

FINANCIAL STABILITY OVERSIGHT COUNCIL

UPDATE ON REVIEW OF ASSET MANAGEMENT PRODUCTS AND ACTIVITIES

1. BACKGROUND

1.1 Role of the Council and Engagement on Asset Management

The financial crisis of 2007-2009 demonstrated the need for clear accountability for the stability of the U.S. financial system. The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) established the Financial Stability Oversight Council (Council) to bring together, for the first time, the financial regulatory community to identify and respond to emerging threats to financial stability. Consistent with its mandate, the Council monitors all sectors of the financial services marketplace to identify potential threats to U.S. financial stability and, where appropriate, takes steps to address those threats. Accordingly, as with other areas of the financial markets, the Council has actively reviewed potential risks to financial stability in the asset management industry.

The asset management industry's increasing significance to financial markets and to the broader economy underscores the need for the Council's consideration of potential risks to U.S. financial stability from this sector. A number of different types of entities subject to varying regulatory frameworks engage in asset management activities, including but not limited to registered investment advisers, banks and thrifts, insurance companies, commodity trading advisors, and commodity pool operators. These entities provide a variety of asset management products, such as pooled investment vehicles and separately managed accounts (SMAs). Pooled investment vehicles include investment companies registered under the Investment Company Act of 1940 (registered funds), private funds (including hedge funds), collective investment funds (CIFs), and commodity pools.

In May 2014, the Council hosted a public conference on asset management that included a diverse group of stakeholders—including industry, regulatory, public interest, and academic participants—to help inform the Council's analysis. Following this conference, at its July 2014 meeting the Council directed staff to undertake a more focused analysis of industry-wide products and activities to assess potential risks across the asset management sector. This approach has sought to evaluate potential risks in a manner that reflects the characteristics that differentiate the asset management industry from other sectors of the financial system.

In December 2014, the Council published a notice seeking public comment regarding whether and how certain asset management products and activities could pose potential risks to U.S. financial stability. The notice focused on liquidity and redemptions, leverage, operational functions (in particular, service providers and large account transitions), and resolution.¹ The Council's notice also solicited information about existing industry risk management practices. The Council received letters from 49 commenters, representing individual companies, trade

¹ Council Notice Seeking Comment on Asset Management Products and Activities, 79 Fed. Reg. 77488 (Dec. 24, 2014).

associations, and public interest groups. Its analysis has been informed by the information and views presented in these comments, along with other sources of information detailed below.

Additionally, the Securities and Exchange Commission (SEC) has issued several proposed rules since May 2015 affecting the asset management industry. Specifically, the SEC has proposed rules to: (1) enhance data reporting for registered investment companies and registered investment advisers of separately managed accounts; (2) strengthen liquidity risk management programs and disclosure for registered funds; and (3) limit the amount of leverage that registered investment companies may obtain through derivatives transactions.² The SEC staff is also developing proposed rules covering transition planning for registered investment advisers and, pursuant to section 165 of the Dodd-Frank Act, stress testing for large registered investment advisers and registered investment companies.

The Council is providing this public update on its review of potential risks to financial stability that may arise from certain asset management products and activities. As outlined below, the Council and staffs of its members and member agencies have carried out analyses and engaged in dialogue regarding these issues. Based on this work, the Council has identified certain areas of potential financial stability risk and is providing its views on key areas of focus and next steps to respond to these potential risks. A number of areas involve additional analysis, data collection, or monitoring. The Council welcomes ongoing engagement with stakeholders as this work moves forward.

1.2 Framework for Review

Consistent with the questions highlighted in its December 2014 request for public comment, the Council's subsequent review of risks to U.S. financial stability has focused on the following areas: (1) liquidity and redemption; (2) leverage; (3) operational functions, in particular service provider concentration; (4) securities lending; and (5) resolvability and transition planning.³

For each of these areas, the Council's analysis has involved three primary components. First, the Council has reviewed potential risks to financial stability and considered the materiality of such risks. Second, the Council considered the extent to which market practices or regulations may mitigate the identified potential risks to financial stability and whether there are financial stability risks that those mitigants do not address. Finally, the Council is providing its views on certain next steps to respond to or better understand the potential risks to financial stability highlighted by this review. As with the Council's work generally, the members of the Council

² Proposed Rule: Investment Company Reporting Modernization, 80 Fed. Reg. 33590 (Jun. 12, 2015); Proposed Rule: Amendments to Form ADV and Investment Advisers Act Rules, 80 Fed. Reg. 33717 (Jun. 12, 2015); Proposed Rule: Open-End Fund Liquidity Risk Management Programs; Swing Pricing; Re-Opening of Comment Period for Investment Company Reporting Modernization Release, 80 Fed. Reg. 62274 (Oct. 15, 2015); Proposed Rule: Use of Derivatives by Registered Investment Companies and Business Development Companies, 80 Fed. Reg. 80844 (Dec. 28, 2015).

³ The Council's notice posed questions regarding securities lending throughout the notice, but for purposes of analysis, these questions have been consolidated and considered together. In addition, the notice posed questions about potential risks associated with large account transitions in the Operational Risk section, which are presented here in the Resolvability and Transition Planning section.

have consulted extensively and have drawn on the expertise of their staffs and those of the member agencies.

Throughout its review and consistent with its mandate, the Council has focused on identifying potential risks to financial stability, rather than investment risk. As discussed in the Council's request for public comment, investment risk is a normal and necessary part of market functioning.⁴ The Council has sought to assess whether asset management products or activities could create, amplify, or transmit risk more broadly in the financial system in ways that could affect U.S. financial stability. Financial stability risks may arise even where existing measures generally protect individual market participants (such as particular asset managers, investment vehicles, and investors) because these measures may not fully take into account the effects of possible stress on other market participants, market functioning, or other parts of the financial system. Further, some risks to financial stability might not flow from the actions of any one entity but could arise from the activities of a number of market participants. In addition, certain activities that do not pose risks to financial stability during normal times may do so during periods of stress at a particular firm or across markets more broadly.

In conducting its analysis, the Council considered many sources of information, including publicly available data, data reported on the SEC's Form PF, input from member agencies with supervisory authority, analyses from market participants, academic studies, and submissions in response to the Council's request for public comment.⁵ Because access to high-quality data and information is essential for the Council to carry out its mandate, the Council also assessed whether sufficient data and information are available to evaluate potential risks, or whether additional data and information would be helpful to the Council, regulators, or market participants and the public. Accordingly, this statement notes where additional data collection and analysis is needed to facilitate a better understanding of potential risks and inform next steps.

The Council's request for public comment inquired broadly about potential risks across the full range of investment vehicles and entities that make up the asset management industry, and it noted a particular focus on pooled investment vehicles.⁶ As of December 2014, U.S. pooled investment vehicles (excluding money market mutual funds) had approximately \$25.8 trillion of assets.⁷ Mutual funds accounted for the largest share, with \$13.1 trillion of assets, or 51 percent of the total.⁸ Hedge funds accounted for the second largest share, with \$3.4 trillion, or 13

⁴ Council Notice, 79 Fed. Reg. at 77489.

⁵ Pursuant to section 404 of the Dodd-Frank Act, the SEC adopted Form PF as a reporting form for registered investment advisers to private funds to enable the Council to obtain data that will facilitate monitoring of systemic risk in U.S. financial markets.

⁶ Council Notice, 79 Fed. Reg. at 77489.

⁷ Investment Company Institute, *Investment Company Fact Book (2015) (ICI Fact Book)*, p. 9, p. 207 (for registered funds and non-registered ETFs); SEC Division of Investment Management, Risk and Examinations Office, *Private Fund Statistics, Fourth Calendar Quarter 2014* (Dec. 30, 2015) (for private funds); Federal Financial Institutions Examination Council Call Report data (Dec. 2014), estimates of the Office of the Comptroller of the Currency (OCC) and Board of Governors of the Federal Reserve System (Federal Reserve) (for CIFs); Federal Reserve, *Financial Accounts of the United States* (for real estate investment trusts).

⁸ ICI Fact Book, p. 30.

percent of total assets.⁹ CIFs have the third largest share, with at least \$2.9 trillion, or 11 percent of total assets.¹⁰ Exchange-traded funds (ETFs) account for \$2.0 trillion, or 8 percent of total assets.¹¹

As highlighted in the Council's request for public comment, the Council intends to consider the impact that regulatory developments may have in reducing any risks to U.S. financial stability associated with the asset management industry. As noted above, the SEC has begun a series of rulemaking proposals related to the segments of the asset management industry under its jurisdiction. In its analysis, the Council has considered the potential implications of the proposed SEC rulemakings. However, because the SEC's final rules may differ from what has been proposed, the Council's analysis below does not evaluate specific provisions of the proposed rules. As the SEC rulemaking process progresses, the Council intends to monitor the effects of any regulatory changes and their implications for financial stability.

2. LIQUIDITY AND REDEMPTION RISK

2.1 Potential Risks to Financial Stability

The Council's review of liquidity and redemption risks focused on pooled investment vehicles, where investor redemption rights and underlying asset liquidity may not match. A particular focus of the review was on mutual funds because they are the largest category of pooled investment vehicles in the United States and offer daily redemptions to investors in vehicles that may invest in assets across a wide liquidity range. Funds invested in less-liquid assets, where the market impact and trading costs if the funds were to sell assets to meet redemptions may be greater than in other funds, could be more susceptible to the potential financial stability concerns described below.

