

# BLACKROCK

September 21, 2016

**Secretariat of the Financial Stability Board  
c/o Bank for International Settlements  
CH-4002**

**Basel, Switzerland**

Submitted via email to: [fsb@fsb.org](mailto:fsb@fsb.org)

**RE: Comments on Consultative Document for Proposed Policy Recommendations to Address Structural Vulnerabilities for Asset Management Activities**

BlackRock, Inc. (together with its affiliates, “BlackRock”) is pleased to comment on the Financial Stability Board (“FSB”) Consultative Document for Proposed Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities (“Consultation”).<sup>1</sup> BlackRock commends the FSB for its work on asset management products and activities and its efforts to pursue policy measures to address potential vulnerabilities associated with such activities. Asset managers and regulators have a shared interest in ensuring potential risks to financial stability are mitigated. BlackRock welcomes the opportunity to assist the FSB and the International Organization of Securities Commissions (“IOSCO”) in their work on asset management products and activities.

***We commend the FSB for pursuing a first principles approach to asset management products and activities.*** We largely agree with the majority of recommendations, the implementation of which will improve protections for investors and, in turn, strengthen the financial system. We are supportive of recommendations 1 through 8 as well as 10 through 12 as they appropriately address various issues that have been raised regarding liquidity and leverage in funds. As several recent events involving funds have demonstrated, “tail risk” tools to address “tail risk” redemption and market stress scenarios are important. Likewise, global monitoring and analysis of leverage in funds is limited by the lack of a consistent approach to measuring leverage and collecting data. We have provided specific comments and, in some cases, recommended an alternative approach on a limited number of recommendations (9, 13, and 14).

***The asset management ecosystem is broad, with multiple participants, of which third party asset managers<sup>2</sup> reflect only one component.*** As the Consultation correctly notes, asset managers do not manage the majority of assets within the financial system.<sup>3</sup> Rather, the majority of assets is managed directly by asset owners, such as pensions, insurers, banks, and individual savers. Further, it has recently come to light that the growth in the proportion of mutual fund holdings of bonds may not be as pronounced as previously believed.<sup>4</sup> Even where an asset manager is involved, asset

---

<sup>1</sup> FSB, Proposed Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities (Jun.22, 2016), available at <http://www.fsb.org/wp-content/uploads/FSB-Asset-Management-Consultative-Documents.pdf> (“Consultation”).

<sup>2</sup> For the remainder of this letter, we will refer to third party asset managers simply as asset managers. In contrast to third party asset managers, many asset owners are managers of their own assets.

<sup>3</sup> Consultation at 7. (“Third-party asset managers as a group only manage about one-third of the total financial assets of pension funds, SWFs, insurance companies and high net worth individuals. The remaining assets are managed by the investor or asset owner without the help of independent asset managers.”).

<sup>4</sup> In June 2016, the Federal Reserve revised its estimates of bond holdings by US open-end mutual funds and ETFs. The data originally published in March 2016 estimated that open-end mutual funds held 22% of total corporate and foreign bonds as of year-end 2015. The most recent data has been revised to estimate that open-end bond funds held only 15% of total corporate bonds and foreign as of year-end 2015. See Federal Reserve Z.1, Financial Accounts of the United States, Table L.213 (Jun. 9, 2016), available at <https://www.federalreserve.gov/releases/z1/current/z1.pdf>; Shelly Antoniewicz, ICI, *Revised Fed Data Show Mutual Funds’ Share of Corporate Bond Market Is Small and Stable* (Aug. 26, 2016), available at <https://www.ici.org/viewpoints?tag=Bonds>.

owners are the counterparties to derivative contracts, trades, and securities lending transactions. Likewise, asset managers do not control their clients' decisions to shift assets from one asset class or fund to another, nor do they control their clients' investment objectives or constraints, or the asset owner's decision to employ leverage on their own balance sheets. Similarly, while some asset managers have affiliates that offer other services (e.g., custody, fund administration, order management systems, securities lending agents, etc.), there are many other entities providing these services that are not affiliated with asset managers. While a review of third party services utilized by asset managers may be warranted, such an analysis would be ineffective were it to only consider service providers that are affiliated with asset managers.

***Genuine efforts to address risks to the entire financial system must at a minimum address the majority of participants within the system. Limiting recommendations to only activities and services performed by asset managers, as opposed to all such activities taking place across the system, will shift risk around but will not mitigate risk.*** We recognize that it is challenging to obtain the requisite data to study asset management activities and ancillary services that are performed by entities not affiliated with asset managers. However, it should be equally recognized that the availability of data on asset managers is due to the fact that they are already subject to extensive regulation, including voluminous disclosure and reporting requirements. The availability of more information does not mean that asset managers or funds pose greater risks to the financial system. In fact, most of the literature on systemic risk suggests that the less regulated, more opaque areas of the financial system tend to be of greatest concern.<sup>5</sup> To this end, we caution that a narrow focus on industry segments where data is readily available may be very misleading and could create unintended outcomes or the migration of existing activities performed by asset managers to less regulated entities. In order to reduce systemic risk, it is necessary to take a holistic approach that encompasses the activities (including the ancillary services necessary to perform those activities) of all asset owners and asset managers within the financial market ecosystem.<sup>6</sup>

***We support expanding the availability of liquidity risk management tools for fund managers. However, we caution that mandatory liquidity buffers could result in systemic risk.*** Mandatory liquidity buffers, even if self-imposed, are pro-cyclical because funds could be forced to sell securities in stressed markets to maintain the liquidity buffer. Moreover, fund managers should be encouraged to meet redemptions through pro rata (or risk constant) selling of fund assets. If a fund manager, instead, relies primarily on liquidity buffers to meet redemptions, a liquidity buffer designed for normal market conditions is unlikely to be sufficient to cover heightened redemption rates, which could place the fund and its investors in a precarious position. The ineffectiveness of relying on liquidity buffers was demonstrated by the Third Avenue Focused Credit Fund, which had \$200 million in cash (over 20% of the fund<sup>7</sup>), and still found itself in a situation where the manager believed it was in the best interest of fund shareholders to cease redemptions. As such, maintaining a liquidity buffer could create a false sense of confidence in a fund's ability to meet redemptions. An alternative to liquidity buffers designed for normal markets that promulgates mandatory liquidity buffers sufficient for stressed markets would result in inefficient asset allocation for individual investors who would end up with high levels of uninvested assets. Such measures would disadvantage individual investors who have limited access to professional asset management services, which ultimately could exacerbate the looming global retirement savings crisis.

---

<sup>5</sup> US Federal Reserve, Governor Tarullo, *Thinking Critically about Nonbank Financial Intermediation* (Nov. 17, 2015), available at <https://www.federalreserve.gov/newsevents/speech/tarullo20151117a.htm>; FSOC, 2015 Annual Report, available at <https://www.treasury.gov/initiatives/fsoc/studies-reports/Documents/2015%20FSOC%20Annual%20Report.pdf>.

<sup>6</sup> Barbara Novick, Harvard Law School EU-US Symposium Concept Paper, *Systemic Risk and Asset Management: Improving the Financial Ecosystem for All Market Participants* (Mar. 2014), available at <https://www.blackrock.com/corporate/en-us/literature/publication/improving-financial-ecosystem-harvard-031114.pdf>.

<sup>7</sup> SEC, Third Avenue Trust and Third Avenue Management LLC; Notice of Application and Temporary Order (Dec. 16, 2015), available at <https://www.sec.gov/rules/ic/2015/ic-31943.pdf> (SEC Order); Tim McLaughlin, Reuters, *Third Avenue to Liquidate Junk Bond Fund that Bet Big on Illiquid Assets* (Dec. 10, 2015), available at <http://www.cnbc.com/2015/12/10/reuters-america-rpt-update-2-third-avenue-to-liquidate-junk-bond-fundthat-bet-big-on-illiquid-assets.html>.

***Banks hold a special place within the financial system given their access to central bank liquidity and government-insured deposits, in addition to their highly leveraged balance sheets and reliance on short term funding. This is why the traditional focus of prudential regulators has appropriately been on banks.*** The regulation of banks is designed to address potential risks of banks, in particular their proximity to taxpayer monies resulting from access to central bank liquidity and government-insured deposits. In addition, because the business model of banks is highly levered and, in part, still reliant upon short-term funding, banks are highly vulnerable to systemic risks. It is for these reasons that the existing prudential oversight framework has been focused on the systemic importance of banks—the failure of which could result in systemic risk and complete loss of assets through fire sales, bank “runs”, or government bailouts. In contrast, asset managers do not have access to central bank liquidity and do not have highly levered balance sheets or rely on short-term funding. Also, of critical importance, whereas banks own the assets and control the assets on their balance sheet (which are primarily funded through leverage) the AUM of asset managers belong to distinct asset owners, with the asset manager functioning as a highly constrained fiduciary on behalf of the asset owner. The regulation of asset managers appropriately focuses on the risks associated with a radically different business model from a bank.<sup>8</sup>

***Some argue that an analogy can be drawn between open-end funds and bank deposits (both are funded by capital that can be redeemed on short notice but may be invested in assets that cannot be converted to cash as quickly). This analogy between asset managers managing funds and banks offering deposits clearly does not hold.*** The analogy between open-end funds and bank deposits is profoundly flawed. In the case of bank deposits, the liability is a debt claim, a guarantee of the customer’s principal. In contrast, open-end fund shares can be best thought of as “redeemable equity.” The redemption “liabilities” for funds are equity claims on the fund’s assets, where the principal is not protected and the fund’s net asset value (“NAV”) fluctuates with the value of the assets held by the fund. Amongst the known and disclosed risks of a mutual fund is that the NAV may be adversely impacted by the subscription and redemption activities of other fund investors. There is no claim or guarantee on the balance sheet of the asset manager. In contrast, bank deposits are clearly a debt claim on the bank.

***Similarly, some argue that due to the possibility of accelerated open-end fund redemptions, asset managers are exposed to the same risk as a bank run. This analogy is also flawed.*** While fund redemptions can clearly harm the revenues of an asset manager, the losses incurred due to transaction costs and market impact are borne by fund shareholders. As a result, the magnitude and timing of the adverse impact of redemptions to an asset manager are greatly attenuated relative to a leveraged bank. Whereas the liability associated with bank deposits sits on the bank’s balance sheet, fund redemptions do *not* sit on or expose the asset manager’s balance sheet. These differences are the reasons why a bank’s inability to generate sufficient cash to pay back deposits can quickly devolve into a crisis for the bank. In contrast, heightened withdrawals from funds do not result in a similar vicious cycle for an asset manager. Further, since asset managers are not highly levered and do not rely on short-term funding, client redemptions (or terminations of separate accounts) are extremely unlikely to result in the sudden demise of the asset manager. Finally, unlike banks who need to repay depositors in full, when an asset manager goes out of business, the return of client monies does not require disentangling from the asset manager’s own assets. The asset manager’s clients’ assets are safeguarded because the assets are held separately from the asset manager at a custodian.

---

<sup>8</sup> BlackRock, Comment Letter, Comments on the Consultative Document (2nd) Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions – FSB (May 29, 2015), available at <http://www.blackrock.com/corporate/en-us/literature/publication/2nd-nbni-gsifi-fsb-iosco-052915.pdf>; BlackRock, Comment Letter, Request for Comment on Asset Management Products and Activities – FSOC (Mar. 25, 2015), available at <http://www.blackrock.com/corporate/en-us/literature/publication/fsoc-request-for-comment-asset-management-032515.pdf> (“BlackRock Response to FSOC RFI”).

***It is important to differentiate between market risks to investors and systemic risks.*** In the report on *Elements of Effective Macroprudential Policies*, IMF-FSB-BIS defined systemic risk as “the risk of widespread disruption to the provision of financial services that is caused by the impairment of all or parts of the financial system, and which causes serious negative consequences for the real economy.”<sup>9</sup> In looking at asset management, the risks of funds are different than the risks of firms. In the case of fund investments, fund share prices are expected to fluctuate; investors knowingly bear this risk. Gains by some investors and losses by others reflect a properly functioning market and represent market risk, not systemic risk. We are perplexed by the FSB’s statement that it intends to return to non-bank non-insurer (“NBNI”) global systemically important financial institution (“G-SIFI”) designation criteria for asset managers once the work highlighted in this Consultation is concluded.<sup>10</sup> We respectfully disagree that asset managers present systemic risks warranting specific criteria designed to designate certain asset managers as G-SIFIs. As we noted in prior consultations, the focus on “size” and “complexity” is misplaced. Issues at the Reserve Fund, Third Avenue, and other mid-size and small managers reinforce that size is not a key determinant of risk in asset management. Therefore, we agree with the FSB’s focus on addressing products and activities across the industry regardless of the entity involved, as this is the only way to effectively address systemic risk.

***Additional analysis is required to understand the broader asset management ecosystem.*** Instead of focusing solely on asset management activities performed by asset managers, we recommend that the FSB collect data from a broad group of asset owners including insurers, pensions, foundations, endowments, sovereign wealth funds, and family offices. As we noted in our May 2014 *ViewPoint* titled “Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation,” each of these groups has different investment objectives and constraints.<sup>11</sup> Efforts to perform “macro stress testing” or “system-wide stress tests” would necessarily require data from this broader group to produce anything meaningful.

***A products- and activities-based approach to asset management that addresses the ecosystem comprehensively is the only way to mitigate systemic risks.*** We commend the FSB for taking up the issues of liquidity and leverage in funds in this Consultation, as well as the attention that has been given to other important issues such as the resiliency of central clearing counterparties (“CCPs”). Other key issues worth further consideration include: (i) emerging vulnerabilities in financial market infrastructure and cybersecurity, (ii) bond holder rights in resolution and bankruptcy, and (iii) spillover effects of low and negative interest rates on pensions, insurers, and savers.

It is with these themes in mind that we have addressed our response to this Consultation. In the executive summary, we provide summary comments on the four sections of the Consultation including the proposed recommendations. This is followed by detailed discussions of each of the four topic areas and individual responses to each question. Lastly, we have written extensively on the topics under consideration in the Consultation in a variety of BlackRock publications. We have included a list of relevant BlackRock publications in Appendix A, and we have attached four *ViewPoints* that are directly relevant to this consultation and are referred to throughout our response:

- [Breaking Down the Data: A Closer Look at Bond Fund AUM](#), which highlights the diversity of mutual funds (Appendix C)
- [Improving Transparency: The Value of Consistent Data over Fragmented Data](#) (Appendix D)
- [The Role of Third Party Vendors in Asset Management](#) (Appendix E)
- [Securities Lending: The Facts](#) (Appendix F)

---

<sup>9</sup> IMF, FSB, and BIS, *Elements of Effective Macroprudential Policies* at 4 (Aug. 31, 2016), available at <http://www.imf.org/external/np/g20/pdf/2016/083116.pdf> (“IMF, FSB, and BIS paper on Macroprudential Policies”).

<sup>10</sup> FSB, 3<sup>rd</sup> Annual Report (Jul. 25, 2016), available at <http://www.fsb.org/wp-content/uploads/FSB-3rd-Annual-Report.pdf>. The report states, “The FSB, jointly with IOSCO, will then conduct further analysis and finalize the NBNI G-SIFI asset management assessment methodology.”

<sup>11</sup> BlackRock, *ViewPoint, Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation* (May 2014), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-who-owns-the-assets-may-2014.pdf> (“Who Owns the Assets | *ViewPoint*”).

## **Executive Summary**

### **A. Liquidity and Redemption Risk in Open-End Funds**

***We largely agree with Recommendations 1 through 8. These policy measures reflect a prudent approach to collecting data and ensuring that funds have appropriate disclosures in place and sufficient tools to manage redemption scenarios.*** In particular, we agree with the need to: (i) collect data; (ii) have sufficient disclosure on liquidity risk; (iii) align fund structures with the nature of the fund’s investment strategy; (iv) have a broad toolkit available to fund managers to manage a range of redemption scenarios; (v) permit the use of mechanisms to externalize transaction costs; (vi) perform liquidity stress testing on individual funds; and (vii) provide guidance on the use of “extraordinary” liquidity risk management (“LRM”) tools. We note that most of these policy measures are already in place or in process in many jurisdictions.

***Without sufficient data to consider all types of participants in the system, system-wide stress testing is unlikely to yield meaningful results.*** As the Consultation notes, “third-party asset managers as a group only manage about one-third of the total financial assets of pension funds, SWFs, insurance companies and high net worth individuals.”<sup>12</sup> To yield meaningful results, any system-wide stress test would necessarily have to consider the other two-thirds of assets in order to provide an indication of a system-wide reaction to a given stress event. Sufficient data on all participants is not currently available. System-wide stress testing should be de-prioritized until such information can be obtained.

***While AUM in bond funds has grown, bond funds are not homogeneous.*** US bond mutual funds represent over 2,200 funds pursuing disparate strategies and investing in different bonds.<sup>13</sup> Areas of differentiation include index versus active, sector-specific (e.g., municipals, high yield) versus multi-sector, duration-based strategies, and market-specific versus global. In addition, a portion of the bonds held by mutual funds is held in multi-asset funds. Further, the diverse investor-base and resulting disparate objectives and constraints make it unlikely that all investors will react in the exact same way. In our *ViewPoint*, “Breaking Down the Data: A Closer Look at Bond Fund AUM” (see Appendix C), we analyze flows in the largest categories of US-registered bond mutual funds during periods of stress.<sup>14</sup> Our analysis showed that some categories of bond funds experience outflows while others experience *inflows*. Further, we did not find *any* evidence of “mass aggregate outflows” from bond funds during any quarterly period since 1988. Last, given the recent change to the Federal Reserve’s Flow of Funds data, it appears that the growth in holdings of corporate bonds by mutual funds has been more muted than previously thought.<sup>15</sup>

***We agree with the discussion of exchange traded funds (“ETFs”) in Annex 3.*** Namely, that “ETFs generally do not pose the issues...with respect to open-ended funds (i.e., issues related to on demand liquidity and first-mover advantage)”.<sup>16</sup> ETFs are different than traditional open-end funds. In some cases, policy measures designed for traditional open-end funds may not be suited to the unique structure of ETFs. LRM tools for ETFs that meet redemptions in-kind must necessarily be different from tools for open-end funds that meet redemptions in cash. Care must be taken to ensure that any new regulations for ETFs are properly tailored to the ETF structure. Recommendations designed to address theoretical first-mover advantages associated with open-end funds should not be

---

<sup>12</sup> Consultation at 7.

<sup>13</sup> The 2,200 figure includes both open-end funds and ETFs but excludes closed-end funds. Simfund (Dec. 31, 2015). All Simfund data accessed in May 2016.

<sup>14</sup> BlackRock, *ViewPoint, Breaking Down the Data: A Closer Look at Bond Fund AUM* (Jun. 2016), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-breaking-down-the-data-bond-fund-aum-june-2016.pdf> (Bond Funds *ViewPoint*).

<sup>15</sup> *Supra* note 4.

<sup>16</sup> Consultation at 42.

applied to ETFs, where due to the ability and active use of redemptions in-kind, these issues do not reside. In operationalizing the recommendations, and where ETF-specific legislation does not already exist, IOSCO member agencies should very carefully and precisely consider the structure of ETFs and tailor regulation appropriately.

## B. Leverage in Investment Funds

**We support collecting data about leverage in funds for risk monitoring purposes using consistent and comparable measures of leverage.** We are supportive of efforts to harmonize the definition of leverage for the purposes of regulatory reporting to facilitate global monitoring of risks and comparisons across funds (including across fund structures). That said, identifying comprehensive measures of leverage that accurately depict risks associated with that leverage is unlikely to be accomplished using a single measure. Further, we caution that “simple” measures of leverage, such as gross notional exposure (“GNE”), when used in isolation can be quite misleading.<sup>17</sup>

**The Alternative Investment Fund Managers Directive (“AIFMD”) provides a starting point, as it includes both a “simple” leverage measure and an economic leverage measure.** GNE is a simple measure of leverage collected under the AIFMD. AIFMD commitment leverage is an economic leverage measure that reflects economic exposure from derivatives and borrowing and recognizes that hedges and offsetting positions do not create leverage. While commitment leverage has many known limitations,<sup>18</sup> which should be addressed, it is better to start from an existing standard with which many fund managers are already familiar, as opposed to attempting to reinvent the wheel. We note that AIFMD is scheduled to be reviewed in 2017 and the Financial Stability Oversight Council (“FSOC”) has formed an interagency task force on leverage.<sup>19</sup> This group is expected to make some recommendations by year-end 2016. We strongly recommend that regulators use this opportunity to build upon AIFMD commitment leverage to develop global standards for the collection of data on the use of derivatives and the measurement of leverage that can be applied across jurisdictions.

**Leverage measures should be accompanied by risk measures, such as value-at-risk (“VaR”).** Using a risk measure like VaR alongside leverage measures is important when assessing the risk of a fund’s overall use of derivatives and leverage, particularly since a standalone leverage metric could misstate a fund’s true economic exposure and overall risk. Recognizing that funds use derivatives to achieve investment objectives, align portfolio risks to benchmark risks, or to reduce overall risk, we recommend tailoring measures according to the different ways in which a fund uses derivatives, including measuring both absolute risk and risk relative to a benchmark (where applicable).

**We agree that improved systems for aggregating and analyzing data provided to supervisory authorities is needed.** Raw data is not equivalent to information, and without the necessary tools to analyze data collected, the ability for regulators to use the data to monitor and understand risks across the financial system will be limited. While individual systems that can analyze large datasets are helpful, consistent definitions and reporting requirements (data requested, time periods, and format) would best facilitate monitoring of risks across regulatory jurisdictions. We discuss this in detail in the *ViewPoint*, “Improving Transparency: The Value of Consistent Data over Fragmented Data,” which is enclosed in Appendix D. We encourage global standard setters, such as IOSCO, to prioritize harmonization of data collection efforts and the removal of barriers to data sharing.

---

<sup>17</sup> US Commodity Futures Trading Commission, Statement of CFTC Chairman Timothy Massad on the Financial Stability Oversight Council’s Update on its Review of Asset Management Products and Activities (Apr. 18, 2016), available at <http://www.cftc.gov/PressRoom/SpeechesTestimony/massadstatement041816>.

<sup>18</sup> AIMA, White Paper, *Comparing Measures of Leverage in Funds* (Sep. 2016).

<sup>19</sup> FSOC 2016 Annual Report (Jun. 2016), available at <https://www.treasury.gov/initiatives/fsoc/studies-reports/Documents/FSOC%202016%20Annual%20Report.pdf>.

**We encourage regulators to view rule changes in relation to this Consultation as a package of rules, rather than isolated proposals. The goal should be for the package to collectively achieve the intended outcomes.** As authorities work to enhance regulations for funds (where necessary), it is imperative that new rules are properly aligned so that they achieve their objectives when introduced collectively. For example, regulators should ensure that rules designed to limit derivatives/leverage use by funds do not unintentionally impede funds' ability to manage liquidity.

### C. Operational Risk and Challenges in Transferring Investment Mandates

**It is essential to carefully delineate nuances and to avoid conflating similar but different issues. In particular, the Consultation addresses four distinct issues:** (i) operational and business continuity risk faced by asset managers; (ii) transitioning management of accounts including OTC derivatives; (iii) transitioning service providers (e.g., custodians, fund administrators, order management systems, etc.); and (iv) transition planning for companies. These are distinct issues requiring separate consideration. However, the discussion in the Consultation on occasion conflates these issues. As this area has not been thoroughly studied, we recommend a first principles approach as was taken with liquidity and leverage.

**Operational and business continuity risks are important concerns for all asset managers. However, operational risk is not the same as systemic risk.** All asset managers should have procedures in place to address risks to which they are subject. The scope of any recommendations regarding operational risk or business continuity management should be applied to all asset managers, not just those that are large and/or complex or that provide critical services. That said, unlike banks, operational risks faced by asset managers do not result in financial stability risks. We have seen numerous examples where asset managers faced challenges that led to significant outflows and/or the asset manager going out of business. However, as the Consultation acknowledges, these events "have not raised financial stability issues".<sup>20</sup> Even in the worst-case scenario where an asset manager became unable to operate, clients were able to transition the management of their assets to another manager or manage the assets themselves. Client assets are held by custodians, so assets are not at risk of becoming mired in bankruptcy proceedings, nor at risk of fire sales in the event an asset manager became unable to operate.

**Transitions of client assets are routine and straightforward. They are not extraordinary events. The timing and implementation of transitions is controlled by the asset owners. The asset management industry is highly competitive, and asset managers are easily substitutable.** In most cases, transitioning from one manager to another is straightforward. In particular, the transitions of passive investment strategies as well as actively-managed long-only strategies in publicly-traded asset classes (e.g., equity, fixed income) can generally be handled by onboarding teams that are a normal function at most asset managers. In the unlikely event where an asset manager became unable to continue managing a client's assets, only a change to the manager (not investment strategy) is required, and these transitions do not require sales of securities. Where an asset owner chooses to undertake a change in asset allocation and investment strategy, specialized transition managers offer services to facilitate and coordinate these transitions to minimize transaction costs. The asset owner can select the optimal timing of executing their transition.

**Asset managers utilize data, systems, and services provided by numerous vendors.** The exact services utilized depend on the asset manager's operating model. Key third party vendors include: security and pricing data vendors, market index providers, risk models and analytics, order management systems, execution platforms, accounting systems, custodians, and fund administrators. Third party vendors to the asset management industry represent a variety of entities from bank-affiliates, to asset manager-affiliates, to independent companies. In addition, all market participants rely on financial market infrastructure ("FMI"), such as exchanges, CCPs, communication networks,

---

<sup>20</sup> Consultation at 28.

and depositories. Some, but not all, of these critical infrastructure entities have been recognized as systemically important financial market utilities and subject to enhanced supervision. We recommend additional analysis to understand emerging vulnerabilities in FMI.

***Limiting the scope to third party service providers that are affiliated with asset managers ignores the presence of numerous vendors and FMI that play critical roles in the provision of services to the asset management industry.*** To understand the implications for financial stability, it is necessary to review *all* vendors, not just those that are affiliated with asset managers. To this end, we recommend the FSB survey third party services provided to and purchased by asset managers. As a starting point, we provided as Appendix E, the *ViewPoint*, entitled “The Role of Third Party Vendors in Asset Management”. In the absence of a comprehensive analysis, it is premature to determine if any services or vendors present risks. What is clear is that the type of entity providing the service (whether asset manager, bank, or independent company) is not the primary driver of the significance of the activity.

#### D. Securities Lending Activities of Asset Managers and Funds

***An “asset lender” is not the same as a “lending agent”.*** Asset owners, including mutual funds, can lend their securities. Often the asset owner’s custodian offers the additional service of acting as a lending agent for the asset owner’s assets. In a limited number of cases, an asset manager may act as the lending agent. For example, BlackRock acts as a lending agent for some of the assets that it manages for clients and funds. BlackRock does not act as a lending agent on assets where the firm is not also the asset manager. Other fund managers may have portfolios that lend securities; however, most outsource the lending agent function to the fund’s custodian.

***Borrower default indemnification is a narrow obligation. When undertaken along with sound risk management practices, it is unlikely to result in material losses to the entity providing the indemnification.*** The potential liability under borrower default indemnification is limited to the difference between (i) the replacement cost of the security if a borrower defaults, and (ii) the value of the collateral posted. Securities lending clients receive information in the course of evaluating the lending agent’s risk management practices including collateral management, counterparty risk, and cash collateral reinvestment. When BlackRock is the lending agent, all loans are made to borrowers that are unaffiliated with BlackRock. In other words, BlackRock-managed portfolios that lend securities do not lend securities to other BlackRock-managed portfolios that are looking to borrow securities. BlackRock currently requires borrowers to post collateral between 102% and 112% of the value of the securities lent and collateral is marked-to-market daily. Overcollateralization provides a “safety cushion” in the event a borrower fails to return the borrowed security. In addition, BlackRock regularly measures the joint probability of a counterparty default and any possible risk of collateral shortfall. As discussed below, BlackRock maintains sufficient balance sheet liquidity to cover its theoretical obligations. Finally, although indemnification does not cover returns on cash investments, we note that cash collateral reinvestment practices<sup>21</sup> are required to have substantially more conservative guidelines than were required in 2008.<sup>22</sup>

***Potential losses to a securities lending agent or its clients due to borrower default indemnification is not a systemic risk.*** Securities lending agents are not the counterparty in securities loans; rather they arrange a transaction between the lender and borrower. A typical asset owner limits the percentage of their total portfolio that can be managed by a single manager.

---

<sup>21</sup> With the potential exception of US state-chartered trust banks.

<sup>22</sup> In the US, the SEC and the Office of Comptroller (OCC) have introduced new rules regarding money market funds regulated by the SEC under Rule 2a-7 and short-term investment funds (STIFs) maintained by nationally chartered banks who are regulated by the OCC. See Short-Term Investment Funds, 77 Fed. Reg. 61229 (Oct. 9, 2012); Money Market Fund Reform; Amendments to Form PF, 79 Fed. Reg. 47735 (Aug. 14, 2014). In the EU, see ESMA Guidelines on ETFs and other UCITS issues, ESMA /2014/937EN (Aug. 1, 2014), Sections X and XII, available at [https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2014-0011-01-00\\_en\\_0.pdf](https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2014-0011-01-00_en_0.pdf).

Likewise, given that clients only lend a fraction of their portfolios at any given time, the potential loss to any client is extremely limited.<sup>23</sup> As described above, all loans are overcollateralized and marked to market daily. If the borrower defaulted and the collateral were insufficient, the indemnification would be triggered. Only then would the client look to the lending agent to cover the loss. Nevertheless, if an asset manager were unable to meet its indemnification obligations, losses would be incurred only by the clients whose securities were on loan to the defaulting counterparty and those losses would be limited given the limits described above. These losses, if any, would be absorbed by the client; such losses, while undesirable, would not generate, transfer, or amplify systemic risk.

***Investor confidence reflects the actions of multiple market participants.*** The Consultation posits that “an impairment of the value of [a borrower default] indemnification commitment could lead lenders to withdraw suddenly from the market.”<sup>24</sup> It is important to remember that for an indemnification liability to be triggered, a borrower would need to default and the collateral would need to be worth less than the value of the securities on loan. When BlackRock acts as securities lending agent, all borrowers are well-regulated banking institutions, the majority of which are global systemically important banks (“G-SIBs”). Reforms implemented after the 2008 financial crisis (“Crisis”) are designed to avoid G-SIB insolvencies. To the extent that these reforms were to fail and a G-SIB were to become insolvent and not return securities it had borrowed, it is possible that some clients would choose to stop lending securities. However, this decision would be triggered by the loss of confidence due to the insolvency of the borrowing bank, not the indemnification liability of the agent lender.

***The fact that banks have capital requirements due to systemic risk of a bank insolvency, while most other market participants do not, is not regulatory arbitrage.*** Banks hold capital against risks to their balance sheets as a result of banks’ (i) proximity to taxpayer monies due to access to central bank liquidity and government-insured deposits; (ii) highly leveraged balance sheets; and (iii) reliance on short-term funding. The Consultation suggests that there is an unfair discrepancy between the regulation of banks that act as securities lending agent and asset managers that act as securities lending agent. This reasoning ignores key differences between banks and asset managers that result in systemic risk emanating from balance sheet losses to banks, while the same is not the case for asset managers. Namely, (i) asset managers do not rely on government-insured deposits or short-term funding to support their liquidity; (ii) asset managers do not have access to central bank liquidity; and (iii) asset managers do not have highly leveraged balance sheets.

***Regulatory capital requirements do not result in the migration of securities lending services away from banks.*** The Consultation suggests that clients may move from affiliated banks to asset manager affiliated lending agents.<sup>25</sup> This does not reflect observed market practice. The choice of lending agent involves the review of multiple factors, including the lending agent’s performance, risk management practices, and overall approach to securities lending. BlackRock’s asset management clients who have chosen to appoint BlackRock as their lending agent do so because they view our integrated approach as preferable to other models. Clients who receive indemnification review the ability of the lending agent to meet its obligations. To our knowledge, asset managers limit their lending agent activities to assets they manage. These factors negate the theory that asset owners will move securities lending activities from banks to asset managers en masse due to the lack of regulatory capital requirements.

---

<sup>23</sup> The recent Office of Financial Research (“OFR”) *Pilot Survey of Agent Securities Lending Activity* highlighted that only a small fraction of the securities available for loan are actually lent out at any given time. For example, the OFR found that only 10% of the \$3.2 trillion US equity securities available for loan were actually on loan. Similarly, only 4% of the \$1.4 trillion of US corporate bonds available to be loaned were actually on loan. See OFR, *A Pilot Survey of Agent Securities Lending Activity* (Aug. 23, 2016), available at [https://financialresearch.gov/working-papers/files/OFRwp-2016-08\\_Pilot-Survey-of-Securities-Lending.pdf](https://financialresearch.gov/working-papers/files/OFRwp-2016-08_Pilot-Survey-of-Securities-Lending.pdf).

<sup>24</sup> Consultation at 33.

<sup>25</sup> Consultation at 35.

***We encourage focus on cash re-investment rules for short-term investment funds (“STIFs”)<sup>26</sup> sponsored by US state-chartered trust banks.*** Unlike other cash re-investment vehicles, whose rules have been updated to address concerns that arose during the Crisis, the rules for state-chartered STIFs have not been updated. This is an area where regulatory arbitrage might occur, as cash collateral invested with less conservative guidelines may provide higher yields. In a low yield environment, higher yields on cash reinvestment could be attractive to clients and cause a migration to securities lending agents who offer cash reinvestment vehicles with less conservative guidelines.

***“Adequate coverage” for potential losses can come in many forms; regulatory capital is not the only means of ensuring adequate coverage is in place.*** Any entity with a strong risk management culture carefully considers risks that could result in potential losses. For example, BlackRock holds \$2.6 billion in unencumbered liquidity against potential indemnification exposure and has access to an additional \$5 billion of liquidity, both in the form of unencumbered cash and a \$4 billion, 5-year bank credit facility as of June 2016. Given our business model, there are no other significant potential claims against this liquidity. Highlighting BlackRock’s financial strength, BlackRock is rated A1 and AA- by Moody’s and S&P, respectively, which is among the highest in the asset management industry and equal to or higher than other major lending agents.

***We support data collection on indemnification provided by all agent lenders. There are a number of factors that should be considered in this process.*** We note that there is an existing working group, FSB Workstream 5, focused on securities lending and repo. We recommend expanding Global Securities Finance Transactions (“SFT”) Data Standards to include two key data points: (i) the aggregate amount of loans outstanding and (ii) the aggregate amount of collateral held against those loans. In addition, it would be helpful for regulators to collect data on actual default situations and if indemnification was triggered. We note that borrower default is a rare occurrence historically, and in the few instances where defaults have occurred, indemnification was not triggered as to BlackRock and its predecessor entities, as no losses occurred as the collateral was sufficient to re-purchase the securities on loan.

#### E. Responses to General Questions

**Q1. Does this consultative document adequately identify the structural vulnerabilities associated with asset management activities that may pose risks to financial stability? Are there additional structural vulnerabilities associated with asset management activities that the FSB should address? If there are any, please identify them, as well as any potential recommendations for the FSB’s consideration.**

The Consultation raises many important issues that are worthwhile for consideration and potentially additional regulation in some areas. However, in many cases, the Consultation fails to differentiate between market risks that could result in losses by investors from vulnerabilities that could produce or transmit systemic risk. For example, as discussed on page 8 and again on pages 44 to 45, borrower default indemnification is a limited obligation, and any potential client losses are limited to the difference between the value of the lent security and the value of the collateral posted, and potential losses are further mitigated by various limits imposed by clients. In the unlikely event that losses were incurred, they would be limited to the clients whose securities were on loan to the defaulting counterparty, making such losses a market risk, not a systemic risk. In addition, while the Consultation raises concerns about third party vendors that warrant further study, it fails to

---

<sup>26</sup> US trust banks, which are regulated by the OCC for nationally chartered trust banks and by state banking regulators for state chartered trust banks, may maintain collective investment funds (“CIFs”) for the purpose of pooling fiduciary client assets. Unlike Investment Company Act of 1940 (“1940 Act”) Funds, CIFs are not offered publicly; rather, each participant in a CIF has established a direct fiduciary relationship with the trust bank. STIFs are CIFs whose assets are valued on a cost basis and operate with a stable NAV of \$1.00 per participating interest; STIFs may be used for the investment of securities lending cash collateral.

acknowledge that there are a multitude of vendors that asset managers rely on for data, systems, and outsourcing of operational functions, only a small subset of which is affiliated with asset managers.

There are a number of risks to the financial market ecosystem, including to asset management, that were not addressed in the Consultation, including (i) CCPs; (ii) financial market infrastructure and cybersecurity; (iii) bond holder rights in resolution and bankruptcy; and (iv) spillover effects of low and negative interest rates on pensions, insurers, and savers. Below we have included a brief discussion of each of these topics.

**a. Complete work in progress on CCPs:** Post-Crisis OTC derivatives reforms have shifted credit risks from bi-lateral counterparties to CCPs. These risks are now concentrated in a smaller number of market participants. Given this concentration, regulators must ensure CCPs are resilient and must establish guidelines for the resolution and recovery of CCPs that experience difficulties. We recommend focusing on establishing rigorous capital standards and standardized stress testing for CCPs, as well as improving transparency. Regulators should also implement rules that prevent customer margin from being used as a loss allocation tool to recover a failing CCP, unless strict conditionality is applied. We are encouraged by efforts underway to address these issues, and we welcome the opportunity to engage on the Consultations issued by the Committee on Payments and Market Infrastructure (“CPMI”) and the FSB.<sup>27</sup>

**b. Address emerging vulnerabilities in financial market infrastructure and cybersecurity:** All market participants rely on a variety of FMI, which are entities such as exchanges, electronic trading and affirmation platforms, trade messaging systems, and depositories. A failure of FMI could result in significant disruptions to asset managers, banks, and other market participants. Therefore, priority should be given to ensuring the resiliency, including the cybersecurity, of financial market infrastructure. Recent examples demonstrate that more work needs to be done to ensure appropriate protections are in place. For example, \$100 million was stolen from the account of the Bank of Bangladesh from the New York Federal Reserve Bank as a result of unauthorized Society for Worldwide Interbank Financial Telecommunication (“SWIFT”) messages sent by an unknown source,<sup>28</sup> \$12 million was stolen from a bank in Ecuador,<sup>29</sup> and an unsuccessful fraud attempt was made at a bank in Vietnam.<sup>30</sup> Regulatory guidance on controls and other cyber-defense measures would be helpful to the resiliency of the financial markets. We are supportive of IOSCO’s ongoing work to coordinate global efforts related to cybersecurity risk.<sup>31</sup>

**c. Clarify bond holder rights in resolution and bankruptcy:** Recently, we have seen a number of circumstances in which bond holder rights have been unclear in situations involving bankruptcy or the resolution of an insolvent entity. In some cases, the rights of bond holders

---

<sup>27</sup> CPMI, Consultative Report, *Resilience and recovery of central counterparties (CCPs): Further guidance on the Principles for Financial Market Infrastructures (“PFMI”)* (Aug. 2016), available at <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD539.pdf>; FSB, Discussion Note, *Essential Aspects of CCP Resolution Planning* (Aug. 16, 2016), available at <http://www.fsb.org/wp-content/uploads/Essential-Aspects-of-CCP-Resolution-Planning.pdf>.

