to reduce the amount of its highly liquid investments computed for the purposes of determining compliance with its highly liquid investment minimum by the value of any highly liquid assets that are posted as margin or collateral in connection with any derivatives transaction that is classified as moderately liquid or illiquid? Why or why not? Should we also require that amounts posted as margin or collateral in connection with derivatives transactions that are classified as highly liquid be treated in this way? Alternatively, should we exempt amounts posted as margin or collateral in connection with certain types or categories of derivatives transactions from this requirement?

44. How frequently do funds calculate the percentage of their highly liquid assets posted as margin or collateral in connection with non-highly liquid derivatives transactions today? Would the proposed requirement to calculate this value on a daily basis present new challenges?

45. Should we, as proposed, require a fund to reduce the amount of its highly liquid assets computed for the purpose of determining compliance with its highly liquid investment minimum by the value of any liabilities? Do funds already make this reduction when determining compliance with highly liquid investment minimums? Should we instead require a fund to reduce the amount of its highly liquid assets by a different amount, such as the percentage of the fund's total assets that its liabilities represent? Are there certain classes or types of fund liabilities that should not be counted? For example, should we provide an exception for liabilities associated with fund borrowings that are used to meet redemptions in order to avoid a disincentive for funds to borrow for this purpose under appropriate circumstances?

46. We propose that, for these purposes, the amount of a fund's liabilities would be computed in the same manner as a fund computes its liabilities for purposes of rule 6–04 of Regulation S–X. If we use this standard, as proposed, would the amount by which funds should reduce their highly liquid assets be clear? Are there any issues that may arise from using the standard funds use to prepare their balance sheets? Would a different definition of ''liabilities'' be more appropriate?

3. Limit on Illiquid Investments

Rule 22e–4 currently limits a fund's ability to acquire illiquid investments. Specifically, the rule prohibits a fund from acquiring any illiquid investment if, immediately after the acquisition, the fund would have invested more than 15% of its net assets in illiquid investments that are assets.[152] We are proposing to amend the rule's limitation on illiquid investments to provide that the value of margin or collateral that a fund could only receive upon exiting an illiquid derivatives transaction would itself be treated as illiquid for these purposes.[153] As the Commission stated in 2016, the potential effects of a fund's use of derivatives are relevant to assessing, managing, and periodically reviewing a fund's liquidity risk.[154] The potential effects may be heightened when the derivatives transaction is itself illiquid, and thus may be difficult for a fund to exit quickly enough to use the associated margin or collateral to meet redemption requests, or at all. Funds' use of illiquid derivatives is subject to several limitations but, for open-end funds, the risks associated with illiquid derivatives may be heightened as a result of the funds' redeemability.[155]

[148] *See* Liquidity Rule Adopting Release, *supra* note 8, at n.491 and accompanying text.

[149] *See* Liquidity Rule Adopting Release, *supra* note 8, at nn.468–472 and accompanying text (operational concerns); Derivatives Adopting Release, *supra* note 21, at section II.L (withdrawal of Investment Company Act Release 10666).

[150] The highly liquid investment minimum is the percentage of a fund's net assets that it invests in highly liquid assets that are eligible to count toward the minimum under the rule. *See* rule 22e–4(a)(7) (defining highly liquid investment minimum). Because this calculation uses net assets as the denominator (which reflects the amount of assets less any liabilities), we believe the numerator of eligible highly liquid assets similarly should be net of liabilities.

[151] Depending on the rules of any applicable exchange and local law, a variation margin payment with respect to a derivatives transaction may be deemed to settle the fund's liability for the daily mark-to-market loss on the transaction. In that case or any other case where a fund does not have a liability in connection with a given transaction, the fund would not be required to reduce its highly liquid investments in connection with that transaction under the proposal.

[152] *See* rule 22e–4(b)(1)(iv). A fund also must notify its board, and report confidentially to the Commission on Form N–RN, if its illiquid investments that are assets exceed 15% of net assets.

[153] *See* proposed rule 22e–4(b)(1)(iv).

[154] *See* Liquidity Rule Adopting Release, *supra* note 8, at text accompanying nn.218–223.

[155] The limitations on funds' issuance of senior securities, which include derivatives creating certain payment or delivery obligations, in section 18 of the Act and 17 CFR 270.18f–4 (rule 18f–4)

Under the proposal, for purposes of determining whether the fund is in compliance with the limitation on illiquid investments, the fund would treat as illiquid the amount of margin or collateral it has posted in connection with a derivatives transaction that is classified as an illiquid investment and that the fund would receive if it exited the derivatives transaction (''excess collateral'').[156] This proposed requirement recognizes that, because a fund does not reasonably expect to be able to convert an illiquid derivatives investment to U.S. dollars within seven days, the fund likewise would not be able to convert to U.S. dollars the value of excess collateral posted as margin or collateral in connection with the derivatives transaction within seven days. Therefore, the proposal would require a fund to include the value of the excess collateral or margin when it determines the amount of illiquid assets it holds for purposes of the 15% limit on illiquid investments.

As with the proposed amendments related to the amounts posted as margin or collateral for non-highly liquid derivatives, a fund would not be required to specifically identify particular assets that it posted as margin or collateral to cover specific derivatives transactions. Instead, a fund would calculate the value of its assets posted as margin or collateral in connection with illiquid derivatives transactions and treat that value of assets as illiquid.[157]

We request comment on this aspect of the proposal, including:

47. Should we, as proposed, require funds to treat as illiquid investments the value of excess collateral the fund has posted in connection with a derivatives transaction that is classified as an illiquid investment? Are there circumstances where a fund would have ready access to the value of such collateral even though the associated derivatives transaction is illiquid?

48. Are there challenges to identifying and monitoring the amount of excess collateral a fund has posted in connection with a derivatives transaction that is classified as an illiquid investment? If so, are there ways to address those challenges?

49. Are there other instances where we should treat an investment as illiquid for purposes of the rule's limit on illiquid investments that the current rule and the proposal do not contemplate?

50. Should we amend any other aspects of the illiquid investment limitations in the rule? For example, should we change the amount of the limit on illiquid investments from 15% to a lower amount, such as 10% or 5%, or a higher amount, such as 20% or 25%?

B. Swing Pricing

We are proposing amendments to rule 22c–1 that would require all registered open-end management investment companies to engage in swing pricing under certain conditions, except for money market funds and ETFs (the latter, ''excluded funds'').[158] Swing pricing is a process of adjusting a fund's current NAV when certain conditions are met, such that the transaction price effectively passes on costs stemming from shareholder inflows or outflows to the shareholders engaged in that activity. Trading activity and other changes in portfolio holdings associated with purchases and redemptions may impose costs, including trading costs and costs of depleting a fund's liquidity. These costs, which currently are borne by the non-transacting shareholders in the fund, can dilute the interests of these shareholders. In addition, this can create incentives for shareholders to redeem quickly to avoid losses, particularly in times of market stress. If shareholder redemptions are motivated by this first-mover advantage, they can lead to increasing outflows, and as the level of outflows from a fund increases, the incentive for remaining shareholders to redeem may also increase.[159] By imposing the costs associated with net purchases or net redemptions on the shareholders who are purchasing or redeeming from the fund at that time, swing pricing can more fairly allocate costs, reduce the potential for dilution of investors who are not currently transacting in the fund's shares, and reduce any potential first-mover advantages.

1. Proposed Swing Pricing Requirement

Under the proposal, every open-end fund other than an excluded fund would be required to establish and implement swing pricing policies and procedures that adjust the fund's current NAV per share by a swing factor either if the fund has net redemptions or if it has net purchases that exceed an identified threshold.[160] We are proposing to require these funds to use swing pricing as an anti-dilution tool, in contrast to the optional framework that currently exists in rule 22c–1. Based on our observations from the events in March 2020, including in other jurisdictions where swing pricing is a common tool, requiring funds to use

provide certain protections to investors, and the proposed amendments are designed to complement those protections. *See* Derivatives Adopting Release, *supra* note 21 (stating that a fund's derivatives risk management program would be part of an adviser's overall management of portfolio risk and would complement—but would not replace—a fund's other risk management activities, such as a fund's liquidity risk management program adopted under rule 22e–4).

[156] This does not mean that the investment acting as margin or collateral would need to be classified as an illiquid investment under the rule. A fund would classify the relevant investment according to the rule's classification framework. In order to aid understanding of the reported data, we propose to require a fund to report the value of investments treated as illiquid as a result of this provision. *See* section II.E.1.d, *infra* and Item B.8.b of proposed Form N–PORT.

[157] *See* Item B.8.b of proposed Form N–PORT.

[158] *See* proposed rule 22c–1(b). We refer to registered open-end management investment companies other than excluded funds as ''funds'' or ''open-end funds'' when discussing the swing pricing requirement. We continue to believe it is appropriate to limit swing pricing to these funds and to not include other fund types, such as unit investment trusts or closed-end funds. *See* Swing Pricing Adopting Release, *supra* note 8, at nn.62–72 and accompanying text. With respect to excluded funds, the Commission recently proposed to require certain money market funds to engage in swing pricing under rule 2a–7, but those money market funds would not be subject to the proposed swing pricing requirement under rule 22c–1(b). *See* Money Market Fund Reforms, Investment Company Act Release No. 34441 (Dec. 15, 2021) [87 FR 7248 (Feb. 8, 2022)] (''Money Market Fund Proposing Release''). ETFs, including an ETF share class of any fund that issues multiple classes of shares representing interests in the same portfolio, would not be subject to the swing pricing requirement, as discussed below. *See* definition of ''Exchange-traded fund'' in proposed rule 22c–1(d).

[159] Some research suggests that a first-mover advantage in open-end funds may lead to cascading anticipatory redemptions akin to traditional bank runs. This research generally models an exogenous response to negative fund returns and not trading costs. However, these results may extend to trading costs to the degree that cost based dilution may reduce subsequent fund returns, which would trigger runs in these models. *See, e.g.,* Chen, Qi, Itay Goldstein, and Wei Jiang. 2010. ''Payoff Complementarities and Financial Fragility: Evidence from Mutual Fund Outflows.'' Journal of Financial Economics 97(2): 239–262. *See also* Goldstein, Itay, Hao Jiang, and David Ng. 2017. ''Investor Flows and Fragility in Corporate Bond Funds.'' Journal of Financial Economics 126(3):592–613. *See also* Morris, Stephen, Ilhyock Shim, and Hyun Song Shin. 2017. ''Redemption Risk and Cash Hoarding by Asset Managers.'' Journal of Monetary Economics 89: 71–87. *See also* Zeng, Yao. 2017. ''A Dynamic Theory of Mutual Fund Runs and Liquidity Management.'' Working Paper. *See also* Ma, Yiming, Kairong Xiao, and Yao Zeng. 2021. ''Mutual Fund Liquidity Transformation and Reverse Flight to Liquidity.'' Working Paper. *See also* Ma, Yiming, Kairong Xiao, and Yao Zeng. 2021. ''Bank Debt versus Mutual Fund Equity in Liquidity Provision.'' Working Paper. *See also* Christof W. Stahel. 2022. ''Strategic Complementarity Among Investors with Overlapping Portfolios'', *available at https://ssrn.com/abstract=3952125* (positing that investors behave similarly regardless of whether they hold assets indirectly through a fund or directly through a separately managed account and the general explanation for investor decisions to sell assets is that all market participants compete for finite market liquidity).

[160] *See* proposed rule 22c–1(b)(1) and definition of ''Inflow swing threshold'' in proposed rule 22c–1(d).

swing pricing could result in benefits for investors, as discussed below.[161] However, at present no U.S. funds have implemented swing pricing. One reason funds have not implemented swing pricing is that they lack timely flow information to operationalize this anti-dilution tool. However, even if all funds had access to sufficient flow information in order to implement swing pricing, some may nonetheless choose not to implement it due to implementation costs or because investors in U.S. funds are unfamiliar with swing pricing. Therefore, funds may not be incentivized to be the first to adopt swing pricing. We believe that a regulatory requirement, rather than a permissive framework, would accrue benefits to investors that justify the implementation costs and would overcome these collective action problems that may have prevented swing pricing implementation. In addition, we continue to believe the information a fund that uses swing pricing must disclose in its prospectus will improve public understanding regarding a fund's use of swing pricing.[162]

Some academics and market participants have suggested that swing pricing has provided significant benefits to long-term investors in funds in other jurisdictions, reducing dilution attributable to the transaction costs associated with shareholder activity.[163] As an example, one foreign fund industry group has suggested that funds using swing pricing exhibit superior performance returns over time compared to funds with identical investment strategies and trading patterns that do not employ anti-dilution measures.[164] In terms of performance benefits, one study found that, for a 10% rise in monthly outflows, the associated decline in monthly returns relative to a fund's benchmark was double the amount for a fund that does not use swing pricing in comparison to a fund that uses swing pricing (a 6 basis point decline versus a 3 basis point decline, respectively).[165] And one investment manager reviewed the effects of swing pricing for twenty of its European funds in 2019 and found that the anti-dilution effect of swing pricing improved annual performance for these funds by around 10 to more than 60 basis points.[166]

In addition, in March 2020, many European funds that used swing pricing lowered their swing thresholds and increased the size of their swing factors, suggesting there was a need to make more frequent and significant adjustments to the funds' NAVs at that time to avoid substantial dilution that otherwise would have occurred.[167] One study found that surveyed funds using swing pricing during a three week period of elevated redemptions in March 2020 recouped roughly 6 basis points of total net assets on average from redeeming investors.[168] The swing pricing policies that the proposed rule would require, which are similar to those used by some foreign funds, are designed to mitigate dilution arising from shareholders' purchase and redemption activity, particularly during times of stress when those dilution costs may increase. In addition to reducing dilution, some studies also suggest that swing pricing dampens redemption pressure, although some have found this effect to be minimal or nonexistent during certain periods of market stress.[169]

Consistent with our current optional swing pricing framework, the proposed swing pricing requirement for open-end funds would apply to both net purchases and net redemptions. Although liquidity and transaction costs associated with meeting net redemptions can present heightened risks of dilution, particularly in stress periods, we continue to believe that net purchases also may cause shareholder dilution.[170] However, when a fund has net purchases, we propose to require swing pricing only if the amount of net purchases exceeds a specified threshold.

While the proposed swing pricing requirement generally would apply to all registered open-end funds other than excluded funds, we propose to retain the current provision that does not permit feeder funds in a master-feeder fund structure to use swing pricing.[171] The use of swing pricing would generally be inappropriate for feeder funds, because that level of a fund structure does not actually transact in underlying portfolio assets as a result of net purchase or net redemption activity. A master fund, however, generally would be subject to the swing pricing requirement. The master fund may purchase portfolio assets to invest purchasing shareholders' cash (as transferred through the feeder fund) or sell portfolio assets to pay redemption proceeds (reducing the feeder fund's interest in the master fund). Thus, to the extent that net purchases into or redemptions from the master fund by one or more feeder funds, or any other investors in the master fund, would trigger the application of swing pricing under the proposed rule, the swing factor would be applied at the level of the master fund.

Consistent with current rule 22c–1, we propose to exclude ETFs from the swing pricing requirement because ETFs often impose fees in connection with the purchase or redemption of creation units that are intended to defray operational processing and brokerage costs to prevent possible shareholder dilution.[172] We also are not including ETFs within the scope of the proposed requirement because we believe that swing pricing could impede the effective functioning of an ETF's arbitrage mechanism. Additionally, notwithstanding section 18(f)(1) of the Act, a fund with a share class that is an exchange-traded fund is subject to the swing pricing requirement only with respect to any share classes that are not

---

[161] *See supra* notes 59 to 63 and accompanying text (stating that some fund managers with both U.S. and European operations indicated to the staff that swing pricing would have been a useful tool for U.S. funds to have had to combat dilution in Mar. 2020).

[162] *See* Swing Pricing Adopting Release, *supra* note 11, at n.360 and accompanying text. In 2016, when the Commission adopted the optional swing pricing rule for open-end funds that are not excluded funds, it also adopted certain amendments to Form N–1A to enhance disclosure related to a fund's use of swing pricing, if applicable. Among other things, these amendments required that a fund that uses swing pricing explain the fund's use of swing pricing, including its meaning, the circumstances under which the fund will use it, the effects of swing pricing on the fund and investors, and the upper limit it has set on the swing factor. *See* Item 6(d) of Form N–1A. Although no funds currently use swing pricing, and therefore do not provide swing pricing disclosures to their investors, under the proposed rule all funds other than excluded funds would be required to provide these disclosures, other than the swing factor upper limit disclosure, to their investors.

[163] *See, e.g.,* Dunhong Jin, Marcin Kacperczyk, Bige Kahraman, and Felix Suntheim, Swing Pricing and Fragility in Open-end Mutual Funds, The Review of Financial Studies, 35(1) (2022), *available at https://academic.oup.com/rfs/article/35/1/1/6162183* (''Jin, *et al.*''); BlackRock, Swing Pricing—Raising the Bar (Sept. 2021), *available at https://www.blackrock.com/corporate/literature/whitepaper/spotlight-swing-pricing-raising-the-bar-september-2021.pdf* (''BlackRock Swing Pricing Paper'').

[164] *See* Association of the Luxembourg Fund Industry, Swing Pricing Brochure (July 2022), *available at https://www.alfi.lu/getattachment/3154f4f7-f150-4594-a9e3-fd7baaa31361/app_data-import-alfi-alfi-swing-pricing-brochure-2022.pdf.*

[165] *See* CSSF Paper, *supra* note 61.

[166] *See* BlackRock Swing Pricing Paper, *supra* note 163.

[167] *See* notes 59 to 63 and accompanying text.

[168] *See* Claessens and Lewrick, *supra* note 61.

[169] *See* CSSF Paper, *supra* note 61 (stating that funds applying swing pricing are less exposed to redemption pressure during episodes of elevated market volatility, but this dampening effect appears to vanish during episodes of severe market volatility, such as in Mar. 2020); *see also infra* notes 354 to 355 and accompanying text.

[170] *See* Swing Pricing Adopting Release, *supra* note 13, at paragraph accompanying n.166.

[171] *See* proposed rule 22c–1(b)(5) and current rule 22c–1(a)(3)(iv).

[172] *See* Swing Pricing Adopting Release, *supra* note 13, at paragraph accompanying n.68.

exchange-traded funds.[173] The proposed rule provides this exemption to allow funds with both mutual fund and ETF share classes to apply swing pricing to only their mutual fund share classes. Absent an exemption, differences between the ETF and mutual fund share classes created by swing pricing could result in a fund being deemed to issue a senior security, which would otherwise be prohibited under the Act.[174] Thus, a fund with an ETF share class would exclude the ETF share class's flow information when determining whether and how to apply swing pricing, and would not adjust the NAV of the ETF share class by the swing factor in computing the share price of that class.

We request comment on our proposal to require any fund that is not an excluded fund to implement swing pricing.

51. As proposed, should we require any fund that is not an excluded fund to implement swing pricing? Should we provide any additional exclusions from the swing pricing requirement? For example, should funds that invest solely or primarily in highly liquid investments be permitted, but not required, to use swing pricing? If we provide an exclusion for funds that primarily invest in highly liquid investments, how should we define primarily for these purposes (*e.g.,* more than 50%, 66%, or 75%)? Should we use the same definition of highly liquid investment as the liquidity rule for these purposes? If not, how should we define highly liquid investments for purposes of an exclusion from the swing pricing requirement? If a fund primarily invested in highly liquid investments were to no longer qualify for this exclusion, when should it be required to adopt swing pricing (*e.g.,* immediately or within a certain grace period)? Alternatively, should we limit the exclusion from swing pricing to funds that do not invest more than a certain percentage of assets in illiquid investments? What maximum level of illiquid investments would be appropriate to qualify for the exclusion (*e.g.,* 1%, 2%, 5%, or 10%)? When should a fund be required to adopt swing pricing if it no longer complies with this exclusion (*e.g.,* immediately or within a certain grace period)? Should we use the same definition of illiquid investments as the liquidity rule for these purposes?

52. Should we limit the swing pricing requirement to only certain types of mutual funds and retain an optional framework for other mutual funds? If so, how should we identify by rule the types of mutual funds that would most benefit from a swing pricing requirement? As an example, would it be appropriate to require swing pricing for fixed-income mutual funds only, and to retain an optional approach for other funds? If so, how would a fixed-income fund be defined for this purpose (*e.g.,* a mutual fund that invests at least a certain percentage in fixed-income investments, such as 50%, 75%, or 80%)? How would fixed-income investments, or any other type of portfolio investment, be defined for this purpose?

53. Should we adopt swing pricing as a default tool, with a requirement that an open-end fund, other than an excluded fund, implement swing pricing unless certain conditions are met? For example, should a fund be required to implement swing pricing unless its board of directors makes certain determinations (*e.g.,* that the fund and its shareholders are unlikely to experience significant dilution in connection with investor purchases and redemptions) and the fund maintains records of such determinations? Should a fund be required to report information about the reasons for such a determination publicly?

54. Should swing pricing remain an optional tool for all mutual funds, other than excluded funds? If so, how likely are funds to use the tool if we adopt the proposed hard close requirement or take other steps to facilitate a fund's ability to determine its daily flows before the NAV is finalized? Are certain types of funds more likely to use swing pricing if it remained an optional tool? If so, why are these funds more likely to use swing pricing than others? Are the funds that would use swing pricing if it remained optional the same funds that would benefit most from addressing dilution associated with shareholder transactions?

55. As proposed, should we retain the current provision in the rule that does not allow feeder funds in a master-feeder structure to engage in swing pricing?

56. Under the proposal, ETFs, the shares of which are listed and traded on a national securities exchange, and that are formed and operate under an exemptive order under the Investment Company Act or in reliance on rule 6c–11, would not be subject to swing pricing. Is the proposed definition of ETF appropriate? If we adopt the swing pricing requirement, would mutual funds seek to convert to an ETF structure? Are there any actions or exemptive relief that the Commission should take or grant to facilitate the conversion of mutual funds to ETFs? If ETFs were to become the predominant form of open-end fund under the Investment Company Act, would that affect the need to impose swing pricing? And likewise, if ETFs were to become the predominant form of open-end fund, would that benefit or harm investors, and if so, how and to what extent?

57. Should we provide that funds with an ETF share class must exclude the ETF share class from the application of swing pricing, as proposed? What, if any, operational challenges would exist for such funds under this approach? Should we instead require that ETF share classes be subject to the swing pricing requirement, which would result in authorized participant purchases and redemptions being effected at an adjusted NAV?

58. Should we require swing pricing for both net redemptions and net purchases, as proposed, or only for net redemptions? Do dilution and liquidity concerns exist for open-end funds in both scenarios?

59. What would be the operational challenges and costs for funds to adopt and implement swing pricing, as proposed? If funds operationalized swing pricing in March 2020, would it have been an effective tool to address dilution during that period? To what extent were funds selling portfolio assets and incurring transaction costs to meet redemptions, or in anticipation of future redemptions, during that period?

60. Will the existing swing pricing disclosures required in Form N–1A be sufficient to help investors understand swing pricing? How familiar are U.S. investors with swing pricing? Are there any amendments we should make to the swing pricing disclosure requirements in Form N–1A that would help investors better understand the concept of swing pricing? For example, should funds be required to disclose in their registration statements the frequency they have applied, or would have applied, a swing factor over a specified period of time (*e.g.,* 1, 3, or 5 years) based on historical flow information? Should we require a fund to provide additional disclosure about swing pricing to investors outside of the registration statement? For example, should we require funds to disclose the effects of swing pricing in shareholder reports (*e.g.,* in management's discussion of fund performance)?

[173] *See* proposed rule 22c–1(b)(6).

[174] Section 18(f)(1) of the Act generally makes it unlawful for any registered open-end company to issue any class of senior security. Section 18(g) defines senior security to include any stock of a class having a priority over any other class as to distribution of assets or payment of dividends.

61. Is the experience with swing pricing in certain foreign jurisdictions relevant to an analysis of whether swing pricing would be an effective tool for U.S. funds? Beyond the operational differences identified in this release, are there differences in regulatory frameworks, markets, fund investors, or other factors between the U.S. and these other jurisdictions that might cause U.S. funds' experiences with swing pricing to differ? [175]

62. Rule 2a–4 under the Act requires a fund, when determining its current NAV, to reflect changes in holdings of portfolio securities and changes in the number of outstanding shares resulting from distributions, redemptions, and repurchases no later than the first business day following the trade date. Are there any changes we should make to rule 2a–4 to address dilution? For example, should we amend that rule to require that funds reflect these changes on trade date?

2. Amendments to Swing Threshold Framework

The current rule permits a fund to determine its own swing threshold for net purchases and net redemptions, based on a consideration of certain factors the rule identifies.[176] We are proposing to specify when a fund must use swing pricing to adjust its current NAV, which would differ depending on whether the fund has any net redemptions or has net purchases above a specified threshold on a given day.

When the Commission adopted the swing pricing provisions in 2016, it determined to require a swing threshold and not to prescribe a swing threshold floor applicable to all funds because it believed 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.[177] At that time, the Commission believed consideration of the swing threshold factors—which took into account these different liquidity-related characteristics—would lead a fund to set a threshold at a level that 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. We further believed that after considering these factors, a fund would be unable to set the swing threshold at zero. Thus the current rule does not contemplate full swing pricing, but assessment of the swing threshold factors could lead certain funds to set low swing thresholds approximating full swing pricing.

In the intervening period, however, we have observed that the size of funds' swing thresholds in certain other jurisdictions has depended more on uniform decisions by the manager of a fund complex than on an individual fund's liquidity-related circumstances.[178] In addition, we considered our experience with the liquidity rule discussed above, where currently allowed discretion has led to favorable liquidity assessments that tend to over-estimate funds' liquidity during stressed market conditions and that fail to change dynamically during stressed market conditions. A similar experience translated to swing pricing could cause high swing thresholds set during calm market conditions that do not adjust downward as may be appropriate in some cases during stressed market conditions. As a result of these experiences, we are concerned that retaining the principles-based framework for setting swing thresholds under the current rule would not result in the level of fund-specific tailoring the Commission contemplated and, instead, would simply result in undue variation among similarly situated funds and, in some cases, swing thresholds high enough that swing pricing does not adequately address dilution.

In the case of net redemptions, the proposed rule would require a fund to apply swing pricing always (*i.e.,* without a swing threshold).[179] Because every net redemption can potentially involve trading or borrowing costs that dilute the value of the fund, as well as depletion of a fund's liquidity for remaining shareholders that increases the likelihood of future dilution, the proposal, in setting a uniform approach to triggering swing pricing in all circumstances, would require a fund to apply a swing factor regardless of the size of its net redemptions, which is intended to fairly allocate costs and reduce dilution. Applying swing pricing regardless of the size of net redemptions may help reduce any potential first-mover advantage associating with redeeming before other investors. However, the types of costs the swing factor must take into account would depend on the size of net redemptions. Specifically, the proposed rule would require a fund to include market impacts in its swing factor only if net redemptions exceed 1% of the fund's net assets (the ''market impact threshold'').[180] Market impact costs are the costs incurred when the price of a security changes as a result of the effort to purchase or sell the security.[181]

We understand that there may be operational challenges and complexities to estimating market impact costs. Recognizing these difficulties, and that market impacts are likely to be minimal or even negligible when redemptions are not significant, the proposal sets a market impact threshold below which estimates of market impact would not be necessary. Based on our analysis of historical daily flow data over a period of more than 10 years for equity and fixed-income mutual funds, a given fund had daily outflows of more than 1% on slightly more than 1% of trading days.[182] We propose a 1% market impact threshold to balance the operational challenges of frequently estimating market impacts with the goal of reducing dilution, particularly in times of stress (*i.e.,* when a fund is more likely to experience redemptions of more than 1% of net assets and market impacts are likely to be larger). We recognize that smaller funds may be less likely than larger ones to have market impacts at a 1% threshold, because they generally would be selling smaller investment sizes than larger funds would at that threshold. However, there are circumstances in which smaller funds may also experience market impact costs at the 1% threshold; for example, if the fund holds substantial

[175] *See infra* note 225 (discussing that European jurisdictions in which funds use swing pricing generally already have a hard close, which results in European funds receiving order flow much earlier than U.S. funds).

[176] The factors a fund currently must consider in determining the size of its swing threshold are: (1) the size, frequency, and volatility of historical net purchases or net redemptions of fund shares during normal and stressed periods; (2) the fund's investment strategy and the liquidity of the fund's portfolio investments; (3) the fund's holdings of cash and cash equivalents, and borrowing arrangements and other funding sources; and (4) the costs associated with transactions in the markets in which the fund invests. *See* rule 22c–1(a)(3)(i)(B).

[177] For considerations relating to the swing threshold in the current rule, see generally Swing Pricing Adopting Release, *supra* note 11, at nn.150–155 and accompanying text.

[178] *See* Bank of England Survey, *supra* note 60 (''In most cases we observed that funds with different primary strategies and assets, but managed by the same fund manager, used both the same thresholds for applying swing pricing, and the same calculation of the standardised swing factor. This appears to indicate that managers may not be fully considering specific factors such as in the investor base or asset-specific factors for individual funds.'').

[179] *See* proposed rule 22c–1(b)(1)(i).

[180] *See* proposed rule 22c–1(b)(2)(i)(C) and definition of ''Market impact threshold'' in proposed rule 22c–1(d).

[181] Market 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.

[182] Based on Morningstar data for the period of Jan. 2009 through Dec. 2021.

illiquid investments or during periods of market stress. Therefore, the proposal requires all funds to assess whether market impact costs would occur when net redemptions exceed a 1% threshold and, if they do occur, to include such costs in the swing factor. A uniform market impact threshold for all funds would provide a consistent and objective threshold for all funds to consider market impacts.

When a fund has net purchases, we propose to only require swing pricing—including market impact—if the amount of net purchases exceeds 2% of the fund's net assets (the ''inflow swing threshold'').[183] We recognize that smaller levels of net purchases are less likely to result in dilution than net redemptions. This is because funds, while required to pay redemptions within seven days, are not required to invest cash inflows within a specified period. Therefore, if bid-ask spreads have widened on a day that the fund receives the cash inflows, the fund manager generally can wait to invest the cash to reduce transaction costs.[184] In addition, while investing the cash inflows could decrease the liquidity of the fund, particularly if the cash is used to purchase illiquid investments, the liquidity rule curbs this possibility by limiting the amount of illiquid investments a fund can acquire.

For these reasons, the proposal sets a swing threshold for net purchases but not one for net redemptions. We also recognize that low levels of net purchases are less likely to result in dilution, but that higher levels of net purchases are more likely to result in dilution absent appropriate tools for mitigating it. Based on our analysis of historical daily flow data over a period of more than 10 years for equity and fixed-income mutual funds, a given fund had daily inflows of approximately 2% on about 1% of trading days.[185] Therefore, similar to the proposed market impact threshold, we propose an inflow swing threshold of 2% to balance the operational challenges of frequently implementing swing factors for net purchases with the goal of reducing dilution, particularly when a fund has significant inflows.

Although the proposed rule would identify a market impact threshold that would apply to net redemptions and an inflow swing threshold for net purchases, the rule would permit the fund's swing pricing administrator to use smaller thresholds than the rule identifies in either of these instances as the administrator determines is appropriate to mitigate dilution.[186] Flexibility to use a smaller threshold is designed to recognize that there may be circumstances in which a smaller threshold than the rule requires would help reduce dilution, such as when the fund holds a larger amount of investments that are less liquid, in times of market stress, or in the case of a large fund (*i.e.,* because a large fund is selling or purchasing a larger amount of instruments than a small fund at a 1% market impact threshold for net redemptions or a 2% inflow swing threshold for net purchases). For example, a fund might elect to implement swing pricing if the fund experiences net purchases of any amount.

We understand that in having the option to set a lower market impact threshold for net redemptions and inflow swing threshold for net purchases, the swing pricing administrator would have discretion that it potentially could use to enhance fund performance in a misleading manner by adjusting the fund's NAV more frequently or more substantially than is needed to address dilution. To help address this risk, under the proposal the administrator would be required to include in its written reports to the board the information and data supporting its determination to use lower thresholds.[187] Additionally, consistent with the current rule, a fund's portfolio manager could not be designated as the swing pricing administrator.[188]

We request comment on our proposed amendments to the swing pricing threshold.

63. Should we adopt a framework that, in the case of net redemptions, requires a fund to adjust its NAV by a swing factor only when those net redemptions exceed an identified threshold (*i.e.,* as we propose for net purchases)? If so, should that threshold be the same size as the 1% market impact threshold, or a lower or higher amount (*e.g.,* 0.5%, 1.5%, or 2%)?

64. Should we require the application of the swing factor regardless of the size of net purchases or net redemptions, or only when they exceed a certain percentage of a fund's net assets? Should funds have discretion to set their own thresholds? If so, should that discretion be based on the swing threshold factors currently in the rule or should we adjust those factors?

65. Should we include a market impact threshold for net redemptions, as proposed? Is 1% an appropriate level for the market impact threshold? Should it be a lower or higher amount (*e.g.,* 0.5%, 1.5%, or 2%)? Is there different data or analysis that we should take into account to determine the market impact threshold?

66. Should we include an inflow swing threshold for net purchases, as proposed? Is 2% an appropriate level for the inflow swing threshold? Should it be a lower or higher amount (*e.g.,* 0.5%, 1%, 1.5%, or 3%)? Is there different data or analysis that we should take into account to determine the inflow swing threshold?

67. Would the proposed inflow swing threshold, or a requirement to use swing pricing in the case of net purchases more generally, cause a fund to limit the total amount an investor can invest in the fund? If so, what effects would this have on investors?

68. Should we permit the swing pricing administrator to use discretion to establish a smaller market impact threshold for net redemptions or a smaller inflow swing threshold for net purchases if the administrator determines a smaller threshold is appropriate to mitigate dilution, as proposed? Should we prescribe the circumstances in which a smaller threshold would be permitted, the timing of such a determination by the swing pricing administrator (*e.g.,* if a swing pricing administrator must formally establish a smaller threshold that will remain in place for a period of time), disclosure of such a determination to the fund's investors, and recordkeeping requirements in support of the determination? Should we require the fund's board, instead of

[183] *See* definition of ''Inflow swing threshold'' in proposed rule 22c–1(d).

[184] Regardless of bid-ask spreads, a fund manager also may choose to use cash inflows to invest in derivatives to obtain market exposure quickly while strategizing where to invest that cash on a longer-term basis. Funds may be incentivized to invest promptly in an effort to avoid reduced returns and tracking error.

[185] Based on Morningstar data for the period of Jan. 2009 through Dec. 2021.

[186] *See* definitions of ''Inflow swing threshold'' and ''Market impact threshold'' in proposed rule 22c–1(d). Under the proposed rule, the term ''swing pricing administrator'' has the same meaning as the term ''person(s) responsible for administering swing pricing'' under the current rule. *See* proposed rule 22c–1(d); current rule 22c–1(a)(3)(ii)(C). The swing pricing administrator is the fund's investment adviser, officer, or officers responsible for administering the fund's swing pricing policies and procedures. The proposed rule specifies that the swing pricing administrator may consist of a group of persons. As with the current rule, the fund's board of directors must designate this person or group of persons.

[187] *See* proposed rule 22c–1(b)(3)(iii)(C). Consistent with the current rule, a fund would be required to maintain a written copy of the report provided to the board for six years, the first two years in an easily accessible place. *See* rule 22c–1(a)(3)(iii); proposed rule 22c–1(b)(4).

[188] *See* rule 22c–1(a)(3)(ii)(C) and proposed rule 22c–1(b)(3)(ii). *See also* Swing Pricing Adopting Release, *supra* note 11, at n.269 and accompanying text.

the swing pricing administrator, to approve use of a smaller threshold? Should we permit the swing pricing administrator to exclude certain types of costs from the swing factor if it uses a lower-than-required threshold? For example, should a swing pricing administrator be permitted to exclude market impact estimates from the swing factor if it uses an inflow swing threshold that is lower than 2%, and instead only include market impact estimates when inflows also exceed 2%?

69. Should the swing pricing administrator or the board have flexibility to establish larger thresholds than proposed (*i.e.,* to apply a swing factor only when net redemptions exceed a specified percentage, to include market impacts in the swing factor when net redemptions are an identified amount that is greater than 1%, or to apply a swing factor only when net purchases exceed an identified amount that is greater than 2%)? If so, what are the circumstances in which a fund board or the swing pricing administrator should have flexibility to use larger thresholds that the proposed rule identifies?

70. Should we allow certain types of funds to use different thresholds than those the proposed rule identifies? For example, should we permit or require smaller funds to use larger thresholds? If so, how should we identify smaller funds for these purposes? Should the rule identify larger thresholds for smaller funds, or should smaller funds have flexibility to determine their own thresholds? As another example, should we permit or require funds that hold significant amounts of highly liquid investments to use larger thresholds? If so, how should we identify funds that hold significant amounts of highly liquid investments for these purposes? Should the rule identify larger thresholds for these funds, or should they have flexibility to determine their own thresholds?

3. Determining Flows

Consistent with the current rule, the swing pricing administrator must review investor flow information to determine if the fund has net purchases or net redemptions and the amount of net purchases or net redemptions.[189] For these purposes, investor flow information means information about the fund investors' daily purchase and redemption activity. Investor flow information may consist of individual, aggregated, or netted eligible orders, and excludes any purchases or redemptions that are made in kind and not in cash.[190] Currently it would be difficult to determine investor flow information on a given day because some intermediaries do not provide order flow until after the fund has finalized its NAV. In recognition of these challenges, the current rule permits a swing pricing administrator to make swing pricing determinations based on receipt of sufficient investor flow information to allow the fund to estimate reasonably whether it has crossed a swing threshold with high confidence.[191] While the hard close provision in the proposed rule is intended to result in funds generally having flow information in a timely manner, and therefore greatly reduce the need for estimation, we recognize some estimation may still be required. The proposed rule would, therefore, continue to permit the swing pricing administrator to make swing pricing determinations based on reasonable, high confidence estimates of investor flows.[192]

Under our proposal, the swing pricing administrator would be required to review investor flow information on a daily basis to determine: (1) if the fund experiences net purchases or net redemptions; and (2) the amount of net purchases or net redemptions. We propose to permit the swing pricing administrator to make these determinations based on ''reasonable, high confidence estimates.'' While there would be less of a need to estimate flows under the proposed hard close requirement, we understand that a swing pricing administrator still would need to use estimates in some cases. For instance, if an investor submits an exchange order to redeem its shares from Fund A and simultaneously invest the proceeds in Fund B, the swing pricing administrator for Fund B may need to estimate the incoming cash by multiplying the number of shares redeemed from Fund A by an estimate of Fund A's NAV, which may be the prior day's transaction price. In this situation, we recognize it will not be possible for the swing pricing administrator to determine the exact size of the related flow information until a later time. Therefore, we propose to permit the use of reasonable, high confidence estimates to make swing pricing determinations. Furthermore, some funds groups with both U.S. and European operations may already have experience with this type of estimation, because European funds that have adopted swing pricing generally use the prior day's price to estimate today's flows.

We request comment on our proposal requirements related to shareholder flow information.

71. Should we permit a swing pricing administrator to make reasonable, high confidence estimates of investor flows, as proposed? Are there operational complexities to this approach? Is the rule's reference to reasonable, high confidence estimates of investor flows sufficiently clear? If not, how should we revise the rule to provide greater clarity about permitted estimates?

72. As proposed, should we remove references to receipt of sufficient investor flow information in the rule in light of the proposed hard close requirement?

73. Is the proposed definition of ''investor flow information'' clear and understandable? Should the rule continue to exclude any purchases or redemptions that are made in kind and not in cash, as proposed?

74. Should we provide additional guidance about circumstances in which a swing pricing administrator may need to use estimates in connection with arriving at a reasonable, high confidence estimate of the fund's investor flow information and how the administrator should arrive at those estimates? Are there other types of investor orders, beyond orders that identify the number of shares to be purchased or sold and exchanges, that would still require estimation under a hard close approach? Should funds be able to use the prior day's transaction price for purposes of estimating flows where the amount of such flows are dependent on having a transaction price? Should funds be permitted to make adjustments to the prior day's price for these purposes (*e.g.,* to reflect market movements relative to fund benchmarks that occurred after the prior day's NAV was struck)? If so, under what circumstances should we permit such adjustments?

75. If we adopt the proposed hard close requirement, would there be scenarios in which a swing pricing administrator would be unable to arrive at a reasonable, high confidence estimate of investor flows? If so, when would this occur? How should a fund comply with the swing pricing requirement if the administrator is unable to arrive at a reasonable, high

[189] *See* rule 22c–1(a)(3)(i)(A) and proposed rule 22c–1(b)(1)(i).

[190] *See* definition of ''Investor flow information'' in proposed rule 22c–1(d). *See also infra* section II.C.2 (discussing the proposed definition of ''eligible order'' for purposes of the hard close requirement).

[191] *See* rule 22c–1(a)(3)(i)(A).

[192] Under the current rule, the swing pricing administrator is permitted to make swing threshold determinations based on receipt of sufficient flow information ''to allow the fund to reasonably estimate whether it has crossed the swing threshold(s) with high confidence.'' *See* rule 22c–1(a)(3)(i)(A).

confidence estimate of investor flows on a given day?

76. Would the use of reasonable, high confidence estimates of investor flows subject swing pricing determinations to abuse? Should the use of estimates be limited to specific circumstances? Are there other ways for the swing pricing administrator to make swing pricing determinations without the use of reasonable, high confidence estimates of investor flows?

77. Do fund groups with both U.S. and European operations already have experience with investor flow estimation? If so, would experience with European operations help these fund groups use estimates in their U.S. funds? What changes to the proposed rule, if any, would help fund groups without prior experience with investor flow estimation?

4. Swing Factors

In determining the swing factor, the proposed rule would require a fund's 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 investment in its portfolio to satisfy the amount of net purchases or net redemptions (*i.e.,* a vertical slice).[193] The current swing pricing framework requires that the swing factor take into account only the 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 is used, as well as borrowing-related costs associated with satisfying redemptions.[194] Under our proposal, a fund would be required to assume it would purchase or sell a pro rata amount of each investment in its portfolio, rather than consider the specific investments it would purchase to invest the proceeds from subscriptions or sell to meet redemptions.[195] Because a fund would need to calculate its costs based on the purchase or sale of a vertical slice of its portfolio, rather than selecting specific investments or borrowing to meet redemptions, we have proposed to remove borrowing costs from the swing factor calculation. We recognize that there are many ways a fund could pay redemptions or invest proceeds from investor purchases, and a fund may not necessarily sell or purchase a vertical slice of its portfolio holdings to do so. However, we believe analyzing costs based on an assumed purchase or sale of a vertical slice of the fund's portfolio would more fairly reflect the costs imposed by redeeming or purchasing investors than an approach that focuses solely on the costs associated with the instruments that the fund expects to buy or sell (or expected borrowing costs, in the case of redemptions). For example, under the current rule, if a fund sells only highly liquid investments to meet redemptions, the swing factor would typically reflect relatively low transaction costs of selling those investments and any near-term rebalancing, and generally would not account for the effect of leaving remaining investors with a less liquid portfolio or potential longer-term rebalancing costs. In contrast, the proposed requirement that a fund calculate costs to purchase or sell a vertical slice of the portfolio is designed to recognize the potential longer-term costs of reducing the fund's liquidity under these circumstances.

In addition, using a vertical slice is more objective than the current approach, because the swing factor administrator does not need to anticipate what actions the fund will take to pay redemptions or invest proceeds from investor purchases, which may vary from day to day. This should make the swing factor easier to administer. Further, under the proposed swing pricing framework and consistent with the current rule, a swing factor could generally be determined on a periodic basis, as long as developments that should affect the swing pricing administrator's good faith estimates of spreads, market impact, and other transaction costs, such as significant market developments, prompt a quicker reevaluation.[196] A quicker reevaluation would be required to comply with the proposed amendments where developments would otherwise prevent the prior swing factor from reflecting the cost the fund would incur if it purchased or sold a pro rata amount of each portfolio investment under current market conditions. Accordingly, we believe a fund would have the incentive to reevaluate promptly its swing factor in these circumstances because having an accurate and fair transaction price is crucially important to investors. We believe that funds would address the frequency of swing factor determinations when designing their policies and procedures relating to swing pricing.

Calculating the swing factor would differ depending on whether the fund is experiencing net purchases or net redemptions. In the case of net redemptions, the good faith estimates must include, for selling a *pro rata* amount of each investment in the fund's portfolio to satisfy the amount of net redemptions: (1) spread costs; (2) brokerage commissions, custody fees, and any other charges, fees, and taxes associated with portfolio investment sales; and (3) if the amount of the fund's net redemptions exceeds the market impact threshold, the market impact.[197] In the case of net purchases, swing pricing would only be applied if the amount of the fund's net purchases exceeds 2%.[198] In such cases the good faith estimates must include, for purchasing a *pro rata* amount of each investment in the fund's portfolio to invest the proceeds from the net purchases: (1) spread costs; (2) brokerage commissions, custody fees, and any other charges, fees, and taxes associated with portfolio investment purchases; and (3) the market impact.[199] We believe these components of the swing factor for both net redemptions and net purchases, taken together, approximate the aggregate costs associated with dilution. We also believe that providing a standard for calculating swing factors, including the vertical slice approach and the identification of the categories of costs funds must include, would help avoid the variability in how funds calculate swing factors, as observed in some other jurisdictions where funds use swing pricing.[200]

We understand that in calculating the swing factor, fund managers may have incentives to over-estimate costs in order to improve fund performance. However, doing so would be misleading. To help address this risk, under the proposal funds would be required to report their swing factor adjustments publicly on Form N–PORT. We believe this public transparency

[193] *See* proposed rule 22c–1(b)(2).

[194] These near-term costs include spread costs, transaction fees and charges arising from asset purchases or asset sales resulting from those purchases or redemptions. *See* rule 22c–1(a)(3)(i)(C).

[195] *See* proposed rule 22c–1(b)(2).

[196] *See* Swing Pricing Adopting Release, *supra* note 11, at paragraph accompanying n.268.

[197] *See* proposed rule 22c–1(b)(2)(i).

[198] *See* proposed rule 22c–1(b)(2)(ii).

[199] *Id.*

[200] *See* Bank of England Survey, *supra* note 60. This report states that in calculating swing factors, some surveyed UK funds only considered bid-ask spreads, some other funds also considered explicit transaction costs such as commissions, and a few funds considered market impact as well. Moreover, in reviewing the size of swing factors applied in Mar. 2020, the report found that corporate bond funds with net outflows applied swing factors ranging between −5% and +0.5% from Mar. 10 to 23. The report states that the scale of variation suggests that fund-specific experiences are not the sole explanation for differences in swing factors and that different approaches fund managers took in applying swing pricing also contributed to these variations.

should reduce a fund's incentive to over-estimate costs. Additionally, a fund's portfolio manager, who arguably might have the strongest incentives to over-estimate costs, could not be designated as the swing pricing administrator.[201]

The method for calculating a fund's spread costs would differ depending on how the fund values its portfolio holdings. We understand that funds may value portfolio holdings at the bid price or the mid-market price when striking their NAVs.[202] If a fund values its portfolio holdings at the bid price, it would not need to include spread costs in its swing factor when the fund has net redemptions. In contrast, if the fund has net purchases exceeding 2%, the fund would need to include spread costs, which would reflect the full bid-ask spread. For a fund that uses mid-market pricing, it would need to include spread costs in its swing factor any time it applies swing pricing. When a fund using mid-market pricing has net redemptions, or net purchases exceeding 2%, the spread cost component of its swing factor would reflect half of the bid-ask spread.

The proposal would require a fund to include market impact in its swing factor only if the amount of net redemptions exceeds the market impact threshold, and in all cases where the amount of net purchases exceeds the inflow swing threshold. The market impact component of the swing factor would reflect good faith estimates of the market impact of selling (in the case of net redemptions) or purchasing (in the case of net purchases) a vertical slice of a fund's portfolio to satisfy the amount of net redemptions or net purchases. The fund would estimate market impacts for each investment in its portfolio by first estimating the market impact factor. This factor is 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. Then, the fund would multiply the market impact factor 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 meet the net redemptions or net purchases.[203]

We understand that it may be difficult to produce timely, good faith estimates of the market impact of purchasing or selling a pro rata portion of each instrument the fund holds. Recognizing these difficulties, and because some securities held by mutual funds may have similar characteristics and would likely incur similar costs if purchased or sold, the proposed rule would permit the swing pricing administrator to estimate costs and market impact factors for each type of investment with the same or substantially similar characteristics and apply those estimates to all investments of that type rather than analyze each investment separately.[204]

The existing swing pricing framework currently in rule 22c–1 does not permit a fund to include market impact costs relating to transacting in the fund's investments in the swing factor calculation. At the time of the rule's adoption, the Commission stated that it may be difficult for many funds to estimate readily market impact costs, and that subjective estimates of market impact costs could grant excessive discretion in a fund's determination of a swing factor.[205] We understand that it may continue to be difficult to determine market impact costs with precision, while a fund would be able to determine other relevant factors more precisely.[206] However, we believe the experiences of European funds that employed swing pricing through March 2020 have highlighted the importance of considering market impact costs, given the stressed nature of markets at that time, the level of those funds' redemptions, and the size of those funds' swing factors. We understand that only some European funds consider market impact costs when determining their swing factors.[207] A recent survey conducted by the Association of the Luxembourg Fund Industry (''ALFI''), however, observed an increase in asset managers including market impact in their swing factors, with 35% of surveyed asset managers including this component in the factor calculation.[208]

To address the concern that market impact estimation may be difficult, and that subjective estimates of market impact costs could grant excessive discretion in the determination of a swing factor, we are providing additional parameters for estimating market impact to make the calculation more objective as discussed above. These prescriptive requirements should help to limit subjectivity, and recordkeeping requirements would require funds to document their market impact factors, facilitating our staff's review and oversight of mutual fund swing pricing.[209]

The current swing pricing framework requires the establishment of an upper limit on the swing factor used.[210] The Commission included a 2% upper limit in the current rule to make sure that swing pricing would not operate as a ''de facto gate.'' [211] We are not including an upper limit on the swing factor under our proposed framework. We propose to remove the requirement for the board to review and approve the fund's swing threshold and the upper limit on the swing factor(s) used, as well as any charges on these items, to conform to our proposed swing pricing framework.[212] The more specific parameters in this proposal for determining a fund's swing factor are intended to sufficiently mitigate the

[201] *See* proposed rule 22c–1(b)(3)(ii).

[202] *See* FASB ASC 820–10–35–36C (providing that if an asset measured at fair value has a bid price and an ask price, the price within the bid-ask spread that is most representative of fair value in the circumstance shall be used to measure fair value, and that the use of bid prices for asset positions is permitted but not required for these purposes); FASB ASC 820–10–35–36D (stating that use of mid-market pricing as a practical expedient for fair value measurements within a bid-ask spread is not precluded). Since a seller generally asks for a higher price for a security than a buyer bids for that security, the mid-market price is incrementally higher than the bid price for a security, but lower than its ask price.

[203] *See* proposed rule 22c–1(b)(2)(iii).

[204] *See* proposed rule 22(c)–1(b)(iv).

[205] *See* Swing Pricing Adopting Release, *supra* note 11, at paragraph accompanying n.240.

[206] Methodologies used to estimate market impact are often created by liquidity measurement vendors. These vendors typically create a model to gauge what size of trade will have a market impact on a security (using various factors such as bid-offer spreads, issue sizes, recent daily average volumes, and recent trade sizes), back-test the model to check its accuracy, and then adjust the weights of the various factors used in the model accordingly.

[207] *See* Bank of England Survey, *supra* note 60 (stating that most surveyed fund managers did not factor market impact explicitly into their swing factors, and few had models in place to estimate spreads when needed).

[208] See ALFI Swing Pricing Survey 2022 (July 2022), available at *https://www.alfi.lu/getattachment/8417bf51-4871-41da-a892-f4670ed63265/app_data-import-alfi-alfi-swing-pricing-survey-2022.pdf*.

[209] *See* rule 31a–2(a)(2) (requiring funds to preserve for a period of not less than six years all schedules evidencing and supporting each computation of an adjustment to the fund's NAV based on swing pricing policies and procedures). A fund's records under the proposed amendments should generally include the fund's unswung NAV, the level of net purchases or net redemptions that the fund encountered (and estimated) that triggered the application of swing pricing, the swing factor that was used to adjust the fund's NAV, and relevant data supporting the calculation of the swing factor, including the components of the swing factor such as market impact.

[210] *See* rule 22c–1(a)(3)(i)(C). Additionally, a fund's board of directors, including a majority of directors who are not interested persons of the fund 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. *See* rule 22c–1(a)(3)(ii).

[211] *See* Swing Pricing Adopting Release, *supra* note 13, at text accompanying nn.253–254.

[212] *See* proposed rule 22c–1(b)(3). We also propose to modify the board's review of a fund's swing pricing policies and procedures to include ''their effectiveness at mitigating dilution'' rather than ''the impact on mitigating dilution.'' *See* proposed rule 22c–1(b)(3)(iii)(A).

concerns that led to an upper limit in the existing swing pricing regime. In addition, although the current rule does not prescribe which investments a fund would purchase or sell, the current upper limit may provide an incentive for funds to sell their most liquid assets first, which may increase the risk of dilution when the fund later rebalances its portfolio. Furthermore, we understand that in certain other jurisdictions, several funds experienced costs and dilution that led to swing factors above 2% in March 2020.[213] Those cases suggest that the swing factors helped mitigate dilution and did not constitute a *de facto* gate, given that they reflected market conditions at that time. We recognize that liquidity costs could vary widely across funds and under different market conditions, and we do not wish to limit the extent to which swing pricing could mitigate dilution. Finally, the policies and procedures for determining the swing factor would be required to be approved by the fund's board, which has an obligation to act in the best interests of the fund.

Additionally, Form N–1A currently requires funds that use swing pricing to disclose a fund's swing factor upper limit.[214] Because we propose to remove the swing factor upper limit in the rule, we also propose to remove the requirement to provide an upper limit on the swing factor from Item 6(d) of Form N–1A.[215]

We request comment on our proposed calculation of a fund's swing factor.

78. Does our proposed requirement that a fund calculate the swing factor by assuming it would sell or purchase a pro rata amount of each investment in its portfolio properly account for liquidity costs? Are there other considerations related to liquidity costs that the swing pricing framework should take into account, such as shifts in the fund's liquidity management or other repositioning of the fund's portfolio?

79. Should funds calculate the swing factor by estimating the costs of purchasing or selling only the investments the fund plans to buy or sell to satisfy shareholder purchases or redemptions (consistent with the current rule), rather than calculating the swing factor based on the costs the fund would incur if it sold a pro rata amount of each investment in its portfolio (as proposed)? Which approach would more fairly reflect the costs imposed by redeeming or purchasing investors?

80. Should we permit a fund not to use the vertical slice assumption when doing so would require the fund to assume that it is purchasing or selling an amount of a given instrument that would not be permissible under other rules (*e.g.,* if it would result in an assumption that a fund would purchase an amount of illiquid investments that exceeds 15%)? If so, how should we modify the assumption for these purposes? Should we require a vertical slice assumption in all cases for administrative ease and consistency in calculations?

81. As proposed, should the swing factor calculation take into account spread costs; brokerage commissions, custody fees, and any other charges, fees, and taxes associated with portfolio investment sales; and the market impact under certain circumstances? Should we remove any of these types of costs from the calculation? Are there other types of costs we should include?

82. Should the swing factor calculation take into account borrowing costs like under the current rule? Should the proposed rule only include borrowing costs for certain assets, such as illiquid assets? Should illiquid investments be defined for this purpose using the same definition as in rule 22e–4?

83. Should the way in which a fund calculates spread costs depend on whether it uses midpoint or bid pricing when valuing its holdings? Should we allow a fund that uses bid pricing not to apply a swing factor when it has net redemptions unless the amount of net redemptions exceeds a threshold (*e.g.,* the market impact threshold)? Should we require all funds to use bid pricing, either instead of or in combination with a swing pricing requirement? Would use of bid pricing effectively address dilution, particularly when net redemptions are small? Instead of requiring swing pricing as proposed, should we require a fund to use bid pricing to compute its share price or otherwise adjust its price to reflect spread costs on days the fund estimates that it has net redemptions? If so, should the fund also use ask pricing on days the fund estimates that it has net purchases? Should we require a fund to use bid pricing to compute its share price on all days, regardless of whether the fund has net redemptions or purchases?

84. Should we require the swing factor to include market impact under certain circumstances, as proposed? Do some or all funds already estimate market impact factors, or perform similar analyses, to inform trading decisions or liquidity rule classifications? If so, would these funds' prior experience smooth the transition to making a good faith estimate of the market impact factor under the proposal? Would the proposed amendments to the liquidity rule further enhance funds' ability to estimate market impacts? What difficulties might funds experience in developing a framework to analyze market impact factors and in producing good faith estimates of market impact factors for purposes of the proposed swing pricing requirement? What are the specific operational challenges in estimating market impact? Are there ways we could reduce those difficulties, while still requiring redeeming investors to bear costs that reasonably represent the costs they would otherwise impose on the fund and its remaining shareholders?

85. Should we permit funds to calculate swing factors on a periodic basis, as long as developments such as significant market developments prompt a quicker re-evaluation, as proposed? Does this approach have any effect on the goals of reducing dilution, improving fairness, and addressing potential first-mover advantages? Are there other circumstances in which a fund should be required to re-evaluate its swing factors or certain swing factor components, such as changes in the fund's investment strategy or liquidity? Should we instead require funds to calculate swing factors (or certain components of swing factors) on a daily basis or at some other defined minimum frequency (*e.g.,* weekly or monthly) unless developments prompt a quicker re-evaluation?

86. Should the rule permit, rather than require, funds to follow the identified inflow swing threshold, market impact threshold, and swing factor calculations set forth in the rule? If so, what considerations or factors should the rule require a fund to consider when determining thresholds and swing factors if the fund determines not to follow the threshold or calculations set forth in the rule? For example, instead of removing the factors a fund must consider when setting swing threshold(s) under the current rule, should we maintain those or similar factors for purposes of determining a fund's market impact

[213] *See, e.g.,* Commission de Surveillance du Secteur Financier, Swing Pricing Mechanism—FAQ, *available at https://www.cssf.lu/en/Document/cssf-faq-swing-pricing-mechanism/* (providing guidance for increasing the swing factor above the maximum level identified in a fund's prospectus under certain circumstances, and noting that typical maximum swing factors observed in fund prospectuses are between 1% and 3%).

[214] Item 6(d) of Form N–1A.

[215] *See* Item 6(d) of proposed Form N–1A.

threshold or the inflow swing threshold?[216]

87. Should funds be subject to a numerical limit on the size of swing factors? If so, should we retain the current rule's 2% swing factor upper limit and the disclosure of the limit in Form N–1A? Alternatively, should the limit be higher or lower (*e.g.,* 1% or 3%)?

88. Should we allow a fund to use a set swing factor, such as 2% or 3%, in times of market stress when estimating a swing factor with high confidence may not be possible? How would we define market stress for this purpose? Should a fund's swing pricing administrator, adviser, or a majority of the fund's independent directors, be permitted to determine market conditions were sufficiently stressed such that the fund would apply the set swing factor? Are there other circumstances in which we should permit or require a fund to use a default swing factor? For example, should the rule establish a default swing factor that would apply when a fund has illiquid investments that exceed 15% or when a fund drops below its highly liquid investment minimum under rule 22e–4?

89. Should the rule permit a fund to apply a market impact factor of zero for certain investments or under certain circumstances? For example, should a fund be able to use a market impact of zero for certain categories of investments, such as Treasuries or other investments that the fund classifies as highly liquid investments under rule 22e–4? Are there particular circumstances in which it would not be reasonable for the rule to permit a fund to use a market impact factor of zero, such as in stressed market conditions?

90. Instead of specifying swing factor calculations and thresholds in the rule, should we require a fund to adopt policies and procedures that specify how the fund would determine swing pricing thresholds and swing factors based on principles set forth in the rule? If so, should the policies and procedures include the methodologies from the market impact factor calculation we proposed? Should the policies and procedures be required to include the swing factor calculation? Should the policies and procedures be required to define the market impact threshold with reference to a metric other than net purchases or net redemptions? If we require policies and procedures, should we specify the market impacts and dilution costs that a fund's swing pricing program must address, rather than specifying specific principles and calculation methodologies?

91. Are there circumstances in which it would not be possible to estimate the market impact factor with a high degree of accuracy? If so, what modifications should we make to the proposal?

92. Would our proposed swing pricing requirement cause or incentivize investors to move their assets out of the funds that must implement swing pricing into other investment vehicles that do not use swing pricing, such as ETFs, collective investment trusts (''CITs''), or separately managed accounts? What are the potential effects associated with these decisions? For example, when would such movements occur (*e.g.,* before the end of the compliance period for a swing pricing requirement, if adopted, or over a longer time horizon)? Would retirement plan sponsors or others remove mutual funds as investment options if swing pricing is required? In the case of separately managed accounts, should the Commission take any action with respect to how the Investment Company Act may apply to investment advisory programs seeking to provide the same or similar professional management services on a discretionary basis to a large number of advisory clients having relatively small amounts to invest?[217]

93. Would a swing pricing requirement change the behavior of funds? For example, would it cause any changes to fund strategies or practices?

94. How might swing pricing affect investor behavior in a period of liquidity stress? Would swing pricing increase fund resilience by reducing the first-mover advantage that some investors may seek during periods of market stress? Would swing pricing encourage investors to redeem smaller amounts over a longer period of time because investors will not know whether the fund's flows during any given pricing period will trigger swing pricing and, if so, the size of the swing factor for that period?

95. Based on historical data, how would our swing pricing framework affect funds' transaction prices under normal market conditions?

96. Rather than requiring funds to adopt a swing pricing requirement, should we provide more than one approach to mitigate dilution and require each fund to implement an anti-dilution tool, but permit each fund to determine its own preferred approach? If so, which anti-dilution tool options should the rule provide? Should we, for example, allow a fund to adopt swing pricing, a liquidity fee (*i.e.,* purchase and/or redemption fees), or dual pricing?[218] Are there other options that would be appropriate under this approach? Would funds' use of different approaches benefit investors by increasing investor choice or, conversely, would these differences confuse investors or make it more difficult for them to compare funds with each other?

97. The current rule requires a fund's board of directors to approve the fund's swing pricing policies and procedures and to designate the persons responsible for swing pricing. Should we require board involvement in the day-to-day administration of a fund's swing pricing program in addition to its compliance oversight role? How might funds maintain segregation between portfolio management and swing pricing administration? Should a fund's chief compliance officer have a designated role in overseeing how the fund applies the proposed swing pricing requirement?

98. The current rule requires a fund's board to review, no less frequently than annually, a report prepared by the swing pricing administrator on the fund's use of swing pricing, including the effectiveness of the fund's policies and procedures and any material changes to them since the last report. Should we require board review of a swing pricing report more or less frequently than annually? Should we require less frequent board review over time (*e.g.,* every quarter for the first year after implementation and then less frequently in following years as the fund gains experience implementing the swing pricing program under various market conditions)? Should we require the fund to disclose any material inaccuracies in the swing pricing calculation to the board (*e.g.,* as they arise, no less frequently than quarterly, or at some other frequency)? Would this disclosure requirement be additive, or would fund boards already receive information about material inaccuracies in the swing pricing calculation in the course of existing board oversight?[219]

99. In addition to the proposed requirement that funds would publicly

[216] *See* rule 22c–1(a)(3)(i)(B).

[217] *See, e.g.,* 17 CFR 270.3a–4.

[218] *See infra* section II.D for a discussion of potential liquidity fee or dual pricing frameworks.

[219] *See, e.g.,* 17 CFR 270.38a–1 (requiring the fund's chief compliance officer to provide a written report to the board addressing each material compliance matter occurring since the date of the chief compliance officer's last report to the board); Compliance Programs of Investment Companies and Investment Advisers, Investment Company Act Release No. 26299 (Dec. 17, 2003) [68 FR 74713 (Dec. 24, 2003)] (''Rule 38a–1 Adopting Release''), at n.84 (''Serious compliance issues must, of course, always be brought to the board's attention promptly, and cannot be delayed until an annual report.'').

report their swing factor adjustments on Form N–PORT, should funds also be required to post that same information on their websites? If so, how promptly should website reporting be required (*e.g.,* weekly, monthly, quarterly, annually)? Are there other ways to provide this information to investors?

C. Hard Close

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 time the fund has established for determining the value of its holdings and calculating its NAV (typically 4 p.m. ET).[220] The fund, however, might not receive information about that order until much later, sometimes as late as the next morning. We are proposing amendments to rule 22c–1 under the Act to require a hard close for those funds that are required to implement swing pricing.[221] The proposed hard close requirement would provide that a direction to purchase or redeem a fund's shares is eligible to receive the price established at the current day's price solely if the fund, its designated transfer agent, or a registered securities clearing agency (collectively, ''designated parties'') receives an eligible order before the pricing time as of which the fund calculates its NAV.[222] Orders received after the fund's established pricing time would receive the next day's price.[223] In 2003, the Commission proposed a similar hard close requirement but did not adopt the proposed amendments.[224] The proposed hard close amendments would serve multiple goals, such as facilitating mutual funds' ability to operationalize swing pricing by ensuring that funds receive timely flow information, modernizing and improving order processing, as well as helping to prevent late trading.