There are two primary features of pooled investment vehicles that raise potential financial stability concerns:

- *Liquidity Transformation:* Some pooled investment vehicles, in particular open-end funds, provide liquidity transformation by allowing frequent (typically daily) redemptions by investors while investing in less-liquid assets. Investors in these vehicles may therefore require a lower liquidity premium than investors purchasing the underlying assets directly. This may increase the bid price of the underlying assets, depending on market dynamics and the behavior and importance of these investors. During a stress event, the price of assets held

⁹ Hedge fund assets are reported as net assets under management. SEC Division of Investment Management, Risk and Examinations Office, *Private Fund Statistics, Fourth Calendar Quarter 2014* (Dec. 30, 2015), p. 5.

¹⁰ FFIEC Call Report data (Dec. 2014) (data limited to CIFs that are administered by FDIC-insured depository institutions, and limited purpose national trust banks and federal savings associations; excludes short-term investment funds and CIFs administered by state-chartered, non-depository, limited purpose trust companies); OCC and Federal Reserve estimates.

¹¹ ICI Fact Book, p. 60 (includes non-registered ETFs). The Council's current analysis has focused on the investment vehicles described above due to their large market share or features of their structure or investment strategy.

by these funds may fall rapidly if large redemptions occur, as the investment vehicle may incur significant costs to sell these less-liquid holdings.

- *First-Mover Advantage*: Redemption options and pricing methods offered by pooled investment vehicles may create a potential “first-mover advantage” if the costs of meeting investor redemptions are largely borne by remaining investors in the fund.¹² This may create incentives for some investors to redeem shares ahead of other investors in times of market stress in order to avoid transaction costs associated with meeting redemptions and asset repricing. A first-mover advantage may also be created if funds sell their more liquid assets first to meet redemptions, leaving remaining investors with a less-liquid portfolio that is potentially costly to rebalance.¹³ A first-mover advantage may be compounded if investors act in anticipation of the liquidity of the remaining assets continuing to decline.

In a stress event, particularly an event affecting funds with less-liquid assets where the structural features discussed above are more pronounced, funds facing large redemptions may be forced to sell assets more quickly than expected. Such funds may incur significant costs that are likely to include not only immediate transaction costs, but also the costs associated with portfolio rebalancing and the market impact of selling less-liquid securities, which may be realized over several days. These costs may further impair performance and put downward pressure on the prices of the underlying assets, potentially leading to further fund outflows. Although destabilizing redemptions across mutual funds mostly invested in a less-liquid asset class have not occurred historically, in such an event, the resulting asset sales could lead to price declines across the asset class, transmit stress to previously unaffected market participants, and ultimately could create broader market disruptions.¹⁴

The extent of these potential financial stability risks varies across pooled investment vehicles with differing fund characteristics, redemption structures, and regulations. In addition, the extent of such risks depends on a number of factors, including the liquidity of fund assets, and hence the degree of liquidity mismatch; the collective share of less-liquid asset classes held by funds providing liquidity transformation; the sensitivity of fund investors to first-mover advantage and fund performance; the liquidity risk management practices of funds; and the behavior of other investors.

In particular, first-mover advantage amplifies liquidity transformation risk, and the extent of its significance depends strongly on fund investor and portfolio characteristics. For example, investors in funds with substantial holdings of less-liquid assets may have a greater incentive to redeem in periods of market stress, while for certain investors the adverse tax consequences of redeeming shares may counter the risk of a first-mover advantage. Other factors that may influence the risk of first-mover advantage include investor behavior, particularly of investors in

¹² See Qi Chen, Itay Goldstein, and Wei Jiang, *Payoff Complementarities and Financial Fragility: Evidence from Mutual Fund Outflows*, *Journal of Financial Economics* 97(2), pp. 239-262 (2010).

¹³ See Paul Hanouna, Jon Novak, Tim Riley, and Christof Stahel, *Liquidity and Flows of U.S. Mutual Funds*, SEC DERA White Paper (Sep. 2015); see, e.g., Matt Wirz, *Waddell Fund’s Sales Leave Investors With Riskier Securities*, *The Wall Street Journal* (Jun. 16, 2015).

¹⁴ See Joshua Coval and Erik Stafford, *Asset Fire Sales (and Purchases) in Equity Markets*, *Journal of Financial Economics* 86(2), pp. 479-512 (2007).

retirement accounts making long-term, life-cycle based allocations across asset classes;¹⁵ the management and investment mandate of a fund; and the internal investment processes of institutional investors.

The extent to which these dynamics have contributed to volatility or increased financial stability risks in past episodes is difficult to determine, especially given the complex nature of market interactions during stress events.

2.1.1 *Registered Funds: Mutual Funds*

Mutual funds are open-end management investment companies that are registered with and regulated by the SEC under the Investment Company Act. Mutual funds allow investors to redeem shares daily at net asset value (NAV), with payment of redemption proceeds required within seven days.¹⁶ Under current regulations, mutual funds are required to use forward pricing when calculating the price that a redeeming shareholder receives for fund shares.¹⁷ However, funds do not customarily take into account transaction costs, including market impact and trading costs, which arise when they sell portfolio assets to meet redemption requests. Instead, transaction costs associated with meeting redemptions are generally passed on to the remaining investors in the fund. While the cost to meet redemptions is minimal for mutual funds investing in highly liquid assets, the cost to meet redemptions for mutual funds invested in relatively less-liquid assets could be more significant, and this structure could give rise to first-mover advantage risks.

The magnitude of potential spillover effects from liquidity transformation in mutual funds is uncertain. However, potential risks would appear to be more significant in funds that invest in less-liquid asset classes, and under stress scenarios, when bid-ask spreads are widest and market illiquidity concerns are often more pressing. Existing SEC guidelines limit mutual funds' acquisitions of certain illiquid assets to 15 percent of net assets.¹⁸ Mutual funds and registered advisers to mutual funds are both subject to SEC examinations that may include review of liquidity controls, particularly at funds with exposure to potentially illiquid securities.¹⁹ However, the current 15 percent limit does not take into account the size of a fund's position or potentially lengthy settlement times, which could delay a fund's ability to convert securities into cash, and funds may invest in less-liquid securities that would not be subject to this limit.²⁰

¹⁵ An estimated 50 percent of U.S. mutual fund assets are held in retirement-related accounts. Comment Letter of the Investment Company Institute to the Financial Stability Board (Apr. 7, 2014), p. F-18. Based on OCC and Federal Reserve staff estimates, approximately 80 percent of CIF assets are held in retirement-related accounts.

¹⁶ Section 22(e) of the Investment Company Act.

¹⁷ 17 C.F.R. § 270.22c-1.

¹⁸ Revisions of Guidelines to Form N-1A, 57 Fed. Reg. 9828 (Mar. 20, 1992).

¹⁹ SEC Office of Compliance and Inspections, *Examination Priorities for 2016*, p. 3 (Jan. 11, 2016).

²⁰ See Proposed Rule: Open-End Fund Liquidity Risk Management Programs; Swing Pricing; Re-Opening of Comment Period for Investment Company Reporting Modernization Release, 80 Fed. Reg. at 62292 ("Although the 15% guideline involves determining whether an asset can be sold or disposed of within seven days at approximately its stated value, it does not involve a fund considering whether it can actually receive the proceeds of any sale within seven days. The 15% guideline also does not involve a fund taking into account any market or other factors in considering an asset's liquidity, or assessing whether the fund's position size in a particular asset affects the liquidity of that asset.").

In general, the magnitude of these potential risks, and hence both the likelihood and impact of any forced selling by mutual funds on broader markets, likely increases as mutual funds' overall market share of less-liquid assets increases. The share of corporate and foreign bonds, which are generally considered less liquid than some other major publicly traded assets,²¹ held by mutual funds rose from 10 percent in 2009 to 22 percent in 2015.²² Since the financial crisis, there have been large net inflows into mutual funds focused on sub-investment grade debt and emerging market assets, although these funds' shares of the total mutual fund market has held relatively constant at 6 percent.^{23, 24}

There are also indications that, in the aggregate, mutual fund investors may be more likely to redeem from less-liquid asset classes following poor performance.²⁵ However, there is little historical evidence of widespread investor runs from floating-NAV mutual funds, even during times of market stress.²⁶ For example, cumulative outflows from U.S. equity funds were 2 percent of average assets under management (AUM) from September to December 2008, and monthly outflows from emerging market bond funds were 3 percent of AUM during the June 2013 "Taper Tantrum."²⁷

As noted, the potential for outflows to cause fund distress, and hence broader stress, may increase with the illiquidity of a fund's investment portfolio. A recent event in the high-yield bond fund sector provides a useful example. On December 9, 2015, the Third Avenue Focused Credit Fund (FCF), a high-yield bond mutual fund, announced it could no longer "pay anticipated redemptions without resorting to sales at prices that would unfairly disadvantage remaining shareholders."²⁸ On December 16, 2015, FCF received a temporary order from the SEC permitting the fund to suspend redemptions, subject to certain conditions, to protect the

²¹ While the liquidity profile of corporate bonds is heterogeneous, they are generally considered less liquid than agency mortgaged-backed securities, U.S. Treasury securities, other investment-grade sovereigns, and large-cap publicly traded equity securities. See Barclays, Liquidity Cost Scores Report (Mar. 2016).

²² Federal Reserve, Financial Accounts of the United States.

²³ "Sub-investment grade debt" includes funds focused on high-yield corporate bonds, high-yield municipal bonds, and leveraged loans. "Emerging market assets" includes funds focused on emerging market equity (diversified emerging markets, China region, India equity, Latin America stock, Pacific/Asia ex-Japan stock) and emerging market bonds. From January 2010 to December 2015, these funds saw \$258 billion in net inflows; flows to these less-liquid asset classes accounted for 19 percent of total industry inflows despite accounting for 6 percent of total assets under management (AUM) in December 2009, and a similar percent in December of 2015. Computations based on Morningstar Direct.