<sup>28</sup> Arun Devnath, Bloomberg, *Printer Error Triggered Bangladesh Race to Halt Cyber Heist* (Mar. 16, 2016), available at <http://www.bloomberg.com/news/articles/2016-03-16/printer-error-set-off-bangladesh-race-to-halt-illicit-transfers>.

<sup>29</sup> Gavin Finch, Bloomberg, *Ecuador Bank Says It Lost \$12 Million in Swift 2015 Cyber Hack* (May 20, 2016), available at <http://www.bloomberg.com/news/articles/2016-05-20/ecuador-bank-says-it-lost-12-million-in-swift-2015-cyber-hack>.

<sup>30</sup> Trong-Khanh Vu and Katy Burne, The Wall Street Journal, *Vietnam’s Tien Phong Bank Targeted in Bangladesh-Like Cyberattack* (May 16, 2016), available at <http://www.wsj.com/articles/vietnamese-bank-says-it-was-target-of-attempted-cyber-heist-1463405095>.

<sup>31</sup> IOSCO, *Cyber Security in Securities Markets – An International Perspective* (Apr. 2016), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD528.pdf>; New York State Department of Financial Services, *Cybersecurity Requirements for Financial Services Companies* (Sep. 2016), available at <http://www.dfs.ny.gov/legal/regulations/proposed/rp500t.pdf>.

have been subordinated relative to other claimants. The circumstances surrounding the restructuring of Banco Espirito Santo by the Bank of Portugal in December 2015 is one example of actions where one group of equally ranking creditors was favored over another. The January 2016 "mini-crisis" in European banking stocks was, in part, a response to the uncertainty created by the Bank of Portugal's action towards creditors. Such discrimination against certain bondholders contradicts the FSB's principles of effective resolution regimes and should be addressed so that issuers continue to have access to bond markets.

**d. Spillover effects of low and negative interest rates on pensions, insurers, and savers.**

The period of prolonged low and negative rates has reduced the income that many assets generate. This has created challenges for asset owners such as savers, pensions, and insurers in meeting their investment objectives. Asset owners are necessarily "reaching for yield" to meet their liabilities or income requirements. For insurers, low interest rates impact their ability to generate the income needed to meet their liabilities. Similarly, the sizeable asset mismatches of both public and private pension plans have been exacerbated by low interest rates.<sup>32</sup> According to a March 2016 report by Citigroup, unfunded or underfunded government pension liabilities totaled \$78 trillion across 20 OECD countries.<sup>33</sup> Further, most US and UK corporate pensions remain underfunded.<sup>34</sup> For example, the defined benefit plan deficit of FTSE companies in the UK has more than doubled in recent years, and the funding ratio for German blue chip companies has fallen. As pension plans look for yield, they have to choose between low yielding investments that will not meet their liabilities and riskier investment strategies. Low interest rates have consequently become a driver of allocations to higher yielding assets such as high yield bonds, emerging markets debt, and bank loan assets. We recommend studying the impacts of monetary policy on various types of asset owners.

**Q2. Do the proposed policy recommendations in the document adequately address the structural vulnerabilities identified? Are there alternative or additional approaches to risk mitigation (including existing regulatory or other mitigants) that the FSB should consider to address financial stability risks from structural vulnerabilities associated with asset management activities? If so, please describe them and explain how they address the risks. Are they likely to be adequate in stressed market conditions and, if so, how?**

We believe that the FSB's proposed policy recommendations are appropriate, with the exception of Recommendations 9, 13, and 14. As we have stated in numerous publications, the FSB's focus on products and activities in asset management is the only way to address vulnerabilities in asset management. Below we comment briefly on Recommendations 9, 13, and 14:

**Recommendation 9.** *Where relevant, authorities should give consideration to system-wide stress testing that could potentially capture effects of collective selling by funds and other institutional investors on the resilience of financial markets and the financial system more generally.*

We disagree with this recommendation. As we outline further on pages 20 to 24, in the absence of data on assets managed directly by asset owners, a system-wide stress test is not feasible, and a stress test that omits these assets is not meaningful. We recommend instead focusing on stress tests for individual funds.

---

<sup>32</sup> IIF, September 2016 Capital Markets Monitor: Understanding the Impact of Negative Rates on Financial Institutions (Sep. 6, 2016).

<sup>33</sup> Citigroup, *The Coming Pensions Crisis: Recommendations for Keeping the Global Pensions System Afloat* (Mar. 2016), available at <https://ir.citi.com/CqVpQhBifberuzZKpfnSN25DVSesdUwJwM61ZTqQKceXp0o%2F0F4CbFnnAY11rRjW>.

<sup>34</sup> *Id.*

**Recommendation 13.** *Authorities should have requirements or guidance for asset managers that are large, complex, and/or provide critical services to have comprehensive and robust risk management frameworks and practices, especially with regards to business continuity plans and transition plans, to enable orderly transfer of their clients' accounts and investment mandates in stressed conditions.*

We disagree with the recommendation for several reasons. First, as written, this statement conflates multiple topics including some that are unrelated to systemic risk. Second, prior consultations have established that “size” is not a key determinant of risk in asset management. Third, as we discuss on page 8 and again on pages 40 to 41, limiting the scope of analysis in this manner neglects the presence of many service providers who play important roles in the provision of services to the asset management industry. Fourth, operational and business continuity risks are important for all asset managers to understand and mitigate, including large, medium, and small asset managers, as well as asset owners who manage their assets internally. It is also important to recognize that while asset managers can be impacted by operational risks, disruptions to the operations of an asset manager are neither the cause nor the transmission mechanism for systemic risk – though asset managers and asset owners would certainly be impacted by systemic risks such as the failure of a systemically important financial market utility or custodian bank. And finally, the timing and types of transitions of client assets are controlled by asset owners.

To address the issues with the proposed recommendations, we recommend that the FSB separate Recommendation 13 into at least two distinct recommendations:

- **Recommendation 13A:** Authorities should have requirements or guidance for all asset managers to have comprehensive risk management frameworks to address operational and business continuity risks to which they are subject.
- **Recommendation 13B:** IOSCO should conduct a consultation designed to gather information about third party services provided to the asset management industry to determine whether further analysis of potential risks is needed.

**Recommendation 14.** *Authorities should monitor indemnifications provided by agent lenders/asset managers to clients in relation to their securities lending activities. Where these monitoring efforts detect the development of material risks or regulatory arbitrage that may adversely affect financial stability, authorities should verify and confirm asset managers adequately cover potential credit losses from the indemnification provided to their clients.*

As mentioned above, we are supportive of efforts to collect additional data on borrower default indemnification provided by all securities lending agents. Given that the predominance of agent lenders are not asset managers, we recommend that FSB Workstream 5, which is focused on securities lending and repo including updating haircut standards and data reporting for SFT, also address reporting requirements related to borrower default indemnification. As discussed in detail on page 47, care should be taken to ensure that the data collected include both aggregate value of the loans outstanding that receive borrower default indemnification and the aggregate value of the collateral being held as both data points are necessary to assess the risk involved.

We recommend that the FSB revise Recommendation 14 as follows:

- **Recommendation 14A:** FSB Workstream 5 should consider whether the collection of data about borrower default indemnification provided by securities lending agents would be additive to data reporting efforts. Should such data be collected, both the value of outstanding loans receiving borrower default indemnification and the value of collateral posted against those loans should be collected and considered in tandem.

- **Recommendation 14B:** FSB Workstream 5 should study due diligence practices of asset owners that engage lending agents for securities lending. If necessary, Workstream 5 should consider providing guidance on key questions that should be asked as part of a due diligence checklist.

**Q3. In your view, are there any practical difficulties or unintended consequences that may be associated with implementing the proposed policy recommendations, either within a jurisdiction or across jurisdictions? If there are any, please identify the recommendation(s) and explain the challenges as well as potential ways to address the challenges and promote implementation within a jurisdiction or across jurisdictions.**

For data collection efforts (Recommendations 1, 11, and 12), the biggest challenge in implementing the proposed policy recommendations will be global harmonization. In our *ViewPoint* entitled, “Improving Transparency: The Value of Consistent Data over Fragmented Data”, we discuss best practices for harmonizing regulatory reporting requests.<sup>35</sup>

Policy makers need to consider whether there are operational impediments to the implementation of new LRM tools. As the FSB and IOSCO look to expand the toolkit of liquidity risk management tools available to funds, regulators will need to consider any infrastructure changes necessary to implement tools that may not already be available in their jurisdictions. For example, implementing swing pricing for funds in the US will require enhancements to the existing infrastructure, including changes to systems for transfer agents and other fund service providers. We note that the Global Association of Risk Professionals (“GARP”) highlighted the infrastructure changes that would be needed to encourage the adoption of swing pricing for US mutual funds in its letter to the Securities and Exchange Commission (“SEC”) regarding the liquidity risk management proposal.<sup>36</sup> This example highlights the fact that in order to implement recommendations, regulators will need to commit to addressing infrastructure challenges in addition to updating regulations.

---

<sup>35</sup> BlackRock, *ViewPoint*, Improving Transparency: The Value of Consistent Data over Fragmented Data (Aug. 31, 2016), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-improving-transparency-august-2016.pdf>.

<sup>36</sup> GARP, Comment Letter to the SEC, Open-End Fund Liquidity Risk Management Programs; Swing Pricing; Re-Opening of Comment Period for Investment Company Reporting Modernization Release (Jan. 12, 2016), available at <https://www.sec.gov/comments/s7-16-15/s71615-33.pdf> (“GARP Letter”).

## Table of Contents<sup>37</sup>

Executive Summary .....	5
A. Liquidity and Redemption Risk in Open-End Funds .....	5
B. Leverage in Investment Funds .....	6
C. Operational Risk and Challenges in Transferring Investment Mandates .....	7
D. Securities Lending Activities of Asset Managers and Funds .....	8
E. Responses to General Questions .....	10
Q1 .....	10
Q2 .....	12
Q3 .....	14
I. Detailed Comments: Liquidity and Redemption Risk in Open-End Funds .....	17
A. Fund Liquidity Profiles / Classifying the Liquidity of Fund Assets .....	17
B. Aligning Redemption Terms with Fund Liquidity Profile .....	19
C. Reporting & Disclosure .....	19
<i>Reporting to Regulators</i> .....	20
<i>Disclosure to Investors</i> .....	20
D. Stress Testing .....	20
<i>Stress Testing of Individual Funds</i> .....	20
<i>System-wide Stress Testing</i> .....	23
<i>Stress Testing of All Mutual Funds</i> .....	23
<i>Stress Testing at the Asset Manager Level</i> .....	24
E. Responses to Liquidity and Redemption Risk Questions .....	24
Q4 .....	24
Q5 .....	25
Q6 .....	27
Q7 .....	27
Q8 .....	28
II. Detailed Comments: Leverage within Funds .....	29
A. Questions on Leverage within Funds .....	29
Q9 .....	29
Q10 .....	29
Q11 .....	29
Q12 .....	31
Q13 .....	31
Q14 .....	31
III. Detailed Comments: Operational Risk and Challenges in Transferring Investment Mandates or Client Accounts .....	32
A. Distinguishing Asset Managers from Banks .....	33
B. Third Party Vendors .....	34

<sup>37</sup> Please note that we set out the questions in their entirety below and our responses to each.

C. Transitioning Management of Client Accounts.....	34
D. Transitioning Derivatives Positions .....	35
E. Operational and Business Continuity Risks faced by All Asset Managers.....	37
F. Financial Market Infrastructure (“FMI”).....	38
G. Transition Planning for Asset Managers .....	39
H. Questions on Operational Risk and Challenges in Transferring Investment Mandates or Client Accounts.....	40
Q15 .....	40
IV. Detailed Comments: Securities Lending Activities of Asset Managers and Funds .....	42
A. Prudent Risk Management Practices in Securities Lending Programs.....	43
B. Borrower Default Indemnification is a Limited Obligation .....	44
C. Borrower Default Indemnification is Not a Systemic Risk.....	45
D. Lack of “Regulatory Arbitrage” between Banks and Non-Banks as Lending Agents .....	46
E. Regulation of Asset Managers Acting as Securities Lending Agents .....	46
F. Mitigants to Concerns Regarding “Opacity Risk”.....	47
G. Questions on Securities Lending Activities of Asset Managers and Funds .....	47
Q16. ....	47
Q17 .....	48
Appendix A: List of BlackRock Publications on Asset Management Topics.....	49
Appendix B: Firm and Fund Closures, Large Outflows, and Related Events in the Asset Management Industry over the Past 28 Years.....	53
Appendix C: <i>ViewPoint</i> – Breaking Down the Data: A Closer Look at Bond Fund AUM.....	59
Appendix D: <i>ViewPoint</i> – Improving Transparency: The Value of Consistent Data Over Fragmented Data .....	73
Appendix E: <i>ViewPoint</i> – The Role of Third Party Vendors in Asset Management .....	87
Appendix F: <i>ViewPoint</i> – Securities Lending: The Facts.....	106

## I. Detailed Comments: Liquidity and Redemption Risk in Open-End Funds

We are supportive of the FSB’s focus on LRM. We have consistently advocated for promoting high standards for LRM across the asset management industry while ensuring asset managers have the ability to tailor LRM programs to the unique nature of each fund they manage.<sup>38</sup> We are supportive of the FSB’s first eight recommendations on liquidity and redemption risk in open-end funds, and we believe these policy recommendations would effectively mitigate the concerns raised in the Consultation. However, we do not believe that there is sufficient data or appropriately defined objectives and methodologies to warrant pursuing system-wide stress testing (Recommendation 9) at this time. Rather, the focus should be on obtaining more robust data, as analyses based on incomplete information will inevitably lead to inaccurate and potentially misleading conclusions. Importantly, the nature of LRM risks vary based on a variety of factors, as shown in Exhibit 1. In other words, a “one-size-fits-all” approach is not appropriate, given the importance of tailoring LRM practices to the unique nature of each fund. Discretion should be left to portfolio managers and risk managers to determine the appropriate use of LRM tools for the funds that they manage.

### Exhibit 1: Tailoring LRM to Fund Characteristics



#### A. Fund Liquidity Profiles / Classifying the Liquidity of Fund Assets

We agree with Recommendation 1, that it would be helpful for regulators to collect data regarding the liquidity profiles of funds. This would be particularly helpful in monitoring funds that may be outliers from a liquidity perspective and require further investigation or closer supervision. Given that many securities regulators are responsible for supervising thousands of funds, it is important that data is collected at the portfolio level (as opposed to the holding level) and that it is consistent and comparable across funds so that outliers can be readily identified. Any data collection efforts that require subjective assessments or forecasts by the fund manager are unlikely to produce data that is helpful to regulators. We recommend regulators adopt objective classification schemes that are

<sup>38</sup> BlackRock, Comment Letter, Open-End Fund Liquidity Risk Management Programs; Swing Pricing – SEC (Jan. 13, 2016), available at <https://www.blackrock.com/corporate/en-us/literature/publication/sec-liquidity-risk-management-proposal-011316.pdf> (“Liquidity Letter”); BlackRock Response to FSOC RFI.

consistent across jurisdictions, wherever possible. As a starting point, we have provided detail about an objective liquidity classification scheme – called liquidity “tiering” – that is used by BlackRock risk managers to monitor the liquidity profiles of our fixed income open-end mutual funds. A similar approach has been developed by the industry-group, SIFMA-AMG, in the context of the SEC’s LRM proposal.<sup>39</sup>

As shown in Exhibit 2, liquidity tiering is a qualitative means of categorizing the liquidity of fund holdings based on asset type (e.g., asset class, credit quality, etc.) instead of classifying holdings based on the unique attributes of a position (e.g., position size, valuation, etc.). Liquidity tiering assigns a liquidity “tier” to each asset type that a fund can invest in based on a qualitative and general assessment of the relative liquidity of each asset type (e.g., investment grade bonds versus high yield bonds) in both normal and stressed markets. Were such an approach codified in regulation, exceptions to the categorical tiering should be allowed when the specific attributes of a particular position differ materially from the nature of the asset type as a whole, as long as the reasoning for moving the position to a different liquidity tier is noted.

**Exhibit 2: Example of Five-Tier Liquidity Classification Asset Type Mapping**

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
<b>Definition</b>	Cash and securities that can be readily converted to cash in normal and stressed markets at close to the existing market price.	Securities that can be readily transacted in normal market environments and remain readily transactable (at wider bid-ask spreads than Tier 1) even during stressed markets.	Securities that can be transacted (at wider bid-ask spreads than Tier 2) in normal market environments but become somewhat more difficult to transact with immediacy (or at higher bid-ask spreads than Tier 2) in stressed markets	Securities that can be transacted at wider bid-ask spreads than Tier 3) in normal market environments, but due to a smaller investor base or other reasons, may become more difficult to transact with immediacy (if at all or at much wider bid-ask spreads than Tier 3) in stressed markets	Securities which require heavy negotiations to trade in normal and stressed markets
<b>Types of Securities</b>	<ul style="list-style-type: none"> <li>Cash</li> <li>AAA / AA / A Rated Govt. Bonds</li> <li>Agency MBS TBAs</li> <li>Pre-Refunded Munis</li> </ul>	<ul style="list-style-type: none"> <li>BBB / BB / B Rated Govt. Bonds</li> <li>Agency MBS (ex TBAs)</li> <li>On-the-Run Senior ABS</li> <li>IG Munis</li> <li>IG Corporate (ex EM)</li> </ul>	<ul style="list-style-type: none"> <li>Below B Rated Govt. Bonds</li> <li>Senior CMBS</li> <li>Off-the-Run Senior ABS</li> <li>Subordinate ABS</li> <li>Senior Non-Agency RMBS</li> <li>GSE Risk Sharing Deals</li> <li>HY Munis</li> <li>Tender Option Bonds</li> <li>EM IG Corporates</li> <li>HY Corporates (ex EM)</li> <li>Syndicated Bank Loans &gt; \$250m issue size</li> <li>AAA / AA / A CLOs</li> <li>Capital Securities</li> </ul>	<ul style="list-style-type: none"> <li>Subordinate CMBS</li> <li>Subordinate Non-Agency RMBS</li> <li>Securitized Asset Residuals/Equity</li> <li>Non-Rated Munis</li> <li>EM HY Corporates</li> <li>Middle Market Loans &lt; \$250m issue size</li> <li>BBB and below CLOs</li> <li>Defaulted Securities with public pricing</li> </ul>	<ul style="list-style-type: none"> <li>Securities with non-public pricing (e.g., certain defaulted securities, bankruptcy claims, etc.)</li> <li>Securities restricted from trading</li> <li>Mortgage Servicing Rights</li> <li>Securities labeled as 'Private', including unlisted equities</li> </ul>
	<ul style="list-style-type: none"> <li>Listed Developed and EM Equity</li> <li>ETFs</li> </ul>	<ul style="list-style-type: none"> <li>Frontier Markets Equity</li> </ul>	<ul style="list-style-type: none"> <li>Preferred Equity</li> </ul>		
	<ul style="list-style-type: none"> <li>Interest Rate Swaps and Swaptions</li> <li>FX</li> <li>Futures</li> </ul>				
	<b>MOST LIQUID</b>			<b>LEAST LIQUID</b>	

Asset managers can and do have different views on the number of tiers that are desirable, and we believe that the merits of different numbers of tiers should be discussed further. Guidance on mapping asset types to the liquidity tiers should be reviewed periodically (perhaps bi-annually) to ensure that the liquidity tiering classifications conform to changing market conditions and provide flexibility to address new security types or other significant developments.<sup>40</sup>

The Consultation notes that “asset tiering, and limits on illiquid assets should be considered as a whole to determine the overall liquidity profile of the fund.”<sup>41</sup> We agree with this statement. Liquidity tiering is most useful at the aggregate portfolio level rather than at the individual security level. Aggregate statistics such as the percentage of a portfolio in each tier and/or the weighted average tier

<sup>39</sup> SIFMA, Supplemental Comment Letter on Proposed Liquidity Risk Management Programs: Proposed Alternative Classification System (Apr. 12, 2016), available at <https://www.sifma.org/comment-letters/2016/sifma-amg-submits-supplemental-comments-to-the-sec-on-open-end-fund-liquidity-risk/> (“SIFMA Liquidity Classification Addendum”).

<sup>40</sup> Liquidity Letter at 16-18.

<sup>41</sup> Consultation at 16.

of the entire portfolio would provide a measure of portfolio liquidity that can be compared across funds, which could provide regulators with information about the relative liquidity of a fund's investment strategy. Further, liquidity tiering could be used to help regulators ascertain the relevance of a fund's LRM procedures in the context of the liquidity tiers of fund holdings.

## B. Aligning Redemption Terms with Fund Liquidity Profile

With respect to Recommendation 3, we agree that authorities should provide guidance to ensure that fund structures are aligned with the nature or the investment strategy pursued by the fund and asset classes in which it invests. This includes careful consideration of which backup tools should be embedded into a fund's structure. For example, certain open-end funds that invest in less liquid asset classes should consider whether to embed out-of-the-money gates into the fund's structure or seek to establish backup sources of liquidity (e.g., lines of credit, interfund lending, etc.). In jurisdictions where certain tools are not available, certain investment strategies may need to be avoided. For example, in the US, 1940 Act funds are not permitted to embed out-of-the-money gates into 1940 Act fund structures and, consequently, 1940 Act fund investments are primarily constrained to securities and these funds are not permitted to invest in physical real estate property. In contrast, UK-domiciled non-UCITS retail schemes (NURS) are permitted to invest in physical real estate, as these funds are permitted to use a broader range of backup liquidity measures, including out-of-the-money gates. Likewise, limits on the amount of illiquid assets that can be held by a fund can also help to align the fund structure and redemption terms with the fund's investment strategy. Lastly, managers should give consideration to the appropriate redemption process for their fund, with regard to the underlying assets and investor base.

It should be noted, however, that ensuring a fund's structure and redemption terms are consistent with the investment strategy pursued by the fund is not the same as requiring the redemption frequency (e.g., daily, monthly, etc.) to equal the liquidity of all of the fund's holdings. Instead, the overall fund structure including available liquidity risk management tools should be considered. In this context, it is important to remember that (i) open-end mutual funds are often the only access to professional asset management that can be accessed by individual investors; (ii) open-end mutual funds are used in retirement plans as a retirement savings tool;<sup>42</sup> (iii) investors with a long investment time horizon, such as those saving for retirement, are well-placed to benefit from capturing a liquidity premium and often achieve this through investments in mutual funds held in retirement accounts. As such, it is important that the operationalization of Recommendation 3 does not unintentionally limit the availability and/or effectiveness of retirement and savings vehicles used by individuals, as this will only exacerbate the retirement security challenges facing individuals in many FSB jurisdictions.

## C. Reporting & Disclosure

We commend IOSCO for its endeavor to enhance data collected in the asset management industry.<sup>43</sup> We agree with IOSCO that it is important to "ensure greater consistency in data collection and definitions in the asset management sector" and to "encourage the use of internationally agreed standards." We have provided several recommendations with respect to best practices for regulatory reporting and data collection in our *ViewPoint*, "Improving Transparency: The Value of Consistent Data over Fragmented Data." A copy of this *ViewPoint* has been provided in Appendix D.

---

<sup>42</sup> According to the Investment Company Institute ("ICI"), 45% of US mutual funds are retirement account assets as of October 31, 2015. Retirement accounts include employer-sponsored defined contribution plans and individual retirement accounts. Mutual fund assets include long-term funds and money market funds. See Investment Company Institute, "The U.S. Retirement Market, Third Quarter 2015" (Dec. 2015), available at [www.ici.org/info/ret\\_15\\_q3\\_data.xls](http://www.ici.org/info/ret_15_q3_data.xls).

<sup>43</sup> IOSCO, Statement on Priorities Regarding Data Gaps in the Asset Management Industry (Jun. 2016), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD533.pdf>. IOSCO has highlighted three priority areas for data collection: open-ended mutual funds, separately managed accounts, and alternative funds. Across all three categories, IOSCO indicates that it will look at the use of derivatives in order to improve risk monitoring.

### *Reporting to Regulators*

We agree that regulators should review existing regulatory reporting requirements and enhance them as necessary to ensure that regulators have meaningful information on the liquidity risk of funds. Regulators need scalable, consistent data on funds to properly monitor and assess emerging risks. Reporting to regulators on the liquidity of fund holdings based on asset type (e.g., using a tiering methodology) would allow regulators to better evaluate the liquidity profile of funds. As highlighted in the *ViewPoint* included in Appendix D, we encourage regulators to move towards standardization of data reporting requests, including agreement on definitions of key terms and on the detail and frequency of requests.

### *Disclosure to Investors*

We agree with Recommendation 2 that IOSCO should review its existing guidance regarding investor disclosure requirements and enhance it as appropriate to ensure that investors have sufficient information regarding the liquidity profile of funds in which they are invested or considering an investment. Investors should understand the risks of the fund they are investing in and how the fund can meet redemptions in both normal and stressed market conditions. Funds should have clear and concise disclosures to investors regarding risks related to any liquidity risk mechanisms available to the fund, the potential costs and risks to the fund as a result of significant redemption activity, and the potential for the suspension of redemptions. Disclosures should be straightforward and should not include forecasts about future scenarios.

### D. Stress Testing

As we explain below, while we believe there is merit in developing principles for the stress testing of *individual* open-end funds (Recommendation 6); aggregate stress tests of any sort – including system-wide stress testing, macro stress testing of all mutual funds, or stress testing of all funds managed by an asset manager – would be predicated upon faulty assumptions, insufficient data, and a misunderstanding of fund structures and asset owner behavior. As a result, we caution that aggregated stress tests of this nature are at best meaningless, and at worst could result in misguided policy actions that risk creating the problems that the FSB and other regulators are seeking to avoid.

### *Stress Testing of Individual Funds*

We support Recommendation 6 that authorities require and/or provide guidance on stress testing for individual open-end funds. However, when considering stress testing of funds, it is important to remember that the concept of liquidity stress testing of funds is quite different from, and should not be conflated with, stress testing of banks. In particular, open-end funds do not guarantee the value of fund shares or employ significant leverage, requiring different risk management solutions. Unlike banks, which have an obligation to meet liabilities (including the repayment of the principal of their depositors), mutual fund redemptions are executed based upon a pro rata share of the value of the securities held in the fund, with no guarantee of a particular price. These important differences between bank deposits and open-end funds must be considered when applying liquidity stress testing to funds.

Open-end fund managers must manage fund assets in the best interests of all investors in the fund. This often results in funds maintaining some amount of borrowing capacity<sup>44</sup> to address tail risk

---

<sup>44</sup> Some regulatory regimes for open-end funds (1940 Act in the US and Undertakings for the Collective Investment of Transferable Securities (“UCITS”) in the EU) permit borrowing; however such borrowings cannot exceed a certain percentage of the fund’s assets. Maintaining borrowing capacity refers to the fact that fund managers must stay below the regulatory borrowing limits in order to ensure that they will have the ability to borrow for temporary purposes.

redemption scenarios, while at the same time seeking to meet redemptions through pro rata or risk constant selling of fund assets during the majority of circumstances to avoid creating situations where the fund's assets become materially less liquid as a result of redemptions. Likewise, fund managers should seek to avoid situations where fund assets need to be sold at "fire sale" prices in order to meet redemptions. Liquidity risk stress testing is one tool that can be helpful to ensure fund managers are maintaining appropriate liquidity.

Another important area for consideration when developing guidance related to stress testing of individual funds is that such guidance must carefully balance what might be theoretically ideal versus practical reality. The success of any liquidity risk stress testing guidance will be based on the ability of fund managers to create a meaningful and relevant stress scenario for each individual fund, which requires sufficient transparency into omnibus accounts. In some cases, what is theoretically ideal from a regulator's perspective (e.g., that fund managers have the ability to accurately forecast the number of days it will take to liquidate fund holdings at a given price), may not be in line with practical realities (e.g., the OTC nature of fixed income markets makes it difficult to measure liquidation costs and timing). From a liability perspective, the ability to access detailed information about the transactional activity of individual fund investors is limited for many retail funds (e.g., 1940 Act funds, UCITS) due to contractual limitations and/or operational constraints. For many of these retail funds, investor transactions are incorporated into omnibus trades provided to fund managers by fund distributors who sell products issued by a number of asset managers. Thus, asset managers with retail funds distributed by third parties do not necessarily have access to transactional history needed to fully study investor redemption behaviors. This means that the analysis of redemption behavior is still in nascent stages of development. In order to properly forecast redemptions, asset managers will need access to historical redemption data at the transaction level and by type of investor. Even for existing data, the length of available time series to deeply study investor behavior is inconsistent, since some funds may be quite old, whereas other funds may be brand new.

With these limitations as context, we recommend that guidance for fund liquidity risk stress testing be designed using a principles-based approach, recognizing that the quantitative precision of liquidity risk stress test approaches will evolve over time. Importantly, any guidance related to liquidity risk stress testing should explicitly acknowledge that such guidance is not a substitute for the judgement of portfolio and risk managers who are responsible for making decisions that are in the best interest of all fund shareholders. In particular, fund managers should be allowed to exercise their judgment with respect to how to respond to the results of their liquidity risk stress tests. Since the "science" of liquidity stress testing is still in its early stages, regulators should first aim to set these processes in motion and then carefully observe how they progress across the industry. Only at some to-be-determined future point (if ever) should regulators consider mandating specifically defined outcomes or required remediation dependent on these stress test results. While the desire to somehow "fix" a perceived liquidity problem may be great, the lack of complete and consistent data or experience with this type of analysis requires a staged and measured approach. To do otherwise is inadvisable because, at best, such measures would be based on insufficient data. Further, a highly prescriptive approach to stress testing and any actions that need to be taken in response to the results of stress tests could actually result in highly correlated behavior among fund managers, which could generate precisely the problems that the FSB is attempting to mitigate.

As alluded to above, another important issue in operationalizing Recommendation 6 is the fact that accurate liquidity risk stress testing with at least some level of predictive capacity is dependent upon access to data that is not available to fund managers in many cases today. As such, any guidance on fund liquidity risk stress testing must start with guidance to fund distributors and/or transfer agents that permits fund manager access to necessary data on redemption behaviors to facilitate the predictive value of stress tests. In particular, redemption rates differ by investor type. For example, defined contribution plan investors tend to have a long time horizon and do not rebalance

their assets frequently, if at all.<sup>45</sup> The ability to study redemption rates among different types of investors would greatly enhance the industry's ability to develop predictive models to understand the potential redemption scenarios to which a fund may be subject. We believe that the success of any liquidity risk stress testing guidance will be based on the ability of fund managers to receive sufficient transparency into omnibus accounts in a consistent and comparable manner across fund distribution platforms. As such, we recommend that in jurisdictions where this data is not readily available in a consistent format, regulators mandate that the relevant parties provide the following data to fund managers in a consistent format:

- Types of investors redeeming from and subscribing to funds via omnibus accounts;<sup>46</sup>
- Size of individual investor holdings to ascertain investor concentration; and
- Length of time each investor has been invested in the fund.

The need for this data is generally recognized in the industry. We note that GARP highlighted that this data should be made available to fund managers in its comment letter to the SEC regarding the LRM proposal.<sup>47</sup> Once the data limitations have been sufficiently addressed, guidance regarding fund liquidity risk stress testing should focus on two main components:

**1. Ability to quantify potential asset/liability mismatches during normal and stressed scenarios (recognizing that data limitations may impact the precision of results):**

- **Assets:** Measure or estimate asset values of fund holdings and anticipated market liquidity and transaction costs during normal and stressed market conditions.
- **Liabilities:** Estimate potential fund redemptions based on: (a) historical redemption behavior, (b) redemption behaviors associated with different types of investors, and (c) shareholder concentration. As noted above, this would require greater transparency of reporting to fund managers regarding the underlying investors.
- **Scenario Testing:** Scenario testing should be performed to quantify the potential asset/liability mismatch that could arise due to either (a) stresses to asset values; (b) stressful redemption scenarios (both based on historical redemption rates and hypothetical redemption rates); or (c) simultaneous stresses to both asset values and redemption rates.
- **Monitoring:** Periodic monitoring of the results of scenario testing should be performed by a risk manager to ensure the fund is not becoming materially less liquid over time. Funds should develop tolerances around liquidity stress testing results that are tailored to the liquidity profiles and investment mandates of each fund. Each fund's LRM program should specify an individual or group of individuals responsible for monitoring the results of liquidity risk stress testing.

**2. "Break-the-glass" testing of backup liquidity measures**

- In some circumstances, fund managers may find it preferable to utilize backup sources of liquidity. Funds should be required to demonstrate their ability to operationally access any backup sources of liquidity available to the fund at least annually. In this type of stress test, funds would assume that they are unable to fully meet a redemption by selling fund assets and are required to rely on alternate sources of liquidity. For example, funds would need to test their operational procedures by borrowing a small amount from a committed

---

<sup>45</sup> For example, ICI conducted a study of DC plans and found that between 2009 and 2015, only 6.4% to 7.7% of individuals participating in DC plans changed their asset allocations. See ICI, Research Report: Defined Contribution Plan Participants' Activities, First Half 2015 (Nov. 2015), available at [https://www.ici.org/pdf/ppr\\_15\\_rec\\_survey\\_q2.pdf](https://www.ici.org/pdf/ppr_15_rec_survey_q2.pdf). A real-world example of this phenomenon can be observed in light of recent equity market performance. Despite the poor performance of the S&P 500 in early 2016, retirement savers do not appear to be fleeing from equities or otherwise exhibiting large-scale correlated investment behavior. See Sarah Skidmore Sell, Miami Herald, *Panic is passé: investors stay steady on retirement savings* (Jan. 27, 2016), available at <http://www.miamiherald.com/news/business/article56827658.html>.

<sup>46</sup> We note that transparency for individual client-level information would not be useful or required to implement this recommendation. In particular, the investor categories that would be helpful are (i) 401K plan / Individual Retirement Account; (ii) pension fund; (iii) insurance company; (iv) other institutional investor (e.g., sovereign wealth fund); and (v) retail investor.

<sup>47</sup> GARP Letter.

line of credit for a short period of time. Further, funds should confirm that any required documentation to enable a fund to utilize backup sources of liquidity is in place. Given that funds rarely utilize backup sources of liquidity to meet redemptions, it is useful to test the ability to implement backup procedures from time to time.

We believe that taken together, the liquidity stress testing measures for individual open-end funds, as described above, would help funds monitor the potential for adverse redemption scenarios to arise and ensure that they have the ability to implement tail-risk tools to address tail-risk redemption scenarios.

### *System-wide Stress Testing*

Any system-wide stress test would have to consider all participants within the system, particularly given that asset owners control asset allocation decisions. As noted in the Consultation, external asset managers only manage one-third of financial assets, meaning that a system-wide stress test would necessarily need to take into consideration the other two-thirds of assets that are not managed by asset managers. Based on comments in the Consultation, it appears that the FSB does not currently have data on the other two-thirds of assets because the owners of these assets may not be subject to disclosure and reporting requirements.

Further, given the varying investment objectives and constraints of different types of asset owners, there is no reason to believe that the one-third of assets managed by asset managers are a proxy for the other two-thirds of assets. In numerous publications, we have highlighted the different investment objectives and constraints of various types of asset owners.<sup>48</sup> These objectives and constraints provide important context because they arise due to a variety of uncorrelated factors including return objectives, risk tolerance, tax status, regulatory regime, time horizon, liquidity needs, and liability structure. These factors are central to asset owner investment decisions and the overall investment strategies asset owners pursue. For example, taxable investors must consider tax liabilities that will be incurred when they sell securities. Oftentimes, this incentivizes taxable investors to employ lower velocity strategies. In contrast, tax exempt investors may pursue more active investment strategies. This diversity of investors in the market ecosystem challenges notions of the potential for *all* market participants to exhibit the same behavior at the same time in response to changes to market risk factors. System-wide stress tests that assume otherwise will not be reflective of the realities of the behavior of the market ecosystem, and will, therefore, necessarily lead to flawed conclusions. In the absence of data on assets managed directly by asset owners, a system-wide stress test is not feasible, and a stress test that omits these assets is not meaningful.

### *Stress Testing of All Mutual Funds*

Likewise, a macro stress test across mutual funds is difficult to define and unlikely to produce meaningful results. Open-end mutual funds are heterogeneous. US bond funds alone represent over 2,200 distinct funds pursuing disparate investment strategies.<sup>49</sup> Morningstar classifies dedicated US open-end bond funds into nearly 50 distinct categories ranging from broad market bond funds to sector-specific bond funds.<sup>50</sup> Some areas of differentiation include index versus active, sector-specific versus multi-sector, duration-based strategies, and market-specific versus global strategies. We analyze net flows in bond funds during periods of market stress in our *ViewPoint*, “Breaking Down the

---

<sup>48</sup> Who Owns the Assets | *ViewPoint*, BlackRock, *ViewPoint, Addressing Market Liquidity: A Broader Perspective on Today's Bond Markets* (Feb. 2016), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-liquidity-bond-markets-broader-perspective-february-2016.pdf>.

<sup>49</sup> The 2,200 figure excludes closed-end funds. Simfund (Dec. 31, 2015).

<sup>50</sup> Dedicated fixed income US open-end bond mutual funds. Does not capture multi-asset funds that may invest a portion of their assets in bonds. Simfund (Dec. 31, 2015).

Data: A Closer Look at Bond Fund AUM (see Appendix C).”<sup>51</sup> As demonstrated in our *ViewPoint*, bond fund investors do not treat all bond fund investments as a single asset class, even during periods of severe market stress. To this end, a macro stress test across funds that does not account for the diversity of bond funds and incorporate performance of different sectors and sub-sectors as well as the diversity of investors is unlikely to produce results that are reflective of potential market dynamics. This is particularly true if such models assume all shareholders in all types of funds react to market stress in the same way.

### *Stress Testing at the Asset Manager Level*

Within this discussion, it is important to revisit the differences between bank deposits and funds. Whereas with bank deposits, the assets of one depositor can be used to meet the redemptions of other depositors, making aggregating the risks at the financial institution level of a bank helpful and necessary when conducting stress tests of banks, the same is not true of asset managers. This is because fund assets and fund liabilities (redemptions) are not on the balance sheet of the asset manager, and asset managers are legally prohibited from using the assets of one fund to cover the redemptions of another fund. As such, while performing stress tests of aggregate risks at the financial institution level make sense for a bank, attempting to do the same at the asset manager level would be predicated on faulty assumptions, given that the risks of funds are not financial risks of the asset manager.