1. Purpose and Background

We are proposing to require all registered open-end funds (other than money market funds and ETFs) to implement swing pricing in order to combat dilution. Our hard close proposal is designed to support the proposed swing pricing amendments by facilitating the more timely receipt of fund order flow information. To implement the proposed swing pricing requirement, mutual funds need sufficient net order flow information to determine whether to apply a swing factor, and the size of that swing factor, before they finalize that day's price. Based on staff outreach with foreign regulators and asset managers that operate in Europe, we understand that a hard close is common in other jurisdictions in which funds currently implement swing pricing, and use of a hard close in those jurisdictions facilitates the receipt of timely flow information to inform swing pricing decisions.[225] The proposed hard close requirement would facilitate the more timely receipt of order flow information by requiring that the fund, its transfer agent, or a clearing agency receive all orders that are eligible to receive that day's price before the fund computes its NAV.

Beyond facilitating swing pricing, our proposed hard close amendments to rule 22c–1 also would help prevent late trading of fund shares. 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. The Commission and others uncovered several instances of late trading in the early 2000s.[226] While the Commission adopted rules to address concerns about late trading, we believe that the hard close proposal, when coupled with our current rules, would more effectively prevent late trading.[227] For example, some fund intermediaries are not subject to examination by the Commission and staff, and we are unable to examine whether those intermediaries permit or engage in unlawful late trading. By proposing to require that all purchase and redemption orders be received by the fund, its transfer agent, or a registered clearing agency by 4 p.m. ET, the proposal would prevent intermediaries from altering orders after 4 p.m. ET or unlawfully misrepresenting that an order was received before 4 p.m. ET and entitled to that day's price. We believe that the proposed amendments would aid in the elimination of late trading through intermediaries by requiring certain SEC-regulated parties to receive orders before the NAV is computed to receive that day's price. The proposed hard close requirement would also modernize and improve order processing and reduce operational risks, as discussed below.

2. Pricing Requirements

Under the proposed rule, an eligible order to purchase or redeem would receive the price for the next pricing time after a designated party receives the order.[228] We propose to define the terms ''pricing time'' and ''eligible order'' for purposes of the rule.[229] Eligible orders would receive a price based on the current NAV as of the next pricing time, which would include an adjustment to the NAV to include the swing factor, as applicable. Consistent with the current rule, the fund's board of directors would be required to establish a ''pricing time,'' which would be defined as the time or times of day as of which the fund calculates the current NAV of its redeemable shares pursuant to the rule (typically 4 p.m. ET). The price of a fund's shares would typically be finalized several hours after the pricing time, giving funds time to calculate the current NAV, apply any

[220] Although not all funds calculate their NAVs as of 4 p.m. ET, throughout this release we use 4 p.m. ET as the time as of which a fund calculates its NAV unless otherwise noted.

[221] As discussed above in section II.B, swing pricing would be required for all registered open-end management investment companies other than money market funds and ETFs. The proposal would not affect the operation of current rule 22c–1 for money market funds or ETFs, as well as unit investment trusts (which are also subject to rule 22c–1).

[222] *See* proposed rule 22c–1(a)(3).

[223] Funds generally compute their NAVs once per day, although some funds compute their NAVs multiple times per day. For simplicity, this discussion assumes that a fund computes its NAV once per day.

[224] *See* Amendments to Rules Governing Pricing of Mutual Fund Shares, Investment Company Act Release No. 26288 (Dec. 11, 2003) [68 FR 70388 (Dec. 17, 2003)] (''2003 Hard Close Proposing Release'').

[225] We understand that the hard close employed in these other jurisdictions is not necessarily the same as the hard close approach we are proposing. For example, we understand it is common in some other jurisdictions for the required time of receipt of orders by the fund to be several hours before the time as of which the fund values its holdings.

[226] *See, e.g.,* 2003 Hard Close Proposing Release, *supra* note 224 (discussing investigations by Commission staff of suspected late trading, which suggested that, at the time, late trading of fund shares was not an isolated event). *See, also, e.g.,* In the Matter of Steven B. Markovitz, Investment Company Act Release No. 26201 (Oct. 2, 2003); In the Matter of Theodore Charles Sihpol, III, Investment Company Act Release No. 27113 (Oct. 12, 2005); In the Matter of Legg Mason Wood Walker, Inc., Investment Company Act Release No. 27071 (Sept. 21, 2005); In the Matter of Canadian Imperial Holdings, Inc. and CIBC World Markets Corp., Investment Company Act Release No. 26994 (July 20, 2005); In the Matter of Brean Murray & Co., Inc., Investment Company Act Release No. 26761 (Feb. 17, 2005).

[227] *See, e.g.,* Rule 38a–1 Adopting Release, *supra* note 219 (adopting rule 38a–1 under the Act, which requires written policies and procedures reasonably designed to prevent violation of the securities laws, oversight of compliance by the fund's service providers, and designation of a chief compliance officer).

[228] *See* proposed rule 22c–1(a)(3).

[229] *See* definitions of ''Eligible order'' and ''Pricing time'' in proposed rule 22c–1(d).

swing factor, and finalize and publish the fund share price.

For purposes of the proposed hard close requirement, an eligible order to purchase or redeem fund shares would have to supply certain information about the size of an investor's intended trade. This approach is intended to facilitate swing pricing by providing mutual funds with information they can use to calculate investor flows. In addition, this approach requires that trading intentions are clear before 4 p.m., which would further help prevent late trading. Specifically, we propose to define the term ''eligible order'' to mean a direction to purchase or redeem a specific number or value of fund shares. For example, an eligible order would include the direction to purchase or sell either (1) a specific number of shares of a fund (*e.g.,* 100 shares, or all the shares held in the account), or (2) an indeterminate number of shares of a specific value (*e.g.,* $10,000 of shares of the fund).

The proposed definition of eligible order also would include exchange orders. An exchange refers to the process in which an investor initiates an order to purchase shares of a fund using the proceeds from a contemporaneous order to redeem shares of another fund. When an exchange is initiated, two transactions are created—a redemption of securities and a purchase. We understand that exchanges are often between funds in the same fund complex, however, exchanges can occur between funds in different complexes. In either case, exchanges often are processed as a single transaction so that both the redemption and purchase components of the exchange receive same-day pricing. For exchanges involving a fixed number of shares on the redemption leg, the amount and number of shares of the second fund to be purchased will not be known until the NAV of the first fund is determined, which will be after the NAV is struck after 4 p.m. ET. For example, if an investor submits an order to redeem 100 shares of Fund A and invest the redemption proceeds in Fund B, the amount of the redemption proceeds from Fund A is not known until Fund A determines its price for that day and, likewise, the purchase amount for Fund B is not known until that time.[230] Under our proposed rules, this exchange transaction would qualify as an eligible order so that these contemporaneous transactions may continue to occur.

To receive that day's price, a designated party must receive the eligible order before the pricing time.[231] The fund's designated transfer agent is a registered transfer agent that is designated in the fund's registration statement filed with the Commission.[232] Currently, NSCC is the only registered clearing agency for fund shares, which operates its Fund/SERV service for processing fund transactions. The proposed rule would specify that eligible orders are irrevocable as of the next pricing time after a designated party receives the order. The proposed requirement of irrevocability of an eligible order is designed to prevent the cancellation or modification of orders by investors or intermediaries after the pricing time applicable to the order.[233] Preventing the cancellation or modifications of orders after the pricing time would help avoid continuing adjustments to the investor flow information that a fund uses to make swing pricing decisions. In addition, the alteration or cancellation of fund orders after the pricing time may be used as a means to facilitate late trading as fund investors may become aware of new market information after the order has been submitted and after the pricing time. We request comment on the proposed approach to implementing the hard close requirement, including:

100. Should we make any changes to the definitions included in the proposed rule? Is the definition of ''eligible order'' clear and understandable? Is the definition of ''designated transfer agent'' clear and understandable? Is the definition of ''pricing time'' clear and understandable''? Are there other terms we should define?

101. Should the proposed hard close requirement permit exchanges, as proposed? If not, what goals of the proposed hard close requirement would be supported by no longer permitting exchanges?

102. Should the definition of ''eligible order'' require orders to be irrevocable as of the pricing time, as proposed? Should funds be permitted to correct bona fide errors under a hard close, as proposed? If not, how should errors be resolved? Are there other reasons why an eligible order should not be considered irrevocable as of the pricing time?

103. Should the definition of ''eligible order'' include directions to purchase or redeem a specific percentage of fund shares in an account or a specific percentage of an account's value?

104. To what extent do designated parties already time stamp orders based on the time of receipt? Should we include new requirements for each designated party to time stamp order information for purposes of the hard close requirement?

105. Should we include funds, designated transfer agents, and registered clearing agencies as designated parties, as proposed? Would allowing registered clearing agencies to receive eligible orders for purposes of the hard close delay the ability of the fund's swing pricing administrator to assess investor flow information to make swing pricing decisions? If so, how long would this delay be?

106. Beyond the proposed designated parties, are there other parties involved in processing order information that should be eligible to receive eligible orders before the pricing time so that orders may receive that day's NAV? For example, should a fund's principal underwriter qualify as a designated party and, if so, why? To what extent do direct investors or intermediaries today place orders with a fund's principal underwriter or directly with the fund's transfer agent?

107. Should we limit the proposed hard close requirement to funds that must implement swing pricing under the amendments to rule 22c–1, as proposed?

108. The proposed amendments to rule 22c–1 would establish different requirements for money market funds, transactions by authorized participants with ETFs, and unit investment trusts than for all other open-end funds, which would be required to implement a hard close. Would investors, funds, or intermediaries be confused by the different pricing requirements that would be created by the proposed amendments to rule 22c–1? If so, what confusion would be created? What party to a transaction would bear that confusion? Would additional burdens be created by having different pricing requirements under proposed rule 22c–1 for these different types of registered investment companies?

[230] *See supra* section II.B.3 (discussing how a fund whose shares are purchased in an exchange transaction can estimate the size of the inflow for purposes of the proposed swing pricing requirement).

[231] Although orders would have to be received by Fund/SERV or the designated transfer agent by 4 p.m. ET to ensure same-day pricing, the clearing agency and designated transfer agent each may complete its processing after the pricing time.

[232] *See* proposed rule 22c–1(d). The term ''transfer agent'' has the same meaning as in section 3(a)(25) of the Exchange Act [15 U.S.C. 78c(a)(25)] and does not include underlying or sub-transfer agents. A fund may designate more than one transfer agent in its registration statement.

[233] The irrevocability of an order does not prevent a fund from rejecting an order and does not affect the ability of a fund to maintain policies and procedures for correcting bona fide errors.

3. Effects on Order Processing, Intermediaries and Investors, and Certain Transaction Types

The proposed hard close would require changes to current order processing practices. Although modernizing these practices is intended to reduce operational risk and enhance resilience, in addition to the benefits related to swing pricing and helping deter late trading, we recognize these changes would also involve costs.[234]

a. Order Processing Improvements

The system updates that would support the implementation of a hard close may provide additional benefits by requiring modernization of how orders are processed. Today, some intermediaries net their customers' purchase and redemption orders in a given fund against each other, meaning that an intermediary combines and offsets the value of purchase and redemption activity across multiple customer accounts. Instead of netting purchases and redemptions together, some other intermediaries maintain separation between purchase orders and redemption orders. After aggregating customers' orders, intermediaries then submit orders in one or more batches, with most orders submitted to the designated party after 4 p.m. ET. As a result of the proposed hard close requirement, some intermediaries may opt to discontinue infrequent or even once-a-day batch processes for submitting orders and instead adopt more frequent batch processing approaches that result in more frequent order submission throughout the business day. Some intermediaries may even elect to utilize message-based communications for order flow, in which orders are submitted on a near-real-time basis.[235] We understand based on industry outreach that some intermediaries currently do not submit orders throughout the day to facilitate customers' ability to cancel or correct orders intra-day, before the orders are submitted to a designated party. If intermediaries continue to provide this capability to customers under a hard close, they would likely either: (1) need to develop a process with designated parties for cancelling and correcting orders submitted to a designated party before the pricing time (as eligible orders are irrevocable under the proposal as of the pricing time, but not before); or (2) submit orders to a designated party relatively close in time to the pricing time, instead of throughout the day.

If an intermediary submits orders more often or earlier in the day, it would be less vulnerable to an intra-day disruption within its own operational environment. Orders that have been submitted prior to a disruption are able to be accepted and acknowledged by a fund, even if the intermediary experiences delays in its own processing. This improves the intermediary's operational resilience, since some operational activities on which the intermediary is dependent will be able to continue. Similarly, earlier order submission should also result in earlier confirmations from the fund.[236] As such, the chances increase for an intermediary to submit an order and receive a confirmation even if the fund's transfer agent has a disruption later in the day. This reduces an intermediary's vulnerability to disruptions in others' operational processing, further improving the intermediary's operational resilience. Collectively, as all intermediaries, funds, and fund transfer agents process orders more frequently, operational resilience across all market participants improves.[237]

The proposed hard close would also eliminate cancellations and corrections that are submitted after the pricing time. As a result, an investor or intermediary would bear the cost, if any, of the errors leading to a cancel or correct order. We believe it would be unfair for a fund's shareholders to bear the cost of an error in this case, as the investor or intermediary was the cause of that error. For errors that were the intermediary's responsibility, the intermediary should be solely accountable for correcting the error and, if necessary, compensating the investor. We understand that currently some intermediaries and funds have complex processes for posting cancellations and corrections, including processes for funds to bill intermediaries for errors.

In addition, the proposed hard close requirement would improve the confirmation process for funds. The confirmation process helps ensure the accuracy of the trade that will be settled. Until the fund provides a confirmation, an intermediary does not know whether the order will be accepted or rejected. Under current practice, we understand that because of the delay in intermediaries submitting orders, funds likewise issue order confirmations on a delayed basis. When an intermediary must submit all orders by a certain time under the hard close proposal, funds would be able to issue confirmations to intermediaries earlier. We believe that timelier confirmations by funds would support the reduction of operational risks and improve market resiliency by providing certainty to intermediaries and investors about whether orders are accepted or rejected at an earlier point in the process, meaning they have more time to work toward settlement of the trade or determine how to manage a rejected order.[238] Further, intermediaries similarly may be able to issue trade confirmations required by rule 10b–10 of the Exchange Act to their customers on a timelier basis, although an intermediary will need to wait until the price is published before it can calculate the net money or number of shares to issue the trade confirmation to its customer. Requiring a hard close may also facilitate settlement modernization. Many funds settle purchases and redemptions on a T+1 basis, and the proposed hard close could help improve the settlement process by providing complete information about eligible orders on the trade date.

In addition, providing funds with more timely and accurate information about the fund's daily flows under the proposed hard close would allow funds to make portfolio and risk management decisions based on more complete and accurate flow information than is available under current practices. Currently, some funds may rely on projected flows when making investment decisions, though these projections may be unreliable because of orders that the fund does not receive until the next day, including cancellations and corrections. Other funds may instead rely on flow information posted at the custodian because of its accuracy, but this

[234] *See infra* section III.C.3 discussing the estimated costs of the hard close proposal on funds, designated parties, intermediaries, and investors.

[235] Intermediaries that take advantage of netting likely would be unable to eliminate batch processing altogether since netting necessitates definition of a period over which trades are netted and a process that collects eligible customer orders and nets them together into a single order for submission to a fund. Message-based communication is less likely to be implemented when netting is utilized.

[236] The term ''confirmation,'' for the purposes of this release, unless otherwise indicated, refers to the process by which a fund accepts a purchase or redemption order. The confirmation process discussed in this section is different from the confirmations required by 17 CFR 240.10b–10 (Exchange Act rule 10b–10). Confirmations under rule 10b–10 require broker-dealers to provide specific disclosures in writing to customers at or before the completion of a transaction. *See* rule 10b–10 under the Exchange Act.

[237] *See infra* section II.C.3.b for additional complexity and possible points of failure in current order processing practices.

[238] An order may be rejected for a variety of reasons including, among others, the intermediary is not set up to transact with a particular fund, an order to sell is for more than the number of shares held, or an order to purchase is less than the fund's investment minimum.

information is delayed. For example, for a fund that settles on T+1, the custodian often will post the flow at the end of the day on T+1, which may not be visible to the portfolio manager until the morning of T+2. With a hard close, however, flow information should be available from the transfer agent on the night of the trade date. In addition, by eliminating the possibility that the fund could receive additional orders after the pricing time, including cancellations and corrections, the data available that night would be more reliable. Similarly, a fund managing its risk would be able to do so more effectively by having access to accurate flow data more quickly. Ultimately, the proposed hard close requirement is designed to further the Commission's mission to protect investors and reduce risk by improving the timeliness of order flow information communicated to the fund.

b. Effects on Intermediaries

The proposed amendments would require changes in the ways funds and intermediaries process fund purchase and redemption orders. As discussed above, intermediaries generally submit aggregated and, in some cases netted, orders in one or more batches, often after 4 p.m. ET. Some intermediaries submit orders directly to the fund's transfer agent or to Fund/SERV, while some intermediaries rely on other intermediaries, such as clearing brokers or retirement platforms, to submit orders to the transfer agent or Fund/SERV. In addition, some intermediaries' systems do not initiate batch processing until a fund's final NAV is received or until final NAVs are received for all funds offered on their platforms.

In response to the proposed hard close requirement, 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. Intermediaries would need to reengineer their systems to ensure disseminated order information reaches the transfer agent or Fund/SERV before 4 p.m., unless they determine to process fund orders at the next day's price as a matter of practice.[239] For intermediaries with reliance on "downstream" intermediaries, coordination in the timing of order communication will be essential to ensure orders reach the fund, transfer agent, or registered clearing agency prior to the deadline. In addition, Fund/SERV may need to run more batch cycles in the period leading up to 4 p.m. than it does today, as currently batch cycles run into the evening and overnight to receive and process orders from intermediaries.

We understand that retirement plan recordkeepers may face particular challenges with adhering to the proposed hard close requirement.[240] Retirement plan recordkeepers may employ a method of order processing that relies on receiving the current day's NAV before submitting orders. Funds do not typically receive the order flow information for transactions from retirement plan recordkeepers until well after the day's NAV has been calculated. These order flows are delayed, we understand, due to the calculations that the retirement plan recordkeepers complete under plan rules as well as to legacy systems that require the final NAV before finalizing the order. For retirement plan recordkeepers, we understand that current recordkeeping systems require that day's NAV before the participant's plan instructions may be applied to the participant's order. Once the order has been processed through the investment instructions specific to the participant's plan, it can be placed for execution. In addition, retirement plan recordkeepers may perform compliance and other checks on orders before finalizing the orders for submission post-NAV strike.

We understand that the time it currently takes between when some retirement plan recordkeepers begin to process their orders and when the order is finally submitted to the fund can take upward of six hours due to the limitations of their current processing systems and hardware. We believe that retirement plan recordkeepers would need to substantially update or alter their processes and systems to accommodate the proposed hard close requirement to submit orders more quickly. In the event compliance and other checks are required, plans may need to utilize the prior day's NAV to estimate the share or dollar size of an order for those orders to receive same day pricing.

c. Intermediary Cut-Off Times

To help ensure that order flow information is provided to a designated party before the established pricing time, the proposed rule would likely cause some intermediaries to set their own internal cut-off time for receiving orders to purchase or redeem fund shares that is earlier than the pricing time established by the fund. Intermediaries may use earlier cut-off times to provide time to transmit order flow information to a designated party so those orders receive that day's price. Investors, therefore, depending on the entity through which an investor is transacting (*e.g.,* a broker-dealer, retirement plan recordkeeper, or the fund's transfer agent), may have different deadlines for the same fund for submission of orders to receive that day's price. For example, an investor submitting an order to a fund's transfer agent might have until 3:59 p.m. ET to submit its order, while an investor submitting an order to an introducing broker would likely have to submit its order earlier to provide enough time for the introducing broker to send the order to the clearing broker and for the clearing broker to send it to the transfer agent or to Fund/SERV.

Investors transacting through intermediaries may lose some flexibility in when they may submit orders through an intermediary to receive that day's price as intermediaries may institute earlier cut-off times. Because technology has advanced since the Commission last considered a hard close in 2003, we generally do not believe, however, that intermediaries would need to establish cut-off times significantly earlier than the pricing time set by the fund. We recognize, however, that layered cut-off times may occur when an intermediary uses one or more tiers of other intermediaries to submit orders, and that cut-off times generally would be earlier for investors submitting orders to lower-tier intermediaries. We also recognize that intermediaries that net order activity or rely on batch processing may require additional time to support such netting or batch activities, while those intermediaries that submit orders individually through message-based communications may have a higher volume of orders submitted, but a shorter time between order submission by an investor and order receipt by a fund, transfer agent, or registered clearing agency. While the proposed hard close requirement generally would cause intermediaries to establish earlier cut-off times, the proposed rule would not prevent an intermediary from

[239] While the proposed hard close requirement would require intermediaries to transmit eligible orders before 4 p.m. ET, intermediaries would still be able to process orders after 4 p.m. for purposes of execution and settlement, as they currently do today. For example, after receiving the NAV the intermediary would then be able to determine the net money to be paid to the investor or to be collected.

[240] *See* Comment Letter of The Principal Financial Group on 2003 Hard Close Proposing Release, File No. S7–27–03 and Comment Letter of ASPA on 2003 Hard Close Proposing Release, File No. S7–27–03. The comment file for the 2003 Hard Close Proposing Release, where these comment letters can be accessed, is *available at https://www.sec.gov/rules/proposed/s72703.shtml.*

transmitting orders it received after its internal deadline but before 4 p.m. ET on an individual basis to the fund's transfer agent or to Fund/SERV in order to receive that day's price.

d. Effects on Certain Transaction Types

We recognize that the proposed hard close requirement could extend completion times 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. For example, under certain retirement plan rules, certain transactions, such as plan loans or withdrawals, currently remain incomplete until all fund positions in the investor's accounts are valued using that day's prices. Specifically, some plan provisions specify a hierarchy for drawing from different investments to accommodate participant loan or withdrawal requests. As an example, the plan may require the sale of shares in Fund A to pay the loan or withdrawal before the sale of shares in Fund B. In this case, until that day's final price for Fund A shares is available, the retirement plan recordkeeper may not know if the value of the participant's investment in Fund A is sufficient to pay the loan or withdrawal amount on its own, or if satisfying the loan or withdrawal request in full will also require redemptions from Fund B.

Under the hard close proposal, although plans would not be required to change their rules governing these kinds of transactions, transaction requests that are subject to hierarchy rules may take one or more additional days to complete than they would currently. This is because the retirement plan recordkeeper would no longer be able to wait until final prices are available before calculating and submitting one or more redemption orders to satisfy the requested plan transaction. In the above example, this would mean that the recordkeeper would likely submit an order to redeem shares of Fund A on the first day and may submit an order to redeem shares of Fund B on a subsequent day if the loan or withdrawal is not fully funded. We understand that these transactions typically are a small percentage of overall retirement plan flows and that plan participants generally do not receive immediate execution of loan or withdrawal requests today.[241] Thus, we believe the aggregate effect of the proposed hard close requirement on such transactions would not be significant.

As another example, the proposed hard close requirement could extend the period of time for executing an investor's request to rebalance its holdings to a target asset allocation or model portfolio. We understand that currently these requests may be facilitated by first valuing the investor's existing positions, based on final prices for that day, and then submitting orders that would result in the desired allocation. The proposed rule would not permit these orders to receive same-day pricing if they are submitted after the pricing time, and therefore may require the intermediary to achieve the desired rebalancing through a series of orders over more than one day or to rebalance using prices from the prior day. In addition, the 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.

e. Effects on Investors

The extent to which the hard close proposal would affect investors largely depends on the value investors place on their ability to obtain same-day pricing for orders initiated in the period immediately before 4 p.m. ET or on the complex transaction types discussed above.[242] Most fund shareholders are long-term investors, and thus we believe that most fund orders are not time sensitive. In addition, because of advances in technology, it seems likely that intermediaries would set cut-off times that are only incrementally earlier than current cut-off times. As a result, it seems likely that many investors would experience a significant change in when they must submit their orders to intermediaries. 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 the fund's transfer agent to retain this option.[243] While we understand that investors may experience a change in how late they may transact through intermediaries that set earlier cut-off times as a result of our proposed rule, overall the proposal is intended to better protect shareholders' interests by operationalizing swing pricing to combat shareholder dilution and enhancing fund resiliency. We request comment on the effects of the proposed hard close on order processing, intermediaries and investors, and on different transaction types:

109. Should we require funds to implement the proposed hard close requirement? Are there alternatives to the proposed hard close requirement that we should implement? Would the proposed hard close requirement help funds operationalize swing pricing? Would the proposed hard close requirement help prevent late trading? Are the Commission's efforts to modernize fund order processing supported by the proposed hard close requirement?

110. What steps would intermediaries be required to take to operationalize the proposed hard close requirement? Are there operational impediments to funds implementing the proposed hard close requirement? Are there operational impediments for intermediaries, transfer agents, and/or registered clearing agencies in implementing the proposed hard close requirement? Are there other operational changes that would be helpful to operationalize swing pricing?

111. Would retirement plan providers need to make changes to plan rules in order to accommodate compliance with a hard close? Are plan rules able to be altered for plans that are currently owned, or would alterations only be feasible on a going forward basis? If a change in plan rules would be necessary, how would plan rules need to be altered? How would plan participants be affected by changes to plan rules?

112. Would the proposed rule affect intermediaries' ability to net order flow? Would intermediaries move to message-based communications, where orders are transmitted to the transfer agent or registered clearing agency as they are received, in response to the proposed hard close requirement?

113. Would elimination of cancellations and corrections that designated parties currently may receive

[241] For example, according to one source, in 2021, 4.1% of defined contribution plan participants took withdrawals, and at the end of Dec. 2021, 12.5% of participants of plan participants had loans outstanding. *See* ICI Research Report, Defined Contribution Plan Participants' Activities, 2021 (Apr. 2022), *available at https://www.ici.org/system/files/2022-04/21_rpt_recsurveyq4.pdf.*

[242] Rule 22c–1 already affects investors differently based on the time zone in which the investor lives. Investors located in time zones other than the eastern time zone are subject to different cut-off times today. For example, 4 p.m. ET is 10 a.m. Hawaii time, meaning that an investor in Hawaii has to submit its order before 10 a.m. to receive that day's NAV if the fund's pricing time is 4 p.m. ET.

[243] *See infra* section III.C.3 discussing that some investors may be affected by the proposed hard close requirement if they desire to transact later in the day in response to market events and are limited in their ability to change intermediaries or place orders with the fund's transfer agent.

after the pricing time streamline processing and reduce costs for funds and/or designated parties and, if so, by how much? Would costs for investors be affected by the elimination of these cancellations and corrections?

114. Should there be any exceptions from the proposed hard close requirement for exigencies or types of parties? For example, should there be exceptions for certain scenarios (*e.g.,* emergencies), fund types (*e.g.,* funds of funds), or intermediaries (*e.g.,* retirement plan recordkeepers)? If so, what should be the parameters of such exceptions? For example, should we permit investor orders to receive same-day pricing treatment as the result of an emergency, if the intermediary is unable to send orders or a designated transfer agent or clearing agency is unable to receive orders? Should an emergency exception be conditioned on the board or the chief executive officer of the intermediary, transfer agent, or clearing agency certifying to the nature and duration of the emergency and, in the case of an intermediary, that the intermediary received the orders before the applicable pricing time? Should we permit conduit funds, which invest all their assets in another fund and must calculate their NAV on the basis of the other fund's NAV, and which include master-feeder funds and insurance company separate accounts, to receive same-day pricing? Should we provide an exception to permit certain intermediaries, such as retirement plan recordkeepers, to receive same-day pricing for the orders they submit, even if not received by a designated party before the pricing time, as long as the relevant intermediary received the orders before the pricing time? Should there be other conditions associated with such an exception, such as a requirement to provide advance notice of certain flow information to the fund or another designated party?

115. Should we provide an exception from the proposed hard close requirement for certain transaction types (*e.g.,* retirement plan loans or withdrawals or certain rebalancing transactions)? Should we amend the definition of eligible order to include these or other transaction types? If so, what information should we require the intermediary to supply to a designated party before the pricing time to qualify for same-day pricing? Should retirement plan recordkeepers or other intermediaries be permitted to estimate order flow information for specific transaction types, like loans or withdrawals? Would the estimates be prepared using the prior day's price, or through some other method?

116. If exceptions to the hard close were permitted, how would that affect the proposed swing pricing requirement?

117. Would the proposed hard close requirement help retirement plan recordkeepers to reduce their batch processing cycles and, if so, how?

118. Should the rule permit a fund or other designated party to impose a cut-off for orders received before that day's NAV computation? For example, if the time for an order to receive that day's NAV is 4 p.m. ET, should the fund be permitted to impose an earlier time of day, say 2 p.m. ET, as an earlier cut-off time to receive orders? Would the ability to disconnect the cut-off time for receiving orders from the pricing time help facilitate swing pricing by providing additional time to calculate the swing factor?

119. If different funds adopted different cut-off times for receipt of orders pursuant to rule 22c–1, would intermediaries and transaction processing systems be able to accommodate such differences on a fund specific basis? How would different cut-off times affect investors? Would it be confusing or challenging for investors if there were variation among funds' cut-off times?

120. If most funds continue to calculate their NAVs as of 4 p.m. ET and, as proposed, funds are required to implement swing pricing and are subject to a hard close, would funds have sufficient time between 4 p.m. ET and when they publish their prices to assess their flow information and apply the proposed swing pricing requirement, including determination of a swing factor, as applicable? If not, how might funds adjust their practices to provide more time to make swing pricing determinations? For example, would funds publish their prices later than they typically do, which is currently several hours after the pricing time?[244] Are there any changes we could make to facilitate later publication of prices, if needed? As another example, would funds begin to calculate their NAVs as of an earlier time than 4 p.m. ET? What affect, if any, would such a change have on transaction processing and the valuation of the fund's investments?

121. How would the proposed hard close requirement affect investors? For example, what percentage of investors place orders shortly before 4 p.m., and how important is it for those investors to receive that day's price as opposed to the next day's price? When intermediaries establish their own cut-off times by which customers must place orders to receive that day's price, would these cut-off times be close to 4 p.m. ET as a result of competition among intermediaries and customer demand? Are intermediaries able to accelerate the time between receiving an order and relaying that order to a designated party compared to current practice? Would it be confusing or challenging for investors if there were variation among intermediaries' cut-off times? Are there circumstances in which intermediaries would transmit orders received after their internal cut-off times and before 4 p.m. ET to a fund's transfer agent or to Fund/SERV individually to receive same-day pricing? Would this increase the risk of errors or otherwise be burdensome on funds or intermediaries?

122. Should the rule initially require that funds receive order flow information by a time that is after the pricing time in order to ''phase in'' the proposed hard close requirement? For example, instead of requiring a designated party to receive all of a fund's order flow information by 4 p.m. ET each day, should we initially require receipt of order flow information by the designated party one to two hours after the pricing time with the goal of eventually moving the time of receipt to before the pricing time? Would a delayed phase in of the proposed hard close requirement be compatible with the proposed swing pricing requirement? If so, how would a fund determine whether to swing its NAV if it does not have all of its order flow information until after the pricing time?

123. We understand that intermediaries currently may adjust trade amounts to account for commissions or other fees. Would the proposed hard close requirement affect how these adjustments are made? If so, should we make any changes to the proposed approach to better accommodate such adjustments?

124. Would earlier confirmations from a fund to an intermediary reduce an intermediary's vulnerability to disruptions? Would intermediaries process orders more frequently under a hard close? If so, would more frequent order processing increase the resiliency of funds and transfer agents? If not, why not?

125. Would intermediaries need to set earlier cut-off times than is the current practice for investors in order to get orders to a designated party before the pricing time? If so, how early? How

[244] *See infra* section III.C.2.a (discussing the potential effects on intermediaries and other market participants if funds were to publish their prices later than they currently do).

much time do intermediaries need to process order flow information?

126. Should the rule require that funds set a uniform cut-off time for orders to be received by intermediaries? If the rule requires a uniform cut-off time, should we also require that a fund disclose the cut-off time, such as in the fund's prospectus? Would funds, collectively, establish consistent cut-off times for these purposes, or would intermediaries need to manage different fund-specific cut-off times?

127. Some intermediaries may establish earlier cut-off times in order to accommodate a hard close. Would investors that want to make an order up until 3:59 p.m. place orders with a fund's transfer agent instead of with an intermediary to preserve this flexibility? Are there limitations on certain investors' abilities to place orders with the transfer agent instead of through an intermediary?

128. Would some intermediaries choose to no longer distribute open-end funds that would be subject to the hard close requirement in order to avoid compliance costs? In addition, would retirement plan providers be more likely to replace mutual funds as plan investment options with ETFs or CITs? If so, how would this affect investors?

4. Other Proposed Amendments to Rule 22c–1

The proposed amendments would retain the requirements of the current rule concerning the frequency and time of determining the NAV, but would reorganize and reword those provisions.[245] The proposed amendment would use the phrase ''based on the current net asset value of such security established for the next pricing time,'' as opposed to ''based on the current net asset value of such security which is next computed'' in the current rule. While its substance is already required, this amendment would codify in the rule text that orders received after the pricing time, but before calculation of the NAV is complete, do not receive same-day pricing.[246] We also propose to reorganize certain other provisions of rule 22c–1, including the existing exceptions to the rule's forward pricing requirement.[247] In addition, we propose to revise certain terminology in the rule.[248]

We are also proposing to remove the provision from rule 22c–1 that would allow funds not to calculate their current NAV on days in which changes in the value of the fund's securities will not materially affect the current NAV. We believe this provision is no longer necessary because a fund generally would need to determine its current NAV in the first instance before it could conclude with certainty that changes in the value of the fund's securities would not materially affect the fund's current NAV.

We request comment on the other proposed amendments to rule 22c–1, including:

129. Are our proposed amendments to provide that orders received after the pricing time, but before calculation of the NAV is complete, do not receive same-day pricing sufficiently clear?

130. Should we retain the current provision in rule 22c–1 that allows a fund not to calculate its NAV on days when the changes in the value of the fund's portfolio securities do not materially affect the current NAV? If so, how would this affect the ability of a fund to implement swing pricing? Do any funds rely on this provision today? If so, what are the scenarios in which a fund relies on this provision? How are changes in the value of the fund's securities determined if the fund is not valuing the underlying securities and computing the NAV on a daily basis?

5. Amendments to Form N–1A

Open-end funds use Form N–1A to register under the Investment Company Act and to register offerings of their securities under the Securities Act. Item 11 of Form N–1A requires a fund to describe how it prices its shares. Item 11(a) specifically requires that funds state when they calculate the NAV and that the price at which a purchase or redemption is effected is based on the next NAV calculation after the order is placed. We are proposing to amend this disclosure to also require, if applicable, that funds disclose that if an investor places an order with a financial intermediary, the financial intermediary may require the investor to submit its order earlier than the fund's pricing time to receive the next calculated NAV. As discussed above, intermediaries may set different times by which investors must have their purchase or redemption orders in place to receive that day's price. We believe that this proposed disclosure is important so that investors may understand the potential variability in the time by which intermediaries may require an order to be placed to receive a particular day's price.

We request comment on the proposed amendments to Form N–1A, including:

131. Would the proposed requirement for funds to disclose in their prospectuses that orders placed with intermediaries may need to be submitted earlier to receive that day's price be helpful to investors?

132. In addition to the proposed disclosure requirements, are there additional disclosures relating to the proposed hard close requirement that we should require? Should funds be required to disclose the cut-off times of their intermediaries in their distribution network? If so, where should this disclosure be located (*e.g.,* in the fund's registration statement or on its website)? What potential challenges, if any, would a fund encounter in providing an up-to-date list of intermediary cut-off times?

D. Alternatives to Swing Pricing and a Hard Close Requirement

1. Alternatives to Swing Pricing

In lieu of the proposed swing pricing requirement, we have also considered whether there are alternative methods by which we could require funds to pass on costs stemming from shareholder purchase or redemption activity to the shareholders engaged in that activity. These alternatives could be used independently or in combination with each other. Some of these alternatives would be dependent on investor flow information, similar to the proposed swing pricing requirement. In those cases, an alternative could be paired with either a hard close requirement or one of the alternatives to the hard close that we discuss below.

a. Liquidity Fees

One alternative we considered is a framework that would apply a charge in the form of a liquidity fee rather than an adjustment to the fund's price.[249] A

[245] *See* rule 22c–1(a), (b)(1), and (d); proposed rule 22c–1(a).

[246] *See* 2003 Hard Close Proposing Release, *supra* note 224, at n.26.

[247] *See* rule 22c–1(a)(1), (a)(2), and (c); proposed rule 22c–1.

[248] For example, we propose to replace references to ''orders'' in the current rule with references to ''directions'' to purchase or redeem, which is intended to distinguish between the concept of eligible orders that we propose to add for purposes of the proposed hard close requirement and directions to purchase or redeem shares of other registered open-end investment companies that are not subject to the proposed hard close requirement. As another example, we propose to incorporate the term ''pricing time'' into provisions of the rule that are not specific to the hard close requirement for cohesion of the rule.

[249] Although certain U.S. funds may use liquidity fees for redemptions, they are rarely used to address dilution, other than in the case of short-term trading of fund shares. *See* rule 22c–2 under the Act. The use of redemption fees and anti-dilution levies in Europe varies to some extent by jurisdiction. For example, Irish-domiciled funds are more likely to have adopted anti-dilution levies than Luxembourg-domiciled funds. Overall, however, we understand that swing pricing was more widely used by European fund complexes in Mar. 2020 than redemption fees or anti-dilution levies. *See* ICI,

Continued

liquidity fee would apply as a separate charge to a transacting investor and would not change the fund's price. A liquidity fee could be used to impose liquidity costs on purchasing or redeeming investors and address dilution, much like a swing pricing-related price adjustment. We recognize that a liquidity fee framework could have certain advantages over a swing pricing requirement. For example, liquidity fees provide greater transparency for redeeming or purchasing investors of the liquidity costs they are incurring. Liquidity fees also provide a mechanism for imposing liquidity costs directly on purchasing or redeeming investors, without adjusting the transaction price for investors who are trading in the other direction.[250] In addition, some funds and their intermediaries are currently equipped to apply certain purchase and/or redemption fees.[251]

However, the proposed swing pricing requirement may have several advantages over liquidity fees for relevant open-end funds. With swing pricing, a fund can pass liquidity costs on to redeeming or purchasing investors in a fair and equal manner, without any reliance on intermediaries to achieve fair and equal application of costs. Liquidity fees may require more coordination with a fund's intermediaries than swing pricing because fees need to be imposed on a transaction-by-transaction basis by each intermediary involved—which may be difficult with respect to omnibus accounts that intermediaries may create to aggregate all customer activity and holdings in a fund.[252] Funds and their transfer agents may contract with intermediaries to have them impose liquidity fees under these circumstances, which may include a review of contractual arrangements with fund intermediaries and service providers to determine whether any contractual modifications are necessary or advisable to ensure that liquidity fees are appropriately applied to beneficial owners of fund shares. While we could require intermediaries to submit purchase and redemption orders separately to transact in a fund's shares, which could allow funds and their transfer agents to apply fees directly, this type of requirement would also involve some operational costs. Requiring intermediaries to submit purchase and redemption orders separately would require operational changes for some intermediaries because they would no longer be able to net otherwise offsetting customer purchases and redemptions.[253] In addition, the volume of transactions that transfer agents and Fund/SERV process would increase if netting were not permitted. Further, unlike swing pricing, the amount collected from a liquidity fee is not available to the fund for a period of time until the intermediary remits to the fund the amount charged.[254] If the fund is under stress, the unavailability of the amount collected from fees might cause the fund to incur other costs it might not have otherwise incurred, such as costs associated with selling investments to pay redemptions when the fee amount, if remitted, would have helped the fund pay those redemptions.

There are many potential variations of a liquidity fee framework. The trigger for applying fees could be based on net flows, similar to swing pricing, or other indicators that a fund's trading costs are increasing (*e.g.,* widening spreads or reduced liquidity of the fund's portfolio investments). Alternatively, a fee could apply to all trades of a given type (for example, all redemption orders). When a fee applies, the determination of the size of the liquidity fee could be either dynamic to reflect changing costs or simplified to remain relatively static. As for how the fee is processed, it could be applied to the purchase or sale or could be processed separately from the trade.

As an example, similar to the proposed swing pricing requirement, a dynamic liquidity fee could be calculated to reflect certain costs (*e.g.,* spread, other transaction costs, and market impact) a fund is likely to incur to meet redemptions or invest the proceeds from subscriptions based on the direction and magnitude of that day's flows. Dynamic liquidity fees that may change in size from one day to the next may involve greater operational complexity and cost than swing pricing, as intermediaries would have to identify and apply different fee amounts for each fund in which their clients transact each day. This approach also generally would necessitate timely flow information if the fee were processed as part of a transaction, similar to the proposed swing pricing requirement. If the fee were processed separately from the transaction and applied to an investor's account on a delayed basis, a fund would likely have more time to receive flow information than under the proposed swing pricing requirement, which could avoid the need for a hard close or related alternatives. Delayed application of the fee, however, may raise complications related to collecting fee amounts from investors, particularly when an investor has otherwise redeemed the full amount of its holdings. Follow-on fees also significantly increase the number of transactions to process, and may complicate reporting for custodians and advisers in situations where a transaction may occur in one reporting period but the fee related to the transaction is not applied until the next reporting period. In addition, an intermediary may face difficulties projecting upcoming cash balances in its client accounts if there are upcoming fees to be charged, but the amounts of those fees are unknown. The fund itself may also have challenges with projecting its own cash balance if it cannot predict when accrued fees will be received from each intermediary.

Instead of a dynamic liquidity fee, we could require a simplified liquidity fee. A simplified liquidity fee, for example, could be a set percentage of the transaction amount, such as 1%. Or it could be a default fee, such as 1%, that a fund could adjust up (possibly up to a cap) or down as it determines is in the best interest of the fund. A simplified liquidity fee could apply to both purchases and redemptions, given that both purchases and redemptions can contribute to dilution. Under this type

Experiences of European Markets, UCITS, and European ETFs During the COVID–19 Crisis (Dec. 2020), *available at https://www.ici.org/doc-server/pdf%3A20_rpt_covid4.pdf.*

[250] For instance, on a day the fund has net redemptions, swing pricing adjusts a fund's NAV downward, and investors who purchase the fund's shares that day buy at a discount. On a day when a fund has net purchases, swing pricing adjusts a fund's NAV upward, and investors who sell the fund's shares that day sell at a premium. Swing pricing must account for these discounts or premiums that other investors are receiving to fully address dilution.

[251] For example, some funds impose redemption fees under rule 22c–2 under the Investment Company Act. *See supra* note 67 for a discussion of how many funds we estimate apply redemption fees.

[252] See *infra* section III.E.2 (noting certain omnibus accounting practices that may make a liquidity fee operationally difficult). Swing pricing, on the other hand, would require some funds and intermediaries to create new systems and operational procedures, but once those are in place, swing pricing would be incorporated in the process by which a fund strikes its NAV and sets the transaction price (including any swing of the NAV). Intermediaries would then effect customer transactions at the transaction price, as they do today, without further operational changes or coordination with the fund.

[253] *See supra* section II.C.3.a (discussing that some intermediaries currently net orders, while others separately submit purchase and redemption orders).

[254] While money collected from the fee would not be available to the fund until the intermediary remits payment, we understand that a fund would reflect the fee amount it is owed as an accrual until the fund receives the fee payment. The accrual would help prevent declines in the fund's NAV that would otherwise result from any delay in remittal. Proper booking of the accrual would, however, require the intermediary to inform the fund of the fee amount on an accurate and timely basis.

of approach, fees could be equivalent for both transactions, or fees could be higher on one side and lower on the other (for example, a purchase fee of 0.25% and a redemption fee of 1%). Alternatively, we could require a one-sided simplified fee that applies to redemptions only or to purchases only, with the premise that a fee charged on redemptions could also help to offset dilution that may result from purchases (or vice versa). Because all shareholders purchase and redeem the fund's shares during the life of an investment, a one-sided fee would apply to all shareholders at some point and could help mitigate dilution that fund investors collectively contribute to through their purchase and redemption activity. A simplified liquidity fee would not necessarily require flow information. For instance, if a simplified fee applied only to redemptions, a set fee could apply to all redemptions or only to redemptions when the fund's trading costs are significantly increasing, such as in times of stress.[255] If the dependency on flow information is removed, a simplified liquidity fee likely could be processed as part of a transaction, avoiding the need to process a fee as a separate follow-on transaction.

The size of a simplified liquidity fee likely would be more predictable for investors and intermediaries than a dynamic fee or swing pricing. This would enhance transparency and would likely be easier to implement. While the size of the fee generally would be known in advance, it may or may not be easy to predict when a fee would apply. For example, if a fee applied to all redemptions, then investors and intermediaries would have certainty on when fees would apply. However, if fees applied only in certain circumstances, such as when trading costs are materially increasing or the fund has experienced net redemptions over multiple consecutive days, then application of a fee may be more difficult to predict, particularly if a fund's threshold for applying a fee is non-public or based on factors that are difficult for other market participants to observe or predict. An approach where it is difficult to predict when a fee would apply could help avoid preemptive redemptions in anticipation of fees applying in the near future, but it would also be less transparent. In addition, if liquidity fees are applied rarely, then application of a fee might be viewed as a sign that a fund is under stress, which could incentivize further redemptions, particularly if the fee amount is viewed as minimal.

Between dynamic and simplified fees, a dynamic fee would better reflect the costs associated with fund purchases or redemptions on a given day. A simplified fee, however, would be less costly to implement because, among other things, it would not necessarily require a hard close or any alternatives to the hard close to provide actual or estimated flow information. While a simplified fee would be less sensitive to the fluctuating costs associated with fund purchases or redemptions, this fee would aid in the offset of costs stemming from purchase and redemption activity and could assist with the mitigation of investor dilution.

On balance, we are proposing a swing pricing requirement because it may have operational advantages or be better tailored to mitigate dilution relative to liquidity fee options, but we request comment on using a liquidity fee framework to impose liquidity costs and whether a liquidity fee alternative may have fewer operational or other burdens than the proposed swing pricing requirement while still achieving the same overall goals of reducing shareholder dilution.

133. How do the operational implications of swing pricing, as proposed, differ from the operational implications of a dynamic liquidity fee framework (*e.g.,* one where liquidity fees vary in size and increase during periods of stress)? What are the operational implications of a requirement for mutual funds to impose a liquidity fee that can change in size and that may need to be applied with some frequency (up to daily)? Are fund intermediaries equipped to apply dynamic fees on a regular basis? Would funds have insight into whether and how intermediaries apply these fees to redeeming investors?

134. If we adopt a liquidity fee framework instead of a swing pricing framework, should a fund be required to apply a liquidity fee under the same circumstances in which a fund would be required to adjust its net asset value under the proposed swing pricing requirement? Should a fund be required to use the same approach to calculating a liquidity fee as the proposed approach to calculating a swing factor? Should the same board oversight framework apply under this approach as the proposed swing pricing requirement (*e.g.,* with the board approving the fund's liquidity fee policies and procedures and designating a liquidity fee administrator, and such administrator would report periodically to the board)?

135. Should funds be required to apply liquidity fees to all redemption or purchase orders, or should liquidity fees apply only upon a trigger event? If so, under what circumstances should a fee apply? For example, should liquidity fees apply when trading costs are materially increasing?[256] Should liquidity fees apply when a fund has had net outflows over multiple consecutive days? If so, should net outflows be of a certain size (*e.g.,* 2%, 5%, or 10%) and over what period of time should net outflows trigger a fee (*e.g.,* 2, 3, or 4 consecutive days)? Would this approach help mitigate dilution, or would it contribute to first-mover advantages and potentially result in unfair application of fees?

136. Should a liquidity fee apply to both purchasing and redeeming investors? Alternatively, should a liquidity fee apply to redeeming investors only or to purchasing investors only?

137. Should funds be required to maintain records related to the application of liquidity fees? For example, should funds be required to maintain records of the dates on which the fund applied liquidity fees and in what amount? If application of liquidity fees is subject to fund or board discretion, should a fund be required to maintain records documenting why the fund did or did not apply liquidity fees under certain circumstances?

138. Should liquidity fees apply to purchase or redemption orders of a specific size only? If so, what size? How operationally feasible would such an approach be? Would it create incentives for investors to modify their order amounts in an effort to avoid a fee, such as by holding smaller amounts of a fund's shares at multiple intermediaries or splitting up a purchase or sale order over multiple days? How should such an approach treat separate accounts managed by the same adviser, such as separate accounts managed through a wrap program?

139. Should a liquidity fee framework have an exclusion for purchase or redemption orders of a *de minimis* amount? How should we identify an order for a *de minimis* amount? Should it be a set dollar figure (*e.g.,* $2,500 or less), a set percentage of the fund's net assets, or a set amount that would be collected from application of a fee (*e.g.,* $50 or less)? Should the amount of a *de*

[255] We discuss an alternative in which a liquidity fee would apply when a fund's trading costs are significantly increasing in more detail in section II.D.3.b.

[256] *See infra* section II.D.3.b. for additional discussion and requests for comment about such an approach.

minimis exclusion be adjusted for inflation over time?

140. How should the amount of the liquidity fee be determined? Should the liquidity fee be dynamic but based only on that day's spreads? Should it include other transaction costs, including market impact? Instead of a dynamic fee amount that could change daily, should the fee amount be based on a fund's historical trading costs and evaluated periodically, such as annually, quarterly, or monthly? Should the fee be a flat percentage established by rule (such as 0.5%, 1%, or 2%), or should the fee increase as net redemptions or net purchases, illiquidity, or other variables increase? Should the fee amount be based on reasonably expected transaction costs but, if a fund cannot reasonably estimate those costs, it can use a default fee amount set by rule? If so, what should that default fee amount be (*e.g.,* 0.5%, 1%, 2%, or 3%)? Should the rule include a default fee amount that funds can always choose to use, with the option to use a higher or lower amount if such amount is determined to be in the best interest of the fund? Should there be a minimum or maximum fee amount, such as a 0.25% minimum or a 2% maximum?

141. If we adopt a liquidity fee framework instead of a swing pricing framework, are there any ways to simplify the application of fees to investors that invest through an intermediary, such as investors in an omnibus account, to facilitate funds or fund transfer agents applying fees directly to investor purchases or redemptions occurring through an omnibus account? For example, should fund intermediaries be required to separately submit purchase and redemption orders, rather than net them, in order to transact in a fund's shares? What would the operational consequences of such a requirement be for fund intermediaries and for investors? To what extent do intermediaries already submit purchase and redemption orders separately, and does this practice vary by type of intermediary (for example, are broker-dealers more likely to submit separate purchase and redemption orders than retirement plan recordkeepers)? Would there be consequences for fund transfer agents, Fund/SERV, or others associated with increased order volume or other changes that would result from a requirement to submit purchase and redemption orders separately? What changes, if any, would funds or fund transfer agents need to make to be equipped to apply liquidity fees directly? If submission of purchase and redemption orders separately is necessary to implement a liquidity fee framework, is it necessary for the Commission to mandate receipt of orders in this way to ensure compliance by all market participants? If purchase and redemption orders may be submitted on a net basis, as some intermediaries do currently, how would a fund accrue for liquidity fees in a timely manner? Should the Commission require fund transfer agents to apply liquidity fees directly and, if so, why or why not?

142. If we adopt a dynamic liquidity fee framework, would it be as reliant on timely flow information as the proposed swing pricing requirement? For example, could funds and intermediaries apply a dynamic fee to a transacting investor after an order begins to be processed at that day's NAV but before the trade settles? Could dynamic fees be applied after settlement, or would that create challenges in collecting a fee from investors who redeemed the full amount of their holdings? If a fee applies on a delayed basis, how should investors be notified of the application of a fee? Would it be preferable to apply a simplified fee that may less accurately reflect the costs of investor transactions and may mitigate dilution with less precision, but that could be applied at the same time an order is processed? Are there any other factors to consider when deciding between dynamic and simplified liquidity fees?

143. If we adopt a liquidity fee framework, should we require that the same liquidity fee amount apply to all share classes (for example, if a liquidity fee is 1% on a given day, the 1% fee must apply to all share classes)? Alternatively, should we permit the fee amount to differ among classes (for example, a 1% fee for one class and a 0.5% fee for another class) and, if so, why?

144. Should a liquidity fee apply differently based on the type of fund or the type of intermediary through which an investor trades? If so, what would be the basis for the differences in how a liquidity fee applies?

145. What investor flow information, if any, would be required to implement a liquidity fee alternative? To the extent that a liquidity fee alternative requires timely investor flow information, should the alternative be paired with the proposed hard close requirement? Are there different considerations or effects related to the proposed hard close requirement if we were to require funds to use a liquidity fee? Would it be effective to implement the liquidity fee alternative with an alternative to the hard close requirement discussed below, such as indicative flows, estimated flows, or delayed cut-off times for intermediaries?

146. Should a liquidity fee requirement be implemented through amendments to rule 22c–2 or through a new rule? To what extent would information that financial intermediaries agree to provide under a shareholder information agreement be important for funds to receive under a liquidity fee framework? [257] Is there other information funds would need to receive from financial intermediaries to determine that liquidity fees are appropriately applied? Should we amend the definition of shareholder information agreement to require that information, or are there other mechanisms for funds to receive that information (*e.g.,* distribution agreements)? Are there other rules we should amend if we adopt a liquidity fee requirement, such as rule 11a–3 under the Act, which permits application of certain fees in connection with an exchange offer notwithstanding section 11(a) of the Investment Company Act? If we amend rule 11a–3, should the rule treat a liquidity fee in the same way as a redemption fee, as defined in that rule? [258]

147. How should funds be required to disclose liquidity fees to investors? Should liquidity fees be reflected in the prospectus fee table, as mutual fund (other than money market fund) redemption fees currently are? [259] Or, similar to money market fund liquidity fees, should liquidity fees be excluded from the prospectus fee table? [260] Should funds be required to disclose the circumstances in which they would impose liquidity fees in the prospectus? If a liquidity fee only applies on some days, should the fund be required to disclose on its website that it is applying a liquidity fee that day and the size of the fee? Should funds be required to report information about

[257] *See* rule 22c–2(c)(5) (defining a shareholder information agreement as a written agreement under which a financial intermediary agrees, among other things, to provide certain information to a fund promptly upon request, including taxpayer identification number of all shareholders who have purchased, redeemed, transferred, or exchanged fund shares held through an account with the financial intermediary, and the amount and dates of such activity).

[258] Under rule 11a–3, an offering company may cause a security holder to be charged a redemption fee in connection with an exchange offer, subject to certain conditions. *See* rule 11a–3(b)(2); rule 11a–3(a)(7) (defining a redemption fee as a fee that a fund imposes pursuant to rule 22c–2).

[259] *See* Item 3 of Form N–1A.

[260] *See* Instruction 2(b) to Item 3 of Form N–1A (excluding money market fund liquidity fees imposed in accordance with rule 2a–7 from the definition of ''redemption fee'').

liquidity fees that are imposed? For example, should a fund be required to report on Form N–PORT the dates the fund imposed liquidity fees (or the number of days on which fees were applied) and the amount of the fee applied on each occurrence? If a fund or its board has discretion on when to apply liquidity fees, should a fund be required to disclose why a liquidity fee was or was not imposed under certain circumstances? Should funds be required to report other information about liquidity fees or report information in other locations, such as in shareholder reports, on fund websites, or in Forms N–CEN or N–RN? Would any existing items on Form N–PORT, Form N–CEN, Form N–1A, Form N–RN, or other forms need to be modified if we were to adopt a liquidity fee framework instead of swing pricing?

148. How quickly do intermediaries currently remit to funds the amounts collected from purchase or redemption fees applied to customer accounts? If remittal currently is delayed, what are the causes of delay? If we adopted a liquidity fee, would funds reflect any delayed liquidity fee payment as an accrual? Under a liquidity fee approach, should intermediaries be required to remit payments to funds within a certain amount of time after a purchase or redemption? If so, what is an appropriate amount of time for remittal (*e.g.,* on the day of settlement or within one or two days after settlement)? For example, should we adopt a rule that would provide that a fund must prohibit an intermediary from purchasing the fund's shares in nominee name on behalf of others if the intermediary does not remit payment on a timely basis? Are there other appropriate consequences for an intermediary that has a pattern or practice of late payments, such as a requirement that orders from such an intermediary may not receive today's price and will be executed on a subsequent day at that day's price in order to otherwise limit the dilutive effects of purchase and sale orders received through that intermediary since fees are not paid in a timely manner? Should we require a fund to charge an additional surcharge to an intermediary that does not remit payment on a timely basis? Should funds be required to report the names of intermediaries who are delayed in remitting payment and the amount due? If so, where should funds provide this information (for example, Form N–PORT, Form N–CEN, fund websites, or registration statements)?

149. Would a liquidity fee requirement have different effects on investor behavior than a swing pricing requirement? For example, because application of liquidity fees is more observable than application of swing pricing, would liquidity fees be more likely to affect investors' decisions of whether to purchase or redeem fund shares?

b. Dual Pricing

We also considered the use of dual pricing as an anti-dilution measure. A fund that uses dual pricing would quote two prices—one for incoming shareholders (reflecting the cost of buying portfolio securities in the market), and one for outgoing shareholders (reflecting the proceeds the fund would receive from selling portfolio securities in the market).[261] Dual pricing is permitted and used by some funds in certain foreign jurisdictions.[262] In comparison to swing pricing and liquidity fees, we believe that dual pricing may impose additional operational burdens and complexity on fund intermediaries, service providers, and other third parties as they would need to handle two share prices on each trade date. We understand that mutual fund order processing systems currently are designed to accommodate only one price, which is applied both to trades and valuation, and a fund's share price feeds into many analyses that intermediaries, funds, or others would need to update if there were two share prices, such as rebalancing activity. In addition, as recognized above, there would be operational costs associated with intermediaries needing to submit purchase and redemption orders separately, rather than netting purchase and redemption orders.

In addition, with a dual pricing framework, we would also address effects on a fund's financial statements and performance reporting, as the Commission has already done for swing pricing.[263] If we were to adopt a dual pricing framework, we could use the same general framework as in swing pricing. Under this approach, a fund would use its ''GAAP'' NAV (*i.e.,* the amount of net assets attributable to each share of capital stock outstanding at the close of the period) in its statement of assets and liabilities and in performance reporting, while it would use its two transaction prices in reporting the dollar amounts received for shares sold and paid for shares redeemed in its statement of changes in net assets and reflect the impact of dual pricing in the fund's financial highlights.

Similar to liquidity fees, dual pricing could be either dynamic (*e.g.,* calculated to reflect spread, other transaction costs, and market impact a fund is likely to incur to meet redemptions or invest the proceeds from subscriptions and based on the magnitude of those flows) or simplified (*e.g.,* a constant spread around a fund's NAV). Dynamic dual pricing generally would necessitate timely flow information, similar to the proposed swing pricing requirement. However, simplified dual pricing may not necessitate timely flow information. Between these two types of dual pricing, a dynamic approach would better reflect the costs associated with the magnitude of fund purchases or redemptions on a given day. Under a simplified dual pricing framework, there also is the potential for either redeeming or subscribing investors to be over-charged for transaction costs that their investing activity does not trigger, because the fund would adjust its NAV for both subscribing and redeeming investors daily without regard to whether the fund has net inflows or net outflows on a given day. A simplified approach, however, would be less costly to implement because, among other things, it would not require a hard close or any alternatives to the hard close to provide actual or estimated flow information.

On balance, we are proposing a swing pricing requirement because it may have operational advantages over dual pricing. We request comment on using a dual pricing framework to impose liquidity costs on transacting shareholders and whether a dual pricing alternative may have fewer operational or other burdens than the proposed swing pricing requirement or a liquidity fee alternative while still achieving the same overall goals of reducing shareholder dilution.

150. How do the operational implications of swing pricing, as proposed, differ from the operational implications of dual pricing? As dual pricing involves calculating and applying two prices on each trade date, would that approach involve operational burdens and complexity for fund intermediaries, service providers, and other third parties that would not exist with a single price under our proposed swing pricing framework?

151. If we adopt a dual pricing framework instead of a swing pricing framework, how should the spread around the NAV be determined? For example, should the spread around the

[261] *See* Swing Pricing Adopting Release, *supra* note 11, at n.40. Swing pricing would permit a fund to continue to transact using one price, as they do today (instead of transacting using separate prices for purchasing and redeeming shareholders).

[262] For example, jurisdictions that permit dual pricing include the UK, Ireland, Australia, and Hong Kong. *See* Jin, *et al, supra* note 163, at n.6 and accompanying text.

[263] *See* Swing Pricing Adopting Release, *supra* note 11, at section II.A.3.g.

NAV be constant or calculated daily or at some other frequency to reflect transaction costs? If the latter, which transaction costs (*e.g.,* spread, other transaction costs, and market impact)? Under a dual pricing framework, would funds need the same investor flow information that is needed for swing pricing, or would implementation of dual pricing be less dependent on investor flow information?

152. Should a dual pricing requirement apply differently based on the type of fund or the type of intermediary through which an investor trades? If so, what would be the basis for the differences in how dual pricing applies?

153. If we adopt a dual pricing framework, should we address the effects of two transaction prices on a fund's financial statements and performance reporting in a manner similar to how the Commission has addressed the effects of swing pricing (*i.e.,* by clarifying that the GAAP NAV must be used in some cases, while transaction prices are used in others)? Are there additional implications of two transaction prices that we would need to address and that would lead to a different result than our current swing pricing approach?

154. Under a dual pricing framework, which value of the fund's shares would market participants use for analyses that currently are based on a fund's NAV, such as rebalancing a client's holdings of different funds to achieve a desired asset allocation or reflecting the value of an investor's holdings on an account statement? If we adopt dual pricing, should we provide guidance on which value to use for these or other purposes?

155. Are there differences between liquidity fees and dual pricing that make one a better framework than the other to address dilution? If so, what are the differences and why is one better than the other (*e.g.,* differences in tax treatment, if any)?

156. What investor flow information, if any, would be required to implement a dual pricing alternative? To the extent that a dual pricing alternative requires timely investor flow information, should the alternative be paired with the proposed hard close requirement? Are there different considerations or effects related to the proposed hard close requirement if we were to require funds to use dual pricing? Would it be effective to implement the dual pricing alternative with an alternative to the hard close requirement discussed below, such as indicative flows, estimated flows, or delayed cut-off times for intermediaries?

157. If we adopt a dual pricing framework, what other changes should be made to the proposal as a result? For example, what reporting should be required on Form N–PORT, Form N–CEN, Form N–1A, Form N–RN, or other forms used by funds that would be subject to the framework? Would any existing reporting items on these or other forms need to be modified if we were to adopt a dual pricing framework instead of swing pricing? Are there other rules (*e.g.,* rule 11a–3 under the Act) that would require changes if we adopt an alternative framework?

158. Would a dual pricing framework affect investor behavior differently than a swing pricing framework or a liquidity fee framework?

2. Alternatives to a Hard Close

We are proposing to require a hard close for open-end funds that are subject to the proposed swing pricing requirement. Under this proposal an eligible order to purchase or redeem any redeemable security of such a fund would be executed at the current day's price only if the fund, its designated transfer agent, or a registered clearing agency receives the order before the fund calculates its NAV. This proposal is designed to facilitate the operation of swing pricing as well as to help prevent late trading and to modernize order processing.

In connection with the swing pricing proposal, we have also considered whether there are alternative methods by which a fund would be able to generate sufficient investor flow information to determine whether to apply swing pricing on a given day. As discussed above, swing pricing requires that funds have significant information about their order flows to determine with accuracy if the fund should impose a swing factor and to determine what that swing factor should be. Instead of requiring that funds operationalize swing pricing based on actual order flow information received before the pricing time, we have also considered whether reasonable estimates, calculated by either the fund or the intermediary, would provide sufficiently accurate information for a swing pricing determination. We have also considered whether later cut-off times for flow information and the publication of the day's NAV would facilitate swing pricing. We discuss each alternative below. We also considered how these alternatives would work if, rather than require swing pricing, we were to require funds to adopt liquidity fees or dual pricing.[264] Although the below discussion focuses on swing pricing, we believe similar considerations would apply in the case of liquidity fees or dual pricing (to the extent a liquidity fee or dual pricing regime, like swing pricing, was based on the amount of net flows), and these alternatives therefore also could be used in combination with a liquidity fee or dual pricing approach.[265]

a. Indicative Flows

We considered whether, instead of requiring a hard close, we should require that funds receive indicative flow information from intermediaries by an established time. This approach would require that intermediaries (*e.g.,* broker-dealers, banks, and retirement plan recordkeepers) calculate an estimate for what they anticipate the given flows for a particular day to be either before the fund's pricing time or a set time thereafter (*e.g.,* by 4:30 p.m. ET or 5 p.m. ET). Consistent with current practices, intermediaries could submit final order flow information after the pricing time once the intermediary has received and calculated the final flows for the day. For example, we could consider orders to be eligible to receive that day's price if, in the case of orders submitted through an intermediary: (1) the intermediary receives the orders from investors before 4 p.m. ET; (2) the intermediary provides estimated order flow to the fund by the identified time; and (3) the intermediary provides final order information by the next morning. Under this approach, a fund would be permitted to use the indicative flow information provided by intermediaries to determine whether a swing factor should be applied to that day's NAV.

In order to calculate the indicative flow information, intermediaries would need to generate an estimated flow based on, among other things, the actual flows that they have received before the pricing time and the prior day's price, as well as any indicative historical information that is available if the indicative flow information is provided to the fund before the pricing time. Alternatively, the intermediary could provide summary net flow information (for example, estimated net purchases of $3 million, estimated net redemptions of 250,000 shares, and the purchase of an unknown quantity of fund shares with proceeds from redeeming 100 shares from a different identified fund), and the fund could apply the prior day's NAV to arrive at an estimated net flow. Intermediaries would need to update

[264] *See supra* section II.D.1.