²⁴ In some cases market share is down significantly from peak levels. For example, assets held by leveraged loan mutual funds rose from 3 percent of the leveraged loan market in December 2008 to 21 percent of the leveraged loan market in February 2014, but retreated to 12 percent of the market as of December 2015. Computations based on Morningstar Direct and S&P Leveraged Commentary & Data.

²⁵ See Itay Goldstein, Hao Jiang, and David Ng, *Investor Flows and Fragility in Corporate Bond Funds*, Working Paper (Jun. 25, 2015); see also Joshua Coval and Erik Stafford, *Asset Fire Sales (and Purchases) in Equity Markets*, *Journal of Financial Economics* 86(2), pp. 479-512 (2007); see also Luis Brandao-Marques, Gaston Gelos, Hibiki Ichioe, and Hiroko Oura, *Changes in the Global Investor Base and the Stability of Portfolio Flows to Emerging Markets*, IMF Working Paper No. 15/277 (Dec. 28, 2015).

²⁶ See, e.g., Comment Letter of PIMCO (Mar. 25, 2015), p. 10.

²⁷ Computations based on Morningstar Direct.

²⁸ Third Avenue FCF Management Letter to Shareholders (Dec. 9, 2015).

fund's investors.²⁹ FCF's portfolio, which was less liquid and invested in more distressed assets than other high-yield bond mutual funds, had become increasingly less liquid over the previous six months.³⁰ For example, eight of its top ten holdings were in firms that had restructured over the previous two years.³¹ Despite significant outflows across the sector during this period of market volatility, other high-yield bond mutual funds were able to meet redemption requests. The closure of FCF illustrates both liquidity and redemption risk in less-liquid mutual funds and raises questions about the implications for financial stability. If the problems that forced FCF to close had been widespread among other funds, or perceived to be widespread, its closure could have had spillover effects on other funds and asset markets.

Appropriate liquidity risk management, including consideration of potential outflows in a stress event, can reduce the risk of forced asset sales and potential financial stability risks by providing for a sufficient base of liquid assets to meet redemptions. Several fund managers stated in their comment letters that they have a variety of liquidity sources to meet redemptions, including new inflows, cash and liquid asset buffers, internal cash flows, reverse repurchase agreements, external lines of credit, and interfund lending.³² Recent analysis by SEC staff, however, has shown that some mutual funds manage their liquidity in response to large redemptions by disproportionately selling their relatively more liquid assets, which might amplify first-mover advantage by leaving remaining investors with an increasingly illiquid portfolio.³³ Such practices have been shown to contribute to contagion across asset classes.³⁴

At present there is only limited data on mutual funds' liquidity risk management practices and their portfolio composition as it relates to their liquidity profile. The lack of sufficient data hinders any assessment of the adequacy of funds' ability to meet redemptions without the adverse spillover effects described above, or the magnitude of any potential risk of spillover. In particular, under the current regulatory framework, the liquidity risk profiles of outliers such as FCF are difficult to identify in a timely manner.

The extent to which fund redemptions might contribute to potential financial stability risks also depends on the behavior of various types of investors. The potential for large net outflows may be mitigated by the nature of mutual funds' investor bases, which typically comprise retail investors with longer-term investment horizons and tax considerations that generally may make them less likely to redeem based on first-mover advantage dynamics.³⁵ In addition, forced asset sales may not create a feedback loop if other investors step in to buy the assets. However, there is evidence that certain types of institutional investors, such as insurance companies and pension

²⁹ Third Avenue Trust et al., Investment Company Act Release No. 31943 (Dec. 16, 2015).

³⁰ Third Avenue Trust and Third Avenue Management LLC, Application for an Order Pursuant to Section 22(e)(3) of the Investment Company Act of 1940 (Dec. 16, 2015).

³¹ Third Avenue FCF, Portfolio Manager Commentary (Jan. 31, 2016).

³² See, e.g., Comment Letter of BlackRock (Mar. 25, 2015), pp. 34-35; see also Comment Letter of Vanguard (Mar. 25, 2015), pp. 7-8; see also Comment Letter of Fidelity Investments (Mar. 25, 2015), pp. 18-21.

³³ See Paul Hanouna, Jon Novak, Tim Riley, and Christof Stahel, *Liquidity and Flows of U.S. Mutual Funds*, SEC DERA White Paper (Sep. 2015).

³⁴ Alberto Manconi, Massimo Massa, and Ayako Yasuda, *The Role of Institutional Investors in Propagating the Crisis of 2007-2008*, *Journal of Financial Economics* 104(3), pp. 491-518 (2007).

³⁵ Comment Letter of Strategic Insight (Mar. 25, 2015), pp. 7-8, p.18.

funds, tend to act in concert, and in a way similar to mutual funds, and their collective behavior can amplify price distortions in market stress.³⁶

In addition to the two structural features discussed above, the Council is also focused on whether the use of external sources of borrowing—such as lines of credit and other means of financing, and to a lesser extent, interfund lending—could transmit liquidity stress to other entities or markets, particularly in times of broader market stress. The use of bank credit lines could potentially transmit financial stress to other parts of the financial system, as widespread draws on committed lines of credit could put additional pressures on bank liquidity during a financial stress scenario. Moreover, interfund lending and shared lines of credit may not be available during times of stress if mutual funds are experiencing broad redemptions, although interfund lending requires prior SEC exemptive relief and is typically subject to conditions that may restrict its use.³⁷ However, these issues are difficult to assess because there is limited industry-wide data readily available on funds' use of these sources of borrowing and other financing. Similar concerns regarding these sources of borrowing, to the extent available, may apply to CIFs, which are discussed below.

2.1.2 *Registered Funds: Exchange-Traded Funds*

Due to their redemption structure, ETFs may not be subject to the same types of liquidity and redemption risks as some other pooled investment vehicles. Specifically, unlike mutual fund shares, which investors can redeem directly in exchange for cash, ETF shares can only be redeemed by authorized participants (APs), which are typically large broker-dealers that are members of clearing agencies. Furthermore, many ETFs only redeem their shares for in-kind baskets of securities, rather than cash, and, to the extent that ETFs redeem in cash, they often charge pre-determined transaction fees to the redeeming APs to reimburse the ETFs for the costs associated with the redemption.³⁸ When ETF investors who are not APs wish to sell their shares, they must do so on secondary markets. Data indicates that the vast majority of purchases and sales of ETF shares are conducted in the secondary market and do not require share creation or redemption.³⁹ These features reduce the liquidity and redemption risks associated with ETFs because investors who sell shares usually do not force the ETF to sell assets. Therefore, ETFs are less vulnerable to the first-mover advantage dynamic described above.

Under normal circumstances, market makers (and other market participants) take advantage of any differential between an ETF's share price and its intraday trading value, resulting in ETF

³⁶ See Fang Cai, Song Han, Dan Li, and Yi Li, *Institutional Herding and Its Price Impact: Evidence from the Corporate Bond Market*, Federal Reserve Working Paper (Mar. 1, 2016).

³⁷ The conditions, for example, include the lending fund being able to call a loan on one business day's notice, the fund's aggregate outstanding interfund loans being limited to 15 percent of its net assets, and the fund's loans to any one fund being limited to 5 percent of the lending fund's net assets. See, e.g., PNC Funds et al., Investment Company Act Release Nos. 31976 (Feb. 1, 2016) (Notice) and 32010 (Feb. 29, 2016) (Order).

³⁸ APs create ETF shares by delivering securities or cash to the ETF in exchange for a block of ETF shares called a creation unit. They redeem ETF shares by delivering a creation unit of ETF shares to the ETF in exchange for securities or cash.

³⁹ See Comment Letter of the Investment Company Institute (Mar. 25, 2015), pp. A4-A5.

share prices closely tracking the value of their underlying portfolios.⁴⁰ However, the ETF arbitrage mechanism may break down in times of severe market stress if, for example, there is pricing uncertainty in an ETF's underlying holdings and investors seek to quickly sell their ETF shares. In such a case, market makers arbitraging the ETF would widen their bid-ask spreads to compensate for market volatility and pricing errors. In addition, APs may choose to cease processing ETF orders.⁴¹ These actions could result in a divergence between ETF share prices and the values of their portfolios.⁴² A recent short-lived event illustrated this potential vulnerability in the ETF arbitrage mechanism.⁴³ Granular data on ETF investors is limited, but there is evidence that institutional investors are increasingly using ETFs rather than derivatives to gain or hedge market exposure.⁴⁴ These investors may be exposed to this unanticipated basis risk if an ETF's price does not track its value for a prolonged period of time.

2.1.3 *Collective Investment Funds*

CIFs are prudentially regulated pooled investment vehicles that are operated by banks, savings associations, and federally insured and uninsured trust companies. CIFs are exempt from registration under the Investment Company Act, and they may be structured as common trust funds (which are limited to contributions by a bank in its capacity as a trustee, executor, administrator, or guardian) or collective investment trusts (which are limited to contributions by various employee benefit plans, such as 401(k) plans, and other trusts that are exempt from federal income tax), which are the most prevalent structure. CIFs are not generally marketed to investors in the same way that mutual funds are.⁴⁵

Many CIFs provide daily redemption to participants, although they are not required by statute or regulation to do so. For example, CIFs offered to participants in employee benefit plans may allow transfers to other funds offered by the plan. CIFs are available in a number of asset classes, including domestic equity, international equity, bonds, stable value, and alternatives. The risk management policies and practices of CIFs are subject to the relevant regulator's guidance and are reviewed during periodic bank examinations.⁴⁶ Although CIFs are not subject

⁴⁰ Share creation or redemptions typically happen when market makers (either through APs or APs themselves) enter the market and redeem (or create) shares when the ETF price is less (or greater) than the value of the underlying assets. The market maker's or AP's exercise of such an arbitrage opportunity generally results in an ETF share's market price tracking its value.