### E. Responses to Liquidity and Redemption Risk Questions

**Q4. In your view, is the scope of the proposed recommendations on open-ended fund liquidity mismatch appropriate? Should any additional types of funds be covered? Should the proposed recommendations be tailored in any way for ETFs?**

We agree with the discussion of ETFs in Annex 3 of the Consultation. Namely, we agree that “ETFs generally do not pose the issues...with respect to open-ended funds (i.e., issues related to on demand liquidity and first-mover advantage)”.<sup>52</sup> ETFs are fundamentally different from open-end mutual funds. In some cases, regulatory efforts to address concerns related to traditional open-end mutual funds may not be well-suited for the unique structure of ETFs. For example, in the US, the SEC recently proposed a rule that focused on the ability of funds to meet redemptions by liquidating portfolio holdings for cash. While this concept is relevant for traditional open-end mutual funds, it is not relevant for ETFs because creations and redemptions are generally in-kind or ETFs use cash creation / redemption processes that replicate the in-kind methodology. Therefore, LRM tools for ETFs that meet redemptions in-kind must necessarily be different from tools for open-end mutual funds that must meet redemptions in cash. To this end, care must be taken to ensure that any new regulations for ETFs are appropriately tailored to the structure of ETFs. Recommendations designed to address potential theoretical first-mover advantages associated with traditional open-end mutual funds should not be applied to ETFs where these issues do not reside. In operationalizing the proposed recommendations, and where ETF-specific legislation does not already exist, IOSCO member agencies should consider the structure of ETFs and tailor the regulatory regimes appropriately. In Europe, the European Securities and Markets Authority (“ESMA”) ETF Guidelines and the Markets in Financial Instruments Directive (“MiFID”) are properly tailored to address the

---

<sup>51</sup> Bond Funds *ViewPoint*.

<sup>52</sup> Consultation at 42.

specificities of ETFs operated in the European Union (“EU”).<sup>53</sup> In the US, we have recommended that the SEC develop a set of rules designed to address the specific characteristics of ETFs.<sup>54</sup>

**Q5. What liquidity risk management tools should be made available to funds? What tools most effectively promote consistency between investors’ redemption behaviors and the liquidity profiles of funds? For example, could redemption fees be used for this purpose separate and apart from any impact they may have on first-mover advantage?**

Ensuring that funds have sufficient tools to address a variety of stress market scenarios is a critical component of effective LRM. BlackRock believes that all funds should be permitted to incorporate the following tools into the fund’s structure, as appropriate:<sup>55</sup>

- i. mechanisms to allocate transaction costs to redeeming investors,
- ii. temporary borrowing from non-government sources,
- iii. in-kind redemptions, where feasible,
- iv. mechanisms to facilitate the suspension of redemptions, and
- v. out-of-the-money gates.

While each of these tools is already in place for certain funds, we believe that their availability more broadly across fund structures and jurisdictions should be considered by national authorities. Importantly, investors should understand the LRM tools that are available to the fund manager. Disclosures in fund constituent documents and ongoing communications with investors should outline the investment guidelines of the fund, potential risks, and the provisions available to the fund to protect investors. Additionally, we note that IOSCO recently reiterated the importance of having liquidity management tools available to funds and performed an analysis that compares the tools available to funds in different jurisdictions around the world.<sup>56</sup> Given that we cannot predict the future and recognizing that things that have never happened can and do happen, we agree that it is important to provide funds with “tail risk tools” to enable fund managers to address “tail risk events.”

Permitting the use of the LRM tools outlined below consistently across jurisdictions would promote consistency between investors’ redemption behaviors and the liquidity profiles of funds. We have consistently advocated that funds should have the following tools to help meet redemptions:

1. *A mechanism to allocate transaction costs to redeeming shareholders as a way to provide a price signal for the price of market liquidity and to reimburse or buffer a fund’s remaining shareholders.*

We have consistently supported permitting funds to apply mechanisms that allocate transaction and market impact costs associated with the sale of fund assets to redeeming shareholders as a way to provide a price signal to fund shareholders of the cost of obtaining liquidity.<sup>57</sup> For example, swing pricing is an effective measure in this regard and is employed by UCITS-regulated funds in several EU jurisdictions, such as Ireland and Luxembourg. Additionally, the SEC proposed to permit open-end mutual funds to use swing pricing on an optional basis in its proposal on LRM. That said, while the EU has developed the infrastructure to support swing pricing,

---

<sup>53</sup> ESMA Guidelines on ETFs and other UCITS issues, ESMA /2014/937EN, Sections VII to IX (Aug. 1, 2014), available at [https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2014-0011-01-00\\_en\\_0.pdf](https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2014-0011-01-00_en_0.pdf); BlackRock, Letter to ESMA, *Developing Europe’s Market Structure for Exchange Traded Funds: Key Principles for MiFID ‘Level 2’ and the Central Securities Depository Regulation* (Apr. 9, 2014), available at <http://www.blackrock.com/corporate/en-gb/literature/publication/etf-market-structure-letter-to-esma.pdf>.

<sup>54</sup> Liquidity Letter, Sections VII to IX.

<sup>55</sup> The specific uses of each of these mechanisms are outlined in our response to question 5.

<sup>56</sup> IOSCO Liquidity Risk Management Survey.

<sup>57</sup> BlackRock Response to FSOC RFI.

this is not the case in the US, and there are also operational impediments to the use of swing pricing in the US. GARP published a comment letter providing a detailed roadmap of changes to processes that would need to occur to enable broad adoption of swing pricing in the US.<sup>58</sup> The GARP roadmap suggested changes to systems for transfer agents and other fund service providers, which would likely take a significant amount of time to implement. These enhancements to the existing US fund infrastructure would need to occur before swing pricing could be broadly adopted by 1940 Act Funds.

Redemption fees, which IOSCO's report on LRM tools found to be one of the most common policy tools available in many jurisdictions, are another mechanism used to allocate transaction costs to redeeming shareholders. For example, redemption fees are commonly used as a means to combat market timing or excessive trading by redeeming shareholders for the benefit of shareholders remaining in a fund.

*2. In-kind redemptions, where feasible.*

Regulatory authorities in Europe and the US permit funds to meet redemptions through in-kind transfers of securities. Funds' policies and procedures for meeting redemptions in-kind should not be prescriptive as to when in-kind redemptions *must* be used; rather, they should provide flexibility and clarity on how in-kind redemptions would be administered and when in-kind redemptions will be *considered*, allowing discretion on the part of the fund managers to protect the best interests of all shareholders. Most retail investors do not have the brokerage or custody accounts necessary to receive in-kind redemptions so this tool is generally limited to institutional investors who will have the necessary custody accounts.

*3. Temporary borrowing from non-government sources.*

Regulatory authorities in Europe and the US permit funds to borrow under certain circumstances. This is a useful tool for funds that can be used as a backup source of liquidity. Today, numerous mutual fund complexes have established bank credit lines and/or interfund lending facilities (the latter of which are permissible only for 1940 Act Funds in certain cases) as an additional source of liquidity.

*4. Mechanism to facilitate the suspension of redemptions to protect investors.*

The one policy tool available in all the IOSCO Committee 5 jurisdictions surveyed in IOSCO's report on LRM tools is the ability to suspend redemptions under certain circumstances. For example, in Europe, depending upon the relevant EU jurisdiction, UCITS funds or their managers have the ability to suspend dealing in the funds when redemption requests exceed a specific level. A UCITS fund or its manager can also close the fund to new subscriptions. In the US, mutual fund boards and fund managers of 1940 Act Funds are not currently permitted to suspend redemptions without SEC approval. In the US, the SEC currently has the power to temporarily suspend redemptions in an individual fund or fund sector. In line with the "worst-case scenario" nature of this tool, the SEC has used its authority to suspend redemptions only in rare instances.<sup>59</sup>

*5. Discretion to include "out-of-the-money" ("OTM") gates in fund structures.*

An OTM gate is a gate where the trigger for considering whether to put the gate down is sufficiently unlikely to be triggered (or, "out-of-the-money") under normal market circumstances, so as to only be triggered in emergency or extraordinary circumstances. OTM gates are permitted under

<sup>58</sup> Letter from Richard Apostolik, GARP, Open-End Fund Liquidity Risk Management Programs; Swing Pricing; Re-Opening of Comment Period for Investment Company Reporting Modernization Release (Jan. 12, 2016) ("GARP Swing Pricing Letter").

<sup>59</sup> SEC, Third Avenue Trust and Third Avenue Management LLC, Notice of application and temporary order under Section 22(e)(3) of the Investment Company Act), Release No. IC-31943 (Dec. 16, 2015), available at <https://www.sec.gov/rules/ic/2015/ic-31943.pdf>.

certain regulatory regimes, including AIFMD and UCITS in Europe. Thought should be given as to whether this tool should be extended to other jurisdictions.

\*\*\*\*\*

Allowing the use of the LRM tools outlined above would promote consistency between investors' redemption behaviors and the liquidity profiles of funds. For example, mechanisms for subscriptions and redemptions such as swing pricing, in-kind redemptions and redemption fees can mitigate first mover advantage by externalizing transaction costs to redeeming investors. Measures such as out-of-the-money gates and suspensions of redemptions similarly allow fund managers to protect the best interests of all shareholders in the fund and maintain the liquidity profile of the fund, even during stressed scenarios. Clear disclosure of LRM tools to investors can help to align redemption behaviors of investors with the liquidity profile of the fund. Importantly, the use of such tools should be left to the discretion of the fund manager. Different tools can be used to achieve the same outcome. The recent experience of UK property funds described on pages 27 to 28 is one example of how different LRM tools can be utilized by fund managers to appropriately protect investors and avoid systemic risk. In other words, discretion to determine which tools are appropriate for a given fund or circumstance should be left to the judgement of the asset manager. Blanket mandates that all funds use a given tool, such as redemption fees, will discourage thoughtful consideration as to the most appropriate tools for a given fund because the regulator has already specified what they view as sufficient for LRM purposes. This could result in less than ideal outcomes, as not all tools are appropriate for all funds in all situations and managers should be encouraged to carefully consider the most appropriate tools to include in a fund structure and the appropriate course of action to take in order to protect all fund investors.

**Q6. What characteristics or metrics are most appropriate to determine if an asset is illiquid and should be subject to guidance related to open-ended funds' investment in illiquid assets? Please also explain the rationales.**

Liquidity is conditional and can change rapidly based on market conditions, which makes it difficult to define liquidity using quantitative metrics. While the liquidity of assets is not easy to define quantitatively, particularly for OTC markets, like bond markets, where sufficient data to make projections about liquidity is not available, a qualitative approach such as liquidity tiering can be helpful in addressing this challenge.<sup>60</sup> We consider the fifth category (Tier 5) in our liquidity tiering approach, shown in Exhibit 2, to be relatively illiquid assets. Tier 5 includes securities with non-public pricing or securities labeled "Private". Physical property is another example of an illiquid asset type requiring substantial negotiations to trade. We recommend that IOSCO engage with the industry to determine an appropriate qualitative description of illiquid assets to develop a more consistent approach to classifying illiquid assets.

**Q7. Should all open-ended funds be expected to adhere to the recommendations and employ the same liquidity risk management tools, or should funds be allowed some discretion as to which ones they use? Please specify which measures and tools should be mandatory and which should be discretionary. Please explain the rationales.**

No, as mentioned above, LRM tools and practices must necessarily be tailored to the unique nature and circumstances of each fund. While many have questioned the use of property as an asset class in daily valued funds, the recent experience of UK property funds highlights the fact that multiple tools can be used to address a given redemption scenario and that different funds may make different decisions based on their unique circumstances. Specifically, following the UK vote on Brexit, there was widespread uncertainty in the UK property market. As a result, a number of UK property funds used LRM tools (as authorized by and disclosed in the fund offering documents) to protect investors,

---

<sup>60</sup> There is industry support for this approach. See SIFMA Liquidity Classification Addendum.

including both suspensions of redemptions and the imposition of redemption fees.<sup>61</sup> Notably, different funds employed different LRM tools, highlighting the importance of allowing managers flexibility to use their judgment given the specifics of each fund to determine the appropriate tools to protect the investors in their respective funds. During this period, the UK Financial Conduct Authority (“FCA”) issued guidance on July 8, 2016 reinforcing the responsibility of fund managers’ to protect the interests of all investors and explaining that, in exceptional circumstances, fund managers may want to consider tail-risk tools such as suspending dealing in a fund.<sup>62</sup> The FCA also noted that if a suspension of redemptions is in the best interest of investors, managers need to consider when to resume dealings and consider giving investors the opportunity to redeem at a revised valuation. By the end of July, at least one of the UK property funds that had instituted a suspension had subsequently reopened, and another fund has announced it will reopen this month.<sup>63</sup> Importantly, the use of gates and redemption fees did not lead to “contagion” to other types of funds as investors recognized the uniqueness of this asset class.<sup>64</sup> The experience of UK property funds did not create systemic issues across the financial system or even for other types of funds. When clearly disclosed to investors and used with appropriate discretion, tools such as suspensions of redemptions and redemption fees can serve to protect fund shareholders while also reducing or eliminating knock-on effects.

**Q8. Should authorities be able to direct the use of exceptional liquidity risk management tools in some circumstances? If so, please describe the types of circumstances when this would be appropriate and for which tools.**

Many regulators can and do have the ability to direct exceptional LRM tools. For example, the SEC has the power to issue stop orders that suspend redemptions in a fund, and they have used these powers on occasion.<sup>65</sup> In other cases, regulators can issue guidance on how fund managers should address certain circumstances. For example, the FCA issued guidance regarding UK property funds after the Brexit vote.<sup>66</sup> We note, however, that directing exceptional LRM measures is not the same as market intervention via Capital Flow Management Measures.<sup>67</sup> While we agree that securities regulators should have discretion to provide guidance to or to intervene in funds where there are extenuating circumstances, we caution that the use of capital controls by prudential authorities would have far-reaching negative consequences on investor confidence and on capital markets.

---

<sup>61</sup> Simon Jessop, Carolyn Cohn and David Milliken, Reuters, *Number of UK Property Funds Suspended since Brexit Vote Double* (Jul. 7, 2016), available at <http://uk.reuters.com/article/uk-britain-eu-property-idUKKCN0ZL13H>.

<sup>62</sup> UK FCA, *Guidance on Fund Suspensions* (Jul. 8, 2016), available at <http://www.fca.org.uk/news/guidance-fund-suspensions> (FCA Guidance on Fund Suspensions).

<sup>63</sup> Art Patnaude, The Wall Street Journal, *U.K. Real-Estate Funds Reopen After Brexit Shut Down* (Sep. 12, 2016), available at <http://www.wsj.com/articles/u-k-real-estate-funds-reopen-after-brexit-shut-down-1473686100>.

<sup>64</sup> BBC News, *Aberdeen Lifts Property Fund Suspension* (Jul. 13, 2016), available at <http://www.bbc.com/news/business-36783428>.

<sup>65</sup> SEC Order.

<sup>66</sup> FCA Guidance on Fund Suspensions.

<sup>67</sup> As outlined in the IMF, FSB, and BIS paper on Macroprudential Policies.

## II. Detailed Comments: Leverage within Funds

We support the three recommendations on leverage within funds and agree that collecting consistent and comparable data is paramount to the prudent management and oversight of mutual funds. We agree with the FSB that the lack of consistent and accessible data is an impediment to assessing potential risks associated with funds' use of leverage. The proliferation of templates, formats, and definitions, as well as issues associated with data confidentiality and data sharing, reduces the ability of regulators to share data on a cross-border basis and limits their ability to compare information and discern global trends regarding the build-up or concentration of risk. The current process leads to duplication and inconsistency in reporting by firms, as well as operational complexity, with many processes requiring manual intervention. We have provided several recommendations with respect to best practices for regulatory reporting and data collection in our *ViewPoint*, "Improving Transparency: The Value of Consistent Data over Fragmented Data." A copy of this *ViewPoint* has been provided in Appendix D.

We are also supportive of efforts to harmonize the definition of leverage for the purposes of regulatory reporting to facilitate global monitoring of risks and comparisons across funds (including across fund structures). That said, identifying comprehensive measures of leverage that accurately depict the risks associated with that leverage is unlikely to be accomplished using a single measure. Further, we caution that "simple" measures of leverage, such as GNE, when used in isolation can be quite misleading.<sup>68</sup>

In addition to the need for more consistent data on leverage, we agree with the FSB's call for improved systems for aggregating and analyzing information provided to regulators. To help achieve global harmonization of fund data collection, we recommend consolidating regional reporting hubs as a first step. For example, within the EU, there is much work to be done on coordination of a common European standard and the development of a central European data reporting hub. This could work not only for AIFMD but also for the reporting of key data on liquidity and leverage in UCITS. We are encouraged by the June 2016 announcement from IOSCO outlining its priorities to address data gaps in the asset management industry.

### A. Questions on Leverage within Funds

#### **Q9. In developing leverage measures (Recommendation 10), are the principles listed above for IOSCO's reference appropriate? Are there additional principles that should be considered?**

We believe that the principles for developing leverage measures set forth in the Consultation are appropriate. We agree that developing a globally consistent approach to measuring leverage would help regulatory authorities better understand the potential risks that leverage may pose for funds and the financial system as a whole.

#### **Q10. Should simple and consistent measure(s) of leverage in funds be developed before consideration of more risk-based measures, or would it be more appropriate to proceed in a different manner, e.g. should both types of measure be developed simultaneously?**

#### **Q11. Are there any particular simple and consistent measures of leverage or risk-based measures that IOSCO should consider?**

We recommend that a comprehensive set of measures of leverage be developed in tandem, as opposed to separating initiatives to develop simple measures of leverage from those that are more risk-based. This is because simple measures of leverage such as GNE can be very misleading when

---

<sup>68</sup> US Commodity Futures Trading Commission, Statement of CFTC Chairman Timothy Massad on the Financial Stability Oversight Council's Update on its Review of Asset Management Products and Activities (Apr. 18, 2016), available at <http://www.cftc.gov/PressRoom/SpeechesTestimony/massadstatement041816>.

used in isolation.<sup>69</sup> Likewise, it is unlikely that any single measure of leverage will be suitable for all investment strategies, given that all measures of leverage have at least some limitations. To this end, we recommend that the FSB first define what risks it is specifically concerned about with respect to leverage (e.g., counterparty risk, risk of market losses to investors, etc.) and then look to develop measures that can be used to assess how the use of leverage by a given fund could generate those risks. We believe that this will likely lead to the conclusion that several measures of leverage and risk need to be collected simultaneously and further study will then be needed to fully understand the interaction between leverage and various forms of risk in different types of investment strategies. Lastly, as we have mentioned several times throughout this letter, global harmonization of approaches and consistency in data collection practices is of the utmost importance to obtaining data that is helpful in monitoring risks at the global level. With this in mind, we highlight below several principles for moving towards a more globally consistent framework for measuring leverage in investment funds:

1. Differentiate between different types and uses of leverage to enable regulators to tailor solutions appropriately. In particular, we emphasize the distinctions between *traditional balance sheet leverage* – which we define as borrowing for short-term purposes, such as meeting redemptions – and *structural leverage*, which we view as embedded in investment strategies to enhance returns consistent with fund mandates, regulatory status, and client guidelines.
2. Differentiate between various types and uses of derivatives in order to develop appropriate constraints. For example, derivatives can be used to lever a portfolio, in essence creating additional economic exposure. However, in other cases, derivatives are used to hedge (mitigate) risks and thus do not result in the creation of leverage and, in fact may specifically reduce economic leverage (i.e., currency or interest rate hedging).
3. In 2013, European regulators implemented AIFMD, which considers both borrowings and derivatives when measuring leverage, thereby providing the ability to gauge structural leverage and actual borrowings.<sup>70</sup> In particular, AIFMD includes both a simple measure (GNE) and a measure of economic leverage (commitment leverage). As one of the newest and most comprehensive approaches, we recommend that policy makers try to harmonize their approach to measuring leverage, rather than develop a completely new and potentially inconsistent methodology. While there are certain limitations with the AIFMD, the review of AIFMD next year would permit regulators to fine tune the AIFMD commitment approach, which could then serve as a global standard for the measurement of leverage and could subsequently be adopted by regulators in other jurisdictions. Ideally, this initiative could be coordinated with the FSOC's interagency task force on the use of leverage in hedge funds.
4. Last, measures of leverage should be accompanied by a risk-based measure, such as VaR. Using a risk-based measure like VaR alongside leverage is important when assessing the riskiness of a fund's use of derivatives and leverage. This is particularly important because standalone leverage metrics could potentially misstate a fund's true economic exposure and overall risk, particularly if the leverage measure is not well-suited to the fund's investment strategy. Recognizing that funds use derivatives to achieve investment objectives, align portfolio risks to benchmark risks, or to reduce overall risk, we recommend tailoring such risk-based measures according to the different ways in which a fund uses derivatives – which may include measuring both absolute risk and risk relative to a benchmark.

---

<sup>69</sup> BlackRock, Comment Letter, Use of Derivatives by Registered Investment Companies and Business Development Companies – SEC (Mar. 28, 2016), available at <http://www.blackrock.com/corporate/en-pl/literature/publication/sec-use-of-derivatives-proposal-032816.pdf>.

<sup>70</sup> Undertaking for Collective Investments in Transferable Securities (“UCITS”) guidance is conceptually similar to AIFMD, but differs in some key aspects where we believe that AIFMD employs more consistent overall standards.

We encourage policy makers to actively engage with the asset management industry to establish a framework that can be applied to different types of funds and investment strategies.

**Q12. What are the benefits and challenges associated with methodologies for measuring leverage that are currently in place in one or more jurisdictions?**

At present, we believe that the most sophisticated measure of leverage included in regulation is the AIFMD commitment leverage method. Although the AIFMD commitment leverage method has its own limitations,<sup>71</sup> it provides a starting point from which fund managers and regulators can work to develop an enhanced measure of leverage. However, we reiterate the importance of developing multiple measures simultaneously to account for the many different uses of derivatives, as well as their associated risks. Looking at leverage in isolation, for example, can misstate a fund's economic exposure and overall risk. We agree with the FSB that risk-based measures, such as VaR, can be employed effectively alongside leverage measures to help assess a fund's overall derivatives usage.

**Q13. Do you have any views on how IOSCO's collection of national/regional aggregated data on leverage across its member jurisdictions should be structured (e.g. scope, frequency)?**

We commend IOSCO for its endeavor to enhance data collected in the asset management industry.<sup>72</sup> We agree with IOSCO that it is important to "ensure greater consistency in data collection and definitions in the asset management sector" and to "encourage the use of internationally agreed standards." We have provided several recommendations with respect to best practices for regulatory reporting and data collection in our *ViewPoint*, "Improving Transparency: The Value of Consistent Data over Fragmented Data." A copy of this *ViewPoint* has been provided in Appendix D.

**Q14. Do the proposed policy recommendations on liquidity and leverage adequately address any interactions between leverage and liquidity risk? Should the policy recommendations be modified in any way to address these interactions? If so, in what ways should they be modified and why?**

We support the policy recommendations on leverage and liquidity (with the exception of Recommendation 9). As authorities work to enhance their regulations for mutual funds (where necessary), it is imperative that proposed rules are properly aligned so that they can achieve their objectives when introduced collectively. For example, regulators should ensure that rules designed to limit derivatives use or leverage use by funds do not unintentionally impede funds' ability to manage liquidity risk. For example, many bond funds use derivatives as liquid overlays to achieve requisite portfolio exposures while maintaining higher cash balances. The ability to manage liquidity has become particularly important in light of structural changes to bond market liquidity. As such, it would be counterproductive to introduce additional tools to manage liquidity and redemption risk while simultaneously limiting the use of another liquidity management tool. This is just a hypothetical example that demonstrates the need for regulators to consider how new regulations might interact and to ensure that they do not introduce conflicting objectives. We encourage regulators to consider rule changes in relation to this Consultation as a package of rules, rather than isolated proposals. The goal should be for the package to *collectively* achieve the intended outcomes. In addition, in some jurisdictions, the measures outlined in this Consultation are already in place. Regulators in those jurisdictions will need to consider how any new rules will interact with the existing regulatory framework.

---

<sup>71</sup> AIMA, White Paper, Comparing Measures of Leverage in Funds (Sep. 2016).

<sup>72</sup> IOSCO has highlighted three priority areas for data collection: open-ended mutual funds, separately managed accounts, and alternative funds. Across all three categories, IOSCO indicates that it will look at the use of derivatives in order to improve risk monitoring. See IOSCO, Statement on Priorities Regarding Data Gaps in the Asset Management Industry (Jun. 2016), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD533.pdf>.

### **III. Detailed Comments: Operational Risk and Challenges in Transferring Investment Mandates or Client Accounts**

The Consultation raises many issues and incorporates numerous assumptions regarding operational risks in asset management. Surprisingly little has been written to date about the operational aspects of managing assets. In this section, we lay the foundation for a first principles approach to identifying potential risks and potential mitigation strategies. In addition, we have attached as Appendix E, a *ViewPoint*: “The Role of Third Party Vendors in Asset Management”. The *ViewPoint* describes different operating models commonly found in the asset management industry, explores a range of data, systems, and outsourcing services that are provided on a regular basis to asset managers, and provides a survey of the vendors in each space. Separately, given the concerns raised about transitioning client assets, in this section we explain how client assets are protected and transitioned. We conclude with a discussion of both business continuity management and transition planning for asset managers.

We agree with the FSB’s opening assessment that operational challenges in transferring investment mandates “*have been infrequent in the past and have not raised financial stability issues.*” Hopefully the material in this section helps to explain why this has been the experience, and why it is reasonable to expect that this will continue to be the experience in asset management. Needless to say, we are concerned about the level of conjecture and the conflation of issues as evidenced by statements such as this one:

*“In order for systemic implications to develop from such operational difficulties, it likely would require the simultaneous occurrence of both stressed market conditions and operational difficulties at large and/or complex asset managers. If this occurred, the impact of such difficulties on the financial system could be considerable, especially if they involved a large scale transfer of assets (including OTC derivatives) or the transfer of ancillary services that are not easily substitutable or if there were legal or regulatory requirements that needed to be satisfied.”<sup>73</sup>*

This statement makes several assumptions that cannot simply be presumed to be the case. For example, while there have been numerous situations where a manager or a fund has stumbled in both stable and stressed markets, in each case client assets have been protected and the transfers of these assets have occurred without market disruption. Likewise, the focus on asset managers that are large and/or complex or provide critical services ignores the fact that many of the problematic situations that have occurred in asset management have involved mid-size or single strategy firms and/or modest size funds. Two obvious recent examples that come to mind are the Reserve Fund and the Third Avenue Focused Credit Fund, each of which was a relatively small firm with a relatively narrow product focus, making them neither “large” nor “complex”. In each of these situations, a relatively small fund was forced to take drastic actions.

Looking back over the past 30 years, we cannot find a single case of a large or complex manager exhibiting the operational problems that are being contemplated in the Consultation. We have included in Appendix B, a list of situations in which a firm or a fund has experienced a stress event. Most of the examples we can find are due to investment losses/performance issues, regulatory sanctions, reputational issues or organizational change/key personnel departures. Several cases involved large firms who experienced significant withdrawals of assets by dissatisfied clients. In these cases, all client redemptions were met (where funds were involved), and we are not aware of any instances where transferring assets, including OTC derivatives, has caused market disruption let alone a systemic risk event.

---

<sup>73</sup> Consultation at 30-31.

## A. Distinguishing Asset Managers from Banks

The Consultation's focus on "transferring investment mandates (or client accounts) between asset managers" during periods of market stress suggests that the FSB believes there is a potential for a large/complex asset manager to suddenly cease operations during a stressed market event and cause systemic risk. In this regard, it is helpful to contrast how an asset manager goes out of business from how a bank goes out of business. Banks and broker-dealers that suddenly fail typically do so for two reasons: (i) they experience a liquidity crisis in which they cannot fund their daily operations; and/or (ii) they have a credit problem exacerbated by a levered balance sheet. In contrast, asset managers do not generally rely on short-term funding to fund their daily operations nor do they maintain highly leveraged balance sheets.

We recognize that some commentators believe an analogy can be drawn between open-end funds and bank deposits because both are funded by capital that can be redeemed on short notice but may be invested in assets that cannot be converted to cash as quickly. However, the same analogy clearly does not hold between asset managers managing funds and banks offering deposits. In the case of bank deposits, the liability is a debt claim, a guarantee of the customer's principal. In contrast, open-end fund shares can be best thought of as "redeemable equity." The redemption "liabilities" for funds are equity claims on the fund's assets, where the principal is not protected and the fund's NAV fluctuates with the value of the assets held by the fund. Amongst the known and disclosed risks of a mutual fund is that the NAV may be adversely impacted by the redemption activities of other fund investors. There is no claim or guarantee on the balance sheet of the asset manager. In contrast, bank deposits are clearly a debt claim on the bank.

Similarly, some argue that due to the possibility of accelerated open-end fund redemptions, asset managers are exposed to the same risk as a bank run. This analogy is also flawed. While fund redemptions can clearly harm the revenues of an asset manager, because the losses incurred due to transaction costs and market impact are borne by fund shareholders, the magnitude and timing of the adverse impact of redemptions to an asset manager are greatly attenuated relative to a leveraged bank. Whereas the liability associated with bank deposits sits on the bank's balance sheet, fund redemptions do *not* sit on or expose the asset manager's balance sheet. The difference reflects the reason why a bank's inability to generate sufficient cash to pay back deposits can quickly devolve into a crisis for the bank. In contrast, heightened withdrawals from funds do not result in a similar vicious cycle for an asset manager. Further, since asset managers are not highly levered and do not rely on short-term funding, client redemptions (or terminations of separate accounts) are extremely unlikely to result in the sudden demise of the asset manager. Finally, unlike banks who need to repay depositors in full, when an asset manager goes out of business, the return of client monies does not require disentangling from the asset manager's own assets. The asset manager's clients' assets are safeguarded because the assets are held separately from the asset manager at a custodian.

Certainly, there are a myriad of reasons why asset managers can and do go out of business over time. For example, newly established managers may find it difficult to attract assets to manage because their performance is untested. In other cases, an established manager may have investment performance issues, or it may have a limited number of strategies that it offers which fall out of favor with investors. Changes in portfolio managers, or uncertainty created by key personnel departures can cause asset owners to move their business elsewhere. Reputational events such as regulatory sanctions can also cause clients to move their assets. On occasion an idiosyncratic event can trigger a more sudden substantial client exodus, which eventually leads to the sale or wind-down of the asset manager's business. In analyzing asset managers that have gone out of business for reputational, performance, or other issues over the last 28 years,<sup>74</sup> as shown in Appendix B, we see that in nearly all of the situations, the unwind of the client assets and the manager itself was orderly. In the two

---

<sup>74</sup> Supplemental Letter to SEC at 3-4, 8-10. See also Investment Company Institute, ViewPoint, "Orderly Resolution" of Mutual Funds and Their Managers 3 (Jul. 15, 2014), available at [http://www.ici.org/pdf/14\\_ici\\_orderly\\_resolution.pdf](http://www.ici.org/pdf/14_ici_orderly_resolution.pdf).

cases where direct or indirect regulatory intervention occurred in relation to a fund – Long Term Capital Portfolio and Reserve Primary Fund – the asset manager itself was wound down in an orderly fashion and did not abruptly become insolvent.<sup>75</sup>

## B. Third Party Vendors

We agree that third party vendors play an important role in asset management. Indeed, there are a diverse range of services utilized by asset managers to perform numerous functions –from obtaining security data and risk analytics that inform investment decisions, to order management and trade execution systems that facilitate placing and executing trades, to accounting and performance systems and service providers that are used for reporting and recordkeeping purposes. In addition, custodians are responsible for holding and safeguarding client assets as well as facilitating the settlement of transactions. Further, there are a variety of FMI upon which all market participants rely, including exchanges, CCPs, electronic trading and affirmation platforms, and trade messaging systems. The resulting landscape allows no simple definition or description of third party vendors and creates no single model for the role of third party vendors in asset management. Nonetheless, as is the case for many other industries, all asset managers have at least some level of reliance on third party vendors, underscoring the need for a better understanding of the landscape. Third party vendors that are affiliated with asset managers represent only a small subset of this diverse universe. We recently published a *ViewPoint* entitled, “The Role of Third Party Vendors in Asset Management” (see Appendix E), which catalogues the broad range of vendors that help asset managers to conduct critical functions. In particular, we survey some of the key types of third party vendors to asset managers. We then look briefly at FMI, as these entities have a profound impact on the ability for asset managers to operate, but the selection of these entities is not always in the control of asset managers. Given the increasing policy focus on the role of third party vendors in asset management, we end by offering some recommendations regarding guidance that should be provided to purchasers of services and we suggest a framework for approaching the analysis of the providers of these services. Given the breadth of this topic, there is clearly a need for further analysis by policy makers before drawing conclusions about potential risks that the use of third party vendors by asset managers may present.

## C. Transitioning Management of Client Accounts

The Consultation raises questions regarding potential operational challenges that could be associated with large scale transfers of assets in the event an asset manager were to experience distress requiring such transfers. As we have previously established, a situation of manager distress is unlikely to occur in a sudden manner, requiring the immediate transition of client assets. The more likely scenario is that assets would be transitioned away from the manager over time. Further, client assets are safeguarded by custodians.

In the unlikely event that large scale transitions needed to take place in a rapid manner, we would expect the industry to follow existing practices for transitioning client assets. In the case of separate accounts, separate account clients initiate and terminate investment management agreements (“IMAs”) frequently for a variety of reasons, including changes in the client’s asset allocation, poor performance or client service on the part of the asset manager, and administrative consolidation. In the case where an asset owner changes managers without changing strategies, the securities remain at the custodian and no asset sales are required. In the case where an asset owner

---

<sup>75</sup> LTCM did not enter bankruptcy; it continued operations after the master fund was recapitalized. Both LTCM and its master fund were wound up in 2000. With the exception of the Reserve Primary Fund, the other cash funds for which the Reserve Management Company, Inc. (“RCMI”) was the investment adviser were wound down in an orderly fashion. The litigation relating to the Reserve Primary Fund was settled and dismissed on January 21, 2014. See Reuters, *Settlement reached in Reserve Primary Fund lawsuit* (Sep.7, 2013) available at, <http://www.reuters.com/article/us-reserveprimary-lawsuit-idUSBRE98604Q20130907>; Primary Fund-In Liquidation, *Important Information Regarding Primary Fund In Liquidation* (Jan.23, 2014), available at, <http://www.primary-yieldplus-inliquidation.com/pdf/Fund-Update-SEC-v-RMCI-012314.pdf>.

decides to change their asset allocation, it is common to utilize the services of a transition manager to minimize transaction costs. Importantly, the asset owner controls the timing of any asset transfers and/or sales. These transitions are described in more detail below. Manager changes can be implemented on short notice, sometimes in as little as 24 hours, with no noticeable market impact.<sup>76</sup> While a typical search by an institutional client for a new manager usually takes several weeks or even months, clients can and do move quickly when situations necessitate. In our experience, there have been numerous situations where we assisted a client by taking on investment management responsibility for a separate account on extremely short notice.<sup>77</sup> Substituting asset managers can be achieved quickly because client separate account and fund assets are held with custodians who are contractually obligated to the asset owner or fund. Importantly, assets are not required to physically move when there is a change of asset managers; assets remain with the custodian in client denominated accounts.

As the Consultation notes, transitions can be accomplished through the use of transition managers, which are firms that specialize in transitioning the management of assets from one manager or strategy to another. Given the frequency of transitions that occur in the normal course of business, there are a number of competitors in the transition management business, with many institutional clients maintaining several transition managers that are retained on an ongoing basis and can be engaged on short notice. Examples of competitors in the transition management space include: Abel Noser, BlackRock, Cantor Fitzgerald, Citigroup, Fidelity, Frank Russell, Loop Capital, Macquarie, Northern Trust, Pavilion, Penserra, and State Street, among others. That said, transition managers are generally employed for more involved situations where a client is seeking to significantly alter investment strategy or re-allocate assets from one asset class to another and needs to take measures to ensure costs are minimized and potential operational challenges in executing the changes are identified and mitigated.

Less complex transitions – for example if a client is terminating one S&P 500 Index manager and hiring another S&P 500 Index manager – do not require a transition manager. In cases where a transition manager is not used, transitions can be effectuated by the client on-boarding teams that exist at all established asset managers. In an emergency scenario, where a manager needed to be replaced quickly, our expectation would be that the on-boarding teams at the new asset manager(s) would handle transitions of the majority of equity, fixed income, and cash portfolios. Arguably, the easiest transitions would be for passively managed portfolios designed to track well-established indices, as the security selection processes for passive portfolios would be consistent from one manager to another.

#### D. Transitioning Derivatives Positions

The Consultation focuses on the termination of derivatives contracts as a potential impediment to transferring the management of client accounts from one asset manager to another. An important point of context within this discussion is that the transfer of derivative positions differs by the type of derivative. For example, the dynamics of transferring management of cleared derivatives differ substantially from transferring management of bilateral derivative positions. Likewise, there is differentiation based on the underlying asset class (e.g., foreign exchange (“FX”) forwards, commodity futures and interest rate options). Exchange traded derivatives and cleared contracts are held through a central clearinghouse, which allows positions to be easily transferred from the control of one manager to another. This is particularly true when the same clearing member is used by both the new and existing (or “legacy”) asset manager.

---

<sup>76</sup> See BlackRock, Comment Letter, Addendum to Feedback on OFR Study on Asset Management and Financial Stability – SEC (Dec. 3, 2013), available at <http://www.blackrock.com/corporate/en-us/literature/publication/ofr-study-addendum-sec-120313.pdf>.

<sup>77</sup> For example, Barclays Global Investors (acquired by BlackRock in 2009) took on several international equity mandates on short notice in 2003 when Putnam Investors experienced significant reputational harm due to accusations that two portfolio managers were accused of market timing abuses in their funds.

As the Consultation notes, the standard transition management practice for derivatives instruments is for the legacy manager to close positions and the new manager to open desired positions concurrently. Where the market for a particular derivative is liquid, this provides clients with the ability to economically move positions among managers quickly and efficiently with minimal cost and risk, and allows the new manager to customize the derivative portfolio for its particular trading style and strategy.<sup>78</sup> That said, it is important to note that what is a convenient market practice in the normal course of business is *not* a strict requirement. It is possible for even uncleared trades to be moved to a new manager and re-documented rather than terminated and re-established. Both cleared and uncleared derivatives contracts are entered into by the client as principal, as the asset owner/client (not the asset manager) is the counterparty in the derivatives transaction and economically responsible for those transactions. While the manager has the authority to act as the client's agent and enter into transactions on the client's behalf, the manager is merely acting as agent and the client is the principal. In the event a client needs to transition from one asset manager to another, it is not necessarily the case that a derivative will need to be closed out by the counterparty, nor will the terms of a client's derivative positions necessarily need to be renegotiated. Further, as the Consultation acknowledges, the use of central clearing as a result of OTC derivatives reforms that were mandated by regulators post-Crisis has resulted in greater standardization of contracts as well as transparency for centrally cleared OTC derivatives. Continued focus on standardization of terms in the derivatives market will increase transparency, minimize customized terms, and help ease the process of transferring derivatives positions from the trading control of one manager to another.