[265] We provide additional illustrative examples of potential alternatives and pairings in section II.D.3.

their systems and processes to calculate indicative flow information by or shortly after the pricing time while continuing to provide actual final flow information as it is available. We understand that different intermediaries may, based on their different characteristics, use different methods to calculate or provide their indicative flows. A broker-dealer and a retirement plan recordkeeper would not necessarily use the same method due to the differences in how they are able to generate and communicate flow information to funds. Retirement plan recordkeepers, for example, would need to generate indicative flow information that accounts for not only purchase and redemption activity that is a known number of shares or dollars as of the pricing time, but also estimated loan and withdrawal activity that is subject to hierarchy provisions under their specific plans. If an intermediary is unable to provide indicative flow information by the identified time, the orders would receive the next day's price.

Unlike the proposed hard close requirement, the alternative of permitting funds to rely on indicative flows provided by intermediaries would provide intermediaries with more flexibility in providing final flow information. Thus, the broader changes that may be needed for intermediaries to comply with the proposed hard close requirement that are discussed above may not be needed under this alternative. This approach would not ultimately provide funds with the most accurate information about anticipated flows. If intermediaries are required to provide indicative flows before a fund's pricing time, the flow information may be less reliable, particularly during times of stress since intermediaries may not be able to account for or anticipate the effects of a stress event on order flow information. This limitation of indicative flow information may create down-stream effects on the accuracy and efficacy of swing pricing, particularly in times of stress. For swing pricing to serve the goal of mitigating dilution of shareholders' interests, funds need accurate order flow information, particularly in times of stress. In addition, an approach based on indicative flows would be less effective at preventing late trading and at reducing operational risk through improvements to order processing.

We request comment on the indicative flow alternative, including:

159. Should we allow funds to use indicative flow information to determine whether or not to apply swing pricing?

160. If intermediaries are required to provide indicative flows to funds, should the rule establish this requirement by considering an order as eligible to receive a given day's price only if the intermediary provides indicative or final order flow information by an identified time and provides final order information by a later identified time? Should we instead provide that a fund must prohibit an intermediary from purchasing the fund's shares in nominee name on behalf of others if the intermediary does not provide timely indicative flow information? Should the rule require that funds enter into a contractual agreement with intermediaries to require the indicative flow information? If so, should this contract be required to specify how indicative flows are calculated by the intermediary? In either case, should we prohibit or restrict an intermediary from charging fees to funds for the costs associated with providing indicative flow information?

161. Would intermediaries have sufficient incentives to provide timely and accurate indicative flow information? Are there other consequences we should impose for late or materially inaccurate indicative flow information? For example, if an intermediary has a pattern of providing late or inaccurate information, should we require a fund to prohibit the intermediary from purchasing the fund's shares in nominee name on behalf of others? As another alternative, should we prohibit orders received from that intermediary from receiving that day's price and instead require that the orders be executed and settled on a delayed basis at a future day's price, in order to limit the dilutive effects of orders that intermediary submits?

162. When should intermediaries be required to provide indicative flows under this alternative? Are indicative flows needed before the pricing time, or could funds still make timely swing pricing decisions if intermediaries provided indicative flows after the pricing time? How long after the pricing time could funds receive the indicative flow information and still make timely swing pricing decisions? In connection with this approach, would funds publish their prices later than they do today to provide additional time to make swing pricing decisions?

163. Should the intermediary or the fund apply the prior day's price to arrive at an indicative flow estimate? Is there value in the fund performing this calculation because it would have better information about potential changes to the prior day's price that it could take into account (*e.g.,* the size of any swing factor adjustment made on the prior day, as well as potential changes to the value of its portfolio holdings)?

164. Should intermediaries that have minimal holdings with the fund be permitted not to provide indicative flows under this approach? If so, how should we define intermediaries that have minimal holdings of fund shares? How would this approach work if an intermediary's customers began to transact in higher volumes of the fund's shares?

165. Should we provide fund managers a safe harbor from liability under certain circumstances (*e.g.,* absent knowing or reckless behavior) if the fund relies on indicative flows to determine whether to swing the fund's NAV and the size of the swing factor and those indicative flows do not align with the actual flows the fund ultimately receives? From what statutory provisions or rules should any safe harbor provide relief (for example, section 34(b) under the Investment Company Act, rule 22c–1, or other provisions and rules)?

166. If we adopt an indicative flows approach, are there any changes we should make to the proposed swing pricing requirement? For example, instead of requiring use of ''reasonable, high confidence'' estimates of investor flow information, should we use a different standard (*e.g.,* reasonable estimates based on available information)?

167. Do commenters agree with the discussion of the potential benefits, costs, or drawbacks of this alternative? During times of stress, would intermediaries be able to generate accurate indicative flow information?

168. Does this alternative raise different considerations if we were to require funds to use a liquidity fee framework or dual pricing, rather than swing pricing? Should an indicative flows approach operate or be structured differently if paired with a liquidity fee or dual pricing requirement and, if so, how?

169. Is there information about the indicative flows alternative, if adopted, that would be important for investors to understand and that funds should be required to disclose in their registration statements or elsewhere?

b. Estimated Flows

We also considered an approach that would allow funds to estimate their flows for the day for the purposes of determining whether to apply a swing factor to the day's NAV and the amount of the swing factor (*e.g.,* whether the amount of net redemptions exceeds the market impact threshold). In order to estimate flows for a given day, funds could generate models that incorporate the information available to them. For example, funds could use the flow information that they have already received by a pre-established time as well as historical order flow information in order to estimate expected flows for the day.

The ability of a fund to estimate flow information may differ based on the types and number of intermediaries from which the fund is ultimately receiving flow information. In order to estimate flows, funds may rely on factors that include the historical pattern of flows for a particular intermediary while accounting for any observed changes in the flows for a given fund. This estimate could be based on all of the information received by the fund by a set time, with additional adjustments to account for flows from intermediaries that do not submit orders by that time. For example the fund could base its estimate on all information that it has received by 5 p.m. ET. For some intermediaries, however, like retirement plan recordkeepers, funds would likely need to create models that are able to project estimated flow information based on historical order flow information as retirement plan recordkeepers may not have sufficient information available by the time established by the fund. In addition, to the extent funds do not already receive large trade notifications, funds may determine to negotiate arrangements with intermediaries for receipt of advance notice of certain large transactions that are known in advance by intermediaries, such as replacing a fund as an investment option in a retirement plan.

The considerations for whether estimates generated by the fund provide sufficiently reliable information to implement swing pricing are similar to those discussed above for the alternative for indicative flows from intermediaries. Funds have a narrower view of anticipated flow activity than intermediaries, however, as intermediaries are closer to investor activity and likely have a more accurate estimate of their customers' flows for a particular fund. This benefit of indicative flows over estimated flows may be mitigated to the extent that intermediaries lack incentives or are otherwise unable to provide reasonably accurate indicative flows. During times of stress, funds may have a limited view of anticipated order flow information, which may impact their ability to effectively implement swing pricing. In addition, an approach based on estimated flows would be less effective at preventing late trading and at reducing operational risk through improvements to order processing than the proposed hard close requirement. On the other hand, estimated flows would be less costly than either a hard close or indicative flows.

We request comment on the estimated flow alternative, including:

170. How accurately can funds estimate flows from different intermediaries? For example, are retirement plan flows relatively stable and predictable, or do they vary over different periods? To what extent do retirement plans inform funds in advance of material flows that deviate from historical patterns, such as changes in funds the plan offers? Would funds receiving flows from specific intermediaries be better able to estimate their flows? For example, would it be easier for funds to estimate flows from broker-dealers because broker-dealers tend to be able to provide order flow earlier than some other intermediaries? Would it be easier for funds to estimate flows from retirement plan recordkeepers because those flows are more predictable? To the extent that certain events make flows less predictable, such as changes in the funds a retirement plan offers to its participants, could funds better estimate their flows if intermediaries were required to provide advance notice or other information about these events?

171. Should we provide fund managers a safe harbor from liability under certain circumstances (*e.g.,* absent knowing or reckless behavior) if the fund relies on estimated flows to determine whether to swing the fund's NAV and the size of the swing factor and those estimated flows do not align with the actual flows the fund ultimately receives? From what statutory provisions or rules should any safe harbor provide relief (for example, section 34(b) under the Investment Company Act, rule 22c–1, or other provisions and rules)?

172. Should we require funds to conduct back-testing of estimated flows using final data to refine their estimation process over time and help ensure that estimates used for swing pricing are reasonable?

173. Would funds be able to implement swing pricing based on estimated flow information? If we adopt an estimated flows approach, are there any changes we should make to the proposed swing pricing requirement? For example, instead of requiring use of ''reasonable, high confidence'' estimates of investor flow information, should we use a different standard (*e.g.,* reasonable estimates based on available information)?

174. Does this alternative raise different considerations if we were to require funds to use a liquidity fee framework or dual pricing, rather than swing pricing? Should an estimated flows approach operate or be structured differently if paired with a liquidity fee or dual pricing requirement and, if so, how?

175. Is there information about the estimated flows alternative, if adopted, that would be important for investors to understand and that funds should be required to disclose in their registration statements or elsewhere?

176. To what extent would the estimated flows alternative reduce costs on funds and intermediaries relative to the proposed hard close?

c. Later Cut-Off Times for Intermediaries

We have considered whether establishing later cut-off times for intermediaries to submit order flow information would lessen the burden on intermediaries to comply with the proposed hard close requirement while continuing to give funds the necessary order flow information to implement swing pricing. Under this alternative, investors would continue to need to submit orders before the fund's pricing time to be eligible to receive that day's price, but intermediaries would have additional time to provide those orders to a designated party after the pricing time, such as by 6 or 7 p.m. ET for a fund with a 4 p.m. ET pricing time. To provide time to assess the flows and determine whether to apply swing pricing, a fund might push the time of publication of its price to a later time, such as 8 to 10 p.m. ET. Much like the proposed hard close, this alternative may have additional benefits beyond facilitating swing pricing. Ensuring that all order flow information is provided to a designated party earlier than it is currently may improve order processing. This alternative would be less effective, however, at preventing late trading.

Allowing intermediaries more time to provide order flow information and delaying publication of the NAV would involve many of the systems costs discussed in connection with the hard close. For example, intermediaries would still need to transmit orders before the NAV is available. However, providing intermediaries and funds more time to compile order flow information and to calculate the price may lessen the overall burden of the proposed changes, and may reduce the need for intermediaries to establish cut-off times prior to the fund's pricing time for receipt of investor orders.

We request comment on the alternative of later cut-off times for intermediaries, including:

177. What would an appropriate delayed cut-off time be (*e.g.,* two or three hours after the fund's pricing time)? Would a delayed cut-off time, in combination with a delayed price publication, provide funds with sufficient time to make swing pricing decisions?

178. If funds were to delay the publication of their price, what steps would funds need to take? Would they need to amend agreements with intermediaries? What effects would a delayed publication time have on intermediaries or other parties?

179. Would a delayed cut-off time for intermediaries to submit orders to a designated party be less burdensome than the proposed hard close? Would a delayed price publication time be less burdensome than the proposed hard close?

180. Would funds be able to implement swing pricing if we require later cut-off times for intermediaries instead of the proposed hard close? If we adopt a later cut-off time approach, are there any changes we should make to the proposed swing pricing requirement? For example, instead of requiring use of ''reasonable, high confidence'' estimates of investor flow information, should we use a different standard (*e.g.,* reasonable estimates based on available information)?

181. Does this alternative raise different considerations if we were to require funds to use a liquidity fee framework or dual pricing, rather than swing pricing? Should a later cut-off time approach operate or be structured differently if paired with a liquidity fee or dual pricing requirement and, if so, how?

182. Is there information about the later cut-off times alternative, if adopted, that would be important for investors to understand and that funds should be required to disclose in their registration statements or elsewhere?

3. Additional Illustrative Examples

While there are many potential combinations of swing pricing and hard close alternatives, several of which we have already discussed in this release, this section provides additional illustrative examples of alternatives to the proposed swing pricing and hard close requirements that are designed to reduce shareholder dilution. The alternatives discussed in this section are intended to have lower operational costs than the proposed requirements, although the reduction in costs involves other trade-offs, as discussed below.

a. Spread Cost Adjustment on Days With Estimated Net Outflows

Spread costs can be a major component of a fund's swing factor. Instead of the proposed swing pricing and hard close requirements, we could require a simplified version of swing pricing in which funds adjust their current NAVs to reflect good faith estimates of spread costs on days the fund reasonably expects to have net redemptions based on estimated flows. Under this approach, if a fund determined its NAV based on the midpoint of each investment's bid-ask spread, on days of estimated net redemptions the fund would swing its transaction price down by an amount designed to reflect spread costs in the portfolio. The adjustment would be based on good faith estimates of spread costs, consistent with the proposed swing pricing requirement. As with the swing factor under the proposal, the estimated spread costs could be determined periodically, as long as significant market developments or other developments that affect the good faith estimate of spread costs prompt a quicker reevaluation.[266] If the fund already uses bid prices for valuation purposes, it would not be required to adjust its current NAV to reflect spread costs.[267]

This approach would be designed to mitigate dilution from spread costs associated with selling investments to meet redemptions. The reflection of costs would be dynamic when a fund expects net outflows, with the adjustment to reduce a fund's transaction price increasing in size as spreads widen during times of stress. A fund would need to estimate the direction of flows (*i.e.,* net redemptions or net purchases) based on available information before the fund publishes its price, but the fund would not need to estimate the size of net flows. A fund's reasonable expectation of the direction of fund flows may be based on different types of information, depending on the fund. For example, a fund could consider indicative flow information from intermediaries, trends in orders submitted that day, general market intelligence, or historical trends in flows.

This approach would impose lower operational burdens and costs relative to the proposal, including by not necessitating a hard close and by simplifying the analysis of a swing factor. At the same time, the approach would address dilution less fully than the proposal. Unlike the proposed swing pricing requirement, this approach would not capture market impact or other costs of selling investments to meet redemptions. For one, a fund could not assess market impact without an estimate of the size of net flows and, without a hard close, estimating the size of net flows with accuracy would be subject to a greater risk of error than estimating only the direction of flows. In addition, as previously discussed, there may be operational challenges and complexities to estimating market impact costs more generally. Another difference from the proposed swing pricing requirement is that this approach would not address dilution from sizeable net purchases. Because smaller levels of net purchases are less likely to result in dilution than net redemptions (as funds have more time to invest the proceeds from net purchases than to sell investments to meet redemptions), it may not be appropriate to require a fund to adjust its current NAV to reflect spread costs on any day it estimates net purchases. For this reason, we have a net inflow swing threshold of 2% in the proposal and, as with the potential inclusion of market impact in this framework, estimating the size of net flows involves a greater risk of error than estimating only the direction of net flows.

In addition to other requests for comment related to variations of swing pricing and estimation of flows, we request comment on requiring a fund to adjust its current NAV to reflect good faith estimates of spread costs on days the fund reasonably expects to have net redemptions, instead of requiring the proposed version of swing pricing and a hard close.

183. Would this approach reduce operational burdens and costs relative to the proposed swing pricing and hard close requirements? Would this approach reduce operational burdens and costs relative to the liquidity fee alternative? Would this approach reduce operational burdens and costs relative to the dual pricing alternative? How effective would this approach be in addressing dilution? To what extent would this approach protect non-

[266] This approach would not require a fund to use bid prices to value each of its investments when determining its NAV. Instead, as appropriate, a fund could continue to value its investments using the midpoint to determine its NAV and, on days of estimated net outflows, the fund would be required to reduce the fund's transaction price based on good faith estimates of spread costs.

[267] *See supra* note 202 (discussing accounting standards that state that the price within the bid-ask spread that is most representative of fair value in the circumstances shall be used to measure fair value and that provide that use of bid prices is permitted for these purposes, as well as use of mid-market pricing as a practical expedient).

transacting investors from dilution due to the bid-ask spread costs and ameliorate any first-mover advantage? Would the effectiveness of the tool vary between normal and stressed market conditions? Should this approach also reflect transaction costs in addition to spreads, for example, commissions, markups, and/or markdowns?

184. How accurately can funds estimate the direction of daily net flows? Should the requirement apply on days the fund reasonably expects to have net redemptions (such that the fund uses this approach only if it affirmatively expects net redemptions) or on days the fund does not reasonably expect to have net purchases (such that the fund defaults to this approach unless it affirmatively expects net purchases)?

185. To what extent do funds already value their portfolio investments using bid prices? What consequences, if any, would a requirement to reflect good faith estimates of spread costs when a fund reasonably expects to have net redemptions have on these funds?

186. Would this approach incentivize funds to value their portfolio investments using bid prices without properly evaluating whether the bid price is most representative of fair value in the circumstances, in order to avoid the need to determine whether the fund reasonably expects net redemptions each day?

187. If we adopt this approach, how should we amend disclosure and reporting requirements? For example, if we required funds to use this simplified version of swing pricing, should current prospectus and financial statement reporting requirements for swing pricing apply? Should we require funds to report the frequency and amount of adjustments made to their current NAVs under this approach? Should a fund be required to report both its current NAV and its adjusted price? Should a fund be required to report information about the accuracy of its estimates of flow information? Where should any such information be located (*e.g.,* Form N–PORT, fund websites, annual and semi-annual reports)?

b. Liquidity Fee When Trading Costs Are Significant

Another alternative we considered is a liquidity fee that would apply only on days when a fund anticipates significant trading costs. A rule could either define the trigger or require funds to establish policies and procedures that identify their own fund-specific triggers. In terms of establishing the trigger, one alternative would be a trading cost trigger that the fund sets in advance or that the Commission establishes by rule (for example, with a set size, a set increase, or a set standard deviation in trading costs based on criteria such as spreads or transaction volumes for the fund's portfolio, either in terms of dollars or as a percentage of the fund's portfolio). As another alternative, the trigger for applying a liquidity fee could include other factors that indicate an increase in trading costs, such as increasing net flows (*e.g.,* based on the fund's flow history or estimated flows) or decreasing liquidity (*e.g.,* based on declines in the percentage of the fund's investments classified as highly liquid, or increases in the percentage of investments classified as illiquid). A fund's trigger for applying liquidity fees could be required to be made public or kept non-public.

As one example of a policies and procedures based approach, a fund could be required to establish written policies and procedures that would define the trigger event(s) that would cause a fund to apply a fee. The fund's policies and procedures would be required to be designed to mitigate dilution and recoup the costs the fund reasonably expects to incur as a result of shareholder redemptions on days when trading costs are higher. Funds would have discretion to define their own trigger events, but all funds would be required to consider certain identified factors, such as trading costs, liquidity of the fund's portfolio, market conditions, and reasonably estimated investor flows, in determining their trigger events.[268]

There are several alternatives for setting a fee amount. For instance, the fund could either base the fee amount on reasonable estimates of expected transaction costs, including market impact, or if the fund determined this estimation is not feasible, the fund could establish a set fee amount, or graduated fee levels, it would apply when a trigger event occurs. The rule could either allow a fund to determine that estimating transaction cost amounts is not feasible in advance, or the rule could require a fund to consider its ability to estimate transaction costs each time a liquidity fee applies. Under another possible approach, the rule could establish a default fee amount, such as 1%, that a fund could opt out of or adjust if determined to be in the best interest of the fund.

With respect to board oversight, if fee triggers or amounts were determined based on written policies and procedures, we could require board approval of the policies and procedures defining a fund's trigger event or identifying how to determine a fee amount, as well as any material changes to those policies and procedures. As for determining when a trigger event occurs and the amount of the fee, similar to the proposed swing pricing requirement, we could allow a liquidity fee administrator approved by the board to make some or all of these determinations.

If designed incorrectly, a fee that only applies when trading costs are significant could incentivize investors to redeem if investors can observe in advance that a fee is likely to apply in the near future. There are various mechanisms we could use to reduce these incentives. For one, if the rule identified specific trigger events that all funds would use, in that case, the potential for preemptive redemptions would be reduced if investors or other market participants could not observe with certainty if a fund is nearing a trigger event. Another approach would be to identify specific thresholds for triggering a fee in the rule and allow a fund to choose to use one or more of those thresholds to determine when to apply a fee. If funds determined their own fee triggers, the rule could provide that a fund's trigger event would be either public or nonpublic. Public disclosure of a fund's trigger for applying liquidity fees would increase transparency. The rule could require, however, that the fund's trigger event be kept nonpublic in order to reduce the potential for preemptive redemptions. Under this approach, a fund would not disclose its defined trigger event, and instead would be required to disclose in its prospectus that it applies a liquidity fee on days its trading costs increase, as well as how it determines the amount of the fee. A fund could be required to report information about how frequently it applied a liquidity fee and the amount of each fee on Form N–PORT.

Unlike the proposed swing pricing requirement, this approach would not address smaller levels of dilution that may occur in the normal course. Instead, it would be designed to focus on periods where funds have heightened dilution risk, such as in stress events. In addition, this approach would not address dilution that may occur from net purchases.

In addition to other requests for comment related to liquidity fee

[268] Consideration of expected investor flows would not require a fund to estimate the size of expected flows with accuracy. Rather, this consideration would be intended to recognize the potential relevance of flows, to the extent a fund has sufficient information to reasonably estimate them. Moreover, if a fund anticipates a significant increase in costs of selling its investments but does not expect to need to sell investments due to an anticipation of net inflows, this approach would not require a fund to impose a fee.

alternatives, we request comment on whether we should require a fund to apply liquidity fees only on days when a fund anticipates significant trading costs, instead of requiring swing pricing and a hard close.

188. Should a fund be required to apply a liquidity fee only when trading costs are significantly increasing, such as a period of stress? If so, should the rule identify a trigger when fees apply, or should funds establish their own trigger events?

189. If the rule establishes a trigger, what should that trigger be based on? For example, should the rule require a fund to apply a liquidity fee when spreads are widening or transaction volumes for the portfolio increase? For instance, should fees be required when spreads widen beyond a 95% confidence level for key components of the fund's portfolio, where the mean and standard deviation of these key markets are measured for the trailing 252 business days (the average number of trading days in a year), and the trigger occurs if the current spread is greater than 1.65 standard deviations (*i.e.,* the equivalent of a 95% confidence in a normal distribution) above the mean for that period? Should different confidence levels, standard deviations, or measurement periods be used? Should a liquidity fee trigger be based on an increase in the transaction volume of the fund's portfolio, such as a trigger when the dollar- or percentage-based transaction volume for that day exceeds the 95% confidence level compared to the average daily transaction volume for the trailing 252 business days? Should different confidence levels or measurement periods be used? Do funds already track information that would allow them to identify readily when a trigger based on widening spreads or increased dollar transaction volume is crossed, or would they need to collect or monitor additional information about spreads or transaction volumes? Should the rule use other or additional triggers? For example, should a trigger be based on or consider large net outflows or a reasonable expectation of large net outflows above a certain percentage, such as net redemptions above 1% or 2% of net assets or net redemptions that are higher than typical for the individual fund based on historical flows? If the rule included a numerical threshold for net redemptions, would funds have concerns about their ability to accurately estimate net flow amounts and therefore be less likely to apply fees? If so, would a safe harbor address these concerns? Should a trigger be based on or consider an identified change in the fund's liquidity classifications, such as an identified decrease in the percentage of highly liquid investments the fund holds or an identified increase in the percentage of illiquid investments the fund holds? Should identification of a trigger event account for indicators of market stress in the financial markets overall or in the specific markets in which the fund invests? If so, what indicators of market stress should the rule include? Should the rule identify multiple potential triggers and allow funds to choose whether to use one or more of those triggers to determine when to apply a fee?

190. Instead of identifying specific trigger points by rule, should we require funds to establish and implement policies and procedures that describe when the fund will impose a fee? Would a policies and procedures approach allow funds to tailor the application of a fee to scenarios in which transacting investors are likely to cause dilution? Under a policies and procedures approach, should we identify the factors a fund must consider in defining its trigger events? If so, what factors should we require a fund to consider (*e.g.,* trading costs, liquidity of the fund's portfolio, market conditions, and reasonably estimated investor flows)? Rather than require funds to consider these factors, should we require funds to define their trigger events with respect to these or other specific factors?

191. Should we permit a fund not to apply a fee upon the occurrence of a defined trigger event? For example, should a fund be required to apply a fee when a trigger event occurs, unless the board determines that it is not in the interest of the fund to apply a fee in the specific circumstance?

192. What risks are associated with requiring a fund to define its own trigger event, and how could we reduce these risks? Would funds define a trigger event such that a fund would be delayed in determining that a fee should apply relative to potentially fast-moving changes in market conditions? If so, would this delay increase the potential for preemptive redemptions and contribute to a first-mover advantage? Would funds define a trigger event in a way that makes it unlikely that a fund would ever apply a fee? Are there ways to ensure that funds' policies and procedures are sufficiently robust, such as requirements to report the policies and procedures to the Commission or to report when a fund applied a fee? For example, should funds be required to confidentially report their trigger events to the Commission and to report how frequently fees applied and in what amounts on Form N–PORT?

193. Should liquidity fees apply only to redemptions if a trigger event occurs? Or should liquidity fees apply to both redemptions and purchases under this approach? Should a single trigger event result in fees applying to both redemptions and purchases, or should funds establish trigger events that differ between redemptions and purchases?

194. How should the amount of a liquidity fee be determined under this approach? Should the rule set a specified fee amount that would occur upon any fund's trigger event, such as 0.5%, 1%, or 2%? Should any fee amount set by rule be a default amount, such that a fund could use a higher or lower fee amount if determined to be in the best interest of the fund? Should funds be required to calculate the amount of the fee based on reasonable estimates of expected transaction costs, including market impact? Should fund policies and procedures, or a rule, establish a set fee amount that would apply if a fund is unable to reasonably estimate expected transaction costs? Should funds be required to consider their ability to reasonably estimate transaction costs each time a trigger event applies, or should funds be able to determine in advance that estimation is not feasible and opt to use a set or graduated fee for all trigger events? Should fund policies and procedures, or a rule, establish graduated fee levels that would apply for different trigger events? Should we establish a limit on the size of a liquidity fee under this approach (*e.g.,* 2%, 3%, or 5%)?

195. After a fee is triggered, how should the rule permit or require a fund to determine when it should no longer apply a fee? For instance, should a fund reassess daily whether trading costs have decreased, or should a liquidity fee remain in place for a set number of days (*e.g.,* 2 to 5 days) and then no longer apply unless the fund determines a fee continues to be in the best interest of the fund?

196. What information should funds be required to disclose in their prospectuses under this approach? How much detail should funds be required to provide about when they will impose a liquidity fee? Should the prospectus state only that a fund will impose a fee when trading costs increase, or should the prospectus also discuss the factors a fund considers to make this determination? Should a fund be required to disclose its trigger events in its prospectus? Would that disclosure contribute to potential preemptive redemptions, or would trigger events be difficult to observe publicly in advance? Should funds be required to disclose fee

amounts in their prospectuses, or their methods for calculating fee amounts?

197. Should the fund's board be required to approve the fund's written policies and procedures defining the trigger event(s) and how the fund will determine the amount of the fee? Should the board be required to approve any material changes to the policies and procedures? Should other board oversight be required? Should the board have to determine that a fee is appropriate every time a trigger event occurs before the fund can impose a fee? Or should the board be required to designate a liquidity fee administrator that would be responsible for determining when liquidity fees apply and the size of the fee? Should the definition of a liquidity fee administrator mirror the proposed definition of a swing pricing administrator? If not, what changes should be made? Similar to the proposed swing pricing requirement, should a liquidity fee administrator be required to provide periodic reports to the board (at least annually) that describe: (1) the administrator's review of the adequacy of the policies and procedures identifying the fund's trigger event and the effectiveness of their implementation, including the effectiveness in mitigating dilution; (2) any material changes to the liquidity fee policies and procedures since the date of the last report (if such material changes are not subject to board approval); and (3) the administrator's review and assessment of the fund's method for determining the size of the liquidity fee?

198. What are the operational implications of this approach for funds and intermediaries? Would intermediaries be able to apply a liquidity fee on the same day the fund announces its imposition? What effects would this approach have on investors?

199. If liquidity fees are only applied rarely under this approach, how would that affect fund and intermediary preparedness for imposing fees? Would it increase investor sensitivity to fees and increase the likelihood of preemptive redemptions?

200. Should we pair a requirement to adjust a fund's current NAV to reflect spread costs on days the fund estimates it will have net redemptions with a requirement to apply a liquidity fee when trading costs increase? Would this combined framework address dilution from net redemptions in a manner similar to the proposed swing pricing requirement without the costs of a hard close?

E. Reporting Requirements

1. Amendments to Form N–PORT

Registered management investment companies and ETFs organized as unit investment trusts are required to file periodic reports on Form N–PORT about their portfolios and each of their portfolio holdings as of month-end.[269] While the reports provide monthly information to the Commission, funds file these reports on a quarterly basis with a 60-day delay, and the public only has access to information for the third month of each quarter. We are proposing to require reports on Form N–PORT to be filed within 30 days of month-end, which would be followed by public availability of much of the reported information 60 days after month-end. We are also proposing to require an open-end fund that is subject to classification requirements in the liquidity rule to provide information regarding the aggregate percentage of its portfolio represented in each of the three proposed liquidity categories, which would be publicly available. The reported aggregate percentages would include adjustments to give effect to other aspects of the proposal. Finally, we are proposing amendments relating to funds' use of swing pricing, conforming amendments to reflect the proposed amendments to rule 22e–4, and amendments to certain entity identifiers.

a. Filing Frequency

We are proposing to amend rule 30b1–9 and Form N–PORT to require funds to file reports on Form N–PORT on a more timely basis, with changes to both the frequency with which a fund would file reports on Form N–PORT and when the reports are due.[270] Specifically, rather than filing monthly reports with the Commission 60 days after the end of each fiscal quarter, we are proposing to require that funds file reports on a monthly basis.[271] These monthly filings would be due within 30 days after the end of the month to which they relate and would be made public 60 days after the end of the month to which they relate.[272] As an example, currently a fund files Form N–PORT reports for the first, second, and third months of each fiscal quarter with the Commission 60 days after the end of the third month of the quarter. Under the proposal, funds would separately file reports for the first, second, and third months of the quarter, with each month's report due within 30 days of month-end.

These changes are intended to provide more timely information regarding the fund's portfolio, including its liquidity profile. Both the current quarterly reporting cadence and the 60-day delay after the end of the quarter before reports are due make it difficult to use reported data to assess events that are developing quickly, or to identify early warning signs of potential distress. By the time the information is filed, it is at least two, and could be as many as four, months out of date.[273]

As proposed in 2015 and adopted in 2016, Form N–PORT would have provided for monthly filings with the Commission, within 30 days after the end of each month.[274] Only reports for every third month would have been available to the public.[275] The Commission originally required monthly portfolio reporting because it would be useful for fund monitoring, particularly in times of market stress.[276] The Commission originally required funds to file each monthly report within 30 days of month end because more delayed data would reduce the utility of the information to the Commission and lag times of more than 30 days would

[269] For purposes of this section, the term ''fund'' refers to registrants that currently are required to report on Form N–PORT, including open-end funds, registered closed-end funds, and ETFs registered as unit investment trusts, and excluding money market funds and small business investment companies.

[270] The proposal would also make a conforming edit to the filing instructions for Form N–PORT. *See* proposed 17 CFR 274.150(a).

[271] We would also make conforming changes to General Instruction A of Form N–PORT and rule 30b1–9 to remove references to the requirement for a fund to maintain in its records the information that is required to be included on Form N–PORT no later than 30 days after the end of each month; this would no longer be necessary because the information would be filed with the Commission. *See* Proposed General Instruction A of Form N–PORT; proposed rule 30b1–9.

[272] *Id;* proposed General Instruction F of Form N–PORT. As is the case currently, if the due date falls on a weekend or holiday, the filing deadline would be the next business day.

[273] Because reports are due 60 days after the end of a fund's fiscal quarter, deadlines vary based on the fund's fiscal year. As an example, depending on a given fund's fiscal year, reports on Form N–PORT that included information for Mar. 2020 were due between June 1, 2020, and July 30, 2020. For instance, for funds with fiscal years ending Dec. 31, Sept. 30, June 30, or Mar. 30—which is just under half of all funds—the due date of the filing was May 30, 2020. Because this was a Saturday, the filing deadline was extended until the next business day on Monday, June 1. *See* General Instruction A to Form N–PORT.

[274] *See* Investment Company Reporting Modernization, Investment Company Act Release No. 32314 (Oct. 13, 2016) [81 FR 81870 (Nov. 18, 2016)] (''Reporting Modernization Adopting Release''), at section II.A; Investment Company Reporting Modernization, Investment Company Act Release No. 31610 (May 20, 2015) [80 FR 33589 (June 12, 2015)] (''Reporting Modernization Proposing Release'').

[275] *See* Reporting Modernization Adopting Release, *supra* note 274, at section II.A.

[276] *See id.,* at paragraph following n.453.

make monthly reporting impractical, as reports would overlap with preparation time.[277]

Before the date funds would have been required to comply with this requirement, the Commission experienced a cybersecurity incident that resulted in unauthorized access to certain nonpublic information on the EDGAR system.[278] As part of the Commission's ongoing assessment of its internal cybersecurity risk profile, the Commission re-evaluated and modified the filing frequency for reports on Form N–PORT. The Commission required funds to file a report with the Commission for each month in the fund's fiscal quarter no later than 60 days after the end of each fiscal quarter and to maintain in their records the information that is required to be included on Form N–PORT not later than 30 days after the end of each month. In making this change, the Commission stated that it significantly reduced the sensitivity of the non-public data, but that the staff would continue to monitor and solicit feedback on the data received and the use made (or expected to be made) of such data in furtherance of the Commission's statutory mission, as well as cybersecurity considerations and other matters deemed relevant by the staff.[279]

The Commission applies controls and systems for the use and handling of filing systems for confidential information and associated confidential data in a manner that reflects the sensitivity of the data and is consistent with the maintenance of its confidentiality. The Commission also has gained additional experience in receiving and maintaining sensitive portfolio data on the EDGAR system. This experience includes, for example, the existing non-public portions of Form N–PORT, which are subject to controls and systems designed to protect their confidentiality, as well as confidential treatment requests for reports on Form 13F.[280]

Market events have reinforced the need for timely data regarding funds' portfolios and the liquidity of those portfolios. For example, disruptions in the markets for Treasury securities and corporate bonds began near the end of the first quarter of 2020, but many funds' reports on Form N–PORT reflecting these events were not due until June 1, 2020, or as late as the end of July 2020. This meant that Commission staff were not able to review monthly filings, for example, to assess and analyze how the events were affecting funds or identify issues for further inquiry. Similarly, the Russian invasion of Ukraine began in late February 2022, when many funds were just filing their reports for the final quarter of 2021. This meant that when Commission staff were reviewing data to assess funds' exposures to securities that could be affected by the invasion, the data was several months out of date.[281] As a result, during major market events, the staleness of Form N–PORT data limits the Commission staff's ability to develop a comprehensive understanding of the market. The stale data also can impede our ability to contribute fully to interagency discussions of and responses to market events.

Although funds are required to maintain the monthly data and produce it to Commission staff upon request, any such production would be done on an individual basis. In addition, making individual requests requires Commission staff to determine the appropriate funds from which to collect data, which can be particularly challenging when Commission staff is responding to market events but may not have the market data necessary to determine quickly which funds to prioritize in responding to the event.

Requiring funds to file monthly reports on Form N–PORT within 30 days of the end of each month, consistent with the filing frequency the Commission initially adopted for Form N–PORT, would enhance our ability to effectively oversee and monitor the activities of investment companies in order to better carry out our regulatory functions, consistent with the goals of Form N–PORT reporting.[282]

We request comment on the proposed changes to the timing and frequency with which fund would be required to file reports on Form N–PORT, including:

201. As proposed, should we require that funds file reports on Form N–PORT on a monthly, rather than quarterly, frequency? Because funds are currently required to maintain the information required to prepare their reports on Form N–PORT on a monthly basis, within 30 days after the end of the reporting period, would they have any increased burden due to filing such information monthly, within 30 days after the end of the reporting period, as proposed?

202. As proposed, should we shorten the deadline for filing reports on Form N–PORT to 30 days after the end of the reporting period? Should we instead use a different deadline, such as 15, 45, or 60 days after the end of the reporting period?

203. Should we, as proposed, revise General Instruction A of Form N–PORT and rule 30b1–9 to remove the requirement for a fund to maintain in its records the information that is required to be included on Form N–PORT no later than 30 days after the end of each month because this information would be filed with the Commission under the proposal?

b. Publication Frequency

We are proposing to make funds' monthly reports on Form N–PORT public 60 days after the end of each monthly reporting period.[283] Currently, only the report for the third month of every quarter is made public, meaning the proposal would triple the amount of data made available to investors on Form N–PORT in a given year. Thus, the proposal would enhance the ability of investors to review and monitor information about their funds' portfolios.[284]

We continue to believe that publication of information collected on Form N–PORT can benefit investors by assisting them in making more informed investment decisions.[285] The public availability of monthly information, rather than information only for the third month of each quarter, may enhance these benefits. For example, institutional investors could directly use

[277] *See id.,* at nn.461–462 and accompanying text.

[278] *See* Statement on Cybersecurity (Sept. 20, 2017), *available at https://www.sec.gov/news/public-statement/statement-clayton-2017-09-20; see also* Testimony before the Financial Services and General Government Subcommittee of the Senate Committee on Appropriations (June 5, 2018), *available at https://www.sec.gov/news/testimony/testimony-financial-services-and-general-government-subcommittee-senate-committee.*

[279] *See* Amendments to the Timing Requirements for Filing Reports on Form N–PORT, Investment Company Act Release No. 33384 (Feb. 27, 2019) [84 FR 7980 (Mar. 6, 2019)] at nn.36–39 and accompanying text.

[280] *See* Electronic Submission of Applications for Orders under the Advisers Act and the Investment Company Act, Confidential Treatment Requests for Filings on Form 13F, and Form ADV–NR; Amendments to Form 13F, Investment Company Act Release No. 34635 (June 23, 2022) [87 FR 38943 (June 30, 2022)], at section II.C.

[281] As evidence mounted that an invasion was likely to occur, funds may have adjusted their exposure to securities that could be affected, but Commission staff were unable to review this on a market-wide basis until months after the invasion due to the delay in receiving information.

[282] *See, e.g.,* Reporting Modernization Proposing Release, *supra* note 274, at section IV.A. *See also* 2015 Proposing Release, *supra* note 31, at text accompanying n.562.

[283] *See* proposed General Instruction F of Form N–PORT.

[284] We also propose to include additional information about the aggregate liquidity profiles of fund portfolios. *See infra* section II.E.1.c.

[285] *See* Reporting Modernization Adopting Release, *supra* note 274, at section II.A.4.

the monthly information reported on Form N–PORT to evaluate fund portfolios and assess the potential for returns and risks of a particular fund, and other investors may benefit from third-party analysis of the monthly data.

When the Commission first adopted Form N–PORT, it recognized potential negative effects from frequent publication of Form N–PORT data. For example, the Commission acknowledged the risk that frequent public disclosure could allow market participants to use funds' reports on Form N–PORT to engage in predatory trading such as front-running.[286] The Commission also recognized that more frequent public disclosure could permit free riding on a fund's research or trading expenditures by allowing other market participants to copy the fund's trades.[287] In determining to maintain the status quo of quarterly public reporting based on the fund's fiscal quarters, the Commission stated that it was 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, before determining whether more frequent or more timely public disclosure would be beneficial to investors in funds.[288]

Since the adoption of Form N–PORT, funds' practices with respect to disclosure of information about their portfolios have continued to evolve. For example, many funds, including actively managed funds, voluntarily provide their complete portfolio holdings on their websites on a monthly basis, typically lagged 30 days. Further, ETFs, including actively managed ETFs, generally are required to provide transparency into their portfolio holdings on a *daily* basis.[289] Many funds also provide monthly information about their portfolio holdings to third party data aggregators, generally with a lag of 30 to 90 days, which in turn make them available to investors for a fee. We believe this demonstrates that investor demand for monthly portfolio holdings already exists and that funds providing the information have determined the potential for predatory trading is justified by the benefit to investors. The proposal would simply allow all investors to receive similar data without paying a fee.[290] Thus, we believe that many funds already provide public transparency of their portfolio holdings more frequently than the proposal would require, and that our proposal would level the playing field by standardizing the reporting timelines for all funds, putting the data in a single location that all investors can access without charge, and using a standardized format that enables investor analysis of reported data.[291] In addition, under the proposal, the public information for each fund's monthly report on Form N–PORT would not be publicly available until 60 days after the end of the month, which is the same delay that currently exists for funds' reports for the third month of every quarter. This is designed to balance the benefits to investors of more frequent portfolio disclosure, while also retaining the existing 60-day delay, which we believe is appropriate in order to make the disclosed positions less timely and thus less likely to facilitate predatory trading practices.[292] As a result, and given that the proposal would provide data for additional monthly periods but would not change the current 60-day delay in making funds' reports on Form N–PORT public, the proposal is intended to mitigate opportunities for predatory trading or free riding of funds' trading strategies.[293]

Furthermore, the proposal is intended to benefit investors through increased transparency of Form N–PORT information, especially because it is provided in structured format and made in a single, centralized database. Giving investors access to this information in monthly reports on Form N–PORT may result in investors being better able to monitor the portfolios of their funds in a systematic fashion, and assist investors in choosing the investment products that most closely align with their desired levels of risk, asset exposures, and liquidity profiles.

The proposed reporting requirement also takes into account the cybersecurity risk profile of the information we are collecting. Under the proposal, we would receive the monthly information 30 days after the end of each month. Because the monthly information reported on Form N–PORT would be made public 30 days after it is filed with the Commission, the Commission would retain less confidential information than under the final rules the Commission adopted in 2016. This is because, under the proposal, information for each month would become public shortly after filing instead of information in only the third month of each quarter being publicly disclosed.

Currently, certain information reported on Form N–PORT is nonpublic, even in the report for the third month of the quarter that is otherwise publicly available. This aspect of the form is unchanged in this proposal, and that information—which includes liquidity classifications for individual portfolio investments—would remain nonpublic in individual reports. However, Commission staff may publish aggregate or other anonymized information about the nonpublic

[286] *See* Reporting Modernization Adopting Release, *supra* note 274, at text accompanying n.488. *See also* Investment Company Reporting Modernization, Investment Company Act Release No. 32936 (Dec. 8, 2017) [82 FR 58731 (Dec. 14, 2017)] (noting same concerns).

[287] *Id. But see* Morningstar Comment Letter on Reporting Modernization Proposing Release, File No. S7–08–15, *available at https://www.sec.gov/comments/s7-08-15/s70815-355.pdf* (discussing data that funds providing more frequent disclosure do not appear to exhibit lower returns as a result of predatory behavior).

[288] Reporting Modernization Adopting Release, *supra* note 274, at text accompanying nn.494–499 and accompanying text.

[289] *See* 17 CFR 270.6c–11(c)(1)(i); Exchange-Traded Funds, Investment Company Act Release No. 33646 (Sep. 25, 2019) [84 FR 57162 (Oct. 24, 2019)] (''ETF Release''), at section II.C.4 (stating that, although a few commenters raised concerns about front running or free riding if certain ETFs were required to provide full daily portfolio transparency, the Commission believed it was likely that all current ETFs that may rely on the rule already provide full portfolio transparency as a matter of market practice). In addition, a small number of ''nontransparent'' ETFs have received an exemptive order from the Commission permitting them not to disclose their portfolio holdings on a daily basis. As of Mar. 31, 2022, there were 45 nontransparent ETFs. Several of these nontransparent ETFs voluntarily disclose their complete portfolios on a monthly basis with a one-month lag.

[290] For example, we understand that a majority of funds provide monthly information regarding their portfolios to a third-party data aggregator. Individual investors are able to review the holdings reported by funds providing data to the aggregator using an analysis tool for which the aggregator charges a fee.

[291] In addition, because we propose to make funds' reports on Form N–PORT available for every month, investors could use Form N–PORT to monitor how their funds respond to events regardless of when they occur. For example, investors in some funds have access to Form N–PORT filings for Mar. 2020, while investors in other funds do not. This is because Form N–PORT data is publicly available for the third month of each fund's fiscal quarter, but fiscal quarters vary among funds.

[292] Section 45(a) of the Investment Company Act requires information in reports filed with the Commission pursuant to the Act be made public unless we find that public disclosure is neither necessary nor appropriate in the public interest or for the protection of investors. For the reasons discussed above, we preliminarily believe that keeping the data for the first and second months of a fund's calendar quarter confidential until the expiration of the 60-day period provided by the proposal is necessary or appropriate in the public interest for the protection of investors.

[293] Form 13F is due 45 days after the end of each calendar quarter, meaning that every third month, a fund's disclosure on Form N–PORT would not be the first mandatory disclosure of its portfolio. Funds currently have the ability to designate certain holdings for the third month in every quarter as ''miscellaneous securities,'' which are not disclosed publicly on Form N–PORT. Because we propose that all filings would eventually become public, we are extending this to filings for each month. *See* text accompanying *infra* note 319.

elements of reports on Form N–PORT.[294]

We request comment on the proposed changes to the frequency with which funds' reports on Form N–PORT would be made public, including:

204. Should we, as proposed, make funds' reports on Form N–PORT public on a monthly basis, 60 days after the end of the month to which they relate? How would investors use the additional information? Are there other potential users of public portfolio disclosures, including third-party users that provide services to investors, who find the additional information useful, and through whom investors could benefit indirectly?

205. Many funds already provide monthly information about their portfolio holdings on their websites. Would investors benefit from having centralized information on Form N–PORT that includes all funds, rather than having to look at each fund's website? Would investors benefit from having the information in a structured format rather than the format the fund uses on its website? Would the proposed requirement reduce costs for investors who currently use data aggregators to obtain holdings information regarding the funds in which they invest?

206. Should the lag between filing and publication be extended, for example to 45 days after filing, or shortened, for example to 15 days after filing? Should reports be made public immediately upon filing?

207. Previously, some have suggested that more frequent public disclosure could raise costs for investors due to predatory trading or copy-catting of fund strategies. Given that the proposal would provide data for additional monthly periods but would not change the current 60-day delay in making funds' reports on Form N–PORT public, would the proposal raise costs for investors due to predatory trading or copy-catting? What empirical data exists that supports these assertions?

208. Would actively managed nontransparent ETFs, which generally do not disclose their complete portfolios on a daily basis, be affected by the proposed requirement to disclose their portfolio on a 60-day delay differently than other actively managed funds, and should we permit these funds to disclose their portfolios less frequently as a result?

209. Do funds voluntarily publish data about their portfolios to compete for investors, notwithstanding potential effects on their performance?

210. Are there certain items on Form N–PORT that we propose to make public on a monthly basis that should only be public on a quarterly basis? If so, why is monthly disclosure of the relevant item neither necessary nor appropriate in the public interest or for the protection of investors?

c. Public Reporting of Aggregate Liquidity Classifications

We are proposing to require that funds' monthly reports on Form N–PORT would include the percentage of a fund's assets that fall into each of the three liquidity categories.[295] To give effect to the proposed adjustments to a fund's calculations of its level of highly liquid investments and illiquid investments in the liquidity rule, a fund would be required to make the same adjustments to its reported amount of highly liquid investments and illiquid investments, rather than simply report the percent of assets the fund has classified in each category. Specifically, a fund would reduce its reported amount of highly liquid assets by the amount of highly liquid assets that it posts as margin or collateral for derivatives transactions that are not highly liquid and by the amount of the fund's liabilities. A fund also would increase its reported amount of illiquid assets by the amount of collateral available upon exit of illiquid derivatives transactions.[296] The fund's adjustments are intended to more accurately reflect the availability of assets to meet redemptions. We propose to require that a fund's reported aggregate liquidity classifications include these adjustments, rather than report the adjustments separately, to make it easier for investors to understand the information a fund reports about its liquidity.

The public disclosure framework we are proposing is similar to the framework the Commission adopted in 2016.[297] At that time, the Commission determined to require a fund to publicly disclose the aggregate percentage of its portfolio assets representing each of the classification categories to balance some commenters' concerns about potential adverse effects that could arise from public reporting of detailed portfolio liquidity information with investors' need for improved information about funds' liquidity risk profiles.[298]

As funds began to implement the liquidity rule's classification requirements, and before funds were required to provide public disclosure of aggregate liquidity classifications, the Commission received additional information about the potential challenges and concerns of publicly disclosing a fund's aggregate liquidity profile at that time, namely the risk that the data would be subjective, that it was presented in isolation, and that it lacked the context of other disclosures about the fund.[299] In response, the Commission replaced this disclosure with narrative liquidity disclosure in 2018.[300] In removing the requirement to report aggregate liquidity classifications, the Commission stated that the subjectivity involved in the classification process raises concerns when applied to public disclosure. Specifically, the Commission expressed concern that the quantitative presentation of the aggregate liquidity information may imply precision and uniformity in a way that obscures its subjectivity, and that funds may face incentives to classify their investments as more liquid in order to make their funds appear more attractive to investors, while also potentially increasing the risk of herding if funds adjusted their portfolios in response to the disclosure requirement. In addition, the Commission believed that it would not be appropriate to adapt Form N–PORT to provide narrative context to help investors appreciate the fund's liquidity risk profile and the subjective nature of classification.

The Commission judged at that time that effective disclosure of liquidity risks and their management would be better achieved through prospectus and shareholder report disclosure rather than Form N–PORT, and adopted a requirement to disclose in a narrative format a brief discussion of the operation and effectiveness of its liquidity risk management program in the fund's shareholder reports. The

---

[294] *See* General Instruction F of Form N–PORT.

[295] *See* proposed Item B.12.a of Form N–PORT.

[296] *See* proposed Items B.8 and B.12.b of Form N–PORT. In certain situations, the adjustments could result in the amounts of a fund's investments in all three categories not summing to 100% of assets. For example, the reduction in the reportable amount of highly liquid assets may be greater than the increase in the reportable amount of illiquid assets, resulting in the percentages of the fund's assets in each category summing to an amount below 100%. Funds would be required to increase their reported amounts of moderately liquid investments if necessary to make the amounts the fund reports sum to 100%. *See* proposed Item B.12.b of Form N–PORT.

[297] *See* Liquidity Rule Adopting Release, *supra* note 8, at section III.C.6.c.

[298] *See id.,* at text accompanying n.621.

[299] *See* Investment Company Liquidity Disclosure, Investment Company Act Release No. 33046 (Mar. 14, 2018) [83 FR 11905 (Mar. 19, 2018)] (''2018 Liquidity Disclosure Proposing Release'') at nn.9–13 and accompanying text.

[300] *See* 2018 Liquidity Disclosure Adopting Release, *supra* note 22. For discussion generally of the Commission's stated rationale for making this change, *see generally id.* and 2018 Liquidity Disclosure Proposing Release, *supra* note 299.

intent of the narrative framework was to provide investors with a holistic view of the liquidity risks of the fund and how effectively the fund's liquidity risk management program managed those risks on an ongoing basis over the reporting period.[301]

In practice, though, the narrative disclosure did not meaningfully augment other disclosure requirements.[302] Instead, based on staff experience with several years of shareholder reports covering a range of market conditions, including a market crisis in March 2020 that included substantial liquidity concerns for certain securities, we found that the narrative disclosure often appeared as a lengthy, boilerplate recitation of the requirements of rule 22e–4 that was not tailored to a particular fund and did not change as conditions in the market changed. For example, many funds' liquidity disclosures did not change after the events of March 2020, even for funds that invested in assets that had experienced severe liquidity issues. This meant that investors had limited information about the liquidity of fund investments or how the fund managed that liquidity risk through these stressful events. We believe that this prevented investors from fully evaluating the liquidity risks associated with a particular fund for purposes of making more informed investment decisions.

Investors and funds have made similar observations. In 2020, when the Commission proposed amendments designed to streamline fund shareholder reports, some commenters requested that we require funds to disclose their aggregate liquidity buckets.[303] Other commenters stated that the narrative disclosure is not particularly relevant to investment decision making.[304] Several other commenters also stated that they believed the narrative disclosure should be moved from shareholder reports.[305] We recently adopted amendments that remove the requirement to disclose the narrative disclosure in the shareholder reports.[306]

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 less relevant. Since 2018, the staff has conducted outreach with numerous market participants, including fund complexes, liquidity classification vendors, and others, and we are proposing several changes to rule 22e–4 that would prescribe additional parameters for many aspects of the classification process. These changes include introducing the concept of a 10% stressed trade size, establishing a minimum value impact standard, and removing asset class classifications, which would reduce subjectivity in classifications and reduce variation in funds' classification practices, even if incentives for a fund to mis-classify its investments remain.[307] These changes are intended to reduce the risk of subjectivity impeding an investor's understanding.

To the extent that subjectivity remains, investors reviewing this information on Form N–PORT also will have access to additional information in fund prospectuses and shareholder reports, which are delivered directly to investors. Prospectuses and shareholder reports would provide additional information about the fund and context for the liquidity disclosure in Form N–PORT, such as information about the factors affecting a fund's risks, returns, and performance.[308] In addition, the fact that the aggregate liquidity information would be required to change as liquidity conditions in the market change, and that investors would be able to review these changes on a monthly basis and compare them against the fund's prior reports would provide additional context for investors who desire this information. Investors could also compare the fund's reports to reports of similar funds, which could aid their understanding by allowing them to focus on the differences. Finally, the proposed aggregate liquidity disclosure could improve the mix of information available to investors. Though reports on Form N–PORT do not provide information regarding a fund's investment strategy and risk factors, the information reported on Form N–PORT may complement the other information already available to investors in order to allow them to develop a fuller understanding of the fund and its risks.

We request comment on the proposed public availability of the aggregate liquidity classifications funds would report on Form N–PORT, including:

211. Should we, as proposed, require funds to report publicly information regarding the aggregate percentage of their portfolio in each of the three proposed liquidity classification categories? Should we, as proposed, require that this information be reported publicly on a monthly basis and, if not, what factors are unique to liquidity information that should result in it being publicized on a different frequency than other information on Form N–PORT? Instead of, or in addition to, the percentages of a fund's investments in each of the three proposed liquidity categories, should we require additional information to be reported? Is there any additional context, such as narrative disclosure, that would also be useful to investors? Should that narrative disclosure be located in Form N–PORT or somewhere else (*e.g.,* a fund prospectus, shareholder report, or website)?

212. Instead of, or in addition to, aggregate liquidity information, should we require position-level liquidity classifications to be reported publicly on Form N–PORT? Should we instead require position-level liquidity classifications to be reported publicly on a different form, such in a fund's annual and semi-annual reports? How frequently should this information be reported? Would position-level liquidity reporting improve funds' liquidity classifications by allowing the public to review and scrutinize liquidity classifications? Would position-level liquidity reporting improve consistency in classification practices across funds by allowing funds to see how other

[301] *See, e.g., supra* section II.A.1. To the extent a fund would be incentivized to manage its portfolio so as to report higher amounts of highly liquid investments, we believe this would be consistent with the focus in section 22 of the Act on preserving the redeemability of open-end funds.

[302] Tailored Shareholder Reports Adopting Release, *supra* note 26, at text accompanying n.463.

[303] *See, e.g.,* Comment Letter of Consumer Federation of America on 2020 Tailored Shareholder Reports Proposing Release, File No. S7–09–20 (''[S]trongly encourag[ing] the Commission to reconsider its decision'' to remove aggregate liquidity disclosure and characterizing narrative disclosure as ''boilerplate.''); *see also* Comment Letter of Tom and Mary on 2020 Tailored Shareholder Reports Proposing Release, File No. S7–09–20 (''We think funds should be required to disclose their aggregate liquidity bucketing in their annual report. We believe this information is important to investors and will help them appreciate any liquidity risk.''). The comment file for the 2020 Tailored Shareholder Reports Proposing Release, where these comment letters are available, is at *https://www.sec.gov/comments/s7-09-20/s70920.htm.*

[304] *See, e.g.,* Comment Letter of Ubiquity on 2020 Tailored Shareholder Reports Proposing Release, File No. S7–09–20 (''Disclosure [of liquidity information in narrative format] is currently worthless and even with'' the proposed changes which were designed to retain the narrative format, it ''will continue to be worthless.''); *see also* Comment Letter of Tom Williams on 2020 Tailored Shareholder Reports Proposing Release; Feedback Flier of Olivia Brightly on 2020 Tailored Shareholder Reports Proposing Release.

[305] *See, e.g.,* Comment Letters of Morningstar Trustees, ICI, SIFMA. Fidelity, Dechert, James Angel, Lisa Barker, and T. Rowe Price on 2020 Tailored Shareholder Reports Proposing Release.

[306] *See* Tailored Shareholder Reports Adopting Release, *supra* note 26.

[307] *See, e.g., supra* section II.A.1 and note 301.

[308] *See* Reporting Modernization Adopting Release, *supra* note 274, at text following n.486 (''Form N–PORT is not primarily designed for disclosing information to individual investors . . .'').

similarly situated funds had classified the same or similar investments? Would position-level liquidity reporting improve investor access to or understanding of liquidity information, or would this information be difficult for investors to synthesize or understand? Would position-level liquidity reporting simplify the reporting framework for funds if this disclosure were in lieu of separate aggregate presentations? Would changes to the proposal, such as changes to how funds report the effect of the collateral they hold against derivatives that are not highly liquid, or the effect of liabilities, be necessary if we were to require position-level liquidity reporting? Would there be potential negative effects of position-level liquidity reporting? For example, would position-level liquidity reporting result in investors being able to infer information about a fund or company, such as being able to determine that a fund has material nonpublic information about an issuer because the fund categorizes the issuer's securities as illiquid? Would position-level liquidity reporting result in funds' counterparties engaging in predatory trading practices with funds, for example by adjusting the prices they bid for certain assets of a fund due to granular knowledge of how the fund categorizes the liquidity of its portfolio?

213. Should we, as proposed, require adjustments to the percentages of funds' assets in the proposed liquidity categories to account for certain derivatives transactions? Should we instead require information about derivatives transactions to be reported separately? Should certain derivatives transactions be treated differently for these purposes, for example by making differing adjustments based on whether a derivative is exchange-traded, centrally cleared, made with certain categories of counterparty, or otherwise? Should we require differing adjustments for derivatives transactions depending on the purpose, for example whether they are intended to hedge currency or interest rate risks associated with one or more specific equity or fixed-income investments held by the fund as described in rule 18f–4(c)(4)(i)(B)? Are there any changes we should make to aid investor understanding of how funds' use of derivatives affects their liquidity?

214. We propose to require that if the reported sum of a fund's investments in each of the three categories does not equal 100%, the fund must adjust the percentage of assets attributed to the moderately liquid investment category so that the sum of the fund's investments in each category equals 100%. Should we take a different approach, such as making the adjustment optional, or permitting a fund to report aggregate percentages that do not sum to 100%? Should we permit or require funds to provide additional information, such as an explanatory note that the totals have been adjusted and the amount of the adjustment? Are there other metrics for which we should permit or require funds to modify the reported amounts?

215. Would fund prospectuses and shareholder reports delivered directly to investors provide sufficient context for the fund's aggregate liquidity information that would be disclosed on Form N–PORT under the proposal? Because Form N–PORT is not delivered to investors, would investors who have sought out Form N–PORT disclosure in the first instance be more likely to consider the information in the context of other publicly available information about the fund? If investors would not have sufficient context when reviewing Form N–PORT, should we address this by requiring that funds send their most recent report on Form N–PORT to investors when they send other communications, such as their periodic reports or prospectus updates?

216. Instead of, or in addition to, including information regarding funds' aggregate liquidity profiles in Form N–PORT, as proposed, should we require that it be included in other documents, such as funds' annual and semi-annual shareholder reports? If so, should the disclosure included in funds' annual and semi-annual shareholder reports, or other documents, differ from what we propose to include in Form N–PORT? For example, should any disclosure in funds' annual and semi-annual shareholder reports, or other documents be in a different format, such as a pie chart, or also include narrative disclosure to allow funds to provide additional context?

d. Other Proposed Amendments to Form N–PORT

In addition to our proposed amendments to require more timely reporting of information and to enhance public transparency of funds' portfolio holdings and liquidity classifications, we are proposing a few additional amendments to Form N–PORT. These additional amendments include a new reporting item related to swing pricing, amendments to certain existing items to account for the proposal to make monthly Form N–PORT information available to the public, other conforming amendments to reflect the proposed amendments to rule 22e–4, and amendments to certain entity identifiers.

In connection with our proposed amendments to swing pricing, we are proposing to require enhanced transparency into the frequency and amount of a fund's swing pricing adjustments. Currently, if a fund were to engage in swing pricing, it would only be required to report on Form N–CEN if the fund engaged in swing pricing during a given year and, if so, the swing factor upper limit established by the fund.[309] We are proposing to remove that reporting requirement on Form N–CEN and replace it with a new reporting requirement on Form N–PORT that would require information about the number of times the fund applied a swing factor during the month and the amount of each swing factor applied.[310] To recognize that a swing factor adjustment could be positive (when the fund has net purchases) or negative (when the fund has net redemptions), we propose to specify that a fund must use a plus sign before a positive swing factor and a minus sign before a negative swing factor.[311] More frequent and detailed information about a fund's use of swing pricing is intended to help the Commission assess the size of the price adjustments funds are making during normal and stressed market conditions, as well as how often funds apply swing factor adjustments. The public may also benefit from this information to help facilitate an understanding of the frequency and size of swing factor adjustments.

In addition, we are proposing to amend items that currently require funds to report certain return and flow information for each of the preceding three months.[312] Rather than require information for the preceding three months, we are proposing to instead require a fund to report that information only for the month that the Form N–PORT report covers.[313] The Commission currently requires return and flow information for the preceding three months in a single report to provide investors access to monthly data for a given quarter, given that investors currently only have access to Form N–PORT reports for the third month of

[309] *See* Item C.21 of current Form N–CEN.

[310] *See* proposed Item B.11 of Form N–PORT. Funds would be instructed to respond with ''N/A'' when appropriate.

[311] We also propose to add a definition of ''swing factor'' to Form N–PORT, which would cross reference the definition of this term in proposed rule 22c–1(d). *See* General Instruction E of proposed Form N–PORT.

[312] *See* Item B.5 and Item B.6 of current Form N–PORT.

[313] *See* Item B.5 and Item B.6 of proposed Form N–PORT.

each quarter.[314] Monthly data for the preceding three months was also intended to avoid a potential investor misperception that one month's returns or flows represented returns or flows for the full quarter.[315] Because, under our proposal, investors would have access to monthly Form N–PORT reports, we propose to amend the period for which a fund must report return and flow information to align with monthly public reporting.

For similar reasons, we are proposing to amend Part F of Form N–PORT, which currently requires a fund to attach its complete portfolio holdings for the end of the first and third quarters of the fund's fiscal year, presented in accordance with Regulation S–X, within 60 days after the end of the reporting period. We are proposing to require funds to file this disclosure within 60 days of the end of the reporting period for each month, with the exception of the last month of the fund's second and fourth fiscal quarters, because the latter portfolio holdings information is already available in funds' annual and semi-annual reports.[316] That is, we propose that funds would be required to file the portfolio disclosure on Part F of Form N–PORT ten times per year, instead of the current requirement to file twice per year. When the Commission adopted Part F of Form N–PORT, it recognized that not all investors may prefer to receive portfolio holdings information in a structured XML format, and instead might prefer portfolio holdings schedules presented using the form and content specified by Regulation S–X.[317] The Commission stated that requiring funds to attach these portfolio holdings schedules to reports on Form N–PORT would provide the Commission, investors, and other potential users with access to funds' current and historical portfolio holdings for those funds' first and third fiscal quarters, as well as consolidate these disclosures in a central location, together with other fund portfolio holdings disclosures in reports on Form N–CSR for funds' second and fourth fiscal quarters.[318] In conformance with the proposed requirement for funds to file their structured portfolio schedules on a monthly basis, and to make the monthly disclosure more useable for investors, we propose to amend Part F of Form N–PORT so that investors would be able to access unstructured portfolio schedules presented in accordance with Regulation S–X on the same frequency.

Similarly, we are proposing to amend Part D of Form N–PORT regarding miscellaneous securities to align with the proposal to make monthly Form N–PORT reports publicly available. Form N–PORT currently contemplates that detailed information about miscellaneous securities, which would remain nonpublic, would only be included in reports filed for the last month of each fiscal quarter.[319] This is because today all information reported on Form N–PORT for the first and second months of each quarter is nonpublic, which means there is no need for funds to designate any of their investments for those reporting periods as miscellaneous securities.[320] Although our proposed shift from quarterly to monthly public reporting is intended to improve public transparency of funds' portfolio holdings, we continue to believe that treating information related to miscellaneous securities as nonpublic may serve to guard against the premature release of those securities positions and thus deter front-running and other predatory trading practices, and that for this reason public disclosure of miscellaneous securities continues to be neither necessary nor appropriate in the public interest or for the protection of investors.[321] At the same time, it is important for the Commission to receive more detailed information about miscellaneous securities holdings so the Commission has a complete record of the portfolio for monitoring, analysis, and checking for compliance with Regulation S–X.[322] As a result, we are proposing to amend Part D of Form N–PORT to remove the language that limits reporting of nonpublic information about individual miscellaneous securities holdings to reports filed for the last month of each fiscal quarter. The proposed amendment would allow funds in their monthly Form N–PORT reports to report publicly the aggregate amount of miscellaneous securities held in Part C, while requiring funds to provide more detailed information in Part D about the individual holdings in the miscellaneous securities category to the Commission on a nonpublic basis.