⁴¹ During the June 2013 Taper Tantrum, Citigroup, a major AP, temporarily stopped processing ETF creation unit orders on an agency basis after reaching its internal prudential risk limits. See Comment Letter of the Investment Company Institute (Mar. 25, 2015), p. A4.

⁴² Less-liquid ETFs may trade at a premium or discount to their NAVs during the normal course of business.

⁴³ At the market open on August 24, 2015, some ETFs traded at substantial discounts to their value, in part due to heightened price uncertainty for underlying securities. See SEC Investor Advisory Committee Meeting (October 15, 2015), available at: <http://www.sec.gov/news/otherwebcasts/2015/investor-advisory-committee-101515.shtml>; see also Staff of the Office of Analytics and Research in the SEC's Division of Trading and Markets, *Research Note: Equity Market Volatility on August 24, 2015* (December 2015).

⁴⁴ Greenwich Associates, *Institutional Investment in ETFs: Versatility Fuels Growth* (Q1 2016).

⁴⁵ Common trust funds are expressly prohibited from advertising under section 3(c)(3)(B)(i) of the Investment Company Act, whereas collective investment trusts are typically not advertised directly to investors.

⁴⁶ CIFs sponsored by national banks and federal savings associations are regulated by the OCC and must adhere to that agency's CIF rules. See 12 C.F.R. § 9.18. Those administered by state member banks (for which the Federal Reserve is the primary federal regulator), state-chartered non-member banks (for which the FDIC is the primary

to regulatory limits on investments in less-liquid securities, the primary federal regulators provide specific guidance to bank examiners and banks regarding adequate liquidity management practices.⁴⁷

Public data on CIFs is limited. Currently, Call Reports require banks to report total CIF AUM by investment strategy,⁴⁸ but information such as funds' redemption practices, external sources of liquidity, holdings of liquid assets, net flows, and employer plan type are not publicly disclosed. Because state-chartered, non-insured, non-depository limited purpose trust companies are not required to file a Call Report, aggregate information on the number and size of CIFs operated by such state-supervised trust companies is not readily available.

2.1.4 *Hedge Funds*

Unlike mutual funds, hedge funds are not subject to regulatory liquidity guidelines and therefore may invest in assets of varying liquidity profiles, consistent with their disclosures to investors. They may also restrict investors' ability to redeem, and hence better ensure that investor liquidity is aligned with asset liquidity. In particular, most hedge funds require advance notice for redemptions, and some impose initial lockup periods for investors. Currently, large hedge fund advisers report on the SEC's Form PF that 13 percent of their advised hedge fund shares can be redeemed with notice of seven days or less, and 26 percent in 30 days or less.⁴⁹ Most hedge funds appear to largely match investor share liquidity and asset liquidity: funds with less-liquid assets typically have substantially longer redemption horizons.⁵⁰ Further, many hedge funds use gates triggered by either investor or fund-wide redemption levels as a method of structuring redemptions over a particular time period. For example, a fund might not permit an investor or all investors to redeem more than 25 percent of their investment, individually or in the aggregate across all fund investors, during a particular redemption period unless the fund's governing body waives this requirement.

However, even in funds with redemption restrictions, managers may have difficulty selling less-liquid assets in an orderly manner to meet large redemption requests, particularly in times of stress. In such a situation, hedge funds could fall back on more extraordinary liquidity management measures to mitigate redemption difficulties and the potential for forced asset sales. For example, hedge funds often reserve the right to suspend redemptions, offer partial

federal regulator), and non-depository, limited purpose trust companies (supervised by the applicable state) are chartered and operate under state laws, which frequently reference the OCC's rules as guidance or requirements. *See* OCC Collective Investment Funds Comptroller's Handbook (May 2014) (OCC CIF Handbook); *see also* FDIC Trust Examination Manual, Section 7, Compliance – Pooled Investment Vehicles.

⁴⁷ *See* OCC CIF Handbook, p.7 (“The fund manager should consider the structure and duration of the assets owned by the fund, redemption patterns, cash flow projections, and underlying assumptions. The fund should be stress tested, looking at changes in fund flows and the availability of liquidity, under various scenarios. Regular testing of any contingency financing sources is expected.”).

⁴⁸ Insured depository institutions and federally chartered limited purpose trust companies are required to report this information on Schedule RC-T of the Call Report.

⁴⁹ Large hedge fund advisers are advisers with at least \$1.5 billion in hedge fund assets under management. Form PF, General Instructions, p. 2. SEC Division of Investment Management, Risk and Examinations Office, *Private Fund Statistics, Second Calendar Quarter 2015* (Dec. 30, 2015), p. 26 (data based on quarterly filers).

⁵⁰ Form PF data.

redemptions with less-liquid assets retained in “side pocket” funds, or offer in-kind redemptions.⁵¹ During the financial crisis, hedge funds may have amplified distress by engaging in significant deleveraging in response to redemptions that were due in part to investors anticipating the use of liquidity management measures.⁵² Discussion of the potential for liquidity issues in hedge funds continues below in Section 3.

2.2 Council Views

The Council believes there are financial stability concerns that may arise from liquidity and redemption risks in pooled investment vehicles. To help mitigate these financial stability risks, the Council believes that the following steps should be considered:

1) *Robust liquidity risk management practices for mutual funds, particularly with regard to preparations for stressed conditions by funds that invest in less-liquid assets.* Robust liquidity risk management practices should mitigate the risks of a potential deterioration in the liquidity of fund assets to a degree that affects the fund’s ability to meet redemptions and of less-liquid asset classes coming under forced-selling pressure in stressed conditions. These practices should comply with guidelines from regulators that encourage adequate risk management planning and establish expectations regarding funds’ abilities to meet redemptions under a variety of extreme but plausible stressed market conditions.

2) *Establishment of clear regulatory guidelines addressing limits on the ability of mutual funds to hold assets with very limited liquidity, such that holdings of potentially illiquid assets do not interfere with a fund’s ability to make orderly redemptions.* Clear guidelines regarding the characteristics of such assets and limits on holding them should mitigate risks that may arise if funds hold assets that they have trouble disposing of in a size commensurate with potential redemptions, particularly in times of market stress.

3) *Enhanced reporting and disclosures by mutual funds of their liquidity profiles and liquidity risk management practices.* Additional reporting requirements regarding funds’ liquidity would allow regulators to better understand how funds are assessing liquidity. In addition, public disclosure of funds’ liquidity and their liquidity risk management practices could help improve liquidity risk management standards across the industry and enhance market discipline with respect to how funds manage and measure liquidity risk. Over time, such disclosures could reduce risks arising from liquidity transformation by providing better information to investors.

4) *Steps to allow and facilitate mutual funds’ use of tools to allocate redemption costs more directly to investors who redeem shares.* Such tools should help reduce first-mover advantage and mitigate the risk that less-liquid asset classes would be faced with widespread sales under stressed conditions. Regulators should assess which tools could be effective in reducing first-mover advantage and determine the scope of application of such tools, especially in funds

⁵¹ See Comment Letter of the Managed Funds Association (Mar. 25, 2015), pp. 12-14.

⁵² See Itzhak Ben-David, Franzoni Francesco, and Rabih Moussawi, *Hedge Funds Stock Trading During the Financial Crisis of 2007-2009*, Review of Financial Studies 25(1), pp. 1-54 (2012).

holding less-liquid assets. If there are significant operational challenges to implementing these tools, regulators should consider approaches to alleviate such challenges.

5) Additional public disclosure and analysis of external sources of financing, such as lines of credit and interfund lending, as well as events that trigger the use of external financing.

Currently, granular information on the use of these sources of financing is not available, limiting the ability to assess the extent to which they could transmit liquidity strains to broader markets.

6) Measures to mitigate liquidity and redemption risks that are applicable to CIFs and similar pooled investment vehicles offering daily redemptions. While there are differences described above between mutual funds and other pooled investment vehicles such as CIFs, due to the potential for similar investment strategies and redemption practices, regulators should consider whether any aspects of the measures listed above, or other measures, may be appropriate for reducing potential liquidity risks in CIFs and similar pooled investment vehicles subject to their respective jurisdictions.

While ETFs are not subject to the same types of liquidity and redemption risks as other open-end funds, the Council will continue to monitor other risks that could arise, such as the potential for ETFs to disconnect from the price of their underlying securities for an extended period, and whether such risks could raise financial stability concerns. The Council notes that the SEC is currently reviewing exchange-traded products with respect to a broad variety of issues.

In May 2015, the SEC proposed rules, forms, and amendments to modernize and enhance the reporting and disclosure of information by registered investment companies and registered investment advisers. In September 2015, the SEC issued proposed rules for mutual funds and ETFs designed to enhance liquidity risk management by funds, provide new disclosures regarding fund liquidity, and allow funds to adopt swing pricing to pass on transaction costs to entering and exiting investors. The Council welcomes the SEC's policy initiatives in this area and understands the SEC is currently reviewing public comments on its proposed rules.

To the extent that these or any other measures are implemented by the SEC or other regulators, the Council intends to review and consider whether risks to financial stability remain. This review will take into account how the industry may evolve in light of any regulatory changes, whether additional data is needed to comprehensively assess liquidity and redemption risk, and the differences and similarities in risk profiles among mutual funds and other pooled investment vehicles.