In the extremely unlikely situation where an asset manager suddenly were to go out of business, requiring the management of client assets including uncleared derivatives transactions to be transitioned quickly, it would be up to the client and the new asset manager (or the clients themselves in the case where clients decide to manage their assets in-house) to determine the appropriate course of action. In such a circumstance, the client would either decide that closing out and re-establishing the positions is still the most efficient approach, and the new manager would follow the procedures that are typically employed in the normal course of business. In other cases, such as those described in the Consultation where re-establishing positions was difficult due to the market environment or other reasons, the client could decide to simply close out the existing position and wait until market conditions improved to re-establish them. While this might result in the client being exposed to some unhedged risks for a period of time (e.g., unwanted currency or interest rate exposure), this risk would be borne directly by the client and would not generate or transmit systemic risk. In this case, the client is not forced to fire sale assets (no asset liquidation / market channel), nor would the client automatically be in default of obligations under the derivative contract (no exposure / counterparty channel). Alternatively, if the client decided that it did not want to terminate the position or closing out the position was difficult for some reason as suggested in the Consultation, it would certainly be possible to transfer and re-document the derivatives positions without terminating and re-establishing them.

The bottom line is: in the unlikely event that a large/complex asset manager were to suddenly become unable to operate, requiring immediate transition of the management of client accounts, there is no reason for the transfer of derivatives positions to create financial stability risks.

---

<sup>78</sup> The 2014 experience with the PIMCO Total Return Strategy was instructive in this regard. In our experience with separate accounts that were transferred from PIMCO to BlackRock, all OTC derivatives positions were unwound by PIMCO during this time period for cash and re-executed by BlackRock, where necessary, and in line with the investment strategy that we agreed to with the client.

## E. Operational and Business Continuity Risks faced by All Asset Managers

Operating errors can and do occur in asset management and *all* asset managers are subject to operational and business continuity risk. The operational and business continuity risks to which an asset manager is subject are unique to the asset manager's business model. With this in mind, managing and mitigating operational and business continuity risk is an important consideration in the normal course of business for *all* asset managers. Operational and business continuity risks can come in different forms depending on the business model of the asset manager. Key operational risks include:

**Business continuity risks:** Business disruptions can occur from a variety of natural and man-made events resulting in the loss of facilities, technology systems, and the inability of personnel to perform their duties. In order to manage the business continuity risk that could arise as a result of business disruptions, asset managers must have procedures in place to recover business operations and supporting technology in the event of a disruption. We believe that planning for these types of events requires a comprehensive program that includes: (i) business continuity planning; (ii) technology disaster recovery plans ("DRPs"); and (iii) a crisis management framework to coordinate in crisis situations. A key differentiator for BlackRock is our ability to transfer work across our offices globally. By having staff that utilize shared systems and common processes, we are able to service our client base from our offices around the world. In the event of a disruption that impacts one office or region, work can be transferred to staff at other locations. This capability is included in BCPs and in many cases is utilized in the course of normal business. In the US, the SEC recently issued a proposed rulemaking that would require that all SEC-registered investment advisers have business continuity plans in place.<sup>79</sup>

**Third Party Vendor Risks:** Given the reliance of asset managers on third party services in many forms, it is incumbent upon asset managers to perform due diligence on any third party service providers and to maintain ongoing communication with those providers. As a result, there are multiple regulatory standards that require vendor due diligence, risk management, and oversight.<sup>80</sup> In particular, asset managers need to ensure that third parties, like the asset manager itself, have sufficient controls in place to mitigate the risk of operational errors and to ensure that adequate business continuity and disaster recovery plans are in place.<sup>81</sup> This is true regardless of the type of entity (e.g., bank-affiliate, asset manager-affiliate, or independent company) that is providing the service. Asset managers generally conduct due diligence to assess the operational controls of third party service providers and maintain a regular dialogue with each provider to ensure that they are meeting the asset manager's standards. We explore this topic in further detail in the *ViewPoint* included in Appendix E.

Importantly, operational and business continuity risks are faced by asset managers of all shapes and sizes, not just those that are large and/or complex. Clients of asset managers take operational and business continuity management very seriously. In fact, institutional clients and their consultants often review an asset manager's policies and procedures for operational and business continuity risks before they will agree to invest with an asset manager. Further, there are numerous

---

<sup>79</sup> SEC, Adviser Business Continuity and Transition Plans, 81 Fed. Reg. 43530 (July 5, 2016), available at <https://www.gpo.gov/fdsys/pkg/FR-2016-07-05/pdf/2016-15675.pdf> ("SEC Business Continuity and Transition Planning Proposal"); BlackRock, Comment Letter to SEC – Adviser Business Continuity and Transition Plans (Sep. 6, 2016), available at <http://www.blackrock.com/corporate/en-pl/literature/publication/sec-adviser-business-continuity-transition-plans-090616.pdf> ("BlackRock BCM Letter").

<sup>80</sup> Compliance Programs of Investment Companies and Investment Advisers, 68 Fed. Reg. 74714 (Dec. 17, 2003); OCC Comptroller's Handbook on Asset Management Operations and Controls at 14 (Jan. 2011); UK Financial Conduct Authority, Outsourcing in the Asset Management Industry: Thematic Project Findings Report (Nov. 2013), available at <http://www.fca.org.uk/static/documents/thematic-reviews/tr13-10.pdf>.

<sup>81</sup> Note that given the diversity of ways that asset managers utilize third party service providers, our views on this topic are inherently based on our operational model which may be different than those of other asset managers.

existing regulatory standards that require asset managers to have these policies and procedures in place.<sup>82</sup> Given these risks are faced by all asset managers, all asset managers need to have policies and procedures in place to avoid situations where operating errors or business continuity risks result in harm to the asset manager's reputation or regulatory standing. This should include business continuity planning, technology disaster recovery planning, and due diligence and oversight of all third party service providers.

#### F. Financial Market Infrastructure ("FMI")

As agents on behalf of their clients, asset managers participate in the broader financial system. Asset managers utilize the FMI, including exchanges, electronic trading and affirmation platforms, trade messaging systems (e.g., SWIFT, and depositories that facilitate the movement of securities from one counterparty to another (e.g., Depository Trust Company ("DTC"), National Securities Clearing Corp. ("NSCC")) to execute management of client assets. Similarly, CCPs are used for centrally cleared OTC derivatives. Unlike with respect to third party services, where asset managers and other market participants generally have the ability to select their service provider among a number of competitors, there is generally no ability to select vendors for FMI – in other words, the FMI is not generally substitutable. While many market entities have been designated systemically important financial market utilities ("SI-FMUs") and subjected to greater regulatory safeguards that are calibrated to their importance within the financial system,<sup>83</sup> other elements of the FMI have not received the same degree of attention.

As such, potential risks to financial stability could occur were there to be a significant breakdown in a major component of FMI, as this would be a significant operational risk to all market participants, including asset managers and their clients. A breakdown in FMI could potentially require regulatory intervention to resolve. Regulators have an important role to play in ensuring that FMI risk is mitigated and managed through regulation and oversight. In fact, many of the regulatory bodies that participate on the FSB have implemented reforms post-Crisis that have improved the resiliency of FMI. That said, given the systemic importance of FMI, we underscore the importance of remaining vigilant in this area. Below we highlight two areas, where more work is necessary to ensure the resiliency of the system:

**CCPs:** As we have highlighted in numerous documents,<sup>84</sup> while we are supportive of the shift toward greater central clearing of OTC derivatives transactions. That said, central clearing has resulted in a shift of credit risks from bi-lateral counterparties to CCP, and these risks are now concentrated in a smaller number of market participants. Given this concentration, regulators must ensure CCPs are resilient as well as establish guidelines for the resolution and recovery of CCPs that experience difficulties. We recommend focusing on establishing rigorous capital standards and standardized stress testing for CCPs, as well as improving transparency. Regulators should also implement rules that prevent customer margin from being used as a loss allocation tool to recover a

---

<sup>82</sup> Supra note 81.

<sup>83</sup> Federal Reserve Board, Designated Financial Market Utilities (Jan. 29, 2015), available at [http://www.federalreserve.gov/paymentsystems/designated\\_fm\\_u\\_about.htm](http://www.federalreserve.gov/paymentsystems/designated_fm_u_about.htm); Financial Services Roundtable, Comment Letter, Response to FSB-IOSCO's Consultation Regarding Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions (Apr. 7, 2014), available at <http://fsroundtable.org/letter-re-assessment-methodologies-for-identifying-non-bank-non-insurer-global-sifis-4-7-14/>.

<sup>84</sup> BlackRock, *ViewPoint, Modernization of US Asset Management Regulation* (Mar. 2016), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-modernization-us-asset-management-regulation-march-2016.pdf>; BlackRock, *ViewPoint, Central Clearing Counterparties and Too Big To Fail* (Apr. 2014), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-ccp-tbtf-april-2014.pdf>; BlackRock, Comment Letter to CFTC, Roundtable on Recovery of Derivatives Clearing Organizations (Apr. 27, 2015), available at <http://www.blackrock.com/corporate/en-us/literature/publication/cftc-recovery-of-derivatives-clearing-organizations-042715.pdf>; BlackRock Response to FSOC RFI; BlackRock, Comment Letter to FSB, 2<sup>nd</sup> Consultative Document on Assessment Methodologies for Identifying NBNI G-SIFIs (May 29, 2015), available at <http://www.blackrock.com/corporate/en-us/literature/publication/2nd-nbni-gsifi-fsb-iosco-052915.pdf>.

failing CCP, unless strict conditionality is applied. We are encouraged by efforts underway to address these issues, and welcome the opportunity to engage on the Consultations issued by CPMI and the FSB.<sup>85</sup> We encourage policy makers to join together workstreams on resiliency, recovery and resolution as these issues are inter-related.

**Cybersecurity:** Cybersecurity is a critical component of market plumbing. Recent incidents in which unauthorized SWIFT messages were used have highlighted the importance of cybersecurity protections. For example, \$100 million was stolen from the account of the Bank of Bangladesh from the New York Federal Reserve Bank as a result of unauthorized SWIFT messages sent by an unknown source,<sup>86</sup> \$12 million was stolen from a bank in Ecuador,<sup>87</sup> and an unsuccessful fraud attempt was made at a bank in Vietnam.<sup>88</sup> In August 2016, US regulators – the Federal Reserve Board, OCC, and FDIC – indicated in a letter to Representative Carolyn Maloney that they are working to conduct expanded reviews of cyber controls for banks that are members of SWIFT and urging US banks to review their risk management and cybersecurity systems.<sup>89</sup> This follows up on a request by the Bank of England in April 2016 calling for the banks it regulates to update their cybersecurity measures and a similar request by the Monetary Authority of Singapore.<sup>90</sup> This focus by regulators across the globe underscores the need for more robust cybersecurity measures at financial institutions.<sup>91</sup> Further regulatory guidance on controls and other cyber-defense measures would be helpful to the resiliency of the financial markets.

#### G. Transition Planning for Asset Managers

With respect to transition planning, we have recently responded to the SEC’s proposed rulemaking that would require all SEC-registered investment advisers to maintain transition plans.<sup>92</sup> As we noted in that letter and as shown in the examples in Appendix B, actual experience demonstrates that asset managers who stumble do not “fail” suddenly, but rather may fade away over time. This is in contrast with other types of financial services firms, which can and have experienced situations where there was a need to exit a business suddenly and quickly. These differences stem from the fact that the business of asset management does not lend itself to the sudden failure situations in which businesses that rely on short-term wholesale funding can find themselves. As such, it is important to take into account the reality of how asset manager transitions generally occur into any guidance or rules regarding transition planning for asset managers and ensure that transition planning by asset managers is relevant and tailored to the business models of asset managers.

---

<sup>85</sup> CPMI, Consultative Report, *Resilience and recovery of central counterparties (CCPs): Further guidance on the PFMI* (Aug. 2016), available at <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD539.pdf>; FSB, Discussion Note, *Essential Aspects of CCP Resolution Planning* (Aug. 16, 2016), available at <http://www.fsb.org/wp-content/uploads/Essential-Aspects-of-CCP-Resolution-Planning.pdf>.

<sup>86</sup> Arun Devnath, Bloomberg, *Printer Error Triggered Bangladesh Race to Halt Cyber Heist* (Mar. 16, 2016), available at <http://www.bloomberg.com/news/articles/2016-03-16/printer-error-set-off-bangladesh-race-to-halt-illicit-transfers>.

<sup>87</sup> Gavin Finch, Bloomberg, *Ecuador Bank Says It Lost \$12 Million in Swift 2015 Cyber Hack* (May 20, 2016), available at <http://www.bloomberg.com/news/articles/2016-05-20/ecuador-bank-says-it-lost-12-million-in-swift-2015-cyber-hack>.

<sup>88</sup> Trong-Khanh Vu and Katy Burne, The Wall Street Journal, *Vietnam’s Tien Phong Bank Targeted in Bangladesh-Like Cyberattack* (May 16, 2016), available at <http://www.wsj.com/articles/vietnamese-bank-says-it-was-target-of-attempted-cyber-heist-1463405095>.

<sup>89</sup> Rep. Carolyn Maloney, Press Release, U.S. Banking Regulators Respond to Rep. Maloney Inquiry on Banking Security (Aug. 24, 2016), available at <https://maloney.house.gov/media-center/press-releases/us-banking-regulators-respond-to-rep-maloney-inquiry-on-banking-security>.

<sup>90</sup> Andrew MacAskill and Jim Finkle, Reuters, *UK banks ordered to review cyber security after SWIFT heist* (May 19, 2016), available at <http://uk.reuters.com/article/uk-cyber-heist-bankofengland-idUKKCNOY92K0>.

<sup>91</sup> IOSCO, *Cyber Security in Securities Markets – An International Perspective* (Apr. 2016), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD528.pdf>.

<sup>92</sup> SEC Business Continuity and Transition Planning Proposal.

Further, it is important to consider transition planning for asset managers in the context of the existing regulation of various asset management products and services. For example, in the US, the 1940 Act already has provisions for replacing a fund manager by the fund's board without a shareholder vote.<sup>93</sup> Likewise, the regulation of custodians—all of which are banks—ensures that client assets are safeguarded at all times, including during an asset manager transition. Asset manager transition plans cannot and should not supersede fund constituent documentation or the regulation of custodians. In the EU, the UCITS Directive requires fund managers to set out in the fund's constituent documents conditions for the replacement of either or both the fund manager and/or the fund's depositary, and to set out rules to ensure the protection of fund investors in the event of such a replacement. These may be supplemented by additional national legal requirements.<sup>94</sup> As such, rules that require asset managers to create policies and procedures to address aspects of a transition that are outside of their control or where there are already pre-defined procedures and governance structures are more likely to be confusing than helpful during a transition. Care should be taken to ensure that this is not the outcome of transition planning requirements that come about as the result of the FSB's recommendations in this Consultation. With this in mind, we provided several key observations and recommendations to the SEC. For a more detailed discussion, please refer to the comments we submitted to the SEC on September 6, 2016.<sup>95</sup>

#### H. Questions on Operational Risk and Challenges in Transferring Investment Mandates or Client Accounts

**Q15. The proposed recommendation to address the residual risks associated with operational risk and challenges in transferring investment mandates or client accounts would apply to asset managers that are large, complex, and/or provide critical services. Should the proposed recommendation apply more broadly (e.g. proportionally to all asset managers), or more narrowly as defined in Recommendation 13? If so, please explain the potential scope of application that you believe is appropriate and its rationales.**

As we noted at the beginning of this section, operational risk in asset management is a “greenfield” in terms of analysis which makes it premature to draw conclusions. This foundational discussion does highlight a few points:

- i. Operational and business continuity risks are important for *all* asset managers, and *all* asset managers should have policies and procedures in place tailored to their business model and operating model to address these risks.
- ii. Asset managers rely on a variety of different vendors for many different purposes. This underscores the need to have vendor risk management programs in place.
- iii. *All* entities that provide services to asset managers should have business continuity management programs, and technology disaster recovery plans regardless of whether the provider is affiliated with a bank or an asset manager, or is an independent organization.
- iv. Custodians, financial market utilities, and other elements of the market infrastructure present special issues since they are critical to the functioning of markets and substitutability is not realistic.

---

<sup>93</sup> 15 U.S.C. § 80a-15. 1940 Act Rule 15a-4 provides that, subject to certain conditions, a fund board can appoint a new investment adviser to a fund for a period of up to 150 days without first obtaining shareholder approval of the new advisory contract. The Rule permits fund boards to appoint a new adviser in a situation where the original adviser's contract has been terminated.

<sup>94</sup> Article 26 UCITS Directive, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009L0065-20140917&from=EN>.

<sup>95</sup> BlackRock BCM Letter.

To address the perceived vulnerabilities identified, the Consultation proposes the following recommendation:

*“Authorities should have requirements or guidance for asset managers that are large, complex, and/or provide critical services to have comprehensive and robust risk management frameworks and practices, especially with regards to business continuity plans and transition plans, to enable orderly transfer of their clients’ accounts and investment mandates in stressed conditions.”<sup>96</sup>*

While we agree with the spirit of considering operational risks in asset management, we suggest several changes to the proposed recommendation.

First, given that *all* asset managers face operational and business continuity risks (as do many other market participants), we strongly encourage the FSB to apply any recommendations to all asset managers, not just those that are large/complex. As history has demonstrated, operational and reputational challenges are not limited to large/complex asset managers – see Appendix B. In fact, smaller firms with fewer resources present key man and succession planning issues, and single product firms present business concentration risk issues. The focus on “size” and “complexity” in asset management is misplaced.

Second, as noted above, asset managers rely on a variety of third party services and FMI, and as a result, there are multiple providers of services to the asset management industry. These service providers come in many shapes and sizes as well as organizational structures – including bank-affiliates, asset manager-affiliates, and independent companies. To this end, we find it perplexing that the Consultation has limited the scope of the discussion to third party services provided *by* asset managers, as opposed to focusing on third party services provided *to* asset managers. In this regard, it appears that the FSB is assuming that third party services provided *by* asset managers present systemic risk, whereas the providers of services *to* asset managers do not. There is no empirical or anecdotal evidence to support the assertion that services provided by asset managers are more systemically risky than similar services provided by independent companies. Rather, what is clear is that it is not the provider of the service that determines its systemic relevance, but rather the nature of the service provided. As we have indicated previously, genuine efforts to reduce risk across the financial system must necessarily take a comprehensive and holistic approach to analyzing and addressing potential risks. Omissions or exclusions of whole subsets of the ecosystem will not achieve the stated objectives.

To address the issues with the proposed recommendations, we recommend that the FSB separate Recommendation 13 into at least two distinct recommendations:

- **Recommendation 13A:** Authorities should have requirements or guidance for all asset managers to have comprehensive risk management frameworks to address operational and business continuity risks to which they are subject.
- **Recommendation 13B:** IOSCO should conduct a consultation designed to gather information about third party services provided to the asset management industry to determine whether further analysis of potential risks is needed.

---

<sup>96</sup> Consultation at 31.

#### IV. Detailed Comments: Securities Lending Activities of Asset Managers and Funds

Securities lending is a well-established practice that provides liquidity to markets while generating additional returns to investors who lend securities. The demand for borrowing securities is driven primarily by banking institutions borrowing on behalf of their clients, who typically use the borrowed securities to take active positions or hedge against market risk vis-à-vis a short sale, or to facilitate the settlement of trades that could otherwise fail.

The asset owner is responsible for deciding whether or not to lend their securities. Some asset owners choose to lend securities to enhance the returns on assets they hold. An asset owner who chooses to lend securities can choose to do so by arranging transactions directly with borrowers, or by employing a securities lending agent to arrange the transaction for them. When a securities lending agent is employed, the securities lending agent is not the counterparty to the loan. Securities lending agents include custodians, asset managers, and independent businesses that specialize in securities lending.<sup>97</sup> When an asset owner chooses to transact directly with borrowers, the asset owner selects which specific security to lend, at what price, and to which counterparty. When the asset owner appoints a securities lending agent, the asset owner instructs the lending agent on the guidelines within which the lending agent is delegated to execute these responsibilities. In the case where a custodian or independent business is the agent lender, the asset manager is not involved in the client's securities lending activities.

Importantly, being an "asset lender" is not the same as being a "lending agent". Asset owners, including mutual funds, can lend their securities; and therefore can choose to be *asset lenders*. Often the asset owner's custodian offers the additional service of acting as *lending agent* to arrange the securities lending transactions on the client's behalf. In a limited number of cases, an asset manager may act as the lending agent for assets managed by the asset manager on behalf of the asset owner. As described below, BlackRock acts as a lending agent for some of the assets that it manages for clients and for funds. Other fund managers may also act as lending agents, however, most fund managers outsource the lending agent function to the fund custodian.

Since 1981, BlackRock (and its predecessor firms) has acted as securities lending agent for some of our investment management clients. BlackRock only acts as a lending agent for clients where BlackRock is also serving as the asset manager. In contrast, custodian banks offer securities lending as an extension of their custody services regardless of what entity manages the underlying portfolios. Likewise, independent businesses offering securities lending agent services provide this service regardless of the asset manager. In practice, a client's decision to appoint either its asset manager, its custodian, or an independent company as its lending agent is likely to be based on numerous factors. These may include the risk management policies and procedures around counterparty risk, collateral management, and cash collateral reinvestment, as well as the demonstrated ability to generate a return for a client, among other factors.

At BlackRock, we believe that an integrated approach to asset management, where the asset manager also acts as lending agent, can lead to better outcomes for clients by taking advantage of the synergies provided through seamless interaction between team members focused on portfolio management, securities lending, and risk management, as well as through the consistency in process, approach, and technological and operational capabilities. We view our securities lending activities as part of our overall relationship with those separate account clients that also choose to use BlackRock as their securities lending agent or those clients who invest in BlackRock managed funds that use BlackRock as their securities lending agent.

---

<sup>97</sup> Securities lending agents include BMO Global Asset Management, BNP Paribas, Bank of New York Mellon ("BNY Mellon"), Brown Brothers Harriman, Citibank, Comerica Bank, Credit Suisse, Deutsche Bank, eSecLending, Frost Bank, Goldman Sachs Agency Lending, JP Morgan, Northern Trust, Schwab, Scotia Capital (USA) Inc., State Street Bank, Sumitomo Mitsui Trust Bank (USA) Ltd, US Bank, Vanguard Group, and Wells Fargo.

## A. Prudent Risk Management Practices in Securities Lending Programs

A key aspect of securities lending programs is the application of risk management strategies to several practice areas:

### 1. **Stringent Counterparty Selection Processes and Regular Counterparty Credit**

**Evaluations:** When acting as a securities lending agent, BlackRock selects borrowers based on conservative credit standards defined by our Counterparty and Concentration Risk Team, which is a part of BlackRock's independent risk management team ("RQA"). RQA continuously monitors the financial performance of borrowers and sets individual lending limits for every borrower to help minimize default risk and monitor all trading activity against these limits to prevent new transactions if the limits are reached.

2. **Overcollateralization (collateral standards and haircuts):** In most jurisdictions, regulatory requirements and market practice require that borrowers post initial collateral for securities loans in excess of the value of the security being lent and maintain collateral either equal to or in excess of the value of the security being lent. BlackRock currently requires borrowers to post collateral between 102% and 112% of the value of the securities lent. In the US, the collateral posted is typically in the form of cash that is invested in cash re-investment vehicles. Outside the US, collateral is more often posted in the form of securities. The level of overcollateralization that is required is driven by risk characteristics of the loan-collateral combination, with high levels of overcollateralization being required for more volatile loan-collateral pairs. Overcollateralization provides an additional "safety cushion" in the event that a borrower fails to return the security that is out on loan. Specifically, given that BlackRock marks-to-market each loan to the overcollateralization level on a daily basis, on the day of a borrower default, the prices of the lent security and collateral posted would need to move in opposite directions by more than the overcollateralization amount before the collateral would become insufficient to replace the security. BlackRock does *not* rehypothecate non-cash collateral.

3. **Daily Mark-to-Market Valuation:** BlackRock requires all borrowers to mark-to-market their collateral *daily* to levels in excess of the value of the securities on loan to ensure that there is sufficient collateral to cover the replacement cost of the lent security on any given day. This practice protects lenders and mitigates the likelihood of the borrower default indemnity being triggered.

4. **Conservative Guidelines for Cash Re-Investment Vehicles:** For BlackRock, securities lending transactions involving cash collateral (primarily US-based securities lending arrangements) use cash re-investment vehicles that are subject to Rule 2a-7 of the 1940 Act or funds with similar investment guidelines. Industrywide, with the possible exception of regulations for STIFs sponsored by state-chartered trust banks, the regulations for cash re-investment vehicles in the US have been updated to address concerns that arose during the Crisis. In particular, the SEC in 2010 and 2014 as well as the OCC in 2012 have issued new rules to improve the safety and soundness of cash investment vehicles including implementing stricter maturity, credit quality, and diversification guidelines. As such, the changes in the allowed liquidity profile of SEC- and OCC-regulated cash re-investment vehicles have substantially mitigated the risks experienced during the Crisis when cash pools were allowed to invest in securities with longer-dated maturities.<sup>98</sup>

In general, sound practices in these areas result in the value of collateral exceeding the value of securities on loan. For example, in the case of BlackRock, the amount of securities on loan as of June 30, 2016 and subject to indemnification was \$161.8 billion compared to the \$171.0 billion of cash

---

<sup>98</sup> The specter of American International Group, Inc. ("AIG") and securities lending activities undertaken by its subsidiaries is raised by some as risks presented by securities lending activities more generally. The securities purchased by AIG using cash collateral would not be eligible investments for securities lending activities subject to SEC and OCC regulation today.

and securities that BlackRock held, as agent, as collateral for securities loaned on behalf of clients and funds that were indemnified against losses resulting from a borrower default.<sup>99</sup> BlackRock and its predecessor entities started our securities lending program over thirty years ago. In this entire time, there have been only three instances of borrower default in our program (and four instances in the industry in total).<sup>100</sup> In each instance, lenders for which BlackRock (including its predecessor entities) acted as lending agent have held collateral sufficient to fund the repurchase of securities on loan. As such, BlackRock (and its predecessor entities) has never had its indemnification agreements triggered, or been required under these agreements to use its own monies to repurchase a security on any client's behalf. We discuss BlackRock's securities lending practices in further detail in our *ViewPoint* entitled, "Securities Lending: The Facts" (see Appendix F).<sup>101</sup>

#### B. Borrower Default Indemnification is a Limited Obligation

While practices around providing borrower default indemnification vary in the securities lending industry, typically, indemnification is a service that is negotiated between the asset owner and its securities lending agent. In our experience, during the client due diligence process, whether or not a lending agent offers indemnification is one of many service aspects that an asset owner will consider in their decision to select a lending agent. This would typically be considered in addition to the risk management practices of the lending program, how the lending agent is compensated, and the performance of the lending program. For some asset owners, the provision of indemnification is a requirement before they will participate in securities lending.

To this end, as part of our negotiated services as a securities lending agent, BlackRock provides certain clients and funds with borrower default indemnification. Importantly, this indemnification does not cover the entire value of the lent security nor does it guarantee the performance of the securities lending transaction or cash re-investment vehicle. Rather, in the event of a borrower default, the securities lending client has the right to claim for itself any collateral transferred by the borrower in order to repurchase the loaned securities. As shown in Exhibit 3, borrower default indemnification is limited to the shortfall that could occur in the event that the collateral available at the time of the borrower's default is insufficient to cover the cost of repurchasing those securities out on loan.

---

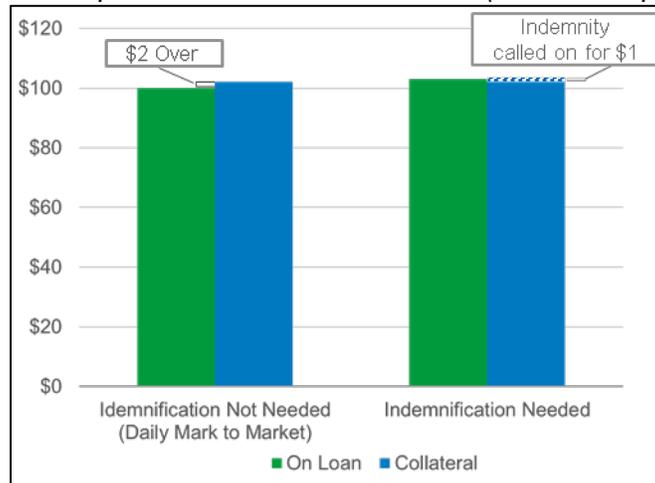
<sup>99</sup> BlackRock, 10-Q (Jun .30, 2016), available at <http://www.snl.com/Cache/c35416160.html>.

<sup>100</sup> We are aware of four instances of borrower default in the securities lending industry (Drexel Burnham Lambert in 1990, Barings Bank in 1995, Lehman Brothers in 2008, and MF Global in 2011). Three of these defaults were by entities borrowing from BlackRock's securities lending program (including its predecessor entities) but in each instance, there was sufficient collateral to fund the repurchase of securities on loan.

<sup>101</sup> BlackRock, *ViewPoint, Securities Lending: The Facts* (May 2015), available at <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-securities-lending-the-facts-may-2015.pdf>.

### Exhibit 3: Illustration of Indemnification

*In the event of a borrower default, if a borrower had delivered \$102 of collateral to borrow securities and the cost of repurchasing the loaned securities was \$103, the borrower default indemnification would make the lender whole only for the difference between the value of the collateral delivered and the cost to repurchase the loaned securities (in this example, \$1).*



Example for illustrative purposes only.

#### C. Borrower Default Indemnification is Not a Systemic Risk

In the unlikely event that an asset manager or other non-bank entity who provided under an indemnity, once triggered, could not cover a client's losses, only the client in question would suffer a loss, making this a due diligence question and a market risk rather than a systemic risk issue. Risk management practices are an important part of the due diligence an asset owner conducts when selecting a lending agent. These include the collateral management standards, including overcollateralization levels, mark-to-market frequency of loans and collateral, borrower selection standards and desired diversification, as well as collateral eligibility criteria that would serve as a mitigant to any offered indemnification. A typical asset owner limits the percentage of their total portfolio that can be managed by a single manager. Given that clients generally only lend a fraction of their portfolios at any given time and the lending agent is only indemnifying the potential collateral shortfall, the potential loss from borrower default indemnification to any client is limited.<sup>102</sup>

The consultation further suggests that a realized loss due to indemnification failure would shake investor confidence in securities lending and lead to a systemic risk event. It is important to remember that for an indemnification liability to be triggered, a borrower would need to default and the collateral would need to be worth less than the value of the securities on loan. When BlackRock acts as securities lending agent, all borrowers are well-regulated banking institutions, the majority of which are G-SIBs. Post-Crisis reforms are designed to avoid G-SIB insolvencies. To the extent that these reforms failed and a G-SIB became insolvent and did not return securities it had borrowed, it is possible that some clients would choose to stop lending securities. However, this decision would be triggered by the loss of confidence due to the insolvency of the borrowing bank, not the indemnification liability of the agent lender.

<sup>102</sup> The proportion of the amount of securities lent at a given time can vary depending on market conditions, asset types, fund attributes, regulatory and client constraints.

#### D. Lack of “Regulatory Arbitrage” between Banks and Non-Banks as Lending Agents

The Consultation states, “asset managers and other entities that are not affiliated with banks do not face capital requirements related to their indemnification exposures in any jurisdiction.”<sup>103</sup> While this is true, it is important to highlight that there is a key reason for differing regulatory regimes as they relate to banks versus asset managers – namely, banks’ use of their own balance sheets in capital markets activities and their proximity to governments and taxpayer monies through access to central bank liquidity and government-insured deposits. As such, the solvency of banks, particularly those that are large and complex, has implications for the entire financial system as well as taxpayers through the potential need for bail-outs. Indeed, the systemic relevance of banks became clear during the Crisis and subsequently, regulation of capital for banks reflects this role and these exposures. In addition, banks have leveraged balance sheets and rely on short-term funding to fund their business models. This is not the case for asset managers. Further, at banks, liquidity and capital are needed for multiple purposes which could all be impacted in a market climate in which a major counterparty defaults. In other words, bank regulatory capital is designed to protect the solvency of the bank and is not dedicated to covering potential borrower default indemnification liabilities.

While there is no specific regulatory requirement for non-banks offering borrower default indemnification to hold capital, BlackRock believes that maintaining financial resources to cover the potential liability to the organization that could arise from indemnification is a best practice among securities lending agents. BlackRock currently requires borrowers to post collateral between 102% and 112% of the value of the securities lent and collateral is marked-to-market daily. Overcollateralization provides a “safety cushion” in the event a borrower fails to return the borrowed security. In addition, BlackRock regularly measures the joint probability of a counterparty default and any possible risk of collateral shortfall. Clients generally perform due diligence prior to agreeing to use the services of a securities lending agent, and therefore have the opportunity to consider the financial resources available to an organization should the client be interested in borrower default indemnification. Sufficient financial resources can be obtained in a variety of forms, including maintaining access to liquidity. In the case of BlackRock, we incorporate potential indemnification needs into our assessment of appropriate corporate liquidity levels. Specifically, BlackRock holds \$2.6 billion in unencumbered liquidity against potential indemnification exposure and has access to an additional \$5 billion of liquidity, both in the form of unencumbered cash and a \$4 billion, 5-year bank credit facility as of June 2016. BlackRock is currently rated A1 and AA- by Moody’s and S&P, respectively, which is among the highest in the asset management industry, and equal to or higher than other major securities lending agents.

#### E. Regulation of Asset Managers Acting as Securities Lending Agents

The Consultation states that “The difference in regulatory requirements relating to indemnification risk for bank and non-bank agent lenders may create an incentive for agent lending activity to migrate away from prudentially regulated entities and could potentially result in a concentration of systemic risks outside the banking sector”.<sup>104</sup> We respectfully disagree with this assertion. First, asset managers are not “new entrants” to securities lending. A number of asset managers have participated in securities lending for many years. BlackRock and its predecessor entities have provided agent lending services to asset management clients since 1981. Second, asset managers are subject to regulation by various regulatory agencies.<sup>105</sup> We believe that an integrated approach to asset management with the asset manager also acting as lending agent can lead to better outcomes for clients by taking advantage of the synergies provided through seamless interaction between team members focused on portfolio management, securities lending, and risk

---

<sup>103</sup> Consultation at 34.

<sup>104</sup> Consultation at 35.

<sup>105</sup> BlackRock’s three lending agents are regulated by the OCC, SEC, and FCA, respectively. Each of these regulators engage in ongoing supervision of the lending agent, including an overall assessment of risk management practices.

management as well as through the consistency in process, approach, and technological and operational capabilities. According to a considerable number of clients, along with strong risk management, this is a key reason BlackRock has been selected to act as securities lending agent in addition to providing investment management services. Finally, we are not aware of any asset manager providing securities lending agent services on assets where they are not the asset manager, which further invalidates the theory of migration. For example, BlackRock only acts as a lending agent on assets where it also provides asset management services.

#### F. Mitigants to Concerns Regarding “Opacity Risk”

The FSB identified data gaps and the need to establish standards for haircuts<sup>106</sup> in its early work on securities lending. BlackRock applauds the FSB’s efforts in this regard. BlackRock agrees that “the timely implementation of the standards and processes for global securities financing data collection and aggregation should address the lack of timely, comparable, and granular data on the size, scope, and risks posed by securities lending activity performed by asset managers and their funds, which is necessary to assess the risks posed by this activity.”<sup>107</sup> In addition, we agree that “The timely adoption of the regulatory framework for haircuts on non-centrally cleared securities financing transactions should also address the potential creation of excess leverage and pro-cyclicality during times of financial stress facilitated by improperly designed or inadequate haircuts.”<sup>108</sup> We have made suggestions in several forums with respect to recommended improvements to the proposals being considered as part of these efforts. We encourage additional focus by regulators on cash-reinvestment rules for STIFs sponsored by US state-chartered trust banks, as these pools remain in the shadows with no data available to national regulators.

#### G. Questions on Securities Lending Activities of Asset Managers and Funds

**Q16. In your view, what are the relevant information/data items authorities should monitor for financial stability purposes in relation to indemnifications provided by agent lenders/asset managers to clients in relation to their securities lending activities?**

We are supportive of efforts to collect additional data on borrower default indemnification provided by all securities lending agents. Given that the predominance of agent lenders are not asset managers, we recommend that FSB Workstream 5, which is focused on securities lending and repo including updating haircut standards and data reporting for SFT, also address reporting requirements related to borrower default indemnification. Care should be taken to ensure that the data collected includes *both* the aggregate value of the loans outstanding that receive borrower default indemnification and the aggregate value of the collateral being held as both data points are necessary to assess the risk involved.

---

<sup>106</sup> A haircut is a percentage discount that is applied to the market value of a security in an attempt to account for the risk of loss that investment poses. For example, if a 5% haircut is required, they would have to post 105% of the value of the lent sent in collateral.

<sup>107</sup> Consultation at 35.

<sup>108</sup> *Id.*

**Q17. Should the proposed recommendation be modified in any way to address residual risks related to indemnifications? For example, should it be more specific with respect to actions to be taken by authorities (e.g. identifying specific means for covering potential credit losses) or more general (e.g. leaving to authorities to determine the nature of appropriate action rather than specifying coverage of potential credit losses)?**

We recommend that the FSB revise Recommendation 14 as follows:

- **Recommendation 14A:** FSB Workstream 5 should consider whether the collection of data about borrower default indemnification provided by securities lending agents would be additive to data reporting efforts. Should such data be collected, both the value of outstanding loans receiving borrower default indemnification and the value of collateral posted against those loans should be collected and considered in tandem.
- **Recommendation 14B:** FSB Workstream 5 should study due diligence practices of asset owners that engage lending agents for securities lending. If necessary, Workstream 5 should consider providing guidance on key questions that should be asked as part of a due diligence checklist.

\*\*\*\*\*

We thank the FSB for providing BlackRock the opportunity to express its views on the Consultation. Asset management differs significantly from banking in many ways, and we welcome and encourage ongoing engagement between the asset management industry and members of the FSB and IOSCO. Please contact the undersigned if you have questions on asset management and our response to this Consultation.