We are also proposing amendments to Form N–PORT to reflect the proposed amendments to rule 22e–4. For example, because we are proposing to remove the concept of a reasonably anticipated trade size from rule 22e–4, we are proposing to replace references to this concept in an instruction related to classifying portions of a single holding in multiple liquidity categories with references to the stressed trade size concept.[323] We are also proposing to revise the liquidity classifications a fund will report to reflect the revisions to the liquidity categories in rule 22e–4.[324] Because we are proposing improvements to the way that a fund treats collateral for certain derivatives transactions when calculating whether it holds sufficient assets to meet its highly liquid investment minimum or holds an amount of illiquid assets that exceeds the 15% limit, we also are proposing to revise the information open-end funds must report about the collateral posted as margin or collateral in connection with certain derivatives transactions.[325] We are similarly proposing to revise the information a fund would report about the fund's highly liquid investments to reflect that not all highly liquid investments will count toward the fund's highly liquid investment minimum.[326] In addition to reflecting changes to rule 22e–4, these changes are also designed to provide additional information to Commission staff regarding a fund's level of highly liquid assets and illiquid assets and the

[314] *See* Reporting Modernization Adopting Release, *supra* note 274, at paragraphs accompanying nn.225, 232, and 250.

[315] *See id.,* at paragraphs accompanying nn.225 and 250.

[316] *See* Part F of proposed Form N–PORT. Currently, Part F of Form N–PORT does not require information for the second and fourth quarters of the fund's fiscal year for the same reason. *See* Item 6 of Form N–CSR and Reporting Modernization Adopting Release, *supra* note 274, at section II.J.

[317] *Id.* at section II.A.2.j.

[318] *Id.*

[319] *See* Part D of current Form N–PORT. The form permits funds to report as ''miscellaneous securities'' an aggregate amount of portfolio investments that does not exceed 5% of the total value of the fund's portfolio investments, provided that the securities included in this category are not restricted, have been held for not more than one year prior to the date of the related balance sheet, and have not previously been reported by name to the shareholders, or set forth in any registration statement, application, or report to shareholders or otherwise made available to the public.

[320] *See* Reporting Modernization Adopting Release, *supra* note 274, at text following n.424.

[321] *See id.* at n.421 and accompanying text.

[322] *See* Reporting Modernization Adopting Release, *supra* note 274, at section II.A.2.h (requiring that information about miscellaneous securities be reported to the Commission on a nonpublic basis).

[323] *See* Instructions to Item C.7 in proposed Form N–PORT.

[324] *See* Item B.8 in proposed Form N–PORT; General Instruction E (Definitions) in proposed Form N–PORT.

[325] *See* Item B.8 in proposed Form N–PORT. The proposed revisions would require a fund to report the value of its highly liquid investments that are assets that are posted as margin or collateral in connection with moderately liquid or illiquid investments, and would require a fund to report the value of any margin or collateral posted in connection with an illiquid derivatives transaction, where the fund would receive the value of the margin or collateral if it exited the derivatives transaction.

[326] *See* Item B.7.b in proposed Form N–PORT.

effect of derivatives transactions on that amount.

In addition, we propose to amend certain items and definitions related to entity identifiers in the form. Specifically, we propose to amend the definition of LEI in the form to remove language providing that, in the case of a financial institution that does not have an assigned LEI, a fund should instead disclose the RSSD ID assigned by the National Information Center of the Board of Governors of the Federal Reserve System, if any.[327] Instead of classifying an RSSD ID as an LEI for these purposes, we propose to provide separate line items where a fund would report an RSSD ID, if available, in the event that an LEI is not available for an entity.[328] This change is designed to improve consistency and comparability of information funds report about the instruments they hold, including issuers of those instruments and counterparties to certain transactions.

217. Should we require funds to report the number of times the fund applied a swing factor and each swing factor applied, as proposed? Should we require the median, highest, and lowest (non-zero) swing factor applied for each reporting period on Form N–PORT, rather than require disclosure of each swing factor applied?

218. Should we require funds to provide additional information about swing pricing in Form N–PORT reports, such as the swing pricing administrator's determination to use a lower market impact threshold or lower inflow swing threshold, if applicable? Should we separately require funds to disclose information about market impact factors, such as how many times a market impact factor was included in the swing factor each month and the size of those market impact factors (*e.g.,* either the size of any market impact factor applied, or the median, highest, and lowest (non-zero) amount)? Should we require funds to provide information about their imposition of redemption fees under rule 22c–2, which funds can use to recoup some of the direct and indirect costs incurred as a result of short-term trading strategies, such as market timing? If so, should we require funds to disclose in reports on Form N–PORT the number of times they imposed redemption fees during the period and the amount of the fees? Should funds be required to itemize each fee charged, disclose the total amount charged during the period and the average fee charged, or some other presentation?

219. Instead of, or in addition to, requiring information about swing pricing on Form N–PORT, should we require funds to provide information about their use of swing pricing in other locations? For example, would investors find this information more accessible if it were on fund websites, in registration statements, or in shareholder reports?

220. Should we require funds to provide return and flow information only for a single month, as proposed, or should we continue to require funds to provide return and flow information for the preceding three months? Even though investors would have access to monthly reports on Form N–PORT, is it helpful to have return or flow information for previous months in a single report to have a readily available point of comparison?

221. Should we amend Form N–PORT to continue to maintain the confidentiality of information about a fund's miscellaneous securities for each reporting period, as proposed? Are there other conforming amendments we should make to align Form N–PORT reporting requirements with the proposed changes to the frequency funds must file these reports and the timeline for filing and public availability?

222. Should we amend Form N–PORT to require a fund to attach its complete portfolio holdings presented in accordance with Regulation S–X within 60 days after the end of each month except for the last month of the fund's second and fourth fiscal quarters, as proposed? Should we instead require a fund to file this information on a different frequency, such as every month, without exception? Should we maintain the current filing schedule? Should we require funds to attach this information within a different timeframe, such as no later than 45 days or 75 days after the end of the reporting period? If we make changes to other aspects of the proposal, such as changes to the frequency funds file reports on Form N–PORT, the delay between the end of the reporting period and filing, or the time at which filings are made public, should we also make conforming changes to Part F?

223. Are our proposed amendments to remove references to the concept of a reasonably anticipated trade size in Form N–PORT and replace them with references to the stressed trade size effective? Are there other conforming amendments we should make to align Form N–PORT with the liquidity rule amendments?

224. Should we, as proposed, amend Form N–PORT to require funds to identify the value of margin or collateral the fund has posted as margin or collateral in connection with an illiquid derivatives transaction in order to provide a complete picture of the amount of illiquid investments for purposes of the liquidity rule's 15% limit?

225. As proposed, should we amend the definition of LEI in the form and provide a separate item for providing an RSSD ID as an identifier, as applicable?

2. Amendments to Form N–CEN

We are proposing amendments to Form N–CEN to identify and provide certain information about service providers a fund uses to fulfill the requirements of rule 22e–4. The amendments would require a fund to: (1) name each liquidity service provider; (2) provide identifying information, including the legal entity identifier and location, for each liquidity service provider; (3) identify if the liquidity service provider is affiliated with the fund or its investment adviser; (4) identify the asset classes for which that liquidity service provider provided classifications; and (5) indicate whether the service provider was hired or terminated during the reporting period. This information would allow the Commission and other participants to track certain liquidity risk management practices.[329] As liquidity classification services have become more widely used, the proposal would require information about whether and which liquidity service providers are used, for what purpose, and for what period. Among other things, this information would help us better understand potential trends or outliers in funds' liquidity classifications reported on Form N–PORT; for example, by analyzing classifications trends of specific vendors, we might distinguish patterns in how classifications might differ due to vendor models or data.

As described above, we also propose to remove the current disclosure in Item C.21 of Form N–CEN and replace it with a new reporting requirement on Form N–PORT to provide enhanced transparency into the frequency and amount of a fund's swing pricing adjustments.[330] In addition, consistent with our proposed amendments to the definition of LEI in Form N–PORT, we are proposing to make the same changes

[327] *See* General Instruction E of proposed Form N–PORT.

[328] *See* Items B.4, C.1, C.10, and C.11 of proposed Form N–PORT.

[329] *See* Liquidity Rule Adopting Release, *supra* note 8, at n.973.

[330] Item C.21 of Form N–CEN is proposed to be revised to require disclosure on liquidity classification services, as described above.

in Form N–CEN to separate the concepts of LEIs and RSSD IDs.[331]

We request comment on the proposed amendments to Form N–CEN:

226. Would the proposed reporting on liquidity classification service providers assist investors and funds in better understanding how liquidity risk is managed at a fund? Should any other information be provided about the liquidity classification service provider?

227. Should we require any information about a fund's use of swing pricing on Form N–CEN? How would this information relate to the information we propose to require on Form N–PORT?

228. As proposed, should we amend Form N–CEN to separate the concepts of LEI and RSSD ID? As proposed, should funds be required to provide an RSSD ID, if available, when an LEI is not available?

F. Technical and Conforming Amendments

In September 2019, the Commission adopted new rule 6c–11 to allow ETFs that satisfy certain conditions to operate without obtaining an exemptive order from the Commission.[332] We are proposing to make a technical amendment to the definition of ETF in rules 22e–4 and 22c–1, as well as in Forms N–CEN and N–PORT, as a result of this rulemaking. Specifically, the proposed amendments would replace language in each definition that refers to ''an exemptive rule adopted by the Commission'' with a direct reference to rule 6c–11.[333]

We are also proposing to make a conforming amendment to rule 31a–2. Specifically, this proposed amendment to the recordkeeping rule would replace the reference to the current swing pricing provisions in rule 22c–1(a)(3) with a reference to the proposed swing pricing provisions in rule 22c–1(b).[334]

G. Exemptive Order Rescission and Withdrawal of Commission Staff Statements

In light of the scope of our proposed amendments to the liquidity rule, and pursuant to our authority under the Act to amend or rescind our orders when necessary or appropriate to the exercise of the powers conferred elsewhere in the Investment Company Act, we are proposing to rescind an exemptive order that relates to rule 22e–4.[335] As this order's representations and conditions, and the relief provided, are predicated on rule 22e–4 in its current form, the proposed amendments, if adopted, would render the order moot, superseded, and inconsistent with the final rule amendments. In addition, staff in the Division of Investment Management is reviewing its no-action letters and other statements addressing compliance with rules 22e–4 and 22c–1 to determine which letters and other staff statements, or portions thereof, should be withdrawn in connection with any adoption of this proposal. Upon the adoption of any final rule amendments, some of these letters and other staff statements, or portions thereof, would be moot, superseded, or otherwise inconsistent with the final rule amendments and, therefore, would be withdrawn. The staff review would include, but would not necessarily be limited to, the staff no-action letters and other staff statements listed below:

- Investment Company Liquidity Risk Management Programs Frequently Asked Questions (April 10, 2019);
- Reflow, SEC Staff No-Action Letter (July 15, 2002);
- Charles Schwab & Co., Inc., SEC Staff No-Action Letter (July 7, 1997);
- Investment Company Institute, SEC Staff No-Action Letter (Feb. 9, 1973);
- United Benefit, SEC Staff No-Action Letter (July 13, 1971);
- Investment Company Institute, SEC Staff No-Action Letter (Mar. 24, 1970); and
- Investment Companies: Share Pricing: SEC Staff Views, Investment Company Act Release No. 5569 [34 FR 383 (Dec. 27, 1968)].

Additionally, the staff statements, or portions thereof, may be withdrawn following the relevant underlying transition period discussed in section II.H below, if adopted, as determined appropriate in connection with the staff's review of those staff statements.

We request comment on the proposed rescission or withdraw of past Commission or staff statements, and specifically on the following items:

229. Are there additional letters or other statements, or portions thereof, that should be withdrawn or rescinded? If so, commenters should identify the letter or statements, state why it is relevant to the proposed rule, how it or any specific portion thereof should be treated, and the reason.

230. 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?[336]

H. Transition Periods

We propose to provide a transition period after the effective date of the proposed amendments to give affected funds sufficient time to comply with any of the proposed changes and associated disclosure and reporting requirements, if adopted, as described below. Based on our experience, we believe the proposed compliance dates would provide an appropriate amount of time for funds to comply with the proposed rules, if adopted.

- *Twenty-Four-Month Compliance Date.* We propose that 24 months after the effective date of the amendments, all registered open-end management investment companies, except for money market funds and exchange-traded funds, must comply with the proposed swing pricing requirement in rule 22c–1, as well as the swing pricing disclosures applicable to these funds in the proposed amendments to Forms N–PORT and N–1A.[337] We also propose that 24 months after the effective date of the amendments, funds, transfer agents, registered clearing agencies, and intermediaries must comply with the proposed ''hard close'' requirement in rule 22c–1, and funds must comply with related disclosure requirements we propose to require in Form N–1A.[338]
- *Twelve-Month Compliance Date.* The proposed compliance period for all other aspects of the proposal is 12 months after the effective date of the amendments, if adopted, and includes the following:
  - The proposed amendments to rule 22e–4, which include: (1) amending the rule's liquidity categories, including reducing the number of liquidity categories from four to three; (2) providing specific and consistent standards that funds would use to classify investments, including by setting a stressed trade size and defining when a sale or disposition would significantly change the market value of an investment; and (3) requiring daily classifications;[339] and
  - The proposed amendments to Forms N–PORT and N–CEN, except the swing pricing-related disclosure on Form N–PORT.

---

[331] *See* Items B.16, B.17, C.5, C.6, C.9, C.10, C.11, C.12, C.13, C.14, C.15, C.16, C.17, D.12, D.13, D.14, E.2, F.1, F.2, F.4, and Instructions to Item G.1 of proposed Form N–CEN.

[332] *See* ETF Release, *supra* note 289.

[333] *See* proposed rule 22e–4(a) and proposed rule 22c–1(d); General Instruction E of proposed Form N–CEN and General Instruction E of proposed Form N–PORT.

[334] *See* proposed rule 31a–2(a)(2).

[335] *See* J.P. Morgan Investment Management Inc., et al., Investment Company Act Release No. 34180 (Jan. 21, 2021). *See also* section 38(a) of the Act, 15 U.S.C. 80a–37(a).

[336] *See* Liquidity FAQs, *supra* note 79.

[337] *See* proposed rule 22c–1(b); Item B.11 of proposed Form N–PORT; and Item 6(d) of proposed Form N–1A.

[338] *See* proposed rule 22c–1(a); Item 11(a) of proposed Form N–1A.

[339] *See* proposed rule 22e–4.

We request comment on the proposed transition dates, and specifically on the following items:

231. Are the proposed compliance dates appropriate? If not, why not? Is a longer or shorter period necessary to allow affected funds to comply with one or more of these particular amendments, if adopted? If so, what would be a recommended compliance date? Should we provide a longer compliance date for smaller funds, and if so what should this be (for example, 36 months for compliance with the swing pricing requirements, and 18 months for the other aspects of the proposal)? How should we define a ''smaller fund'' for this purpose? For example, should a smaller fund be a fund that, together with other investment companies in the same group of related investment companies, has net assets of less than $1 billion as of the end of its most recent fiscal year?

232. In particular, is a longer period necessary for funds to comply with the proposed removal of the less liquid investment category and the amendment to the scope of illiquid investments? How long might it take for funds and other parties to reduce the settlement times for bank loans and other investments that funds currently classify as less liquid investments? Is a longer period necessary for retirement plan recordkeepers or other intermediaries to make necessary changes to their systems?

233. Should the compliance dates be staggered for certain provisions? For example, should the compliance date for the hard close occur prior to the compliance date for swing pricing?

III. Economic Analysis

A. Introduction

The Commission is mindful of the economic effects, including the benefits and costs, of the proposed amendments. Section 2(c) of the Act, Section 202(c) of the Advisers Act, and Section 3(f) of the Exchange Act direct the Commission, when engaging in rulemaking where it is required to consider or determine whether an action is necessary or appropriate in the public interest, to consider, in addition to the protection of investors, whether the action will promote efficiency, competition, and capital formation. In addition, Section 23(a)(2) of the Exchange Act, requires the Commission, when making rules under the Exchange Act, to consider among other matters the impact that the rules would have on competition, and prohibits the Commission from adopting any rule that would impose a burden on competition not necessary or appropriate in furtherance of the purposes of the Exchange Act. The analysis below addresses the likely economic effects of the proposed amendments, including the anticipated benefits and costs of the amendments and their likely effects on efficiency, competition, and capital formation. The Commission also discusses the potential economic effects of certain alternatives to the approaches taken in this proposal.

Open-end funds serve as intermediaries between investors seeking to allocate capital and issuers seeking to raise capital by pooling a portfolio of investments and selling the shares of this portfolio to investors. A prominent feature of open-end funds is the mismatch between the immediate liquidity funds provide to their shareholders [340] and the potential illiquidity of fund portfolio investments (''liquidity mismatch''). In order to pay net redemptions or invest proceeds from net subscriptions, a fund generally incurs trading costs, which can, among other things, take the form of bid-ask spreads, commissions, markups, markdowns, or market impact (the tendency of large trades to shift prices in the market). Therefore, the liquidity mismatch can lead to non-negligible trading costs associated with selling the fund's less liquid portfolio investments in order to meet investor redemptions or buying portfolio investments in order to accommodate investor subscriptions.[341]

As such, the liquidity mismatch and associated trading costs in the open-end fund sector present several potential problems, including: (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.[342]

Market stress events, such as the one that occurred during March 2020, may exacerbate these issues.[343] For example, during stress events investors may rebalance away from some investments into others for many reasons, including but not limited to, their general risk tolerance, legal or investment policy restrictions, or short-term cash needs. To the extent that such rebalancing activity is correlated across investors of the same fund or is correlated with deterioration in the liquidity of the fund's underlying assets, trading costs for the funds' underlying investments may increase and non-transacting fund shareholders may become exposed to increased dilution risk, which may lower future fund returns. In addition, the risk of investor dilution associated with the illiquidity of funds' underlying investments may create a first-mover advantage that could lead to increased mutual fund redemptions.[344]

Fund managers may not fully incorporate potential future fund shareholder dilution into their investment decisions for several reasons. First, potentially misaligned incentives between fund shareholders and fund managers may cause some fund managers to hold portfolios with liquidity levels that could be insufficient to meet redemptions without imposing significant dilution costs on non-transacting fund investors, especially during periods of market stress. Second, fund investors may not have granular and timely enough information to adequately assess the extent of the liquidity risk they are taking on and, therefore, cannot discipline the extent to which a fund manager exposes the fund's shareholders to dilution risk. Finally, to the extent that first-mover advantage can lead to anticipatory mutual fund redemptions that could impose costs on other market participants, [345] fund managers do not necessarily have an incentive to factor such costs into their investment decisions.

In light of these issues and our associated regulatory experience, [346] the proposal seeks to further address liquidity externalities in the open-end fund sector. In particular, we expect the proposal to: (1) enhance open-end funds' liquidity; (2) improve funds' anti-dilution and resilience mechanisms for

[340] 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.

[341] Unless otherwise specified, we use the term ''less liquid'' in this section to refer to investments that are on the lower end of the liquidity spectrum, and not solely investments that are classified as ''less liquid investments'' under the current rule 22e–4.

[342] *See infra* section III.B.3 for additional discussion of these issues.

[343] *See supra* section I.B for a detailed discussion of the Mar. 2020 market events.

[344] *See infra* section III.B.3 for additional discussion.

[345] *See e.g.,* Bing Zhu & René-Ojas Woltering, *Is Fund Performance Driven by Flows into Connected Funds? Spillover Effects in the Mutual Fund Industry,* 45 J. Econ. & Fin. 544, no. 9 (2021). *See infra* section III.B.3 for additional discussion.

[346] *See supra* sections I and II for the discussion of regulatory experience.

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, [347] which is consistent with recent analyses discussing how more robust liquidity management may mitigate this risk.[348] The proposed amendments may also reduce the likelihood or the extent of future government interventions.[349]

The proposed amendments to the liquidity risk management (''LRM'') program [350] are designed to support funds' ability to meet redemptions without significant trading costs, such as larger haircuts associated with less liquid investments that open-end funds may hold in their portfolios. Although less liquid investments generally offer a higher return, the trading costs associated with selling these assets during periods of increased redemptions may offset this risk premium, potentially resulting in a lower overall return for fund investors.[351] Therefore, a more robust liquidity management program that requires funds to hold more highly liquid investments may benefit fund investors in the longer term. In addition, requiring funds to hold a greater share of highly liquid investments may help limit the price impact that funds impose on underlying markets when they sell less liquid assets to meet investor redemptions, especially during periods of market stress.[352]

The goal of the proposed swing pricing and hard close requirements is to reduce the dilution of non-transacting fund shareholders by charging redeeming and subscribing investors the trading costs they impose on a fund, [353] which may mitigate the first-mover advantage associated with the dilution from trading costs. Although swing pricing has not yet been implemented by any fund in the U.S., usage of swing pricing in other jurisdictions has been shown in certain cases to mitigate redemption pressure during periods of elevated market volatility.[354] We recognize that swing pricing may not always fully reduce the potential first-mover advantage associated with increasing trading costs and discourage associated investor redemptions.[355] However, even in these cases, we believe that investors would nevertheless benefit from the proposed requirement because it would reduce the dilution of non-transacting fund shareholders, regardless of the amount of trading activity by redeeming or subscribing investors.

Coupled with the proposed amendments to the LRM program and the proposed swing pricing and hard close requirements, the proposed reporting and public disclosure requirements are aimed at promoting transparency and facilitating investors' understanding of liquidity risk in the open-end fund sector, as well as promoting transparency regarding funds' application of liquidity management tools.[356] As a result, the proposed public disclosure requirements may aid investors in making more efficient portfolio allocation decisions.

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; the extent to which investors may reduce their holdings in open-end funds as a result of the proposed swing pricing requirement and other amendments; the extent to which investors may move capital from mutual funds to other investment vehicles, such as closed-end funds, ETFs, or CITs; and the reduction in dilution costs to investors in open-end funds as a result of the proposed amendments (which would depend on investor subscription and redemption activity and the liquidity risk of underlying fund investments). Form N–PORT data is not sufficiently granular to allow such quantification, and many of these effects will depend on how affected funds and investors would react to the proposed amendments. While we have attempted to quantify economic effects where possible, much of the discussion of economic effects is qualitative in nature. We seek comment on all aspects of the economic analysis, especially any data or information that would enable a quantification of the proposal's economic effects.

B. Baseline

1. Regulatory Baseline

a. Liquidity Risk Management Program

Under the current rule, [357] open-end funds classify each portfolio investment into one of the four defined liquidity categories, based on the number of days within which a fund reasonably expects the investment to be convertible to cash or sold or disposed of, without significantly changing the investment's market value. The four categories are: (1) ''highly liquid investments,'' which are cash and investments convertible into cash in current market conditions in three business days or less; (2) ''moderately liquid investments,'' which are convertible into cash in current market conditions in more than three calendar days but in seven calendar days or less; (3) ''less liquid investments,'' which are those the fund reasonably expects to be able to sell or dispose of in current market conditions in seven calendar days or less, but where the sale or disposition is reasonably expected to settle in more than seven calendar days; and (4)

[347] We recognize that factors other than dilution related to trading costs—such as dilution from falling asset prices (market risk) and from potential differences between prices of underlying investments used for a fund's net asset value calculation and execution prices for these investments—may also contribute to the first-mover advantage in redemptions and potential runs in open-end funds. These and other considerations are discussed in greater detail in section III.B.3 below.

[348] *See* Nicolas Valderrama, *Can the Liquidity Rule Keep Mutual Funds Afloat? Contextualizing the Collapse of Third Avenue Management Focused Credit Fund,* 70 Cath. U. L. Rev. 317 (2021). *See* also Landon Thomas Jr., *A New Focus on Liquidity After a Fund's Collapse, N.Y. Times*, Jan. 11, 2016, *available at https://www.nytimes.com/2016/01/12/business/dealbook/a-new-focus-on-liquidity-after-a-funds-collapse.html.*

[349] *See e.g.,* Antonio Falato et. al., *Financial Fragility in the COVID–19 Crisis: The Case of Investment Funds in Corporate Bond Markets,* 123 J. Monetary Econ. 35 (2021). The authors discuss how the Federal Reserve bond purchase program helped to reverse mutual funds' outflows during the Mar. 2020 period.

[350] *See supra* section II.A.

[351] *See e.g.,* Mikhail Simutin, *Cash Holdings and Mutual Fund Performance,* 18 Rev. Fin. 1425, no. 4 (2014), *See also* Aleksandra Rźeznik, *Skilled Active Liquidity Management: Evidence from Shocks to Fund Flows,* (Jul. 29, 2021), *available at* SSRN: *https://ssrn.com/abstract=4106412* (retrieved from SSRN Elsevier database).

[352] *See e.g.,* Sergey Chernenko & Adi Sunderam, *Liquidity Transformation in Asset Management: Evidence From the Cash Holdings of Mutual Funds* (National Bureau of Economic Research (NBER) working paper no. w22391, Jul. 11, 2016), *available at https://ssrn.com/abstract=2807702.*

[353] *See supra* sections II.B and II.C.

[354] *See e.g.,* CSSF Paper, *supra* note 61; Dunghong Jin et. al., *Swing Pricing and Fragility in Open-End Mutual Funds* 35 Rev. Fin. Stud. (2022); Benjamin King & James Semark, *Reducing Liquidity Mismatch in Open-Ended Funds: A Cost-Benefit Analysis* (Bank of England working paper no. 975, Apr. 22, 2022), *available at https://ssrn.com/abstract=4106646.*

[355] *See* CSSF Paper, *supra* note 61; Claessens & Lewrick, *supra* note 61; ESMA, *Recommendation of the European Systemic Risk Board (ESRB) on Liquidity Risk in Investment Funds* (Nov. 12, 2020), *available at https://www.esma.europa.eu/document/recommendation-european-systemic-risk-board-esrb-liquidity-risk-in-investment-funds.*

[356] *See supra* section II.E.

[357] *See* Liquidity Rule Adopting Release, *supra* note 8.

''illiquid investments,'' which cannot be sold or disposed of in current market conditions in seven calendar days or less.

A fund may generally classify and review its investments by asset class unless the fund or adviser has information about any market, trading, and investment-specific considerations that it reasonably expects to affect significantly the liquidity characteristics of an investment compared to the fund's other portfolio holdings within that asset class.[358] Among other requirements, open-end funds generally are required to determine a minimum amount of highly liquid investments they should maintain. In addition, all open-end funds are prohibited from acquiring any illiquid investment if, immediately after the acquisition, the funds would have invested more than 15% of their net assets in illiquid assets; however, an investment in a liability position, such as a derivative, is not subject to this limitation. Under the current rule, a fund is required to identify the percentage of the fund's highly liquid investments that it has posted as margin or collateral in connection with derivatives transactions that the fund has classified as less than highly liquid.[359]

In classifying its investments under the current rule, a fund analyzes how quickly it can sell an investment without the sale ''significantly'' changing the investment's market value. Funds are required to determine two key inputs for this analysis. The first is the fund's reasonably anticipated trade size.[360] Reasonably anticipated trade size interacts with a fund's assessment of future redemption/subscription activity: for example, if the fund would anticipate selling a large position relative to trading volume, the sale may depress the price. The second is the determination of what constitutes a ''significant'' change in value. In both cases, the rule allows funds to make their own reasonable assumptions.

Rule 22e–4 currently requires that funds review their liquidity classifications at least monthly in connection with reporting on Form N–PORT, and more frequently if changes in relevant market, trading, and investment-specific considerations are reasonably expected to materially affect one or more of their investments' classifications.[361] The current rule also requires a fund to monitor and take timely actions related to the liquidity of its investments, including changes to its liquidity profile. Specifically, the rule prohibits a fund from acquiring any illiquid investment, if immediately after the acquisition, the fund would have invested more than 15% of its net assets in illiquid investments that are assets.[362] In addition, the rule requires a fund to provide timely notice to its board, and to the Commission on Form N–RN, if the fund exceeds the 15% limit on illiquid investments, or if there is a shortfall of the fund's highly liquid investments below its highly liquid investment minimum for seven consecutive calendar days.[363]

Rule 22e–4 currently requires a fund to determine a highly liquid investment minimum if it does not primarily hold investments that are highly liquid. Funds that are subject to the highly liquid investment minimum requirement must determine a highly liquid investment minimum considering several factors, review this minimum at least annually, and adopt policies and procedures to respond to a shortfall of the fund's highly liquid investments below the minimum.[364] The current exclusion for funds that invest primarily in highly liquid investments provides some discretion to determine the level of highly liquid investments that constitutes primarily.

b. Swing Pricing

Currently, the rule allows open-end funds that are not excluded funds to use swing pricing. The required swing pricing policies and procedures provide that funds must adjust their NAV per share by a single swing factor or multiple factors that may vary based on the swing threshold(s) crossed once the level of net purchases into or net redemptions from such fund has exceeded the applicable swing threshold for the fund. The current rule permits a fund to determine its own swing threshold for net purchases and net redemptions, based on a consideration of certain factors the rule identifies.[365] The fund's swing factor is permitted to take into account only the near-term costs expected to be incurred by the fund as a result of net purchases or net redemptions on that day and may not exceed an upper limit of 2% of the day's NAV per share.

The determination of whether the fund's level of net purchases or net redemptions has exceeded the applicable swing threshold is permitted to be made based on receipt of sufficient information about the fund investors' daily purchase and redemption activity to allow the fund to reasonably estimate whether it has crossed the swing threshold with high confidence. This investor flow information may consist of individual, aggregated, or netted orders, and may include reasonable estimates where necessary.

In addition, rule 2a–4 requires, when determining the NAV, that funds reflect changes in holdings of portfolio securities and changes in the number of outstanding shares resulting from distributions, redemptions, and repurchases no later than the first business day following the trade date. This calculation method provides funds with additional time and flexibility to incorporate last-minute portfolio transactions into their NAV calculations on the business day following the trade date, rather than on the trade date.[366]

c. Reporting Requirements

Registered management investment companies and ETFs organized as unit investment trusts are required to file periodic reports on Form N–PORT about their portfolios and each of their portfolio holdings as of month-end.[367] Funds file these reports on a quarterly basis, with each report due 60 days after the end of a fund's fiscal quarter. Only information about the fund's holdings for the third month of each fiscal quarter is available to the public. In addition to the publicly available information on Form N–PORT, investors also have access to information about the holdings of ETFs, including actively managed ETFs, which generally are required to provide transparency into their portfolio holdings on a daily basis.[368] Many funds also provide monthly information about their portfolio holdings to third

[358] *See* rule 22e–4(b)(1)(ii)(A).

[359] *See* rule 22e–4(b)(1)(ii)(C). In addition, funds currently are also required to exclude highly liquid assets that are posted as margin or collateral in connection with non-highly liquid derivatives transactions when determining whether the fund primarily holds highly liquid assets. *See* rule 22e–4(b)(1)(iii)(B).

[360] Funds' current practices in classifying the liquidity of their investments and otherwise complying with rule 22e–4 may take consideration of the staff's Liquidity FAQs. *See, e.g., supra* note 79.

[361] *See* rule 22e–4(b)(1)(ii).

[362] *See* rule 22e–4(b)(1)(iv).

[363] *See* rule 22e–4(b)(1)(iv)(A) and rule 22e–4(b)(1)(iii)(A)(*3*); Form N–RN Parts B through D.

[364] *See* rule 22e–4(b)(1)(iii).

[365] *See supra* note 176.

[366] *See* Adoption of rule 2a–4 Defining the Term ''Current Net Asset Value'' in Reference to Redeemable Securities Issued by a Registered Investment Company, Investment Company Act Release No. 4105 (Dec. 22, 1964) [29 FR 19100 (Dec. 30, 1964)].

[367] For purposes of discussions of filing requirements on Form N–PORT, the term ''fund'' refers to registrants that currently are required to report on Form N–PORT, including open-end funds, registered closed-end funds, and ETFs registered as unit investment trusts, and excluding money market funds and small business investment companies.

[368] *See supra* note 289.

party data aggregators, generally with a lag of 30 to 90 days, which in turn make them available to the public for a fee.

Registered investment companies other than face amount certificate companies also report census-type information to the Commission annually on Form N–CEN, including information related to fund service providers and whether a fund engaged in swing pricing during the fiscal year and if so, what was the upper limit for the swing factor. The current definition of LEI in Forms N–PORT and N–CEN provides that, in the case where a financial institution does not have an assigned LEI, a fund should instead disclose the RSSD ID assigned by the National Information Center of the Board of Governors of the Federal Reserve System, if any.[369]

Item 6 of Form N–1A also requires disclosure of a fund's use of swing pricing if the fund chooses to use swing pricing. Specifically, these provisions require that a fund that uses swing pricing explains the fund's use of swing pricing, including its meaning, the circumstances under which the fund will use it, and the effects of swing pricing on the fund and investors, as well as the upper limit the fund has set on the swing factor. Open-end funds are also required to file Form N–RN with the Commission if more than 15% of the registrant's net assets are, or become, illiquid investments as defined in rule 22e–4 and if a registrant's holdings in assets that are highly liquid investments fall below its highly liquid investment minimum for more than 7 consecutive calendar days. The form is required to be filed within one business day of the occurrence of these events.

2. Overview of Certain Industry Order Management Practices

Mutual fund orders can be submitted to funds directly or via an intermediary. An order will be executed at a given day's NAV if an intermediary—rather than solely the fund, its designated transfer agent, or a registered securities clearing agency—receives the order by the fund's pricing time, typically 4 p.m. ET, unless an intermediary specifically established an earlier cut-off time for investor orders. In particular, 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.[370] A fund discloses in its prospectus its pricing time and that a purchase or redemption is effected at a price that is based on the next NAV calculation after the order is placed.[371] After a fund finalizes its NAV calculation for a day, it disseminates the NAV to pricing vendors, media, and intermediaries, typically between 6 p.m. ET and 8 p.m. ET. We understand that certain intermediaries use order-processing systems that require knowledge of a fund's NAV. In addition, certain investor orders may also require knowledge of a fund's NAV before the order is sent to the fund.[372] As a result, a fund does not receive certain orders until after the fund distributed its NAV. For example, most retirement plan recordkeepers currently do not process orders from investors until they receive a fund's NAV and funds typically receive orders from these intermediaries the next morning.

We understand that for orders submitted to funds by an intermediary, an intermediary may net orders to varying degrees before their submission to a fund, a practice known as omnibus accounting. In addition, intermediaries may submit one or more netted orders at a single time, or may submit netted orders in batches at different times. For example, if an intermediary does not submit orders until after it has received the fund's final price, it may submit a single order to the fund that reflects the net dollar amount or the number of fund shares to be purchased or redeemed across all investors that submitted orders through that intermediary. If an intermediary does not wait until the fund's final price is received, it may submit two orders: one order expressed in the net number of shares purchased or sold and one order expressed in the net amount of dollars purchased or sold. Other intermediaries may aggregate orders at finer levels, providing aggregate purchase and sale figures separately. While netting practices vary, they may generally save intermediaries money, to the extent that intermediaries incur per transaction costs when submitting orders to a fund.

Intermediaries may track investor orders to various degrees before they send the finalized orders to funds. As such, the processing time of investor order may vary depending on the tracking and netting process of an intermediary. For example, retirement accounts track holdings and trades at the level of individual participants. Each participant account typically has multiple sub accounts that are organized by contribution type or source (pretax, after-tax, employer match, profit sharing, and other). We understand that, at least according to some plan rules, compliance restrictions require plans to track an account according to contribution type or source. For example, we understand that in at least some 401(k) plans, the third party administrator or retirement plan recordkeeper receives participant trades at the participant account level, after which, trades must be pro-rated (usually done based on today's market value) and posted to each contribution type or source. The administrator or recordkeeper then aggregates all participant trades for a particular plan and sends them to the trustee/custodian. The trustee then posts the aggregated plan trades on a trust/custody system (*i.e.,* for mandatory plan reporting purposes). Most trust companies then aggregate all of their client trades at the asset level, generally to minimize trading or NSCC costs.

A significant portion of mutual fund orders is processed through NSCC's Fund/SERV platform. Within this platform, there exists a separate system that processes orders from defined contribution plans called Defined Contribution Clearance & Settlement (''DCC&S''). Fund/SERV for non-retirement clients allows firms to submit orders in currency, shares, or exchanges before knowing the NAV.[373] DCC&S, on the other hand, as a matter of practice does not initiate order processing until the recordkeeper/third party administrator receives NAVs, as well as daily and periodic distribution (dividend and capital gain) rates.[374]

We recognize that the current industry practices related to intermediaries' order submissions prevent funds from knowing their final net flows until later hours, which may be one reason why no funds in the U.S. have implemented the optional swing pricing. We also recognize that swing pricing has been employed in Europe, including by U.S.-based fund managers that also operate funds in Europe.[375] There can be various reasons why swing pricing has been successfully implemented in certain jurisdictions. For example, we understand that intermediary order submission practices in Europe differ from those in the U.S.,[376] allowing funds to have more complete flow information before funds' pricing time. Another factor that may contribute to successful implementation of swing pricing in Europe is that the

[369] *See* General Instruction E of proposed Form N–PORT and Instructions to Item G.1 of the Form N–CEN.

[370] We note that this practice differs from other jurisdictions. *See supra* note 225.

[371] *See* Item 11(a) of Form N–1A.

[372] *See supra* section II.C.3.d.

[373] *See https://www.dtcc.com/wealth-management-services/mutual-fund-services/fund-serv.*

[374] *Id.*

[375] *See supra* section I.B for a more detailed discussion about use of swing pricing in Europe.

[376] *See supra* note 225.

European mutual fund sector does not depend as much as the U.S. mutual fund sector on defined contribution retirement plans. According to ECB's investment fund statistics, as of Q2 2022, pension funds held approximately EUR 1.4 trillion (10%) in investment fund shares [377] out of 14.8 trillion in aggregate value of European investment fund shares issued.[378] This is in contrast to U.S. where 54% of all mutual fund assets were held in retirement accounts as of Q1 2022.[379] Further, according to one estimate, defined contribution retirement plans which, at least in the U.S., have certain transactions that require knowledge of NAV in order to be processed by an intermediary represent only 17% of Europe's total pension assets.[380]

3. Liquidity Externalities in the Mutual Fund Sector

As discussed above, the liquidity mismatch can lead to non-negligible trading costs (*e.g.,* spread or market impact costs) associated with selling the fund's less liquid portfolio investments in order to meet investor redemptions or buying portfolio investments in order to accommodate investor subscriptions. The magnitude of these costs can vary depending on market conditions, the liquidity of the underlying investments held in a fund's portfolio, and the size of funds' transactions in the market. Consequently, if investors transact at a NAV that does not account for ex-post trading costs, investors remaining in the fund have to bear these trading costs because they are ultimately reflected in the fund's future NAV.[381] Therefore, the value of shares held by non-transacting investors can be diluted due to the trading costs associated with the past trading activity of transacting fund investors, lowering the future returns of non-transacting fund shareholders.

We recognize that factors other than trading costs may contribute to dilution. For example, some funds may hold investments that do not have an active and robust secondary market (*e.g.,* high-yield bonds or municipal securities), making them opaque and difficult to accurately price in a timely manner, especially during times of market stress when some of these assets may stop trading. In such events, the last reported prices for these assets may be prices realized during pre-stress market conditions. As a result, the risk that the fund's NAV may be based on ''stale'' information if contemporaneous information about an asset's current value is unavailable or less reliable may increase. If a fund's NAV on a given date is based on such stale information, net redemptions at that NAV can dilute non-transacting fund shareholders when assets are eventually sold at prices that reflect their true, lower value.[382] Prior to the compliance date with the recent rule 2a–5,[383] which aims to improve fund valuation practices, the stale pricing phenomenon has been documented in fixed income funds, and has been found to contribute to strategic redemptions.[384] However, we recognize that while trading costs are strictly dilutive, pricing based on stale information can also result in accretion for non-transacting fund investors if realized sale prices are higher than prices that were based on stale information and used for the NAV calculation.

The stylized example illustrated in Figure 4 below shows how trading costs can dilute a fund that experiences net redemptions under two scenarios.[385] Under the first scenario (the dotted line), the fund is able to sell investments to accommodate redemptions prior to striking its NAV for the day and to reflect these trades as well as trading costs in the calculated NAV for that day.[386] This scenario is a theoretical benchmark that shows the minimum amount of dilution that must occur in order to accommodate redemptions. Under the second scenario (the solid line), the fund trades to accommodate redemptions after striking its NAV for the day. This scenario is generally the way U.S. funds currently accommodate investor redemptions, possibly because funds do not have complete order flow information before the end of the trading day.[387]

[377] *See* Aggregated Balance Sheet of the Euro Area Pension Fund Sector, Section 1.1.1, European Central Bank Statistical Data Warehouse, *available athttps://sdw.ecb.europa.eu/reports.do?node=1000006465.*

[378] *See* Aggregated Balance Sheet of Euro Area Investment Funds, Section 1.1.2, European Central Bank, Statistical Data Warehouse, *available at https://sdw.ecb.europa.eu/reports.do?node=1000003516.*

[379] *See infra* section III.B.4.ii.

[380] *See* Press Release, Cerulli Associates, *Europe's Defined Contribution Market Is Set to Keep Growing,* (Mar. 3, 2022), *available at https://www.cerulli.com/press-releases/europes-defined-contribution-market-is-set-to-keep-growing.*

[381] For example, suppose a fund is fully invested in an underlying asset which can be bought at $1.01 and sold at $0.99. If the NAV is struck at the ''mid,'' the fund's share price is $1, and that is what redeeming investors receive for each fund share redeemed. However, after paying the spread costs, the fund receives only $0.99 for each unit of the underlying asset that is sold to meet redemptions. The fund therefore needs to sell more of its underlying asset position relative to the size of the redemptions it experiences, reducing the assets held by non-transacting shareholders and the fund's subsequent NAV. For example, if 10% of the fund's investors redeem their shares at the NAV of $1, the fund needs to sell 10% / $0.99 = 10.1% of its underlying asset position to meet redemptions and pay the spread costs. This leaves the remaining 90% of fund shares held by non-transacting fund investors with 100% − 10.1% = 89.9% of the fund's prior asset position. Valued at the mid-price of $1, this reduces the fund's NAV to 89.9% / 90% = $0.999.

[382] We recognize that fund investors can also be diluted due to factors other than trading costs or stale pricing, such as market risk. Market risk can also result in accretion for non-transacting fund investors. For example, if a fund redeems shareholders at an NAV of $100 based on market prices at the time NAV is struck, but is then able to liquidate assets at a higher valuation on subsequent days due to changes in market prices, the value of shares held by non-transacting shareholders will increase beyond the increase due solely to the change in the value of the underlying investments held by the fund. While the value of the fund's holdings can go both up and down, such market risk amplifies the risk fund shareholders would otherwise experience. However, since market prices may be very difficult to forecast, the degree to which such dilution contributes to the first-mover advantage is unclear.

[383] The Commission adopted rule 2a–5 in Dec. 2020, and the compliance date for funds was Sept. 8, 2022. *See* Valuation Adopting Release, *supra* note 110.

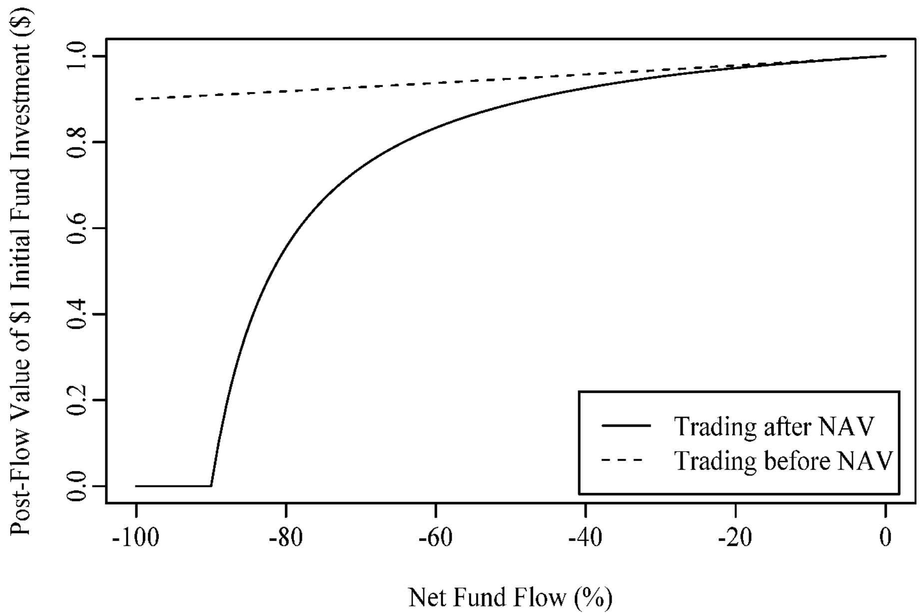
[384] *See, e.g.,* Jaewon Choi et. al., *Sitting Bucks: Stale Pricing in Fixed Income Funds,* 145 J. Fin. Econ. 296, no. 2, Part A, (Aug. 2022).

[385] The examples in the figure assume that a fund holds a portfolio of assets whose value is constant and that liquidating any portion of the portfolio to meet redemptions incurs a haircut of 10%. By assuming that the value of the asset does not change, the examples isolate the effect of trading costs on dilution from the effects of other sources of dilution such as market risk or stale NAVs. *See supra* note 384. 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.

[386] We recognize that under the current rule 2a–4 under the Investment Company Act, funds are permitted to reflect changes in their portfolio holdings in the first NAV calculation following the trade date and, thus, are not required to include today's trades in the calculation of today's NAV.

[387] We recognize that there may be other operational considerations that result in this common practice. Therefore, even if a fund has complete order flow information before the trading day is over, it may choose to trade at a later date to accommodate today's redemptions.

Figure 4: Dilution Effects of Different Trading Timelines over 1 Day.



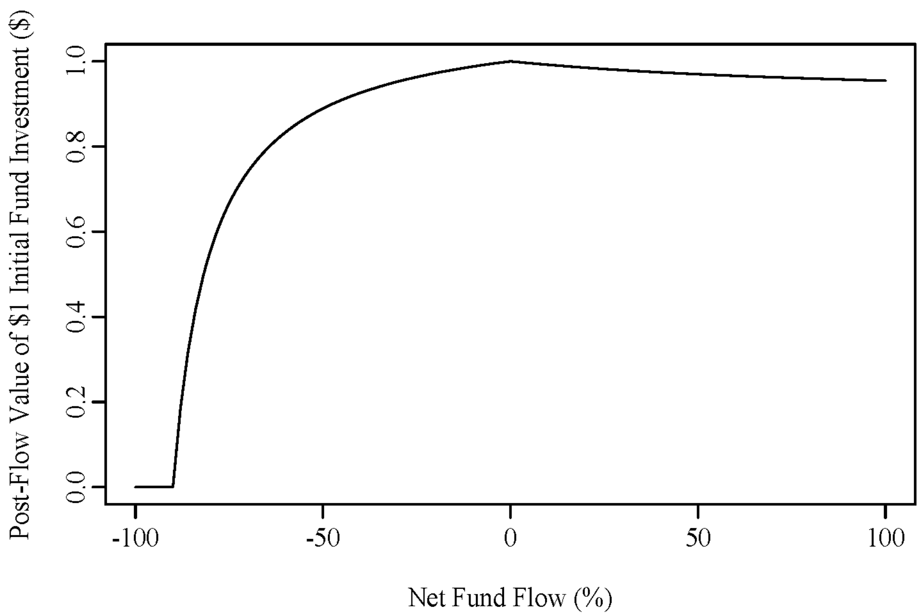
While these two scenarios result in similar dilution for lower levels of redemptions, larger levels of redemptions can contribute nonlinearly to higher fund dilution under the second scenario.[388] This occurs because increasing redemptions result in increasing trading costs for the fund. These trading costs are borne solely by shareholders remaining in the fund, the number of which decreases as more investors redeem. Under this hypothetical scenario, the fund eventually runs out of assets to sell and is unable to meet further redemptions. In contrast, under the theoretical benchmark, the trading costs are borne by both redeeming investors and investors remaining in the fund; therefore, the shareholder base absorbing the trading costs remains constant regardless of the extent of redemptions. Accordingly, dilution increases proportionally to the amount of redemptions and the corresponding increase in trading costs.

Figure 5 removes the theoretical benchmark scenario illustrated in Figure 4 and focuses on how dilution affects both redemptions and subscriptions when trading to accommodate investor transactions occurs after the fund's NAV has been struck.[389]

[388] To the degree that funds determine their NAV using holdings as of the prior trading day, such practices may also contribute to dilution.

[389] To model the effect of net subscriptions, the example assumes that any new cash received by the fund is invested in the same underlying portfolio of investments, and that doing so incurs the same 10% spread cost. Redemptions are represented as negative net flows to the left of 0 on the x-axis and subscriptions are represented as positive net flows to the right of 0 on the x-axis. We recognize that dilution due to subscriptions does not occur until a fund incurs costs investing the subscription proceeds. Therefore, a fund that holds its subscription proceeds in cash indefinitely will not experience dilution.

Figure 5: The Dilutive Effects of Redemptions and Subscriptions.



The theoretical example in Figure 5 illustrates that the dilutive effect of trading costs is asymmetric for redemptions and subscriptions: while redemptions and subscriptions are similarly dilutive for small levels of net flows, their effects are different for more extreme levels of net flows. This occurs because a fund is not able to redeem 100% of its shares due to the non-linear impact of trading costs related to meeting redemptions being absorbed solely by investors remaining in the fund, as described above. In contrast, the trading costs related to subscriptions are shared by both new subscribers and existing fund shareholders, which limits the maximum amount of dilution that can occur due to subscriptions.

The simplified examples above illustrate that non-transacting fund investors are exposed to the dilution risk that arises from accommodating redemptions and subscriptions of transacting fund investors. Incentives of mutual fund managers may not be sufficient to alleviate this risk for various reasons. For example, it is possible that investors do not have enough information to fully understand the nature of the risk they are exposed to by investing in funds that hold less liquid investments. In addition, investors in a fund may have varying preferences for risk and return, with some investors preferring investments with higher expected returns. Although investments that face increased liquidity risk may deliver such higher returns, the returns of funds that hold these investments may also be subject to greater amounts of volatility.[390] A fund manager may choose to hold investments that are less liquid because of their potentially higher returns, or because they offer exposure to a different set of risks (*e.g.,* some investments may be less correlated with the market) than other investments in the fund's portfolio. Because higher returns tend to be associated with future inflows, it is possible that a fund manager's incentives are tilted towards earning higher returns relative to the risk they are taking on (though the opposite is also possible).[391] In particular, to the extent that holding less liquid investments may increase a fund's return (*e.g.,* during normal market conditions) and consequently its AUM, which determine the amount of management fees a fund manager collects, the fund manager may choose to over-invest in such assets,[392] not accounting for potential future trading costs these investments may impose on a fund if the market conditions change, which would result in a higher dilution risk for the fund's investors. Investors may currently lack sufficiently granular information to monitor for this possibility and to discipline the extent to which a fund manager exposes the fund's shareholders to dilution risk.

Investor dilution associated with illiquidity of funds' underlying investments may create a first-mover advantage that may lead to increased mutual fund redemptions similar to bank runs.[393] Such redemptions have been observed prior to the adoption of the current liquidity rule.[394] More specifically, fund investors may have an incentive to redeem their shares quickly if they believe that other investors will also redeem their shares and, by doing so, these other investors will dilute the fund's non-transacting shareholders. This first-mover advantage effect in mutual funds has been documented[395]

[390] *See, e.g.,* Kuan-Hui Lee, *The World Price of Liquidity Risk,* 99 J. Fin. Econ. 136 (2011). *See also* Viral V. Acharya & Lasse H. Pedersen, *Asset Pricing with Liquidity Risk,* 77 J. Fin. Econ. 375 (2005). *See also* Lubos Pastor & Robert Stambaugh, *Liquidity Risk and Expected Stock Returns,* 111 J. Pol. Econ. 642 (2003).

[391] In an open-end fund context, fund inflows are sensitive to fund returns, which can incentivize fund managers to take on more risk. *See, e.g.,* Jaewon Choi & Mathias Kronlund, *Reaching for Yield in Corporate Bond Mutual Funds,* 31 Rev. Fin. Stud. 1930 (2018); Jon A. Fulkerson et. al., *Return Chasing in Bond Funds,* 22 J. Fixed Income, 90 (2013); Ferreira, Miguel A., et al., *The Flow-Performance Relationship around the World,* 36 J. Banking & Fin. 1759, no. 6 (2012).

[392] *See, e.g.,* Linlin Ma et. al., *Portfolio Manager Compensation in the U.S. Mutual Fund Industry,* 74(2) J. Fin. 587 (2019). *See also* Abhishek Bhardwaj et. al., *Incentives of Fund Managers and Precautionary Fire Sales* (Oct. 29, 2021), *available at https://ssrn.com/abstract=3952358.*

[393] Liquidity mismatch between assets and liabilities is a mechanism that creates bank run dynamics that is well-accepted in the academic literature. *See, e.g.,* Douglas Diamond & Philip Dybvig, *Bank Runs, Deposit Insurance, and Liquidity,* 91 J. Pol. Econ., 401 (1983).

[394] *See* Third Avenue Trust and Third Avenue Management LLC; Notice of Application and Temporary Order, Investment Company Act Release No. 31943 (Dec. 16, 2015). *See also* note 348.

[395] *See* Qi Chen et. al., *Payoff Complementarities and Financial Frailty: Evidence From Mutual Fund Outflows,* 97 J. Fin. Econ. 239 (2010). *See also* Itay Goldstein et. al., *Investor Flows and Fragility in Corporate Bond Funds,* 126 J. Fin. Econ. 592 (2017);

Continued

and studied as a mechanism for runs on mutual funds in the academic literature.[396] In addition, it has been shown that the effect of the first-mover advantage may be larger for funds that hold less liquid investments.[397] While the academic literature on mutual fund runs generally relies on an exogenous mechanism to generate initial redemptions from a fund or relies on frictions such as an inability of a fund to raise capital and exogenous shocks such as negative fund returns, the results may extend to trading costs to the degree that dilution due to trading costs may reduce subsequent fund returns, which would trigger runs in these models. At the same time, 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. For example, a recent working paper[398] concludes that the behavior of mutual fund investors is similar to that of direct investors with overlapping holdings, and suggests that systemic implications of mutual fund investors' activities are not necessarily due to the liquidity transformation feature of the mutual fund structure, but rather to the fact that mutual funds' investors compete for finite asset market liquidity when they decide to sell assets.

Mutual fund shareholders' transactions may also affect markets for funds' underlying portfolio holdings. Academic research suggests 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.[399] Two studies have constructed measures of mutual fund outflow-induced price pressure on various securities that are widely-used in the academic literature.[400] Subsequent studies use these price impact measures and claim that fire sales induced by investor redemptions hurt peer funds' performance and flows, leading to further asset sales that have a negative price impact.[401] Another paper suggests that redemptions from mutual fund that hold less liquid investments may contribute further to already existing poor market conditions by putting further downward pressure on prices of illiquid stocks.[402] In addition, one paper suggests that the exposure of stocks to fire-sale risk is bigger when mutual funds represent a larger share of the stock's owners.[403] Moreover, academic research also documents the potential effect of mutual fund flows on market-wide return volatility,[404] on a wide array of corporate decisions,[405] on the choices of ETF security baskets,[406] and on sell-side analysts' recommendations on stocks subject to mutual-fund flow-driven stock mispricings.[407] However, several recent studies argue that the aforementioned price impact measures are biased and that with the removal of this bias many established in the prior literature results above no longer hold.[408] Notwithstanding, while we recognize that there is an ongoing debate in the academic literature as to the size of these effects, the literature does point to a potential link between mutual fund flows and prices in the underlying markets.

We recognize that the proposed rules may not address all of the mechanisms that amplify dilution in the mutual fund sector, such as system-wide market stress, misaligned incentives of fund managers and investors, or stale information used for pricing of funds' portfolio holdings. However, even if these dilution-amplification

---

Yiming Ma et. al., *Bank Debt Versus Mutual Fund Equity in Liquidity Provision* (working paper, May 29, 2020), *available at https://ssrn.com/abstract=3489673;* Luis Molestina et. al., *Burned by Leverage? Flows and Fragility in Bond Mutual Funds* (European Central Bank (ECB) working paper no. 20202413, May 19, 2020) *available at https://ssrn.com/abstract=3605159* (retrieved from SSRN Elsevier database); Michael Feroli et. al., *Market Tantrums and Monetary Policy* (Chicago Booth Research Paper no. 14–09, Mar. 15, 2014), *available at https://ssrn.com/abstract=2409092* (retrieved from SSRN Elsevier database).

[396] *See e.g.,* Yao Zeng, *A Dynamic Theory of Mutual Fund Runs and Liquidity* (working paper no. 42, Apr. 2017), *available at https://ssrn.com/abstract=2907718* (retrieved from SSRN Elsevier database). *See also* Stephen Morris et. al., *Redemption Risk and Cash Hoarding by Asset Managers,* 89 J. Monetary Econ. 71 (2017); Yiming Ma et. al., *Mutual Fund Liquidity Management, Transformation and Reverse Flight to Liquidity* (working paper, Jul. 29, 2020), *available at https://ssrn.com/abstract=3640861(retrieved fromSSRNElsevierdatabase);* and Philipp König & David Pothier, *Safe but Fragile: Information Acquisition, Liquidity Support and Redemption Runs,* J. Fin. Intermediation (in press, corrected proof Dec. 15, 2020).

[397] For example, one paper argues that fund investors' behavior is affected by the expected behavior of other investors in the fund and finds that funds with less liquid assets (where this investor effect is stronger) exhibit stronger sensitivity of outflows to bad past performance than funds with more liquid assets. *See* Qi Chen et. al., *Payoff Complementarities and Financial Frailty: Evidence From Mutual Fund Outflows,* 97 J. Fin. Econ. 239 (2010). *Also see* Meijun Qian and Başak Tanyeri, *Litigation and Mutual-Fund Runs,* 31 J Fin. Stability 119, (2017); and Sirio Aramonte et. al., *Measuring the Liquidity Profile of Mutual Funds* (FEDS working paper no. 2019–55, Oct. 22, 2019), *available at https://ssrn.com/abstract=3473039* (retrieved from SSRN Elsevier database).

[398] *See* Christof W. Stahel, *Strategic Complementarity Among Investors with Overlapping Portfolios* (working paper, May 1, 2022), *available at https://ssrn.com/abstract=3952125* (retrieved from SSRN Elsevier database).

[399] *See e.g.,* Shiyang Huang et. al., *Does Liquidity Management Induce Fragility in Treasury Prices: Evidence From Bond Mutual Funds* (Dec. 30, 2021), *available at* https://ssrn.com/abstract=3689674 (retrieved from SSRN Elsevier database). *See also* Hao Jiang et. al., *Does Mutual Fund Illiquidity Introduce Fragility Into Asset Prices? Evidence From the Corporate Bond Market,* 143 J. Fin. Econ. 277 (2021); Joshua D. Coval & Erik Stafford, *Asset Fire Sales (and Purchases) in Equity Markets, 86 J. Fin. Econ. 479*, no. 2 (2007); Donald J. Berndt et. al., *Using Agent-Based Modeling to Assess Liquidity Mismatch in Open-End Bond Funds,* Summer Sim '17: Proceedings of the Summer Simulation Multi-Conference (Society for Computer Simulation International, San Diego, CA) (Jul. 2017); Valentin Haddad et. al., *When Selling Becomes Viral: Disruptions in Debt Markets in the COVID–19 Crisis and the Fed's Response, 34 Rev. Fin. Stud. 5309,* no.11 (2021).

[400] *See* Coval & Stafford, *supra. Also see* Alex Edmans et. al., *The Real Effects of Financial Markets: The Impact of Prices on Takeovers,* 67 J. Fin. 933 (2012).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.

[401] *See e.g.,* Pekka Honkanen & Daniel Schmidt, *Learning From Noise? Price and Liquidity Spillovers Around Mutual Fund Fire Sales,* 12(2) Rev. Asset Pricing Stud. 593 (Jun. 2022); Antonio Falato et. al., *Fire-Sale Spillovers in Debt Markets, 76 J Fin. 3055* no. 6 (2021).

[402] *See* Azi Ben-Rephael, Flight-to-Liquidity, Market Uncertainty, and the Actions of Mutual Fund Investors, 31 J. Fin. Intermediation 30 (2017).

[403] *See* George O. Aragon & Min S. Kim, *Fire Sale Risk and Expected Stock Returns* (Mar. 11, 2022), *available at https://ssrn.com/abstract=3663567* (retrieved from SSRN Elsevier database).

[404] *See e.g.,* Charles Cao et. al., *An Empirical Analysis of the Dynamic Relationship Between Mutual Fund Flow and Market Return Volatility,* 32 J. Banking & Fin. 2111, no. 10 (2008).

[405] *See e.g.,* Alex Edmans, *supra.* The authors find that mutual fund investor flows lead to pressure on the price of underlying securities, which may in turn affect the probability of takeover of the firm issuing the security. *Also see* Derrien, François et. al., *Investor Horizons and Corporate Policies,* 48 J. Fin. & Quantitative Analysis 1755 no. 6 (2013). *Also see* Norli, Øyvind et. al., *Liquidity and Shareholder Activism, 28 Rev. Fin. Stud. 486* (2015). *Also see* B. Espen Eckbo et. al., *Are Stock-Financed Takeovers Opportunistic?* 128 J. Fin. Econ. 443 (2018).

[406] *See* Han Xiao, *The Economics of ETF Redemptions* (Apr. 10, 2022), *available at https://ssrn.com/abstract=4096222* (retrieved from SSRN Elsevier database).

[407] *See* Johan Sulaeman & Kelsey D. Wei, *Sell-Side Analysts and Stock Mispricing: Evidence From Mutual Fund Flow-Driven Trading Pressure,* 65 Mgmt. Sci. 5427 no. 11 (2019).

[408] *See* Elizabeth Berger, *Selection Bias in Mutual Fund Fire Sales* (Apr. 18, 2021), *available at https://ssrn.com/abstract=3011027* (retrieved from SSRN Elsevier database). *See also* Malcolm Wardlaw, *Measuring Mutual Fund Flow Pressure as Shock to Stock Returns,* 75(6) J. Fin. 3221 (2020). *See also* Aleksandra and Rüdiger Weber, Money in the Right Hands: The Price Effects of Specialized Demand (Jan. 27, 2022), *available at https://ssrn.com/abstract=4022634* (retrieved from SSRN Elsevier database). *Also see* Simon Schmickler, *Identifying the Price Impact of Fire Sales Using High-Frequency Surprise Mutual Fund Flows* (Jul. 8, 2020) *available at https://ssrn.com/abstract=3488791* (retrieved from SSRN Elsevier database).

mechanisms were not present, several factors may inhibit mutual fund managers' ability to allocate trading costs to transacting investors by using currently available swing pricing. First, as discussed above, funds generally do not have complete information regarding their order flows at the time the NAV is struck, which may restrict the ability to operationalize swing pricing. These U.S.-market specific operational impediments cannot be mitigated by any single fund, which presents a collective action problem. Second, even if funds were currently able to obtain complete flow data prior to striking their NAVs, funds may be hesitant to implement swing pricing to the extent that some investors are averse to bearing the full costs of their transactions via swing pricing, even if it is in the best interest of fund shareholders overall, or because investors in U.S. funds are unfamiliar with swing pricing.[409] In addition, there may be a stigma attached to being the first fund to implement swing pricing. To the extent that such a stigma effect is present in relation to swing pricing, it may deter investors from choosing funds that could implement swing pricing under the optional approach, and that could be a reason why no fund currently chooses to implement swing pricing. Finally, even where fund managers are willing and able to employ liquidity risk management tools, they may not be able to forecast accurately the extent to which episodes of market stress can create challenges for mitigating dilution and meeting shareholder redemptions.[410]

4. Affected Entities

a. Registered Investment Companies

The proposed amendments would mainly affect open-end funds registered with the Commission that are ETFs and mutual funds, excluding money-market funds (hereafter ''mutual funds''). Based on Form N–CEN filing data as of December 2021, we estimate that there are 11,488 of such funds that hold approximately $26 trillion in net assets.[411] Among these, there are 9,043 mutual funds that hold approximately $21 trillion in net assets and 2,445 ETFs that hold approximately $5.1 trillion in net assets.[412] In addition, there are 1,650 mutual funds of funds that hold approximately $3.1 trillion in net assets,[413] as well as 150 feeder funds structured as ETFs that hold $0.6 trillion in net assets.[414]

Different parts of the proposal would affect these two subsets of open-end funds differently. In particular, the proposed amendments to the liquidity management program and certain reporting requirements would affect both mutual funds and ETFs and the proposed hard close and swing pricing requirements and related reporting requirements would affect only mutual funds that are not feeder funds.

We estimate that there are 12,153 funds currently required to file reports on Form N–PORT[415] and there are 2,754 registrants required to file reports on Form N–CEN that would be affected by the proposed reporting requirements.[416] Among these, we estimate that the proposed changes to the reporting requirements on Form N–PORT would also affect 660 closed-end funds and 5 ETFs registered as unit investment trusts with assets of $0.4 trillion and $0.7 trillion, respectively.[417]

i. Open-End Fund Characteristics

Table 2 below shows the number and total assets of open-end funds by fund type.[418] The largest share (by assets) of funds (approximately 63.5% of assets held by all open-end funds) that would be affected by the proposal are equity funds, including U.S. and international equity funds. The second largest type of funds affected by the proposal is taxable bond funds, which on aggregate holds approximately 19.6% of all open-end fund assets.