3. LEVERAGE RISK

3.1 Potential Risks to Financial Stability

The Council has considered potential risks arising from the use of leverage in certain investment vehicles, including mutual funds, hedge funds, CIFs, and SMAs.⁵³ In particular, the Council has explored ways in which the use of leverage by investment vehicles could increase the potential for direct or indirect losses to counterparties and other market participants, and the extent to which these risks may have implications for U.S. financial stability.

Leverage can be a useful component of an investment strategy, and its use can imply widely varying levels of risk depending on the activities and strategies of the investment vehicle. Leverage may be obtained through borrowings or securities financing transactions (referred to as financial leverage), or may be embedded in financial products such as derivatives (referred to as synthetic leverage).

While actual risk exposure depends on a number of factors, leverage can magnify the impact of asset price movements on a fund's net assets and performance. In the event that a leveraged investor is faced with collateral or margin calls due to significant changes in asset prices, the investor may be forced to sell assets to satisfy those demands. Assets purchased with borrowed short-term funds may be particularly vulnerable to selling pressure in stress conditions if short-term borrowing becomes unavailable and positions need to be unwound quickly. A disorderly liquidation of positions could in turn have a significant price effect on assets, and potentially impact previously unaffected market participants.⁵⁴ Additionally, the exposures created by leverage establish interconnections to other market participants through which financial stress could be transmitted to the broader financial system.⁵⁵

3.1.1 Hedge Funds

Hedge funds are not subject to the leverage restrictions imposed on funds registered under the Investment Company Act. Although hedge funds are not subject to direct regulatory restrictions, their use of leverage may be constrained indirectly through requirements on their broker-dealer counterparties, such as Regulation T and FINRA margin rules for securities transactions,⁵⁶ and newly adopted requirements under the Dodd-Frank Act, including increased central clearing of

⁵³ SMAs are accounts managed by a registered investment adviser, in which the client (e.g., a pension fund, sovereign wealth fund, or other entity or individual) retains direct and sole ownership of the assets under management, and which are typically held at an independent custodian on behalf of the client. SMAs are not considered pooled investment vehicles but are included in this leverage discussion because of their ability to obtain significant leverage and because of the limited data available regarding these vehicles.

⁵⁴ See Markus Brunnermeier and Lasse Pedersen, *Market Liquidity and Funding Liquidity*, *The Review of Financial Studies* 22(6), pp. 2201-2238 (2009).

⁵⁵ See Zeno Adams, Roland Fuss, and Reint Gropp, *Spillover Effects Among Financial Institutions: A State-Dependent Sensitivity Value at-Risk Approach*, *Journal of Financial and Quantitative Analysis* 49(3), pp. 575-598 (2014).

⁵⁶ See 12 C.F.R. Part 220; FINRA Rule 4210.

derivatives and the introduction of margin requirements for uncleared swaps.⁵⁷ Further, rules implementing the Basel III capital standards may limit access to leverage for hedge funds by increasing the costs to some prime brokers of certain trading activities. Hedge funds are also subject to ongoing reporting requirements imposed by lending counterparties, which may limit the amount of leverage funds may obtain.

The relationship between a hedge fund's level of leverage and risk, and whether that risk may have financial stability implications, is highly complex. Leverage is not a perfect proxy for risk, but there is ample evidence that the use of leverage, in combination with other factors, can contribute to risks to financial stability.⁵⁸ These risks are likely to be greater if an elevated level of leverage is employed; borrowing counterparties are large, highly interconnected financial institutions; counterparty margining requirements are limited or lax and positions are infrequently marked to market; the underlying assets are less liquid and price discovery is poor; or other financial institutions with large positions are involved in similar trading strategies.^{59, 60}

For example, a given value of a leverage metric might represent a prudent level of risk for a strategy involving committed funding in a highly liquid, centrally cleared market; the same value of that metric under different circumstances might warrant closer examination. Also, many strategies simultaneously take long and short positions in similar instruments with different liquidity profiles, and a simple leverage metric will not capture the potential differences in risk across these strategies.⁶¹ Abrupt shifts in market volatility or liquidity may have very different effects across strategies or markets.

While additional information is needed to better assess any financial stability risk, the Council used data reported on Form PF as a starting point to assess the amount and nature of hedge funds' leverage. The Council used a number of metrics for measuring leverage based on existing data, though each metric has certain shortcomings, as described below:

⁵⁷ Dodd-Frank Act §§ 723, 731, 763(a), 763(c), and 764(a). In addition, sections 728, 763(i) and 766 of the Dodd-Frank Act require that information regarding all swaps and security-based swaps be reported to swap data repositories and security-based swap data repositories.

⁵⁸ See Viral Acharya, Lasse Pedersen, Thomas Philippon, and Matthew Richardson, *Measuring Systemic Risk*, Technical Report, NYU Department of Finance (2010).

⁵⁹ See Nicholas Chan, Mila Getmansky, Shane Haas, and Andrew Lo, *Systemic Risk and Hedge Funds*, The Risks of Financial Institutions, ed. Mark Carey and Renee Stulz, University of Chicago Press, Chicago, IL, pp. 235-338 (2007); see also Amir Khandani and Andrew Lo, *What Happened to the Quants in August 2007?: Evidence from Factors and Transactions Data*, *Journal of Financial Markets* 14(1), pp. 1-46 (2011).

⁶⁰ The failure of Long Term Capital Management (LTCM) in 1998 and the liquidation of Amaranth Advisors in 2006, both large and highly leveraged hedge funds that came under significant stress over short periods of time with different outcomes, illustrate the interplay between leverage, size, and other factors. See President's Working Group on Financial Markets, *Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management* (1999); see also Roger Ferguson and David Laster, *Hedge Funds and Systemic Risk*, Banque de France Financial Stability Review: Special Issue on Hedge Funds, pp. 45-54 (2007); see also Mila Getmansky, Peter Lee, and Andrew Lo, *Hedge Funds: A Dynamic Industry In Transition*, NBER Working Paper No. 21449 (Aug. 2015).

⁶¹ See Comment Letter of the Managed Funds Association (Mar. 25, 2015), p. 35.

- Borrowing divided by net asset value (borrowing/NAV): Provides a measure of credit exposure relative to shareholder assets but does not measure synthetic leverage obtained through derivative investments.
- Gross asset value divided by net asset value (GAV/NAV): Provides a measure of financial leverage obtained through the use of cash borrowings (including repo, prime brokerage borrowing, and other secured and unsecured borrowing) but only includes the market value of derivatives and thus may understate synthetic leverage.⁶²
- Gross notional exposure divided by net asset value (GNE/NAV): Provides the summed absolute values of long and short notional positions. The measure incorporates financial and synthetic leverage, but has limitations. First, the summing of long and short positions ignores favorable effects of hedging or offsetting positions, which may reduce risk.⁶³ A related shortcoming is that it treats all notional derivative values equally when calculating leverage levels, so it does not capture differences in risk exposure across different classes of derivatives.⁶⁴ However, notional exposure on Form PF is adjusted for certain derivative instruments; funds report delta-adjusted values for options and 10-year bond equivalent values for interest rate derivatives.⁶⁵

These metrics are helpful for identifying potential areas for further analysis, but they are not sufficient to identify whether the use of leverage by hedge funds may present financial stability risks. In particular, aggregating notional derivative amounts to measure synthetic leverage is likely to overstate leverage. Evaluating risks from the use of leverage by hedge funds requires an analysis of other factors, which could include the nature of investment positions, trading and hedging strategies, financing arrangements, counterparties, margin requirements, and the effects of central clearing.

In the context of these data limitations, Form PF offers an initial high-level view on the extent of hedge funds' use of leverage.⁶⁶ The Council's analysis confirmed that many hedge funds use relatively small amounts of leverage. However, disaggregated data show that larger hedge funds, as measured by GAV, tend to be more leveraged than smaller hedge funds. For instance, as of the second quarter of 2015, for all qualifying hedge funds (QHF), the weighted averages for the three ratios—GAV/NAV, GNE/NAV, and borrowing/NAV—were approximately 1.8x, 5.5x, and 0.7x, respectively. In contrast, for the 10 largest hedge funds, the weighted averages for the three ratios were 6.1x, 23.3x, and 4.6x.⁶⁷ This relationship between leverage and size is also true

⁶² The vast majority of hedge fund borrowing is secured, which is the focus of this statement.

⁶³ See Comment Letter of the Alternative Investment Management Association (Mar. 25, 2015) p. 20.

⁶⁴ For example, foreign exchange and interest rate derivatives tend to have higher notional amounts compared to credit default swaps or equity options for the same amount of volatility.

⁶⁵ Standardization of notional variables to comparable measures (e.g., delta adjusting option exposures) helps to clarify the comparisons, although such adjusted notional measures do not typically account for differences in liquidity, funding risk, cleared status, collateralization, or other potentially relevant characteristics.

⁶⁶ See Comment Letter of Americans for Financial Reform (Mar. 27, 2015), pp. 4-5.

⁶⁷ Data reported on Form PF as of 2Q 2015. A QHF is defined on Form PF as "any hedge fund that has a net asset value (individually or in combination with any feeder funds, parallel funds and/or dependent parallel managed

for median and simple averages; in each case, the larger funds measured by GAV tend to have higher leverage ratios. When hedge funds are ranked by NAV, there is no clear pattern of leverage ratios and fund size.⁶⁸ However, the Council has focused on GAV as a better proxy for exposure.