Sincerely,

Barbara Novick  
Vice Chairman

CC:

Natasha Cazenave,  
Deputy Head of the Regulatory Policy and International Affairs Directorate,  
Autorité des Marchés Financiers

Henry Cheng  
Executive Director, Monetary Management  
Hong Kong Monetary Authority

## **Appendix A: List of BlackRock Publications on Asset Management Topics**

Title	Description
<b>Asset Management Overview</b>	
<a href="#">Feedback on OFR Study on Asset Management and Financial Stability – EC</a> <i>November 2013</i>	In response to the OFR's Study of Asset Management and Financial Stability, this comment letter provides background on asset management and recommends that the FSOC review investment products and practices to address concerns related to systemic risk.
<a href="#">Addendum to Feedback on OFR Study on Asset Management and Financial Stability – SEC</a> <i>December 2013</i>	This letter is a supplement to the November 2013 letter to the OFR. It specifically addresses several frequently asked questions by policy makers in relation to systemic risk and asset management.
<a href="#">Additional Feedback on OFR Study on Asset Management and Financial Stability – SEC</a> <i>March 2014</i>	This letter is a supplement to the November 2013 letter to the OFR. It specifically addresses questions raised by policy makers on the issues surrounding the winding up of both asset managers and funds.
<a href="#">Systemic Risk and Asset Management: Improving the Financial Ecosystem for All Market Participants – Harvard</a> <i>March 2014</i>	This concept paper was included as part of Harvard Law School's EU-US Symposium. The paper explores the need for a products and activities approach to addressing systemic risk.
<a href="#">Assessment Methodologies for Identifying Non-Bank Non-Insurer ("NBNI") Global Systemically Important Financial Institutions – FSB</a> <i>April 2014</i>	In response to FSB's consultative document on assessment methodologies for identifying NBNI G-SIFIs, this letter recommends that regulators use leverage, not size, as the initial screen to identify funds that should be evaluated for systemic risk. The letter recommends that the FSB work with national regulators to create a globally harmonized framework to address products and practices.
<a href="#">Financial Regulatory Reform: Looking Forward</a> <i>October 2014</i>	This memo identifies six categories of issues in asset management that warrant deeper analysis, both to develop a better understanding of asset management and to identify products and practices where changes in regulation might be beneficial.
<a href="#">ViewPoint – Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation</a> <i>May 2014</i>	This paper explains the differences between asset owners, asset managers, and intermediaries and highlights the impact that post-financial crisis monetary policies and financial regulatory reforms have had on asset owners.
<a href="#">Notice Seeking Comment on Asset Management Products and Activities – FSOC</a> <i>March 2015</i>	This letter responds to the FSOC's request for comment on asset management products on activities, which focuses on four key areas: (i) liquidity and redemptions, (ii) leverage, (iii) operational risk, and (iv) resolution.
<a href="#">Consultative Document (2nd) Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions – FSB</a> <i>May 2015</i>	This letter responds to the FSB's second consultative document on assessment methodologies for identifying NBNI G-SIFIs. This letter recommends a holistic approach to the market ecosystem to reduce risk and suggests a products and activities approach to asset management.
<a href="#">What is a Systemically Important Institution: Leverage and Function are more Significant than Size – MIT Center for Finance and Policy</a>	This document was submitted to the MIT Center for Finance and Policy's SIFI Contest and awarded 2 <sup>nd</sup> place. The paper explains that leverage and function of an entity are more significant than size in considering systemic risk.

January 2016	
<a href="#">ViewPoint – Modernization of US Asset Management Regulation</a> March 2016	In this <i>ViewPoint</i> , we discuss each of the SEC's proposals for modernizing the regulation of US registered mutual funds and investment advisers, and we lay out some guiding principles for considering the proposals as an integrated package.
<a href="#">ViewPoint – Improving Transparency: The Value of Consistent Data over Fragmented Data</a> September 2016	In this <i>ViewPoint</i> , we analyze fund data and transaction reporting regimes in the United States and Europe Union. We make a number of recommendations to policy makers regarding how data could be requested and reported in a more streamlined, consistent manner.
<b>Securities Lending</b>	
<a href="#">ViewPoint - Securities Lending: Balancing Risks and Rewards</a> May 2012	In this <i>ViewPoint</i> , we describe securities lending transactions, assess the risks involved, and respond to a series of questions posed by regulators. We also provide recommendations to improve securities lending practices.
<a href="#">Borrower Default Indemnification in the Securities Lending Marketplace</a> May 2014	This memo provides an overview of securities lending and clarifies misperceptions associated with securities lending borrower default indemnification.
<a href="#">ViewPoint – Securities Lending: The Facts</a> May 2015	This <i>ViewPoint</i> explains the roles of lenders, lending agents, and borrowers in securities lending. This paper describes how concerns raised regarding securities lending practices and associated risks, including the selection of counterparties, collateralization of loans, use of cash collateral and cash reinvestment vehicles, the uses of non-cash collateral and rehypothecation, and borrower default indemnification are addressed, and clarifies several misperceptions about securities lending.
<b>Third Party Services and Technology</b>	
<a href="#">ViewPoint – The Role of Technology Within Asset Management</a> August 2014	This <i>ViewPoint</i> traces the role that investment technology plays throughout the asset management process, highlighting the fact that a core function of asset management technology is to support data management and information processing.
<a href="#">ViewPoint – The Role of Third Party Vendors in Asset Management</a> September 2016	Most asset managers rely on multiple third party service providers. This <i>ViewPoint</i> offers some recommendations regarding guidance that should be provided to purchasers of third party services and suggests a framework for approaching the regulation of the providers of these services.
<b>Fund Structures and Liquidity Risk Management</b>	
<a href="#">ViewPoint – Fund Structures As Systemic Risk Mitigants</a> September 2014	This <i>ViewPoint</i> examines and compares the structural features of several fund types across a range of jurisdictions and identifies a number of existing regulations that serve to mitigate “run risk” and protect investors.
<a href="#">ViewPoint – Who Owns the Assets? A Closer Look at Bank Loans, High Yield Bonds and Emerging Markets Debt</a> September 2014	This <i>ViewPoint</i> analyzes the dynamics of bank loans, high yield bonds, and EMD and examines the liquidity risk management practices of mutual funds that hold these asset classes.
<a href="#">Open-End Fund Liquidity Risk Management Programs; Swing Pricing – SEC</a> January 2016	This comment letter responds to the SEC’s request for comment on their proposed rule on liquidity risk management programs for funds. We agree with the SEC that every fund should conduct liquidity risk management and we provide some specific suggestions to strengthen the proposal.

<p><a href="#">Use of Derivatives by Registered Investment Companies and Business Development Companies – SEC</a> March 2016</p>	<p>This comment letter responds to the SEC’s proposed rule on the use of derivatives. We discuss the ways fund managers use derivatives and provide suggestions for effectively measuring derivatives usage.</p>
<p><b>ETFs</b></p>	
<p><a href="#">ViewPoint – ETFs: A Call for Greater Transparency and Consistent Regulation</a> October 2011</p>	<p>In this <i>ViewPoint</i>, we provide background on the history and structure of ETFs, summarize concerns raised by regulators, and recommend reforms that would improve the marketplace for ETFs. We support uniform standards on labeling, transparency, disclosure, and reporting that would reduce systemic risk, improve investor protection, and help ensure that investors understand precisely the risks and attributes of the products that they are purchasing.</p>
<p><a href="#">ViewPoint – Exchange Traded Products: Overview, Benefits and Myths</a> June 2013</p>	<p>This <i>ViewPoint</i> provides a detailed overview of ETPs with a focus on ETFs. The paper explains some common misconceptions about how ETFs work.</p>
<p><a href="#">ETFs Help Improve Market Stability: A Closer Look at Fixed Income ETF Behavior During Recent Bond Market Movement</a> October 2014</p>	<p>This publication examines the behavior of bond markets and fixed income ETFs during the period of significant asset flows following September 26, 2014. This experience is an illustrative case study of how fixed income ETFs provide liquidity, price transparency, and fair allocation of costs amidst periods of market stability, as well as during periods when markets are challenged with uncertainty or significant asset flows.</p>
<p><a href="#">ViewPoint – Bond ETFs: Benefits, Challenges, Opportunities</a> July 2015</p>	<p>This <i>ViewPoint</i> provides an overview of the structural features of ETFs. We discuss the benefits of bond ETFs, including transparency and price discovery, and some of the challenges, including the need for a classification system that better distinguishes among several types of exchange-traded products. We offer some suggestions for concrete regulatory actions that can extend the benefits of ETFs to a broader investor base and improve financial stability.</p>
<p><b>Market Structure: Fixed Income and Derivatives</b></p>	
<p><a href="#">ViewPoint – Central Clearing Counterparties and Too Big to Fail</a> April 2014</p>	<p>This <i>ViewPoint</i> outlines systemic risks associated with CCPs and provides recommendations on how to mitigate these risks.</p>
<p><a href="#">ViewPoint – Corporate Bond Market Structure: The Time for Reform is Now</a> September 2014</p>	<p>This <i>ViewPoint</i> reviews how the corporate bond market is structured and identifies several issues with the current market structure for corporate bonds. In this paper, we recommend more “all to all” trading venues, adoption of multiple electronic trading protocols, standardization of select features of newly-issued corporate bonds, and behavioral changes by market participants.</p>
<p><a href="#">ViewPoint – Addressing Market Liquidity</a> July 2015</p>	<p>This <i>ViewPoint</i> defines the different concepts that have been referred to as “liquidity” that are often conflated, highlights some of the ways that asset managers are already adapting, and provides recommendations for actions to improve the market ecosystem. Our recommendations take a three-pronged approach: (i) market structure modernization, (ii) enhance fund “toolkit” and regulation, and (iii) evolution of new and existing products.</p>

<p><a href="#"><u>ViewPoint – Addressing Market Liquidity: A Broader Perspective on Today’s Bond Markets</u></a> February 2016</p>	<p>This <i>ViewPoint</i> is intended to inform discussions about bond market liquidity by integrating data we have known about for a long time (e.g., bond ownership by pensions and insurers) with newer data that highlights structural changes to bond market liquidity. We make a number of observations to provide a more comprehensive foundation for the dialogue on bond market liquidity. Note that updated Fed Z.1 data has recently become available and this report will be updated shortly.</p>
<p><a href="#"><u>ViewPoint – Breaking Down the Data: A Closer Look at Bond Fund AUM</u></a> June 2016</p>	<p><i>This ViewPoint</i> explores the diversity of US bond funds and the range of investments made by funds within each category. We then review data on investor flows in the largest categories of bond funds to analyze investor behavior in response to historical market stress events.</p>
<p><a href="#"><u>ViewPoint – Addressing Market Liquidity: A Broader Perspective on Today’s Euro Corporate Bond Market</u></a> September 2016</p>	<p>This <i>ViewPoint</i> is a continuation of previous BlackRock publications addressing market liquidity and the ownership of the world’s financial assets, focusing specifically on euro denominated debt including corporate bonds.</p>

**Appendix B: Firm and Fund Closures, Large Outflows, and Related Events in the  
Asset Management Industry over the Past 28 Years**

Name	Event	Year	Outcome	AUM year of event (if known)	AUM after event (if known)
Franklin Templeton*	Very large outflows across variety of products, loss of investor appetite for EM funds	2016	<ul style="list-style-type: none"> <li>• USD 12bn outflows since January 2016, mostly in global bond funds</li> </ul>	USD 854.7bn (July 2015)	USD 739.9bn (July 2016)
Brevan Howard Master Fund*	Poor performance over three years. ECB action / market reaction in December 2015	2016	<ul style="list-style-type: none"> <li>• ~ 3bn outflows in 2016</li> </ul>	Data unavailable	USD 17.4bn (March 2016)
Sequoia Fund	Poor performance Key personnel departure	2016	<ul style="list-style-type: none"> <li>• 7.5% loss in 2015, down 12% in 2016</li> <li>• &gt; USD300mn withdrawals early 2016</li> <li>• Shareholders who withdraw &gt; USD 250,000 fund should expect in-kind redemptions as per Sequoia policy</li> </ul>	USD 6.7bn (December 2016)	USD 4.8bn (August 2016)
Tudor Investment Corp*	Poor performance over three years	2016	<ul style="list-style-type: none"> <li>• USD 2bn outflows</li> <li>• Announced 15% cut of 400 strong workforce after losses</li> </ul>	USD 21.9bn (December 2014)	USD 11bn (July 2016)
Nevsky Capital	Poor performance	2016	<ul style="list-style-type: none"> <li>• Fund liquidation - USD 1.5bn fund in January 2016</li> </ul>	USD 1.5bn (January 2016)	Fund liquidation
Tiger Global Management*	Large tech stock investment loss in first quarter of year	2016	<ul style="list-style-type: none"> <li>• Losses estimated at USD 1bn in Q1 2016, but fund is continuing to operate</li> </ul>	USD 35bn (Dec 2015)	USD 32.2bn (July 2016)
Pershing Square*	Significant investment losses	2016	<ul style="list-style-type: none"> <li>• AUM down approx. 40% in one year</li> <li>• Cut 10% of workforce</li> </ul>	USD 20,204.7m (August 2015)	USD 11,897m (August 2016)
Visium Asset Management	Insider trading scandal, poor performance	2016	<ul style="list-style-type: none"> <li>• Visium Global Fund sold to Alliance Bernstein</li> <li>• Liquidating hedge funds</li> </ul>	USD 8bn (March 2016)	Fund liquidation
BlackRock UK Property Fund	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>• Redemption charges increased from 2% to 5.75%</li> </ul>	GBP 3.3bn (June 2016)	To be calculated at quarter end, after submission of this letter.

Legal & General UK Property Fund	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>No suspension of redemptions, but discount imposed on cash withdrawals – fair value adjustment of 15%, reduced three weeks later to 10%</li> </ul>	GBP 2.4bn (June 2016)	Data unavailable
Aberdeen UK property fund	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>Redemptions temporarily suspended, followed by 17% fair value adjustment on cash withdrawals</li> <li>Exit penalty back to 1.25% by August</li> </ul>	GBP 3.2bn (June 2016)	Data unavailable
Aviva Investors Property Trust*	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>Redemptions suspended</li> </ul>	GBP 1.8bn (June 2016)	Data unavailable
Standard Life UK Real Estate Fund	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>Redemptions suspended</li> </ul>	GBP 2.67bn (June 2016)	Data unavailable
M&G UK Property Fund	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>Redemptions suspended</li> </ul>	GBP 4.4bn (June 2016)	Data unavailable
Columbia Threadneedle UK Property Trust*	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>Redemptions suspended on UK Property Authorised Investment Fund (and on associated feeder fund, UK Property Authorised Trust).</li> <li>Fair value adjustment of 5.3% on cash withdrawals</li> </ul>	GBP 1.3bn (June 2016)	Data unavailable
Henderson Global Investors UK Property Fund*	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>Redemptions suspended on UK Property PAIF (and feeder fund)</li> </ul>	GBP 1.4bn (June 2016)	Data unavailable
Kames Property Income Fund*	Redemptions in UK property funds triggered by EU referendum	2016	<ul style="list-style-type: none"> <li>Fair value adjustment of 10% on cash redemptions</li> </ul>	GBP 409mn (June 2016)	Data unavailable
Comac Capital	8% loss due to CHF move	2015	<ul style="list-style-type: none"> <li>Returned capital to outside investors due to CHF loss</li> <li>Will continue to manage internal capital ~ USD 150mn</li> </ul>	USD 1.2bn (January 2015)	Fund liquidation
Tiger Consumer Management	Retirement of fund manager	2015	<ul style="list-style-type: none"> <li>Fund liquidation due to retirement of manager</li> </ul>	USD 1.4bn (March 2015)	Fund liquidation

Claren Road Asset Management (55% owned by Carlyle Group)*	Poor performance	2015	<ul style="list-style-type: none"> <li>• Redemptions of USD 7.3bn since September 2014</li> <li>• Operating a delayed-repayment schedule</li> </ul>	USD 8.5bn (September 2014)	USD 1.2bn (January 2016)
Fortress Global Macro Hedge Fund	Poor performance	2015	<ul style="list-style-type: none"> <li>• Liquidation of USD 1.6bn global macro hedge fund following 17% loss in 2015.</li> </ul>	USD 1.6bn (October 2015)	Fund liquidation
LionEye Capital Management	Investment loss of 19% in 2015	2015	<ul style="list-style-type: none"> <li>• Liquidation of USD 1.5bn fund following redemptions from largest investors</li> </ul>	USD 1.5bn (December 2015)	Fund liquidation
Renaissance Technologies	Poor performance	2015	<ul style="list-style-type: none"> <li>• Liquidation of USD 1.3bn underperforming fund</li> </ul>	USD 1.3bn (October 2015)	Fund liquidation
Seneca Capital Investments	Investment loss of 6% in 2015	2015	<ul style="list-style-type: none"> <li>• Liquidation of fund close due to losses – 6% in 2015</li> </ul>	USD 500mn (December 2015)	Fund liquidation
TigerShark Management	Poor performance	2015	<ul style="list-style-type: none"> <li>• Fund liquidation</li> </ul>	USD 180mn (March 2014)	Fund liquidation
Diversified Global Asset Management Corp (DGAM), (owned by Carlyle)	Poor performance	2015	Liquidation of Carlyle's hedge-fund-of-funds unit DGAM	USD 6bn (February 2016)	Fund liquidation
Ashmore*	AUM fell by 15 per cent year on year – Emerging market volatility	2015	Met USD 9.8bn in redemptions	USD 58.9bn (June 2015)	USD 52.6bn (July 2016)
Third Avenue Focused Credit Fund	Poor performance	2015	<ul style="list-style-type: none"> <li>• &gt; USD 1bn redemptions from July-December 2015</li> <li>• Redemptions frozen, fund liquidation in December 2015</li> </ul>	USD 2.1bn (July 2015)	Fund liquidation
Bain Capital Absolute Return Capital Hedge Fund	Three years of investment losses – 13% loss in first half of 2015	2015	<ul style="list-style-type: none"> <li>• Closure of USD 2.2bn Absolute Return Capital hedge fund</li> </ul>	USD 2.2bn (October 2015)	Fund liquidation
BlackRock Global Ascent Fund	Investment losses of 9.4% in 2015	2015	<ul style="list-style-type: none"> <li>• Closure of USD 1bn Global Ascent fund</li> </ul>	USD 1bn (November 2015)	Fund liquidation
Brevan Howard Asset Management*	Investment losses	2015	<ul style="list-style-type: none"> <li>• USD 3bn fall in assets in first nine months of 2015</li> </ul>	USD 40bn (2013)	USD 20bn (May 2016)
Everest Capital	Investment losses - CHF exchange rate cap	2015	<ul style="list-style-type: none"> <li>• Fund liquidation of 6 out of the firms' 7 remaining hedge funds</li> </ul>	USD 3.0bn (December 2014)	Fund liquidation

PIMCO*	Key personnel departure	2014	<ul style="list-style-type: none"> <li>• Management changes</li> <li>• Met \$600bn in redemptions including \$200bn in flagship Total Return Bond Fund</li> <li>• 3% reduction in workforce</li> </ul>	USD 1.97tn (June 2014)	USD 1.5tn (June 2016)
PIMCO Total Return Fund	Key personnel departure	2014	<ul style="list-style-type: none"> <li>• Management changes</li> <li>• Met redemptions of \$200bn</li> </ul>	USD 292.9bn (April 2013)	86.8bn (July 2016)
EII Capital Management	Key personnel departure	2014	<ul style="list-style-type: none"> <li>• Departure of several key personnel</li> <li>• Terminate of contracts by several US pension funds</li> <li>• Firm continues to operate</li> </ul>	USD 5.3bn (January 2014)	USD 1.5bn (August 2016)
SAC Capital Management	Allegations of insider trading by portfolio managers	2008-2012-	<ul style="list-style-type: none"> <li>• Converted to family office, renamed Point72, no external assets</li> <li>• USD 1.184bn financial penalty</li> <li>• USD 602mn SEC settlement</li> <li>• USD 10mn payout to resolve shareholder lawsuit</li> </ul>	USD 15bn (January 2013)	USD 11bn (2015)
Tradewinds Global Investors LLC	Key personnel departure	2012	<ul style="list-style-type: none"> <li>• AUM fell 72% in 10 months</li> <li>• Triggered by announcement in March that star money manager David Iben was leaving.</li> <li>• Orderly wind down in progress</li> </ul>	USD 33bn (January 2012)	USD 3bn (August 2016)
Axa Rosenberg	Concealed model error, fraud alleged	2011	<ul style="list-style-type: none"> <li>• Founder barred</li> <li>• Management changes</li> <li>• Met redemptions of USD 29bn in 2010, USD 5bn in 2011, and USD 3bn in 2012</li> <li>• USD 242mn settle with SEC</li> </ul>	USD 70bn (July 2009)	USD 26.3bn (September 2014)
Gartmore Group	Key personnel departure	2010	<ul style="list-style-type: none"> <li>• Sold to Henderson 2011</li> <li>• Met redemptions of USD 1.29bn in just seven weeks</li> </ul>	GBP 22bn (January 2010)	GBP 15.7bn (February 2011)
Galleon Group	Insider trading	2009	<ul style="list-style-type: none"> <li>• Firm closed</li> <li>• Founder criminally convicted</li> <li>• Funds liquidated 2009</li> </ul>	USD 7bn (October 2009)	Fund liquidation
The Reserve Primary Fund	Investment losses in Primary Fund	2008	<ul style="list-style-type: none"> <li>• Primary Fund in liquidation</li> <li>• The Reserve firm in liquidation</li> </ul>	USD 65bn (fund) USD 125bn (total) (August 2008)	Fund and firm liquidation

Absolute Capital Management	Securities fraud	2007	<ul style="list-style-type: none"> <li>• Founder criminally charged</li> <li>• Multiple enforcement actions</li> <li>• Civil suits</li> </ul>	USD 3bn (June 2007)	USD 885mn (June 2008)
Janus Capital Management	Market timing	2003	<ul style="list-style-type: none"> <li>• Fines</li> <li>• Management changes</li> <li>• Met redemptions of USD 3.2bn in September 2003 alone</li> </ul>	USD 147bn (May 2003)	USD 133.6bn (January 2005)
Pilgrim Baxter	Market timing	2003	<ul style="list-style-type: none"> <li>• Principals barred</li> <li>• &gt;20% decline in AUM from September 2003 to end December, 2003.</li> <li>• Old Mutual (owner since 2000) closes some funds; rebrands</li> </ul>	USD 7.4bn (September 2003)	USD 5.4bn (January 2004)
Putnam	Market timing	2003	<ul style="list-style-type: none"> <li>• USD 14bn (5%) decline in first week of November 2003</li> <li>• Management changes</li> <li>• Fines</li> <li>• Sold to Great West Life in 2007</li> </ul>	USD 277bn (October 2003)	USD 141bn (September 2013)
Strong Capital	Market timing	2003	<ul style="list-style-type: none"> <li>• Principal barred</li> <li>• Met redemptions of USD 4.9bn (USD 1.6bn of that in one month)</li> <li>• Sold to Wells Fargo in 2005</li> </ul>	Data unavailable	USD 33bn (March 2004)
Canary Capital Partners	Market timing Late trading	2003	<ul style="list-style-type: none"> <li>• Fines</li> <li>• Principal receives 10 year bar</li> </ul>	USD 500mn (2003)	Data unavailable
Alliance Capital Management	Market timing	2003	<ul style="list-style-type: none"> <li>• Fines and Disgorgement</li> <li>• Management changes</li> <li>• USD 790m of mutual fund outflows from September to December, 2003, increase in AUM attributed to market appreciation</li> <li>• Renamed Alliance Bernstein in 2006</li> </ul>	USD 434bn (February 2002)	USD 489bn (February 2004)
Advanced Investments Management	Breach of client guidelines (all separate accounts)	2002	<ul style="list-style-type: none"> <li>• Firm closes 2002</li> <li>• Civil litigation</li> <li>• Regulatory fines</li> </ul>	USD 5.5bn (2002)	Firm closes
Long Term Capital Management	Investment losses of USD 4.6bn in four months	1998	<ul style="list-style-type: none"> <li>• Creditor investments to avoid loss</li> <li>• Firm dissolved 2002</li> <li>• Creditors make small profits when unwind completed</li> </ul>	USD 5bn (Begin 1998)	Firm closes

Community Bankers MMF	Investment losses in structured notes	1994	<ul style="list-style-type: none"> <li>• Fund liquidated September 1994</li> </ul>	USD 82mn (1994)	Fund liquidation
TCW/Term Trusts 2000 & 2003	Investment losses-MBS	1994	<ul style="list-style-type: none"> <li>• Civil litigation</li> <li>• Regulatory fines for fund marketers</li> <li>• Manager firm ownership change 1996</li> </ul>	Two trusts: USD 1.5mn (1994)	Initial drop to USD 1.0mn Trusts liquidate at term end
Piper Jaffrey/ Institutional Government Bond Fund	Investment losses-MBS	1994	<ul style="list-style-type: none"> <li>• Fund closed to new investors - assets run off</li> <li>• Civil litigation.</li> <li>• Parent of manager sells stake to ITT insurance 1997</li> </ul>	Fund: USD 750mn (1994)	Initial drop to USD 590mn then run off to zero.
Hyperion (Term Trusts 1997,99,03)	Investment losses-MBS	1993	<ul style="list-style-type: none"> <li>• Civil litigation</li> <li>• Regulatory fines for fund marketers</li> </ul>	USD 1.5bn (1993)	USD 1.2bn
Barlow Clowes	Investment losses Fraud	1988	<ul style="list-style-type: none"> <li>• Firm closed, funds liquidated, UK government made ex gratis payment to investors</li> <li>• UK Government repaid from trustees GBP120mn of GBP153mn payment-2011</li> </ul>	GBP 188mn (1988)	Firm closed, funds liquidated

\*Represents large outflows, not fund or manager closures.

**Appendix C: ViewPoint – Breaking Down the Data: A Closer Look at Bond Fund AUM**

## BREAKING DOWN THE DATA: A Closer Look at Bond Fund AUM

JUNE 2016

Over the past few years, policy makers have focused on the growth of bond funds and raised concerns that systemic risk could arise if a bond fund were unable to meet redemptions due to a lapse in market liquidity. The hypothesis underlying these concerns states that such an event could incite heightened redemptions at other bond funds, which might force all bond funds to sell their holdings at the same time, resulting in fire sales.<sup>1</sup> Given the growth in assets under management (AUM) of bond funds, this has received significant attention causing some to suggest that a stress test across all bond funds – a “macro stress test” – is needed to determine the aggregate risks posed by bond funds.<sup>2</sup> While the headline figures around the growth of bond fund AUM are notable, a deeper look at the components of bond fund AUM demonstrates that bond funds are not homogenous. Rather, US bond funds represent over 2,200 distinct funds pursuing disparate investment strategies and in many cases, investing in different types of bonds.<sup>3</sup> Some areas of differentiation include index versus active, sector-specific (e.g., municipals, high yield, governments) versus multi-sector, duration-based strategies (e.g., short, intermediate, long duration), and market-specific versus global strategies. Adding to this diversity, end investors vary from fund to fund, with some funds heavily retail-oriented, others sold primarily to institutional investors, and still others utilized mainly by retirement plans. The different investment objectives and constraints of different types of end investors make it unlikely that all end investors will react to market events in the exact same way.<sup>4</sup> The diversity of bond funds impacts the value of attempting to quantify aggregate risks across funds, as the actions of both fund managers and shareholders will likely differ.

In this *ViewPoint*, we examine different categories of bond funds to demonstrate that bond funds are not homogeneous. We then review data on investor flows in the largest categories during four historical stress events: (i) 1994 Federal Reserve rate hikes, (ii) 2008 global financial crisis, (iii) 2013 “Taper Tantrum,” and (iv) December 2015 high yield selloff. While the past is not necessarily a predictor of future behavior, the different patterns of net inflows and outflows in various categories of bond funds suggest that any macro stress test that does not account for the diversity of bond funds and incorporate performance of different fixed income asset classes is unlikely to produce results that are reflective of potential market dynamics, particularly if such models assume all shareholders in all types of bond funds react to market stress in the same way.

### KEY POINTS

1. Bond funds are heterogeneous. Bond funds represent a diverse set of funds with distinct investment strategies.
2. During the stress events analyzed, some categories of bond funds experienced net outflows while others experienced net *inflows*. Investor flow patterns are consistent with expectations for the type of bonds in which the fund invests.
3. In our review of the largest bond fund categories, no category has experienced “massive aggregate outflows” during a quarterly period since 1988, even during stress events.
4. A macro stress test that assumes bond funds are homogeneous will not provide meaningful conclusions.
5. Stress testing of individual funds should be incorporated into mutual funds’ liquidity risk management programs.

# BLACKROCK®



**Barbara Novick**  
Vice Chairman



**Joanne Medero**  
US Head of Government  
Relations & Public Policy



**Alexis Rosenblum**  
Government Relations  
& Public Policy



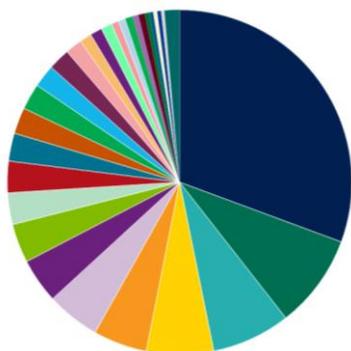
**Rachel Barry**  
Government Relations  
& Public Policy

### In this *ViewPoint*

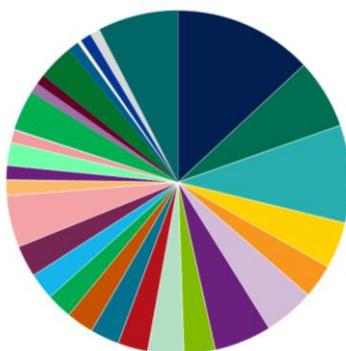
- ▶ [Breaking Down “Bond Fund AUM”](#) 3
- ▶ [Net Flows During Stressed Markets](#) 7
- ▶ [Conclusion](#) 11

## Exhibit 1: BREAKDOWN OF US OPEN-END BOND MUTUAL FUNDS

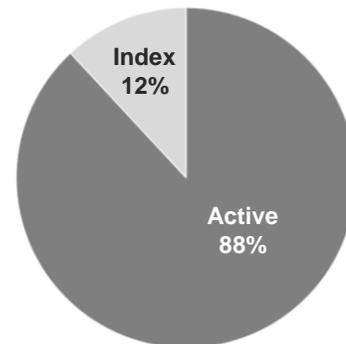
US Open-End Bond Funds  
by AUM



US Open-End Bond Funds  
by # of Funds



US Open-End Bond Funds  
AUM in Active vs. Index



Bond Funds are NOT Homogeneous

MORNINGSTAR CATEGORY	AUM (\$ BILLIONS)	# OF FUNDS
Intermediate-Term Bond	964	254
Short-Term Bond	277	128
High Yield Bond	232	179
World Bond	198	85
Multisector Bond	159	62
Muni National Intermediate	158	93
Nontraditional Bond	132	105
Muni National Short	115	57
Intermediate Government	93	66
Bank Loan	93	55
Muni National Long	82	53
High Yield Muni	78	50
Inflation-Protected Bond	77	47
Corporate Bond	67	49
Ultrashort Bond	65	58
Emerging Markets Bond	50	95
Muni California Long	35	29
Conservative Allocation	35	26
Short Government	33	42
Muni California Intermediate	22	23
Moderate Allocation	21	2
Muni Single State Long	21	73
Muni New York Long	19	19
Long-Term Bond	18	18
Muni Single State Intermediate	13	66
Long-Short Credit	12	20
Preferred Stock	12	7
Muni Single State Short	11	20
Muni New York Intermediate	10	19
Other*	44	147
<b>TOTAL</b>	<b>3,145</b>	<b>1,947</b>

Source: Simfund. As of Dec. 31, 2015. Accessed May 2016. Includes active and index open-end bond mutual funds. Excludes ETFs and fund of funds. Categories defined by Morningstar. Includes bond funds within each category. \*Other includes bond funds within the following categories: Muni Pennsylvania, Muni Massachusetts, Muni New Jersey, Multicurrency, Muni Ohio, Muni Minnesota, Target Date 2011-2015, Retirement Income, Target Date 2000-2010, Tactical Allocation, Trading-Inverse Debt, Trading-Leveraged Debt, Market Neutral, Trading-Miscellaneous, Multialternative, World Allocation, Diversified Emerging Markets, Emerging Markets Local Currency Bond, Cautious Allocation, and funds that have not yet been classified with a Morningstar category in Simfund. May not sum to total due to rounding.

The Federal Reserve Z.1 data, which provides information on holders of assets, shows that bonds held by US open-end mutual funds and ETFs have grown from \$1.7 trillion to \$5.4 trillion between 2005 and 2015. The holdings of bonds by open-end mutual funds and ETFs represents less than 14% of the nearly \$40 trillion in bond holdings represented in the Federal Reserve Z.1 data as of December 2015.<sup>5</sup> The remaining bonds are owned by other types of asset owners, including insurers, pension funds, and several other types of institutional investors, as well as individuals and households. Each of these different types of investors contribute to a diverse ecosystem, where participants have many different objectives and constraints that are unlikely to result in the exact same behavior by all participants at the same time. We explore the objectives and constraints of different types of bond holders in our February 2015 *ViewPoint*, entitled “Addressing Market Liquidity: A Broader Perspective on Today’s Bond Markets.”

Another interesting insight from reviewing the data is that the AUM of dedicated open-end fixed income mutual funds including ETFs has grown from just over \$1 trillion in 2005 to almost \$3.5 trillion as of December 2015.<sup>6</sup> This difference is likely attributable, at least in part, to the presence of multi-asset class funds that hold a portion of their assets in bonds, such as balanced or target date funds (TDFs).<sup>7</sup> Balanced funds are multi-asset class funds that have a fixed portion of assets invested in fixed income and a portion invested in equity. TDFs are asset allocation funds whose asset allocation shifts over time as the fund moves closer to its retirement date. TDFs tend to allocate a greater percentage of assets to fixed income over time. In the US, TDFs are often included as the default investment option in defined contribution plans. Both balanced funds and TDFs behave countercyclically, periodically rebalancing asset class allocations back to target allocations. This tends to cause these funds to buy an asset class when it declines in value and sell an asset class when it increases in value. For the remainder of this paper, we focus on the diversity of dedicated bond open-end funds; however, the presence of multi-asset class funds represents another example of the diversity among funds that hold bonds. We discuss multi-asset class funds in more detail in our May 2014 *ViewPoint* entitled “Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation.”

## Breaking Down “Bond Fund AUM”

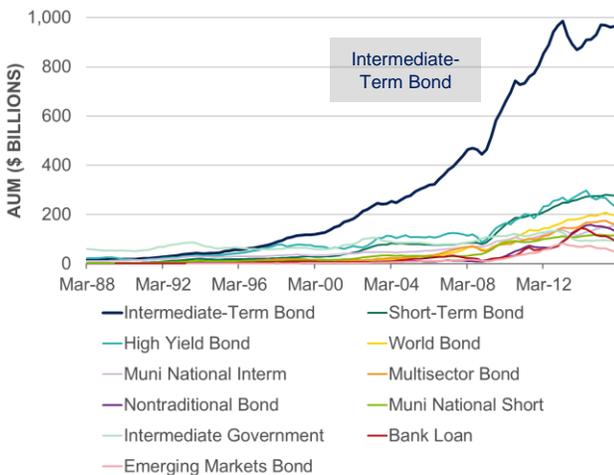
While the headline figures are notable, US open-end bond mutual fund AUM is comprised of over 1,900 individual funds pursuing an array of investment strategies, as shown in Exhibit 1 on page 2. Morningstar classifies funds into different categories based on the investments made by each fund. Currently, dedicated US open-end bond funds fall into

nearly 50 distinct categories.<sup>8</sup> These categories range from broad market bond funds to sector-specific bond funds. The former include multi-sector bond funds that focus on a particular part of the yield curve (e.g., low, intermediate, or long duration). Multi-sector bond funds include government bond funds, high yield bond funds, municipal bond funds, and emerging market bond funds. There are numerous other combinations of fixed income sectors and sub-sectors. Exhibit 1 shows a breakdown of the AUM and number of funds in each category as of December 2015.

Even within each Morningstar category, there is significant diversity around the investment strategies pursued by individual funds. At the highest level, the first area of differentiation within a category is whether the fund is actively managed or passively managed to track the performance and risk characteristics of a given index. As shown in Exhibit 1, the majority of open-end bond funds are actively managed – approximately 88% of US bond mutual funds are actively managed, whereas only 12% are passively managed.<sup>9</sup> The majority of active strategies seek to have exposures that are similar to the benchmark against which their performance is measured and generate incremental returns through a top-down approach such as over- or under-weighting different sectors relative to the benchmark. Other types of active funds pursue an absolute return objective that is not driven by the composition of the performance benchmark. In other words, a fund can focus on underweighting sectors or securities in their benchmark, while other funds may invest opportunistically in bond sectors outside of their benchmark. Similarly, some funds may make extensive use of derivatives while others may not use derivatives at all. Finally, some bond funds take a view on the direction of interest rates while others maintain a duration similar to the fund’s benchmark. These variations are the key reasons for performance differences across and within bond fund categories.

The differences in investment style and strategy between funds are often explored when asset owners perform due diligence and/or when individuals work with financial advisors to determine an appropriate asset allocation and then select the appropriate fund to meet the investor’s objectives. The strategy pursued by a mutual fund is outlined in its prospectus. Further, applicable regulatory requirements may impact the composition of a given fund. For example, according to SEC guidance, any fund that uses a sector in the fund’s name is required to hold at least 80% of its assets in the named sector. In other words, a fund that includes “high yield” in its name generally must invest at least 80% of its assets in high yield bonds.<sup>10</sup> Conversely, a fund with a more generic name can hold bonds across sectors, including bonds not represented in the performance benchmark. In the following section, we conduct a deeper dive on the five largest categories by AUM of open-end bond mutual funds as of December 2015.

## Exhibit 2: HISTORICAL AUM OF BOND FUND CATEGORIES



Source: Simfund. Data as of Dec. 31, 2015.

### Intermediate-Term Bond Funds

The largest individual Morningstar category is Intermediate-Term Bond with \$964 billion in AUM across both active and index strategies, reflecting the aggregate AUM of 254 funds. Morningstar defines Intermediate-Term Bond funds as funds that “invest primarily in corporate and other investment-grade U.S. fixed-income issues and typically have durations of 3.5 to 6.0 years.”<sup>11</sup> This type of fund is defined based on the duration and maturity of the assets rather than the specific type of bonds included. As shown in Exhibit 2, the AUM in the Intermediate-Term bond category has grown significantly in the past several years, relative to other categories.

The majority of the Intermediate-Term Bond funds are benchmarked against the Barclays US Aggregate Index or related indices.<sup>12</sup> The Barclays US Aggregate Index is comprised of investment grade, US-dollar denominated fixed rate taxable bonds across Treasuries, government-related, corporate, and securitized sectors. Exhibit 3 shows the breakdown of the Barclays US Aggregate Index by sector. As of November 2015, nearly 45% of the Barclays US Aggregate Index is comprised of Treasuries or government-related securities, with 24% allocated to corporate bonds and 31% allocated to securitized assets. While these percentages change over time to reflect outstanding bonds that fit the index inclusion rules, this index (and its predecessors) has included a significant weight in Treasuries and government securities for the past 30 years.<sup>13</sup>

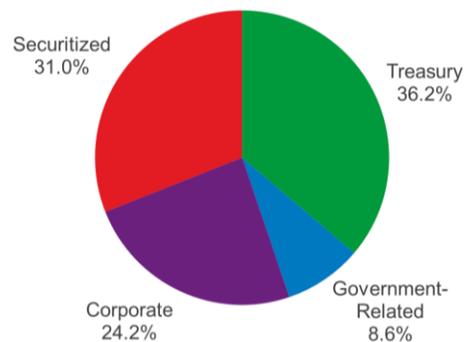
In addition to broad market funds, this category contains funds managed against a subset of more narrowly defined benchmarks. About 30 funds in this category are benchmarked against government/credit indices, which are comprised of investment grade corporate bonds and Treasuries as well as other government-related bonds.<sup>14</sup>

Twelve funds in the category are benchmarked against mortgage-backed securities (MBS) indices such as the Barclays US MBS Index. The Barclays US MBS Index is comprised of agency mortgage-backed pass-throughs.

Only 16 of the 254 Intermediate-Term Bond funds are index funds; though the largest fund in the category is passively managed to track the performance of the Barclays US Aggregate Float Adjusted Index.<sup>15</sup> The remainder of funds in the category are actively managed. Some funds in this category have the ability to invest in asset classes outside their benchmark, such as high yield bonds. While these allocations to bond sectors outside the benchmark vary from fund to fund, they are generally well under 20%.