TABLE 2—NUMBER OF AFFECTED FUNDS BY FUND TYPE, AS OF DECEMBER 2021[419]

Category	ETFs[1]			Other open-end (not including MMFs)			Total		
	# of funds	Assets, $ trln	% of Total assets	# of funds	Assets, $ trln	% of Total Assets	# of funds	Assets, $ trln	% of Total assets
Allocation	90	$0.03	0.37	377	$1.58	7.59	467	$1.61	5.72
Alternative	193	0.01	0.21	167	0.13	0.64	360	0.15	0.53

[409] We recognize, however, that open-end funds in other jurisdictions have successfully implemented swing pricing, as discussed in section I.B and accompanying notes 59–63.

[410] *See supra* section I.B for a discussion of how market stress events in Mar. 2020 caused some funds to explore the potential of various emergency relief actions due to the combination of abnormally large redemptions and deteriorating liquidity in markets for underlying fund investments.

[411] We use information reported on Form N–CEN to the Commission for each fund as of Dec. 2021, incorporating filings and amendments to filings received through May 15, 2022. Net assets are monthly average net assets during the reporting period identified on part C.19.a of Form N–CEN, and validated with Bloomberg (for ETFs). Current values are based on the most recent filings and amendments, which are based on fiscal years and are therefore not synchronous. We exclude money market funds identified in Item C.3.g of the Form N–CEN from the count of the affected open-end funds. These exclusions were also applied to the estimates that follow.

We note that the submission on the Form N–CEN is required on a yearly basis. Therefore, these estimates do not include newly established funds that have not completed their first fiscal year and, therefore, have not filed the Form N–CEN yet, as well as they do not account for the funds that have been terminated since the last Form N–CEN was filed. Therefore, the estimates for the number of funds and their net assets may be over- or under-estimated.

[412] *See id.* ETFs are identified on Form N–CEN, Item C.3.a.i and include 781 in-kind ETFs with average total net assets of $1.2 trillion. UIT ETFs and exchange-traded managed funds are excluded from ETF totals. Mutual funds are identified as those funds that are not identified as ETFs or money market funds.

[413] Funds of funds are identified in Item C.3.e. A fund of funds means a fund that acquires securities issued by any other investment company in excess of the amounts permitted under paragraph (A) of section 12(d)(1) of the Act (15 U.S.C. 80a–12(d)(1)(A)), but does not include a fund that acquires securities issued by another investment company solely in reliance on rule 12d1–1 under the Act (CFR 270.12d1–1). We note that at most 29 closed-end funds of funds with net assets of $10 billion may be affected by the proposal indirectly, to the extent that they hold shares of open-end funds.

[414] *See* note 411. Master-feeder fund means a two-tiered arrangement in which one or more funds (each a feeder fund) holds shares of a single fund (the master fund) in accordance with section 12(d)(1)(E) of the Act (15 U.S.C. 80a–12(d)(1)(E)) or pursuant to exemptive relief granted by the Commission. *See* Instruction 4 to Item C.3 of Form N–CEN. Feeder funds are identified on Form N–CEN, Item C.3.f.ii.

[415] *See infra* note 540 and accompanying text.

[416] *See infra* note 547 and accompanying text.

[417] Closed-end investment companies are identified on Form N–CEN, Item B.6.b. Unit investment trust (UIT) ETFs are funds of Form N–8B–2 registrants identified in Item B.6.g. which are also reported in Item E.

[418] We note that these statistics are estimated with the Morningstar data; therefore, there is a discrepancy in the number of funds estimated based on the Form N–CEN and the number of funds estimated based on the Morningstar data. This discrepancy exists for two reasons. First, Morningstar data may not include all open-end funds due to its voluntary submission nature; as such, the number of funds based on the Morningstar data may be under-estimated. Second, funds may submit their data to Morningstar on a monthly data, while the submission on the Form N–CEN is required on a yearly basis. Therefore, the number of funds estimated based on the Form N–CEN may be under-estimated because it may not include new funds that haven't filed the Form yet.

[419] Morningstar data, excluding funds of funds, feeder funds, and money market funds. 5 UIT ETFs, with assets of approximately $0.7 trillion are included in the Morningstar ETF totals.

TABLE 2—NUMBER OF AFFECTED FUNDS BY FUND TYPE, AS OF DECEMBER 2021 [419]—Continued

Category	ETFs [1]			Other open-end (not including MMFs)			Total		
	# of funds	Assets, $ trln	% of Total assets	# of funds	Assets, $ trln	% of Total Assets	# of funds	Assets, $ trln	% of Total assets
Bank Loan	7	0.02	0.26	53	0.10	0.47	60	0.12	0.42
Commodities	116	0.14	1.88	28	0.03	0.16	144	0.17	0.60
Intern. Equity	507	1.10	15.20	1,108	3.18	15.30	1,615	4.29	15.27
Miscellaneous	246	0.14	1.86	90	0.01	0.03	336	0.14	0.51
Municipal Bond	68	0.08	1.13	546	0.98	4.71	614	1.06	3.79
Nontrad. Equity	33	0.02	0.23	92	0.03	0.13	125	0.04	0.15
Sector Equity	481	0.84	11.62	398	0.63	3.02	879	1.47	5.24
Taxable Bond [2]	426	1.17	16.06	1,268	4.32	20.77	1,694	5.49	19.55
US Equity	684	3.72	51.18	1,952	9.82	47.18	2,636	13.54	48.22
Total	2,851	7.26	100	6,079	20.82	100	8,930	28.08	100

1. Includes ETFs that are UITs.
2. Excludes bank loan funds.

The proposal would disproportionally affect open-end funds that hold less liquid investments. Among the investments classified by open-end funds in December 2021, $27.3 trillion of all investments were reported as highly liquid, $441 billion of all investments were reported as moderately liquid, $276 billion of all investments were reported as less liquid, and $198 billion of all investments were reported as illiquid. Among the investments reported as less liquid, 71% ($194 billion) are bank loan interests, 10% ($26 billion) are debt securities, 9% ($25 billion) are equities, and 6% ($17 billion) are mortgage-backed securities. [420] Therefore, we believe that the proposal to remove the less liquid category would primarily affect open-end funds that hold bank loan interests. As of December 2021, there are 746 open-end funds that classified approximately $204 billion in bank loan interests, which represents approximately 0.7% of all open-end fund investments classified, [421] and makes up approximately 15% of the bank loan market. [422] Among these bank loan interests, 95% were reported as less liquid. We recognize that some open-end funds have large concentrations in bank loan interests and are typically referred to as ‘‘bank loan’’ funds. As shown in Table 2 above, as of December 2021, there are 53 bank loan funds that hold approximately 0.5% of total open-end fund assets.

The proposal would also disproportionally affect open-end funds that hold investments whose fair value is measured using an unobservable input that is significant to the overall measurement.[423] 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.[424] Among these, $16.9 billion were classified as highly liquid investments and $2.1 billion as moderately liquid investments by 541 funds.[425] In addition, $7.8 billion were classified into less liquid category and $49.8 billion were classified into the illiquid category.

ii. Open-End Fund Flows

To inform our understanding of historical redemption and subscription patterns, we analyzed daily fund flow data during the period between January 2009 and December 2021.[426] Table 3 below shows net fund flow percentiles pooled across time and funds. Figure 6 below shows the time series of daily fund flow percentiles for equity and fixed income funds, showing 1st, 5th, 50th, 95th, and 99th percentiles of fund flows for each day. Similarly, Figure 7 shows the time series of weekly fund flow percentiles for equity and fixed income funds, showing the 1st, 5th, 50th, and 95th, and 99th percentiles of fund flows for each week.

Table 3 shows, for example, that weekly outflows exceed roughly 7% in one out of one hundred fund-week observations and that weekly outflows exceed 1.3% in five out of one hundred observations.[427] To help put these figures in context statistically, we see that the fund flow distribution exhibits heavy left (and right) tails relative to the normal distribution. That is, events such as outflows of 6.6% should occur far fewer than one out of one hundred times if fund flows were normally distributed. Similarly, events such as inflows of 8.3% should occur far fewer than one out of one hundred times if fund flows are normally distributed.

Whereas Table 3 looks at percentages across all funds and days or weeks, Figure 6 shows the cross-section of daily fund flows at each point in time and breaks up the fund universe into fixed income and equity funds. Figure 6 shows that the dispersion of flows exhibits significant variation; there are times when percentiles widen out considerably, even during non-stressed market conditions.[428] Times of

[420] In addition to these, a smaller number of other categories are classified as less liquid investments.

[421] Source: Form N–PORT. Loan investments are identified via Form N–PORT, Item C.4.a and liquidity classifications are from Form N–PORT, Item C.7.

[422] *See* Leveraged Loan Primer, supra note 99 (stating that the S&P/LSTA Loan Index, which is used as a proxy for market size in the U.S., totaled approximately $1.375 trillion as of Feb. 2022).

[423] *See supra* note 111.

[424] Source: Form N–PORT. The fair value hierarchy for an investment are identified on Form N–PORT, Item C.8., and liquidity classifications are identified on Form N–PORT, Item C.7. We observed that the investments classified as highly liquid that were Level 3 investments primarily were mortgage-backed securities.

[425] *Id.*

[426] Data source: Morningstar Fund Flow Data. We restrict our analysis to funds that have a ‘‘Global Broad Category Group’’ of Equity or Fixed Income because we believe the data for other types of funds (*e.g.,* Alternative and Commodity funds) contain more extreme values that may be spurious. We restrict our analysis to include fund flow data starting 2009. While some Morningstar data is available for 2008, we have not included that data in our historical flow analyses because of gaps in the 2008 data (*e.g.,* the 2008 dataset covers a more limited set of funds). We trim outliers from the dataset by restricting outflows from a fund to be no more than 100% of AUM and inflows to be no more than 300% of AUM on a given day or 1000% of AUM for a given week when analyzing weekly flows. For daily flows, we determine the flow percentage by dividing dollar flows on date T by total net assets on date T. This assume that total net assets on a given day do not account for that day's flows. Similarly, for weekly flows, we aggregate by business week, summing dollar flows over the course of the week and dividing by the first available day's net assets in that week. Making the opposite assumption, that total net assets on a given day do incorporate that day's flows, does not significantly alter our results.

[427] *See supra* note 426 for a description of how the data set was constructed.

[428] *See id.* Daily flows for equity funds have notable seasonal spikes that tend to occur during the month of Dec., independent of market stress events. These flow spikes may be attributable to any year-end rebalancing of investors from, *e.g.,* underperforming funds into outperforming funds;

substantial flows into bond funds do not necessarily correspond to flows into equity funds. What this implies is that looking at the distributions separately may reveal greater dispersion, as flows across the sectors diversify each other. For equities, a number of time periods exhibit cross-sections in which the lowest percentile of funds have daily outflows in excess of 10%. For bond funds, flows of this magnitude are rarer. However, such episodes do occur for bond funds and correspond with times of broader stress in fixed income markets. Similarly, Figure 7, which shows weekly flows, also shows that outflows in the lowest percentile of funds of below 10% are not uncommon, both in bonds and in equities.[429] For fixed income funds, both the daily and weekly flow plots in Figures 6 and 7 show that during March 2020, some funds experienced significant outflows, consistent with the aggregate monthly outflows discussed in section I.B.

TABLE 3—POOLED FUND FLOWS, AS A % OF NET ASSETS

	Percentile				
	1st	5th	50th	95th	99th
Daily fund flows	−1.60	−0.30	0	0.40	2
Weekly fund flows	−6.60	−1.30	0	1.80	8.30

BILLING CODE 8011–01–P

to year-end distributions that are characterized as flows by Morningstar and subsequently re-invested; or to spurious or errant data points. We believe that latter is less likely because these seasonal spikes are still evident when the data is aggregated to the weekly level in Figure 7. To the extent seasonal fund flow spikes are driven by predictable events such as, *e.g.,* capital gains distributions, fund managers are more likely to be able to plan for any impacts of such events on a fund, include funds that hold investments with lower liquidity.

[429] *See id.*

Figure 6. Daily Equity and Fixed Income Fund Flows over Time, % of Net Assets.

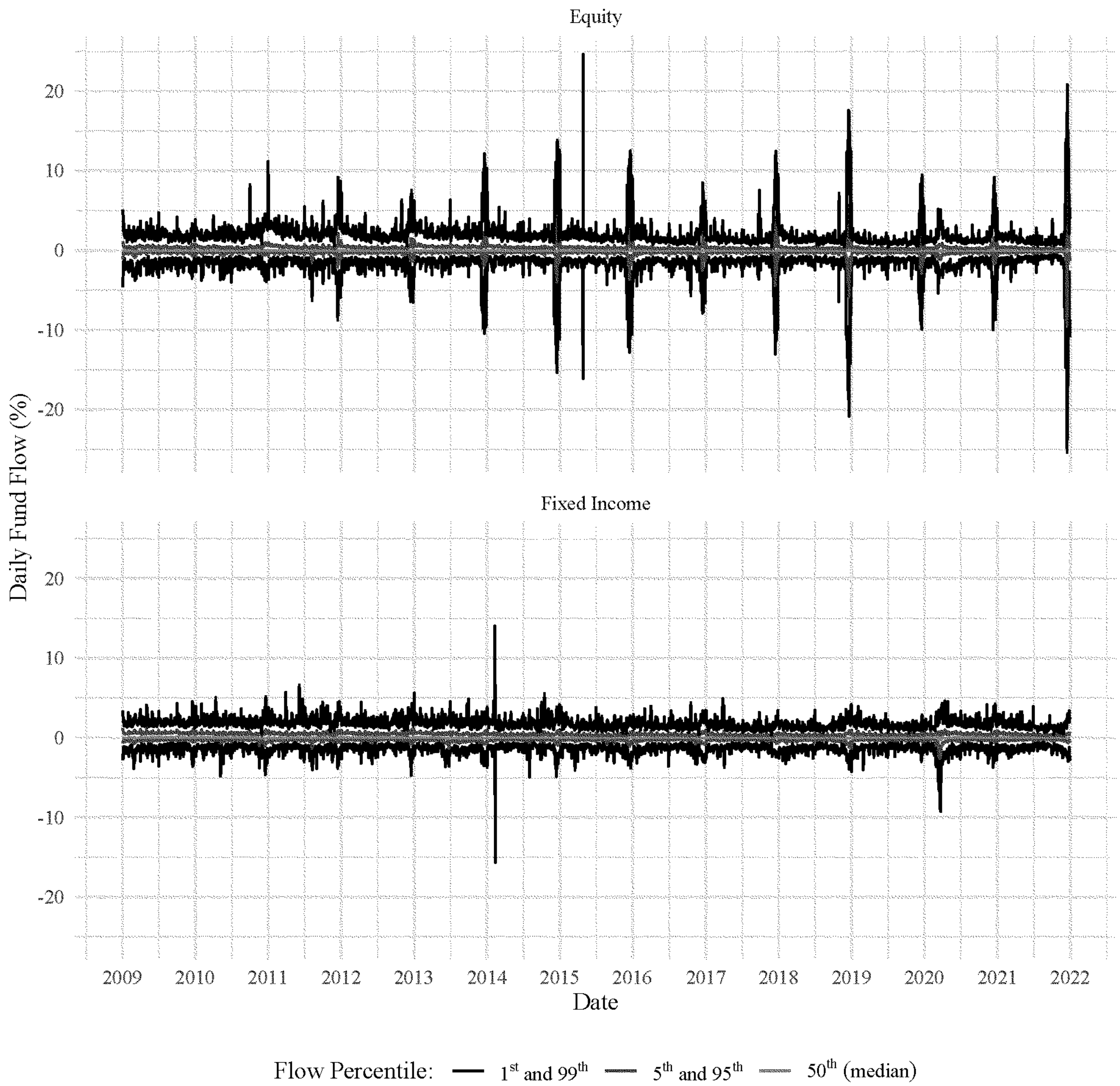
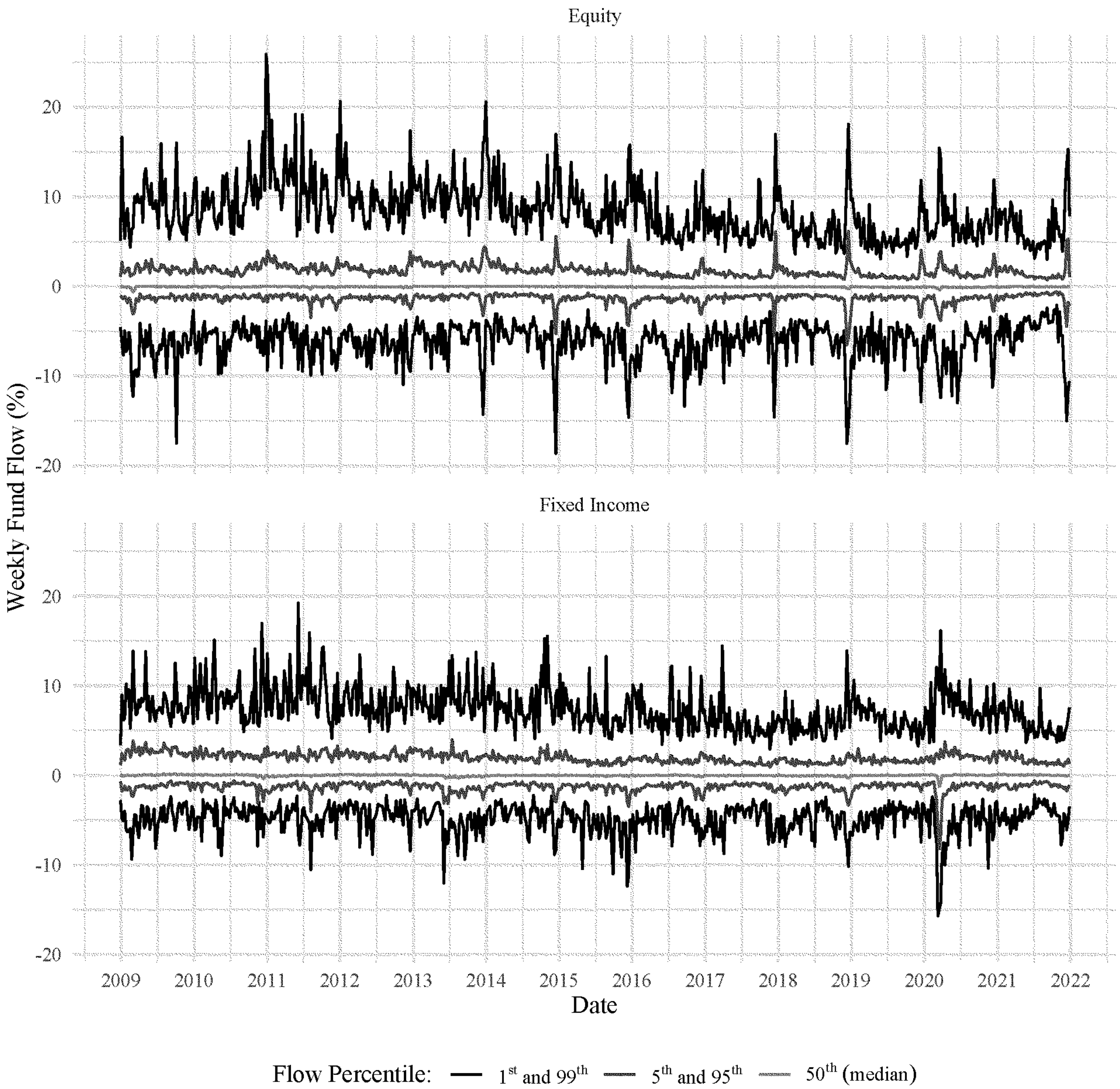


Figure 7. Weekly Equity and Fixed Income Fund Flows over Time, % of Net Assets.



BILLING CODE 8011–01–C

b. Fund Intermediaries

As discussed above, the proposed hard close requirement would affect a large group of intermediaries. Specifically, under the hard close requirement, intermediaries generally would need to submit orders for fund shares earlier than they currently do for those orders to receive that day's price. As discussed in greater detail below, this may affect all market participants sending orders to relevant funds, including broker-dealers, registered investment advisers, retirement plan recordkeepers and administrators, banks, insurance companies, and other registered investment companies.

i. Broker-Dealers

Based on an analysis of Financial and Operational Combined Uniform Single (FOCUS) Reports filings as of December 2021, there were approximately 3,508 registered broker-dealers with over 240 million customer accounts.[430] In total, these broker-dealers have over $5 trillion in total assets as reported on Form X–17A–5.[431] More than two-thirds of all broker-dealer assets and just under one-third of all customer accounts are held by the 21 largest broker-dealers, as shown in Table 4.[432] Of the broker-dealers registered with the Commission as of December 2021, 434 broker-dealers were dually registered as investment advisers.[433]

TABLE 4—NUMBER OF BROKER-DEALERS BY TOTAL ASSETS, AS OF DECEMBER 2021

Size of broker-dealer (total assets)	Total number of BDs	Cumulative total assets ($ bln)	Cumulative number of customer accounts
>$50 billion	21	3,682	75,808,084
$1 billion to $50 billion	124	1,581	153,243,391
$500 million to $1 billion	30	22	518,545
$100 million to $500 million	147	31	9,559,082
$10 million to $100 million	532	19	128,669
$1 million to $10 million	1,065	4	885,269
<$1 million	1,589	0.5	10,854
Total	3,508	5,338	240,153,894

ii. Retirement Plans

Retirement plans and accounts are major holders of mutual funds. We estimate that, as of 2022Q1, approximately 54% of non-MMF mutual fund assets were held in retirement accounts, which include employer-sponsored defined contribution (''DC'') plans and individual retirement accounts (''IRAs'').[434] At year-end 2021, mutual funds accounted for 58% ($6.4 trillion) of DC plan assets and 45% ($6.2 trillion) of IRA assets.[435] Among DC plans, 401(k) plans held $5 trillion of assets in mutual funds, 403(b) plans held $670 billion, other private-sector DC plans held $539 billion, and 457 plans held $177 billion.[436] Combined, the mutual fund assets held in DC plans and IRAs at the end of 2021 accounted for 32% of the $39.4 trillion U.S. retirement market.[437]

According to a recent study, DC plans vary in size by both number of participants and plan assets.[438] For example, as shown in the Table 5 below, among 401(k) plans, 94.1% of plans had less than $10 million of plan assets. While the number of plans with plan assets over $1 billion is relatively small, these largest plans manage approximately 47.8% of all assets held in 401(k) plans.

TABLE 5—DISTRIBUTION OF 401(K) PLANS BY PLAN ASSETS, 2018

Plan assets	Plans		Participants		Assets	
	Number	Percent	Thousands	Percent	Billions of dollars	Percent
Less than $1M	343,108	58.5	6,007.5	8.4	$107.1	2.1
$1M to $10M	208,789	35.6	13,660.6	19.1	620.7	12.2
>$10M to $50M	26,458	4.5	9,894.5	13.9	532.4	10.4
>$50M to $100M	3,564	0.6	4,808.0	6.7	247.1	4.8
>$100M to $250M	2,407	0.4	6,744.8	9.5	374.7	7.3
>$250M to $500M	1,034	0.2	5,395.1	7.6	362.1	7.1
>$500M to $1B	603	0.1	4,763.9	6.7	424.1	8.3
More than $1B	659	0.1	20,073.4	28.1	2,439.7	47.8
All plans	586,622	100.0	71,347.7	100.0	5,108.0	100.0

[430] The data is obtained from FOCUS filings as of Dec. 2021. There may be a double-counting of customer accounts among, in particular, the larger broker-dealers as they may report introducing broker-dealer accounts as well in their role as clearing broker-dealers. Customer Accounts includes both broker-dealer and investment adviser accounts for dual-registrants.

[431] Assets are estimated by Total Assets (allowable and non-allowable) from Part II of the FOCUS filings (Form X–17A–5 Part II and Part IIA, *available at https://www.sec.gov/files/formx-17a-5_2.pdf)* and correspond to balance sheet total assets for the broker-dealer. The Commission does not have an estimate of the total amount of customer assets for broker-dealers because that information is not included in FOCUS filings. The Commission estimates broker-dealer size from the total balance sheet assets as described above.

[432] Approximately $4.97 trillion of total assets of broker-dealers (98.7%) are at broker-dealers with total assets in excess of $1 billion.

[433] This estimate includes the number of broker-dealers who are also registered with either the Commission or a state as an investment adviser.

[434] *See* Inv. Co. Inst. (ICI), *The U.S. Retirement Market, First Quarter 2022 (June),* Table 28, *available at https://www.ici.org/system/files/2022-06/ret_22_q1_data.xls.*

[435] *See* ICI, *2022 Investment Company Factbook,* Chapter 8, *available at https://www.icifactbook.org/pdf/2022_factbook.pdf.*

[436] *Id.*

[437] *Id.*

[438] *See* BrightScope & Investment Company Institute, 2021, *The BrightScope/ICI Defined Contribution Plan Profile: A Close Look at 401(k) Plans, 2018 (''BrightScope/ICI Report''),* at 7, Ex. 1.2, *available at www.ici.org/files/2021/21_ppr_dcplan_profile_401k.pdf.* These data is limited to 401(k) plans covered in the Department of Labor Form 5500 research file, as we do not have data on the size distribution for other types of DC plans. We note, however, that 401(k) plans represent approximately 70.4% of all DC plan assets. Investment Company Institute, ''The US Retirement Market, First Quarter 2022'' (June), Table 6, *available at https://www.ici.org/system/files/2022-06/ret_22_q1_data.xls.*

The same study shows that mutual funds held 43% of private-sector 401(k) plan assets in the sample in 2018. CITs held 33% of assets, guaranteed investment contracts (GICs) held 7%, separate accounts held 3%, and the remaining 14% were invested in individual stocks (including company stock), individual bonds, brokerage, and other investments.[439] While mutual funds accounted for at least 55% of assets in plans with less than $1 billion of plan assets, they accounted for only 23% of assets in plans with more than $1 billion of plan assets (dominated by CITs that accounted for 49% of plan assets).[440]

iii. Retirement Plan Recordkeepers

According to one source, as of September 2021, the total DC recordkeeping assets were approximately $9.7 trillion, as shown in Table 6 below.[441] The largest recordkeeper managed approximately 33% of all recordkeeping assets, and the 10 largest recordkeepers managed approximately 83% of all recordkeeping assets.

TABLE 6—LARGEST RETIREMENT PLAN RECORDKEEPERS, AS OF SEPTEMBER 30, 2021

Recordkeeper	Recordkeeping assets, $ billion
Fidelity Investments	$3,1698
Empower	1,048
TIAA–CREF	710
Vanguard Group	702
Alight Solutions	545
Voya Financial	499
Principal Financial Group	449
Bank of America	346
Prudential Financial	283
T. Rowe Price Group	268
All others	1,676
Total	9,695

c. Other Affected Entities

A significant portion of mutual fund orders are processed through NSCC's Fund/SERV platform: in 2021 Fund/SERV processed 261 million mutual fund transactions with the aggregate value of $8.5 trillion,[442] which we estimate to be at least 36.8% of the value of all mutual fund transactions.[443] A part of the platform, referred to as Defined Contribution Clearance & Settlement, focuses on purchase, redemption, and exchange transactions in defined contribution and other retirement plans. This service handled a volume of nearly 154 million transactions in 2021.[444]

Mutual funds may employ the services of third-party or affiliate transfer agents. We estimate that, as of March 2022, there are 99 mutual fund transfer agents that serve both open- and closed-end funds for the 2021 reporting year.[445]

We expect that a range of other entities would be affected by the proposal:

- Mutual fund order processing entities (besides Fund/SERV);
- Mutual fund liquidity service providers;
- Other third-party service providers.

We do not currently have data on the number and size of these entities. We solicit comments on these statistics. In addition, we solicit comment on what other entities would be affected by the proposed amendments.

C. Benefits and Costs of the Proposed Amendments

1. Liquidity Risk Management Program

The proposed rule would make several changes to the liquidity risk management framework adopted in 2016. In particular, it makes changes to (1) the manner and frequency in which funds must classify each of their portfolio holdings into one of several liquidity buckets; (2) the minimum amount a fund must hold in the highly liquid investment category; (3) the treatment of margin and collateral for certain derivatives transactions, for purposes of the highly liquid investment minimum and 15% limit on illiquid investments, as well as the treatment of a fund's liabilities for purposes of the highly liquid investment minimum; and (4) the

[439] *Id.*

[440] *Id.*

[441] Larry Rothman, *Large Record Keepers Keep Dominating Market,* Pensions & Investments, (Apr. 11, 2022), *available at https://www.pionline.com/interactive/large-record-keepers-keep-dominating-market.*

[442] *See* Depository Trust and Clearing Corporation (DTCC), *2021 Annual Report, pg. 57, available at https://www.dtcc.com/~/media/files/downloads/about/annual-reports/DTCC-2021-Annual-Report.*

[443] We do not have data to calculate the value of all mutual fund transactions directly. Therefore, we use ICI data on long-term mutual funds' portfolio purchases and sales as a proxy for the total value of transactions in mutual fund shares, assuming that a significant portion of portfolio purchases reflects investor subscriptions and a significant portion of portfolio sales reflects investor redemptions. We estimate this value to be $27.07 trillion by adding the total value of purchases and the total value of sales for long-term mutual funds. *See* ICI, *2022 Investment Company Factbook,* Table 31, *available at https://www.icifactbook.org/22-fb-data-tables.html.*

We estimate the share of the value of mutual fund transactions processed by Fund/SERV as the aggregate value reported by Fund/SERV divided by the long-term mutual funds' portfolio purchases and sales. We recognize that mutual funds may effect portfolio purchases and sales for purposes other than investing new cash from subscribing investors and meeting investor redemptions, such as portfolio rebalancing. Therefore, the total value of transactions in long-term mutual fund shares may be overestimated. Accordingly, the share of mutual fund transaction value processed by Fund/SERV may be underestimated. We also recognize that the aggregate value reported by Fund/SERV may or may not include the value of mutual fund transactions via DCC&S. To the extent that the reported value excludes such transactions, the share of mutual fund transaction value processed by Fund/SERV may be further underestimated. We solicit comments on these statistics.

[444] *See id.*

[445] Mutual fund transfer agents are those transfer agents that answered with a positive value for any of Items 5(d)(iii–iv), 6(a–c)(iii–iv), or 10(a) on a Form TA–2. We note that the identified mutual fund transfer agents may serve both open-end and closed-end funds. To the extent that some of the identified transfer agents only serve closed-end funds, the number of affected transfer agents may be over-estimated.

definition of the liquidity buckets, including illiquid investments. Whereas the existing rule provides funds with a considerable level of discretion regarding how fund investments are classified, as well as regarding the determination of a highly liquid investment minimum, the proposed rule would reduce that discretion and is intended to prepare funds for future stressed conditions by improving the quality of liquidity classifications by preventing funds from over- or under-estimating the liquidity of their investments, including in times of stress. The proposed rule is also intended to provide classification standards that are consistent with more effective practices the staff has observed across funds. As a result, we expect enhanced liquidity across open-end funds and lower risk of a fund not being able to meet shareholder redemptions without significant investor dilution, which could reduce the risk of runs arising from the first-mover advantage. Thus, the proposed amendments may improve overall market resiliency.

The proposed amendments to the liquidity risk management program would impose costs on open-end funds. We estimate, for Paperwork Reduction Act purposes, that the modification of existing collection of information requirements of rule 22e–4 will result in an annual cost increase of $7,101 per fund.[446] In addition, funds may experience other costs related to changing business practices, computer systems, integrating new technologies, etc. We are not able to quantify many of these costs for several reasons. First, we do not have granular data on the current systems, business practices, and operating costs of all affected parties, which would allow us to estimate how their systems and practices would change along with any associated costs. Second, we cannot predict how many funds would respond to the proposed changes to the liquidity risk management program by changing their portfolio allocation in order to be compliant with the proposed highly liquid investment minimum and the 15% limit on the illiquid investments and how many funds may choose to convert to the closed-end form or cease to exist. Finally, we cannot predict how many investors would decide to exit open-end funds in a response to the portfolio allocation changes that funds may implement as a result of the proposed amendments to the liquidity risk management. We request comment on these and other potential costs of the proposed changes to the liquidity risk management program, particularly any dollar estimates of the costs that funds and other affected parties will incur as a result of the rule.

a. Methodology for Liquidity Classifications

The proposed rule would substitute the fund's reasonably anticipated trade size determination with a stressed trade size (''STS'') determination, with an STS being a set percentage of the fund's net assets. The proposed rule would also prescribe specific methods to determine when a price change should be considered ''significant'' and remove the funds' ability to perform liquidity classification at the asset-class level.

Generally, the three proposed amendments to the liquidity classification methodology may help funds to prepare better for future stress events or periods of high levels of redemptions by improving the quality of liquidity classifications via the requirement for more frequent classification and making the methodology more disciplined, objective, and consistent across funds. This, in turn, may help funds meet investor redemptions without significant trading costs, potentially decreasing dilution risk. We recognize, however, that the proposed liquidity classification methodology would still be dependent on the size of an investment position within a fund's portfolio relative to the size of the market for the investment. Therefore, although funds would follow a more standardized methodology for liquidity classifications, the same investment could be classified differently by different funds, depending on how much of this investment a fund holds, thereby reducing comparability of liquidity classifications between different funds. The specific economic effects for each of three proposed amendments are discussed below.

i. Replacing Reasonably Anticipated Trade Size With Stressed Trade Size

Funds may currently use their subjective judgment when determining the meaning and calculation of reasonably anticipated trade size. The proposed requirement to replace the reasonably anticipated trade size with the STS as a set percentage of a fund's net assets would decrease such subjectivity because funds would no longer have discretion in determining the amount of each investment they should assume will be sold or disposed of in determining the liquidity classifications. A stricter methodology for liquidity classifications of funds' investments may be more objective and consistent, which would benefit investors by improving funds' ability to meet investor redemptions without significant levels of dilution in both normal and stressed market conditions. In particular, requiring a fund's classification model to assume the sale of the proposed stressed position size would better emulate the potential effects of stress on the fund's portfolio and help better prepare a fund for future stress or other periods where the fund faces higher than typical redemptions. In addition, to the extent that the proposed STS would be simpler and more objective than the determination of a reasonably anticipated trade size, all else equal, the operational burden or costs that funds currently experience in making liquidity classifications may be reduced.

We also propose to set the STS minimum of 10%. Based on an analysis of historical weekly fund flows for equity and fixed income funds, we estimate that a random fund in a random week has approximately a 0.5% chance of experiencing redemptions in excess of the 10% STS, and there were 3.4% of weeks where more than 1% of funds experienced net redemptions exceeding 10%.[447] Although this data analysis implies that funds infrequently experience redemptions of 10% or more, we believe that the 10% STS has the advantage of simulating a stress event and would better prepare funds to accommodate redemptions during such events. Although funds could consider events larger than 10% for their STS calculation voluntarily, we believe that the proposed requirement would achieve a more consistent methodology for liquidity measurement across funds.

[446] *See infra* section IV.B.

[447] An analysis of historical Morningstar weekly fund flow data for equity and fixed income funds from 2009 through 2021 shows that the 1st percentile flow is approximately −6.6% while the 5th percentile flow is approximately −1.3%. The same analysis shows that the 10% STS corresponds to approximately the 0.5th percentile of pooled weekly fund flows. The same analysis shows that if the 5th percentile fund flow is computed for each week, it never exceeds the 10% STS. If the 1st percentile fund flow is computed for each week, it exceeds the 10% STS for approximately 3.4% of the weeks in the sample.

However, we recognize that specific funds may experience varying costs and benefits associated with the 10% STS. For example, two funds with comparable levels of AUM but with underlying investments that have different liquidity characteristics may experience stress at different levels of redemptions. For example, a large-cap equity fund may not experience stress at the 10% level of redemptions, whereas a fixed income fund with comparable AUM might. As such, the extent to which investors of a given fund benefit from the 10% STS will vary based on the liquidity of its underlying investments.[448]

Funds and their investors may incur costs as a result of replacing reasonably anticipated trade size with the STS. To the extent that funds would assign a higher liquidity category under the current reasonably anticipated trade size approach compared to the liquidity category that would be assigned using the proposed STS, the proposed amendment may result in funds rebalancing their portfolios in order to meet the highly liquid investment minimum and to comply with the limit on the illiquid investments. As such, a fund either may have to increase its holdings of highly liquid investments or decrease its holdings of moderately liquid and illiquid investments. As a result, the risk-return profile of the fund's portfolio would change towards more liquid and less risky investments that may have lower returns. To the extent that such reallocation would result in deviations from a benchmark return (if any), funds may experience higher tracking error.[449] In addition, to the extent that investors seek particular risk exposures and returns that would be difficult for the affected funds to provide under the proposed amendments, the proposed amendments may drive them towards other investment vehicles that do not face daily redemptions, such as closed-end funds, or to other vehicles or means of investing that are not subject to the liquidity rule, such as separately managed accounts or CITs. However, to the extent that these other vehicles or means of investing do not offer the same investment strategies or do not provide the same benefits and protections as the open-end funds to investors, investors may find such investment avenues less favorable compared to open-end funds. As a result, the set of investment options available to investors with particular risk-return preferences may decrease.

ii. Determining a Significant Change to Market Value

Under the current rule, a fund may determine value impact (a ''significant price change'') in a variety of ways, including methods that depend on the type of asset, or vendor, model, or system used. The proposed amendments would establish a uniform standard of how funds should determine what constitutes a significant price change, which would improve consistency and objectivity of liquidity classification methodologies across mutual funds. To the extent that some funds may currently use definitions of a significant price change that result in under-estimation of the price impact and classification of investments in more liquid categories, the proposal would limit the extent to which funds are able to do so. This, in turn, would help funds to prepare better for potential stress events and potentially reduce the risk of not being able to meet investors' redemptions without incurring significant trading costs, thereby decreasing dilution risk. The proposed amendment may also decrease ongoing costs related to the liquidity classification process, all else equal, by reducing the number of determinations a fund must perform during the liquidity classification process.

For shares listed on a national securities exchange or a foreign exchange, the proposed rule would require funds to use an average daily trading volume threshold of 20% to determine whether a trade will cause a significant price change.[450] Funds will have less discretion in this circumstance than under the existing rule. This should result in a more robust and consistent liquidity classification process that would help ensure that the liquidity classifications for all holdings of a certain investment of particular size are classified in the same manner across funds which, in turn, may help all funds to prepare better for periods of high investor redemptions.

For any investments other than shares listed on a national securities exchange or a foreign exchange, the proposed rule would define a significant change in market value as any sale or disposition that a fund reasonably expects would result in a decrease in sale price of more than 1%, which is the measure used in several commonly employed liquidity models.[451] This alternative measure is proposed because we recognize that average daily trading volume in, for example, a single bond issue would not be representative because it does not represent the full pool of liquidity available for a debt security, since bonds are split into many different issues and differ from common shares, where volume is concentrated because there generally is only one class of shares for each issuer.

Although not all liquidity classification models currently specify a price decrease explicitly as the determination for a significant change in market value, we believe it would improve the quality of classifications to require a more objective principle. However, the proposed rule may still result in some heterogeneity in how funds classify otherwise similar holdings because funds and liquidity classification vendors would still be able to choose which price impact model to use for their classifications,[452] depending on the assumptions of the fund or a liquidity classification provider. As a result, liquidity classifications for the same investment of the same size may vary across funds, to the extent that funds or liquidity classification vendors have different theoretical assumptions about the same investment. For example, it may be difficult to choose a price impact model for assets that do not have readily available recent price information, and funds may have to use subjective judgment in determining the sale amount that constitutes a significant change in market value. To the extent that such subjectivity could still result in over-estimation of liquidity of funds' investments, the potential increase in the ability of funds to meet investors' redemptions without significant dilution under the proposed rule may be lower than anticipated. In addition, to

[448] *See also* section III.B.4.a.ii for discussion of fund flows based on fund type.

[449] Tracking error is the difference between the fund's return and that of the benchmark which measures how closely a fund replicates the returns of the identified benchmark.

[450] *See supra* section II.A.1.a.ii.

[451] *Id.*

[452] There are various estimation techniques for price impact (market impact), such as those that use linear models, power law models, log models, I–STAR model, and other. *See, e.g.,* Albert S. Kyle, *Continuous Auctions and Insider Trading,* 53 Econometrica, 1315 (1985), Robert Almgren et. al., *Direct Estimation of Equity Market Impact,* 18 Risk 58 (2005); Elia Zarinelli et. al., *Beyond the Square Root: Evidence for Logarithmic Dependence of Market Impact on Size and Participation Rate,* Market Microstructure and Liquidity no. 2 (Dec. 5, 2014) *available at https://arxiv.org/pdf/1412.2152.pdf;* Bence Toth, *et.al, Anomalous Price Impact and the Critical Nature of Liquidity in Financial Markets* (working paper, Nov. 1, 2011), *available at https://arxiv.org/abs/1105.1694;* Robert Kissell et. al., Optimal Trading Strategies: Quantitative Approaches for Managing Market Impact and Trading Risk, (AMACON 2003); Saerom Park et. al., *Predicting Market Impact Costs Using Nonparametric Machine Learning Models* (research article Feb. 29, 2016), *available at https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0150243.*

the extent that the reference price against which the price impact is calculated is stale for some investments (*i.e.,* investments that are traded infrequently), the estimated trading volume that would not cause a significant price change may be less accurate for such investments.

iii. Removing Asset Class Classification

The proposal to remove funds' ability to perform liquidity classifications at the asset-class level may improve the quality of liquidity classifications by reducing the potential of funds over- or under-estimating the liquidity of their investments. Currently, because the definitions of asset classes are not consistent across funds in terms of their scope and granularity, an investment (of the same size) could be classified as belonging to different asset classes by different funds. Moreover, if a classification is performed on an asset-class basis, changes in liquidity profiles of individual investments may not be accounted for in the way these investments are classified, which may lead to an over- or under-estimation of funds' investments' liquidity. In contrast, under the proposal, funds would more specifically gauge the liquidity of each investment, which could strengthen their liquidity management, potentially decreasing the risk of not being able to meet investors' redemptions without significant costs that could arise from an over-estimation of fund's investments' liquidity. To the extent that the liquidity classifications of investments within the same asset class would not differ between asset-level and investment-level classifications, the proposal to remove funds' ability to perform liquidity classifications on the asset-class level may increase ongoing operational burden for funds that rely on this classification method without any commensurate benefits. However, the asset-class level classification is not expected to be compatible with other proposed changes to the liquidity risk management program, such as the value impact standard. Specifically, a fund would not be able meaningfully to apply a standard based on average daily trading volume or a price decline in a given investment at the asset class level because the average trading volume, or market depth generally, can vary from investment to investment even within the same asset class.

b. Removal of the Less Liquid Category

We propose to eliminate the less liquid investment category. Currently, investments are defined as less liquid if it is reasonably expected that they could be sold within seven calendar days but the sale is reasonably expected to settle in more than seven days. Under the proposal, investments that do not sell and settle within seven calendar days without significant price change would be classified as illiquid. We believe that the proposal to remove the less liquid category would primarily affect open-end funds that hold bank loan interests, as the most common type of investment in this category is bank loan interests.[453]

On the one hand, recent research suggests that during the period between March 1 and 23 of 2020, bank loan mutual funds experienced outflows of approximately 11% of their AUM; substantially higher than high-yield bond funds (which investors may consider close substitutes to bank loan funds) and all other types of funds.[454] Moreover, these outflows had longer duration, which suggests greater risk of investor runs in these funds. On the other hand, other research [455] examines the resilience of bank loan funds to liquidity shocks and does not find substantial evidence of lower liquidity among bank loan funds compared to corporate bond funds generally. However, the risk of not being able to meet investor redemptions within seven days without significant costs may be higher for bank loan funds compared with other types of funds, as the trading costs related to bank loan fund outflows (including costs associated with obtaining financing to bridge the settlement gap) may be larger than those of other types of funds. Specifically, as noted by LSTA, over the course of the first three weeks of March of 2020, bid-ask spreads for bank loans widened by 288 basis points to a record 422 basis points.[456] In contrast, recent research shows that, between February 3 and March 20 of 2020, high-yield corporate bonds' bid-ask spreads widened by an estimated range between 79 [457] and 166 [458] basis points to 102 and 223 basis points respectively.

Moreover, bank loan funds, unlike other funds, experience specific trading costs related to bridging the settlement gap, *i.e.,* the costs related to using financing during the time it takes for a loan trade to settle. Although other types of open-end funds may use bank credit lines, most instruments held by open-end funds do not come with the same level of settlement uncertainty. Because the process of trade settlement for bank loans is not standardized and involves many parties, the settlement process can take longer. Therefore, when an open-end fund sells a bank loan interest, it is possible that the trade will not be settled for an extended amount of time. As shown in Table 7 below, bank loan funds on average use higher amounts of financing via credit lines and use them for longer/shorter period of time on average.

TABLE 7—OPEN-END FUNDS' USE OF CREDIT LINES BY FUND TYPE, AS OF DECEMBER 2021 [459]

	Number of funds	Has line of credit	Used line of credit	Avg. credit line use	Avg. number of days used
Bank Loan	56	48	9	$29,411,240	114

[453] *See supra* section III.B.4.a.

[454] Nicola Cetorelli et. al., *Outflows From Bank-Loan Funds During COVID–19,* Federal Reserve Bank of New York, Liberty Street Economics (June 16, 2020), *available at https://libertystreeteconomics.newyorkfed.org/2020/06/outflows-from-bank-loan-funds-during-covid-19/. See also* Ayelen Banegas & Jessica Goldenring, *Leveraged Bank Loan Versus High Yield Bond Mutual Funds, Fin. & Econ. Discussion Series 2019–047* (Board of Governors of the Federal Reserve System, Washington, DC), Jun. 2019, (''Banegas/Goldenring paper'') *available at https://www.federalreserve.gov/econres/feds/leveraged-bank-loan-versus-high-yield-bond-mutual-funds.htm.* This paper finds that, as of end of 2018, flows as a share of assets have been larger and more volatile for bank loan funds than for high-yield bond funds.

[455] Mustafa Emin et. al., *How Fragile Are Loan Mutual Funds*? (working paper, Nov. 18, 2021) *available at https://ssrn.com/abstract=4024592* (retrieved from SSRN Elsevier database).

[456] *See* Loan Syndication & Trading Association (LSTA), *March Loan Returns* (April 2, 2020), *available at https://www.lsta.org/news-resources/march-loan-returns-total-12-37.*

[457] *See* Nina Boyarchenko, et. al., *It's What You Say and What You Buy: A Holistic Evaluation of the Corporate Credit Facilities* (working paper no. 8679, Nov. 11, 2020), *available at https://ssrn.com/abstract=3728422* (retrieved from SSRN Elsevier database).

[458] *See* Simon Gilchrist, et. al., *The Fed Takes On Corporate Credit Risk: An Analysis of the Efficacy of the SMCCF* (working paper no. 2020–18, Apr. 20, 2021), *available at https://ssrn.com/abstract=3829900* (retrieved from SSRN Elsevier database).

[459] N–1A RIC credit line usage is from Form N–CEN, and excludes ETFs and MMFs. Data is as of Dec. 2021, incorporating filings received through June 3, 2022.

TABLE 7—OPEN-END FUNDS' USE OF CREDIT LINES BY FUND TYPE, AS OF DECEMBER 2021 [459]—Continued

	Number of funds	Has line of credit	Used line of credit	Avg. credit line use	Avg. number of days used
Other Categories	8,979	5,462	969	8,431,142	24
Total	9,035	5,510	978	8,624,210	24

In contrast, high yield bonds primarily have T+2 settlement. Although high yield bonds may have the same or lower liquidity compared to bank loans,[460] from the perspective of funding investor redemptions, bank loans are less certain to be converted to U.S. dollars within a specific timeframe. As a result, when engaging in financing to bridge the settlement gap, a fund that sells a high-yield bond would likely use the credit line only for two days while a fund that sells a bank loan will have to use it for a longer period. This, in turn, may increase the risk of bank loan funds not being able to meet investor redemptions within seven days without imposing additional financing costs on fund investors, which may increase dilution. Therefore, we believe that a limit on the amount of time a trade is reasonably expected to settle and convert to U.S. dollars to qualify as a non-illiquid investment is intended to promote liquidity in open-end funds and reduce investor dilution from trading costs, including wide bid-ask spreads and the costs related to bridging the gap between the maximum time allowed to meet investor redemptions and prolonged settlement of certain investments.[461]

The removal of the less liquid category may also reduce the risk of runs in the open-end fund sector. As discussed above, bank loan funds may be more prone to sector-wide outflows compared to other types of funds due to the low dispersion of returns across bank loan funds (*i.e.,* the correlation of bank loan fund returns is higher relative to the correlation of returns for other types of funds), which may lead to further redemptions and higher investor dilution, and may consequently be amplified by a fund's usage of financing for a prolonged period of time. To the extent that bank loan funds rebalance their portfolios to hold bank loans with shorter settlement times, investor dilution and the risk of runs on bank loan funds may be reduced.

Open-end funds may experience costs as a result of this amendment.[462] First, open-end funds would experience a one-time switching cost to adapt the classification and reporting systems for the removal of the less liquid category, which would be passed on to funds' investors. To the extent that the settlement time for bank loan interests cannot be reduced, these loan interests would have to be reclassified as illiquid. As a result, funds that hold these investments may be required to rebalance their portfolio by divesting from bank loans interests in order to comply with the maximum allowed allocation towards illiquid investments, which may result in both aggregate holdings and individual portfolio concentrations of bank loan interests among open-end funds to be reduced. Such portfolio reallocation may result in one-time switching costs that would be passed on to investors. In addition, to the extent that portfolio concentration of bank loan interests decreases significantly for some bank loan funds as a result of the proposal, these funds' investment strategy would have to be redefined. Moreover, to the extent that some funds would not be able to successfully rebalance their portfolios away from bank loan interests with longer settlement times without losing investors, these funds may cease to exist or may seek shareholder approval to convert to a closed-end form.

Furthermore, to the extent that such portfolio reallocation results in lower fund returns, this may drive investors of these funds to either substitute their investments in open-end bank loan funds to other types of open-end funds or choose other types of funds or investment vehicles that are able to hold higher amounts of bank loan interests. To the extent that these other vehicles or means of investing do not offer the same investment strategies or do not provide the same benefits and protections as the open-end bank loan funds to investors, investors may find such investment avenues less favorable compared to open-end bank loan funds. As a result, the set of investment options available to investors with this particular strategy preference may decrease. This effect may be more pronounced for retail investors who generally have limited access to the bank loan market and to private funds that may hold bank loan interests.

To the extent that investor demand for holding bank loans in a fund structure is high, some funds may choose to restructure as closed-end funds, in order to be able to keep their current holdings of bank loan interests. The funds that choose to do so may experience one-time switching costs related to shareholder votes for the fund conversion, such as costs of preparing and distributing proxy materials and costs associated with the solicitation process.[463] In addition, some investors may rush to redeem their shares before the conversion which may increase dilution of the remaining investors.

However, we recognize that while operational constraints may play a role in why settlement times for bank loan interests are prolonged, misaligned incentives of trading parties (such as delayed settlement compensation) and a collective action problem may also be important factors in determining settlement time for bank loan interests.[464] Therefore, to the extent that it is currently operationally possible to have a shorter settlement time for bank loan interests, and to the extent that non-fund transaction parties would be able to speed up the settlement process at a relatively low cost, open-end bank loan funds may not have to rebalance their portfolios or restructure to a closed-end form under the proposal.

[460] *See supra,* note 455. Authors show that, controlling for the fund size and rating, bank loan liquidity is similar to or greater than liquidity of similarly rated public bonds. The authors construct two indirect measures of liquidity: the first measure is based on the difference between the transaction prices and net asset values (NAVs) of shares of loan and high yield bond ETFs; the second measure is the perceived liquidity of corporate bonds based on the relationship among cash holdings, flow volatility, and fund holdings. *See also* Sergey Chernenko & Adi Sunderam, *Measuring the Perceived Liquidity of the Corporate Bond Market* (working paper no. 27092, May 2020), *available at https://www.nber.org/papers/w27092.*

[461] *See also* section II.A.1.b.iii.

[462] We recognize that those funds that primarily hold bank loan interests with shorter settlement times may be less affected by this proposed amendment. For example, loans that are larger in size, more standardized, and more frequently traded, such as those that are a part of S&P/LSTA U.S. Leveraged Loan 100 Index, may have shorter settlement times.

[463] We recognize that there may be other costs funds could incur to convert to a closed-end fund, such as potential exchange listing costs or costs of conducting periodic repurchase offers.

[464] *See supra* section II.A.1.b.i and note 106.

c. Definition of Illiquid Investments

We propose to amend the definition of illiquid investments to include investments whose fair value is measured using an unobservable input that is significant to the overall measurement.[465] We recognize that, in light of the proposed removal of the less liquid category, only a small fraction of these investments that are classified as highly liquid or moderately liquid would be affected by this proposed amendment. We estimate that approximately 0.07% of all open-end fund assets would be affected by this amendment.[466] Therefore, we do not anticipate that this amendment would significantly impact open-end fund sector.

This amendment may improve the quality of investments' liquidity classifications. To the extent that valuation using unobservable inputs that are significant to the overall measurement may have an increased risk that the fund cannot sell the investment in time to meet redemptions without dilution, classifying such investments as illiquid may reduce this risk. To the extent that this risk results in investor dilution, and to the extent that the overall open-end funds' holdings of these investments would decrease as a result of this amendment, investor dilution may be reduced and overall liquidity of funds that hold such investments may increase as a result.

Although we understand that some funds already have a practice of classifying these investments as illiquid, this amendment may result in a one-time switching cost for funds that do not currently follow this practice. In addition, to the extent that some funds hold a significant share of their portfolio in such investments and these investments are not currently classified as illiquid, these funds would have to rebalance their portfolios and potentially change their investment strategy.

d. Proposed Minimum for Highly Liquid Investments

Rule 22e–4 currently requires a fund to determine a highly liquid investment minimum if it does not primarily hold investments that are highly liquid investments. We propose for open-end funds to have a highly liquid investment minimum of at least 10% of the fund's net assets, which is the assumed stressed trade size.[467] In addition, we propose to remove the provision allowing funds not to establish a highly liquid investment minimum if they ''primarily'' hold highly liquid assets.

Requiring a highly liquid investment minimum that is equal to or above the assumed stressed trade size of 10% of net assets may benefit funds and their investors by creating more standardized liquidity risk management among funds, thereby increasing their liquidity and helping all mutual funds to be better prepared to meet investor redemptions without incurring significant trading costs. A higher amount of liquid assets may help fund managers to avoid transacting at fire-sale prices during market stress and, therefore, control trading costs better over time. This, in turn, may decrease dilution risk for fund shareholders.[468] By requiring a minimum of 10% of highly liquid assets, we set a minimum baseline level of liquidity that would help reduce dilution risk.

Funds may experience costs as a result of the proposed requirement. We recognize that funds that currently have an established highly liquid investment minimum already have the procedures in place for ongoing monitoring for meeting the minimum. As such, we do not expect the direct compliance costs related to meeting the highly liquid investment minimum, such as monitoring costs and costs related to shortfall policies and procedures, to increase for these funds. However, those funds that have an established minimum of less than 10% may have to rebalance their portfolios in order to meet the proposed requirement if they do not hold more highly liquid investments than the proposed requirement. In addition, funds may need to shift their portfolios away from less liquid holdings, potentially leading to higher tracking error relative to their benchmarks (if any)[469] and lower returns. However, a higher amount of liquid investments may help fund managers to control trading costs better over time, which may result in a higher long-term returns for investors. Therefore, the return loss of holding more liquid investments (relative to less liquid investments) may be fully or partially offset by the savings on funds' trading costs.[470]

To the extent that some open-end funds' portfolio allocations change significantly as a result of this proposal, these funds may experience additional costs related to disclosure of changes to the fund's allocations and/or strategy and costs related to a potential change of the fund's name. These costs would be passed on to fund investors.

Funds that do not currently have an established highly liquid investment minimum may experience a one-time switching cost related to establishing shortfall policies and procedures and to reviewing the highly liquid investment minimum at least annually as a result of the proposed amendment. Funds may also experience one-time switching costs related to establishing monitoring procedures related to the highly liquid investment minimum. To the extent that some funds that do not currently have an established highly liquid investment minimum are able to leverage the experience of the funds in the same complex that do have an established highly liquid investment minimum, these one-time switching costs may be reduced for these funds.

The proposal to remove the provision allowing funds to not establish a highly liquid investment minimum if they ''primarily'' hold highly liquid assets may eliminate compliance costs related to monitoring whether a fund primarily holds highly liquid assets. Because funds that hold a substantial amount of highly liquid investments would generally hold an amount of highly liquid investments that is above the proposed 10% highly liquid investment minimum, a separate compliance system that would identify whether a fund ''primarily'' holds highly liquid assets may be operationally inefficient. We believe that the ''primarily'' determination would become unnecessary in light of the proposed highly liquid investment minimum that would be applicable to all funds. We recognize that cost savings from the removal of the ''primarily'' provision would be partially or fully offset by the cost increase stemming from the proposed highly liquid investment minimum because funds currently relying on the ''primarily'' provision would have to build a compliance and monitoring systems around the highly liquid investment minimum.

e. Amendments to Calculation of the Amount of Assets That Count Toward the Highly Liquid Investment Minimum or the Limit on Liquid Investments

We also propose to amend how the highly liquid investment minimum calculation and the calculation of the 15% limit on illiquid investments

[465] *See supra* note 112.

[466] *See supra* section III.B.4.a.

[467] *See supra* note 69 (recognizing that in-kind ETFs would not be subject to the proposed highly liquid investment minimum amendments).

[468] Section III.B.3.b analyzes the frequency of large percentage redemptions from funds. We recognize that if a fund were to experience a 10% redemption, it could sell primarily its highly liquid assets (which would then be significantly more than 10% of each of these holdings), or it could sell a vertical slice of its portfolio, in which case it would sell 10% of all assets.

[469] *See supra* note 449.

[470] *See supra* note 351 and accompanying text.

account for the value of assets that are posted as margin or collateral for certain derivatives transactions, as well as the value of fund liabilities in the case of the highly liquid investment minimum. Specifically, in assessing compliance with the fund's highly liquid investment minimum, the proposal would require a fund to: (1) subtract the value of any highly liquid assets that are posted as margin or collateral in connection with any derivatives transaction that is not classified as highly liquid; and (2) subtract any fund liabilities. In addition, the proposal would amend the rule's limitation on illiquid investments to provide that the value of margin or collateral that a fund could only receive upon exiting an illiquid derivatives transaction would itself be treated as illiquid for purposes of that limit.

The amendments to the highly liquid investment minimum calculation and the calculation of the 15% illiquid investment limit may benefit funds and investors. Particularly, these amendments would require funds to calculate the amount of highly liquid investments and illiquid investments in a way that more accurately reflects the amount of assets a fund could sell quickly to meet redemptions without significant dilution and the amount of assets that could not be sold within seven days without significant trading costs respectively. This, in turn, would better prepare funds for periods of increased investor redemptions and thereby enhance investor-protection benefits of funds' liquidity risk management programs.

More specifically, we recognize that, although investments used for collateral are generally classified as highly liquid, the value of those highly liquid investments cannot be accessed unless the derivative is exited, which takes a longer time for derivatives classified as moderately liquid or illiquid. In addition, an unrealized loss on a derivative or other liability may result in a margin call, for which highly liquid investments may be used. Moreover, if a fund may use highly liquid investments to service its liabilities (*e.g.,* paying interest on a loan), this fraction of highly liquid investments would also be unavailable to meet investors' redemptions. While we recognize that funds generally already subtract investment liabilities when calculating highly liquid investment minimum,[471] subtracting all of the fund's liabilities may further reduce the amount of highly liquid investments available to satisfy the fund's highly liquid investment minimum. Therefore, the amendments to the highly liquid investment minimum calculation would help to ensure that highly liquid investments used to satisfy the fund's highly liquid investment minimum actually are available to meet shareholder redemptions.

Similarly, the proposed amendment to add the value of excess collateral of illiquid derivatives investments to the amount of illiquid investments for the purposes of determining compliance with the 15% limit on illiquid investments would limit the extent to which the fund's assets would be unavailable to meet redemptions because of the fund's associated illiquid derivatives investments. This amendment would effectively increase the amount of illiquid investments a fund holds, potentially pushing these holdings over the 15% limit and triggering the compliance procedures for going over the limit, which may impose additional costs on the fund.

The proposed amendments may result in funds rebalancing their portfolios in order to meet the highly liquid investment minimum and comply with the limit on illiquid investments. Depending on the value of highly liquid assets a fund has that are posted as collateral or margin for non-highly liquid derivatives and the value of the fund's liabilities relative to the fund's total amount of highly liquid investments, under the proposed amendment, a fund may have to either increase its holdings of highly liquid assets or decrease its holdings of moderately liquid and illiquid derivatives in order to meet the highly liquid investment minimum. A fund similarly may have to decrease its holdings of illiquid investments or increase its holdings of highly liquid or moderately liquid investments as a result of the proposed amendment to the calculation of the limit on illiquid investments. To the extent that such portfolio reallocation would significantly change a fund's strategy, funds may experience additional costs related to disclosure of changes to the strategy. In addition, the risk-return profile of the fund's portfolio may change towards more liquid and less risky investments that may have lower returns. To the extent that some investors demand higher returns, they may choose to invest in other investment vehicles that could offer higher returns.

f. Other Amendments Related to Liquidity Categories

We also propose other amendments related to the liquidity classification categories. First, we propose to amend the term "convertible to cash" and its definition to instead refer to conversion to U.S. dollars, codifying prior Commission statements. Second, we propose to specify that funds must count the day of classification when determining the period in which an investment is reasonably expected to be convertible to cash. Third, we propose to simplify the definition of moderately liquid investments as those that are neither a highly liquid investment nor an illiquid investment.

To the extent that, at present, open-end funds use differing definitions of convertible to cash and may inconsistently include or exclude the day of liquidity classification when performing the classifications, the two related proposed amendments would benefit funds and investors, as these amendments may improve the quality of liquidity classifications by reducing over- or under-estimation of investments' liquidity, thereby potentially reducing trading costs related to investors' redemptions. On the other hand, open-end funds that do not currently define "convertible to cash" as convertible to U.S. dollars, which may include some funds that invest in foreign securities, and open-end funds that do not currently count the day of classification during the classification process may experience a one-time switching cost. In addition, these funds may have to rebalance their portfolios, to the extent that their current approach results in an over-estimation of investments' liquidity.

g. Frequency of Liquidity Classifications

Currently, rule 22e–4 requires that funds review their liquidity 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 their investments' classifications. We propose to require that funds classify all of their portfolio investments each business day.

To the extent that funds already monitor their classifications on a daily basis in order to be in compliance with the current highly liquid investment minimum and 15% limit on illiquid investments requirements, we believe that this amendment likely will not produce significant additional benefits or costs. However, to the extent that funds do not monitor their classifications daily, or to the extent that monitoring classifications is a less stringent procedure relative to performing classifications for the funds that do monitor classifications daily, this amendment may produce benefits and costs.

[471] *See supra* section II.A.2.b.ii.

On the one hand, requiring daily liquidity classification could help ensure efficient implementation of funds' liquidity management programs and enhance their investor protection benefits. Specifically, daily liquidity classifications may help funds identify changes in liquidity profiles of their investments in a timelier manner and monitor potential increases in trading costs for specific investments, thereby preparing funds for more efficient trading during times of increased redemptions and increasing their ability to respond more quickly to rapid changes in liquidity of portfolio investments, which may decrease investor dilution. In addition, the daily classification requirement, in combination with the proposed standards for trade size and value impact, may make the liquidity classification process more standardized, timely, and efficient.

On the other hand, funds may experience a one-time set-up cost and increased ongoing costs as a result of this amendment. First, those funds that generally do not evaluate their classifications more frequently than monthly would have to change their systems for performing classifications on a daily basis. In addition, these funds would experience increased ongoing costs due to increased frequency of classifications.[472] Second, those funds that already monitor their classifications on a daily basis would have to change their systems, to the extent that monitoring classifications on a daily basis is a different procedure compared to the proposed requirement to perform classifications.

In addition, in times of market stress some highly liquid investments may become less liquid due to unusual selling pressure (*e.g.,* Treasuries during March 2020), and more frequent classification may move these investments to less liquid buckets. In such instances where funds do not typically expect highly liquid investments to decrease in liquidity, more frequent reclassification of these investments may not help funds better accommodate increased redemptions compared to the baseline.[473] However, to the extent funds would prefer to avoid triggering events that would cause additional compliance requirements such as Form N–RN filings, the potential for some investments to become less liquid in times of market stress could incentivize funds to be more conservative, ex-ante, in how they classify holdings and manage liquidity risk. This, in turn, may result in funds investing in more liquid assets, thereby decreasing the dilution risk in the mutual fund sector.

2. Swing Pricing

The proposed amendments would make several changes to the swing pricing framework adopted by the Commission in 2016. In particular, the proposed amendments would (1) require funds to implement swing pricing for each pricing period when a fund has any amount of net redemptions or when net subscriptions exceed 2% of the fund's NAV; (2) establish specific thresholds that determine when a fund is required to adjust its NAV and the factors a fund needs to incorporate into its swing factor; (3) require that swing factors are calculated assuming a vertical slice of the fund's portfolio; and (4) remove the upper limit on the swing factor of 2%. By requiring all funds to implement swing pricing, the proposed amendments would impose the estimated trading costs associated with redemptions and subscriptions onto investors whose transactions generate these costs, reducing the dilution of non-transacting fund shareholders. As such, the proposed amendments are also intended to reduce the first-mover advantage that stems from the dilution of non-transacting shareholders, particularly during stressed market conditions.