Additionally, the use of leverage appears to be concentrated among a small number of hedge funds. The top 10 funds sorted by NAV represent less than 10 percent of the NAV of all QHFs. However, when sorted by GNE, borrowings, and notional value of derivatives, the top 10 funds represent 28, 35, and 49 percent, respectively, of all QHFs.⁶⁹ When sorted by NAV, the top 100 funds account for 39 percent of the NAV of all QHFs, but when sorted by GNE, borrowings, and notional value of derivatives, the top 100 funds represent 66, 73, and 83 percent of GNE, borrowings, and notional value of derivatives, respectively, of all QHFs.

The data suggests that some of the largest (by gross assets) and most leveraged funds are relative value, fixed-income arbitrage funds that use repo and derivatives—primarily interest rate swaps and foreign exchange—to obtain leverage. These funds’ leveraged positions generally appear to be offsetting—that is, their market exposures appear to be largely hedged on a long/short basis—but there are limitations to these reported metrics, requiring further analysis.⁷⁰ As a result, it is difficult at this time to assess fully the potential for the liquidation of leveraged assets by a distressed fund, or by several funds pursuing similar strategies, to disrupt key financial markets.

Hedge fund leverage varies depending on strategy. Some funds rely on substantial amounts of borrowing, and those that are heavily reliant on short-term borrowing may be more affected by financing constraints in times of market stress. Financial stress may result in worsening credit terms or reduced repo availability, and this stress could be transmitted to financial markets if hedge funds are forced to reduce their leverage.⁷¹

With respect to counterparty exposures, QHFs report on Form PF the sum of mark-to-market net counterparty exposures for each of their top five counterparties.⁷² Of the \$1.1 trillion of net

accounts) of at least \$500 million as of the last day of any month in the fiscal quarter immediately preceding [the fund’s] most recently completed fiscal quarter.” See Form PF, Glossary of Terms, p. 8.

⁶⁸ In particular, as of 2Q 2015, the weighted averages for the three ratios were approximately 1.9x, 5.3x, and 0.8x for the top 10 hedge funds sorted by NAV.

⁶⁹ For all QHFs, aggregate borrowing was approximately \$2.0 trillion (\$1.1 trillion in borrowing from prime brokers, \$649 billion in repo, and \$255 billion in other secured borrowing), and the aggregate gross notional value of derivatives was approximately \$12.7 trillion. Derivatives data is based on Form PF question 44; unlike GNE, this aggregated notional number does not include an adjustment for interest rate derivatives to 10-year bond equivalents, or any delta-adjustment for options.

⁷⁰ Form PF can be used to estimate the level of market risk to which the funds are exposed, including reporting of value at risk (question 40), and the results of stress tests (question 42); however, there are limitations to these reported metrics. For example, value at risk is not uniformly calculated or reported by filers, and stress tests do not reveal the effect of non-parallel shifts in the yield curve.

⁷¹ See Adam Copeland, Antoine Martin, and Michael Walker, *Repo Runs: Evidence from the Tri-Party Repo Market*, *Journal of Finance* 69(6), pp. 2343-2380 (2014); see also Arvind Krishnamurthy, Stefan Nagel, and Dmitry Orlov, *Sizing Up Repo*, *Journal of Finance* 69(6), pp. 2381-2417 (2014).

⁷² Form PF question 23 requires filers to report the five counterparties that have the greatest mark-to-market net counterparty credit exposure to the fund.

counterparty exposures reported by all QHFs, seven counterparties accounted for \$843 billion, or 75 percent of the total. Given the limitations of the data, however, the extent to which net counterparty exposure and the proportion attributable to these seven counterparties represent a significant portion of total net mark-to-market counterparty exposure of qualifying hedge funds is unknown. While financial stability risks can be transmitted through direct and indirect exposures of large financial institutions, the risk of direct losses to counterparties is reduced by collateral posted by the hedge funds. The reported value of collateral posted for the \$1.1 trillion of exposures was \$1.4 trillion. However, the data also shows that the ratio of posted collateral to counterparty exposures varies across the largest funds, and there is limited detailed information regarding collateral type.⁷³

The market reforms discussed above, including margin requirements and increased use of central clearing for derivatives, are significant structural changes that should mitigate certain risks to financial stability. However, these changes do not apply equally to all markets or products, and their effect has not yet been tested during a period of severe market stress. For example, to the extent that margin requirements are procyclical, they could contribute to forced liquidations that could amplify price volatility in times of market stress.⁷⁴

In addition, although some market participants have stated that counterparty risk management has improved in the wake of the financial crisis,⁷⁵ individual counterparties may lack a complete picture of a fund's exposures, as many hedge funds have relationships with multiple prime brokers and derivatives dealers.⁷⁶ These counterparties are also supervised or regulated by agencies across various jurisdictions. Accordingly, no single regulator has a complete window into the risk profile of hedge funds.

In summary, the Council's ability to fully assess these risks and potential mitigants is constrained by limitations in the available data. While the reporting of data on Form PF has increased transparency to regulators, the leverage metrics and broad strategy classifications available in Form PF do not provide sufficient insight into relevant risks, limiting the Council's ability to assess potential risks to financial stability from the activities of leveraged hedge funds.

⁷³ On Form PF question 37, hedge funds report the value of collateral posted to the counterparties listed in question 23. Of the \$1.4 trillion in collateral reported on question 37, 35 percent was cash and cash equivalents (which includes Treasury and agency securities), 63 percent was securities other than cash and cash equivalents, and 2 percent was reported as other collateral and credit support.

⁷⁴ A number of studies suggest that margin requirements for certain derivatives and securities lending transactions may have procyclical effects. See Markus Brunnermeier and Lasse Pedersen, *Market Liquidity and Funding Liquidity*, *The Review of Financial Studies* 22(6), pp. 2201-2238 (2009); see also David Murphy, Michalis Vasios, and Nick Vause, *An Investigation into the Procyclicality of Risk-Based Initial Margin Models*, Bank of England, Financial Stability Paper No. 29 (2014); see also Committee on the Global Financial System, *The Role of Margin Requirements and Haircuts in Procyclicality*, Bank for International Settlements CGFS Papers No. 36 (2010).

⁷⁵ See e.g., Deloitte Touche Tohmatsu Limited, *Global Risk Management Survey, Eighth Edition, Setting a Higher Bar*, p. 25.

⁷⁶ See Comment Letter of the Alternative Investment Management Association (Mar. 25, 2015), p. 5.

3.1.2 *Registered Funds: Mutual Funds and ETFs*

The Investment Company Act restricts the amount of financial leverage that may be used by mutual funds and other investment companies registered with the SEC. The Investment Company Act limits mutual funds' bank borrowings to 50 percent of net assets; SEC guidance has limited leverage obtained through reverse repurchase agreements and certain other financing transactions such that funds' obligations under these transactions cannot exceed 100 percent of net assets.⁷⁷ As a result, most mutual funds and ETFs have low levels of financial leverage.

However, some funds' current practices enable them to obtain a higher degree of leverage than was contemplated under previous SEC guidance.⁷⁸ This is particularly true for alternative strategy funds, such as nontraditional bond funds and leveraged ETFs. For example, according to SEC staff analysis, which was based on a 10 percent random sample of all funds, most traditional mutual funds and ETFs obtain little to no exposure through derivatives, and only 1 percent of the AUM of the traditional funds included in the sample was invested in funds with derivatives exposure relative to NAV above 3.0x.⁷⁹ In contrast, SEC staff analysis found that some alternative strategy funds appear to use derivatives substantially. While only 8 percent of alternative strategy funds included in the SEC's sample had derivatives exposure relative to NAV greater than 3.0x, these funds accounted for 52 percent of alternative strategy AUM in the staff's random sample.⁸⁰ Alternative strategy funds represent only 3 percent of total industry AUM; however, they have recently experienced significant growth and have received a disproportionate share of industry net inflows.

3.1.3 *Collective Investment Funds*

The extent of the use of leverage is reviewed as part of the regular examination process at federally supervised institutions operating CIFs, and these banks are required to monitor leverage

⁷⁷ Sections 18(a)(1) and 18(f)(1) of the Investment Company Act; Investment Company Act Release No. 10666, 44 Fed. Reg. 25128 (Apr. 27, 1979); see Registered Investment Company Use of Senior Securities – Select Bibliography, available at: <https://www.sec.gov/divisions/investment/seniorsecurities-bibliography.htm> (listing staff guidance analyzing the application of section 18 of the Investment Company Act to certain financial transactions).

⁷⁸ See Use of Derivatives by Registered Investment Companies and Business Development Companies, 80 Fed. Reg. 80844, 80893 (Dec. 28, 2015) (“Together, funds’ use of the mark-to-market segregation approach with respect to various types of derivatives, plus the segregation of any liquid asset, enables funds to obtain leverage to a greater extent than was contemplated in Release 10666.”).

⁷⁹ Daniel Deli, Paul Hanouna, Christof Stahel, Yue Tang, and William Yost, *Use of Derivatives by Registered Investment Companies*, SEC DERA White Paper (Dec. 2015) (analysis of 2014 Form N-CSR filings with a 10 percent random sample of all funds). In the white paper, derivatives exposure is defined as the gross notional amount of derivatives that involve potential future payment obligations. “Alternative strategy funds” refers to alternative funds, nontraditional bond funds, and commodity funds. AUM refers to the percent of assets that are invested in traditional (alternative strategy) funds according to derivatives exposures/NAV. A total of 54 percent of AUM in traditional funds that were included in the staff’s sample was invested in funds with no derivative exposures, and 95 percent of AUM in traditional funds that were included in the staff’s sample was invested in funds with derivatives exposure/NAV below 1.0x.