Looking at historical quarterly net flows from January 1988 through March 2016, we find that the largest quarterly outflows across the Intermediate-Term Bond category occurred in the third quarter of 2013, totaling \$40.7 billion. This coincides with the “taper tantrum.” As a percentage of aggregate category AUM, the most extreme outflows occurred in the third quarter of 1988, when Intermediate-Term Bond funds experienced 5.6% of net outflows, equal to approximately \$1 billion, over the quarter.

### Exhibit 3: BREAKDOWN OF BARCLAYS AGGREGATE INDEX BY SECTOR



Source: Barclays US Aggregate Index Factsheet. As of Nov. 17, 2015.

### Short-Term Bond Funds

The second largest category by AUM is the Short-Term Bond category. Like Intermediate-Term Bond funds, the Short-Term Bond category is defined based on duration and permits investment in multiple bond sectors. Morningstar defines this category as funds that “invest primarily in corporate and other investment-grade U.S. fixed-income issues and typically have durations of 1.0 to 3.5 years.”<sup>16</sup> As shown in Exhibit 1, AUM in the Short-Term Bond category totals \$277 billion across 128 distinct funds as of December 2015. Within the Short-Term Bond category, there are a number of different benchmarks used. Nearly three-quarters of Short Term Bond funds are benchmarked against government/credit indices,

such as the Barclays US Government/Credit Index and the Bank of America Merrill Lynch 1-5 Year US Corporate/Government Bond Index. Several Short-Term Bond funds also use Treasury indices as their benchmarks, such as the Bank of America Merrill Lynch US Treasuries 1-3 Year Index. Of the total \$277 billion in Short-Term Bond funds, approximately \$28 billion is held in index funds.

The largest quarterly net outflows in dollars occurred during the fourth quarter of 2008, when the category experienced \$3.7 billion in net outflows. As a percentage of AUM, the largest outflows occurred in the fourth quarter of 1994, when Short-Term Bond funds as a category experienced outflows of 8.2% of aggregate AUM, equal to \$1.5 billion. We analyze the experiences of bond funds, including Short-Term Bond funds, during 1994 and 2008 on pages 7-11 of this paper.

### High Yield Bond Funds

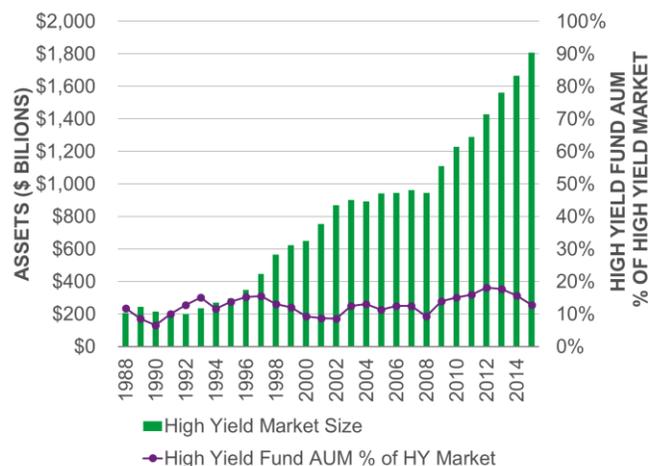
The High Yield Bond category includes funds that “primarily invest in U.S. high-income debt securities where at least 65% or more of bond assets are not rated or are rated by a major agency such as Standard & Poor’s or Moody’s at the level of BB (considered speculative for taxable bonds) and below.”<sup>17</sup> Note that this criterion is less stringent than the SEC guidance that generally requires funds that use a sector-specific reference in their name to invest at least 80% of the fund in the asset class referenced in the fund’s name. About 40% of the funds in the Morningstar High Yield Bond category do not use “high yield” in the name of the fund.<sup>18</sup>

The aggregate AUM in High Yield Bond funds is \$232 billion held across 179 funds. The High Yield Bond category includes a variety of different high yield funds, such as those focused solely on US high yield bonds and others that invest in high yield bonds globally. About three-quarters of High Yield Bond funds use US high yield benchmarks, while approximately one-quarter use global benchmarks.<sup>19</sup>

In recent years, many have pointed to the growth of High Yield Bond fund AUM as a cause for concern. While it is true that High Yield Bond fund AUM has grown from approximately \$88 billion in the fourth quarter of 2008 to \$242 billion as of the first quarter of 2016, the growth of High Yield Bond funds is relatively muted in comparison to the growth of the largest category, Intermediate-Term Bond funds, as shown in Exhibit 2. Further, as shown in Exhibit 4, the global high yield market has contemporaneously grown from \$944 billion in 2008 to nearly \$1.8 trillion as of December 2015, meaning that the AUM of the High Yield Bond category represent less than 15% of the size of the global high yield market as of December 2015.

In a review of historical quarterly net flows, we find that the largest quarterly outflows occurred in the third quarter of 2014, when the High Yield Bond category experienced net outflows of \$19.6 billion. These outflows were a result of a number of factors including uncertainty surrounding the

**Exhibit 4: DEDICATED HIGH YIELD BOND FUND AUM AND GLOBAL HIGH YIELD MARKET SIZE**



Source: JP Morgan, Simfund, BlackRock Analysis. As of Dec. 31, 2015. Note that the high yield bond fund AUM only includes US 1940 Act open-end mutual funds categorized as high yield funds by Morningstar.

Federal Reserve’s monetary policy, global growth concerns particularly in Europe, the spread of Ebola, a continued drop in oil prices, and geo-political risks including tensions between Russia and the Ukraine as well as heightened concern around terrorism.<sup>20</sup> As a percentage of aggregate AUM, the largest outflows from the High Yield Bond category occurred in the first quarter of 1990, which saw outflows of 8.6% of total high yield category AUM, equal to \$1.8 billion.

### World Bond Funds

World Bond portfolios invest “40% or more of their assets in foreign bonds.”<sup>21</sup> These funds are sometimes referred to as global or international bond funds. There is diversity within this category as to the types of investments made by each fund as some funds in the World Bond category follow a conservative approach that favors high quality bonds in developed markets, while others may own lower credit quality bonds from developed and/or emerging markets. These funds can invest in both US and non-US bonds. Slightly less than half of World Bond funds track benchmarks that are “ex-US,” meaning that they generally exclude US securities, while slightly over half of World Bond funds track global benchmarks (that may include US securities).<sup>22</sup> Some World Bond funds may use derivatives as a way to hedge currency exposures, while others may leave currency exposure unhedged.<sup>23</sup> Of the \$198 billion in World Bond funds, about \$48 billion is held in index funds.

Historically, the most extreme quarterly net outflows in terms of dollar value and percentage of category AUM occurred during the fourth quarter of 2008, when outflows from the World Bond category totaled \$7.2 billion or 11.1% of category AUM. We analyze investor flows during the 2008 crisis on pages 8-9 of this paper.

## Muni National Intermediate Funds

Muni National Intermediate funds “invest in bonds issued by various state and local governments to fund public projects.”<sup>24</sup> Unlike taxable bond sectors, such as investment grade or high yield corporate bonds, municipal bonds are generally tax exempt. As such, the investor base for municipal bond funds may differ from that of other types of bond funds, given the tax advantages municipal bond investments afford to taxable investors. The Muni National Intermediate category is one of sixteen municipal bond categories tracked by Morningstar. Collectively, all 16 categories of municipal bond funds represent \$596 billion in AUM or 19% of US open-end bond mutual fund AUM.<sup>25</sup>

The Muni National Intermediate category is the largest of the municipal bond categories tracked by Morningstar, totaling \$158 billion in AUM across 93 funds. Muni National Intermediate bond funds invest in intermediate duration

municipal bonds, and the portfolios generally have “durations of 4.5 to 7.0 years (or, if duration is unavailable, average maturities of five to 12 years).”<sup>26</sup> This category of municipal funds has the ability to diversify risk across municipalities in different states. Other municipal bond categories tracked by Morningstar are limited to investments in individual states.

The largest historical outflows from the Muni National Intermediate category occurred during the third quarter of 2013, when net outflows totaled \$8 billion or 6.2% of aggregate AUM. In addition, we note that during the fourth quarter of 2010 and first quarter of 2011, significant outflows across all municipal bond categories were experienced. The net outflows totaled \$37.5 billion during that period across municipal bond categories. These outflows followed a confluence of events including a spike in Treasury yields, a downgrade in tobacco (a component of certain muni funds), and predictions of widespread defaults by municipalities.<sup>27</sup>

## Fixed Income ETFs

In addition to active and index open-end funds, we have seen a growing adoption of bond ETFs. US bond ETF AUM has increased from \$15 billion in 2005 to approximately \$343 billion as of December 2015. Today, bond ETF AUM is about 10% of all the AUM of all bond funds.<sup>28</sup> While assets in bond ETFs have grown substantially over the past decade, the AUM in bond ETFs remains small compared to open-end mutual funds. Like open-end mutual funds, there is significant diversity in the types of assets held by bond ETFs. Specifically, the \$343 billion held in bond ETFs is spread across 30 different categories, as defined by Morningstar.<sup>29</sup> As shown in Exhibit 5, the three largest categories are Intermediate-Term Bond with \$86 billion in ETF AUM, Short-Term Bond with \$45 billion in ETF AUM, and Corporate Bond with \$45 billion in ETF AUM. The vast majority of these ETFs hold physical securities using a long-only index strategy.

Unlike open-end mutual funds, investors in ETFs buy and sell shares on an exchange, meaning that when investors exit a position in a bond ETF, they exchange shares with another participant on the exchange, as opposed to requiring the fund to redeem shares for cash, as is the case for open-end mutual funds. The vast majority of ETFs redeem in-kind, eliminating the need to liquidate securities for cash to meet redemptions. This means that a redeemer will typically receive individual stocks or bonds that are representative of the ETF’s portfolio rather than cash. Further, ETF shares can only be redeemed by Authorized Participants (APs).

We explore bond ETFs in greater detail in our July 2015 *ViewPoint* entitled “Bond ETFs: Benefits, Challenges, Opportunities.”

**Exhibit 5: US FIXED INCOME ETF BREAKDOWN**

Morningstar Category	AUM (\$ billions)	# of Funds
Intermediate-Term Bond	86	18
Short-Term Bond	45	14
Corporate Bond	45	37
High Yield Bond	33	21
Inflation-Protected Bond	22	12
Short Government	16	9
Long Government	16	8
Ultrashort Bond	13	11
Emerging Markets Bond	11	20
Intermediate Government	9	8
World Bond	9	22
Muni National Interim	8	9
Bank Loan	6	5
Preferred Stock	5	7
Muni National Short	5	10
Trading-Inverse Debt	4	14
Muni National Long	3	5
Long-Term Bond	3	4
High Yield Muni	2	3
Muni California Intermediate	0.5	1
Other*	2	39
<b>Total</b>	<b>343</b>	<b>277</b>

Source: Simfund. As of Dec. 31, 2015. Categories defined by Morningstar. \*Other is comprised of: Conservative Allocation, Multicurrency, Multisector Bond, Muni California Long, Muni New York Intermediate, Muni New York Long, Nontraditional Bond, Single Currency, Trading-Leveraged Debt, and Trading-Miscellaneous.

## Net Flows During Stressed Markets

One of the main theories underlying the call for a macro stress test of all bond funds is a concern that a stress scenario will lead to mass redemptions across bond funds, which bond funds may become unable to meet. It is believed such a scenario might lead to contagion and result in fire sales of bonds to meet redemptions. We analyzed quarterly net flows from the ten largest bond fund categories during several well-known recent stress periods, namely: (i) Fed rate hike in 1994, (ii) 2008 Financial Crisis, (iii) 2013 “Taper Tantrum,” and (iv) December 2015 high yield selloff.<sup>30</sup> In reviewing the data, we draw the following conclusions:

- ▶ Different bond fund categories experienced different investor flow activity in response to the stress events.
- ▶ Even during stress periods, some of the bond fund categories experienced net inflows, not outflows.
- ▶ None of the categories studied experienced “massive aggregate outflows” during a quarterly period since 1988. Quarterly net outflows from the fund categories reviewed never exceeded 15.1% of category AUM.
- ▶ The size of outflows in dollar-terms has increased over time, but outflows as a percentage of category AUM have not increased materially.

### 1994 Fed Rate Hike

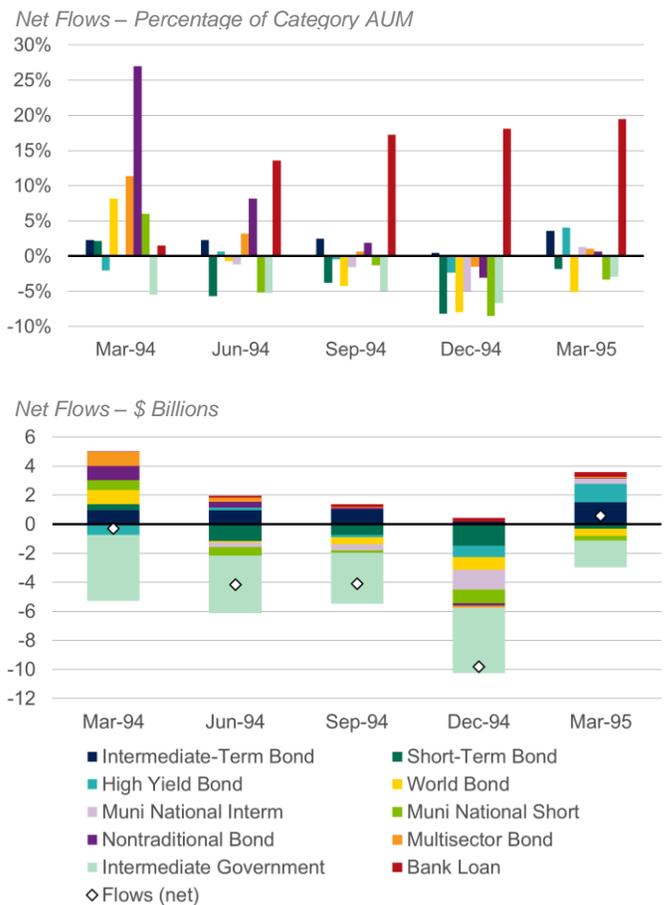
In 1994, the bond market experienced a major selloff and increased volatility as a result of sharp and rapid interest rate hikes by the US Federal Reserve, which resulted in significant losses to many bond investors.<sup>31</sup> Some have even referred to this period as the “bond market massacre” due to the swift and severe losses that were experienced by many bond investors.<sup>32</sup> These events resulted in the largest quarterly net outflows ever experienced by bond funds on the whole when looking at outflows as a percent of total bond fund AUM. During the fourth quarter of 1994, aggregate quarterly net outflows from bond funds totaled 5% of bond fund AUM, which represented the largest aggregate quarterly net outflow from bond funds since 1988.<sup>33</sup> However, as shown in Exhibit 6, several categories of bond funds had net inflows during this time.

The categories with the largest net outflows during this time were intermediate duration and short duration categories, encompassing Intermediate Government, Muni National Intermediate, Short-Term Bond, and Muni National Short categories. Though, we note the Intermediate-Term Bond category actually experienced net inflows, not outflows. The Intermediate Government funds experienced the largest net outflows in dollar terms, with \$16.5 billion in net outflows during the course of the year. The outflows were not concentrated in a single quarter, but rather, were spread out over the year, with the Intermediate Government category experiencing between \$3.5 and \$4.6 billion in net outflows each quarter of 1994. In the fourth quarter of 1993, the

Intermediate Government category represented \$83 billion in AUM, and had the greatest amount of AUM out of any bond fund category. Thus, it is not surprising that outflows in dollar-terms were the largest from this category during the 1994 events. Outflows from the Intermediate Government category were not limited to the 1994 period, however. The Intermediate Government category had actually experienced \$2.6 billion in net outflows during the fourth quarter of 1993 before the rate hikes in 1994, and outflows in the category persisted for some time after 1994, with the category not experiencing net inflows until the third quarter of 1998.

Additionally, the Short-Term Bond and the Muni National Short categories experienced net outflows totaling \$3.3 billion and \$1.7 billion, respectively, over the second, third, and fourth quarters of 1994. We believe this reflects the more severe impact of the rate hikes on the front-end of the yield curve and the use of Short-Term Bond funds by relatively conservative investors with low tolerances for market value losses.<sup>34</sup> Outflows from any of the individual categories shown in Exhibit 6 did not exceed 10% of category AUM during any quarter of 1994.

**Exhibit 6: 1994 RATE HIKE**



Source: Simfund, BlackRock analysis. The categories shown above are the top ten largest bond fund categories by AUM as of December 2015.

While the majority of bond fund categories experienced outflows during this period, the Bank Loan category, which was relatively small at the time – only about \$1 billion in the fourth quarter of 1993 – experienced over \$600 million in net inflows over the course of 1994. Bank loans are floating rate instruments that generally receive increased payments as interest rates rise. Bank loans experienced favorable performance during the 1994 period, particularly in comparison to other fixed income asset classes, such as US Treasuries. As such, the inflows to Bank Loan funds are likely attributable to the floating rate nature of bank loans and investor expectations of future rate hikes. The Intermediate-Term Bond category also experienced net inflows totaling \$3.1 billion during 1994. Finally, Nontraditional Bond and Multisector Bond funds also experienced net inflows during the first three quarters of 1994.

The outflows experienced by some categories and inflows experienced by others demonstrates that even during a period of sharply rising interest rates, bond fund investors were able to differentiate the performance of the fixed income assets held by individual bond funds and make investment decisions in line with expectations for individual fixed income asset classes during this period.

### 2008 Financial Crisis

The 2008 Global Financial Crisis (the Crisis) represents the most profound market stress event since the Great Depression. As is well-known by now, structural weaknesses in the global banking system, excessive leverage in the broader financial system, and problems in the subprime mortgage market resulted in significant losses to asset owners globally. While one might expect that bond funds would experience significant outflows given the liquidity “crunch” and flight to safety during the Crisis, it is interesting to note that while some categories of bond funds experienced significant outflows, this was not the case across all bond funds, with some categories actually experiencing inflows in 2008.

Two of the categories with the largest net outflows during the 1994 rate hikes had the largest inflows during the 2008 financial crisis. Likewise, the categories with large inflows during the 1994 period experienced some of the largest outflows during the fourth quarter of 2008. Specifically, the Intermediate Government and the Muni National Short bond categories experienced net inflows totaling \$10.1 billion and \$4.6 billion, respectively, during the second half of 2008. At the same time, investors pulled assets from categories such as Bank Loans, Intermediate-Term Bond, Multisector Bond, World Bond, and Short-Term Bond categories during the second half of 2008, with the majority of outflows occurring in the fourth quarter of 2008. The Intermediate-Term Bond category experienced the largest net outflows, totaling \$23 billion in the fourth quarter of 2008. This was followed by \$14.7 billion of net inflows during the first quarter of 2009. World Bond and Multisector Bond categories also experien-

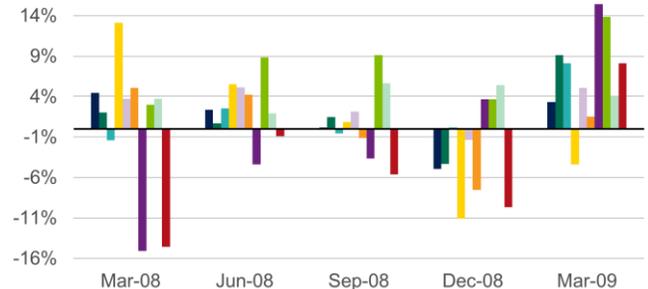
ced net outflows of \$7.2 billion and \$4.8 billion, respectively, during the fourth quarter of 2008.

Interestingly, outflows during the quarter-ended September 30, 2008 were relatively muted, despite the failure of Lehman Brothers on September 15, 2008, suggesting that investors who ultimately chose to redeem assets from bond funds in response to the global turmoil did not do so in the immediate aftermath of the Lehman failure. This is consistent with other periods of stress, where outflows that one might expect to occur quickly in response to a stimulus event, actually occur over a more prolonged period of time. This is generally because many investors have a governance model that incorporates consultation with an investment committee, a board, and/or an external consultant before making investment changes. This may reduce the proclivity for “knee-jerk” reactions to market stress events.

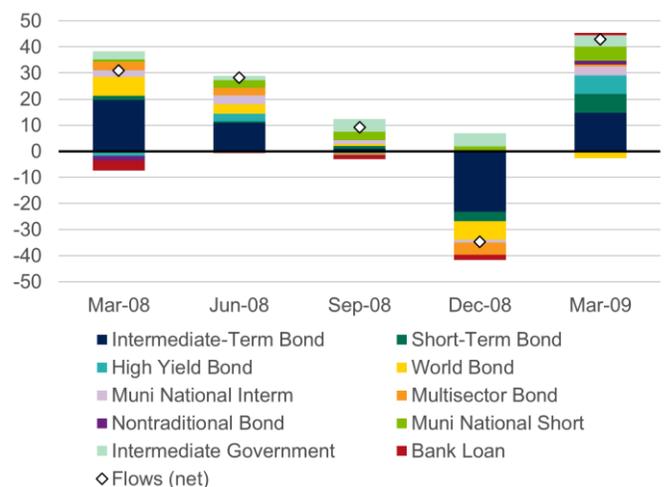
In reviewing this data, it appears that while investors were redeeming from what were perceived to be more risky bond sectors, they were simultaneously increasing exposure to funds that invest in what were perceived to be relatively safe havens, such as government bonds and municipals. As such, while we certainly observed significant net outflows from

Exhibit 7: 2008 FINANCIAL CRISIS

Net Flows – Percentage of Category AUM



Net Flows – \$ Billions



Source: Simfund, BlackRock analysis. The categories shown above are the top ten largest bond fund categories by AUM as of December 2015.

several categories of bond funds during the 2008 crisis, we did not observe a wholesale loss of confidence in, or mass exodus from all bond funds. The data shows net inflows into certain types of bond funds during this period. One observation we see when looking at this data is that the magnitude of net outflows and inflows in dollar-terms were significantly larger during 2008 than they were during 1994.

This is largely a product of greater AUM in bond funds during 2008 than in 1994, which is consistent with the growth in the overall size of the bond market during the same period.<sup>35</sup> Net outflows as a percentage of AUM are only slightly higher during 2008, with the largest net outflows as a percentage of category AUM in the Nontraditional Bond category, which experienced 15% net outflows during the first quarter of 2008. Looking at the second half of 2008, the largest outflow as a percentage of category AUM was experienced by the World Bond category, which had net outflows totaling 11% of category AUM during the fourth quarter of 2008.

### “Taper Tantrum” in 2013

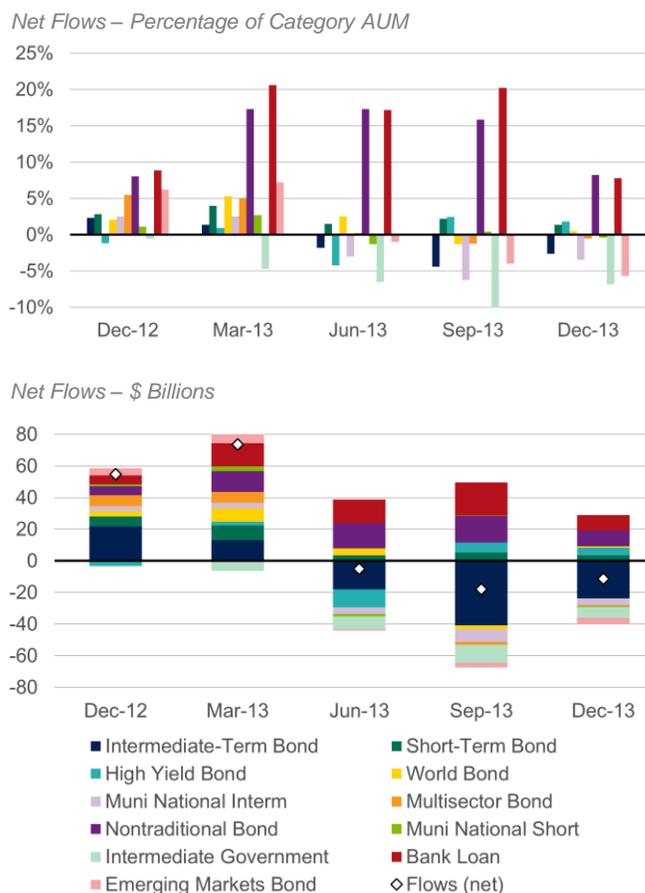
In the Spring and Summer of 2013, Federal Reserve Chair Ben Bernanke made statements suggesting that the Federal Reserve might curtail and eventually end its monthly asset purchase program.<sup>36</sup> This was unanticipated by many market participants and caused US 10-year Treasury yields to rise sharply and the US dollar to appreciate significantly, which contributed to high levels of volatility in bond markets.<sup>37</sup> This event triggered a selloff in bond markets, and the impact on emerging markets has been highlighted in several publications.<sup>38</sup> There were nearly \$8 billion in net outflows from Emerging Markets Bond funds from the second through fourth quarters of 2013. However, given their relatively small size in terms of category AUM compared to other bond fund categories, Emerging Markets Bond funds did not experience the largest net redemptions during the Taper Tantrum. Rather, the Intermediate-Term Bond and Intermediate Government categories experienced the largest net outflows totaling \$82 billion and \$27 billion, respectively, during the second through fourth quarters of 2013. The International Government category had also experienced \$6.3 billion in net outflows during the first quarter of 2013. The Muni National Intermediate category also experienced over \$16 billion in net outflows during the last three quarters of 2013.

While many have cited the Taper Tantrum as the type of event that might trigger a selloff across all bond funds, we observed simultaneous net *inflows* into the Bank Loan and Nontraditional Bond categories totaling \$46 billion and \$42 billion, respectively, during the last three quarters of 2013. Further, Short-Term Bond funds experienced \$12.5 billion in net inflows during the same time period. Given greater concerns about rising interest rates in the wake of the Fed’s statements, it is not surprising that investors may have decided to increase allocations to Nontraditional Bond funds,

which are considered funds that have a greater ability to hedge interest rate risk, as well as bank loans, which tend to perform well (all else equal) in rising rate environments, given their floating rate nature. Likewise, investors increasing allocations to Short-Term Bond funds, which have less interest rate sensitivity than intermediate and long duration funds, makes intuitive sense in this context.

Lastly, it is interesting to note some similar patterns with the 1994 events, where the market experienced surprises with respect to rising interest rates. In particular, we observe significant inflows into Bank Loan funds, with significant outflows from Intermediate Government funds during both periods, as well as both inflows and outflows in several other categories of bond funds. These patterns suggest that investors differentiate between different categories of bond funds based on the different types of bonds held by each category of funds, and do not mechanically sell all holdings across all types of bond funds during market stress events, particularly those during periods of rising interest rates.

**Exhibit 8: 2013 TAPER TANTRUM**



Source: Simfund, BlackRock analysis. The categories shown above are the top ten largest bond fund categories by AUM as of December 2015. The Emerging Markets Bond category has also been included given the focus on emerging markets during the Taper Tantrum.

## December 2015 Volatility and Oil Price Decline

In the fourth quarter of 2015, a number of factors created a volatile economic environment. In particular, oil prices dropped approximately 40% from their peak in June 2015 of \$61.43 a barrel to \$37.04 a barrel by year-end 2015. Likewise, other commodities saw significant price declines. Further, uncertainty around the Federal Open Market Committee (FOMC) rate decisions and associated rhetoric, weak earnings growth, and concerns about the implications of record-low oil prices on energy and commodity-related businesses put significant downward pressure on risk assets. This phenomenon was particularly noticeable in the high yield space, which has significant exposure to the energy sector. Specifically, as of December 31, 2015, energy and metals & mining companies made up over 15% of the Barclays US High Yield 2% Issuer Capped Index. Given the performance of energy prices and energy stocks during this period, it is, therefore, not surprising that high yield bonds performed poorly, as shown in Exhibit 9.

**Exhibit 9: AVERAGE HIGH YIELD BOND PRICES IN 2015**



Source: Barclays Live. As of Dec. 31, 2015. Average Bond Price shown for the Barclays US Corporate High Yield Index.

This period was also notable in that the Third Avenue Focused Credit Fund – a daily open-end mutual fund that was classified as a high yield fund but had significant investments in distressed credits – announced that it would cease redemptions on December 16, 2015.

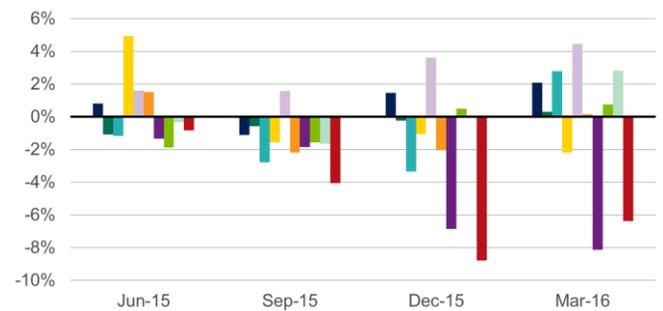
As a result of this environment, during the fourth quarter of 2015, we observed over \$8 billion in net outflows from High Yield Bond funds. The High Yield Bond category did not experience the largest outflows in dollar-terms or as a percentage of category AUM, however, suggesting that investors did not view the Third Avenue situation as cause for fire sales of high yield fund shares. The largest outflows were actually experienced by the Bank Loan and the

Nontraditional Bond categories, with \$9.2 billion and \$9.8 billion in net outflows, respectively, during the fourth quarter of 2015. Like the high yield market, the bank loan market has significant exposure to the energy sector, which likely contributed to outflows from Bank Loan funds.

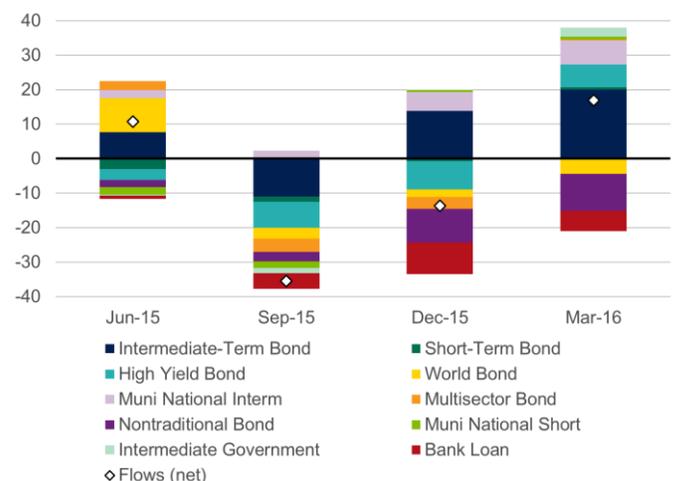
At the same time, Intermediate-Term Bond funds experienced nearly \$14 billion in net *inflows*, which provides another example of how investors differentiated between different types of bond funds. Likewise, the following quarter-ended March 2016 saw net inflows into several bond fund categories that had experienced outflows in the previous quarter, including inflows into the High Yield Bond category. The data we observe during this period are particularly important because they provide the only historical example of a scenario where an open-end mutual fund was unable to meet redemptions coupled with stressed market conditions. What we observe is that investors were able to distinguish the idiosyncratic event experienced by one open-end mutual fund from the risks associated with other mutual funds, given that mass aggregate outflows from high yield bond funds or any other bond fund category did not occur during this period. It also demonstrates that investors differentiated the different market risks associated with different investment strategies

**Exhibit 10: DECEMBER 2015 HIGH YIELD SELLOFF**

*Net Flows – Percentage of Category AUM*



*Net Flows – \$ Billions*



Source: Simfund, BlackRock analysis.

and did not treat all mutual funds as a single asset class when deciding if or how they should react to this market event.

## Conclusion

When the components of bond fund AUM are broken down, it becomes clear that bond funds do not represent a homogeneous group of market participants, and the investors in different types of bond funds do not react in the same way to market stress events. Rather, bond funds reflect a wide range of funds pursuing a diverse range of investment objectives and investment styles. In addition to the diversity of bond funds and bond ETFs, there is diversity across the various asset owners that invest in bond funds. These asset owners have different investment objectives and constraints, which incentivize them to behave in different ways in response to market changes based on their respective return objectives, risk tolerance, tax status, regulatory regime, time horizon, liquidity needs, and liability structure.

While our analysis of fund flows during recent stress events demonstrates that the case for massive aggregate outflows from bond funds is not present in the data nor is it likely given the diversity of bond funds, we also recognize that the limitation of this analysis is that it reviews only relatively recent stress events, which have occurred within the context of a long-term downward trend in US interest rates that has been ongoing since the early 1980s.<sup>39</sup> A sharper and more substantial increase in interest rates than has been experienced in the last 35 years could certainly have implications for the bond markets as a whole, and mutual fund managers should be diligent in ensuring that the appropriate risk management policies and procedures are in place to address potential risks that have not been experienced during previous stress market events. **We view this as a reason to pursue the development of regulatory standards for the stress testing of individual open-end mutual funds' abilities to meet their redemption obligations.**

We further view this as underscoring the importance of collecting more data on asset owners across the bond market ecosystem before attempting to draw broad-based, macro conclusions about potential market dynamics during hypothetical stress market events. Focusing solely on US mutual funds because the data is easily accessible may yield misleading conclusions given the diverse range of market participants in the bond markets. Recall that open-end mutual funds and ETFs represent only a small portion of the

nearly \$40 trillion of debt owned by various entities that are included in the Federal Reserve Z.1 Data. Many of these asset owners have investment objectives and constraints that differ materially from those of open-end bond funds, suggesting that conclusions drawn only from looking at US mutual fund data are unlikely to be reflective of the behavior of the bond market as a whole.<sup>40</sup>

Although the analysis performed in this paper has some limitations, it does demonstrate that investor flows to and from bond funds during recent market stress events do not support the hypothesis that bond fund investors treat their bond fund investments as a single asset class, retreating from all bond funds at the same time during periods of stress. The combination of diversity at multiple levels calls into question the potential insights that could be gleaned from a "macro stress test" across all bond funds.<sup>41</sup> Further, the data shown throughout this *ViewPoint* highlight the conceptual challenges associated with such an exercise. Specifically, in thinking about a "macro stress test across bond funds," two questions highlight the challenges of defining such a test: (i) which bond funds would be included?; and (ii) how would the stress test account for different types of bonds held by different bond funds? In other words, the heterogeneity of bond funds reduces the value of looking at funds in the aggregate if the assumption is that bond funds should be treated as a homogeneous group or single asset class.

**Further, the redemption "liabilities" of one bond fund are unrelated (from a legal or any other perspective) to the redemption liabilities of other funds – even those pursuing a similar investment strategy or managed by the same asset manager.** In other words, the assets from one fund cannot be used to meet the redemption obligations of another bond fund because each fund is a separate legal entity. This further calls into question the value of attempting to test the aggregate ability of multiple bond funds to meet redemptions.

Instead of attempting to develop a macro stress test of all bond funds, **we recommend that policy makers focus on ensuring that all funds have robust liquidity risk management practices in place and consider incorporating stress testing of individual funds' abilities to meet redemption requests across a wide range of market scenarios.** This would contribute to high standards of liquidity risk management across the mutual fund industry and promote the resiliency of the mutual fund structure.

## Notes

1. Bank for International Settlements, Committee on the Global Financial System, Fixed Income Market Liquidity (Jan. 2016), available at <http://www.bis.org/publ/cgfs55.pdf>; International Monetary Fund, Global Financial Stability Report Chapter 2: Market Liquidity—Resilient or Fleeting? (Oct. 2015), available at [https://www.imf.org/External/Pubs/FT/GFSR/2015/02/pdf/text\\_v3.pdf](https://www.imf.org/External/Pubs/FT/GFSR/2015/02/pdf/text_v3.pdf).
2. Federal Reserve Bank of New York, Liberty Street Economics, Are Asset Managers Vulnerable to Fire Sales? (Feb. 18, 2016), available at <http://libertystreeteconomics.newyorkfed.org/2016/02/are-asset-managers-vulnerable-to-fire-sales.html?cid=6a01348793456c970c01bb08bc2d7b970d#.VylqBTj2a7Q>; International Monetary Fund, Financial Sector Assessment Program Financial System Stability Assessment (July 2015), available at <https://www.treasury.gov/resource-center/international/Documents/U.S.%202015%20FSSA.pdf> (IMF FSAP Report).
3. The data referenced in this paper is specific to US 1940 Act open-end mutual funds that are included in a bond fund category per Morningstar classifications. We encourage regulators to review data on mutual funds in other countries, to the extent this data is available. The 2,200 figure includes both open-end funds and ETFs but excludes closed-end funds. Source: Simfund. As of Dec. 31, 2015. All Simfund data accessed in May 2016.
4. For more information on the different asset owners of open-end mutual funds and ETFs, see BlackRock, *ViewPoint*, Addressing Market Liquidity: A Broader Perspective on Today's Bond Markets (Feb. 2016), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-liquidity-bond-markets-broader-perspective-february-2016.pdf> (Addressing Market Liquidity II); BlackRock, *ViewPoint*, Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation (May 2014), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-who-owns-the-assets-may-2014.pdf>.
5. Addressing Market Liquidity II; Federal Reserve Z.1, Financial Accounts of the United States (Dec. 31, 2015); available at <http://www.federalreserve.gov/releases/z1/Current/z1.pdf> (Federal Reserve Z.1 Data). See tables L.122 and L.123. Our data analysis does not include closed-end funds and money market funds. Note that Addressing Market Liquidity II uses Federal Reserve Z.1 data as of Sep. 30, 2015; we reference Dec. 31, 2015 data in this paper.
6. Simfund. As of Dec. 31, 2015. Includes active and index open-end bond mutual funds. Categories defined by Morningstar.
7. Federal Reserve Z.1 data does not provide details on the individual funds holding bonds. Bond fund AUM measures the size of the entire bond fund, which oftentimes will be holding some cash or other assets, so bond fund AUM and bond holdings by mutual funds is not exactly the same. Data on insurance funds, such as variable insurance trusts, is not available in the same format as data on non-insurance open-end mutual funds, though insurance funds may also invest in bonds. Insurance funds have not been included in the bond fund AUM figures referenced in this paper; however, the holdings of such funds may be captured in Federal Reserve Z.1 data.
8. Source: Simfund. As of Dec. 31, 2015. This universe is comprised of dedicated fixed income US open-end bond mutual funds. It does not capture multi-asset funds that may invest a portion of their assets in bonds. In addition to these categories, there are some funds captured in Simfund that are not classified by Morningstar.
9. The figures referenced exclude ETFs. When ETFs are included, the percentage of passively managed funds is higher.
10. SEC, Final Rule, Investment Company Names (Jan. 17, 2001), available at <https://www.sec.gov/rules/final/ic-24828.htm>. This rule contains a carve-out for funds that use the term "high-yield" in conjunction with terms such as "municipal" or "tax-exempt" that suggest that the fund invests in tax-exempt bonds.
11. Morningstar, The Morningstar Category Classifications (Apr. 2016), available at [http://morningstardirect.morningstar.com/clientcomm/Morningstar\\_Categories\\_US\\_April\\_2016.pdf](http://morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf) (Morningstar Category Classifications).
12. Source: Simfund, BlackRock analysis. Related indices include Barclays US Aggregate Float Adjusted TR USD Index, Barclays US Aggregate Intermediate TR USD, Barclays Intermediate Aggregate Ex Baa TR US.
13. The relative weighting of asset classes in the index changes as market security values and bond issuance fluctuates and as new asset classes are added to the index. Most Barclays benchmark indices are rebalanced monthly, offering intra-month stability in index composition. Securities that meet all published index inclusion rules and eligibility criteria at the beginning of a given month will remain in the index for purposes of return calculations until the following month-end, when index composition is next reset. Security-level weights are reset at each index rebalancing and are available with a variety of weighting options. See Barclays, Barclays Index Methodology (Jul. 17, 2014), available at [https://index.barcap.com/Home/Guides\\_and\\_Factsheets](https://index.barcap.com/Home/Guides_and_Factsheets).
14. Barclays, Factsheet, US Government/Credit Index (Apr. 8, 2015), available at [https://index.barcap.com/Home/Guides\\_and\\_Factsheets](https://index.barcap.com/Home/Guides_and_Factsheets).
15. Source: Simfund.
16. Morningstar Category Classifications.
17. Morningstar Category Classifications.
18. Source: Simfund. As of Dec. 31, 2015. Includes US bond funds categorized as High Yield Bond funds by Morningstar. Some funds captured do not have a benchmark listed in Simfund.
19. Id.
20. National Association of Insurance Commissioners, Capital Markets Special Report: Retrospective on Market Activity and Volatility in 2014, available at [http://www.naic.org/capital\\_markets\\_archive/141111.htm](http://www.naic.org/capital_markets_archive/141111.htm); World Bank, Global Economic Prospects Report (Jan. 2015), available at [https://www.worldbank.org/content/dam/Worldbank/GEP/GEP2015a/pdfs/GEP15a\\_web\\_full.pdf](https://www.worldbank.org/content/dam/Worldbank/GEP/GEP2015a/pdfs/GEP15a_web_full.pdf).
21. Morningstar Category Classifications.
22. Source: Simfund. As of Dec. 31, 2015. For example, ex US indices include the Citigroup Non-US Dollar World Government Bond Index and the Barclays Global Aggregate Ex USD index. For more information on benchmark definitions, see Barclays, Benchmark Definitions, available at <https://wealth.barclays.com/content/dam/bwpublic/americas/documents/shared/benchmark-definitions-americas.pdf>.
23. Adam Zoll, Morningstar, Derivatives Often Part of Fund Managers' Toolkits (Feb. 19, 2013), available at <http://ibd.morningstar.com/article/article.asp?id=585320&CN=brf295>, <http://ibd.morningstar.com/archive/archive.asp?inputs=days=14:frmtl&d=12,%20brf295>.
24. Morningstar Category Classifications.
25. Percentage of total bond fund AUM excludes ETFs. The sixteen categories of municipal bond funds, as defined by Morningstar are: Muni National Intermediate, Muni National Short, Muni National Long, High Yield Muni, Muni California Long, Muni California Intermediate, Muni Single State Long, Muni New York Long, Muni Single State Intermediate, Muni Single State Short, Muni New York Intermediate, Muni Pennsylvania, Muni Massachusetts, Muni New Jersey, Muni Ohio, and Muni Minnesota.