The proposed swing pricing framework would impose costs on mutual funds that would be passed on to their investors. We estimate, for Paperwork Reduction Act purposes, that the modification of existing collection of information requirements of rule 22c–1 associated with establishing and implementing swing pricing policies and procedures, board reporting, and recordkeeping will result in an annual cost increase of $7,775 per fund.[474] Funds would also incur additional operational costs associated with establishing and implementing swing pricing policies and procedures, including the periodic calculation of swing factors associated with the swing pricing framework's thresholds.[475] In addition, the economic benefits of swing pricing would be offset by the costs associated with the proposed hard close requirement.[476] Finally, to the extent that the proposed swing pricing framework would make mutual funds less attractive to investors, mutual funds may experience investor outflows and/or reduced inflows.

We are not able to quantify many of the costs associated with the proposed swing pricing framework for several reasons. First, we do not have granular data on the current practices and operating costs for all funds, which might allow us to estimate how their systems would change as a result of the proposed swing pricing requirement. Second, we cannot predict the number of investors that would choose to keep their investments in the mutual fund sector nor the number of investors that would exit mutual funds and instead invest in other fund structures such as ETFs, closed-end funds, or CITs. We also cannot estimate how many funds would choose to upgrade their systems and processes in order to comply with the proposed swing pricing requirement versus how many funds would instead convert to an ETF or a closed-end structure. We request comment on the full costs of the swing pricing requirement, particularly any dollar estimates of the costs that funds and other affected parties will incur as a result of the rule.

a. Mandatory Swing Pricing

At present, rule 22c–1 permits mutual funds to use swing pricing, and yet no U.S. open-end fund has chosen to use it as an anti-dilution tool. We propose to require all affected mutual funds to use swing pricing. In particular, we propose to require every fund to establish and implement swing pricing policies and procedures that would adjust the fund's NAV per share by a swing factor either if the fund has net redemptions of any amount or if the fund has net

[472] Under the proposed amendments, a more frequent classification may not necessarily result in more frequent portfolio rebalancing. For example, if a fund exceeds the 15% illiquid threshold, it would not have to sell its illiquid investments, rather it would not be able to acquire more. In addition, if a fund falls below the highly liquid investment minimum, it would still be able to purchase and sell highly liquid investments. However, both of these events would trigger filing of Form N–RN.

[473] For example, during Mar. 2020 the liquidity of U.S. government securities unexpectedly decreased. Under the proposal, this event would trigger more rapid re-classification into a lower liquidity category. However, because of the unexpected nature of this event, a fund would still not be prepared to immediately meet an increased level of redemptions.

[474] *See infra* section IV.C.

[475] Note that the swing factor itself in theory does not impose a net cost across all types of shareholders. Instead, swing pricing affects a zero-sum distribution of estimated future trading costs among transacting and non-transacting shareholders. The dilution that different types of fund shareholders ultimately experience will reflect this distribution in addition to the actual trading costs incurred by the fund from transactions that accommodate investor subscriptions or redemptions. Beyond the economic effects of the swing factor itself, the processes for calculating and applying the factor as well as the hard close will impose additional costs on all shareholders and intermediaries, which are discussed below.

[476] *See infra* section III.C.3 for a detailed discussion of benefits and costs of the proposed hard close requirement.

subscriptions that exceed an identified threshold.

We expect the proposed mandatory swing pricing requirement to benefit investors. First, swing pricing 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. In contrast, currently, investors transacting in fund shares generally do not bear the costs associated with their trading activity, imposing dilution on non-transacting shareholders.[477] For example, an industry study on the use of swing pricing in other jurisdictions estimates that dilution effects can be significant, with effects on annual returns of selected funds in one complex ranging from 10 to 66 basis points in 2019.[478] While these estimates from other jurisdictions may be based on fund transaction cost components that differ from the U.S., such as those associated with government taxes and levies, to the extent that dilution effects are comparably significant in the U.S., the proposed mandatory swing pricing requirement would reduce the dilution of non-transacting fund shareholders.[479] Second, mandatory swing pricing could benefit markets overall because it may reduce the first-mover advantage that arises from dilution associated with trading costs. As a result, the proposed amendment may mitigate the risk of runs on mutual funds and may decrease the risk of fire-sales for the funds' underlying investments.

We believe that these benefits may be more pronounced in the case of net redemptions because dilution may be more severe when net redemptions occur. One reason for this asymmetry is that investor redemptions are required to be met within seven days, whereas the money a fund receives from new subscriptions is not required to be invested within a specific timeframe. Therefore, funds must incur the trading costs that exist during the seven days following investor redemptions, regardless of how large or small these costs are. On the other hand, while fund managers may generally accommodate new subscriptions by investing promptly to increase fund returns and reduce tracking error, they may also elect to wait to purchase investments at more advantageous prices or lower trading costs, resulting in lower dilution of non-transacting fund shareholders. Another reason for asymmetry in dilution from redemptions and subscriptions is that large redemptions can have a greater correlation across funds exposed to the same asset class in times of market stress, which in turn may induce more redemptions and further increase trading costs and associated dilution.[480] Therefore, while swing pricing would reduce dilution from trading costs associated with both net subscriptions and redemptions, we believe that the magnitude of this anti-dilution benefit would be greater in the case of net redemptions.

Another potential benefit of the mandatory swing pricing approach is 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. To the extent that such a stigma effect is present in relation to swing pricing, it may deter investors from choosing funds that could implement swing pricing under the optional approach, and that could be a reason why no U.S. fund currently chooses to implement swing pricing.[481] We also recognize that U.S. mutual funds are currently also allowed to implement certain purchase and redemption fee approaches (which do not necessarily require substantial operational changes in contrast to swing pricing), yet these funds do not widely use redemption fees as an anti-dilution tool, possibly because of any stigma attached to anti-dilution tools generally.[482]

The mandatory swing pricing requirement would impose costs on mutual funds, investors, their intermediaries, and other market participants. In addition to the costs associated with the proposed hard close requirement discussed below, mutual funds would experience 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. These costs would ultimately be passed on to fund investors.

To the extent that investors expect an increase in the costs of investing in mutual funds as a result of the proposed mandatory swing pricing, they may choose to divest from the mutual fund sector. To the extent that such investor outflows would be substantial, funds may experience a reduction in their economies of scale, which may lead to a further increase in fund fees. In addition, the mandatory swing pricing approach would reduce the set of investment choices available to investors, relative to the optional approach, where investors can choose to invest in funds that use swing pricing or funds that do not use swing pricing.

The determination and application of a fund's swing factor could delay the publication and dissemination of the fund's NAV relative to current practices. To the extent that intermediaries require NAVs for purposes such as updating and publishing client account statements, they would incur costs updating their operations and systems to adapt to later NAV publication times. In addition, any other market participants, such as financial data aggregators, that depend on fund NAV publication would also incur costs updating their operations and systems to adapt to later NAV publication times.

b. Swing Threshold Framework

The current rule permits a fund to determine its own swing threshold for net purchases and net redemptions, based on a consideration of certain factors the rule identifies.[483] For a fund

[477] In this section when we discuss trading costs, we refer to both direct (*e.g.,* spread costs) and indirect trading costs (*e.g.,* market impact costs).

[478] *See* BlackRock, *Swing Pricing: The Dilution Effects of Investor Trading Activity on Mutual Funds* (white paper, Oct. 2020), *available at https://www.blackrock.com/corporate/literature/whitepaper/swing-pricing-dilution-effects-of-trading-activity-on-mutual-funds-october-2020.pdf.* To our knowledge, such data on fund dilution are not available for the U.S. and we solicit data that could enable quantification of the benefits of swing pricing. *See also supra* section I.B and *supra* notes 59, 60, 61, and 161 for additional discussion of swing pricing experience in other jurisdictions.

[479] *See supra* section III.B.3 for a discussion of other sources that may contribute to dilution. We solicit comment on the relative impact of these sources on dilution. While the proposed swing pricing requirement is unlikely to reduce dilution associated with stale valuations directly, the proposed requirements would nevertheless help mitigate dilution resulting from trading costs associated with strategic trading behavior that may seek to take advantage of stale valuations.

[480] *See, e.g.,* Dunhong Jin et. al., *Swing Pricing and Fragility in Open-End Mutual Funds* (working paper, revised Jan. 7, 2021) *available at https://ssrn.com/abstract=3280890* (retrieved from SSRN Elsevier database). *Also see* section III.B.3 and note 395 for additional research references.

[481] While we recognize that swing pricing has been successfully implemented in other jurisdictions, these other jurisdictions do not have the same regulatory frameworks and investor base, which may influence investors' sentiment towards anti-dilution tools and the extent of the potential stigma effects. In addition, other jurisdictions do not have the same intermediary structures between funds and their investors as in the U.S. *See supra* section III.B.2.

[482] *See supra* note 67 (stating that, based on staff review of fund prospectuses, fewer than 5% of funds impose a redemption fee on at least one share class).

[483] The factors a fund currently must consider in determining the size of its swing threshold are: (1) the size, frequency, and volatility of historical net

Continued

experiencing net redemptions, the proposal would require the fund to apply a swing factor for any level of net redemptions. In addition, the proposed rule would establish a threshold for inclusion of market impact costs in its swing factor when net redemptions exceed 1% of the fund's net assets (the ''market impact threshold''). For funds experiencing net subscriptions, the proposal would require funds to apply a swing factor that accounts for all trading costs (*i.e.,* including market impact costs) when net purchases exceed the threshold of 2% (the ''inflow swing threshold'').

Under the current rule, funds are able to tailor their swing pricing thresholds to their size, the characteristics of their underlying portfolio holdings, and the characteristics of their investor base. While this principles-based approach may be less burdensome for funds, some funds may find it suboptimal to implement swing pricing routinely due to the operational costs of doing so frequently. As a result, they may choose thresholds that reduce the frequency and impact of swing pricing on transaction prices for fund shares. This, in turn, could reduce the benefits of the proposed swing pricing requirement, including protecting non-transacting investors from dilution due to trading costs and reducing the first-mover advantage associated with such costs. Therefore, we believe that a uniform approach to swing thresholds would better protect non-transacting investors in the mutual fund sector by ensuring that trading costs are passed on to transacting investors, regardless of which fund's shares investors hold in their portfolios.

Trading costs incurred by a fund can be dilutive when a fund experiences either redemptions or subscriptions. However, as discussed above, subscriptions are likely to be less dilutive than redemptions. To the extent that determining the swing factor is costly, as discussed below, only requiring funds to do so when net subscriptions exceed 2% would limit the frequency with which funds incur such costs. Based on the analysis of historical daily fund flows in Table 3, a random fund on a random day has approximately a 1% chance of exceeding the inflow swing threshold. In addition, there were only 0.2% of days where more than 5% of funds in the sample experienced net subscriptions exceeding the inflow swing threshold.[484] Therefore, we do not expect most funds to experience the costs of applying a swing factor in the case of net subscriptions frequently. The anti-dilutive benefits of swing pricing in response to net redemptions are likely to be more than those associated with net subscriptions, as discussed above. Therefore, we believe that applying swing factor on any day with net redemptions may benefit non-transacting investors compared to applying swing factor only when a certain threshold is crossed. However, to the extent that applying the swing factor more frequently is costly, these benefits may be offset by such costs.

The proposed market impact threshold of 1% may result in varying costs and benefits for funds and their investors. For example, two funds that invest in underlying assets with similar liquidity characteristics may experience market impact at significantly different levels of redemptions, as measured in percentage, if they are significantly different in size. A 1% redemption from a fund with low AUM may not result in sales of assets that result in market impact, whereas a 1% redemption from an otherwise similar fund with significantly larger AUM might. Similarly, two funds with comparable levels of AUM holding investments with different liquidity characteristics may experience market impact at different levels of redemptions. For example, a large cap equity fund may not experience market impact at the 1% threshold, whereas a fixed income fund with comparable AUM might. As such, the extent to which a given fund and its investors benefit from evaluating market impact at the 1% threshold will vary based on factors such as the fund's size and the liquidity of its underlying investments. For funds that may experience market impact even when redemptions are below the 1% threshold, we note that funds can choose to incorporate market impact into their swing factor at a lower threshold than 1%. To the extent that calculating market impact may be costly, only requiring funds to do so when net redemptions exceed 1% would limit the frequency with which funds incur such costs. We estimate that a random fund on a random date has approximately a 1.6% chance of exceeding the market impact threshold, and there were 2.3% of dates where more than 5% of funds experienced net redemptions exceeding the market impact threshold.[485]

c. Calculation of the Swing Factor

The current swing pricing framework provides an upper limit of 2% for the swing factor and requires that the swing factor take into account only the 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 is used,[486] as well as borrowing-related costs associated with satisfying redemptions; however, it does not specify how a fund should select investments for the purposes of estimating the trading costs and it does not require a fund to include market impact costs in the swing factor.[487] We propose removing the current upper limit of 2% for the swing factor and requiring a fund's swing pricing administrator to make good faith estimates, supported by data, of the overall costs, including market impact costs under certain conditions, that the fund would incur if it purchased or sold a pro rata amount of each investment in its portfolio equal to the amount of net purchases or net redemptions (*i.e.,* a vertical slice).[488] Because a fund would need to calculate its costs based on the purchase or sale of a vertical slice of its portfolio, rather than selecting specific investments to be sold/purchased and estimating the cost of selling/purchasing those specific investments, we propose removing borrowing costs from the swing factor calculation.

i. Vertical Slice Assumption

The vertical slice assumption may benefit investors of the affected funds. Specifically, the vertical slice assumption is designed to recognize the potential longer-term costs of reducing a fund's liquidity and would more fairly reflect the costs imposed by redeeming or purchasing investors than an approach that focuses solely on the costs associated with the instruments that a fund expects to buy or sell (or

purchases or net redemptions of fund shares during normal and stressed periods; (2) the fund's investment strategy and the liquidity of the fund's portfolio investments; (3) the fund's holdings of cash and cash equivalents, and borrowing arrangements and other funding sources; and (4) the costs associated with transactions in the markets in which the fund invests. *See* rule 22c–1(a)(3)(i)(B).

[484] The analysis also shows that if the 99th percentile net fund flow is computed on each date, it exceeds the inflow swing threshold on approximately 34% of days.

[485] An analysis of historical Morningstar daily fund flow data for equity and fixed income funds from 2009 through 2021 shows that the 1st percentile flow is approximately −1.6% while the 5th percentile flow is approximately −0.3%. The same analysis shows that the 1% market impact threshold corresponds to approximately the 0.016 percentile of pooled daily net fund flows. The same analysis shows that if the 1st percentile fund flow is computed on each date, it exceeds the market impact threshold on approximately 84.6% of dates.

[486] These near-term costs include spread costs, transaction fees, and charges arising from asset purchases or asset sales resulting from those purchases or redemptions.

[487] *See* rule 22c–1(a)(3)(i)(C).

[488] *See* proposed rule 22c–1(b)(2).

expected borrowing costs, in the case of redemptions). For example, if investor redemptions continue for multiple days, a fund that sells its most liquid investments on the first day could experience increased trading costs on subsequent days because it has to sell a bigger fraction (relative to a vertical slice) of its less liquid assets. As a result, redeeming investors on subsequent days would be charged more than investors who redeemed on the earlier date via a higher swing factor. In addition, the future costs associated with rebalancing the fund portfolio to its pre-redemption level of highly liquid investments are not currently permitted to be incorporated into the swing factor because they are not near-term costs that may be considered under the current rule. Therefore, the proposed vertical slice assumption would help to ensure that redeeming investors bear not just the immediate trading costs they impose on the fund, but also, in cases where a fund sells its most liquid investments to meet redemptions first, the estimated transaction costs associated with rebalancing the fund's portfolio to its pre-redemption level of highly liquid investments, such that subsequent redeeming investors are not charged for the costs associated with past redemptions.

We recognize that selling a vertical slice of a portfolio in order to meet investor redemptions may not be a practice used by all mutual funds during all times. For example, recent research documents that during tranquil market conditions, corporate bond funds tend to reduce liquid asset holdings to meet redemptions; however, when aggregate uncertainty rises these funds tend to scale down their liquid and illiquid assets proportionally to preserve portfolio liquidity.[489] Another paper finds that some funds holding less liquid assets reacted to redemptions in March 2020 by adding to their cash buffers even after meeting investor redemptions, rather than selling their most liquid assets first or selling a vertical slice of their portfolio.[490] Therefore, we recognize that the vertical slice assumption could result in using estimates of transaction costs in the calculation of the swing factor that differ from the estimated trading costs tailored to a different asset liquidation approach. As a consequence, to the extent that the trading costs estimated based on the vertical slice assumption are higher or lower than estimated trading costs of the fund's portfolio liquidation strategy, redeeming investors may be over- or under-charged relative to the immediate trading costs of a fund's actual liquidation strategy.

ii. Market Impact Costs

We propose requiring funds to include a good faith estimate of market impact costs in the calculation of their swing factors when (1) net subscriptions are above the inflow swing threshold or (2) when net redemptions exceed the market impact threshold of 1%. To the extent that funds are able to forecast market impact costs accurately, this requirement would ensure that transacting investors bear, in addition to direct transaction costs, the estimated impact of their transactions on the ultimate price a fund pays or receives for any investments it buys or sells. This may allow non-transacting shareholders to recapture more of the dilution imposed on the fund by transacting fund investors. As a result, the proposed market impact inclusion may also help reduce first-mover advantage.

Several factors may limit the anti-dilution benefits of including market impact costs in the swing factor. First, funds may incur costs in obtaining reasonable ex-ante estimates of market impact costs, either because they need to pay vendors for such estimates or because they need to exert costly effort to develop such estimates internally. These costs may ultimately be passed on to investors. Second, it may be difficult and sometimes not feasible to develop objective estimates of market impact for some of the investments that mutual funds hold, such as those that generally lack a robust and liquid secondary market (*e.g.,* municipal securities and small-cap equities). In addition, market impact may be more difficult to estimate during periods of stress when trading in certain markets may be limited or stop. Therefore, funds may need to use subjective discretion to determine market impact estimates in certain circumstances, which may result in funds over- or under-estimating the true ultimate market impact costs associated with a given day's orders. This, in turn, would result in over- or under-charging transacting investors, exposing them to additional risk regarding the price at which they will ultimately transact their shares.[491]

Third, because funds would still have some discretion in determining their swing factors, such as discretion over which price impact model is used to estimate market impact, some funds may have an incentive to under- or overestimate their swing factors, depending on the circumstances. For example, a fund may choose to underestimate market impact, biasing the swing factor estimate downwards, in order to attract investors that prefer less volatile transaction prices for fund shares. On the other hand, funds may have an incentive to overestimate market impact and overcharge transacting investors relative to the trading costs they are expected to impose on the fund, because doing so may increase the performance of the fund.[492] However, the proposed requirement that funds report each swing factor on Form N–PORT may mitigate any incentive funds have to under- or overestimate their swing factors, as it will provide public transparency regarding the size of these NAV adjustments.[493]

iii. Removal of the Upper Limit on the Swing Factor

The proposed removal of the upper limit on the swing factor may benefit fund investors by permitting swing pricing to address the dilution that transacting investors impose on a fund more fully. The magnitude of this benefit would depend on how often funds' trading costs exceed the current 2% swing factor. To the extent that trading costs are more likely to exceed this threshold during stressed periods, we expect this amendment to benefit non-transacting fund investors during such periods when dilution may be increasing, which may further address the first-mover advantage related to dilution from trading costs. In addition, to the extent that trading costs for certain types of funds are more likely to exceed the current 2% swing factor, the proposed amendment would ensure that investors in these funds are as protected from dilution as investors in funds for which trading costs generally correspond to a swing factor lower than 2%. These benefits may be partially offset because the removal of the upper limit for the swing factor may also have a destabilizing effect during periods of stress. For example, if investors expect that trading costs will continuously increase, and that the swing factor will

[489] *See* Hao Jiang, et al., Dynamic Liquidity Management by Corporate Bond Mutual Funds, J. Fin. & Quantitative Analysis 1622, no. 5 (Aug. 2021).

[490] *See* Andreas Schrimpf, et. al., *Liquidity Management and Asset Sales by Bond Funds in the Face of Investor Redemptions in March 2020* (Mar. 17, 2021) *available at https://ssrn.com/abstract=3799868* (retrieved from SSRN Elsevier database).

[491] Transacting investors already face market risk when submitting an order to buy or sell fund shares because these orders must be submitted prior to the time at which a fund determines its NAV.

[492] When a fund overcharges transacting investors, the fund increases its assets and hence the performance of the fund.

[493] *See supra* section III.B.4.

increase accordingly, they may be incentivized to redeem their shares at the onset of market stress, when the swing factor is lower.

iv. Removal of Borrowing Costs From the Swing Factor

We propose removing borrowing costs from the costs that should be included in the swing factor. To the extent that the vertical slice assumption would result in higher magnitude swing factors, any decrease in swing factor magnitude due to the proposed removal of borrowing costs from the swing factor calculation may be fully or partially offset. Therefore, we do not expect this aspect of proposal to have substantial effects. Although affected funds would still be allowed to engage in bank or inter-fund borrowing in order to fund investor redemptions, the proposed swing factor calculation will not reflect potential borrowing costs for funds that do use borrowing to fund redemptions.[494] To the extent that these costs are higher than the estimated costs of buying or selling a vertical slice of a fund's portfolio, they would be borne by investors remaining in the fund, limiting the anti-dilution benefits of the proposal.

3. Hard Close Requirement

With respect to putting swing pricing into practice, requiring a hard close would ensure that funds receive more timely flow information. Because swing pricing requires both fund flows and estimates of trading costs, requiring a hard close should reduce any flow estimation error that would otherwise occur if funds had to rely heavily on estimated fund flows in adjusting their NAV. In addition, by providing funds with more complete flow information, the hard close requirement could have auxiliary benefits unrelated to swing pricing, including settlement modernization, and order processing improvements.[495] Also, a fund that knows its flows sooner may be able to plan and implement trading strategies to meet those flows in a more cost effective manner.

The hard close requirement may change operational burdens for mutual funds and other parties related to mutual fund order processing. Currently, because mutual fund flows from different intermediaries and investors are received by funds at different times, fund transfer agents may have to process the orders in multiple batches that may span until the next day. On the one hand, if doing so is costly in terms of labor and/or strain on the processing systems and to the extent that these costs are non-negligible, the hard close requirement may decrease operational burden by allowing all orders to be processed within a shorter time frame. On the other hand, to the extent that processing all orders in a short amount of time, as it would be implied under the proposal, requires more manpower and/or more processing capabilities, the hard close requirement may increase operational burden of open-end fund transfer agents. This effect may be more pronounced for smaller transfer agents that do not enjoy economies of scale.

In addition, the hard close requirement may allow funds to plan next-day and future activity related to today's redemptions or subscriptions more efficiently. For example, the hard close would in some cases improve the reliability of the flow information fund portfolio managers use by eliminating cancellations and corrections. In addition, if a portfolio manager uses flow information posted at the custodian, the hard close generally would provide timelier flow information. To the extent that these effects are present, the hard close requirement would allow funds to have timelier information that would permit them to plan and execute their trades in a more efficient manner. This, in turn, may reduce funds' tracking errors and may help prevent any error corrections or trade cancellations after the pricing time.

However, requiring a hard close 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 investors. We recognize that these switching costs could be larger for certain types of intermediaries. For example, some intermediaries may have more layers of intermediation than others, and, therefore, would have to update more systems and processes. As another example, some intermediaries may have more reporting and recordkeeping requirements than others, and would have to update more systems and processes to comply with the hard close requirement. In addition, some intermediaries have their processes and systems set up such that the daily price information is required before any orders can be processed. For example, retirement plan recordkeepers and any affiliated brokers and trust companies, as well as DCS&S, would have to modify their processes and systems substantially, as these processes currently require daily price information for all investments prior to processing of any investment instructions from the plan participants. In addition, retirement plans may have to modify their provisions, and employers sponsoring these plans may need to modify payroll systems, as well as change the information (*e.g.,* websites, manuals, and training materials) they provide to employees regarding how to submit orders, as a result of the hard close requirement.

A substantial number of affected retirement plans are small in size as shown in Table 5. Therefore, a large number of small plans may be disproportionally affected by the implementation costs related to the proposed hard close because they may not enjoy economies of scale. To the extent that these costs are too large relative to the size of assets under management, some of the plans may cease to exist or choose to offer other investment vehicles such as ETFs or CITs. For example, in 2003, one commenter stated that one cost related to a hard close that was substantially similar to what we are proposing would be requiring submission of trades on sub-account levels rather than on an omnibus level, which would result in an incremental cost increase of $4.1 million per year for this commenter with 1.3 million of omnibus trades per year.[496] To the extent that not all investors have a choice of intermediary, such as participants in employee-provided retirement plans, the costs stemming from the proposed hard close requirement may be borne by either investors (*i.e.,* plan participants) or their employers that sponsor the plan.

In addition, to the extent that not all intermediaries may be able to comply with the hard close requirement, the investors that use these intermediaries may face a decreased ability to invest in mutual funds via certain intermediaries. To the extent that the strategies that open-end funds subjected to the proposed requirement cannot be replicated or to the extent that such replication would be more costly outside of the mutual fund sector (*e.g.,* via a separately managed account), investors may end up with either less

[494] Fund borrowing may defer but not always eliminate the need for a fund to sell portfolio investments, as a fund will eventually have to repay the loan. As a result, a fund may incur borrowing costs in addition to trading costs, but only the latter would be captured by the adjustment of NAV by the swing factor under the proposal.

[495] *See supra* section II.C.3.a for additional discussion.

[496] Comment Letter of Charles Schwab (Oct. 27, 2003) on 2003 Hard Close Proposing Release, File No. S7–27–03, *available at https://www.sec.gov/rules/proposed/s72703/s72703-2.pdf.*

diversified portfolios, or experience higher costs of investing.

The hard close requirement may disadvantage certain investors that do not have a choice in their intermediary, if it precludes them from responding to market events after a specific cut-off time that is earlier than 4 p.m. ET or lengthens the amount of time for completing certain types of transactions[497] compared to investors that submit orders directly to funds. For example, if an intermediary sets up a cut-off time for transactions that is earlier than the fund cut-off time (4 p.m.), investors in mutual funds that use these intermediaries will not be able to react to market events that take place between an intermediary cut-off and the fund cut-off time, thereby increasing a market risk for investors that trade via intermediaries with earlier cut-off times. However, investors that trade directly with a fund or use intermediaries with later cut-off times would have an advantage and still be able to respond to some or all market events during this time frame (depending on the applicable cut-off time), allowing them to decrease their market risk relative to investors that would be pushed to next-day pricing.

In addition, to the extent that investors designate their employers to make retirement contributions to intermediaries via payroll procedures, and to the extent that payroll procedures have to be performed during a specific time frame in order for transaction to receive that day's price, the employers may experience a cost of switching the system to accommodate an earlier cut-off time for orders. These effects may be more pronounced for employers and investors in the western regions of the U.S. who may not have a sufficient time window to process contributions and/or (re)allocate their portfolios. In addition, to the extent that some intermediaries already impose an earlier cut-off time for investors' orders, the hard close may entail an even earlier cut-off time, which may further disadvantage investors.

In addition, the proposed hard close might affect current order processing for funds of funds. We understand that an upper-tier fund in a fund of funds structure may not submit its purchase or redemption orders for lower-tier funds' shares until after 4 p.m. Under the proposed rule, the upper-tier fund would have to submit purchase or redemption orders for lower-tier funds' shares before the lower-tier funds' designated pricing time in order to receive that day's price for the orders.

[497] *See supra* section II.C.3.d.

We are not able to quantify many of the costs of the hard close requirement for several reasons. First, we cannot predict how the costs would be allocated between funds and their intermediaries because we do not have detailed information about the number of intermediate steps required to be completed between the time an investor places an order and the time a fund receives this order for each type of an intermediary and which party currently bears the costs of each intermediate step. Second, we do not have granular data related to the current practices and operating costs for each intermediary type, both those that are regulated by the Commission and those that are not. Therefore, we cannot predict how their systems and practices would change in response to the hard close requirement and estimate the associated costs of these changes. Third, we cannot predict how many intermediaries will choose to upgrade their systems and processes in order to maintain their ability to offer mutual funds to the client, how many intermediaries will choose to impose an earlier cut-off time for investor orders, and the number of intermediaries that will retain their existing systems and order cut-off times and offer products that would not be subject to the proposed hard close requirement, such as CITs, ETFs, or closed-end funds in place of mutual funds. Finally, we cannot predict how many investors will respond to changes that intermediaries may implement in response to the hard close requirement by divesting from the mutual fund sector. We request comment on these costs of the hard close requirement, particularly any dollar estimates of the costs that funds, intermediaries, and other affected parties will incur as a result of the rule.

4. Commission Reporting and Public Disclosure

The Commission is proposing to change reporting frequency of Form N–PORT, to change public availability of certain items on Form N–PORT, and to amend Forms N–PORT, N–CEN, and N–1A. The proposed amendments are intended to increase transparency around funds' activities related to liquidity management and anti-dilution tools and to make information more usable by filers, regulators, investors, and other potential data users. The proposed amendments would also provide more information about a fund's portfolio and its liquidity risk profile to investors, thereby improving their portfolio allocation decisions.

Open-end funds will experience costs as a result of the proposed changes to the three forms. In connection with the proposed information collection requirements under the Paperwork Reduction Act, we estimate that the proposed changes to Form N–PORT would result in an internal cost increase of $2,472,356 and an external cost increase of $5,613,175, the proposed changes to Form N–1A would result in internal cost increase of $10,609,390; and the proposed changes to Form N–CEN would not on aggregate result in an increase of ongoing costs.[498]

a. Commission Reporting Frequency

Currently funds file Form N–PORT reports for the first, second, and third months of each fiscal quarter with the Commission 60 days after the end of the third month of the quarter. We are proposing to require funds to file Form N–PORT reports with the Commission within 30 days after the end of each month. We believe that this amendment would help the Commission to oversee funds' activities on a timelier basis. We do not expect this part of proposal to have substantial economic effects on funds, as funds already are required to maintain records of the information that Form N–PORT requires no later than 30 days after the end of each month and many funds report monthly information about their portfolio holdings on a voluntary basis to third party data aggregators, generally with a lag of 30 to 90 days, which in turn make them available to investors and other data users for a fee.[499] To the extent it is less efficient for fund groups to submit on a more frequent monthly basis instead of in one batch after quarter-end, the costs borne by fund groups may marginally increase under the proposal.

The data the Commission would receive on Form N–PORT reports within 30 days of month-end would include portfolio information which, depending on the fund, may not currently be public. To the extent this nonpublic information was subject to a data breach before its scheduled publication 60 days after month-end, unauthorized access could harm shareholders by expanding the opportunities for professional traders or others to exploit the information. However, the Commission has controls and systems for the use and handling of the proposed modified and new data in a manner that reflects the sensitivity of the data and is consistent with the maintenance of its confidentiality. In addition, as discussed below, many funds already

[498] *See infra* sections IV.D, IV.E, and IV.F. These annual direct costs include ongoing as well as initial costs, with the latter being amortized over three years.

[499] *See* rule 30b1–9. *Also see* section II.E.1.b. and note 287.

publicize their monthly holdings, which reduces the sensitivity of the information the Commission would store confidentially, and Form N–PORT reports would become publicly available 60 days after month-end.

b. Public Availability of Form N–PORT Data and Aggregate Liquidity Disclosure

Currently, funds are required to make the report for the third month of every quarter available to the public. We are proposing to make funds' monthly reports on Form N–PORT public 60 days after the end of each monthly reporting period. We are also proposing to require an open-end fund to provide information regarding the aggregate percentage of its portfolio in each of the three proposed liquidity classification categories, which would become public on the same time frame.

Public disclosure of aggregate liquidity classifications would help investors to assess the liquidity profile of the funds in which they are investing, and may be more useful to investors than the narrative liquidity disclosure the Commission adopted in 2018. The proposed disclosure may provide more information about a fund's liquidity risk profile to investors, thereby improving their portfolio allocation decisions. In addition, observing other funds' aggregate liquidity profiles might provide some information that is useful in a fund's own liquidity classification process. These benefits may be offset to the extent that liquidity classifications are not directly comparable across mutual funds, although the proposal would establish minimum standards that reduce the amount of discretion funds currently have in classifying their investments. We expect that funds will incur one-time and ongoing costs associated with preparing the portion of Form N–PORT associated with the aggregate liquidity profile, as discussed in section IV.

The proposal would triple the amount of data made available to investors and other potential users on Form N–PORT in a given year. To the extent that investors currently are not able to obtain monthly portfolio data from other sources, such as fund websites or third-party data aggregators the proposed requirement would enhance the ability of investors to monitor funds' portfolios, which in turn may help investors to make more efficient investment decisions.[500] Many funds report their monthly portfolios to third party data aggregators. Because the data made available to data aggregators is inconsistent across funds and time, the proposed amendment would increase consistency of portfolio data available to investors and other data users. To the extent that 60 days is not a long enough delay in disclosure of portfolio data, funds may be subject to predatory trading or ''copycatting activities'' that could potentially affect portfolio returns.[501] This effect may be more pronounced for funds with more proprietary trading strategies.

c. Other Amendments to Forms N–PORT, N–CEN, and N–1A

We are proposing to remove the reporting requirement for swing pricing on Form N–CEN and replace it with a new reporting requirement on Form N–PORT that would require information about the number of times the fund applied a swing factor during the month and the amount of each swing factor applied. We are also proposing amendments to Form N–CEN to identify and provide certain information about service providers a fund uses to fulfill the requirements of rule 22e–4. In addition, instead of classifying an RSSD ID as an LEI, we propose to provide separate line items where a fund would report an RSSD ID, if available, in the event that an LEI is not available for an entity. We also propose to amend certain items and definitions on Form N–PORT to conform them to the proposed amendments. Finally, we propose to amend Item 11(a) of Form N–1A to require, if applicable, that funds disclose that if an investor places an order with a financial intermediary, the financial intermediary may require the investor to submit its order earlier to receive the next calculated NAV. In addition, as a result of the proposed swing pricing requirement, funds would be required to disclose information about swing pricing in response to certain existing items in the form.[502]

The proposed amendments would increase transparency around funds' activities in several ways. First, additional information about funds' service providers would enable investors and other data users to assess fund liquidity management practices and help the Commission oversee the industry better. Second, information about swing pricing application can help the Commission and investors understand swing factor adjustments a given fund makes and evaluate how often a fund has any net redemptions or has net subscriptions of more than 2% and the amount of the swing factor adjustment.

The proposed amendments would impose PRA costs, as discussed in above. Some funds may already maintain some of the information they would be required to report under the proposal in the ordinary course of business. However, we recognize that funds would incur some costs in reporting the information. We recognize that, due to economies of scale, such costs may be more easily borne by larger fund families, and that costs borne by funds would be passed along to investors in the form of higher fees and expenses. In addition, the proposed disclosures of each swing factor and the number of times a swing factor was applied may create incentives for funds to compete on this dimension. Specifically, investors who prefer lower variability in the value of their investments may move capital from funds that had high historical swing factors to funds with lower swing factors. However, while NAV swings penalize redeemers or subscribers under certain circumstances, they benefit investors remaining in the fund, which may make funds actively using swing pricing more attractive to longer term investors.

The proposed amendments related to entity identifying information would help the Commission and market participants to identify entities related to funds' businesses more efficiently.

D. Effects on Efficiency, Competition, and Capital Formation

1. Efficiency

The proposed amendments may affect allocative efficiency in several ways. First, the proposed changes to the liquidity classification methodology, proposed public disclosure of funds' aggregate liquidity classifications, and swing pricing disclosures are expected to benefit investors by reducing information asymmetries between funds and investors. To the degree that some investors may currently be uninformed about liquidity risks of funds' investments, the proposed disclosure requirements may increase transparency about liquidity costs transacting investors impose on remaining fund investors and liquidity risks in open-end funds. To the degree that greater

[500] *See e.g.,* Ji-Woong Chung et. al., *Intended Consequences of More Frequent Portfolio Disclosure* (working paper, Apr. 17, 2022), *available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4086186* (retrieved from SSRN Elsevier database).

[501] A recent working paper examines the costs of Form 13F disclosure and finds that additional disclosure may harm portfolio returns over time. *See* David Kwon, *The Differential Effects of the 13f Disclosure Rule on Institutional Investors* (working paper, May 5, 2022*), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4095482* (retrieved from SSRN Elsevier database).

[502] *See* Items 6(d), 4(b)(2)(ii), 4(b)(2)(iv)(E), and 13(a) of Form N–1A.

transparency about liquidity risk of mutual funds may lead some risk averse investors to use other instruments, in lieu of mutual funds for long-term investment, allocative efficiency may increase.[503] In addition, the increased transparency may result in greater allocative efficiency as investors with low tolerance of liquidity risk and costs may choose to reallocate capital to funds that have lower liquidity risk and costs. Further, to the degree that uncertainty about the proposed swing pricing requirement may reduce the attractiveness of affected funds to investors, transparency about historical swing factors may reduce those adverse effects.

Second, market efficiency for funds' underlying investments may increase, to the extent that the proposed amendments mitigate the risk of runs on open-end funds and decrease fire-sales for the funds' underlying investments. In addition, a potential shift in demand from illiquid to liquid investments may encourage the development of market structures that increase the liquidity of investments that are currently less liquid. For example, currently, only a fraction of traded bank loan interests has a standardized settlement process and transparent prices and quotations. To the extent that the proposed amendments would lead market participants to standardize and shorten the settlement process for bank loan interests, the prices and spreads for bank loans may become more transparent at a sector level, increasing the efficiency in this market. On the other hand, the proposed liquidity requirements may lead funds to allocate less to these investments. Absent other frictions, the difference in demand for these investments could be made up for by other investors or other the same investors through other structures (such as more direct investment). However, if this difference in demand is not fully absorbed by other market participants, the efficiency in this market may decrease.

Third, the hard close requirement may make portfolio allocation less efficient for investors, to the extent that intermediaries used by these investors would impose an earlier cut-off time for orders and investors would not be able to reflect the entire day's market information into their allocation decisions. In addition, to the extent that certain types of orders would no longer be executed at today's prices and rather would be sent to funds the next day, investors may be exposed to additional market risk as well as potentially decreased portfolio returns because an intermediary may hold the cash from investors' orders submitted after the cut-off time (but before 4p.m. ET) until it could submit these orders at the end of the next day.

The proposed amendments may affect funds' portfolio efficiency. For example, funds may start considering the liquidity of investments and their overall portfolios to a higher degree when making portfolio allocation decisions and considering other factors, such as an investment's risk and expected return, to a relatively lower degree. This may reflect an optimal choice, to the extent that funds' investors believe that illiquidity of a fund's portfolio is more costly relative to the cost of foregoing less liquid portfolio investments that may offer higher returns. On the other hand, if liquidity considerations lead to deviations from the fund's investment strategy or benchmark return, the proposed amendments may decrease the efficiency of funds' portfolios.

The proposed daily classifications may also affect funds' portfolio efficiency. On the one hand, if daily fluctuations in market values of a fund's portfolio investments are large (and therefore the daily changes in the dollar value of the stressed trade size is also large) but revert to the mean within several days, liquidity classification for the same portfolio position may also fluctuate daily while eventually reverting to the mean. In this scenario, funds may start managing the portfolio positions inefficiently in order to be in compliance with the highly liquid investment minimum and the 15% limit on illiquid investments. On the other hand, daily classifications may increase informational efficiency of the funds' investments, to the extent that funds' demand for daily information results in increased availability of such information offered by third-party providers. As a result, funds' portfolio allocation decisions may become more efficient.

The proposed amendments may also affect operational efficiency of funds and intermediaries. First, to the extent that the proposed removal of the less liquid category results in an increased standardization of settlement practices and a reduction of settlements times for bank loan interests and other investments that are currently classified as less liquid, a reduction in allowed settlement time for investments in order to qualify as moderately liquid investments may facilitate operational efficiency of funds that trade these investments. Second, the proposed removal of the less liquid category may facilitate operationalizing funds' swing pricing by reducing uncertainty related to trading costs for investments that are currently classified as less liquid. In particular, to the extent that open-end funds will become more certain about trades' settlement dates, it may allow them to more accurately estimate trading costs and, therefore, more accurately estimate the swing factor. Third, intermediaries may improve their order-processing systems as a result of the proposed hard close requirement, improving ongoing operational efficiency for both intermediaries and funds.[504]

2. Competition

The proposed amendments may affect the competitive landscape for open-end funds. There are two main economic effects discussed above that may cause the change in the competitive landscape for open-end funds: (1) cost increases for funds, fund managers, and fund administrators stemming from proposed changes in the liquidity risk management program, proposed mandatory swing pricing, and the hard close; and (2) additional constraints on funds' holdings of certain investments that could limit these funds' investment strategies due to proposed changes to funds' liquidity classifications, the proposed definition of illiquid investments, and proposed changes to the highly liquid investment minimum.

Competition within the open-end fund sector may evolve as a result of the two effects stated above in several ways. First, to the extent that certain funds substantially change their investment strategies towards more liquid investments, the number of open-end funds that hold more liquid investments may increase, and competition among those funds for investors may increase. Conversely, competition among funds that hold less liquid investments may decrease. These effects depend also upon how investor demand for funds with liquid and illiquid investments may change with the proposed amendments. Second, to the extent that smaller open-end funds would experience a more substantial operational burden compared to larger fund complexes that exhibit economies of scale and may be able to set up their trading desks in a more efficient

[503] *See, e.g.,* Jennifer Huang et. al., *Shifting and Mutual Fund Performance,* 24 Rev. Fin. Stud. 2575, no. 8 (2011). The paper argues that if investors are not fully aware of risk-shifting behavior or if the changing risk level hampers their ability to assess fund performance, then individual portfolios are less likely to be efficient.

[504] *See supra* section II.C.3 for additional discussion.

manner,[505] smaller funds may become less competitive than larger funds. As a result, smaller funds may decide to liquidate or to convert to other fund structures, such as ETF or closed-end structures, to the extent such conversion would be less costly compared to remaining a mutual fund. Third, to the extent that some open-end funds may currently deliver higher returns because they set a lower highly liquid investment minimum and reasonably anticipated trade size compared to other funds with similar investment strategies but higher highly liquid investment minimums and reasonably anticipated trade sizes, the proposed amendments to apply uniform minimum for the stressed trade size and highly liquid investment minimum may minimize such a competitive advantage in performance and level the field among open-end funds. Finally, to the extent that investors would prefer funds with less volatile transaction prices for fund shares under the proposed swing pricing requirement, funds with larger trading costs may become less competitive relative to the funds with smaller trading costs.

Competition for investment flows between open-end funds and other collective investment vehicles within retail and institutional non-retirement space may also be affected. To the extent that the proposed amendments reduce investor dilution and the liquidity risk of open-end funds, some investors may increase their holdings of open-end funds relative to other investment vehicles. That said, we also recognize that some investors may attach more importance to investing in less liquid investments through a pooled vehicle with the ability to redeem on a daily basis and may view potential costs of dilution as the price of shareholder liquidity.

In addition, there are three reasons why investors may reduce their investment in open-end funds, making open-end funds less competitive with other types of investment vehicles, such as closed-end funds (*e.g.,* interval funds), ETFs, or CITs. First, holding open-end funds may become relatively more costly compared to these other collective investment vehicles. Second, some investors may prefer to have holdings of less liquid investments, such as bank loan interests or investments that are valued using unobservable inputs that are significant to the overall measurement, such as long-dated currency swaps and three-year options on exchange-traded shares, within a collective investment vehicle structure. Third, some investors may be averse to the potential effects of the proposed swing pricing requirements, such as redeeming investors that may be charged for more than the dilutive costs they impose on the fund, as well as any investor averse to the increased uncertainty regarding the price at which the investor's fund transactions will ultimately execute.

For these reasons, some open-end funds may decide to offer their existing strategies in alternative fund structures, such as ETF or closed-end fund structures instead of maintaining these strategies within open-end funds under the proposed rule.[506] Funds may make such a determination if doing so would be more cost-efficient, if they anticipate that investors would prefer to invest in their strategies via these alternative structures, or if their existing strategies would no longer be viable under the proposed amendments that call for an increased share of more liquid investments in funds' portfolios. This may give fund complexes or other financial institutions that have more experience in these alternative structures a competitive advantage over those that do not. In addition, some open-end fund strategies may be more amenable to being migrated to other structures than others. For example, a passive open-end fund that does not rely on specialized skills or knowledge of a fund manager may be relatively easy to offer as an ETF. On other hand, while some active investment strategies are available as ETFs, funds may consider the structure less attractive if they consider the daily revelation of their holdings undesirable and they determine that obtaining the exemptive relief that would enable them to structure the fund as a non-transparent ETF would be too costly.[507] Such funds may end up at a competitive disadvantage to those that can more easily offer their strategies in other structures under the proposal.

Competition between open-end funds and other collective investment vehicles, such as ETFs, and CITs,[508] as well as separately managed accounts, within the retirement space may also be affected. As discussed in section III.B.2, processes and systems related to executing investors' orders within their retirement plans require knowledge of NAVs prior to sending investors' trades to funds, and it may be costly to change these processes. To the extent that retirement plans can offer collective investment vehicles or ETFs that are not open-end funds but have similar investment strategies to open-end funds at a lower cost, open-end funds would become less competitive within the retirement sector. One type of a vehicle that offers similar investment strategies to open-end funds at a lower cost is CITs. CITs differ in certain respects, however. For instance, CIT fees are bespoke for each plan, meaning that fees are individually negotiated and a plan participant cannot roll a CIT investment to an IRA when leaving the plan. Recent analysis from ICI demonstrates that, as of 2018, among all assets held in 401(k) plans, mutual funds comprise 43% while CITs amount to 33%.[509] To the extent that the proposed hard close requirement would make mutual funds more costly or difficult to trade relative to CITs, the share of CITs among retirement assets may further grow making open-end funds less competitive.

The proposed hard close requirement may have effects on competition among intermediaries. First, to the extent that intermediaries that are affiliated with fund complexes have an advantage in processing fund orders more swiftly compared to intermediaries that are not affiliated with the funds they offer, the former may not have to impose earlier order deadlines on investors, which would result in competitive advantage over intermediaries that are not affiliated with the funds they offer. Second, to the extent that larger intermediaries enjoy economies of scale and would be able to implement the hard close in a more cost-effective way relative to smaller intermediaries, smaller intermediaries may become less competitive as they may have to pass

[505] *See e.g.,* Gjergii Cici et. al., *Trading Efficiency of Fund Families: Impact on Fund Performance and Investment Behavior,* 88 J. Banking & Fin.1 (Dec. 22, 2015, rev. Jan. 12, 2016), *available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2514203.* The authors find that by operating more efficient trading desks that help reduce trading costs, fund families improve the performance of their funds significantly relative to fund families with less efficient trading desks.

[506] To the extent existing mutual funds convert to ETFs, certain investors in these funds may incur long-term capital gains taxes as a result of such conversions.

[507] *See* Precidian ETFs Trust, et al., Investment Company Act Release Nos. 33440 (Apr. 8, 2019) [84 FR 14690 (Apr. 11, 2019)] (notice) and 33477 (May 20, 2019) (order) and related application (''2019 Precidian'') for an example of exemptive relief pertaining to non-transparent ETFs.

[508] CITs are an alternative to mutual funds for defined contribution plans. Like mutual funds, CITs pool the assets of investors and invest those assets according to a particular strategy. Unlike mutual funds, which are regulated under the Investment Company Act of 1940, CITs are regulated under banking laws and are not marketed as widely as mutual funds; which reduces their operational and compliance costs compared with mutual funds.

[509] *See* BrightScope/ICI working paper at 2.

the implementation costs on to their investors.

To the extent that daily classifications would require a more frequent use of liquidity classification providers, demand for liquidity classification providers may increase. To the extent that funds would expand their outsourcing of liquidity classifications, competition among outside liquidity classification providers may increase. However, to the extent that some liquidity classification providers currently used by funds have operational capacity only for less frequent than daily provision of services, they may become less competitive compared to those that can provide the service on a daily basis.

The proposed amendments may also affect competition in markets for funds' underlying investments. To the extent that open-end funds would change their overall portfolio towards more liquid investments as a result of the proposed amendments, and to the degree that such reallocation would be correlated across funds, competition in the markets for more liquid investments may increase, while competition in market for less liquid investments may decrease, which may further decrease the liquidity of these investments. For example, the proposed removal of the less liquid category may affect competition in the secondary market for bank loan interests. To the extent that open-end funds would demand bank loan interests that are more liquid and standardized in terms of the settlement process, competition in the bank loan market may be affected—both among the loan issuers and loan administrators. Specifically, increased demand for shorter settlement may drive bank loan market participants to compete with each other via offering shorter settlement for their trades, including among counterparties who are willing to contract for expedited settlement, to the extent that 15% of bank loan interests held by open-end funds [510] is a substantial enough share of the bank loan market for funds to have bargaining power in this market. To the extent that settlement times do not improve as a result of this amendment, bank loan interests with longer settlement times may become less competitive with loan interests that have shorter settlement times. Third, to the extent that open-end fund investors would substitute funds that hold bank loans for funds that hold close alternatives, such as high-yield bond funds, as a result of the proposal, demand for funds holding these instruments may increase. In addition, to the extent that open-end funds become more limited in how much of bank loan interests they can hold directly, open-end funds may increase their holdings of CLOs, which in turn could increase demand for CLOs and competition among CLOs. Finally, to the extent that the demand for bank loan interests decreases as a result of the proposal, these instruments would become less competitive overall.

3. Capital Formation

The proposed amendments may affect capital formation. First, to the extent that the above efficiency and competition effects result in investor outflows from the mutual fund sector, capital formation within the sector may be reduced, while capital formation via banks and trust companies, ETFs, or other vehicles may increase. Second, to the extent that open-end funds would demand more liquid investments, the capital formation for issuers of these investments may increase. On the other hand, to the extent that funds would become more limited in the amount of investments with lower liquidity profiles they are able to make (such as investments that are valued using unobservable inputs that are significant to the overall measurement and investments that are currently classified as less liquid and illiquid), the capital formation for issuers of investments that are currently classified in less liquid categories may decrease.

For example, a recent paper [511] shows that, although CLOs (the largest lender of leveraged loans) increase their purchases of outstanding bank loan interests in the secondary market at times when bank loan funds face outflows, they reduce their lending in primary market at the same time; which highlights the externality imposed by bank loan fund redemptions on capital formation for non-investment grade firms. Therefore, to the extent that open-end funds would hold fewer bank loans in their portfolios as a result of this amendment, the externality discussed above may be reduced and capital formation for non-investment grade firms could improve. On the other hand, to the extent that market settlement processes do not change, and to the extent that open-end bank loan funds are not converted to closed-end funds, the demand for bank loan interests may decrease, reducing capital formation for non-investment grade firms. This effect may be more pronounced for smaller issuers, to the extent that their securities are classified into less liquid categories more frequently compared to larger issuers.

Finally, the proposed amendments are expected to decrease the risk of fire sales of funds' underlying investments that may occur as a result of an increased selling pressure experienced by open-end funds during periods of high redemptions. This, in turn may increase confidence in markets for investments held in open-end funds' portfolios, thereby aiding capital formation for these investments.

E. Alternatives

1. Liquidity Risk Management

a. Stressed Trade Size and Significant Changes in Market Value

Although tightening of inputs would reduce fund discretion in the methodology for liquidity classification relative to the baseline, funds would still have discretion in the use of models to calculate price impact under the proposal. One alternative that could alleviate this concern would be to define a list of investments that qualify as highly liquid investments explicitly, as well as the list of illiquid investments or to define liquidity of each security, regardless of its amount held by a fund. For example, we could define highly liquid investments similarly to the way Federal banking agencies define high quality liquid assets (''HQLA'') for the purposes of liquidity coverage ratio rules.[512] This approach would simplify funds' compliance and may eliminate the need to calculate reasonably anticipated trade size or stressed trade size. As a result, an investment would be more consistently classified across funds, regardless of the amounts of this investment held by each fund. However, this approach would put the Commission in the position of determining the liquidity of each investment or investment type in the market, which may be difficult to

[510] *See* note 422 and accompanying text.

[511] Thomas Mählmann, *Negative Externalities of Mutual Fund Instability: Evidence from Leveraged Loan Funds,* 134 J. Banking & Fin. (2022).

[512] *See* 12 CFR 50.20 (Office of the Comptroller of the Currency); 12 CFR 249.20 (Federal Reserve Board); 12 CFR 329.20 (Federal Deposit Insurance Corporation). HQLA are composed of Level 1 and Level 2 assets. Level 1 assets generally include cash, central bank reserves, Treasuries, certain agency securities, and certain marketable securities backed by sovereigns and central banks, among others. Level 2 assets are composed of Level 2A and Level 2B assets. Level 2A assets include, for example, certain debt guaranteed by a government sponsored entity or by a sovereign entity. Level 2B assets include, for example, investment grade corporate bonds, and publicly traded common equities that meet certain conditions, and investment grade municipal obligations. *See also* Bank for International Settlements (BIS), *Basel Committee on Banking Supervision, LCR30 High-Quality Liquid Assets* (final report, Dec. 31, 2019), *available at* https://www.bis.org/basel_framework/chapter/LCR/30.htm?tldate=20191231&inforce=20191215.

maintain over time and may over- or under-include securities that may demonstrate equal liquidity characteristics, as this alternative regime only covers HQLA and not all investments that could be held by a fund.

As an alternative, we could have proposed a higher level of STS. For example, an STS that is equal to 100% would assume a full liquidation of a position. Under this alternative, the classification of an investment would depend on the absolute value of the whole position rather than a percentage of a position. This approach may more accurately reflect liquidity needs during the times of increased redemptions, to the extent that funds sell their most liquid holdings first in order to meet redemptions.[513] An STS that is higher than 10% but lower than 100% would have the effect that is similar but lower in magnitude. While a higher STS might better reflect that funds may need to sell a higher fraction of a particular investment than 10%, it nonetheless could be the case that a 10% STS is a better measure for determining liquidity under the proposed requirement for vertical slice assumption.

As another alternative, we could have proposed a lower level of STS. To the extent that some funds currently set their reasonably anticipated trade size lower than 10%, these funds may experience less changes in the classifications of their investments, which may result in less portfolio adjustments in order to comply with the 15% limit on illiquid investments and the highly liquid investments minimum. However, we believe that the 10% STS has the advantage of simulating a stress event and would better prepare funds to accommodate redemptions during such events. We seek comment on whether a level of STS lower than 10% would be a more appropriate STS that would ensure funds classify their investments in a way that would safeguard the fund and its shareholders during stressed times.

As another alternative, we could have proposed an STS that would depend on an individual fund's flows. For example, each fund could be required to use an STS that is equal to a certain percentile (*e.g.,* 99th percentile) of the fund's highest week of absolute flows or net outflows over a specified period of time (*e.g.,* 3, 5, or 10 years).[514] Under this alternative, funds would have a liquidity classification approach that is more tailored to their strategy and investor base. This approach would be less discretionary compared to the baseline but more discretionary compared to the proposal. To the extent that some funds may never experience net outflows that amount to 10% of their net assets, this alternative could be more appropriate for such funds. However, this alternative may result in inconsistent classifications among funds that have similar holdings. For example, if an established fund and a new fund have identical portfolios, the new fund would not have the same level of historical flows as the established fund, to the extent that the established fund existed during periods of stress and the new fund did not. This would result in two different STSs for identical funds.

As another alternative, we could have proposed an STS that would differ for funds with different investment strategies. For example, because during times of stress certain investments generally remain relatively liquid, we could have proposed a lower STS for funds with strategies that generally invest in more liquid assets, such as certain equities or government securities. However, under certain circumstances, large concentrations of any asset type (including those assets that are generally very liquid) held by a fund may weaken the fund's ability to dispose of such assets without a significant cost imposed on the fund's investors.[515] Therefore, we believe that requiring funds with different types of strategies to have the same STS would appropriately prepare all funds for stress events. In addition, although this approach would be more tailored to net flows trends specific to particular types of funds, this alternative may result in inconsistent application of the STS because there is no single taxonomy of fund types and there would be limited utility in proposing a new taxonomy given the previously noted concerns about an approach that differs by fund type.

For determining whether a sale or disposition would significantly change the market value of an investment, we could have proposed a higher or lower value impact standard. For example, we could have proposed that a sale or disposition of less than or more than 20% of a security listed on a national securities exchange or foreign exchange, or a decrease in sale price of less than or more than 1% for other investments, would result in a significant change in market value. Setting a stricter test for what would constitute a significant change in market value may lead funds to classify investments as less liquid than under the proposed rule, and correspondingly, setting a more lenient test would lead to more liquid classifications. Because funds currently use different value impact standards today, increasing or reducing the thresholds in the rule may align with some funds' current practices, while the proposed rule may align with other funds' current practices. Therefore, any approach to defining the value impact standard would require some funds to change their current methodologies.

b. Amendments to Liquidity Classification Categories and Definitions

As an alternative, we could have proposed an approach that provides additional time, beyond seven calendar days, for a sale to settle and convert to U.S. dollars before a fund must classify the investment as illiquid. For example, we could have proposed to define moderately liquid investments as those that a fund reasonably expects to be able to sell within seven days without a significant change in market value and to be convertible to U.S. dollars within an additional seven days. Under this alternative, all the economic effects of removing the less liquid investment category discussed above would still be present, however, their magnitude may be reduced. As a result, not as many bank loan funds would have to rebalance their portfolios towards shorter-settlement loans and other investments, contract for expedited settlement, or restructure as a different investment vehicle. At the same time, the potential need to arrange expedited settlement to meet redemptions in the midst of market stress, as well as the potential borrowing costs a fund incurs to meet redemptions and the resulting dilution of fund investors, would not be reduced by as much as it would under the proposal. Therefore, we believe that aligning the time it takes to receive proceeds from the trade with the statutory requirement to meet investor redemptions within seven days would be a more economically sound step towards helping to ensure funds can meet redemptions within seven days and reducing investor dilution.

We could have proposed that a fund start measuring the number of days in

[513] For example, if a fund experiences net outflows equal to 10% of its net assets, and the fund's highly liquid assets comprise 20% of its portfolio, the fund would be able to fund all outflows with the proceeds from highly liquid assets. On the other hand, a 10% STS would test whether 10% × 20% = 2% of the fund's holdings could be sold without significantly changing the price of these holdings in order to meet redemptions. In this scenario, the fund may need to sell additional holdings that may be more costly to trade due to their lower liquidity classification.

[514] Basing the calculation on absolute, rather than net, flows would be designed to reflect that large inflows have the possibility of translating to similarly large outflows.

[515] For example, during Mar. 2020, the U.S. Treasury market became less liquid than usual.

which it reasonably expects a stressed trade size would be convertible to U.S. dollars without significantly changing its market value after the date of classification, instead of on the date of classification as proposed. Under this alternative, funds' liquidity classifications would be marginally less liquid. We understand some funds are using this method of counting the number of days currently and would not have to make any changes to their methodology; however, those funds that begin counting on the date after classification would need to make changes and their classifications would be more liquid than they are currently. We believe that funds should measure days consistently in order to help funds meet redemptions within seven days without significant trading costs.

c. Frequency of Liquidity Classifications

As an alternative, we could have proposed to require classification on a less frequent basis, for example, weekly. Under this alternative, funds would have less operational burden relative to the proposed daily classification requirement. In addition, to the extent that portfolio allocations of funds are noisy on a daily basis due to, for example, trading related to tracking errors or inability to invest newly incoming cash from investors immediately, weekly classifications may be more appropriate from an operational perspective. However, weekly classifications could reduce the effectiveness of the rule by delaying the identification of significant liquidity issues, such as a rise in illiquid investments or a drop in highly liquid investments, particularly at the onset of market stress when a fund might begin to face increasing levels of redemptions. Therefore, we believe daily classifications would promote better monitoring of a fund's liquidity and ability to more rapidly understand and respond to changes that affect the liquidity of the fund's portfolio.

d. Definition and Calculation of Highly Liquid Investment Minimum and Proposed Limit on Illiquid Investments

As an alternative, we could have proposed different highly liquid investment minimums for different type of funds, with lower highly liquid investment minimums for funds with strategies that generally invest in more liquid assets, such as equities or government securities. However, under certain circumstances, large concentrations of any asset type (including those assets that are generally very liquid) held by a fund may weaken the fund's ability to dispose of such assets without a significant cost imposed on the fund's investors.[516] Therefore, we believe that requiring funds with different types of strategies to have a highly liquid investment minimum of at least 10% would appropriately prepare all funds for stress events. In addition, although this approach would be more tailored to net flows trends specific to particular types of funds, this alternative may result in the inconsistent application of highly liquid investment minimums because there is no single taxonomy of fund types and there would be limited utility in proposing a new taxonomy given the previously noted concerns about an approach that differs by fund type.

As another alternative, we could have proposed to require funds to maintain a highly liquid investment minimum that is lower or higher than the proposed 10% minimum, such as a minimum of at least 5% or 15%. A lower required threshold would require fewer changes to some funds' portfolios and would be less likely to affect performance. However, a lower minimum would result in funds being less prepared to meet redemptions in stressed periods. A higher highly liquid investment minimum would better ensure that a fund can meet redemptions in stressed periods, but would require more significant changes to some funds' portfolios and would likely have a larger effect on fund performance. Further, to the extent that certain funds would benefit from a highly liquid investment minimum that is greater than 10% because, for example, they have a concentrated shareholder base, such funds could establish a higher minimum under the proposal. Similarly, we considered a lower limit on a fund's illiquid investments, such as a 5% or 10% limit. The alternatives would further limit a fund's ability to acquire illiquid investments, which would limit the mismatch between the time a fund must pay redemptions and the time it can sell its investments without significant dilution. However, lowering the limit on illiquid investments while also expanding the definition of illiquid investment would more significantly affect funds that currently invest in less liquid investments.

As another alternative, we could have proposed to define investments used for collateral and margin purposes of moderately liquid and illiquid investments as moderately liquid and illiquid respectively. However, by reducing the fund's highly liquid investments by the value of amounts posted as margin or collateral, the proposed approach would avoid burdens associated with tracking specific securities posted as margin or collateral and reclassifying investments as they are posted as margin or collateral and recalled. The proposed approach also would not understate the liquidity of securities that are posted as margin or collateral because each security would continue to be classified based on its own characteristics rather than based on the characteristics of the derivative it is tied to, and instead the adjustments would only be made at the aggregate level.

2. Swing Pricing

This section discusses alternatives to the proposed swing pricing requirements. These alternatives include variations on the swing pricing requirements, variations on the thresholds used to determine the swing factor, and tools other than swing pricing that may achieve some of the same anti-dilutive goals of the proposed rule. These alternatives could be used independently or in combination with each other, and also could be paired with a hard close or the alternatives to the hard close we discuss in the next section, depending on the degree to which a given alternative does or does not require a fund to have complete order flow information at the time a fund strikes its NAV.

a. Alternative Approaches Within the Swing Pricing Framework

As an alternative, we could have proposed different thresholds for net redemptions, net subscriptions, and inclusion of market impact. For example, we could have required funds to adjust the NAV only when net redemptions exceed a specified swing threshold, allowing funds to not adjust the NAV at all when redemptions are low in magnitude, as the proposal does for net subscriptions. To the extent that determining a swing factor is costly, only requiring funds to do so when net redemptions exceeded a threshold would limit the frequency with which funds incur such costs. However, because net redemptions are likely to dilute fund shareholders by a larger magnitude compared to net subscriptions, such an alternative may forego some of the benefits non-transacting fund shareholders would be expected to receive under the proposal.

The proposal also could have used a different market impact threshold, or no threshold, requiring that funds always include market impact in their swing factor calculations. A higher (lower) market impact threshold would reduce (increase) the number of days for which

[516] *See* note 515.

affected funds must calculate market impact costs for their portfolio investments, reducing (increasing) any related costs and operational challenges. However, a higher (lower) market impact threshold would also reduce (increase) the amount of dilution from redemptions that is recaptured by funds and accrued to non-transacting shareholders, assuming some funds do not opt to set lower market impact thresholds, as permitted under the proposal.

Similarly, the proposal could have used a different swing threshold for net subscriptions, or no threshold, requiring that funds always adjust their NAV in response to net subscriptions. A higher (lower) threshold for net subscriptions would reduce (increase) the number of days for which affected funds must calculate swing factors, reducing (increasing) any related costs and operational challenges. However, a higher (lower) threshold for net subscriptions would also reduce (increase) the amount of dilution from subscriptions that is recaptured by open-end funds and accrue to non-transacting shareholders, assuming some funds do not opt to set lower threshold for net subscriptions, as permitted under the proposal.

As another alternative, we could have required that funds only apply a swing factor when they experience net redemptions rather than requiring that they also apply a swing factor when net subscriptions exceed 2%. Removing the requirement that funds apply a swing factor for net subscriptions would remove any operational costs funds may incur in implementing swing pricing for net subscriptions and may reduce the uncertainty that subscribing investors face regarding the share price at which their subscription orders will ultimately transact. However, while we recognize that subscriptions tend to be less dilutive than redemptions, the trading costs incurred by funds to accommodate subscriptions can still be dilutive. Therefore, non-transacting investors would be exposed to more dilution risk under this alternative.

As an alternative, the proposal could have also permitted funds to use a default swing factor (*e.g.,* 2% or 3%) when estimating trading costs accurately may be more difficult, such as in times of market stress. A fund's swing pricing administrator, adviser, or a majority of the fund's independent directors could be permitted to determine whether market conditions are sufficiently stressed to invoke this default swing factor. This alternative could benefit investors by mitigating shareholder dilution during periods of increased market uncertainty when standard analyses that funds use to estimate trading costs may fail to capture these costs accurately, to the extent that the standard analyses result in underestimation of trading costs. However, this alternative would provide funds with more discretion in determining when their swing factor applies in a way that is less transparent and consistent for fund shareholders, which increases the chance that funds may take advantage of such discretion in order to boost the performance of a fund. In addition, a default swing factor may not be a good approximation of the actual trading costs a fund will incur during the periods it is applied, which could either overcharge transacting investors relative to the trading costs they impost on a fund or undercharge transacting investors, limiting the extent to which non-transacting shareholder dilution is mitigated.