⁸⁰ Due to data limitations, “derivatives exposure” in the SEC staff analysis is not precisely comparable to the gross notional exposure metrics used in the Form PF analysis. For example, the SEC staff analysis does not delta adjust option exposures and does not represent fixed income exposures in 10-year equivalents.

risk to the CIF.⁸¹ However, there is no express regulatory limit on CIFs' leverage, and there is limited public data available on CIFs' use of borrowing and synthetic leverage.

3.1.4 *Separately Managed Accounts*

There is currently limited regulatory data available to assess the extent to which SMAs use leverage. An industry survey suggests that leverage levels within SMAs are low and that the majority of SMAs do not employ leverage.⁸² However, this information does not represent the total SMA universe. Additionally, those that do use leverage are typically limited in their ability to do so by their governing investment management agreements.

3.2 **Council Views**

3.2.1 *Hedge Funds*

While the regulatory reforms and market practices described above indirectly limit certain risks from the use of leverage at hedge funds, data reported on Form PF shows that, based on certain metrics, there appears to be a concentration of leverage in a small number of large hedge funds. Form PF does not provide complete information on the economics and corresponding risk exposures of hedge fund leverage or potential mitigants associated with reported leverage levels. In addition, hedge funds' major counterparties are regulated by various regulators with different jurisdictions. Currently, therefore, no single regulator has all the information necessary to evaluate the complete risk profiles of hedge funds.

The Council's review of the use of leverage in the hedge fund industry suggests a need for further analysis of the activities of hedge funds. The Council is creating an interagency working group that will share and analyze relevant regulatory information in order to better understand whether certain hedge fund activities might pose potential risks to financial stability. In particular, the working group will:

1. Use regulatory and supervisory data to evaluate the use of leverage in combination with other factors—such as counterparty exposures, margining requirements, underlying assets, and trading strategies—for purposes of assessing potential risks to financial stability;
2. Assess the sufficiency and accuracy of existing data and information, including data reported on Form PF, for evaluating risks to financial stability, and consider how the existing data might be augmented to improve the ability to make such evaluation; and

⁸¹ See OCC CIF Handbook, pp. 13-14 (“To the extent a fund uses leverage with the objective of enhancing returns, the bank must have processes in place to calculate the leverage risk in the fund’s portfolio. The bank must monitor that leverage risk and, where appropriate, incorporate risk mitigation and diversification strategies to reduce that risk.”).

⁸² See Comment Letter of the Asset Management Group of SIFMA and the Investment Adviser Association to the Financial Stability Board and SEC (Apr. 4, 2014), p. 2, p. 6.

3. Consider potential enhancements to and the establishment of standards governing the current measurements of leverage, including risk-based measures of leverage.

This group will seek to report its consolidated findings to the Council by the fourth quarter of 2016. If risks to financial stability are identified, the Council will: (1) consider what actions regulators can take using existing authorities; (2) assess whether existing regulatory and supervisory tools are sufficient to address risks; and (3) evaluate whether additional authorities may be needed for market regulators or other supervisory agencies.

3.2.2 Registered Funds: Mutual Funds and ETFs

In December 2015, the SEC issued a proposed rule on the use of derivatives by registered investment companies, including mutual funds, ETFs, and business development companies. The SEC's proposed derivatives rule would generally limit the leverage that registered investment companies may obtain through derivatives that impose a conditional or unconditional obligation on the fund to make a payment or to deliver assets to a counterparty. The requirements under the proposed rule are intended to impose a limit on the amount of leverage registered funds may obtain through these derivatives and certain other senior securities transactions; address concerns that registered investment companies may be unable to meet their obligations, including in times of stress, by limiting derivatives exposures and strengthening asset segregation requirements; and require funds with substantial or complex derivatives exposures to implement a formalized risk management program.

The Council welcomes the SEC's efforts to limit the amount of leverage that registered investment companies such as mutual funds and ETFs may obtain through derivatives transactions, strengthen their asset segregation requirements, and require derivatives risk management programs for certain funds. The Council intends to monitor the effects of any regulatory changes and their implications for financial stability.

3.2.3 Collective Investment Funds

Regulators should consider whether aspects of any SEC rules regarding derivatives and data reporting modernization, or other measures, may be appropriate for CIFs subject to their respective jurisdictions. Regulators should consider how the industry may evolve as a result of any final SEC rules, whether additional data is needed comprehensively to assess leverage risk at CIFs, and differences in regulatory regimes.

3.2.4 Separately Managed Accounts

In May 2015, the SEC issued a proposed rule requiring registered investment advisers to provide annual data on the SMAs they manage. The SEC has proposed important enhancements that would increase data available to monitor the use of leverage in SMAs. The Council welcomes these efforts and understands that the SEC is currently reviewing public comments on the proposed rule. The Council intends to monitor the effects of any regulatory changes and their implications for financial stability.

4. OPERATIONAL RISK

4.1 Potential Risks to Financial Stability

The Council has considered whether operational risks within the asset management industry could have broader implications for U.S. financial stability.⁸³ Specifically, the Council has considered whether a disruption or failure of a service provider, or the provision of a flawed service, could result in a transmission of risk to the broader financial system. Historical operational risk incidents highlight the potential for such events to cause significant losses and disrupt market functioning. Additionally, new risks continue to arise in this space, such as cybersecurity risks.

The potential for more far-reaching effects is likely to be greater when multiple asset managers rely on one or a small number of providers for certain services.⁸⁴ If a sufficiently protracted or large-scale disruption, failure, or error were to occur at a widely used service provider, this could potentially create disruptions to core business functions. While not rising to the level of financial stability concerns, recent examples of operational issues, including a disruption to the NAV pricing service for hundreds of mutual funds provided by a third-party vendor, highlight the importance of service providers to the industry and demonstrate the potential for disruptive incidents.⁸⁵ The Council's initial review has focused on areas that appear to feature a relatively high level of outsourcing to external service providers, and potential concentrations in a small group of service providers, particularly across middle and back office functions. However, additional information and analysis are necessary to fully assess potential risks.

Operational risk is an important area of focus for companies in many industries and, while operational risks cannot be wholly prevented, companies take important steps to plan for and respond to operational issues. As with other areas of risk, operational risks may be mitigated by appropriate risk management programs and control environments. Regulators set expectations for the management of risks from the use of service providers and in some cases have regulatory authority over service providers themselves. For example, the SEC requires funds and advisers

⁸³ In its request for public comment, the Council indicated an interest in any areas of operational risk within the asset management industry that could present risks to U.S. financial stability, but expressed a particular interest in risks that may arise when multiple asset managers rely on one or a limited number of third parties to provide important services. Council Notice, 79 Fed. Reg. at 77493.

⁸⁴ Asset managers, like other types of financial services firms, may use affiliated or third-party service providers and specialized information technology systems for key functions and may provide such services to other asset managers or financial institutions. The Council's review thus far indicates key front-office functions include portfolio decision making, trading, and marketing; middle office functions typically include trade processing, asset pricing, fund valuation, services provided by prime brokers, and portfolio risk management; and back office functions include custody services, fund administration, fund accounting, transfer agency and shareholder record keeping, and facilitation of securities lending. Asset managers of registered funds employ a wide range of insourcing and outsourcing models, with some fulfilling both middle and back office functions internally, some fully or largely outsourcing, and some using a hybrid approach. *See, e.g.*, Comment Letter of BlackRock (Mar. 25, 2015), pp. 70-71; *see also* Comment Letter of the Investment Company Institute (Mar. 25, 2015), pp. 59-60.

⁸⁵ *See, e.g.*, Press Release, SunGard Financial Systems, *BNY Mellon InvestOne Production Environment Issue* (Aug. 27, 2015), available at: <https://www.bnymellon.com/us/en/locale-assets/pdf/newsroom/sungard-bny-mellon-investone-external-statement.pdf>.

to have written compliance policies and procedures and expects that such policies and procedures should address certain issues, including business continuity plans to the extent they are relevant.⁸⁶ The Federal Reserve, Office of the Comptroller of the Currency (OCC), and Federal Deposit Insurance Corporation (FDIC) have guidance requiring bank-owned or bank-affiliated asset managers to maintain sound risk management processes with respect to third-party relationships.⁸⁷ In addition, regulators have various mechanisms through which they may obtain information about service providers, though they may vary across regulatory jurisdictions.⁸⁸

Finally, as noted above, another important area of operational risk is cybersecurity, which many commenters on the Council's notice highlighted in their letters. As with other types of operational risk, cybersecurity is a key focus for firms across all sectors of the financial system. Some commenters cited the Council's potential to play a coordinating role in helping the industry prepare for and respond to cyber threats.⁸⁹

4.2 Council Views

The use of service providers and reliance on technology within the asset management industry calls for greater understanding of potential risks. While the asset management industry, as with the financial industry as a whole, has placed increasing emphasis on business continuity planning, and individual market participants have information on their own service provider relationships, there is limited information available to enable regulators to assess operational risks across the industry, including service provider risks. Although the incidents to date have not raised financial stability concerns, this does not preclude the potential for future incidents to pose more serious threats.

⁸⁶ See Compliance Programs of Investment Companies and Investment Advisers, 68 Fed. Reg. 74714 (Dec. 24, 2003).