## Notes (cont'd)

26. Morningstar Category Classifications.
27. Eric Jacobson, Morningstar, Lessons from the Muni-Bond Sell-Off (Mar. 3, 2011), available at <http://ibd.morningstar.com/article/article.asp?id=372497&CN=brf295>, <http://ibd.morningstar.com/archive/archive.asp?inputs=days=14;frmtid=12.%20brf295>.
28. This data was derived from SimFund as of Dec. 31, 2015 and includes open-end taxable and tax-free bond ETFs.
29. Simfund. As of Dec. 31, 2015. Categories defined by Morningstar. This universe is comprised of bond ETFs as defined by Simfund. In addition to these categories, there are some funds captured in Simfund that are not classified by Morningstar.
30. In addition to the type of broad market event explored in this paper, there could be narrower market events that could impact specific bond fund categories (e.g., a change in the tax-exempt status of municipals).
31. In addition to the Fed rate hike, the Mexican Financial Crisis created further turbulence in markets. For more information, see Joseph A. Witt Jr., Federal Reserve Bank of Atlanta, The Mexican Peso Crisis (Jan./Feb. 1996), available at <https://www.frbatlanta.org/-/media/Documents/filelegacydocs/Jwhi811.pdf>.
32. Larry Summers, The Washington Post, "Here's yet another reason the Fed shouldn't raise rates" (Sep. 15, 2015), available at <https://www.washingtonpost.com/news/wonk/wp/2015/09/15/larry-summers-heres-yet-another-reason-the-fed-shouldnt-raise-rates/>; Al Ehrbar, Fortune, "The great bond massacre" (Oct. 17, 1994), available at [http://archive.fortune.com/magazines/fortune/fortune\\_archive/1994/10/17/79850/index.htm](http://archive.fortune.com/magazines/fortune/fortune_archive/1994/10/17/79850/index.htm).
33. BlackRock, *ViewPoint*, Who Owns the Assets? A Closer Look at Bank Loans, High Yield Bonds and Emerging Markets Debt (Sep. 2014), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-closer-look-selected-asset-classes-sept2014.pdf>.
34. Christine Benz and Cara Esser, Morningstar, How Different Types of Bond Funds Respond to Rate Hikes (Dec. 15, 2015), available at <http://www.morningstar.com/cover/vidocenter.aspx?id=733000>.
35. Addressing Market Liquidity II.
36. Federal Reserve Chairman Ben Bernanke, Remarks Before the Joint Economic Committee, U.S. Congress, Washington, D.C. (May 22, 2013), available at <https://www.federalreserve.gov/newsevents/testimony/bernanke20130522a.htm>; Federal Reserve Chairman Ben Bernanke, Press Conference Remarks (Jun. 19, 2013), available at <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20130619.pdf>.
37. Christopher Neely, Federal Reserve Bank of St. Louis, Economic Synopses, Lessons from the Taper Tantrum (2014), available at [https://research.stlouisfed.org/publications/es/14/ES\\_2\\_2014-01-28.pdf](https://research.stlouisfed.org/publications/es/14/ES_2_2014-01-28.pdf).
38. See e.g., Jimmy Shek, Ilhyock Shim and Hyun Song Shin, Bank for International Settlements, Investor redemptions and fund manager sales of emerging market bonds: how are they related? (Aug. 2015), available at <http://www.bis.org/publ/work509.pdf> (BIS 2015 Report).
39. See Federal Reserve Bank of St. Louis, Economic Data, 10-Year Treasury Constant Maturity from Aug. 1981 to May 2016, available at <https://research.stlouisfed.org/fred2/series/DGS10>.
40. Federal Reserve Z.1 Data, Addressing Market Liquidity II.
41. BIS 2015 Report; IMF FSAP Report.

## RELATED CONTENT

- ▶ [ViewPoint - Addressing Market Liquidity: A Broader Perspective on Today's Bond Markets, February 2016](#)
- ▶ [ViewPoint - Addressing Market Liquidity, July 2015](#)
- ▶ [ViewPoint - Bond ETFs: Benefits, Challenges, Opportunities, July 2015](#)
- ▶ [ViewPoint - Who Owns the Assets? A Closer Look at Bank Loans, High Yield Bonds and Emerging Markets Debt, Sep. 2014](#)
- ▶ [ViewPoint - Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation, May 2014](#)

For access to our full collection of public policy commentaries, including the *ViewPoint* series and comment letters to regulators, please visit <http://www.blackrock.com/corporate/en-us/news-and-insights/public-policy>.

This publication represents the regulatory and public policy views of BlackRock. The opinions expressed herein are as of June 2016 and are subject to change at any time due to changes in the market, the economic or regulatory environment or for other reasons. The information in this publication should not be construed as research or relied upon in making investment decisions with respect to a specific company or security or be used as legal advice. Any reference to a specific company or security is for illustrative purposes and does not constitute a recommendation to buy, sell, hold or directly invest in the company or its securities, or an offer or invitation to anyone to invest in any BlackRock funds and has not been prepared in connection with any such offer.

This material may contain 'forward-looking' information that is not purely historical in nature. Such information may include, among other things, projections and forecasts. There is no guarantee that any forecasts made will come to pass.

The information and opinions contained herein are derived from proprietary and non-proprietary sources deemed by BlackRock to be reliable, but are not necessarily all inclusive and are not guaranteed as to accuracy or completeness. No part of this material may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronic, mechanical, recording or otherwise, without the prior written consent of BlackRock.

This publication is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation.

©2016 BlackRock. All rights reserved. iSHARES and BLACKROCK are registered trademarks of BlackRock.

All other marks are property of their respective owners.

GOV-0092

**BLACKROCK**<sup>®</sup>

**Appendix D: ViewPoint – Improving Transparency: The Value of Consistent Data over  
Fragmented Data**

## IMPROVING TRANSPARENCY

### The value of consistent data over fragmented data

AUGUST 2016

“The volume of data collected and exchanged between national authorities and the European supervisory authorities has drastically increased. That's clear. Less clear is whether it's all essential. So we're taking forward a project on data standardisation to improve reporting with new technology. This should also give us a better idea of where the burden is unnecessary, so we can reduce it.”

– European Commissioner for Financial Stability,  
Financial Services and Capital Markets Union, July 2016

The optimal conditions for investment are created by regulatory regimes that protect investors and facilitate responsible growth of capital markets. They also maintain consumer choice and properly balance benefits versus implementation costs. Financial market transparency, delivered through appropriately detailed and timely reporting, underpins well-regulated and robust markets where risks are monitored and properly understood.

The 2008 global financial crisis laid bare that financial markets were at that time lacking the regulatory framework that protects investors today. Enhanced reporting to regulators and disclosure to investors subsequently became a cornerstone of the regulatory response enshrined in the 2009 Pittsburgh Declaration – the global policy response to the 2008 crisis.

Today, regulators around the world continue to introduce reporting regimes in line with the objectives of the Pittsburgh Declaration. These initiatives are generally laudable in aim, sensible in conception and manageable in isolation, however, due to different reporting requirements, regulators cannot assess and compare the information they receive, particularly at the global level. In its review of the cumulative impact of post-2008 regulation, the European Commission has acknowledged the concerns raised by stakeholders regarding the usefulness of multiple and often duplicative data requests.

In this ViewPoint we analyse fund data and transaction reporting regimes in the United States and Europe Union. It is worth noting that regulators in Canada, Australia, Hong Kong, Singapore and Japan are embarking on similar projects to increase reporting requirements for monitoring purposes. We compare the aims and objectives, remit and reporting requirements of the US and European regimes and identify a number of challenges for regulators and firms created by this complexity. We conclude by making a number of recommendations to policy makers regarding how data could be requested and reported in a more streamlined, consistent manner. We encourage global securities markets standard setters to take on this difficult and complex issue by establishing an international working group to study global reporting.

# BLACKROCK®



**Barbara Novick**  
Vice Chairman



**Stephen Fisher**  
Managing Director,  
Public Policy



**Martin Parkes**  
Director, Public Policy



**Michael Mahoney**  
Director, Regulatory  
Reporting



**Tim Mcleod**  
Director, Trading and  
Liquidity Strategies  
Group



**Alexis Rosenblum**  
Vice President, Public  
Policy

## KEY RECOMMENDATIONS

By addressing the following issues, regulators would be in a position to strike a better balance between stimulating economic growth and adequately monitoring concentrations of risk in the financial system.

Over the **SHORT TERM**, we encourage regulators to focus on:

### 1. Clarity of purpose

It is important to understand how data that regulators gather would be analysed and used, and how the data could be leveraged to provide feedback to the broader market.

### 2. Standardisation of requested information

We encourage regulators to move towards standardisation of data requests. This ranges from reaching globally agreed measures and definitions of key terms through to a common approach on the detail and the frequency of requests.

### 3. Standardisation on how information is reported

Electronic data delivery whenever and wherever possible should be the objective. This would substantially improve the accuracy and quality of data as well as the timeliness of reporting.

At the global level we propose that the International Organization of Securities Commissions (IOSCO) expands upon its recently announced data gaps in asset management study by undertaking an assessment of how substantially similar data requests vary across their member jurisdictions and second, establish a working group tasked with agreeing on a common transaction reporting template for relevant capital market products and activities.

Over the **MEDIUM TERM**:

### Migration to uniform reporting platforms

Major jurisdictions as EU and US each have multiple reporting platforms. A significant step, given the questions that need to be addressed around regulatory remit and data sharing, would be for each jurisdiction to commit to a single internal reporting platform.

Over the **LONGER TERM**:

### A single global data repository

Subject to robust reassurances regarding cyber security and the protection of data, a single global data repository could be set as a long term objective. Short of that, reporting identical data to multiple databases would mark a significant improvement over the current framework.

The following section describes some of the more important new regulatory requirements in the US and the EU regarding both fund data and transaction reporting. The discussion is not exhaustive, but is intended illustrate the challenges firms operating in multiple markets, as well as regulators, face in the collection, aggregation and analysis of data.

## Fund Data Reporting – Overview, Challenges and Recommendations

### Overview

A lack of data was identified in the post-2008 crisis analysis as a key barrier to understanding the composition of funds, flows and the interconnectedness of investment funds with other market participants. The G20 identified alternative (private) funds as one area in particular where regulators lacked sufficient data to understand and analyse potential risk exposures. Although the consensus

view is that alternative funds did not cause the 2008 crisis, policy concerns remain as to whether the activities of alternative funds could lead to or amplify future crises. Regulators have therefore sought to obtain more information with greater regularity from these types of funds. As policy makers began to appreciate the importance of global cooperation on systemic risk monitoring and oversight, a further driver for more systematic alternative fund reporting was to enhance the flow of data needed for enhanced cross-border supervision and cooperation. IOSCO produced a high-level reporting template in 2009 in response to the G20 request to drive more convergence in reporting on alternative funds. The key data fields recommended by IOSCO included information on leverage, liquidity, investor concentration, counterparty exposure and asset concentration.

As explored below, the template has been expanded on considerably by regional regulation e.g. Forms PF and CPO-PQR in the US, and the European Securities and Market Authority (ESMA) reporting annex under the Alternative Investment Fund Managers Directive (AIFMD) in the EU.

More recently, the Securities and Exchange Commission (SEC) proposed to create a more comprehensive data reporting regime for registered funds. These efforts have been spurred by the SEC's increased post-crisis role as a prudential regulator, and recognition that reporting regimes have not kept pace with the changing strategies of registered funds. In the EU, a number of recent ad hoc data requests have been made on UCITS, particularly regarding liquidity and leverage, without clear indication of whether these are one-off requests or the start of a regular programme.

The information reported is designed to drive risk analysis by regulators including SEC in the US and in Europe, the 28 national securities regulators of the EU, given that the national authorities are primarily responsible for supervisory action. Regarding information sharing among regulators, the ESMA Memoranda of Understanding under the AIFMD allows for some information sharing with third country regulators for supervisory action, but it is unclear whether this provides the necessary pooled data for systemic risk analysis.

The remainder of this section provides an overview of investment fund reporting initiatives undertaken in Europe and the US over the past few years, identifies gaps in the data and highlights recommendations for improving harmonisation to facilitate global monitoring of risks.

### **Alternative / Private Fund Reporting**

In the US, most alternative fund reporting was driven by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank), which directed the SEC to implement reporting requirements for alternative funds, which it did jointly with the Commodity Futures Trading Commission (CFTC).

#### *Form PF*

In October 2011, the SEC jointly adopted Form PF to implement the Dodd-Frank reporting requirements. Form PF requests a variety of data points, including identifying information about the fund and its adviser, assets under management (AUM), leverage, liquidity, investor types and concentration, performance, investment strategy, counterparties, and holdings by asset type, and several risk metrics. The SEC requires investment advisers registered with the SEC that advise private funds with at least \$150 million in AUM file to Form PF with the SEC. The frequency of reporting varies from quarterly to annually depending on the type of fund and AUM. Subsequently, in July 2014, the

SEC adopted additional rules that amended Form PF to provide additional information about liquidity funds to more closely track the data provided by registered money market funds on Form N-MFP and by doing so made these two forms more consistent with each other.

#### *CFTC Reporting*

In February 2012, the CFTC adopted Form CPO-PQR, as well as reporting for commodity trading advisors through Form CTA-PR. Importantly, given that many private funds regulated by the SEC are also considered commodity pool operators by the CFTC, the SEC and CFTC worked together to harmonise their approaches, resulting in the CFTC accepting Form PF as a substitute for most aspects of Form CPO-PQR. While this substituted compliance was quite welcome, as we have gained experience with the data requested by each form, we have encountered a number of overlaps between the forms requested by the SEC and the CFTC. More importantly, we observe that the data points requested in these forms are similar in nature but requested in slightly different ways, sometimes using different calculation methodologies, creating unnecessary complexity and hindering comparison. For example, when reporting the value of assets in the schedule of investments, Form PQR requires derivatives positions reported at market value, while Form PF requires the notional value of derivatives positions.

#### *Reporting to the Financial Stability Oversight Council*

In April 2016, the Financial Stability Oversight Council (FSOC), comprised of the chairs of the major US financial regulatory agencies, announced that it would form an inter-agency working group to study leverage use by hedge funds and the data it is receiving on its various private fund forms. The inter-agency working group is expected to recommend additional reporting by year-end 2016.

#### *Reporting Under the EU AIFMD*

The EU AIFMD, which came into force in 2013, imposes ongoing reporting requirements for managers of AIFs managed and/or marketed in the EU – the frequency varies from quarterly to annually depending on the AUM of the fund and the manager. For EU domiciled AIFs reports are made to a single regulator. Non EU AIFs marketed by private placement in multiple jurisdictions must, however, file separate forms in each EU jurisdiction in which private placement occurs. In principle, this is the same form, however, the form must be filed via different national platforms, each using a different format, timing and delivery mechanism. The complexity of complying with multiple filings decreases the attractiveness of using a single fund wrapper to market a fund strategy to investors in multiple jurisdictions, even though this approach enables managers to create scale within diversified portfolios which benefit investors.

## *Key Observations*

For larger managers, implementing new reporting regimes require large internal teams to be mobilised to build and manage new reporting platforms. Smaller managers may need to retain third party vendors to assist in implementation and to manage the periodic reporting. Either of these paths increase costs, which are directly or indirectly borne by investors. Not only is the data slightly different between the SEC and the CFTC, the mechanics of submitting the information to the regulator are just different enough to be inefficient for registrants. The same is true for the different regulatory bodies that collect information under the AIFMD, creating significant operational complexity at a global level, leading to different technical standards and/or interpretation of data fields even on the basis of a common template.

These are significant technology projects and require close cooperation with regulators on testing and validating technical specifications to ensure successful implementation. Detailed technical engagement between regulators and industry is very much on an ad-hoc basis and still lacks adequate coordination at the EU level. For example under AIFMD in the EU, instead of building 30 different reporting engines (28 at national level and one each for ESMA and the European Systemic Risk Board) developing a single platform as is proposed for reporting under the Transparency Directive would free-up much needed regulatory resources and provide enhanced operational simplicity for the financial services industry – a significant win-win for regulators and industry.

## **Registered / Public Fund Reporting**

### *Reporting in the US*

In the US, regulatory reporting for registered funds is being reviewed and enhanced. Specifically, in May 2015, the SEC issued a proposal that would introduce new reporting requirements for US registered funds through two new forms: Form N-PORT and Form N-CEN. Form N-PORT is a form that registered funds would be required to complete on a monthly basis to provide information about a variety of aspects including: detailed information about fund holdings, securities lending activities, use of derivatives, and gross investor flows. As proposed, Form N-PORT filings would be disclosed publicly every third month with a two month lag. In addition to this monthly reporting requirement, the SEC proposed changes to annual filings completed by US registered funds. This aspect of the proposal would replace an existing form, called Form N-SAR, with a new form, called Form N-CEN. The information on both N-PORT and N-CEN would be sent to the SEC electronically in a structured data format to permit the SEC to perform data analyses using the information provided. SEC Chair White has indicated her intention is to finalise this rule by year-end.

In our [comment letter to the SEC](#), we noted that there may be a simpler approach to obtaining the data, particularly where there is overlap with existing forms and data already

provided to the SEC. In particular, we believe that the SEC should leverage its previous work on Form PF by asking US registered funds to respond to relevant questions<sup>9</sup> on Form PF and only using Form N-PORT for the public disclosure of information that has a clear benefit to and can be readily understood by the public.<sup>10</sup> We believe that much of the position-level data requested in Form N-PORT should remain confidential, disclosed only to the SEC and not the public domain, as this could lead to detrimental use of the data that could harm mutual fund investors. Given that Form PF is a private form reported directly to the SEC, we believe that leveraging the existing infrastructure for Form PF would be a better approach. This would facilitate consistency in data collection efforts, which would result in comparable data that could be analysed across products, increasing the value of the data to the SEC and potentially the Office of Financial Research (OFR). In a world in which registered funds include “liquid alternatives”, the ability to compare public fund and private fund data would be beneficial to regulators.

### *EU Reporting Requirements*

Currently EU national regulators collect data from UCITS (under the EU public fund regime), either from managers or their administrators. In recent years the industry has seen a steady increase in ad hoc data requests (e.g. on liquidity risk management and leverage) from regulators who are increasingly gathering data to inform their discussions on the evolving regulatory agenda on asset management products and activities. Many of the data requests for UCITS are similar to questions asked about AIFs under the ESMA AIFMD reporting annex. We believe that a more coordinated approach around a common reporting platform on these questions for both AIFs and UCITS would allow firms to build a single system to respond to these data needs and deliver higher quality, more consistent data. Importantly, this would enable regulators to compare industry trends in a consistent manner regardless of the fund wrapper.

### *Recent Developments*

While the level of data reported to regulators has increased dramatically, there is still a lag in feeding back aggregated data to the industry on sectoral and global trends and the development of potential risk. It is important to understand how data gathered will be analysed and used, and how it could be leveraged to provide feedback to the market, providing a broader social benefit to the reporting effort.

IOSCO provided a variety of aggregated data points in its most recent Hedge Fund Survey in 2015. This is a good start and IOSCO acknowledges more work is required on the appropriateness and consistency of data as well as educating market participants on the data received.

In the US, the OFR has analysed Form PF data and has periodically published high level conclusions. For example,

OFR's 2013 Annual Report concluded, based on data from Form PF, that hedge funds using a significant amount of leverage held liquid securities, thereby mitigating redemption and other risks, and those holding illiquid securities used relatively little leverage. They also find evidence suggesting that funds taking on more leverage take on less portfolio risk as measured by value-at risk (VaR) models. Further, the OFR issued a July 2015 report providing detailed analysis on the private liquidity funds that file Form PF. In addition, the SEC has begun publishing a detailed set of private fund statistics on a quarterly basis. Over time, these statistical releases could prove useful for policy makers and the public interested in better understanding certain aspects of US private funds. More recently, FSOC provided an update on its work on asset management, citing an analysis of leverage in hedge funds that was conducted based on Form PF data. Within the EU, the ESRB fulfils an analogous role in analysing data collected by ESMA and national regulators.

### Challenges

The proliferation of templates, formats and definitions as well as issues associated with data sharing and confidentiality reduces the ability of regulators to share data on a cross-border basis, compare information and discern global trends. The current process leads to duplication and inconsistency in reporting by firms and operational complexity often requiring manual intervention.

Between the US and EU, the data called for each jurisdiction is similar in nature (i.e. position sizes, counterparties) but is requested differently on each form. More consistent data would create higher quality information that would facilitate regulators' ability to perform effective comparisons and analyses across fund types and jurisdictions. Whether monitoring for potential systemic risk, or testing compliance for investor protection, consistent data is essential.

In Exhibit 1 we highlight some of the key differences between Form PF and AIFMD Reporting Annex in terms of scope, information collected and definitions used between the two regulatory reporting forms. This highlights that reviewing the data reported under AIFMD and Form PF on the same fund could easily lead to different data sets by jurisdiction.

The global inconsistencies in the approach to reporting mean that from a policy perspective, regulators are likely to be unable to track developments across markets, such as the

build-up and concentration of risk, thereby undermining the central objectives of initiatives such as AIFMD and Form PF. The inconsistencies also present a major challenge to firms serving clients in multiple markets. Variations across jurisdictions will require split models to support the reporting requirement, consuming resources and creating significant complexity resulting in increased operational and potentially legal risk, and a likely increase in data error. Reporting data to multiple regulators gives rise to problems caused by the use of different filing transmission methods. While most regulators use some type of web portal, there are significant differences in terms of how firms transmit data (e.g. one fund at a time or in bulk) and how they obtain feedback from the various regulators when validation errors are encountered. Harmonizing data reporting with agreement on definitions, data elements, and reporting formats and methods would minimize these differences and benefit policy makers, asset managers, and end-investors.

### Recommendations

To harmonise global fund data collection, we recommend:

#### ► Consolidate regional reporting hubs as a first step

For example, in the EU there is much to be done on the coordination of a common European standard and the development of a central European data reporting hub. This could work not only for AIFMD but also the reporting of data on liquidity and leverage in UCITS. We recommend that this data hub be located within ESMA, and accessible by national regulators to enable their ongoing supervisory duties. The ESRB would also require access, in order to give both regulators and markets high quality aggregated data on trends that may contribute to potential systemic risk. Subject to unresolved issues relating to cyber security and adequate protection of client data, a consolidated reporting hub would make a material contribution to the development of high quality data sets, particularly in relation to ownership of assets across all asset owners.

#### ► Regulatory dialogue

Increase cooperation between key international regulators to develop consistent definitions and FAQs as well as mutual recognition of each other's forms would significantly reduce processing time and allow for timelier and more consistent regulatory dialogue. In this regard, we are encouraged by the June 2016 announcement from IOSCO outlining its priorities to address data gaps in the asset

## CALCULATING LEVERAGE

One key area that must be addressed is the definition of leverage. The multiple regulatory definitions of leverage that exist globally are not consistent and do not lend themselves to global monitoring efforts. In particular, Form PF requires funds to provide information about borrowing and derivatives but does not require private funds to report a comprehensive net leverage figure. To the contrary, AIFMD requires funds to provide information on gross notional exposure associated with borrowings and derivatives as well as a measure of economic leverage – referred to as commitment leverage.

## Exhibit 1: COMPARISON OF FORM PF AND AIFMD REQUIREMENTS

	AIFMD (EU)	Form PF (US)*
<b>Scope</b>	All AIFs (i.e., all non UCITS funds)	All private funds managed by advisers with more than \$150 million in private fund AUM Most questions focused on large hedge fund advisers (>\$1.5 billion in hedge fund AUM)
<b>Reporting Frequencies</b>	Minimum annual / Quarterly for large AIFs and/or managers with large AUM (calendar basis)	Minimum annual by fiscal year / Quarterly for large hedge fund advisers by fiscal quarter
<b>Deadline</b>	1 month after reporting period ends for all fund types except fund of funds 15 extra days for fund of funds	60 or 120 days after reporting period ends / deadline is based on fund type
<b>AUM Valuation</b>	Set methodology that typically includes notional value of derivatives	Regulatory AUM calculated in line with Form ADV, which includes market value of derivatives
<b>Balance Sheet Leverage (borrowings)</b>	Borrowings by reference to specified periods for which the creditor is contractually committed to provide financing. Borrowing embedded in instruments such as derivatives are included.	Value of borrowings and breakdown of by creditor type (e.g., US financial institution). Value of reverse report, breakdown by creditor type, of collateral breakdown Requires reporting of fund's liabilities under US GAAP.
<b>Total Leverage (derivatives and borrowings)</b>	Reporting of both the gross notional exposure and commitment leverage	No total leverage measure requested Long and short dollar value of derivatives exposure by instrument type Value of collateral and credit support in relation to derivatives
<b>Risk Measures and VaR</b>	AIFMD requires EEA AIFMs to perform portfolio risk and liquidity stress tests. Non-EEA AIFMs are not subject to these requirements, so only report this information to the extent they perform these tests. Reporting on stress testing of risk factors Requires VaR to be reported if calculated	For hedge funds with AUM greater than \$500 million: Requires market risk stress test results based on hypothetical stress scenarios to be reported including effect on long and short positions. VaR reported if calculated
<b>Fund Liquidity Profile and Investor Liquidity Terms</b>	Requires reporting of portfolio risk and liquidity risk profiles using a days to liquidate approach. Investor redemption frequency (daily, weekly, monthly, none) of the fund and any restrictions on withdrawals and redemptions.	Requires reporting of portfolio risk and liquidity risk profiles using a days to liquidate approach. Investor redemption frequency (daily, weekly, monthly, none) of the fund and any restrictions on withdrawals and redemptions.
<b>Exposures</b>	All currency exposures must be reported and converted into the fund's base currency.	All non-USD currencies reported together
<b>Expected Annual Investment Return</b>	Reporting on fund's expected annual investment return.	Not included.

\*Note this table excludes Section 3 of Form PF, which must be completed by large liquidity fund advisers and Section 4, which must be completed by large private equity advisers.

management industry, provided it does so in a way that each national securities regulator requires the same information to be reported.

### ► Matching data fields

It would be a significant achievement to move from a close fit to a direct match of data fields. This should be possible between jurisdictions so the collection and reporting of data is identical in requirement for the vast majority of cases.

### ► Globally agreed reporting template

We recommend taking the opportunity of forthcoming

reviews of AIFMD and FSOC inter-agency working group to allow the relevant authorities to negotiate a common form under the auspices of IOSCO. This could take into account developments in global data standardisation such as the FSB work on Legal Entity Identifiers (LEI).

### ► Feedback mechanisms to the market

As the primary role of much data collection is for monitoring market risk, we believe it is essential to have a feedback mechanism to the industry as to what the data is telling regulators about each market. Reports by IOSCO, SEC, OFR and FCA among others, provide useful insights.

## Transaction Reporting – Overview, Challenges and Recommendations

### Overview

In the United States, the key elements of post-2008 crisis transaction reporting reforms required reporting of all swap and security-based swap transactions to Swap Data Repositories (SDR), which are newly created regulated entities under Dodd-Frank. This regime is intended to allow for a comprehensive audit trail of derivatives transactions – both OTC and centrally cleared derivatives – to regulators and public reporting of these transactions. Notably, post-crisis rulemaking to implement reforms to derivatives markets was delegated to multiple agencies under Dodd-Frank. In particular, reforms for swaps have been promulgated by the CFTC while reforms for securities-based swaps are being written by the SEC, some of which are still in process. This has resulted in slightly different rules depending on the type of instrument. In addition, the OFR has undertaken a project to help the CFTC enhance its swap data collection efforts.

In the EU, the Markets in Financial Instruments Directive (MiFID I) introduced a transaction reporting regime across the EU in 2007. The scope of this regime is set to expand

significantly in 2018 when the recast Markets in Financial Instruments Directive (MiFID II) and the Markets in Financial Instruments Regulation (MiFIR) come into effect. MiFID II also introduces a new position reporting regime for commodity derivatives, which is currently under development.

Other EU product specific transaction reporting regimes in place or in development include:

- ▶ the EMIR reporting regime for derivative transactions, valuations and collateral under the EU regulation on Exchange Traded Derivatives (ETD), OTC derivatives, Central Clearing Counterparties (CCPs) and trade repositories, which came into effect in February 2014.
- ▶ a reporting regime for wholesale energy market contracts under the EU Regulation on Wholesale Energy Market Integrity and Transparency (REMIT), which came into effect in October 2015 for the first wave of reportable products; and
- ▶ a reporting regime for securities finance transactions such as securities lending and repo under a proposed regulation on Securities Financing Transaction Regulation (SFTR), currently progressing through the EU legislative process.

### CHALLENGES ARISING FROM REPORTING IN THE EU - A CASE STUDY IN COMPLEXITY

In the coming months the reporting requirements on firms operating in and/or concluding transactions on trading venues in the EU will sharply increase, in volume and complexity. The new EU transaction reporting regime is comprised of multiple elements. Here we compare MiFID II with the various product-specific regimes to illustrate the similarities and differences that firms operating under these regimes must take into account.

#### Why report?

The MiFID II, MiFIR and REMIT reporting regimes focus on the prevention of market abuse, whilst the reporting regimes under EMIR and the proposed SFTR focus on the monitoring of systemic risk in specific markets.

#### Who reports?

The MiFID II and MiFIR reporting regimes apply to EU regulated investment firms and banks. Unregulated end-users are not subject to these requirements. With some exceptions, EMIR, REMIT and the proposed SFTR apply to anyone trading the relevant products, regardless of their regulated status. Given the similarities between EMIR and the proposed SFTR, it is likely that the SFTR will have a similar scope of application. The application of the MiFID II reporting regime to non-EU branches is unclear. ESMA proposes to apply the MiFIR transaction reporting regime to non-EU branches of EU firms.

#### What data is reportable?

Certain products will be within the scope of multiple reporting regimes. For example, derivative transactions may need to be reported under MiFID II / MiFIR, EMIR and/or REMIT. There will be additional scope problems under MiFIR due to the broad range of transactions subject to the regime and the fact that ESMA has said it will not publish a 'golden source'.

#### When is reporting required?

Broadly speaking, the trigger events for reporting under EMIR, REMIT and SFTR are the same – execution, conclusion, modification or termination of a contract. ESMA's proposals for the MiFIR reporting regime include a broad range of trigger events, including transmission of orders.

#### How is data reported?

The information that must be reported is not consistent across the regimes and some information will need to be obtained from, or checked with, other parties (e.g. clients or counterparties) in some cases on a trade by trade basis. A transaction may trigger reporting requirements under different regimes and it is possible that these obligations may be triggered at different times. For example, where a give-up occurs within the EMIR reporting deadline and there has not been any change to the economic terms of the original trade, the post give-up trade should be reported under EMIR. However, under MiFIR, ESMA proposes that the original trade should be reported and not the post give-up trade.

## DEEP DIVE: CHALLENGES AND RECOMMENDATIONS

By comparing the US and EU transaction reporting regimes currently in place, and those in development, it is possible to identify a number of issues that arise from the complexity of multiple and at times overlapping reporting requirements. We have identified a number of challenges relating to the consistency, optionality and functionality of the regimes. Here we take a deeper dive into those issues, and make recommendations to address them.

### How the data is requested

We observe that the definition of in-scope funds vary from domicile of the fund, to domicile of the fund and / or investment advisor, to location of a trading desk. Fields required for reporting also vary, or differ in formatting or validation requirements. These inconsistencies appear to be a product of legal precedent and preference, but could be addressed to achieve underlying policy objectives.

**We recommend that IOSCO first undertakes a study to assess how substantially similar data requests vary across their member jurisdictions and second, establishes a working group tasked with agreeing a common transaction reporting template for relevant products. The expectation should be that IOSCO member regulators would adopt the common global template, or explain why they need to deviate.**

### How the data is required to be provided

#### 1. Single side vs dual sided reporting

There is a lack of consensus in the regulatory community on whether single-sided or dual-sided reporting is most effective for collecting data on OTC derivatives and securities finance transactions. Single-sided reporting requires only one party in a transaction to report, which is typically carried out by dealers (sell side). Dual-sided reporting requires both parties to report, meaning that end-investors such as pension funds and insurance companies must also report. The US derivatives reporting regime generally requires single sided reporting by either one party to the transaction or a clearing or trading facility through which the transaction is conducted. While there are differences in the US across the SEC and CFTC regimes, the US also offers flexibility, in some cases, for counterparties to delegate reporting to the other counterparty to the swap, a service provider, or trading facility. The duty to report remains however with one party. Under US rules, the hierarchy for this reporting duty places the burden on the entity most practically suited to conduct the reporting, which is beneficial to end investors from both a compliance and cost perspective.

By contrast, the EU regime under EMIR requires double sided reporting, which is duplicative and costly. Although the EMIR Review is considering the strengths and weaknesses of the double sided approach, the SFTR regime will likely take a double sided approach based on EMIR.

**We recommend to the EMIR Review that the EU regime move to single-sided reporting (and SFTR be aligned).**

In our view, single sided reporting with clear definitions of the parties involved in a transaction and an obligation on the non-reporting party to ensure data accuracy, would improve data integrity and reduce 'noise'. This transition from dual to single- sided reporting could be achieved relatively easily by the majority of the market as it focuses on an existing part of the current process, rather than creating a new requirement.

#### 2. Carefully consider "one-size fits all" approaches to reporting

The SFTR sought to leverage existing reporting methodologies to make efficient use of regulatory resources and industry resources. The EMIR model provides the template for SFTR reporting. While the attempt to align approaches is laudable, a number of the features of SFTs mean additional complexity arises if a reporting approach designed for OTC derivatives is applied to products with very different characteristics. For example, a requirement to report at the transaction rather than position level under the SFTR creates transactional 'noise' and presents challenges in identify the counterparties and securities exchanged. It is also important for regulators to acknowledge business practices – e.g. collateralising at portfolio level, aggregating loan deliveries across multiple LEIs – when setting requirements, and not forcing a change in methodology that may disadvantage investors, due to basing the regime on that which is more appropriate for OTC derivatives.

**We recommend specifically for securities finance transactions, that product characteristics and market conventions be taken into account, to generate better reporting information.** With actual delivery of shares often far from the trade data, "date of conclusion" should be the settlement date of the transaction. There isn't any actual title transfer until settlement date of the SFT. Failing that, the first exchange – i.e. collateral charge date – would be a more appropriate reporting point than the transaction date, which may well be months in advance of the settlement date, and is often followed by multiple LEI allocation changes. Consistent data are critical to the success of SFTR and SFTR reporting regimes, but it should be noted that different SFTs have unique attributes and lifecycle events

That must be accommodated in the reporting requirement - one size doesn't fit all. We recommend doing more with less – SFTTR proposed templates are extensive.

### **3. Evaluate the effectiveness of the requirements**

Just as for SFT reporting, where we question the value of collateral reuse information, we encourage regulators to consider which data points are truly effective in achieving the goal of identifying systemic risk. Significant complexity arises from the pairing and matching requirement under EMIR (which doesn't have an equivalent in the US). The requirement mandates that a unique transaction identifier (UTI) and legal entity identifier (LEI) must pair both sides of a trade. Once paired, the set of submissions pass through a matching mechanism that reconciles approximately 66 fields. As the number of data points to match is high, matching rates across the industry are very low (<20%) after more than two years of the requirement being in force. To further confuse matters, notwithstanding whether transactions under EMIR pair and match, each of these transactions would be legally confirmed and therefore valid – they would be “market good”.

An additional issue concerning UTI matching (short of going single sided reporting) is the current lack of clarity on which party should generate the UTI. A common formula to construct the UTI (e.g. LEI + TD + SD + Asset ID) may help, resulting in a higher matching rate, reduced operational overhead on transmitting and consuming the UTI and removes conflict on the role each counterparty plays.

**The challenges of pairing and matching could be mitigated if the electronic platforms used for legal confirmation could be leveraged for all data fields required for matching.** A number of the fields required for matching are not part of the legal confirmation, and where matching exceptions are concentrated. This speaks to the issues the industry faces in sourcing and matching these additional fields. Simplification of the matching requirements, in terms of fields in scope, would also be beneficial.