As another alternative, the proposal could have defined the market impact threshold or inflow swing threshold on a fund-by-fund basis, with a reference to a fund's historical flows. For example, each fund could have been required to determine the trading days for which it had its highest outflows over a set time period, and set its market impact threshold based on the 1–5% of trading days with the highest redemptions. Similarly, each fund could have been required to determine the trading days for which it had its highest inflows or outflows over a set time period, and set its inflow or outflow swing threshold based on the 1–5% of trading days with the highest redemptions or subscriptions. While this alternative could allow funds to customize their swing thresholds to their historical flows, such an alternative may create strategic incentives for fund complexes to open and close funds depending on historical transaction activity. For example, to the degree that the estimation of market impact factors or other trading costs may be costly, or to the extent that investors prefer funds that do not apply swing factors as frequently, fund families may choose to close funds that experienced high redemptions to avoid the application of market impact factors. In addition, allowing funds to determine their own thresholds based on historical data may lead to less comparability across funds with respect to when investors expect funds to incorporate market impact or swing their NAV in response to net subscriptions or net redemptions.

b. Alternatives to Swing Pricing

i. Liquidity Fees [517]

As an alternative to the proposed swing pricing requirement, we could have proposed to require funds to charge liquidity fees to transacting investors. There are various types of fees that we considered, which are discussed below.

(a) Dynamic Liquidity Fee

As an alternative, we could have proposed a dynamic liquidity fee that could, in principle, be equivalent to swing pricing from the point of view of the transacting investor. For example, this alternative could charge transacting investors the estimated trading, spread, and, in some cases, market impact costs associated with their subscription or redemption activity, allowing remaining shareholders to recoup these costs and mitigate dilution. Under this alternative, like under the proposed swing pricing framework, a fund would be required to determine a given day's liquidity fee for subscribers or redeemers based on the fund's net flows. Specifically, on a day with net redemptions (subscriptions), the fund would determine a liquidity fee that reflects the costs redeeming (subscribing) investors are expected to impose on the fund and would only charge redeeming (subscribing) investors the fee.

From an economic (namely non-operational) perspective, the difference between a liquidity fee and swing pricing is the effect on subscribing (redeeming) investors when a fund experiences net redemptions (subscriptions) and how the anti-dilution benefit is shared among transacting and non-transacting fund investors. Specifically, under swing pricing, in the case of net redemptions, subscribing investors would purchase fund shares at a discount relative to the NAV because there will be only one transaction price for fund shares determined by swing pricing. Similarly, in the case of net subscriptions, redeeming investors would receive a premium for their redeemed shares because the transaction price for fund shares would be adjusted above the NAV. As a result, some of the recouped dilution costs from net redemptions (subscriptions) are diverted to other transacting investors—subscribers (redeemers)—rather than to non-transacting fund investors.[518] If the fund

[517] *See also* section II.D.1.a for additional discussion of liquidity fee alternatives.

[518] Under the proposed swing pricing requirement, a fund would still recoup the full dilution costs associated with net redemptions by charging redeemers for both the dilution cost of

charges a liquidity fee, on the other hand, subscribing (redeeming) investors would not be purchasing (selling) fund shares at a discount (premium) in the case of net redemptions (subscriptions). Instead, the fee would be borne by redeemers (subscribers) without the commensurate benefit to subscribers (redeemers) and would fully accrue to the fund instead.[519] From this perspective, a liquidity fee may be fairer to redeeming (subscribing) fund investors in the case of net redemptions (subscriptions) compared to swing pricing. In addition, relative to swing pricing, liquidity fees would be more transparent regarding the liquidity costs transacting investors are charged and would not change day-to day fund returns that investors observe.[520]

However, liquidity fees may be more operationally challenging to implement relative to the proposed swing pricing requirement. With swing pricing, a fund can pass liquidity costs on to redeeming or purchasing investors via downward or upward adjustments in the NAV to determine the transaction price for fund shares, with intermediaries receiving this price at the end of the trading day. With a liquidity fee, however, a fund would have to rely on intermediaries to pass the liquidity costs on to transacting investors, which may involve greater operational complexity for intermediaries compared to swing pricing. While we recognize that some funds and their intermediaries are currently able to apply redemption fees under rule 22c–2, applying dynamic liquidity fees that may change in size from day-to-day may involve greater operational complexity and costs. For instance, liquidity fees may require more coordination with a fund's intermediaries because these fees need to be imposed on a transaction-by-transaction basis by each intermediary involved—which may be difficult with respect to omnibus accounts that intermediaries may create to aggregate all customer activity and holdings in a fund. We could instead require intermediaries to submit purchase and redemption orders separately to transact in a fund's shares, as some intermediaries already do. This could allow funds or their transfer agents to apply fees directly, but this type of requirement would also require some intermediaries to make operational changes because they would no longer be able to net otherwise offsetting customer purchases and redemptions.

As noted above, this type of dynamic fee would depend on fund flow information. A dynamic fee could be applied at the time of an investor transaction, in which case a hard close would still be required so that a fund has complete flow information by the time the NAV is struck, allowing the fund to determine the corresponding dynamic fee. Alternatively, the fee could be processed separately and applied to an investor's account on a delayed basis, obviating the need for a hard close because funds would no longer need complete flow information at the time of the initial investor transaction.[521] Delayed application of the fee, however, may raise complications related to collecting fee amounts from investors, particularly when an investor has otherwise redeemed the full amount of its holdings. Follow-on fees also significantly increase the number of transactions to process, and may complicate reporting for custodians and advisers in situations where a transaction may occur in one reporting period but the fee related to the transaction is not applied until the next reporting period. In addition, an intermediary may face difficulties projecting upcoming cash balances in its client accounts if there are upcoming fees to be charged, but the amounts of those fees are unknown. The fund itself may also have challenges with projecting its own cash balance if it cannot predict when accrued fees will be received from each intermediary.

(b) Set Fee

Another alternative could be a simple fee framework that would require funds to charge a set fee of a specified percentage of the transaction (*e.g.,* 1%). This fee could be designed to either apply for all investor transactions, apply if redemptions or subscriptions exceed certain thresholds, or apply only on the redemption side or only on the purchase side. Such an alternative could reduce the operational burdens imposed on funds with respect to estimating trading costs and market impact and, in the case of a fee that is always charged, also would not require that a fund receive full order flow data before its NAV is struck. However, this alternative could also lead funds to over- or under-charge transacting investors because the trading costs a fund experiences for a given level of net redemptions or subscriptions may vary nonlinearly with the size of net redemptions or net subscriptions. For example, a fund trading to accommodate relatively small redemptions or subscriptions would most likely not result in market impact costs, while accommodating substantial redemption or subscription activity might result in market impact costs. As a result, a fund might undercharge transacting investors relative to the trading costs their activity imposes on a fund in cases when the set fee is lower than the trading costs implied by the fund's aggregate investor activity. Therefore, in such instances this alternative may be less effective than swing pricing at mitigating dilution. Similarly, a fund might overcharge transacting investors relative to the trading costs their activity imposes on a fund in cases when the set fee is higher than the trading costs implied by the fund's aggregate investor activity, non-transacting investors are enriched at the expense of transacting investors. If such a set fee could be calibrated correctly, the effects of under- or over-charging transacting investors might offset each other. However, perfectly calibrating a fee would require that a fund correctly forecast the likelihood and magnitude of net redemptions and net subscriptions, as well as the corresponding trading costs associated with such flows, which may not be feasible.

(c) Fee Adjusted for Bid-Ask Spreads or Other Transaction Costs

Relatedly, another simpler liquidity fee alternative could still use fees that are dynamic in the sense that they respond to market conditions such as bid-ask spreads or other known transaction costs associated with trading underlying investments, but are not tailored to the order flow a fund receives on a given day. For example, a fund could charge a liquidity fee on both subscriptions and redemptions on a given day that reflects the estimated costs of buying and selling the fund's underlying assets, respectively, excluding factors that depend on order flow, such as market impact. Such an alternative would still require funds to estimate trading costs, but would not require that a fund receive full order flow data before its NAV is struck. Economically, this alternative is equivalent to dual pricing, discussed

redemptions as well as the cost of allowing subscribers to fund shares at a discount when the fund experiences net redemptions. Similarly, a fund would still recoup the full dilution costs associated with net subscriptions by charging subscribers for both the dilution cost of subscriptions as well as the cost of allowing redeemers to sell shares at a premium when the fund experiences net subscriptions in excess of 2%.

[519] *See e.g.,* Eaton Vance Comment Letter at *https://www.sec.gov/comments/s7-16-15/s71615-151.pdf* for a description of mechanics and an assertion that fees are economically superior.

[520] We recognize that while swing pricing may change the returns that investors see on a daily basis, it would not change monthly returns and returns reported on a fund's statement relative to a fee.

[521] *See also* section II.D.1.a for additional discussion of delayed fee application.

below, which instead charges these costs by establishing separate transaction prices for subscriptions and redemptions.

(d) Liquidity Fee When Trading Costs Significantly Increase [522]

As another alternative, we could have proposed a liquidity fee that would only apply under certain conditions, such as when trading costs are significantly above those typically experienced. Under this approach, either the Commission could define the circumstances that would trigger the fee or funds could define the conditions under which the fee would apply. In the latter case, a fund would establish written policies and procedures designed to mitigate dilution and recoup the costs the fund reasonably expects to incur as a result of shareholder redemptions.

In both scenarios, this alternative may be less costly for funds relative to the above alternatives, to the extent that applying the fee less frequently is less operationally burdensome. Under this alternative, funds would be able to recoup trading costs when these costs significantly increase (*e.g.,* during periods of market stress), without increasing the costs of operation during other times. The benefits of this approach to investors would depend on the relative magnitude of dilution realized during normal periods when trading costs are not significantly increasing versus the cost of applying an anti-dilution tool on a daily basis. To the extent that dilution during normal times is negligible while the operational burden of applying the fee is not, a fee that applies only when trading costs increase significantly may benefit fund investors. However, to the extent that dilution during normal times can accumulate to a significant amount over time, fund investors would not be protected against it. The benefit of this alternative would also depend on whether the specified conditions that trigger the fee could be anticipated by investors prior to the fund imposing the fee. To the extent that investors would be able to forecast that a fund is moving closer to the fee trigger, they may decide to preemptively redeem their shares before the fee is initiated, potentially exacerbating the first-mover advantage and contributing to further fund stress.

The economic tradeoffs of this alternative would also depend on whether a fund defines the circumstances under which the fee would apply or the Commission would define such circumstances. Under the first scenario, funds would be able to tailor the triggers to their specific circumstances, such as the fund size, the portfolio characteristics, and investor base composition, as well as the historically observed dilution. As a result, funds may be better equipped to protect their investors during times of increased trading costs. However, under this scenario, fund discretion over the fee triggers may result in some funds defining triggers in a suboptimal way in order to compete with similar funds for investors. Under the second scenario, funds would not have such discretion, which could better protect investors from dilution. However, because mutual funds vary significantly in their portfolios and sizes, it would be challenging to establish a trigger that is not dependent on timely flow information and would equally protect investors of all funds from dilution.

(e) Liquidity Fee for Funds That Are Not Primarily Highly Liquid When Trading Costs Increase Significantly

As another alternative, we could have proposed a liquidity fee only for certain types of funds. For example, we could have proposed a fee that funds that are not primarily highly liquid (*e.g.,* funds that hold less than an identified percentage of their portfolio in highly liquid assets, such as less than 50%, 66%, or 75%) would be required to impose during periods of increased trading costs. Under this alternative, affected funds and their investors would experience similar benefits and costs as in the alternative above. However, the aggregate magnitude of these effects would be smaller because it would not affect all mutual funds. To the extent that funds that invest primarily in highly liquid investments do not experience trading cost increases that are as substantial as all other funds during periods of market stress, this alternative may benefit investors in primarily highly liquid funds by not imposing additional costs related to establishing policies and procedures related to the liquidity fee. However, all funds would have to establish procedures for monitoring whether they hold primarily highly liquid investments or not.

The cost savings of this alternative relative to the alternative that would require a fee for all funds during periods of increased trading costs would depend on how often highly liquid investments may become temporarily less liquid. To the extent that funds expect certain investments that are highly liquid during normal times to become less liquid during stress periods, these funds may have to preemptively establish compliance around the liquidity fee implementation. This effect would be more pronounced for funds that are near the 50% threshold.

This alternative may also affect competition in the mutual fund sector, to the extent it could make investment in mutual funds that are not primarily highly liquid less attractive to investors. In addition, some funds may exit some of their moderately liquid and illiquid investments in order to fall under the definition of primarily highly liquid. This, in turn, may make markets for moderately liquid and illiquid investments more illiquid and negatively affect capital formation for these investments.

ii. Dual Pricing [523]

As an alternative to the proposed swing pricing requirement, we could have required that funds implement dual pricing, which is used in some other jurisdictions. Dual pricing would effectively set two transaction prices for a fund: one price for purchases and another for redemptions. The price adjustments for the funds' shares could either be constant or calculated to reflect the estimated costs of buying and selling the fund's underlying investments, excluding factors that depend on order flow, such as market impact. The first approach would be similar to one of the set fee alternative discussed above, as it would be less reliant on fund flow information than the proposed swing pricing requirement, but the charge imposed on transacting investors would also less accurately reflect the specific liquidity features of the fund's current investments in light of the size of the redemptions the fund is experiencing. As an example of the second approach, a fund would set its purchase price to be the fund's NAV on that day plus an amount that reflects the potential trading costs such as bid-ask spreads that subscriptions impose on a fund given current market conditions, and exclude factors such as market impact that may require knowledge of the fund's order flow on that day. Similarly, the redemption price of a fund share would be the fund's NAV minus an amount that reflects the potential trading costs redemptions would impose on a fund given current market conditions. Operationally, dual pricing would not require that funds receive complete order flow data prior to determining their dual transaction prices, removing the need for a hard

[522] *See also* section II.D.3.b for additional discussion of this alternative.

[523] *See also* section II.D.1.b for additional discussion of this alternative.

close. However, dual pricing would require intermediaries and other market participants to update their processes to handle two potential transaction prices rather than a single NAV, which would impose costs on such intermediaries. In addition, intermediaries that currently submit a single net order (*e.g.,* using omnibus accounting) would need to separately submit aggregate purchases and aggregate redemptions to a fund, which would impose costs on such intermediaries.

iii. Spread Cost Adjustment on Days With Estimated Net Outflows [524]

Another alternative to the proposed swing pricing requirement would be to require that funds use estimated flows to determine whether they expect to have net redemptions on a given day and, if so, to require that the fund adjust its current NAV to reflect good faith estimates of spread costs.[525] This alternative would not require funds to assess market impact, nor would it require that funds use swing pricing on days when a fund estimates that there will be net subscriptions. By setting the price for fund shares to reflect good faith estimates of spread costs on days when a fund estimates it will have net outflows, the fund would protect non-transacting investors from dilution due to the spread costs, to the extent that the fund correctly estimates the direction of the net flows. This approach could ameliorate first-mover advantage because redeeming shareholders would be required to pay at least the spread component of transaction costs imposed on the fund by their redemptions on days where the fund accurately predicts that it will experience net redemptions. As a result, this alternative may help to mitigate run risk and potential fire sales of funds' portfolio holdings. However, basing the decision to apply a spread cost adjustment on estimated flows may reduce the effectiveness of this alternative by possibly causing the fund to adjust its share price down on days where transacting investors ultimately do not dilute remaining fund shareholders. While applying a spread cost adjustment on days when a fund incorrectly predicts net redemptions could result in more shareholder dilution than if an adjustment had not been applied, this possibility would not impede the effectiveness of the alternative to mitigate first-mover advantage.

The alternative would impose lower costs on funds and intermediaries relative to the proposed swing pricing requirement because there would be no requirement for a hard close and no requirement to estimate market impact factors or other transaction costs. By limiting the adjustment of the share price to a step function (*i.e.,* share price is either adjusted to reflect spread costs or not at all), the alternative avoids any imprecision that may be introduced by having the size of the fund's share price adjustment also depend on the size of predicted net outflows. To the extent that funds currently do not implement swing pricing because of existing operational challenges or any stigma that may be associated with the use of that tool, this alternative would likely overcome these challenges by prescribing an approach that is mandatory and that could be implemented more easily under existing operational structures compared to the proposed swing pricing requirement that would rely on a hard close while still providing some anti-dilution benefits to mutual fund investors.

iv. A Choice of an Anti-Dilution Tool

As another alternative to the proposed swing pricing requirement, we could have proposed to require all funds to implement an anti-dilution tool, while allowing them to choose among several tools, such as swing pricing, liquidity fees, or other alternative approaches discussed above. This alternative may benefit funds and their investors, to the extent that certain anti-dilution tools are better suited for certain types of funds in reducing investor dilution. For example, funds that have infrequent subscriptions or redemptions may find a liquidity fee less operationally costly to implement compared to other tools. Similarly, funds that have more volatile flows on a day-to-day basis may find that swing pricing would be a more effective approach to combat dilution because the trading costs would be recouped instantaneously with investors' trading activity, compared to liquidity fees that would not be recouped by a fund until a later date. Further, funds that have de minimis transaction costs for prolonged periods of time may find a liquidity fee that would only apply during stressed conditions more appropriate from the operational prospective. This alternative may benefit mutual fund investors by increasing investor choice relative to the proposal. To the extent that different investors have varying preferences for anti-dilution tools, they would be able to invest in the mutual fund sector according to their preferences. As such, this alternative may increase competition in the mutual fund sector. However, 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.

3. Hard Close Requirement

The proposal would require a hard close, meaning that an order may be executed at the current day's price only if the fund or its designated parties receive the order before 4 p.m. ET. As discussed in section III.B.3, funds and intermediaries are likely to incur significant costs in order to comply with the hard close requirement. Therefore, we have considered alternative approaches to the hard close requirement.

a. Indicative Flows [526]

One alternative to the proposed hard close requirement would be to require that funds receive indicative flow information from intermediaries by an established time. This approach would be less likely to affect investors who place orders near the 4 p.m. ET pricing time, as intermediaries may not necessarily need to establish earlier cut-off times. While intermediaries would incur one-time costs to update their systems and processes to calculate indicative flow information, as well as ongoing costs related to the transmission of the indicative flow information to funds or their designated parties, these costs would be lower than the costs intermediaries would incur under the proposed hard close requirement. The proposed hard close requirement, however, would likely not result in the same ongoing costs for intermediaries that this alternative would require. For example, intermediaries may need to develop a process for estimating indicative flows and sending them to funds, separate from the process of submitting orders to fund transfer agents and Fund/SERV.

[524] *See also* section II.D.3.a for additional discussion of this alternative.

[525] U.S. GAAP states that if an asset measured at fair value has a bid price and an ask price (for example, an input from a dealer market), the price within the bid-ask spread that is most representative of fair value in the circumstances shall be used to measure fair value, and that the use of bid prices for asset positions is permitted but not required for these purposes. *See* FASB ASC 820–10–35–36C. Therefore, we recognize that requiring a fund's share price to be determined using bid-side values for the underlying investments would introduce inconsistency in instances where the fund does not use bid prices to value securities for purposes of U.S. GAAP. As a result, funds needing to apply different pricing for these different purposes could experience incremental effort and cost.

[526] *See also* section II.D.2.a for additional discussion of this alternative.

Likewise, funds would need to develop processes for receiving the indicative flow information and monitoring whether each intermediary has provided indicative flow information in a timely manner. Moreover, indicative flow information likely would be less accurate and complete than the flow information funds would receive under the proposed hard close requirement. As a result, funds' swing pricing determinations may be less accurate than under the proposal (*e.g.,* a fund may not adjust its NAV when it should have, or vice versa, due to incomplete flow information), which would limit a fund's ability to mitigate dilution through swing pricing.

b. Estimated Flows [527]

Another alternative approach to a hard close would be to continue allowing funds to use reasonable estimates of their flows in determining transaction costs from investors' trading activity and to provide them with a safe harbor in cases where the produced estimates of the funds' net flows are different from realized net flows. This approach would have limited effect on intermediaries, as funds would base their estimates on models incorporating available information. However, because funds would base anti-dilution decisions on less precise flow data, this alternative could reduce the effectiveness of a fund's swing pricing by possibly causing it to adjust its NAV on days where transacting investors ultimately do not dilute remaining fund shareholders. On days where a fund estimates the direction of flows incorrectly, *e.g.,* if a fund forecasts that it will experience net subscriptions but actually experiences net redemptions, applying a swing factor could result in more shareholder dilution than if a swing factor had not been applied. This may make mutual funds less attractive to investors. However, the success of this approach would depend on how well funds can predict the additional flows that they receive after their NAV has been determined.

c. Later Cut-Off Times for Intermediaries [528]

Another alternative is to establish later cut-off times for intermediaries to submit order flow information, for example, two or three hours after the fund's pricing time (*e.g.,* 6 or 7 p.m. ET if the fund's pricing time is 4 p.m. ET). Under this alternative, intermediaries would have more time to submit their orders to funds and may not need to impose a cut-off time for investor orders earlier than the pricing time. To the extent that investors would not be subjected to an earlier cut-off time under this alternative, investors that use affected intermediaries would not experience disadvantage over investors that trade with the fund directly in terms of different degree of market risk described above. However, although this alternative may be more beneficial to investors compared to the proposed hard close requirement, it would require similar operational changes and impose similar costs. For example, retirement plan recordkeepers would still need to submit orders before receiving funds' prices. This alternative, however, may be less disruptive than the proposed hard close requirement for intermediaries that typically provide orders by around 6 or 7 p.m. ET, which we understand is the case for many broker-dealers. Under this approach, funds would likely need to publish their prices later than current practice to provide time to make swing pricing decisions. This could delay the distribution of pricing information to the public and to intermediaries. However, because intermediaries would no longer be revising orders contingent on the fund's share price to the same extent, this may not be as disruptive as a later NAV publication would be under the status quo.

4. Commission Reporting and Public Disclosure

As an alternative, we could have proposed public disclosure of position-level liquidity classifications. This alternative may provide more information about a fund's liquidity risk profile to investors, thereby improving their portfolio allocation decisions. While funds may have gained some insight into how other funds manage liquidity risk via their narrative disclosures, to the extent those disclosures tended to be boilerplate, observing other funds' liquidity profiles might provide some information that is useful in a fund's own liquidity classification process. Although the process for funds' liquidity classifications will be more uniform across funds under the proposal, we recognize that the same investment may still be classified differently by different funds due to classifications being position-dependent (*i.e.,* the more of a security is held by a fund, the less liquid its classification would be). Therefore, even if position-level liquidity classifications are disclosed, the comparison of classifications across funds may still not be as meaningful for investors in all cases. Position-level disclosure also could potentially reveal additional information about a fund's trading strategy if, for example, a security was classified as illiquid solely because the fund had material non-public information about the security. In addition, investors also may find the proposed aggregate liquidity information more useful, to the extent that they are focused on a fund's overall liquidity profile rather than the liquidity of any particular investment.

We also could have proposed filings would become public when they are filed as opposed to keeping the filings confidential until 30 days after they are filed (60 days after the end of the reporting period). This could take several forms. For example, we could maintain the proposed filing deadline, which would mean that a fund's filing would be due and become public 30 days after the end of the reporting period. Alternatively, we could pair a publication-upon-filing framework with lengthening the delay between the end of the reporting period (for example, to 45 days after the end of the period). Making filings public immediately upon filing could improve investor understanding of fund portfolios because they would be able to review the information closer to real time (though still with a substantial delay), assuming that the filing deadline was 30 days after each month end as proposed. This would enhance the ability of investors to choose the right fund that suits their portfolio construction goals. Many funds already make portfolio information public with a 30-day delay on a voluntary basis, but this alternative would result in a consistent framework across the entire open-end fund industry. This approach would also reduce the amount of information the Commission would be required to keep confidential.[529] On the other hand, to the extent funds are at risk of predatory trading or copy-catting when their portfolios become public sooner, this approach could serve to increase those risks.[530]

We could have taken the inverse approach as well. Instead of providing for publication at the same time information is filed, we could have provided for a longer period between the time information is filed and when

[527] *See also* section II.D.2.b for additional discussion of this alternative.

[528] *See also* section II.D.2.c for additional discussion of this alternative.

[529] Certain data would remain confidential, such as the composition of the fund's ''miscellaneous securities.'' *See supra* section II.E.1.d.

[530] *See supra* note 287 (comment letter from major industry participant citing research showing that risk of predatory trading or copycatting as a result of increased publication frequency is overstated).

it is made public, and also could have extended the deadline for filing. The benefits and costs of this alternative would likewise be the reverse of the publication-upon-filing alternative. Namely, this alternative could reduce the risks of predatory trading or copy-catting because by the time the information became public, it would be more likely to be stale. On the other hand, it would also be less useful to investors seeking to understand their funds and, if we paired a delay in publication with a delay in the deadline for filing with the Commission, it would be less useful to the Commission as well.

F. Request for Comment

We request comment on all aspects of the economic analysis of the proposed amendments. To the extent possible, we request that commenters provide supporting data and analysis with respect to the benefits, costs, and effects on competition, efficiency, and capital formation of adopting the proposed amendments or any reasonable alternatives. In particular, we ask commenters to consider the following questions:

234. What additional qualitative or quantitative information should be considered as part of the baseline for the economic analysis of these amendments?

235. Are the benefits and costs of proposed amendments accurately characterized? If not, why not? Should any of the costs or benefits be modified? What, if any, other costs or benefits should be taken into account? If possible, please offer ways of estimating these benefits and costs. What additional considerations can be used to estimate the benefits and costs of the proposed amendments?

236. Are the benefits and costs of the proposed swing pricing amendments accurately characterized? If not, why not? What, if any, other costs or benefits should be taken into account? If possible, please offer ways of estimating these benefits and costs.

237. Are the effects on competition, efficiency, and capital formation arising from the proposed amendments accurately characterized? If not, why not?

238. Are the economic effects of the above alternatives accurately characterized? If not, why not? Should any of the costs or benefits be modified? What, if any, other costs or benefits should be taken into account?

239. Are the economic effects of the alternative approaches to implementing swing pricing adequately characterized? If not, why not? Should any of the costs or benefits be modified? What, if any, other costs or benefits should be taken into account?

240. Are there other reasonable alternatives to the proposed amendments that should be considered? What are the costs, benefits, and effects on competition, efficiency, and capital formation of any other alternatives?

241. What effects would the proposed changes have on (1) investment options available to investors if certain asset classes are not available or are less available in open-end vehicles (including UITs); and (2) the markets for those underlying assets, including, but not limited to, the market for bank loan interests.

242. How likely is it that open-end fund managers will choose to offer their products via different structures, such as ETFs, closed-end funds, or CITs, rather than comply with the proposed requirements? Relatedly, how likely is it that investors will move assets from open-end funds to other types of funds in response to the proposed requirements?

243. Are there data sources or data sets that can help refine the estimates of the benefits and costs associated with the proposed amendments? If so, please identify them.

244. Are there data sources that can help us estimate the aggregate number and value of transactions in mutual fund shares with more accuracy? If so, please identify them.

245. Which third-party service providers would be affected the most by the proposed amendments? Please explain why. If possible, please provide data on the number and size of such entities.

246. Would these amendments cause a fund or any third-party service providers assessing liquidity to have new or unforeseen burdens? Would this increase the cost of third-party services?

247. Would certain types of funds have to substantially rebalance their portfolios as a result of the proposed changes to the liquidity risk management program? Provide a list of specific investments that funds would have to hold in limited amounts under the proposed amendments. Are there close alternatives to these investments that funds would be able to hold? For example, can bank loan interests be substituted with CLOs? If no, please explain why.

248. Can the vertical slice assumption for the purposes of calculation of stressed trade size be implemented for all types of fund investments? For example, are there indivisible minimum trade units for any investments for which 10% of such an investment would not be possible to sell due to such indivisibility? How do funds currently operationalize the calculation of the reasonably anticipated trade size: via a vertical slice assumption or in any other way for indivisible investments?

249. What price impact models do funds currently use for liquidity classifications of their investments? Are there advantages of using one model over another? Are there price impact models available to use only through certain third-party service providers assessing liquidity? Do service providers assessing liquidity vary in costs for their services?

250. What would be the costs of obtaining daily pricing and liquidity information for the purposes of daily liquidity classifications? What are the current costs related to obtaining such information?

251. Do funds currently monitor their liquidity classifications on a daily basis? Are there specific types of funds that do not currently evaluate their classifications more frequently than monthly?

252. To what extent would funds implement swing pricing if it were optional, rather than mandatory, as long as funds received complete order flow data prior to determining their NAVs on a given day?

253. How dilutive are fund purchases relative to fund sales? How do the benefits of swing pricing in response to purchases compare to the benefits of swing pricing in response to sales?

254. Which components of trading costs contribute the most to fund dilution? How significant are market impact costs? If we adopted an alternative that excluded market impact from swing factor calculations, would the rule's effectiveness at mitigating dilution be significantly reduced?

255. Of the alternatives to swing pricing discussed above, which strikes the most appropriate balance of investor benefits and implementation costs? Is it more operationally complex and costly to charge fund investors a liquidity fee, or to use dual pricing?

256. What are the benefits of processing trade information via omnibus accounts? How costly would transmitting individual investor order information to funds be for intermediaries? Are per-trade costs the same for all intermediaries? Would there be other ancillary benefits associated with a move away from omnibus account and order netting?

257. What other costs or impediments beyond system switching costs would the proposed hard close requirement impose? Will these costs be different for different types of intermediaries? If so,

what is the differential? How do these costs compare to the potential future benefits of the hard close, such as more efficient order processing?

258. Will certain intermediaries be unable to bear the costs of the proposed hard close requirement? If yes, please explain why. Would the costs differ, depending on whether an intermediary or a service provider is affiliated with a fund family or not?

259. What effect will a hard close requirement have on the availability of certain transaction types offered to investors? Please list the types of transactions that would become unavailable under the proposed hard close requirement?

260. Would investors and other data users benefit significantly from the proposed monthly N–PORT disclosures? Would the quality and availability of mutual funds' portfolio data available to investors and other users improve significantly under the proposed amendments?

261. Would the proposed aggregate liquidity disclosure benefit investors? What are the benefits and costs of such disclosure relative to investment-by-investment liquidity classification disclosure? Are there any substantial burdens that funds would experience with the detailed liquidity classification disclosure beyond the costs associated with the disclosure process itself?

IV. Paperwork Reduction Act

A. Introduction

Certain provisions of the proposed amendments contain ''collection of information'' requirements within the meaning of the Paperwork Reduction Act of 1995 (''PRA'').[531] We are submitting the proposed collections of information to the Office of Management and Budget (''OMB'') for review in accordance with the PRA.[532] The proposed amendments would have an effect on the current collection of information burdens of rules 22e–4 and 22c–1 under the Investment Company Act, as well as Forms N–PORT and N–CEN under the Investment Company Act and Form N–1A under the Investment Company Act and the Securities Act.

The titles for the existing collections of information we are amending are: (1) ''Rule 22e–4 (17 CFR 270.22e–4) under the Investment Company Act of 1940, Investment Company Liquidity Risk Management Programs'' (OMB control number 3235–0737); (2) ''Rule 22c–1 Under the Investment Company Act of 1940, Pricing of redeemable securities for distribution, redemption and repurchase'' (OMB control number 3235–0734); (3) ''Rule 30b1–9 and Form N–PORT'' (OMB control number 3235–0730); (4) ''Form N–1A under the Securities Act of 1933 and under the Investment Company Act of 1940, Registration Statement of Open-End Management Investment Companies'' (OMB control number 3235–0307); and (5) ''Form N–CEN'' (OMB control number 3235–0729).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Each requirement to disclose information, offer to provide information, or adopt policies and procedures constitutes a collection of information requirement under the PRA. These collections of information would help funds manage liquidity, mitigate dilution of shareholders' interests, and provide information to the Commission and investors. The Commission staff would also use the collection of information in its examination and oversight program in identifying patterns and trends across registrants. We discuss below the collection of information burdens associated with the proposed rule and form amendments.

B. Rule 22e–4

Rule 22e–4 requires funds to establish a written liquidity risk management program that is reasonably designed to assess and manage liquidity risk. Several of the proposed amendments to rule 22e–4 would modify existing collection of information requirements. These amendments include:

- Changing the framework for classifying the liquidity of a fund's portfolio investments, including requiring use of a stressed trade size, defining the value impact standard, and requiring daily reviews of the fund's liquidity classifications. We believe funds would update their policies and procedures that incorporate liquidity risk management program elements to reflect these proposed amendments.
- Expanding the scope of funds that must determine and maintain a highly liquid investment minimum. As a result of this proposed change, additional funds would be required to comply with the current rule's collection of information requirements related to highly liquid investment minimums. These collection of information requirements include:
  - The fund's investment adviser or officers designated to administer the liquidity risk management program must provide a written report to the fund's board at least annually that describes a review of the adequacy and effectiveness of the fund's liquidity risk management program, including the operation of the highly liquid investment minimum.
  - The fund must adopt and implement policies and procedures for responding to a shortfall of the fund's assets that are highly liquid investments below its highly liquid investment minimum, which must include reporting to the fund's board of directors with a brief explanation of the causes of the shortfall, the extent of the shortfall, and any actions taken in response, and, if the shortfall lasts more than 7 consecutive calendar days, an explanation of how the fund plans to come back into compliance with its minimum within a reasonable period of time.
  - A fund must maintain a written record of how its highly liquid investment minimum and any adjustments to the minimum were determined, as well as any reports to the board regarding a shortfall in the fund's highly liquid investment minimum, for five years, the first two years in an easily accessible place.

The respondents to rule 22e–4 are open-end management investment companies, including, under certain circumstances, in-kind ETFs and the principal underwriters or depositors of unit investment trusts, but excluding money market funds. None of the proposed amendments would affect the rule's collection of information requirements for unit investment trusts or in-kind ETFs. Compliance with rule 22e–4 is mandatory for funds. Information provided to the Commission in connection with staff examinations or investigations is kept confidential subject to the provisions of applicable law. If information collected pursuant to rule 22e–4 is reviewed by the Commission's examination staff, it is accorded the same level of confidentiality accorded to other responses provided to the Commission in the context of its examination and oversight program.

In our most recent Paperwork Reduction Act submission for rule 22e–4, we estimated a total aggregate annual hour burden of 28,150 hours, and a total aggregate annual external cost burden of $0.[533] Based on filing data as of

[531] 44 U.S.C. 3501 through 3521.

[532] 44 U.S.C. 3507(d); 5 CFR 1320.11.

[533] The most recent rule 22e–4 PRA submission was approved in 2020 (OMB Control No. 3235–0737). That PRA estimated that 846 fund complexes were subject to rule 22e–4. We continue to believe that funds within the same fund complex would experience certain efficiencies in responding to the collection of information requirements and, depending on the size of the fund complex, per

December 2021, we estimate that 11,488 funds would be subject to these proposed amendments.[534] The proposed collections of information are designed to help increase the likelihood that funds are better prepared to manage liquidity during stressed conditions, and help protect investors from dilution. These collections would also help facilitate the Commission's inspection and enforcement capabilities.

The table below summarizes our PRA initial and ongoing annual burden estimates associated with the proposed amendments to rule 22e–4. The following estimates of average burden hours and costs are made for purposes of the Paperwork Reduction Act.

fund costs may be higher or lower than our estimated averages; however, we are changing from a fund complex to a per fund estimate based on staff experience with per fund burdens and to improve the quality of this estimate.

[534] As of Dec. 2021, we estimate 11,488 open-end funds, excluding money market funds.

Table 8: Rule 22e-4 PRA Estimates

	Internal initial burden hours	Internal annual burden hours[1]	Wage rate[2]	Internal time costs	Annual external cost burden
RULE 22e-4 PRA ESTIMATES					
Adopting and implementing revised policies and procedures	9 hours	4 hours[3]	$463[4]	$1,852	$1,000[5]
	3 hours	1 hour	$3,313[6]	$3,313	$0
Board reporting		1 hour[7]	$319[8]	$319	$531[9]
Recordkeeping		1 hour	$86[10]	$86	$0
Total new annual burden per fund		7 hours		$5,570	$1,531
Number of funds		× 11,488 funds[11]		× 11,488 funds	× 11,488 funds
Total new aggregate annual burden		80,416 hours		$63,988,160	$17,588,128
TOTAL ESTIMATED BURDENS INCLUDING AMENDMENTS					
Current aggregate annual burden estimates		+ 28,150 hours			+ $0
Revised aggregate annual burden estimates		108,566 hours			$17,588,128

Notes:

1. Includes initial burden estimates annualized over a 3-year period.

2. The Commission's estimates of the relevant wage rates are based on the salary information for the securities industry compiled by Securities Industry and Financial Markets Association's Office Salaries in the Securities Industry 2013, as modified by Commission staff ("SIFMA Wage Report"). The estimated figures are modified by firm size, employee benefits, overhead, and adjusted to account for the effects of inflation.

3. Reflects 9 hours of initial internal burden hours of amending existing policies and procedures, annualized over a 3-year period, and 1 hour of ongoing annual internal burden to maintain the policies and procedures.

4. This blended rate is based on the following: $360 (hourly rate for a senior portfolio manager); $510 (hourly rate for an assistant general counsel); $580 (hourly rate for a chief compliance officer); and $400 (hourly rate for a compliance attorney).

5. We estimate that the average cost of external services is $1,000 per fund. The Commission's estimates of the relevant wage rates for external time costs, such as outside legal services, take into account staff experience, a variety of sources including general information websites, and adjustments for inflation. The cost of external services for rule 22e-4 has not been previously estimated. We estimate this cost for external services for the proposed amendments to rule 22e-4 taking into account staff experience and outreach on liquidity classification vendors.

6. This blended rate is based on the following estimates: 2 hours of time for a board of directors at an average cost per hour of $4,770 and 1 hour of time for a compliance attorney to prepare materials for the board's review at an average cost per hour of $400. This estimated cost for a board of directors assumes an average of 9 board members and has been adjusted for inflation.

7. Although the average reporting burden per fund may be greater than 1 hour when a fund has to report a highly liquid investment minimum shortfall to its board, we estimate that not all funds would experience a highly liquid investment minimum shortfall each year.

8. This blended rate is based on the following: $360 (hourly rate for a senior portfolio manager); $339 (hourly rate for a compliance manager); $510 (hourly rate for an assistant general counsel); and $68 (hourly rate for a general clerk).

9. This estimated burden is based on the estimated wage rate of $531/hour, for 1 hour, for outside legal services. The Commission's estimates of the relevant wage rates for external time costs, such as outside legal services, take into account staff experience, a variety of sources including general information websites, and adjustments for inflation.

10. This blended rate is based on the following: $104 (hourly rate for a senior computer operator); and $68 (hourly rate for a general clerk).

11. Includes open-end funds, excluding money market funds, as reported on Form N-CEN as of Dec. 2021. The internal and external burdens in the table represent per fund estimates. The most recent rule 22e-4 PRA submission approved in 2020 (OMB Control No. 3235-0737) used per fund complex estimates. We continue to believe that funds within the same fund complex would experience certain efficiencies in responding to the collection of information requirements and, depending on the size of the fund complex, per fund costs may be higher or lower than our estimated averages.

C. Rule 22c–1

Rule 22c–1 enables funds to use swing pricing as a tool to mitigate shareholder dilution. Swing pricing is currently optional for certain open-end funds. The proposed amendments would amend rule 22c–1 to make swing pricing for open-end funds (other than ETFs or money market funds) mandatory instead of optional. Funds that would be required to implement swing pricing under our amendments must establish and implement swing pricing policies and procedures.[535] The policies and procedures must: (1) provide that the fund will adjust its net asset value if the fund has net redemptions or if it has net purchases exceeding the inflow swing threshold; and (2) specify the process for determining the swing factor. The rule also would require a fund to retain a written copy of the periodic report provided to the board prepared by the swing pricing administrator that describes, among other things, the swing pricing administrator's review of the adequacy of the fund's swing pricing policies and procedures and the effectiveness of their implementation. The retention of these records is necessary to allow the staff during examinations of funds to determine whether a fund is in compliance with its swing pricing policies and procedures and with rule 22c–1.

Compliance with rule 22c–1(b) would be mandatory for funds subject to the proposed swing pricing requirements. Based on filing data as of December 2021, we estimate that 9,043 funds would be subject to these proposed amendments.[536] Information provided to the Commission in connection with staff examinations or investigations is kept confidential subject to the provisions of applicable law. If information collected pursuant to rule 22c–1 is reviewed by the Commission's examination staff, it is accorded the same level of confidentiality accorded to other responses provided to the Commission in the context of its examination and oversight program.

The most recent PRA submission estimated that 5 fund complexes had funds that might adopt swing pricing policies and procedures under the optional rule.[537] The current estimated hour burdens and time costs associated with rule 22c–1, including the burden associated with the requirements that funds adopt policies and procedures and obtain board approval of them, provide periodic written reports by the swing pricing administrator to the board, and retain certain records and written reports related to swing pricing, are an average aggregate annual burden of 113 hours and average aggregate time costs of $73,803.[538]

The table below summarizes our PRA initial and ongoing annual burden estimates associated with the proposed amendments to rule 22c–1. The following estimates of average burden hours and costs are made solely for purposes of the Paperwork Reduction Act.

BILLING CODE 8011–01–P

[535] *See* proposed rule 22c–1(b).

[536] As of Dec. 2021, we estimate 9,043 open-end funds, excluding money market funds and ETFs.

[537] The most recent rule 22c–1 PRA submission was approved in 2020 (OMB Control No. 3235–0734). We continue to believe that funds within the same fund complex would experience certain efficiencies in responding to the collection of information requirements and, depending on the size of the fund complex, per fund costs may be higher or lower than our estimated averages; however, we are changing from a fund complex to a per fund estimate based on staff experience with per fund burdens and to improve the quality of this estimate.

[538] The estimated burden hours include 280 total hours (or 56 hours per fund complex) to initially prepare and approve swing pricing policies and procedures, amortized over 3 years, and 20 total hours (or 4 hours per fund complex) to retain swing pricing records under rule 22c–1 each year.

Table 9: Rule 22c-1 PRA Estimates

	Initial internal burden hours	Internal annual burden hours[1]		Wage rate[2]	Internal time costs	Annual external cost burden
Swing Pricing Policies and Procedures	12 hours	5 hours[3]	x	$409[4]	$2,045	$1,000[5]
	3 hours	1 hour		$3,313[6]	$3,313	$0
Swing Pricing Board Reporting		2 hours		$400[7]	$800	$531[8]
Swing Pricing Recordkeeping		1 hour	x	$86[9]	$86	$0
Total new annual burden per fund		9 hours			$6,244	$1,531
Number of funds		× 9,043 funds[10]			× 9,043 funds[10]	× 9,043 funds[10]
Total new annual burden		81,387 hours			$56,464,492	$13,844,833
TOTAL ESTIMATED BURDENS, INCLUDING AMENDMENTS						
Current burden estimates		113 hours			$73,803	
Revised burden estimates		**81,387 hours**			**$56,464,492**	**$13,844,833**

Notes:
1. Includes initial burden estimates annualized over a 3-year period.
2. *See supra* Table 8, at note 2.
3. We estimate that each fund would spend 1 hour each year, on average, to update its swing pricing policies and procedures.
4. The $409 wage rate reflects current estimates of the blended hourly rate for a senior accountant ($237) and a chief compliance officer ($580).
5. We estimate that the average cost of external services is $1,000 per fund. The Commission's estimates of the relevant wage rates for external time costs, such as outside legal services, take into account staff experience, a variety of sources including general information websites, and adjustments for inflation.
6. This blended rate is based on the following estimates: 2 hours of time for a board of directors at an average cost per hour of $4,770 and 1 hour of time for a compliance attorney to prepare materials for the board's review at an average cost per hour of $400. This estimated cost for a board of directors assumes an average of 9 board members and has been adjusted for inflation.
7. Reflects an estimated wage rate of $400 per hour for a compliance attorney.
8. This estimated burden is based on the estimated wage rate of $531/hour, for 1 hour, for outside legal services. The Commission's estimates of the relevant wage rates for external time costs, such as outside legal services, take into account staff experience, a variety of sources including general information websites, and adjustments for inflation.
9. The $86 wage rate reflects current estimates of the blended hourly rate for a senior computer operator ($104) and a general clerk ($68).
10. Includes open-end funds, excluding money market funds and ETFs, as reported on Form N-CEN as of Dec. 2021. The internal and external burdens in the table represent per fund estimates. The most recent rule 22c-1 PRA submission approved in 2019 (OMB Control No. 3235-0734) used fund complex estimates. We continue to believe, however, that funds within the same fund complex would experience certain efficiencies in responding to the collection of information requirements and, depending on the size of the fund complex, per fund costs may be higher or lower than our estimated averages.

BILLING CODE 8011–01–C

D. Form N–PORT

Form N–PORT requires registered management investment companies (except for money market funds and small business investment companies) and ETFs that are organized as unit investment trusts to report portfolio holdings information in a structured, XML format. The form is filed electronically using the Commission's electronic filing system, EDGAR. We propose the following amendments to Form N–PORT:

- The proposed amendments to Form N–PORT would require filing Form N–PORT on a monthly basis, within 30 days after the end of each month. Currently, a fund must maintain in its records the information that is required to be included on Form N–PORT not later than 30 days after the end of each month, but is only required to file that information within 60 days after the end of every third month. We are not proposing to adjust the estimated collection of information burden in connection with this change, in part because we believe the reduced recordkeeping burden is commensurate with the increased burden associated with filing the information that previously would have been preserved as a record. The Commission similarly did not adjust the PRA burden estimate when it amended Form N–PORT to move from a requirement to file reports monthly to a requirement to prepare the information monthly but file it quarterly.[539]
- We are proposing to require each open-end fund (other than money market funds and in-kind ETFs) to report the aggregate percentage of its portfolio represented in each of the three proposed liquidity categories, which would be publicly available. These funds would be required to adjust the reported amounts to account for the amounts of margin or collateral posted in connection with certain derivatives transactions as well as outstanding liabilities, and to report information about the value of these adjustments. Currently, these funds are required to report position-level liquidity information on a non-public section of Form N–PORT, meaning the amendments would require aggregating that information, making the required adjustments, and reporting the adjusted aggregate information as well as information about the adjustments that were made.
- For open-end funds that would be subject to the swing pricing requirement under the proposal, we are proposing to provide enhanced transparency into the frequency and amount of each fund's swing pricing adjustments. Specifically, the proposal would require these funds to report information about the number of days a fund applied a swing factor during the month and the amount of each swing factor applied.
- We also propose conforming amendments to certain existing items to account for other aspects of the proposal, including amendments to the filing frequency of unstructured portfolio information on Part F of Form N–PORT and miscellaneous holdings disclosure to account for the proposal to make monthly Form N–PORT information available to the public, amendments to reflect the proposed amendments to rule 22e–4, and amendments to certain entity identifiers.

The respondents to these collections of information will be management investment companies (other than money market funds and small business investment companies) and ETFs that are organized as unit investment trusts. We estimate that there are 12,153 such funds required to file on Form N–PORT, although certain of the proposed new collections of information would apply to subsets of these funds, as reflected in the below table.[540] The proposed collections of information are mandatory for the identified types of funds. Certain information reported on the form is kept confidential, and we propose that this would continue to be the case.[541] We propose that all other responses to Form N–PORT reporting requirements would not be kept confidential, and instead would be made public 60 days after the end of the month to which they relate (30 days after they are filed); currently, only the report for every third month is made public. The proposed amendments are designed to assist the Commission in its regulatory, disclosure review, inspection, and policymaking roles, and to help investors and other market participants better assess different fund products.

In our most recent PRA submission for Form N–PORT, we estimated the annual aggregate compliance burden to comply with the current collection of information requirements in Form N–PORT is 1,839,903 burden hours with an internal cost burden of $654,658,288 and an external cost burden estimate of $113,858,133. We estimate that funds prepare and file their reports on Form N–PORT either by (1) licensing a software solution and preparing and filing the reports in house, or (2) retaining a service provider to provide data aggregation, validation, and/or filing services as part of the preparation and filing of reports on behalf of the fund. We estimate that 35% of funds subject to the N–PORT filing requirements will license a software solution and file reports on Form N–PORT in house, and the remaining 65% will retain a service provider to file reports on behalf of the fund.

Table 10 below summarizes our initial and ongoing annual burden estimates associated with the proposed amendments to Form N–PORT. The following estimates of average burden hours and costs are made solely for purposes of the Paperwork Reduction Act.

BILLING CODE 8011–01–P

[539] *See* 2018 Liquidity Disclosure Adopting Release, *supra* note 22, at section IV.B.

[540] The most recent Form N–PORT PRA submission was approved in 2022 (OMB Control No. 3235–0730). That PRA submission estimated that 11,980 funds were required to file on Form N–PORT. Our current estimate has increased due to changes in the numbers of funds.

[541] *See* General Instruction F of Form N–PORT; General Instruction F of proposed Form N–PORT.

Table 10: Form N-PORT PRA Estimates

	Initial internal burden hours	Internal annual burden hours[1]		Wage rate[2]	Internal time costs	Annual external cost burden
PROPOSED AMENDMENTS TO FORM N-PORT						
Aggregate Liquidity Classification Reporting						
Funds that license a software solution to prepare Form N-PORT	3 hours	2 hours[3]	x	$381[4]	$762	$250[5]
Number of funds		× 4,021 funds[6]			× 4,021 funds[6]	× 4,021 funds[6]
Funds that retain the services of a third-party vendor to prepare Form N-PORT	3 hours	2 hours[3]		$381[5]	$762	$286[7]
Number of funds		× 7,467 funds[6]			× 7,467 funds[6]	× 7,467 funds[6]
Subtotal: Aggregate Liquidity Classification		22,976 hours			$8,753,856	$3,140,819
Swing Pricing Reporting						
Funds that license a software solution to prepare Form N-PORT	9 hours	4 hours	x	$381[5]	$1,524	$250[6]
Number of funds		× 3,165 funds[8]			× 3,165 funds[8]	× 3,165 funds[8]
Funds that retain the services of a third-party vendor to prepare Form N-PORT	9 hours	4 hours	x	$381[5]	$1,524	$286[7]
Number of funds		× 5,878 funds[8]			× 5,878 funds[8]	× 5,878 funds[8]
Subtotal: Swing Pricing Reporting		36,172 hours			$13,781,532	$2,472,356
Other Proposed Amendments to Form N-PORT						
Funds that license a software solution to prepare Form N-PORT		1 hours	x	$381[5]	$381	
Number of funds		× 4,254 funds[9]			× 4,254 funds[9]	
Funds that retain the services of a third-party vendor to prepare Form N-PORT		1 hours	x	$381[5]	$381	
Number of funds		× 7,899 funds[9]			× 7,899 funds[9]	
Subtotal: Other Proposed Amendments		12,153 hours			$4,630,293	
Total estimated burdens for proposed amendments						
Total new annual burden		71,301 hours			$27,165,681	$5,613,175
TOTAL ESTIMATED BURDENS, INCLUDING AMENDMENTS						
Current burden estimates		1,848,326 hours				$108,457,536
Revised burden estimates		**1,919,627 hours**				**$114,070,711**

Certain products and sums do not tie due to rounding.
Notes:
1. Includes initial burden estimates annualized over a 3-year period.
2. *See supra* Table 8, at note 2.
3. Reflects estimated initial internal burden of 3 hours, annualized over 3 years, as well as an estimated ongoing annual internal burden of 1 hour.
4. The $381 wage rate reflects current estimates of the blended hourly rate for a senior programmer ($362) and a compliance attorney ($400).
5. Represents additional licensing fees that may be incurred as a result of required new functionality.
6. Based on Commission filings, we estimate that there are 11,488 open-end funds that would be required to report aggregate liquidity classification information. We estimate that 35% of these funds (or 4,021) would license a software solution to prepare Form N-PORT while 65% (7,467) would rely on a third-party vendor.
7. Represents an assumed 2.5% increase in the current $11,440 external cost associated with the proposed collection of information (5% in aggregate for liquidity classification and swing pricing reporting).
8. Based on Commission filings, we estimate that there are 9,043 open-end funds that would be required to report swing pricing information. We estimate that 35% of these funds (or 3,165) would license a software solution to prepare Form N-PORT while 65% (5,878) would rely on a third-party vendor.
9. Based on Commission filings, we estimate that there are 12,153 funds that file reports on Form N-PORT. We estimate that 35% of these funds (or 4,254) would license a software solution to prepare Form N-PORT while 65% (7,899) would rely on a third-party vendor.

BILLING CODE 8011–01–C

E. Form N–1A

Form N–1A is used by registered open-end management investment companies (except insurance company separate accounts and small business investment companies licensed under the United States Small Business Administration), to register under the Investment Company Act and to offer their shares under the Securities Act. Unlike many other Federal information collections, which are primarily for the use and benefit of the collecting agency, this information collection is primarily for the use and benefit of investors. The information filed with the Commission also permits the verification of compliance with securities law requirements and assures the public availability and dissemination of the information. In our most recent Paperwork Reduction Act submission for Form N–1A, we estimated for Form N–1A a total annual aggregate ongoing hour burden of 1,672,077 hours, and the total annual aggregate external cost burden is $132,940,008.[542] Compliance with the disclosure requirements of Form N–1A is mandatory, and the responses to the disclosure requirements will not be kept confidential.

We propose to amend Item 11(a) of Form N–1A to require, if applicable, that funds disclose that if an investor places an order with a financial intermediary, the financial intermediary may require the investor to submit its order earlier to receive the next calculated NAV. In addition, as a result of the proposed amendments to rule 22c–1 to require that certain funds use swing pricing, we estimate that additional funds would be required to disclose information about swing pricing in response to certain existing items in the form.[543] The Commission previously estimated that 474 funds would choose to use swing pricing under the optional framework.[544] We now estimate that 9,043 funds would be required to use swing pricing and to disclose relevant information on Form N–1A.[545] We also propose to remove the requirement to provide an upper limit on the swing factor from Item 6(d).

Table 11 below summarizes our initial and ongoing annual burden estimates associated with the proposed amendments to Form N–1A. The following estimates of average burden hours and costs are made solely for purposes of the Paperwork Reduction Act.

[542] The most recent Form N–1A PRA submission was approved in 2021 (OMB Control No. 3235–0307).

[543] *See* Items 6(d), 4(b)(2)(ii), 4(b)(2)(iv)(E), and 13(a) of Form N–1A.

[544] *See* Swing Pricing Adopting Release, *supra* note 11, at n.544 and accompanying text.

[545] This estimate, which is as of Dec. 2021, is based on Form N–CEN filings received through May 2022.

Table 11: Form N-1A PRA Estimates

	Initial internal burden hours	Internal annual burden hours[1]		Wage rate[2]	Internal time costs	Annual external cost burden
Hard Close						
Disclosure of Information Related to Hard Close	3 hours	1.5 hours[3]	x	$381[4]	$572	
Number of funds		× 9,043 funds			× 9,043 funds	× 9,043 funds
Subtotal: Hard Close		13,565 hours			$5,168,075	$0
Swing Pricing Reporting						
Swing Pricing Disclosure	2 hours	1.67 hours[5]	x	$381[4]	$635	
Number of funds		× 8,569 funds[6]			× 8,569 funds[6]	× 8,569 funds[6]
Subtotal: Swing Pricing		14,282 hours			$5,441,315	$0
Total estimated burdens for proposed amendments						
Total new annual burden		27,846 hours			$10,609,390	
TOTAL ESTIMATED BURDENS, INCLUDING AMENDMENTS						
Current burden estimates		1,672,102 hours				$132,940,008
Revised burden estimates		**1,699,948 hours**				$132,940,008

Certain products and sums do not tie due to rounding.
Notes:
1. Includes initial burden estimates annualized over a 3-year period.
2. *See supra* Table 8, at note 2.
3. Reflects estimated initial internal burden of 3 hours, annualized over 3 years, as well as an estimated ongoing annual internal burden of 0.5 hours.
4. Reflects current estimates of the blended hourly rate of a compliance attorney and a senior programmer.
5. Reflects estimated initial internal burden of 2 hours, annualized over 3 years, as well as an estimated ongoing annual internal burden of 1 hour.
6. Reflects the number of registered open-end funds (other than money market funds and ETFs) minus 474 funds. While all registered open-end funds (other than money market funds and ETFs) would be required to provide the swing pricing disclosure, the Commission previously estimated that 474 funds would opt to provide optional swing pricing disclosure on Form N-1A and has already accounted for the filing burden of such funds in its PRA estimates for Form N-1A. *See* Swing Pricing Adopting Release, *supra* note 9, at Section VI.

F. Form N–CEN

Form N–CEN requires registered investment companies, other than face-amount certificate companies to report annual, census-type information. Filers must submit this report electronically using the Commission's EDGAR system in XML format. We propose the following amendments to Form N–CEN:

• Adding a requirement that an open-end fund that uses a liquidity service provider report: (a) the name each liquidity service provider; (b) identifying information, including the legal entity identifier and location, for each liquidity service provider; (c) if the liquidity service provider is affiliated with the fund or its investment adviser; (d) the asset classes for which that liquidity service provider provided classifications; and (e) whether the service provider was hired or terminated during the reporting period;

• Removing requirements that a filer report certain information regarding its use of swing pricing; and

• Revising the approach to certain entity identifiers.[546]

The respondents to these collections of information will be registered investment companies with the exception of face amount certificate companies. We estimate that there are 2,754 such registrants required to file on Form N–CEN.[547] The proposed collections of information are mandatory. Responses are not kept confidential. The purpose of Form N–CEN is to satisfy the filing and disclosure requirements of section 30 of the Investment Company Act, and of rule 30a–1 thereunder. The proposed amendments are designed to facilitate the Commission's oversight of registered funds and its ability to assess trends and risks.

In our most recent PRA submission for Form N–CEN, we estimated the annual aggregate compliance burden to comply with the current collection of information requirements in Form N–CEN is 54,890 burden hours with an internal cost burden of $19,267,461 and an external cost burden estimate of $1,344,981.[548]

[546] We do not believe that the proposed amendments to separate the concepts of LEI and RSSD ID more clearly in the form would change the burdens of the current form, as the form already requires a fund to report the RSSD ID, if any, if a financial institution does not have an assigned LEI.

[547] This estimate, which is as of Dec. 2021, is based on Form N–CEN filings received through May 2022.

[548] The most recent Form N–CEN PRA submission was approved in 2021 (OMB Control No. 3235–0729). The previous PRA submission estimated that 2,835 registrants were required to file on Form N–CEN. Our current estimate has decreased due to changes in the numbers of registrants.

Table 12 below summarizes our initial and ongoing annual burden estimates associated with the proposed amendments to Form N–CEN. The following estimates of average burden hours and costs are made solely for purposes of the Paperwork Reduction Act.

Table 12: Form N-CEN PRA Estimates

	Initial internal burden hours	Internal annual burden hours[1]		Wage rate[2]	Internal time costs	Annual external cost burden
Liquidity Service Provider Reporting	1.5 hours	1 hour[3]	x	$381[4]	$381	
Number of registrants		x 2,754 registrants			x 2,754 registrants	
Subtotal: Liquidity Service Provider Reporting		2,754 hours			$1,049,274	
Removal of Swing Pricing Reporting		(0.5) hours[5]	x	$351[5]	$(175.5)	
Number of funds		x 9,854 funds[5]			x 9,854 funds[5]	
Subtotal: Removal of Swing Pricing Reporting		(4,927 hours)			($1,729,377)	
Total new annual burden		(2,173 hours)			($680,103)	
TOTAL ESTIMATED BURDENS, INCLUDING AMENDMENTS						
Current burden estimates		54,890 hours				$1,344,981
Revised burden estimates		**52,718 hours**				**$1,344,981**

Notes:
1. Includes initial burden estimates annualized over a 3-year period.
2. *See supra* Table 8, at note 2.
3. Reflects an initial burden of 1.5 hours, annualized over a 3-year period, with an estimated ongoing annual burden of 0.5 hours.
4. The $381 wage rate reflects current estimates of the blended hourly rate for 15 minutes each from a senior programmer ($362) and a compliance attorney ($400).
5. In the most recent PRA submission for Form N-CEN, we estimated that 9,854 funds would incur an additional burden of 0.5 hours per fund at an internal cost of $351 per hour to report use of swing pricing. The estimated reduced burden on Form N-CEN differs from the increased burden we are estimating for Form N-PORT due to the differing requirements. In addition, because it is reversing a previously estimated increase, the estimated reduced burden on Form N-CEN uses the same estimated wage rate as the previous estimate, even though we estimate that wage rates have increased.

G. Request for Comment

We request comment on whether these estimates are reasonable. Pursuant to 44 U.S.C. 3506(c)(2)(B), the Commission solicits comments in order to: (1) evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information will have practical utility; (2) evaluate the accuracy of the Commission's estimate of the burden of the proposed collection of information; (3) determine whether there are ways to enhance the quality, utility, and clarity of the information to be collected; and (4) determine whether there are ways to minimize the burden of the collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology.

Persons wishing to submit comments on the collection of information requirements of the proposed amendments should direct them to the OMB Desk Officer for the Securities and Exchange Commission, *MBX.OMB.OIRA.SEC_desk_officer@omb.eop.gov*, and should send a copy to Vanessa A. Countryman, Secretary, Securities and Exchange Commission, 100 F Street NE, Washington, DC 20549–1090, with reference to File No. S7–26–22. OMB is required to make a decision concerning the collections of information between 30 and 60 days after publication of this release; therefore a comment to OMB is best assured of having its full effect if OMB receives it within 30 days after publication of this release. Requests for materials submitted to OMB by the

Commission with regard to these collections of information should be in writing, refer to File No. S7–26–22, and be submitted to the Securities and Exchange Commission, Office of FOIA Services, 100 F Street NE, Washington, DC 20549–2736.

V. Initial Regulatory Flexibility Analysis

The Commission has prepared the following Initial Regulatory Flexibility Analysis (''IRFA'') in accordance with section 3(a) of the Regulatory Flexibility Act (''RFA'').[549] It relates to: (1) the proposed amendments concerning funds' liquidity risk management programs under rule 22e–4; (2) the proposed swing pricing amendments under rule 22c–1(b); (3) the proposed hard close requirement under rule 22c–1(a); and (4) the proposed disclosure amendments to Form N–1A, Form N–PORT, and Form N–CEN.

A. Reasons for and Objectives of the Proposed Actions

The Commission is proposing amendments to its current rules for open-end funds regarding liquidity risk management programs and swing pricing. The proposed amendments would provide additional standards for making liquidity determinations, amend certain aspects of the liquidity categories, and require more frequent liquidity classifications. The objectives of the proposed liquidity amendments are to improve liquidity risk management programs to better prepare these funds for stressed conditions and improve transparency in liquidity classifications. The proposed amendments also require any open-end fund, other than a money market fund or exchange-traded fund, to use swing pricing. The objectives of swing pricing are to more fairly allocate costs, reduce the potential for dilution of investors who are not currently transacting in the fund's shares, and reduce any potential first-mover advantages. In addition, the Commission is proposing a ''hard close'' requirement for these funds. The proposed hard close amendments would serve multiple objectives, including facilitating funds' ability to operationalize swing pricing by ensuring that funds receive timely flow information and to modernize order processing generally. Finally, the Commission is proposing amendments to reporting requirements that apply to certain registered investment companies, including registered open-end funds (other than money market funds), registered closed-end funds, and unit investment trusts. These proposed amendments seek to improve fund disclosure by requiring more timely reporting of monthly portfolio holdings and related information to the Commission and the public, amend certain reported identifiers, and make other amendments to require additional information about open-end funds' liquidity risk management and use of swing pricing. Each of these objectives is discussed in detail in section II above.

B. Legal Basis

The Commission is proposing the rule and form amendments contained in this document under the authority set forth in the Investment Company Act, particularly sections 6, 8, 22, 24, 30, 31, 34, 38, and 45 thereof [15 U.S.C. 80a–1 *et seq.*], the Investment Advisers Act, particularly section 206 thereof [15 U.S.C. 80b–1 *et seq.*], the Exchange Act, particularly sections 10, 13, 15, 23, and 35A thereof [15 U.S.C. 78a *et seq.*], the Securities Act, particularly sections 7, 10, 17, and 19 thereof [15 U.S.C. 77a *et seq.*], and the Trust Indenture Act, particularly section 319 thereof [15 U.S.C. 77aaa *et seq.*].

C. Small Entities Subject to the Amendments

An investment company is a small entity if, together with other investment companies in the same group of related investment companies, it has net assets of $50 million or less as of the end of its most recent fiscal year.[550] Commission staff estimates that, as of June 2022, there were 46 open-end management investment companies that would be considered small entities; this number includes 2 money market funds and 11 open-end ETFs. Commission staff also estimates that, as of June 2022, there were 31 closed-end investment management companies and 5 unit investment trusts that would be considered small entities.