⁸⁷ See Federal Reserve SR 13-19, Guidance on Managing Outsourcing Risk (Dec. 5, 2013), *available at*: <https://www.federalreserve.gov/bankinforeg/srletters/sr1319.htm>; see also OCC Bulletin 2013-29, Third-Party Relationships: Risk Management Guidance (Oct. 30, 2013), *available at*: <http://www.occ.gov/news-issuances/bulletins/2013/bulletin-2013-29.html>; see also FDIC FIL-44-2008, Guidance for Managing Third Party Risk (Jun. 6, 2008), *available at*: <https://www.fdic.gov/news/news/financial/2008/fil08044.html>; see also FFIEC Information Technology Examination Handbook: Outsourcing Technology Services Booklet (Jun. 2004), *available at*: http://ithandbook.ffiec.gov/ITBooklets/FFIEC_ITBooklet_OutsourcingTechnologyServices.pdf, and Supervision of Technology Service Providers Booklet (Oct. 2012), *available at*: [http://ithandbook.ffiec.gov/ITBooklets/FFIEC_ITBooklet_SupervisionofTechnologyServiceProviders\(TSP\).pdf](http://ithandbook.ffiec.gov/ITBooklets/FFIEC_ITBooklet_SupervisionofTechnologyServiceProviders(TSP).pdf).

⁸⁸ The Federal Reserve, OCC, and FDIC have authority under the Bank Service Company Act to examine certain third-party service providers directly. The SEC can obtain information and documents maintained by third-party service providers that perform work for, or whose activities have a material impact on, a registered entity and may obtain access to service providers' records if they have custody of the securities of an advisory client. Additionally, certain service providers are regulated by the SEC directly. Some other service providers are bank holding companies supervised by the Federal Reserve that may be subject to enhanced prudential standards under section 165 of the Dodd-Frank Act.

⁸⁹ See, e.g., Comment Letter of the Asset Management Group of SIFMA and the Investment Adviser Association (Mar. 25, 2015), pp. 47-48; see also Comment Letter of the Investment Company Institute (Mar. 25, 2015), pp. 71-72.

As a result, the Council will continue its analysis of potential service provider risks, including by engaging with relevant industry participants and other stakeholders, which may also be useful in better understanding potential service provider risks within the financial industry as a whole. The Council's analysis is expected to cover key functions performed by service providers to asset managers, including, among other things, a review of the concentration of service providers, the level of outsourcing of particular services, and the complexity of the infrastructure and activities supported by such providers. The Council will consider whether there is the potential for operational disruptions or problems to cause significant losses and disrupt market functioning. The Council also intends to further evaluate industry practices for managing these risks, such as business continuity and disaster recovery planning for disruptions. As part of this analysis, the Council will consider tools already available to mitigate risks from service providers, as well as potential ways to enhance information sharing among regulators to help evaluate the extent of these risks.

Additionally, the Council will continue to work with the asset management industry and other components of the financial services industry to promote information sharing, best practices, and efforts to improve planning, response, and recovery from cyber incidents.

5. SECURITIES LENDING RISK

5.1 Potential Risks to Financial Stability

Securities lending transactions involve the temporary transfer of a security by one party (the lender) to another (the borrower) in exchange for collateral, which may be cash or other instruments. The primary borrowers are hedge funds and broker-dealers, as well as their clients. The primary lenders are large institutional investors, such as pension plans, insurance companies, sovereign wealth funds, and endowments, as well as mutual funds and other pooled investment vehicles. Lenders generally use a securities lending agent to facilitate loans, although some may lend securities directly to a borrower. Custodian banks are the most common lending agents, and some asset managers also perform this function. A thorough evaluation of potential risks to financial stability from securities lending activities must include entities across the financial system.

A potential risk to financial stability from securities lending activity arises from the reinvestment of cash collateral by securities lenders. Some securities lenders, including registered funds, are subject to regulatory limits on cash collateral reinvestment. Other lenders that are not subject to these limits may invest cash collateral in pooled investment vehicles with weighted average portfolio maturities significantly greater than the terms of their securities loans, which can result in liquidity and maturity mismatches. Widespread borrower terminations of securities loans could result in significant, unexpected lender redemptions from cash collateral reinvestment vehicles in order to repay collateral. Such unexpected redemptions from vehicles with insufficient liquidity could result in rapid asset sales to meet redemptions, which in a period of market stress could accelerate declines in asset prices and potentially lead to losses in cash

collateral pools more broadly, additional redemptions, and further outflows.⁹⁰ Because cash collateral is sometimes reinvested in repo markets, such a scenario could have negative consequences for other types of short-term wholesale funding and the market participants that rely on them.⁹¹

At the same time, there are significant mitigants to cash collateral reinvestment risks arising from securities lending. In particular, many securities lenders reinvest cash collateral in money market mutual funds and certain short-term investment funds, which have become more resilient as a result of post-crisis reforms by the SEC and OCC, respectively.⁹² These reforms include more stringent investment limits, tools to address investor runs in periods of market turmoil, improved stress-testing procedures, and more detailed disclosures.

Another area for potential further analysis is the activities involved with indemnification against borrower default.⁹³ While there have not been historical examples of borrower default indemnification creating financial stability risks, regulators lack reliable data on the various lending agent activities across this market.

5.2 Council Views

Without comprehensive information on securities lending activities across the financial system, regulators cannot fully assess the severity of potential risks to financial stability in this area. Current estimates of the total size of the securities lending market differ widely, and greater transparency is needed. Therefore, the Council encourages enhanced and regular data collection and reporting, as well as interagency data sharing, regarding securities lending activities.

The Council welcomes the efforts of the Office of Financial Research, Federal Reserve, and SEC on their recently completed joint securities lending data collection pilot, which surveyed major securities lending agents to collect data covering a wide array of lenders and borrowers. This data collection is critical to better understand securities lending activities across different types of institutions. The Council encourages efforts to propose and adopt a rule for a permanent collection.⁹⁴ Data collection efforts should be expanded to include a greater number of market participants. In addition, regulators should continue to monitor cash collateral reinvestment vehicles and explore ways to gather information on reinvestment practices occurring outside of the regulatory perimeter. The Council encourages relevant agencies to report back to the

⁹⁰ See Robert McDonald and Anna Paulson, *AIG in Hindsight*, *The Journal of Economic Perspectives* 29(2), pp. 81-105 (2014).

⁹¹ See Arvind Krishnamurthy, Stefan Nagel, and Dmitry Orlov, *Sizing Up Repo*, *Journal of Finance* 69(6), pp. 2381-2417 (2014).

⁹² Short-term investment funds are a type of CIF subject to certain regulatory requirements. See 12 C.F.R. § 9.18(b)(4)(iii).

⁹³ Securities lenders' investment policies often require them to obtain an indemnification from their lending agent, under which the agent typically guarantees replacement value of a lent security in case the securities borrower fails to return the security and the value of pledged collateral is insufficient to replace it.

⁹⁴ While the Council's review did not consider secured financing transactions more generally, it notes that the securities lending data collection could be integrated with a similar pilot initiated to collect data on the bilateral repo market to allow for more complete analysis of secured financing transactions.

Council on their assessment of potential risks arising from securities lending activities based on these enhanced data gathering initiatives.

With regard to other data enhancements, the SEC issued a proposed rule in May 2015 to require funds to report monthly on their securities lending activities, including certain counterparty information and position-level information on Form N-PORT. The Council welcomes proposals by the SEC to collect more detailed information on the characteristics of securities lending activities undertaken by registered funds, including data on principal, collateral, counterparties, reinvestment practices, and indemnification agreements.

Finally, the extent to which particular market participants operate across national boundaries is not clear from available data, so it is difficult for regulators to determine how stresses in a foreign jurisdiction may affect securities lending activities in the United States. As current estimates suggest that half of global securities lending activities take place outside of the United States, the Council encourages member agencies to work with key foreign counterparts on enhanced data collection across jurisdictions.

6. RESOLVABILITY AND TRANSITION PLANNING

6.1 Potential Risks to Financial Stability

The Council has evaluated and continues to examine potential challenges and risks to financial stability that may arise in a resolution or liquidation of an entity in the asset management industry, particularly in circumstances of market stress, or involving an entity with a high degree of complexity and multi-jurisdictional operations. While there are limited precedents for the rapid failure or closure of a large, global asset manager, the Council considered potential implications from stress scenarios that could impact asset managers or pooled investment vehicles, as well as mitigants to such risks.⁹⁵

Although they do not typically represent independent sources of risk, resolvability and transition challenges could exacerbate the risks arising from the stress or failure of an asset manager or investment vehicle. In the case of a disorderly liquidation or abrupt failure of an investment vehicle, resolution challenges could amplify the transmission of risks related to liquidity and redemption or leverage, which are addressed above in Sections 2 and 3. Challenges include the disruption or termination of critical service provider relationships, complications arising from affiliate insolvencies, the liquidation and re-establishment of over-the-counter derivative positions, and obstacles associated with the transfer of foreign assets. The Council's analysis considered how advance planning efforts in these areas could mitigate such risks.

⁹⁵ See Comment Letter of BlackRock (Mar. 25, 2015), p. 76, pp. 88-89 (providing examples of asset management fund closures, failures, transfers, mergers, and acquisitions). These examples provide evidence of how funds and asset managers have addressed such events without raising financial stability concerns, although there are limited examples of the rapid failure of large, global asset management firms or funds, particularly in times of overall market stress.

6.2 Council Views

As noted in the discussions above of liquidity and redemption risk and leverage risk, the Council has identified certain potential risks associated with stress scenarios affecting asset management entities and has identified steps to consider in addressing such risks. With respect to resolvability more generally, advance planning by asset managers for certain stress scenarios may provide important risk-mitigation benefits. SEC staff is working to develop a proposed rule for SEC consideration to require registered investment advisers to create and maintain transition plans that address, among other things, a major disruption in their business. The Council welcomes the SEC's efforts in this area and will monitor the effects of any regulatory changes and their implications for financial stability.