D. Projected Reporting, Recordkeeping, and Other Compliance Requirements

1. Liquidity Risk Management Programs

The proposed amendments to rule 22e–4 would provide additional standards for making liquidity determinations, amend certain aspects of the liquidity categories, and require more frequent liquidity classifications. Specifically, the proposal would provide objective minimum standards that funds would use to classify investments, including by: (1) requiring funds to assume the sale of a stressed trade size, rather than the rule's current approach of assuming the sale of a reasonably anticipated trade size in current market conditions; (2) defining the value impact standard with more specificity on when a sale or disposition would significantly change the market value of an investment; and (3) removing classification by asset class. The proposed amendments would also remove the less liquid investment category, which would reduce the number of liquidity categories from four to three, and expand the scope of the illiquid investment category. In addition, the proposed amendments would extend the requirement to maintain a highly liquid investment minimum to a broader scope of funds and would change how the highly liquid investment minimum calculation and the calculation of the 15% limit on illiquid investments take into account the amount of assets that are posted as margin or collateral for certain derivatives transactions. Finally, the proposal would require daily classifications.

We estimate that approximately 44 funds are small entities that would be required to comply with the proposed amendments to the liquidity risk management program requirement.[551] The proposed amendments would impose burdens on all open-end funds subjected to the rule, including those that are small entities. We discuss the specifics of these burdens in the Economic Analysis and Paperwork Reduction Act sections above. These sections also discuss the professional skills that we believe compliance with this aspect of the proposal would require. While we would expect larger funds or funds that are part of a large fund complex to incur higher costs related to the proposed liquidity rule amendments in absolute terms relative to a smaller fund or a fund that is part of a smaller fund complex, we would expect a smaller fund to find it more costly, per dollar managed, to comply with the proposed requirements because it would not be able to benefit from a larger fund complex's economies of scale. For example, larger fund complexes would have economies of scale in amending existing liquidity risk management policies and procedures

[549] 5 U.S.C. 603(a).

[550] *See* 17 CFR 270.0–10(a).

[551] *See* text following *supra* note 550. Money market funds are excluded from the proposed liquidity risk management program requirement. In addition, in-kind ETFs are not subject to the current rule's classification requirements or highly liquid investment minimum requirements and, therefore, would not be subject to the proposed amendments to these provisions. Because in-kind ETFs are subject to certain of the proposed amendments, such as amendments to the calculation of the 15% limit on illiquid investments, we include all 11 of the small funds that are open-end ETFs in the estimated number of small entities affected.

and in revising their frameworks for classifying the liquidity of investments.

2. Swing Pricing

Under the proposal, every open-end fund other than an excluded fund would be required to establish and implement swing pricing policies and procedures that adjust the fund's current NAV per share by a swing factor either if the fund has net redemptions or if it has net purchases of more than 2% of the fund's net assets. The swing pricing administrator would be required to review investor flow information to determine: (1) if the fund experiences net purchases or net redemptions; and (2) the amount of net purchases or net redemptions. In determining the swing factor, the proposed rule would require a fund's 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 investment in its portfolio to satisfy the amount of net purchases or net redemptions (*i.e.,* a vertical slice). Additionally, under the proposed rule, the fund's board of directors would be required to: (1) approve the fund's swing pricing policies and procedures; (2) designate the fund's swing pricing administrator; and (3) review, no less frequently than annually, a written report prepared by the swing pricing administrator. Finally, under the proposed rule the fund would be required to maintain the swing pricing policies and procedures and a copy of the written report in an easily accessible place.

We estimate that approximately 33 funds are small entities that would be required to comply with the proposed swing pricing requirement.[552] The proposed requirement would impose burdens on all open-end funds (other than money market funds and ETFs), including those that are small entities. We discuss the specifics of these burdens in the Economic Analysis and Paperwork Reduction Act sections above. These sections also discuss the professional skills that we believe compliance with this aspect of the proposal would require. While we would expect larger funds or funds that are part of a large fund complex to incur higher costs related to the proposed swing pricing requirement in absolute terms relative to a smaller fund or a fund that is part of a smaller fund complex, we would expect a smaller fund to find it more costly, per dollar managed, to comply with the proposed requirement because it would not be able to benefit from a larger fund complex's economies of scale. For example, a larger fund complex would have economies of scale in developing and adopting swing pricing policies and procedures. This is particularly true for larger fund complexes that currently employ swing pricing in their operations in a foreign jurisdiction, such as in Europe.

3. Hard Close

We are proposing amendments to rule 22c–1 to require a hard close for funds that are subject to the proposed swing pricing requirement. The hard close would provide that a request to redeem or purchase a fund's shares may be executed at the current day's price only if the fund, its designated transfer agent, or a registered securities clearing agency receives the eligible order before the pricing time as of which the fund calculates its NAV. Orders received after the fund's established pricing time would receive the next day's price.

We estimate that approximately 33 funds are small entities that would be required to comply with the proposed hard close requirement.[553] The proposed amendments would impose burdens on all open-end funds (except for money market funds and ETFs), including those that are small entities. We discuss the specifics of these burdens in the Economic Analysis section above. The proposed hard close may involve costs to change business practices, operations, and computer systems, including integration of new technologies, for funds, including small entities, which may require specialized operational and technology skills. We would expect that the burdens of these changes would be greater for smaller entities relative to the size of their business than for larger entities, which would benefit from economies of scale.

We estimate that the proposed hard close would also affect 8 small transfer agents.[554] Intermediaries that are small entities would also be affected; however, we lack data for accurately estimating the number of these other intermediaries that are small entities that service open-end fund shareholders and would be affected by the proposed hard close amendments. Those other intermediaries may include a subset of: 471 small advisers,[555] 731 small broker-dealers,[556] 1,280 small recordkeepers,[557] 3,529 small bank entities,[558] and small insurance companies.[559] Furthermore, how much these proposed amendments would affect these intermediaries would be determined largely by the importance these intermediaries and their clients place on receiving the NAV calculated on the day a client places an order.

[552] *See* text following *supra* note 550. ETFs and money market funds are excluded from the proposed swing pricing requirement.

[553] *See* text following *supra* note 550. ETFs and money market funds are excluded from the proposed hard close requirement.

[554] A ''small transfer agent'' is a transfer agent that: (1) received less than 500 items for transfer and less than 500 items for processing during the preceding six months (or in the time that it has been in business, if shorter); (2) transferred items only of issuers that would be deemed small businesses or small organizations; and (3) maintained master shareholder files that in the aggregate contained less than 1,000 shareholder accounts or was the named transfer agent for less than 1,000 shareholder accounts at all times during the preceding fiscal year (or in the time that it has been in business, if shorter); and (4) is not affiliated with any person (other than a natural person) that is not a small business or small organization. *See* rule 0–10(h) under the Exchange Act. We estimate 8 affected small transfer agents, based on the number of small transfer agents reporting mutual fund activity in their filings on Form TA–2 as of Mar. 31, 2022.

[555] A ''small adviser'' is a SEC-registered investment adviser that: (1) has assets under management having a total value of less than $25 million; (2) did not have total assets of $5 million or more on the last day of the most recent fiscal year; and (3) does not control, is not controlled by, and is not under common control with another investment adviser that has assets under management of $25 million or more, or any person (other than a natural person) that had total assets of $5 million or more on the last day of its most recent fiscal year. We estimate 471 small advisers, based on filings on Form ADV as of Dec. 2021.

[556] A ''small broker-dealer'' is a broker or dealer that: (1) had total capital (net worth plus subordinated liabilities) of less than $500,000 on the date in the prior fiscal year as of which its audited financial statements were prepared pursuant to rule 17a–5(d) under the Exchange Act or, if not required to file such statements, a broker or dealer that had total capital (net worth plus subordinated liabilities) of less than $500,000 on the last business day of the preceding fiscal year (or in the time that it has been in business, if shorter); and (2) is not affiliated with any person (other than a natural person) that is not a small business or small organization. *See* rule 0–10(c) under the Exchange Act. We estimate 731 small broker-dealers, based on filings of FOCUS Reports as of Dec. 2021.

[557] *See* Pension Benefit Statements—Lifetime Income Illustrations [85 FR 59132 (Sept. 18, 2020)], at n.71 and accompanying text. We estimate 1,280 small recordkeepers, based on filings of Form 5500 as reported by the Department of Labor, in the 2017 plan year. According to that data, there were 1,725 recordkeepers servicing defined contribution plans. The 445 largest recordkeepers serviced plans holding approximately 99% of total plan assets, while the remaining 1,280 (small recordkeepers) serviced plans holding a mere 1%. The Department of Labor considered other thresholds for recordkeepers and selected the 99 percent threshold for recordkeepers to include more recordkeepers in cost estimates, and thus avoid underestimating costs.

[558] *See* Rules Regarding Availability of Information [85 FR 57616 (Sept. 15, 2020)], at n.7 and accompanying text (stating that as of Mar. 2020, there were approximately 2,925 small bank holding companies, 132 small savings and loan holding companies, and 472 small State member banks). We estimate a total of 3,529 small banks supervised by the Federal Reserve as of Mar. 2020.

[559] We lack data for estimating the number of small insurance companies.

4. Reporting Requirements

a. Form N–1A

Form N–1A is the form used by certain open-end management investment companies to register under the Investment Company Act and to register their securities under the Securities Act. We propose to amend Item 11(a) of Form N–1A to require, if applicable, that funds disclose that if an investor places an order with a financial intermediary, the financial intermediary may require the investor to submit its order earlier to receive the next calculated NAV. We also propose to remove the requirement to provide an upper limit on the swing factor from Item 6(d).

We estimate that approximately 33 funds are small entities that would be required to comply with our proposed amendments for Form N–1A.[560] The proposed amendments would impose burdens on all open-end funds (other than money market funds and ETFs), including those that are small entities. We discuss the specifics of these burdens in the Economic Analysis and Paperwork Reduction Act sections above. These sections also discuss the professional skills that we believe compliance with this aspect of the proposal would require. We recognize that, due to economies of scale, the costs associated with the proposed amendments to Form N–1A may be more easily borne by larger fund complexes than smaller ones, and that costs borne by funds would be passed along to investors in the form of higher fees and expenses.

b. Form N–PORT

Form N–PORT requires open-end and closed-end funds, as well as ETFs organized as UITs, to report monthly portfolio holdings information on a quarterly basis in a structured, XML format. We propose the following amendments to Form N–PORT: (1) require funds to file Form N–PORT on a monthly basis, within 30 days after the end of each month; (2) require open-end funds to report the aggregate percentage of a fund's portfolio represented in each of the three proposed liquidity categories, which would be publicly available; (3) provide enhanced transparency into the frequency and amount of a fund's swing pricing adjustments; and (4) changes to entity identifiers.

We estimate that approximately 75 open-end and closed-end funds are small entities that would be required to comply with our proposed amendments for Form N–PORT.[561] The proposed amendments would impose burdens on all Form N–PORT filers, including those that are small entities. We discuss the specifics of these burdens in the Economic Analysis and Paperwork Reduction Act sections above. These sections also discuss the professional skills that we believe compliance with this aspect of the proposal would require. We recognize that, due to economies of scale, the costs associated with the proposed amendments to Form N–PORT may be more easily borne by larger fund complexes than smaller ones, and that costs borne by funds would be passed along to investors in the form of higher fees and expenses.

c. Form N–CEN

Form N–CEN is used to collect annual, census-type information for all registered investment companies, other than face-amount certificate companies. Filers must submit this report electronically using the Commission's EDGAR system in XML format. We propose amendments to Form N–CEN that would identify liquidity service providers and certain related information, as well as remove the requirements that a filer report information regarding its use of swing pricing, which is being moved to Form N–PORT. We also propose amendments related to entity identifiers.

We estimate that approximately 82 funds are small entities that would be required to comply with our proposed amendments for Form N–CEN.[562] The proposed amendments would impose burdens on all Form N–CEN filers, including those that are small entities. We discuss the specifics of these burdens in the Economic Analysis and Paperwork Reduction Act sections above. These sections also discuss the professional skills that we believe compliance with this aspect of the proposal would require. We recognize that, due to economies of scale, the costs associated with the proposed amendments to Form N–CEN may be more easily borne by larger fund complexes than smaller ones, and that costs borne by funds would be passed along to investors in the form of higher fees and expenses.

E. Duplicative, Overlapping, or Conflicting Federal Rules

We do not believe that the proposed amendments would duplicate, overlap, or conflict with other existing Federal rules.

F. Significant Alternatives

The RFA directs the Commission to consider significant alternatives that would accomplish our stated objectives, while minimizing any significant economic impact on small entities. We considered the following alternatives for small entities in relation to the proposed amendments to rules 22e–4 and 22c–1, as well as the proposed disclosure and reporting requirements: (1) establishing different requirements that take into account the resources available to small entities; (2) exempting small entities from all or part of the requirements; (3) clarifying, consolidating, or simplifying requirements under the rules for small entities; and (4) using performance rather than design standards.

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. As discussed above, we believe that the proposed liquidity amendments would improve liquidity risk management programs to better prepare funds for stressed conditions and improve transparency in liquidity classifications. Small funds do not entail less liquidity risk than larger funds, and investors in small funds would benefit from improvements in the liquidity risk management programs and more transparent liquidity classifications just as investors in larger funds would. We therefore do not believe it would be appropriate to establish different requirements for, or exempt, funds that are small entities from the proposed liquidity risk management amendments to rule 22e–4. Similarly, our objectives would not be served by clarifying, consolidating, or simplifying the liquidity requirements for small entities. With respect to using performance rather than design standards, the proposed amendments primarily use design rather than performance standards to better prepare funds for stressed market conditions, prevent funds from over-estimating the

[560] *See* text following *supra* note 550. ETFs and money market funds file reports on Form N–1A but would not be impacted by our proposed amendments.

[561] *See* text following *supra* note 550. Money market funds do not file Form N–PORT. While exchange-traded funds organized as unit investment trusts file Form N–PORT, there are no such funds that would be considered small entities.

[562] *See* text following *supra* note 550. In-kind ETFs would not be affected by the proposed amendments to report information about liquidity classification vendors but, to avoid under-estimating the number of small entities, we assume that the 11 small entity ETFs are not in-kind ETFs and would be affected by the change. We similarly assume that all 44 funds that are small entities would use a liquidity classification vendor, although this may not be the case. If a fund does not use a liquidity classification vendor, it would not be required to report information about a vendor on Form N–CEN.

liquidity of their investments, and improve transparency of fund liquidity.

Regarding the proposed changes to the liquidity classification framework, we acknowledge that to the extent that small funds would experience a more substantial operational burden compared to larger fund complexes that exhibit economies of scale, smaller funds may become less competitive than larger funds. However, we believe there are no significant alternatives for smaller funds other than exemption, and providing an exemption from the proposed liquidity classification changes could subject investors in small funds to greater liquidity risk and would create diverging liquidity frameworks among funds, as small funds are already subject to the current rule's liquidity classification requirements.

Additionally, we are not establishing different requirements for, or exempting, funds that are small entities from the swing pricing requirement, because we believe that all funds should be required to use swing pricing as a tool to mitigate potential shareholder dilution. We do not believe that the potential dilution that proposed rule 22c–1(b) is meant to prevent would affect large funds and their shareholders more significantly than small funds and their shareholders. We acknowledge that a fund that is a small entity would need to incur the costs of compliance with the proposed amendments to the rule, which may constitute a greater percentage of the small fund's net assets than with a larger fund. We also acknowledge that certain larger fund groups with both U.S. and European operations may already have experience with swing pricing that smaller funds would not, which could result in greater costs, relative to a fund's net assets, for smaller funds than larger ones. However, despite these considerations, we do not believe that investors in small funds should be afforded less protection against the risk of dilution than investors in large funds.

We therefore do not believe it would be appropriate to establish different requirements for, or to exempt, funds that are small entities from the proposed swing pricing requirement. For example, we are not allowing funds that are small entities to use a different inflow swing threshold or market impact threshold than those the proposed rule identifies. As discussed above, we do not believe the potential dilution that the proposed swing pricing requirement is meant to prevent would affect large funds and their shareholders more significantly than small funds and their shareholders. Permitting funds that are small entities to use higher thresholds could subject small funds to greater dilution than larger funds, and we believe all investors should be afforded the same protection against the risk of dilution.[563] Similarly, our objectives would not be served by clarifying, consolidating, or simplifying the swing pricing requirements for small entities. With respect to using performance rather than design standards, the proposed amendments primarily use design rather than performance standards to promote more consistent and uniform standards for all funds. We are also not establishing different requirements for, or exempting, funds that are small entities from the proposed hard close requirement because we believe the requirement is important to every fund's ability to operationalize swing pricing. Our hard close proposal is designed to support the proposed swing pricing amendments by facilitating the more timely receipt of fund order flow information. We believe that requiring a hard close would reduce a fund's reliance on estimates, providing more accurate swing factor determinations. We do not believe investors in smaller funds would benefit from a greater use of estimates than investors in larger funds. We therefore do not believe it would be appropriate to establish different requirements for, or exempt, funds that are small entities from the proposed hard close requirement in rule 22c–1. Similarly, our objectives would not be served by clarifying, consolidating, or simplifying the hard close requirement for small entities. With respect to using performance rather than design standards, the proposed amendments primarily use design rather than performance standards to promote more consistent and uniform standards for all funds.

Finally, we do not believe that the interest of investors would be served by establishing different requirements for, or exempting, funds that are small entities from the proposed disclosure and reporting amendments, or subjecting these funds to different disclosure and reporting requirements than larger funds. We believe that all fund investors, including investors in funds that are small entities, would benefit from disclosure and reporting requirements that would permit them to make investment choices that better match their risk tolerances. Furthermore, we note that the current disclosure requirements on Form N–1A, Form N–PORT, and Form N–CEN do not distinguish between small entities and other funds. Similarly, our objectives would not be served by clarifying, consolidating or simplifying the proposed disclosure and reporting requirements for small entities. With respect to using performance rather than design standards, the proposed amendments primarily use design rather than performance standards to promote more consistent and uniform standards for all funds.

We recognize that, due to economies of scale, the costs associated with the proposed amendments to these forms may be more easily borne by larger fund complexes than smaller ones, and that costs borne by funds would be passed along to investors in the form of higher fees and expenses. However, we believe there are no significant alternatives for smaller funds other than exemption, and providing exemptions for smaller funds from the proposed reporting and disclosure requirements would disadvantage investors in smaller funds by creating a lack of information about these funds' use of swing pricing or aggregate liquidity classifications.

G. General Request for Comment

The Commission requests comments regarding this IRFA. We request comments on the number of small entities that may be affected by our proposed amendments, including for the affected small intermediaries that we lack data to quantify with accuracy, and whether the proposed amendments would have any effects not considered in this analysis. We request that commenters describe the nature of any effects on small entities subject to the rules and forms, and provide empirical data to support the nature and extent of such effects. We also request comment on the proposed compliance burdens and the effect these burdens would have on smaller entities.

VI. Consideration of Impact on the Economy

For purposes of the Small Business Regulatory Enforcement Fairness Act of 1996, or ''SBREFA,'' [564] we must advise OMB whether a proposed regulation constitutes a ''major'' rule. Under SBREFA, a rule is considered ''major'' where, if adopted, it results in or is likely to result in (1) an annual effect on the economy of $100 million or more; (2) a major increase in costs or prices for

[563] While we recognize that smaller funds may be less likely than larger funds to have market impact costs at the 1% threshold for net redemptions or the 2% threshold for net purchases, as discussed above, we believe uniform thresholds for all funds would provide a consistent and objective threshold for all funds to consider market impacts.

[564] Public Law 104–121, Title II, 110 Stat. 857 (1996) (codified in various sections of 5 U.S.C., 15 U.S.C. and as a note to 5 U.S.C. 601).

consumers or individual industries; or (3) significant adverse effects on competition, investment or innovation.

We request comment on whether the proposal would be a ''major rule'' for purposes of SBREFA. We request comment on the potential impact of the proposed rule on the economy on an annual basis; any potential increase in costs or prices for consumers or individual industries; and any potential effect on competition, investment, or innovation. Commenters are requested to provide empirical data and other factual support for their views to the extent possible.

Statutory Authority

The Commission is proposing the rule and form amendments contained in this document under the authority set forth in the Investment Company Act, particularly sections 6, 8, 22, 24, 30, 31, 34, 38, and 45 thereof [15 U.S.C. 80a–1 *et seq.*], the Investment Advisers Act, particularly section 206 thereof [15 U.S.C. 80b–1 *et seq.*], the Exchange Act, particularly sections 10, 13, 15, 23, and 35A thereof [15 U.S.C. 78a *et seq.*], the Securities Act, particularly sections 7, 10, 17, and 19 thereof [15 U.S.C. 77a *et seq.*], the Trust Indenture Act, particularly section 319 thereof [15 U.S.C. 77aaa *et seq.*], and 44 U.S.C. 3506–3507.

List of Subjects in 17 CFR Parts 270 and 274

Investment companies, Reporting and recordkeeping requirements, Securities.

Text of Proposed Rules and Rule and Form Amendments

For the reasons set forth in the preamble, the Commission is proposing to amend title 17, chapter II of the Code of Federal Regulations as follows:

PART 270—RULES AND REGULATIONS, INVESTMENT COMPANY ACT OF 1940

■ 1. The authority citation for part 270 continues to read, in part, as follows:

Authority: 15 U.S.C. 80a–1 *et seq.,* 80a–34(d), 80a–37, 80a–39, and Pub. L. 111–203, sec. 939A, 124 Stat. 1376 (2010), unless otherwise noted.

* * * * *

Section 270.22c–1 also issued under secs. 6(c), 22(c), and 38(a) (15 U.S.C. 80a–6(c), 80a–22(c), and 80a–37(a));

* * * * *

Section 270.31a–2 is also issued under 15 U.S.C. 80a–30.

■ 2. Amend § 270.22c–1 by revising it to read as follows:

§ 270.22c–1 Pricing of redeemable securities for distribution, redemption and repurchase.

(a) *Forward pricing required.* No registered investment company issuing any redeemable security, no person designated in such issuer's prospectus as authorized to consummate transactions in any such security, no principal underwriter of, or dealer in, any such security shall sell, redeem, or repurchase any such security except at a price based on the current net asset value of such security established for the next pricing time after receipt of a direction to purchase or redeem such security.

(1) The investment company's board of directors must initially set the pricing time(s), and must make and approve any changes to the pricing time(s).

(2) The investment company must calculate the current net asset value of any redeemable security at least once daily, Monday through Friday, at the pricing time(s) its board of directors set, except on:

(i) Days during which the investment company receives no direction to purchase or redeem its redeemable securities; or

(ii) Customary national business holidays described or listed in the prospectus and local and regional business holidays listed in the prospectus.

(3) For an investment company that is required to implement swing pricing under paragraph (b) of this section:

(i) A direction to purchase or redeem the investment company's redeemable securities is eligible to receive the price established for a pricing time solely if the investment company, its designated transfer agent, or a registered clearing agency receives an eligible order before that pricing time; and

(ii) The price an eligible order receives is based on the current net asset value as of the pricing time and includes any adjustment to the current net asset value required by paragraph (b) of this section.

(b) *Swing pricing requirement.* A registered open-end management investment company (but not a registered open-end management investment company that is regulated as a money market fund under § 270.2a–7 or an exchange-traded fund as defined in paragraph (d) of this section) (a ''fund'') must establish and implement swing pricing policies and procedures as described in paragraphs (b)(1) through (5) of this section in order to adjust its current net asset value per share to mitigate dilution of the value of its outstanding redeemable securities as a result of shareholder purchase or redemption activity.

(1) The fund's swing pricing policies and procedures must:

(i) Provide that the fund must adjust its net asset value per share by a swing factor if the fund has net redemptions or if the fund has net purchases exceeding its inflow swing threshold. The swing pricing administrator must review investor flow information to determine if the fund has net purchases or net redemptions and the amount of net purchases or net redemptions. The swing pricing administrator is permitted to make such determination based on reasonable, high confidence estimates; and

(ii) Specify the process for determining the swing factor, in accordance with paragraph (b)(2) of this section.

(2) In determining the swing factor, the swing pricing administrator must 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 investment in its portfolio equal to the amount of net purchases or net redemptions.

(i) If the fund has net redemptions, the good faith estimates must include, for selling the pro rata amount of each investment in the fund's portfolio:

(A) Spread costs;

(B) Brokerage commissions, custody fees, and any other charges, fees, and taxes associated with portfolio investment sales; and

(C) If the amount of the fund's net redemptions exceeds the market impact threshold, the market impact, as described in paragraph (b)(2)(iii) of this section.

(ii) If the amount of the fund's net purchases exceeds the inflow swing threshold, the good faith estimates must include, for purchasing the pro rata amount of each investment in the fund's portfolio:

(A) Spread costs;

(B) Brokerage commissions, custody fees, and any other charges, fees, and taxes associated with portfolio investment purchases; and

(C) The market impact, as described in paragraph (b)(2)(iii) of this section.

(iii) A fund must 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.

(iv) The swing pricing administrator may estimate costs and market impact factors for each type of investment with the same or substantially similar characteristics and apply those estimates to all investments of that type rather than analyze each investment separately.

(3) The fund's board of directors, including a majority of directors who are not interested persons of the fund, must:

(i) Approve the fund's swing pricing policies and procedures;

(ii) Designate the fund's swing pricing administrator. The administration of swing pricing must be reasonably segregated from portfolio management of the fund and may not include portfolio managers; and

(iii) Review, no less frequently than annually, a written report prepared by the swing pricing administrator that describes:

(A) The swing pricing administrator's review of the adequacy of the fund's swing pricing policies and procedures and the effectiveness of their implementation, including their effectiveness at mitigating dilution;

(B) Any material changes to the fund's swing pricing policies and procedures since the date of the last report; and

(C) The swing pricing administrator's review and assessment of the fund's swing factors, considering the requirements of paragraph (b)(2) of this section, including the information and data supporting the determination of the swing factors and, if the swing pricing administrator implements either an inflow swing threshold lower than 2 percent of the fund's net assets or a market impact threshold lower than 1 percent of the fund's net assets, the information and data supporting the determination of such threshold.

(4) The fund must maintain the policies and procedures adopted by the fund under this paragraph (b) that are in effect, or at any time within the past six years were in effect, in an easily accessible place, and must maintain a written copy of the report provided to the board under paragraph (b)(3)(iii) of this section for six years, the first two in an easily accessible place.

(5) Any fund (a "feeder fund") that invests, pursuant to section 12(d)(1)(E) of the Act (15 U.S.C. 80a–12(d)(1)(E)), in another fund (a "master fund") may not use swing pricing to adjust the feeder fund's net asset value per share; however, a master fund must use swing pricing to adjust the master fund's net asset value per share, pursuant to the requirements set forth in this paragraph (b).

(6) Notwithstanding section 18(f)(1) of the Act (15 U.S.C. 80a–18(f)(1)), a fund with a share class that is an exchange-traded fund is subject to the swing pricing requirement only with respect to any share classes that are not exchange-traded funds.

(c) *Exceptions permitted.* Notwithstanding paragraph (a) of this section:

(1) Secondary market transactions. A sponsor of a unit investment trust ("trust") engaged exclusively in the business of investing in eligible trust securities (as defined in § 270.14a–3(b)) may sell or repurchase trust units in a secondary market at a price based on the offering side evaluation of the eligible trust securities in the trust's portfolio, determined at any time on the last business day of each week, effective for all sales made during the following week, if on the days that such sales or repurchases are made the sponsor receives a letter from a qualified evaluator stating, in its opinion, that:

(i) In the case of repurchases, the current bid price is not higher than the offering side evaluation, computed on the last business day of the previous week; and

(ii) In the case of resales, the offering side evaluation, computed as of the last business day of the previous week, is not more than one-half of one percent ($5.00 on a unit representing $1,000 principal amount of eligible trust securities) greater than the current offering price.

(2) Notwithstanding the provisions above, any registered separate account offering variable annuity contracts, any person designated in such account's prospectus as authorized to consummate transactions in such contracts, and any principal underwriter of or dealer in such contracts must be permitted to apply the initial purchase payment for any such contract at a price based on the current net asset value of such contract which is next computed:

(i) Not later than two business days after receipt of the direction to purchase by the insurance company sponsoring the separate account ("insurer"), if the contract application and other information necessary for processing the direction to purchase (collectively, "application") are complete upon receipt; or

(ii) Not later than two business days after an application which is incomplete upon receipt by the insurer is made complete, provided that, if an incomplete application is not made complete within five business days after receipt,

(A) The prospective purchaser is informed of the reasons for the delay; and

(B) The initial purchase payment is returned immediately and in full, unless the prospective purchaser specifically consents to the insurer retaining the purchase payment until the application is made complete.

(3) This paragraph does not prevent any registered investment company from adjusting the price of its redeemable securities sold pursuant to a merger, consolidation or purchase of substantially all of the assets of a company that meets the conditions specified in § 270.17a–8.

(d) *Definitions.* For the purposes of this section:

Designated transfer agent means a registered transfer agent (as defined in section 3(a)(25) of the Securities Exchange Act of 1934 (15 U.S.C. 78c(a)(25))) that is designated in the fund's registration statement filed with the Commission.

Eligible order means a direction, which is irrevocable as of the next pricing time after receipt, to:

(i) Purchase or redeem a specific number of fund shares or an indeterminate number of fund shares of a specific value; or

(ii) Purchase the fund's shares using the proceeds of a contemporaneous order to redeem a specific number of shares of another registered investment company (an exchange).

Exchange-traded fund means an open-end management investment company (or series or class thereof), the shares of which are listed and traded on a national securities exchange, and that has formed and operates under an exemptive order under the Act granted by the Commission or in reliance on § 270.6c–11.

Inflow swing threshold means 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.

Initial purchase payment means the first purchase payment submitted to the insurer by, or on behalf of, a prospective purchaser.

Investor flow information means information about the fund investors' daily purchase and redemption activity, which may consist of individual, aggregated, or netted eligible orders, and which excludes any purchases or redemptions that are made in kind and not in cash.

Market impact threshold means 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.

Pricing time means the time or times of day as of which the investment company calculates the current net asset value of its redeemable securities pursuant to paragraph (a) of this section.

Prospective purchaser means either an individual contract owner or an individual participant in a group contract.

Qualified evaluator means any evaluator that represents it is in a position to determine, on the basis of an informal evaluation of the eligible trust securities held in a unit investment trust's portfolio, whether:

(i) The current bid price is higher than the offering side evaluation, computed on the last business day of the previous week; and

(ii) The offering side evaluation, computed as of the last business day of the previous week, is more than one-half of one percent ($5.00 on a unit representing $1,000 principal amount of eligible trust securities) greater than the current offering price.

Swing factor means the amount, expressed as a percentage of the fund's net asset value and determined pursuant to the fund's swing pricing policies and procedures, by which a fund adjusts its net asset value per share.

Swing pricing means 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, pursuant to the requirements set forth in paragraph (b) of this section.

Swing pricing administrator means the fund's investment adviser, officer, or officers responsible for administering the swing pricing policies and procedures. The swing pricing administrator may consist of a group of persons.

■ 3. Amend § 270.22e–4 by:

■ a. Removing paragraphs (a)(3) and (10);

■ b. Removing the designations for paragraphs (a)(1) and (2) and (a)(4) through (14) and placing in alphabetical order;

■ c. Adding, in alphabetical order, a definition for ''Convertible to U.S. dollars'';

■ d. Revising the definitions for ''Exchange-traded fund'', ''Highly liquid investment'', ''Illiquid investment'', ''In-Kind Exchange Traded Fund or In-Kind ETF'', ''Liquidity risk'', ''Moderately liquid investment'', and ''Person(s) designated to administer the program'';

■ e. Adding, in alphabetical order, a definition for ''Significantly changing the market value of an investment''; and

■ f. Revising paragraphs (b)(1)(i)(C), (b)(1)(ii) and (iii), (b)(1)(iv) introductory text, and (b)(3)(iii).

The revisions read as follows:

§ 270.22e–4 Liquidity risk management programs.

(a) * * *

Convertible to U.S. dollars means the ability to be sold or disposed of, with the sale or disposition settled in U.S. dollars.

Exchange-traded fund or *ETF* means an open-end management investment company (or series or class thereof), the shares of which are listed and traded on a national securities exchange, and that has formed and operates under an exemptive order under the Act granted by the Commission or in reliance on § 270.6c–11.

* * * * *

Highly liquid investment means any U.S. dollars held by a fund and any investment that the fund reasonably expects to be convertible to U.S. dollars in current market conditions in three business days or less without significantly changing the market value of the investment, as determined pursuant to the provisions of paragraph (b)(1)(ii) of this section.

* * * * *

Illiquid investment means any investment that the fund reasonably expects not to be convertible to U.S. dollars in current market conditions in seven calendar days or less without significantly changing the market value of the investment, as determined pursuant to the provisions of paragraph (b)(1)(ii) of this section. Any investment whose fair value is measured using an unobservable input that is significant to the overall measurement is an illiquid investment.

In-Kind Exchange Traded Fund or *In-Kind ETF* means an ETF that meets redemptions through in-kind transfers of securities, positions, and assets other than a *de minimis* amount of U.S. dollars and that publishes its portfolio holdings daily.

Liquidity risk means 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.

Moderately liquid investment means any investment that is neither a highly liquid investment nor an illiquid investment.

Person(s) designated to administer the program means the fund or In-Kind ETF's investment adviser, officer, or officers (which may not be solely portfolio managers of the fund or In-Kind ETF) responsible for administering the program and its policies and procedures pursuant to paragraph (b)(2)(ii) of this section.

Significantly changing the market value of an investment means:

(i) For shares listed on a national securities exchange or a foreign exchange, 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.

(ii) 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%.

* * * * *

(b) * * *

(1) * * *

(i) * * *

(C) Holdings of U.S. dollars and cash equivalents, as well as borrowing arrangements and other funding sources; and

* * * * *

(ii) *Classification.* Each fund must, using information obtained after reasonable inquiry and taking into account relevant market, trading, and investment-specific considerations, classify daily each of the fund's portfolio investments (including each of the fund's derivatives transactions) as a highly liquid investment, moderately liquid investment, or illiquid investment. To determine the liquidity classification of each investment, the fund must:

(A) Measure the number of days in which the investment is reasonably expected to be convertible to U.S. dollars without significantly changing the market value of the investment, and include the day on which the liquidity classification is made in that measurement; and

(B) Assume the sale of 10% of the fund's net assets by reducing each investment by 10%.

(iii) *Highly liquid investment minimum.* A fund must determine and maintain a highly liquid investment minimum that is equal to or higher than 10% of the fund's net assets.

(A) When determining a highly liquid investment minimum, a fund must consider the factors specified in paragraphs (b)(1)(i)(A) through (D) of this section, as applicable (but considering those factors specified in paragraphs (b)(1)(i)(A) and (B) only as they apply during normal conditions, and during stressed conditions only to the extent they are reasonably foreseeable during the period until the next review of the highly liquid investment minimum).

(B) For purposes of determining compliance with its highly liquid investment minimum, the fund must reduce the value of its highly liquid investments that are assets otherwise eligible to meet the fund's highly liquid investment minimum by an amount equal to:

(*1*) The value of any highly liquid investments that are assets posted as margin or collateral in connection with any derivatives transaction that the fund has classified as a moderately liquid investment or illiquid investment; and

Note 1 to paragraph (b)(1)(iii)(B)(*1*): A fund that has posted highly liquid investments and non-highly liquid investments as margin or collateral in connection with derivatives transactions classified as moderately liquid or illiquid investments first should apply posted assets that are highly liquid investments in connection with these transactions, unless it has specifically identified non-highly liquid investments as margin or collateral in connection with such derivatives transactions.

(*2*) Any fund liabilities.

(C) The highly liquid investment minimum determined pursuant to paragraph (b)(1)(iii) of this section may not be changed during any period of time that a fund's assets that are highly liquid investments are below the determined minimum without approval from the fund's board of directors, including a majority of directors who are not interested persons of the fund;

(D) A fund must periodically review, no less frequently than annually, the highly liquid investment minimum; and

(E) A fund must adopt and implement policies and procedures for responding to a shortfall of the fund's highly liquid investments below its highly liquid investment minimum, which must include requiring the person(s) designated to administer the program to report to the fund's board of directors no later than its next regularly scheduled meeting with a brief explanation of the causes of the shortfall, the extent of the shortfall, and any actions taken in response, and if the shortfall lasts more than 7 consecutive calendar days, must include requiring the person(s) designated to administer the program to report to the board within one business day thereafter with an explanation of how the fund plans to restore its minimum within a reasonable period of time.

(iv) *Illiquid investments.* No fund or In-Kind ETF may acquire any illiquid investment if, immediately after the acquisition, the fund or In-Kind ETF would have invested more than 15% of its net assets in illiquid investments that are assets. In determining its compliance with this paragraph, in addition to the value of a fund's illiquid investments that are assets, where a fund has posted margin or collateral in connection with a derivatives transaction that is classified as an illiquid investment, the fund also must include as illiquid investments that are assets the value of margin or collateral posted in connection with the derivatives transaction that the fund would receive if it exited the transaction. If a fund or In-Kind ETF holds more than 15% of its net assets in illiquid investments that are assets:

* * * * *

(3) * * *

(iii) If applicable, a written record of the policies and procedures related to how the highly liquid investment minimum, and any adjustments thereto, were determined, including assessment of the factors incorporated in paragraph (b)(1)(iii)(A) of this section and any materials provided to the board pursuant to paragraph (b)(1)(iii)(E) of this section, for a period of not less than five years (the first two years in an easily accessible place) following the determination of, and each change to, the highly liquid investment minimum.

* * * * *

■ 4. Amend § 270.30b1–9 by revising it to read as follows:

§ 270.30b1–9 Monthly report.

Each registered management investment company or exchange-traded fund organized as a unit investment trust, or series thereof, other than a registered open-end management investment company that is regulated as a money market fund under § 270.2a–7 or a small business investment company registered on Form N–5 (§§ 239.24 and 274.5 of this chapter), must file a monthly report of portfolio holdings on Form N–PORT (§ 274.150 of this chapter), current as of the last business day, or last calendar day, of the month. A registered investment company that has filed a registration statement with the Commission registering an offering of its securities for the first time under the Securities Act of 1933 is relieved of this reporting obligation with respect to any reporting period or portion thereof prior to the date on which that registration statement becomes effective or is withdrawn. Reports on Form N–PORT must be filed with the Commission no later than 30 days after the end of each month.

■ 5. Amend § 270.31a–2 by revising paragraph (a)(2) to read as follows:

§ 270.31a–2 Records to be preserved by registered investment companies, certain majority-owned subsidiaries thereof, and other persons having transactions with registered investment companies.

(a) * * *

(2) Preserve for a period not less than six years from the end of the fiscal year in which any transactions occurred, the first two years in an easily accessible place, all books and records required to be made pursuant to paragraphs (b)(5) through (12) of § 270.31a–1 and all vouchers, memoranda, correspondence, checkbooks, bank statements, cancelled checks, cash reconciliations, cancelled stock certificates, and all schedules evidencing and supporting each computation of net asset value of the investment company shares, including schedules evidencing and supporting each computation of an adjustment to net asset value of the investment company shares based on swing pricing policies and procedures established and implemented pursuant to § 270.22c–1(b), and other documents required to be maintained by § 270.31a–1(a) and not enumerated in § 270.31a–1(b).

* * * * *

PART 274—FORMS PRESCRIBED UNDER THE INVESTMENT COMPANY ACT OF 1940

■ 6. The general authority citation for part 274 continues to read as follows:

Authority: 15 U.S.C. 77f, 77g, 77h, 77j, 77s, 78c(b), 78*l*, 78m, 78n, 78o(d), 80a–8, 80a–24, 80a–26, 80a–29, and 80a–37, unless otherwise noted.

* * * * *

■ 7. Amend Form N–1A (referenced in §§ 239.15A and 274.11A) by revising Item 6(d) and Item 11(a)(2). The revisions read as follows:

Note: The text of Form N–1A does not, and these amendments will not, appear in the *Code of Federal Regulations.*

Form N–1A

* * * * *

Item 6. Purchase and Sale of Fund Shares

* * * * *

(d) If the Fund uses swing pricing, explain the Fund's use of swing pricing; including what swing pricing is, the circumstances under which the Fund will use it, and the effects of swing pricing on the Fund and investors. With respect to any portion of a Fund's assets that is invested in one or more open-end management investment companies that are registered under the Investment Company Act, the Fund shall include a statement that the Fund's net asset value is calculated based upon the net asset values of the registered open-end management companies in which the Fund invests, and, if applicable, state that the prospectuses for those companies explain the circumstances under which they will use swing pricing and the effects of using swing pricing.

* * * * *

Item 11. Shareholder Information

(a) * * *

(2) A statement as to when calculations of net asset value are made and that the price at which a purchase or redemption is effected is based on the next calculation of net asset value after the order is placed. If applicable, explain that if an investor places an order with a financial intermediary, the financial intermediary may require the investor to submit its order earlier to receive the next calculated net asset value.

* * * * *

■ 8. Amend § 274.150(a) by revising it to read as follows:

§ 274.150 Form N–PORT, Monthly portfolios holdings report.

(a) Except as provided in paragraph (b) of this section, this form shall be used by registered management investment companies or exchange-traded funds organized as unit investment trusts, or series thereof, to file reports pursuant to § 270.30b1–9 of this chapter not later than 30 days after the end of each month.

* * * * *

■ 9. Amend Form N–PORT (referenced in § 274.150) by:

■ a. Revising General Instructions A, E, and F and Items B.4, B.5, B.6, B.7, B.8, C.1, C.7, C.10, C.11, Part D, and Part F; and

■ b. Adding Items B.11 and B.12.

The revisions and addition read as follows:

Note: The text of Form N–PORT does not, and these amendments will not, appear in the *Code of Federal Regulations.*

Form N–PORT

* * * * *

General Instructions

A. Rule as to Use of Form N–PORT

Form N–PORT is the reporting form that is to be used for monthly reports of Funds other than money market funds and SBICs under section 30(b) of the Act, as required by rule 30b1–9 under the Act (17 CFR 270.30b1–9). Funds must report information about their portfolios and each of their portfolio holdings as of the last business day, or last calendar day, of each month. A registered investment company that has filed a registration statement with the Commission registering its securities for the first time under the Securities Act of 1933 is relieved of this reporting obligation with respect to any reporting period or portion thereof prior to the date on which that registration statement becomes effective or is withdrawn.

Reports on Form N–PORT must disclose portfolio information as calculated by the fund for the reporting period's ending net asset value (commonly, and as permitted by rule 2a–4, the first business day following the trade date). Reports on Form N–PORT for each month must be filed with the Commission no later than 30 days after the end of such month. If the due date falls on a weekend or holiday, the filing deadline will be the next business day.

A Fund may file an amendment to a previously filed report at any time, including an amendment to correct a mistake or error in a previously filed report. A Fund that files an amendment to a previously filed report must provide information in response to all items of Form N–PORT, regardless of why the amendment is filed.

* * * * *

E. Definitions

References to sections and rules in this Form N–PORT are to the Act, unless otherwise indicated. Terms used in this Form N–PORT have the same meanings as in the Act or related rules (including rule 18f–4 solely for Items B.9 and 10 of the Form), unless otherwise indicated.

As used in this Form N–PORT, the terms set out below have the following meanings:

''Absolute VaR Test'' has the meaning defined in rule 18f–4(a) [17 CFR 270.18f–4(a)].

''Class'' means a class of shares issued by a Fund that has more than one class that represents interests in the same portfolio of securities under rule 18f–3 [17 CFR 270.18f–3] or under an order exempting the Fund from provisions of section 18 of the Act [15 U.S.C. 80a–18].

''Controlled Foreign Corporation'' has the meaning provided in section 957 of the Internal Revenue Code [26 U.S.C. 957].

''Derivatives Exposure'' has the meaning defined in rule 18f–4(a) [17 CFR 270.18f–4(a)].

''Designated Index'' has the meaning defined in rule 18f–4(a) [17 CFR 270.18f–4(a)].

''Designated Reference Portfolio'' has the meaning defined in rule 18f–4(a) [17 CFR 270.18f–4(a)]

''Exchange-Traded Fund'' means an open-end management investment company (or Series or Class thereof) or unit investment trust (or series thereof), the shares of which are listed and traded on a national securities exchange at market prices, and that has formed and operates under an exemptive order under the Act granted by the Commission or in reliance on rule 6c–11 [17 CFR 270.6c–11].

''Fund'' means the Registrant or a separate Series of the Registrant. When an item of Form N–PORT specifically applies to a Registrant or a Series, those terms will be used.

''Highly Liquid Investment Minimum'' has the meaning defined in rule 22e–4 [17 CFR 270.22e–4].

''Illiquid Investment'' has the meaning defined in rule 22e–4 [17 CFR 270.22e–4].

''ISIN'' means, with respect to any security, the ''international securities identification number'' assigned by a national numbering agency, partner, or substitute agency that is coordinated by the Association of National Numbering Agencies.

''LEI'' means, with respect to any company, the ''legal entity identifier'' as assigned by a utility endorsed by the Global LEI Regulatory Oversight Committee or accredited by the Global LEI Foundation.

''Multiple Class Fund'' means a Fund that has more than one Class.

''Registrant'' means a management investment company, or an Exchange-Traded Fund organized as a unit investment trust, registered under the Act.

''Relative VaR Test'' has the meaning defined in rule 18f–4(a) [17 CFR 270.18f–4(a)].

''Restricted Security'' has the meaning defined in rule 144(a)(3) under the Securities Act of 1933 [17 CFR 230.144(a)(3)].

''RSSD ID'' means the identifier assigned by the National Information Center of the Board of Governors of the Federal Reserve System.

''Securities Portfolio'' has the meaning defined in rule 18f–4(a) [17 CFR 270.18f–4(a)].

''Series'' means shares offered by a Registrant that represent undivided interests in a portfolio of investments and that are preferred over all other series of shares for assets specifically allocated to that series in accordance with rule 18f–2(a) [17 CFR 270.18f–2(a)].

''Swap'' means either a ''security-based swap'' or a ''swap'' as defined in sections 3(a)(68) and (69) of the Securities Exchange Act of 1934 [15 U.S.C. 78c(a)(68) and (69)] and any rules, regulations, or interpretations of the Commission with respect to such instruments.

''Swing Factor'' has the meaning defined in rule 22c–1 [17 CFR 270.22c–1].

''Value-at-Risk'' or VaR has the meaning defined in rule 18f–4(a) [17 CFR 270.18f–4(a)].

''VaR Ratio'' means the value of the Fund's portfolio VaR divided by the VaR of the Designated Reference Portfolio.

F. Public Availability

Information reported on Form N–PORT will be made publicly available 60 days after the end of the reporting period.

The SEC does not intend to make public the information reported on Form N–PORT with respect to a Fund's Highly Liquid Investment Minimum (Item B.7), derivatives transactions (Item B.8), Derivatives Exposure for limited derivatives users (Item B.9), median daily VaR (Item B.10.a), median VaR Ratio (Item B.10.b.iii), VaR backtesting results (Item B.10.c), country of risk and economic exposure (Item C.5.b), delta (Items C.9.f.v, C.11.c.vii, or C.11.g.iv), liquidity classification for individual portfolio investments (Item C.7), or miscellaneous securities (Part D), or explanatory notes related to any of those topics (Part E) that is identifiable to any particular fund or adviser. However, the SEC may use information reported on this Form in its regulatory programs, including examinations, investigations, and enforcement actions.

* * * * *

Item B.4. Securities Lending.

a. * * *

iii. If the borrower does not have an LEI, provide the borrower's RSSD ID, if any.

iv. Aggregate value of all securities on loan to the borrower.

* * * * *

Item B.5. Return Information.

a. Total return of the Fund during the reporting period. If the Fund is a Multiple Class Fund, report the return for each Class. Such return(s) shall be calculated in accordance with the methodologies outlined in Item 26(b)(1) of Form N–1A, Instruction 13 to sub-Item 1 of Item 4 of Form N–2, or Item 26(b)(i) of Form N–3, as applicable.

* * * * *

c. Net realized gain (loss) and net change in unrealized appreciation (or depreciation) attributable to derivatives for each of the following asset categories during the reporting period: commodity contracts, credit contracts, equity contracts, foreign exchange contracts, interest rate contracts, and other contracts. Within each such asset category, further report the same information for each of the following types of derivatives instrument: forward, future, option, swaption, swap, warrant, and other. Report in U.S. dollars. Losses and depreciation shall be reported as negative numbers.

d. Net realized gain (loss) and net change in unrealized appreciation (or depreciation) attributable to investments other than derivatives during the reporting period. Report in U.S. dollars. Losses and depreciation shall be reported as negative numbers.

Item B.6. Flow information. Provide the aggregate dollar amounts for sales and redemptions/repurchases of Fund shares during the reporting period. If shares of the Fund are held in omnibus accounts, for purposes of calculating the Fund's sales, redemptions, and repurchases, use net sales or redemptions/repurchases from such omnibus accounts. The amounts to be reported under this Item should be after any front-end sales load has been deducted and before any deferred or contingent deferred sales load or charge has been deducted. Shares sold shall include shares sold by the Fund to a registered unit investment trust. For mergers and other acquisitions, include in the value of shares sold any transaction in which the Fund acquired the assets of another investment company or of a personal holding company in exchange for its own shares. For liquidations, include in the value of shares redeemed any transaction in which the Fund liquidated all or part of its assets. Exchanges are defined as the redemption or repurchase of shares of one Fund or series and the investment of all or part of the proceeds in shares of another Fund or series in the same family of investment companies.

* * * * *

Item B.7. Highly Liquid Investment Minimum information.

* * * * *

b. If applicable, provide the number of days that the eligible value of the Fund's holdings in highly liquid investments fell below the Fund's Highly Liquid Investment Minimum during the reporting period.

* * * * *

Item B.8. Derivatives Transactions. For portfolio investments of open-end management investment companies, provide:

a. The value of the Fund's highly liquid investments that are assets that it has posted as margin or collateral in connection with derivatives transactions that are classified as moderately liquid investments or illiquid investments under rule 22e–4 [17 CFR 270.22e–4].

b. The value of any margin or collateral posted in connection with any derivatives transaction that is classified as an illiquid investment under rule 22e–4 [17 CFR 270.22e–4] where the fund would receive the value of the margin or collateral if it exited the derivatives transaction.

* * * * *

Item B.11. Swing Factor.

a. Provide the number of times the Fund applied a Swing Factor during the reporting period.

b. For each business day during the reporting period, provide the amount of any Swing Factor applied by the Fund. Indicate whether each Swing Factor applied is positive (reflecting net purchases) or negative (reflecting net redemptions) with the appropriate sign (+ or −). Report N/A for any business day on which the fund did not apply a Swing Factor.

Item B.12. Liquidity aggregate classification information. For portfolio investments of open-end management investment companies:

a. Provide the aggregate percentage of investments that are assets (excluding any investments that are reflected as liabilities on the Fund's balance sheet) compared to total investments that are assets of the Fund for each of the following categories as specified in rule 22e–4:

1. Highly Liquid Investments.
2. Moderately Liquid Investments.
3. Illiquid Investments.

b. To calculate the aggregate percentages under Item B.12.a, reduce the amount of the Fund's assets that are classified as highly liquid investments by the amount reported under Item B.8.a and by the amount of the fund's liabilities. Increase the amount of the Fund's assets that are classified as illiquid investments by the amount reported under Item B.8.b. To the extent these adjustments result in the sum of the Fund's investments in each category not equaling 100% of the Fund's total investments that are assets, the Fund may adjust the percentage of investments attributed to the moderately liquid investment category so that the sum of the Fund's investments in each category equals 100% of the Fund's total investments that are assets.

Item C.1. Identification of investment.

* * * * *

c. If the issuer does not have an LEI, provide the issuer's RSSD ID, if any.

d. Title of the issue or description of the investment.

e. CUSIP (if any).

f. At least one of the following other identifiers:

i. ISIN.

ii. Ticker (if ISIN is not available).

iii. Other unique identifier (if ticker and ISIN are not available). Indicate the type of identifier used.

* * * * *

Item C.7. Liquidity classification information.

a. For portfolio investments of open-end management investment companies, provide the liquidity classification(s) for each portfolio investment among the following categories as specified in rule 22e–4 [17 CFR 270.22e–4]. For portfolio investments with multiple liquidity classifications, indicate the percentage amount attributable to each classification.

i. Highly Liquid Investments

ii. Moderately Liquid Investments

iii. Illiquid Investments

* * * * *

Instructions to Item C.7. Funds may choose to indicate the percentage amount of a holding attributable to multiple classification categories only in the following circumstances: (1) if portions of the position have differing liquidity features that justify treating the portions separately; (2) if a fund has multiple sub-advisers with differing liquidity views; or (3) if the fund chooses to classify the position through evaluation of how long it would take to liquidate the entire position. In (1) and (2), a fund would classify by treating each portion of the position as a separate investment to arrive at an assumed sale size that is equal to 10% of the fund's net assets by reducing each investment by 10%.

* * * * *

Item C.10. For repurchase and reverse repurchase agreements, also provide:

* * * * *

b. * * *

iii. If the counterparty does not have an LEI, provide the counterparty's RSSD ID, if any.

* * * * *

Item C.11. For derivatives, also provide:

* * * * *

b. * * *

ii. If the counterparty does not have an LEI, provide the counterparty's RSSD ID, if any.

* * * * *

Part D: Miscellaneous Securities

Report miscellaneous securities, if any, using the same Item numbers and reporting the same information that would be reported for each investment in Part C if it were not a miscellaneous security. Information reported in this Item will be nonpublic.

* * * * *

Part F: Exhibits

Attach no later than 60 days after the end of the reporting period the Fund's complete portfolio holdings as of the close of the period covered by the report, except for reports covering the last month of the Fund's second and fourth fiscal quarters. These portfolio holdings must be presented in accordance with the schedules set forth in §§ 210.12–12—210.12–14 of Regulation S–X [17 CFR 210.12–12—210.12–14].

* * * * *

■ 10. Amend Form N–CEN (referenced in § 274.101) by revising General Instruction E and Items B.16, B.17, C.5, C.6, C.9, C.10, C.11, C.12, C.13, C.14, C.15, C.16, C.17, C.21, D.12, D.13, D.14, E.2, F.1, F.2, F.4, and Instructions to Item G.1 to read as follows:

Note: The text of Form N–CEN does not, and these amendments will not, appear in the *Code of Federal Regulations.*

Form N–CEN

* * * * *

General Instructions

* * * * *

E. Definitions

Except as defined below or where the context clearly indicates the contrary, terms used in Form N–CEN have meanings as defined in the Act and the rules and regulations thereunder. Unless otherwise indicated, all references in the form or its instructions to statutory sections or to rules are sections of the Act and the rules and regulations thereunder.

In addition, the following definitions apply:

''Class'' means a class of shares issued by a Fund that has more than one class that represents interest in the same portfolio of securities under rule 18f–3 under the Act (17 CFR 270.18f–3) or under an order exempting the Fund from provisions of section 18 of the Act (15 U.S.C. 80a–18).

''CRD number'' means a central licensing and registration system number issued by the Financial Industry Regulatory Authority.

''Exchange-Traded Fund'' means an open-end management investment company (or Series or Class thereof) or unit investment trust (or series thereof), the shares of which are listed and traded on a national securities exchange at market prices, and that has formed and operates under an exemptive order under the Act granted by the Commission or in reliance on rule 6c–11 under the Act (17 CFR 270.6c–11).

''Exchange-Traded Managed Fund'' means an open-end management investment company (or Series or Class thereof) or unit investment trust (or series thereof), the shares of which are listed and traded on a national securities exchange at net asset value-based prices, and that has formed and operates under an exemptive order under the Act granted by the Commission or in reliance on an exemptive rule under the Act adopted by the Commission.

''Fund'' means the Registrant or a separate Series of the Registrant. When an item of Form N–CEN specifically applies to a Registrant or Series, those terms will be used.

''LEI'' means, with respect to any company, the ''legal entity identifier'' as assigned by a utility endorsed by the Global LEI Regulatory Oversight Committee or accredited by the Global LEI Foundation.

''Money Market Fund'' means an open-end management investment company registered under the Act, or Series thereof, that is regulated as a money market fund pursuant to rule 2a–7 under the Act (17 CFR 270.2a–7).

''PCAOB number'' means the registration number issued to an independent public accountant registered with the Public Company Accounting Oversight Board.

''Registrant'' means the investment company filing this report or on whose behalf the report is filed.

''RSSD ID'' means the identifier assigned by the National Information Center of the Board of Governors of the Federal Reserve System.

''SEC File number'' means the number assigned to an entity by the Commission when that entity registered with the Commission in the capacity in which it is named in Form N–CEN.

''Series'' means shares offered by a Registrant that represent undivided interests in a portfolio of investments and that are preferred over all other Series of shares for assets specifically allocated to that Series in accordance with rule 18f–2(a) (17 CFR 270.18f–2(a)).

* * * * *

Item B.16. Principal underwriters.

a. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Is the principal underwriter an affiliated person of the Registrant, or its investment adviser(s) or depositor? [Y/N]

* * * * *

Item B.17. Independent public accountant. Provide the following information about each independent public accountant:

* * * * *

d. If no LEI is provided, RSSD ID, if any:____

e. State, if applicable:____

f. Foreign country, if applicable:____

g. Has the independent public accountant changed since the last filing? [Y/N]

* * * * *

Item C.5. Investments in certain foreign corporations.

* * * * *

b. * * *

iii. If no LEI is provided, RSSD ID, if any:____

* * * * *

Item C.6. Securities lending.

* * * * *

c. * * *

iii. If no LEI is provided, RSSD ID, if any:____

iv. Is the securities lending agent an affiliated person, or an affiliated person of an affiliated person, of the Fund? [Y/N]

v. Does the securities lending agent or any other entity indemnify the fund against borrower default on loans administered by this agent? [Y/N]

vi. If the entity providing the indemnification is not the securities lending agent, provide the following information:

1. Name of person providing indemnification:____

2. LEI, if any, of person providing indemnification:____

3. If no LEI is provided, RSSD ID, if any:____

vii. Did the Fund exercise its indemnification rights during the reporting period? [Y/N]

d. * * *

iii. If no LEI is provided, RSSD ID, if any: ____

iv. Is the cash collateral manager an affiliated person, or an affiliated person of an affiliated person, of a securities lending agent retained by the Fund? [Y/N]

v. Is the cash collateral manager an affiliated person, or an affiliated person of an affiliated person, of the Fund? [Y/N]

* * * * *

Item C.9. Investment advisers.

a. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Was the investment adviser hired during the reporting period? [Y/N]

1. If the investment adviser was hired during the reporting period, indicate the investment adviser's start date: ____

b. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Termination date:____

c. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Is the sub-adviser an affiliated person of the Fund's investment adviser(s)? [Y/N]

ix. Was the sub-adviser hired during the reporting period? [Y/N]

1. If the sub-adviser was hired during the reporting period, indicate the sub-adviser's start date:____

d. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Termination date:

Item C.10. Transfer agents.

a. * * *

iv. If no LEI is provided, RSSD ID, if any:____

v. State, if applicable:____

vi. Foreign country, if applicable:____

vii. Is the transfer agent an affiliated person of the Fund or its investment adviser(s)? [Y/N]

viii. Is the transfer agent a sub-transfer agent? [Y/N]

* * * * *

Item C.11. Pricing services.

a. * * *

ii. LEI, if any, or RSSD ID, if any, or provide and describe other identifying number:____

* * * * *

Item C.12. Custodians.

a. * * *

iii. If no LEI is provided, RSSD ID, if any:____

iv. State, if applicable:____

v. Foreign country, if applicable:____

vi. Is the custodian an affiliated person of the Fund or its investment adviser(s)? [Y/N]

vii. Is the custodian a sub-custodian? [Y/N]

viii. With respect to the custodian, check below to indicate the type of custody:

1. Bank—section 17(f)(1) (15 U.S.C. 80a–17(f)(1)):____

2. Member national securities exchange—rule 17f–1 (17 CFR 270.17f–1):____

3. Self—rule 17f–2 (17 CFR 270.17f–2):____

4. Securities depository—rule 17f–4 (17 CFR 270.17f–4):____

5. Foreign custodian—rule 17f–5 (17 CFR 270.17f–5):____

6. Futures commission merchants and commodity clearing organizations—rule 17f–6 (17 CFR 270.17f–6):____

7. Foreign securities depository—rule 17f–7 (17 CFR 270.17f–7):____

8. Insurance company sponsor—rule 26a–2 (17 CFR 270.26a–2):____

9. Other:____ . If other, describe:____.

* * * * *

Item C.13. Shareholder servicing agents.

a. * * *

ii. LEI, if any, or RSSD ID, if any, or provide and describe other identifying number:____

* * * * *

Item C.14. Administrators.

a. * * *

ii. LEI, if any, or RSSD ID, if any, or provide and describe other identifying number:____

* * * * *

Item C.15. Affiliated broker-dealers. Provide the following information about each affiliated broker-dealer:

* * * * *

e. If no LEI is provided, RSSD ID, if any:____

f. State, if applicable:____

g. Foreign country, if applicable:____

h. Total commissions paid to the affiliated broker-dealer for the reporting period:____

Item C.16. Brokers.

a. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Gross commissions paid by the Fund for the reporting period:____

* * * * *

Item C.17. Principal transactions.

a. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Total value of purchases and sales (excluding maturing securities) with Fund:____

* * * * *

Item C.21. Liquidity classification services. For open-end management investment companies subject to rule 22e–4 (17 CFR 270.22e–4), respond to the following:

a. Provide the following information about each person that provided liquidity classification services to the Fund during the reporting period:

i. Full name:____

ii. LEI, if any, or RSSD ID, if any, or provide and describe other identifying number:____

iii. State, if applicable:____

iv. Foreign country, if applicable:____

v. Is the liquidity classification service an affiliated person of the Fund or its investment adviser(s)? [Y/N]

vi. Asset class(es) for which liquidity classification services were provided to the Fund:____

b. Was a liquidity classification service hired or terminated during the reporting period? [Y/N]

* * * * *

Item D.12. Investment advisers (small business investment companies only).

a. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Was the investment adviser hired during the reporting period? [Y/N]

1. If the investment adviser was hired during the reporting period, indicate the investment adviser's start date:____

b. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Termination date:____

c. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Is the sub-adviser an affiliated person of the Fund's investment adviser(s)? [Y/N]

ix. Was the sub-adviser hired during the reporting period? [Y/N]

1. If the sub-adviser was hired during the reporting period, indicate the sub-adviser's start date:____

d. * * *

v. If no LEI is provided, RSSD ID, if any:____

vi. State, if applicable:____

vii. Foreign country, if applicable:____

viii. Termination date:____

Item D.13. Transfer agents (small business investment companies only).

a. * * *

iv. If no LEI is provided, RSSD ID, if any:____

v. State, if applicable:____

vi. Foreign country, if applicable:____

vii. Is the transfer agent an affiliated person of the Fund or its investment adviser(s)? [Y/N]

viii. Is the transfer agent a sub-transfer agent? [Y/N]

* * * * *

Item D.14. Custodians (small business investment companies only).

a. * * *

iii. If no LEI is provided, RSSD ID, if any:____

iv. State, if applicable:____

v. Foreign country, if applicable:____

vi. Is the custodian an affiliated person of the Fund or its investment adviser(s)? [Y/N]

vii. Is the custodian a sub-custodian? [Y/N]

viii. With respect to the custodian, check below to indicate the type of custody:

1. Bank—section 17(f)(1) (15 U.S.C. 80a–17(f)(1)):____

2. Member national securities exchange—rule 17f–1 (17 CFR 270.17f–1):____

3. Self—rule 17f–2 (17 CFR 270.17f–2):____

4. Securities depository—rule 17f–4 (17 CFR 270.17f–4):____

5. Foreign custodian—rule 17f–5 (17 CFR 270.17f–5):____

6. Futures commission merchants and commodity clearing organizations—rule 17f–6 (17 CFR 270.17f–6):____

7. Foreign securities depository—rule 17f–7 (17 CFR 270.17f–7):____

8. Insurance company sponsor—rule 26a–2 (17 CFR 270.26a–2): ____

9. Other:____. If other, describe:____.

* * * * *

Item E.2. Authorized participants. For each authorized participant of the Fund, provide the following information:

* * * * *

b. SEC file number:____

c. CRD number:____

d. LEI, if any:____

e. If no LEI is provided, RSSD ID, if any:____

f. The dollar value of the Fund shares the authorized participant purchased from the Fund during the reporting period:____

g. The dollar value of the Fund shares the authorized participant redeemed during the reporting period:____

h. Did the Fund require that an authorized participant post collateral to the Fund or any of its designated service providers in connection with the purchase or redemption of Fund shares during the reporting period? [Y/N]

Instruction. The term ''authorized participant'' means a member or participant of a clearing agency registered with the Commission, which has a written agreement with the Exchange-Traded Fund or Exchange-Traded Managed Fund or one of its service providers that allows the authorized participant to place orders for the purchase and redemption of creation units.

* * * * *

Item F.1. Depositor. Provide the following information about each depositor:

* * * * *

d. If no LEI is provided, RSSD ID, if any:____

e. State, if applicable:____

f. Foreign country, if applicable:____

g. Full name of ultimate parent of depositor:____

Item F.2. Administrators.

a. * * *

ii. LEI, if any, or RSSD ID, if any, or provide and describe other identifying number:____

* * * * *

Item F.4. Sponsor. Provide the following information about each sponsor:

* * * * *

d. If no LEI is provided, RSSD ID, if any:____

e. State, if applicable:____

f. Foreign country, if applicable:____

* * * * *

Item G.1. Attachments.

* * * * *

Instructions.

* * * * *

2. * * *

(f) Security supported (if applicable). Disclose the full name of the issuer, the title of the issue (including coupon or yield, if applicable) and at least two identifiers, if available (*e.g.,* CIK, CUSIP, ISIN, LEI, RSSD ID).

* * * * *

By the Commission.

Dated: November 2, 2022.

Vanessa A. Countryman,

Secretary.

[FR Doc. 2022–24376 Filed 12–15–22; 8:45 am]

BILLING CODE 8011–01–P