### **4. Assess practical implementation challenges**

Finally, significant challenges in reconciling and verifying reporting exist also for paper OTC derivatives, which may have non-standard booking methodologies across the industry. Where inconsistent booking methodologies exist, there are significant variations in reporting methodologies.

**This could be addressed by an industry initiative, under the auspices of a global trade association, to develop a global standard for booking methodologies.**

## **Optionality**

Excessive optionality in the acceptable values for a given data field can also lead to operational challenges, for both firms and regulators. For example, where five or six possible IDs can be used to represent the underlying security in a derivative, reconciliation of this field under EMIR requires the reporting firm to source all possible ID's for all securities in derivatives, and compare them to find a match.

**We recommend specifically for EMIR, that when ESMA further defines the Level 3 RTS (Regulatory Technical Standards), it may be beneficial to reduce acceptable values for a given field.** Reduction, if not elimination, of free form text fields will also aid the improvement of reconciliation and pairing / matching rates. In addition, the advancement of a UPI (Unique Product Identifier) has potential to solve the problem if the end result would be one universally accepted ID for a given security. This is rooted in a broader industry challenge where one security has a number of different ID's.

Furthermore, the use of text strings can lead to difficulties in deciphering reported information and performing reconciliations and controls. In our experience, the use of free form text fields leads to very low match rates and often challenges in reconciliation and controls. Conditional requirements (i.e. populate field B, if field A is blank) create add complexity in reporting, reconciliations and controls.

## **Trade Repository Functionality**

Since not all trade repositories have functionality to enable reporting parties and/or regulators to access their database directly, this creates an operational challenge for reporting firms and for regulators alike. As a result, firms' oversight and monitoring of that data requires reporting in Excel, which is practically very difficult given the size of files being used and Excel's capabilities with such large data sets. In our view, the option to query, search and view a dashboard of open exceptions is far superior to relying on spreadsheets. Correcting reporting errors can also be a very difficult process requiring trial and error or in depth analysis by trade repository developers. Where reporting is delegated, coordination across parties is also required to correct errors.

**We support trade repositories providing direct access to the database of reported information to alleviate many of the oversight and control challenges that exist today.** Regarding the reporting sent to regulators and reporting parties, if regulators were to have direct access to the database of information this would greatly enhance oversight capabilities. Such a development would increase the volume and frequency data available for analysis, provide more timely oversight of exceptions / rejections and improve efficiency for firms battling with spreadsheet limitations.

## Turning Data into Information

It is possible to identify a number of steps that regulators and industry could take over the short to medium term to convert the myriad data points that are currently being reported to many different regulators around the world into more meaningful information. This would generate information that better helps to fulfil the policy objectives underlying the reporting requirements.

The key to progress with reporting hinges on further cooperation between significant regulators internationally, such as ESMA and the SEC to develop consistent definitions and FAQs, as well as at least mutual recognition of each other's forms. This would significantly reduce processing time and allow for timelier and more consistent regulatory dialogue. We have also recommended taking the opportunity of forthcoming reviews of AIFMD to allow ESMA, the SEC and other key regulators to negotiate with each other for a common form under the auspices of IOSCO. This could take into account developments in global data standardisation such as the FSB work on LEIs.

To improve transaction reporting, we suggest that IOSCO is well placed to undertake a study to assess how substantially similar data requests vary across their member jurisdictions and second, establish a working group tasked with agreeing on a common transaction reporting template for relevant products and activities. The expectation should be that IOSCO member regulators would adopt the common global template (or give their reasons that justify opting for specificity away from the global standard). We have expressed a preference for single sided reporting of derivatives and SFT transactions as well as proposed ways to address the challenges created by the pairing and matching requirement under EMIR. Industry also has a role to play in driving towards more standardised reporting and in respect of booking methodologies. Likewise, trade repository functionality could be enhanced so as to reduce reporting firms' reliance on reporting through spreadsheets, and in doing so reducing firms' operational and legal risk.

### The regulatory dividend from better data

If substantial progress could be made on each of the four objectives, this would represent an important dividend for regulators and for market confidence more generally. Higher quality data would result when accuracy supplants the potential for errors that arises with overlapping and inconsistent reporting. More consistent and high quality data produces high quality "information" – rather than "noise" – facilitating more targeted market intelligence and a more complete understanding of risk in markets.

**One important benefit from achieving this objective would be that regulators could better compare trends across asset classes, identify outliers and potentially aggregate data across funds to understand trends.** This

is a point that has been recognised by IOSCO itself in its 2015 Hedge Fund Survey. According to IOSCO, "Data also became more comparable and therefore more meaningful due to better explanations and guidance in relation to the definitions used in the questionnaire. A number of European regulators have therefore been educating firms through communications on common reporting errors. Regulators have also provided feedback to ESMA to improve the quality and consistency of data submitted, by clarifying the definitions and methodology of key metrics. ESMA has issued further guidance with its regularly updated AIFMD Q&As."

A focus on streamlining data requests and data collection with globally agreed definitions not only generates more consistent interpretations of the data but would leverage a single operational spend rather than building multiple reporting pipes. This would lead to better allocation of regulatory resources by saving significant time and money.

### Benefits for end-investors and asset managers

A positive broader feedback loop would be generated by better data. Data-driven policy making, leading to enhanced monitoring and targeted supervision creates the framework for a balance to be struck between effective risk mitigation whilst providing the space for innovation and managed risk taking, paving the way to stimulate economic growth. This proportionately regulated environment would ultimately engender increased investor confidence.

From a practical perspective, the agents working on behalf of end-investors in markets, such as asset managers, would also stand to benefit from a global focus on streamlining reporting. This focus would eventually improve asset managers' ability to produce timely and accurate information, reducing the likelihood of compliance errors and inadvertent mistakes resulting from confusing definitions from one report to another. The elimination of the duplication of efforts and the streamlining of reporting facilitates automation, which represents a more cost-effective and more efficient channelling of resources towards investment. End-investors may also benefit from this cost-saving.

## Conclusion

In conclusion, there are four overarching themes that we urge global policy makers and the industry to consider in future discussions on improving transparency to regulators:

#### ► Clarity of purpose

We consider it legitimate to ask how data gathered by regulators will be used, for what purpose and how it could be leveraged to provide feedback to the broader market.

#### ► Standardisation of requested information

We encourage regulators to move towards standardisation of data requests. This ranges from reaching globally accepted definitions of key terms through to an agreement on the detail and the frequency of requests.

► **Standardisation on how information is reported**

Electronic data delivery whenever and wherever possible should be the objective. This would substantially improve the accuracy and quality of data as well as timeliness.

► **A single global data repository (over time)**

Short of that, reporting the same data to multiple databases would still be an improvement over the current situation.

The detail underpinning each of these recommendations is summarised in Exhibit 2.

With the bulk of global regulatory reform initiatives currently in implementation or under review, now would be the optimal

time to take a step back and re-calibrate the regulatory framework to ensure that reporting delivers the right information to allow public policy objectives to be met whilst ensuring that the regulatory burden on firms is proportionate. The reward for making progress on reporting would be significant for regulators, particularly those tasked with the identification of risk in the global financial system. The benefits of more streamlined data collection and reporting firms are self-evident. However, the biggest prize of all could be reserved for the end-investors, since financial market transparency, delivered through appropriately detailed and timely reporting to regulators, underpins well-regulated and robust markets creating the right conditions for much needed investment.

**Exhibit 2: SUMMARY OF RECOMMENDATIONS BY POLICY MAKING BODY**

Level	Policy making body	Objective	Timescale
Global	IOSCO	Completion of asset management data gaps initiative	Short
		Global principles on feedback mechanisms to the market	Short
		Mutual recognition of data reporting templates	Medium
	FSB-IOSCO	Matching data fields by product	Medium
	IOSCO / industry	Develop global standards for booking methodologies for derivatives transactions	Medium
	FSB-IOSCO	Trade repositories to provide direct access to regulators to alleviate control and oversight challenges	Medium
	IOSCO	Globally agreed data reporting templates	Long
EU	ESMA	Develop European hub for AIFMD and UCITS data reporting	Short
		Reflect specificities of SFT transactions in the implementation of the SFTR reporting regime	Short
		Reduce scope for divergence within reporting under the EMIR Regulatory Technical Standards	Short
	European Commission	Align EMIR and SFTR reporting with global / US single sided approach	Medium

## Notes

1. See: [http://ec.europa.eu/archives/commission\\_2010-2014/president/pdf/statement\\_20090826\\_en\\_2.pdf](http://ec.europa.eu/archives/commission_2010-2014/president/pdf/statement_20090826_en_2.pdf)
2. Former European Commissioner for Financial Stability, Financial Services and Capital Markets Union, Jonathan Hill. Keynote speech at Bruegel, 13 July 2016.
3. See: <https://www.sec.gov/news/press/2011/2011-226.htm>
4. See <https://www.sec.gov/News/PressRelease/Detail/PressRelease/1370542347679>
5. Liquidity funds in this context refers to cash management vehicles that are not registered 2a-7 money market funds.
6. See: <http://www.cftc.gov/PressRoom/PressReleases/pr6176-12>
7. See: [http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/faq\\_cpocta110515.pdf](http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/faq_cpocta110515.pdf)
8. In addition, the National Futures Association, the CFTC-designated self-regulatory organization for Commodity Trading Advisors (CTAs) and Commodity Pool Operators (CPOs) also requires that CTAs file NFA Form PR and CPOs file NFA Form PQR. These reports contain similar but not identical data fields as the CFTC's Form PQR and the SEC's Form PF and similar but not identical filing schedules. <https://www.nfa.futures.org/NFA-electronic-filings/CPOFAQsFormPQR.pdf>
9. See: <https://www.treasury.gov/initiatives/fsoc/news/Documents/FSOC%20Update%20on%20Review%20of%20Asset%20Management%20Products%20and%20Activities.pdf>
10. See: <https://www.sec.gov/news/pressrelease/2015-95.html>
11. See: <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD515.pdf>
12. OFR, 2013 Annual Report (Dec. 5, 2013).
13. *Id.* at 95 & fig.65.
14. See: <https://financialresearch.gov/briefs/files/OFRbr-2015-05-Private-Fund-Data-Shed-Light-on-Liquidity-Funds.pdf>
15. See for example: <https://www.sec.gov/divisions/investment/private-funds-statistics/private-fundsstatistics2015q3.pdf>
16. For example, Form PF requires up to 500 separate data points required per fund per filing.
17. For example, under AIFMD and Form PF there is around a 30% direct overlap, a further 40% which is a close fit and 30% where data requirements differ. See Footnote 20 for the source.
18. For a more detailed analysis Regulatory Reporting under AIFMD – a Update and Comparison to SEC's Form PF – October 2014 at <https://www.ropesgray.com/newsroom/alerts/2014/October/Regulatory-Reporting-Under-AIFMD-an-Update-and-Comparison-to-SECs-Form-PF.aspx>
19. See: <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD533.pdf>
20. See: <http://www.fsb.org/what-we-do/policy-development/additional-policy-areas/legalentityidentifier/>
21. See <http://www.cftc.gov/PressRoom/PressReleases/pr6899-14>
22. For reporting securities lending, typically the buy side of the transaction would hold the relevant LEI-level data and therefore be the reporting entity.
23. Unlike a buy / sell trade, a securities lending transaction has a lifecycle that starts with the trade settling, and continues through until it is finally returned. During this life cycle, various life cycle events will occur: Settlement; collateralisation; billing; dividends; corporate actions; returns etc.. The SFTR demands information on all lifecycle events, which will significantly increase 'noise' and the likelihood of mismatches.
24. See: <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD515.pdf>

## RELATED CONTENT

- ▶ [ViewPoint - Modernization of US Asset Management Regulation, Mar 2016](#)
- ▶ [ViewPoint - The Capital Markets union: An investor perspective, Feb 2015](#)
- ▶ [ViewPoint - Fund Structures As Systemic Risk Mitigants, Sept. 2014](#)
- ▶ [BlackRock response to FSOC request for Comment on Asset Management Products and Activities, Mar 2015](#)
- ▶ [BlackRock letter to SEC on Investment Company Reporting Modernization](#)

For access to our full collection of public policy commentaries, including the *ViewPoint* series and comment letters to regulators, please visit [www.blackrock.com](http://www.blackrock.com).

---

This publication represents the regulatory and public policy views of BlackRock. The opinions expressed herein are as of August 2016 and are subject to change at any time due to changes in the market, the economic or regulatory environment or for other reasons. The information in this publication should not be construed as research or relied upon in making investment decisions with respect to a specific company or security or be used as legal advice. Any reference to a specific company or security is for illustrative purposes and does not constitute a recommendation to buy, sell, hold or directly invest in the company or its securities, or an offer or invitation to anyone to invest in any BlackRock funds and has not been prepared in connection with any such offer.

This material may contain 'forward-looking' information that is not purely historical in nature. Such information may include, among other things, projections and forecasts. There is no guarantee that any forecasts made will come to pass.

The information and opinions contained herein are derived from proprietary and non-proprietary sources deemed by BlackRock to be reliable, but are not necessarily all inclusive and are not guaranteed as to accuracy or completeness. No part of this material may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronic, mechanical, recording or otherwise, without the prior written consent of BlackRock.

This material is issued for Institutional Investors only (or professional/wholesale investors as such term may apply in local jurisdictions) and does not constitute investment advice or an offer or solicitation to purchase or sell in any securities, BlackRock funds or any investment strategy nor shall any securities be offered or sold to any person in any jurisdiction in which an offer, solicitation, purchase or sale would be unlawful under the securities laws of such jurisdiction.

In the EU issued by BlackRock Investment Management (UK) Limited (authorised and regulated by the Financial Conduct Authority). Registered office: 12 Throgmorton Avenue, London, EC2N 2DL. Registered in England No. 2020394. Tel: 020 7743 3000. For your protection, telephone calls are usually recorded. BlackRock is a trading name of BlackRock Investment Management (UK) Limited.

**In Singapore**, this is issued by BlackRock (Singapore) Limited (Co. registration no. 200010143N) for use only with institutional investors as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore. **In Hong Kong**, this material is issued by BlackRock Asset Management North Asia Limited and has not been reviewed by the Securities and Futures Commission of Hong Kong. This material is for "Professional Investors" (as defined in the Securities and Futures Ordinance (Cap.571 of the laws of Hong Kong) and any rules made under that ordinance.) and should not be relied upon by any other persons or redistributed to retail clients in Hong Kong. **In South Korea**, this material is for Qualified Professional Investors only. **In Japan**, this is issued by BlackRock Japan. Co., Ltd. (Financial Instruments Business Operator: The Kanto Regional Financial Bureau. License No375, Association Memberships: Japan Investment Advisers Association, The Investment Trusts Association, Japan, Japan Securities Dealers Association, Type II Financial Instruments Firms Association.) for Professional Investors only (Professional Investor is defined in Financial Instruments and Exchange Act) and for information or educational purposes only, and does not constitute investment advice or an offer or solicitation to purchase or sells in any securities or any investment strategies. **In Taiwan**, independently operated by BlackRock Investment Management (Taiwan) Limited. Address: 28/F, No. 95, Tun Hwa South Road, Section 2, Taipei 106, Taiwan. Tel: (02)23261600. **Issued in Australia and New Zealand** by BlackRock Investment Management (Australia) Limited ABN 13 006 165 975 AFSL 230 523 (**BIMAL**) for the exclusive use of the recipient who warrants by receipt of this material that they are a wholesale client and not a retail client as those terms are defined under the Australian Corporations Act 2001 (Cth) and the New Zealand Financial Advisers Act 2008 respectively. This material contains general information only and does not constitute financial product advice. This material has been prepared without taking into account any person's objectives, financial situation or needs. Before making any investment decision based on this material, a person should assess whether the information is appropriate having regard to the person's objectives, financial situation and needs and consult their financial, tax, legal, accounting or other professional advisor about the information contained in this material. This material is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. BIMAL is the issuer of financial products and acts as an investment manager in Australia. BIMAL does not offer financial products to persons in New Zealand who are retail investors (as that term is defined in the Financial Markets Conduct Act 2013 (**FMCA**)). This material does not constitute or relate to such an offer. To the extent that this material does constitute or relate to such an offer of financial products, the offer is only made to, and capable of acceptance by, persons in New Zealand who are wholesale investors (as that term is defined in the FMCA). BIMAL is a part of the global BlackRock Group which comprises of financial product issuers and investment managers around the world. This material has not been prepared specifically for Australian or New Zealand investors. It may contain references to dollar amounts which are not Australian or New Zealand dollars and may contain financial information which is not prepared in accordance with Australian or New Zealand law or practices. BIMAL, its officers, employees and agents believe that the information in this material and the sources on which the information is based (which may be sourced from third parties) are correct as at the date specified in this material. While every care has been taken in the preparation of this material, no warranty of accuracy or reliability is given and no responsibility for this information is accepted by BIMAL, its officers, employees or agents. Except where contrary to law, BIMAL excludes all liability for this information. Past performance is not a reliable indicator of future performance. Investing involves risk including loss of principal. No guarantee as to the capital value of investments nor future returns is made by BIMAL or any company in the BlackRock Group.

In Latin America and Iberia: this material is for educational purposes only and does not constitute investment advice nor an offer or solicitation to sell or a solicitation of an offer to buy any shares of any Fund (nor shall any such shares be offered or sold to any person) in any jurisdiction in which an offer, solicitation, purchase or sale would be unlawful under the securities law of that jurisdiction. If any funds are mentioned or inferred to in this material, it is possible that some or all of the funds have not been registered with the securities regulator of Brazil, Chile, Colombia, Mexico, Panama, Peru, Portugal, Spain, Uruguay or any other securities regulator in any Latin American country and thus might not be publicly offered within any such country. The securities regulators of such countries have not confirmed the accuracy of any information contained herein.

©2016 BlackRock. All rights reserved. iSHARES and BLACKROCK are registered trademarks of BlackRock.

All other marks are property of their respective owners.

GOV-0107

**BLACKROCK**<sup>®</sup>

**Appendix E: ViewPoint – The Role of Third Party Vendors in Asset Management**

# THE ROLE OF THIRD PARTY VENDORS IN ASSET MANAGEMENT

SEPTEMBER 2016

Policy makers have increasingly focused on the role of service providers to the asset management industry.<sup>1</sup> Indeed, there are a diverse range of services utilized by asset managers to perform numerous functions – from obtaining security data and risk analytics that inform investment decisions, to order management and trade execution systems that facilitate placing and executing trades, to accounting and performance systems and service providers that are used for reporting and recordkeeping purposes. In addition, custodians are responsible for holding and safeguarding client assets as well as facilitating the settlement of transactions. Further, there are a variety of financial market infrastructures (FMI) upon which all market participants rely, including exchanges, central clearing counterparties (CCPs), electronic trading and affirmation platforms, and trade messaging systems.

Third party vendors reflect a broad range of companies. For example, some vendors are affiliates of banks or asset managers, while others are independent firms. In addition, some vendors have a very narrow set of offerings that are provided on a stand-alone basis, while others offer more comprehensive solutions to support a variety of asset manager business processes. This landscape is further complicated by the diversity of asset manager business models and the fact that many asset managers can and do complete functions internally or build their own systems to support their unique needs. In other words, most asset managers take a “mix and match” approach, performing some tasks internally while engaging vendors to complete other tasks. For example, while economies of scale permit some organizations to perform multiple functions in-house or with affiliates, other asset managers find it more effective to outsource or purchase the same services from third parties. The resulting landscape allows no simple definition or description of third party vendors and creates no single model for the role of third party vendors in asset management. Nonetheless, as is the case for many other industries, all asset managers have at least some level of reliance on third party vendors, underscoring the need for a better understanding of the landscape.

In August, 2014, we published a *ViewPoint* entitled [The Role of Technology within Asset Management](#), which highlighted how technology is integrated into various asset management functions. Technology systems represent just one dimension of the discussion. In this *ViewPoint*, we expand upon our previous work by cataloguing the broad range of vendors that help asset managers conduct critical functions. In particular, we survey some of the key types of third party vendors to asset managers. We then look briefly at FMI, as these entities have a profound impact on the ability for asset managers to operate, but the selection of these entities is not always in the control of asset managers, nor is the regulation to which they are subject. Given the increasing policy focus on the role of third party vendors in asset management, we end by offering some recommendations regarding guidance that should be provided to purchasers of services and we suggest a framework for approaching the analysis of the providers of these services.

# BLACKROCK®



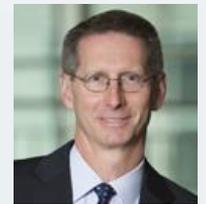
**Barbara Novick**  
Vice Chairman



**Rob Goldstein**  
Chief Operating Officer



**Phil Evans**  
Head of Global Provider  
Strategy Group



**John Perlowski**  
Head of Global Fund &  
Accounting Services



**Michelle Clement**  
Global Provider  
Strategy Group



**Alexis Rosenblum**  
Government Relations  
& Public Policy

## In this *ViewPoint*

I. <a href="#">Diversity of Asset Manager Business Models</a>	2
II. <a href="#">Key Asset Management Functions</a>	3
III. <a href="#">Data and Systems Vendors</a>	4
IV. <a href="#">Operations Outsourcing Vendors</a>	9
V. <a href="#">Vendor Risk Management</a>	11
VI. <a href="#">Financial Market Infrastructure</a>	13
VII. <a href="#">Recommendations</a>	14

The purpose of this paper is to provide an overview of key vendors within the asset management landscape; however, this paper is by no means comprehensive, as there is considerable variation around the role of third party vendors and there are hundreds of different vendors offering a wide range of data, systems, and outsourcing services. Nonetheless, we hope the paper will be helpful in beginning a dialogue on this important subject. Given the breadth of this topic, there is clearly a need for further analysis by policy makers before drawing conclusions about potential risks that the use of third party vendors by asset managers (or the vendors themselves) may present.

## Diversity of Asset Manager Business Models

The asset management industry serves a broad range of clients from defined benefit and defined contribution pension plans to insurers, sovereign wealth funds and other official institutions, family offices, foundations, endowments, individual clients, and more. Each of these clients has their own unique investment objectives and constraints. The diversity of client needs results in a wide variety of firm structures and business models across the industry, ranging from investment boutiques that focus on a single product or clientele to larger institutions that offer multiple services in addition to asset management.

The organizational structure of asset managers also varies widely. Some asset managers are operated by publicly-traded companies that are subject to a variety of financial disclosure standards.<sup>3</sup> Other asset managers are privately-held entities and, therefore, are not subject to public company reporting standards. Another means of distinguishing asset managers is whether or not they are affiliated with other types of businesses due to ownership by a common parent company.<sup>4</sup> Affiliations with other types of financial services providers generally affords significant opportunities to find synergies and cost efficiencies in terms of being able to provide a more comprehensive suite or bundle of services to a given client base. Banks represent the best examples of this model, as most banks have affiliates that provide custodial services, transfer agent services, asset management, agent lending capabilities, and fund administration.

Another key area of diversity among asset managers is the investment strategies and products offered. Whereas many asset managers specialize in a single asset class or investment strategy, many others offer a variety of investment strategies managed by different portfolio management teams. Further, asset managers can focus on a specific investment style (e.g., passive index tracking versus active management), while others offer multiple investment styles.

### KEY OBSERVATIONS

#### **All asset managers utilize multiple third party vendors.**

- ▶ There are numerous vendors providing a wide range of services to asset managers.
- ▶ The range of services and the number of vendors reflect the growing diversity of the global market ecosystem and concomitantly the asset management industry.
- ▶ Asset managers need a vendor management program and a business continuity management program that factors in services provided by third parties.
- ▶ Where they have not already done so, regulators should provide guidance for conducting due diligence on vendors, including reviewing business continuity and technology disaster recovery plans, as well as cybersecurity standards.

#### **As providers of services, vendors should include business continuity management, technology disaster recovery planning, and cybersecurity as critical components of their business models and operations.**

- ▶ Any new rules established for vendors of data, systems, or outsourcing services should be applied to *all* vendors with similar offerings, regardless of their organizational structure or affiliation with another organization.

#### **Custodian banks play a central role in safeguarding client assets and often provide a variety of additional services.**

- ▶ Additional services provided by custodians can include cash management, foreign exchange and currency hedging, securities lending agent services, fund accounting and administration, among others.
- ▶ The regulation of custodians has been updated post-crisis in several jurisdictions.<sup>2</sup>

#### **Special attention should be given to shared financial market infrastructure, which are critical to the proper functioning of capital markets, including asset management.**

- ▶ Exchanges and CCPs are central resources that are relied on by virtually all participants in the market ecosystem, not just asset managers.
- ▶ The SWIFT messaging network is the primary communications network used by banks, insurers, asset managers, and asset owners that manage their assets directly (e.g., sovereign wealth funds, pensions, insurers, etc.).
- ▶ Depositories facilitate the movement of securities, foreign exchange, and other positions from one counterparty to another.

In addition, there are many asset managers that specialize in alternative asset classes including real estate, private equity, venture capital, and hedge funds.

Product structure and client base are additional differentiators is assessing the business models of asset managers. For example many managers offer commingled investment vehicles (CIVs) such as registered mutual funds and private funds. These products have a range of administrative, operational, and regulatory requirements, which can differ from one jurisdiction to another. Further, the operational and regulatory requirements of separate accounts differ somewhat from those of funds. As such, the product structures offered and jurisdictions in which the manager operates can shape how that manager chooses to structure its business, as well as its need to utilize third party data, systems, and the degree to which operational functions are outsourced to third party vendors.

### Key Asset Management Functions

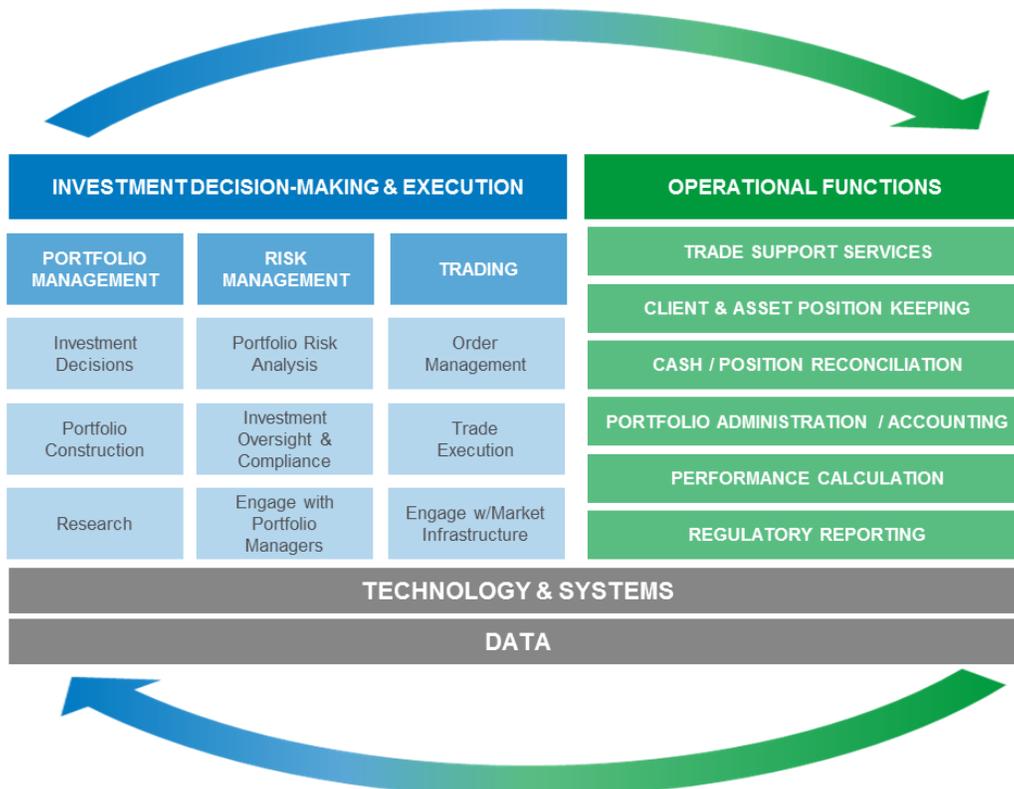
In order to understand the role that third party vendors play in the asset management ecosystem, it is helpful to first think about the main functions that an asset manager must carry out on a daily basis. We will categorize these functions under two broad umbrellas: (i) investment decision-making and execution, and (ii) operational functions, as shown in Exhibit 1.

Investment decision-making and execution and operational processes interact in many ways in the course of managing assets on behalf of clients and how these processes are carried out may differ significantly from one asset manager to another, depending on the manager’s organizational structure, product set, client base, and the unique choices that the asset manager makes in the course of running its business. Importantly, there are a variety of data and systems that underlie both investment decision-making and execution, as well as operational functions.

### Investment Decision-Making & Execution

Investment processes are the core functions that come to mind when considering the work of asset managers. Each asset manager has the choice of how to set up its investment decision-making and execution function(s). For example, some asset managers have multiple portfolio teams that make investment decisions for specific portfolios independent from one another, while other asset managers establish a “house view” that is implemented across all portfolios. Likewise, some asset managers specialize in one asset class or market, while others offer investment products in multiple asset classes and markets. Nonetheless, while the exact setup and structure of investment decision-making and execution functions may differ, all asset managers generally

Exhibit 1: ASSET MANAGER INVESTMENT PROCESS



For illustrative purposes only. Not meant to be comprehensive.  
Operational functions can be performed in-house or outsourced to affiliates or to third party vendors.  
There are numerous interactions between investment decisions & execution and operational functions.

conduct elements of portfolio management, risk management, and trading when managing money on behalf of their clients. Likewise, asset owners who manage their assets in-house also conduct many of these activities.

Portfolio managers make decisions on behalf of clients in order to meet their clients' objectives within the agreed portfolio guidelines. Portfolio managers use data as well as risk models and analytics to make investment decisions. Active managers may base their decisions on research they conduct about individual securities and markets, as well as their clients' guidelines and expectations. While many asset managers develop risk models internally, it is also common for asset managers to purchase risk models and analytics from third party vendors to supplement their internal analyses. Market indices also play an important role in portfolio management as many portfolios are managed relative to a benchmark. In the case of passive investing, for example, portfolio managers seek to track the composition and performance of the index.

In addition to portfolio management, many asset managers have a risk management function that is independent from portfolio management. Risk managers work closely with portfolio managers to ensure that client portfolios are being managed in accordance with client guidelines and risk parameters. They perform portfolio risk analysis to ensure that the risks being taken are deliberate and understood by the portfolio manager. Similar to portfolio managers, risk managers need security and pricing data, as well as risk models and analytics to perform their duties.

Finally, asset managers place trades as agents on behalf of clients. Trading requires the generation of orders and the execution of trades with the market. While trading can be conducted via phone directly with broker-dealers in many markets, there are systems that streamline the trading workflow and facilitate communication with the requisite parties. In addition, financial market infrastructure (e.g., exchanges, electronic trading venues, and Society for Worldwide Interbank Financial Telecommunication (SWIFT)) are integral to an asset manager's ability to place and communicate trades on behalf of their clients. Traders also utilize pricing and security data in a variety of ways.

### **Operational Functions**

The business of asset management extends significantly beyond making investment decisions and trade execution. Transactions need to be settled, cash needs to be tracked and invested, and various systems need to be regularly reconciled to ensure the books and records of the portfolio are in sync with any other systems relying on this data. Funds such as mutual funds, collective investment funds, and private funds, involve additional administrative requirements from fund accounting to detailed disclosure documents and

regulatory reporting. For example, many of these products require a transfer agent to track shareholder ownership by maintaining the official shareholder registry. Further, like investment decision-making and execution, operational functions are powered by a tremendous amount of data and systems. In addition, given the number of resource-intensive operational and administrative requirements associated with managing money, asset managers have the ability to outsource some or all operational functions to a number of different vendors.

In the following sections, we review examples of vendors that provide a variety of products and services to the asset management industry.

## **Data and Systems Vendors**

Data is fundamental to everything that asset managers do, from helping to inform key investment functions like portfolio management, risk management, and trading to providing the backbone for key operational functions like accounting and pricing of securities and fund net asset values (NAVs), recordkeeping, portfolio compliance and more. To this end, asset managers require a variety of data on a daily or intra-day basis and need to purchase data from multiple vendors. Further, asset managers need systems to manage all of the requisite data and information.

Historically, asset managers typically relied on internally developed technology solutions in conjunction with manually maintained spreadsheets. As the landscape has evolved, however, the effort required to load, cleanse, and process data has increased significantly leading asset managers to look for more sophisticated solutions. In particular, many asset managers have decided to purchase systems from third party vendors to help them perform a variety of tasks related to investment-decision making and execution as well as operational functions. That said, many other asset managers continue to use internally developed systems, which they customize to meet their individual needs. In these instances, the asset manager must make a greater commitment to building and maintaining technology resources and capabilities in-house. In many cases, asset managers use a combination of third party and internally built systems.

Given the demand for data and systems by asset managers, there are numerous competing vendors offering a variety of solutions. In this section, we review some of the main vendors in key areas. For data providers, we look at security data and pricing vendors as well as index providers. With respect to systems, we review vendors of risk models and analytics, order management systems (OMS) and trade execution systems, as well as accounting systems. As shown in Exhibit 2, in many cases, the same vendors provide both data and systems.

## Security & Pricing Data Vendors

Asset managers require a variety of data on the universe of securities within their portfolios and benchmarks. This information informs risk analyses, investment decisions, valuations, and reporting activities including regulatory and client reporting. It is typically received on an intra-day or daily basis, either sourced directly from the data originator (e.g., S&P, Moody's, or Fitch for ratings) or from a third-party data re-distributor. Security data includes security identifier, issuer, sector, and country, among other items. For fixed income, this also includes information such as coupon and other information required to calculate expected payments

from the issuer. In addition to indicative information, which rarely changes for a particular security, asset managers rely on updates to certain types of data, such as prices, ratings and corporate actions. Prices include real-time quotes to support trading as well as end of day prices for risk analysis, compliance, and calculation of portfolio NAVs.

Vendors aggregate data from a variety of sources, such as stock exchange feeds, broker-dealers, and regulatory filings. Because it is not likely for one provider to have information on every security, it is common for an asset manager to use multiple sources for security data.

**Exhibit 2: THIRD PARTY VENDORS TO ASSET MANAGERS – DATA AND SYSTEMS**

	DATA		SYSTEMS			
	Security & Pricing Data	Market Indices	Risk Models & Analytics	Order Management Systems	Trade Execution Systems	Accounting Systems
BlackRock Solutions			X	X		
Bloomberg	X	X	X	X	X	
Charles River				X	X	
Citi		X	X			
Clearwater Analytics			X			X
Eagle Investment Systems (BNY Mellon)						X
Eze Software Group				X	X	X
FactSet			X		X	
Fidessa				X		
FIS (formerly SunGard)			X	X		X
Fitch Ratings	X		X			
Flextrade					X	
FTSE Russell		X				
IHS Markit	X	X	X	X	X	
Intercontinental Exchange	X					
ITG					X	
Linedata				X	X	X
MarketAxess					X	
Moody's Analytics	X		X			
MSCI		X	X			
PAM (State Street)						X
S&P Dow Jones	X	X	X			
Simcorp				X		X
SS&C Technologies			X	X		X
Thomson Reuters	X				X	
Tradeweb					X	
UBS		X	X			
Wilshire Associates		X	X			

For illustrative purposes only. Not comprehensive. Many of the organizations perform more functions than are listed in this table.

Although the number of data providers has grown significantly, there are two key players: Bloomberg and Thomson Reuters. Bloomberg remains the market leader, with a 33% market share as of 2015.<sup>5</sup> The Bloomberg Professional Service (the Terminal) has 325,000 users globally.<sup>6</sup> Thomson Reuters is the second leading provider, with a 24% market share.<sup>7</sup> Additional security data and pricing providers include IHS Markit and Intercontinental Exchange (which acquired Interactive Data Corporation in early 2016).

In addition, rating agencies provide key security data to asset managers. Moody's Analytics, S&P Dow Jones, and Fitch Ratings provide credit ratings, research and risk analysis on sovereign nations, corporate issuers, public finance issuers, and structured finance obligations.

Lastly, the importance of data vendors in providing source data for the purposes of regulatory reporting by asset managers is increasing, giving rise to questions of how to harmonize and standardize data that is needed to fulfill regulatory reporting requirements.

### Index Providers

Market indices play a fundamental role in many aspects of the investment process, from performance benchmarking and asset allocation to portfolio construction and rebalancing. Index providers also act as a key pricing source for the securities within their indices. For CIVs, such as mutual funds, market indices are used as performance benchmarks. For funds, benchmarks are selected by the fund sponsor. For separate accounts, benchmarks are typically chosen by the client, often under the advisement of their external consultant. The ability of indices to serve as a proxy for measuring and modeling risk and returns aids portfolio construction and rebalancing. Market indices are also fundamental to passive investment strategies, such as those employed by most exchange-traded funds (ETFs). In recent years, passive investing has become popular among a variety of investors and is even encouraged by certain regulatory initiatives,<sup>8</sup> given the lower costs associated with these products compared to active management. Market indices are also used as reference rates embedded in structured products and index-based derivatives.

Although there are numerous index providers, three players have significant market share: S&P Dow Jones, FTSE Russell, and MSCI. According to the Financial Times, these three index providers jointly provide benchmarks for 73% of US mutual fund assets, representing \$9.4 trillion in AUM.<sup>9</sup> S&P Dow Jones is the world's largest provider of financial market indices. Their most well-known index, the S&P 500 Index, is widely regarded as the best single gauge of the large-cap US equity market performance, and has over \$7.8 trillion of assets benchmarked to it.<sup>10</sup> Further, FTSE Russell

calculates thousands of indices that measure and benchmark the performance of markets and asset classes in more than 80 countries, covering 98% of the investable market globally and trading on over 25 exchanges worldwide.<sup>11</sup>

Notably, the use of benchmarks is not limited to clients of asset managers, as benchmarks are used by other market participants. For example, FTSE Russell's clients include the top 10 investment banks, 97 of the top 100 asset managers, 48 of the top 50 pension plan sponsors and the top 5 global custodians.<sup>12</sup> MSCI has roughly \$10 trillion in assets and over 850 ETFs benchmarked to or based on its indices.<sup>13</sup>

### LEHMAN INDICES IN THE COLLAPSE OF LEHMAN BROTHERS

Prior to its collapse, Lehman Brothers was the world's leading provider of fixed income market indices. In 2007, approximately \$6.1 trillion in assets were managed against their indices, which included the US Aggregate Index, Euro-Aggregate Index, Global Aggregate Index and US Universal Index. Thousands of investors, pension plan sponsors, issuers, and consultants depended upon these indices to support pricing, performance benchmarking, and portfolio rebalancing.<sup>14</sup>

When Lehman Brothers filed for Chapter 11 bankruptcy on September 15, 2008, those reliant upon Lehman Indices were concerned that the Lehman indices would not be priced due to the parent company's distress. To address this concern, market participants using Lehman indices had a range of alternative options, from getting pricing and benchmarks from another vendor to fully replicating Lehman's indices themselves. In BlackRock's case, we created a shadow index production process, based on Lehman's published pricing and index rebalancing methodologies, as a contingency plan during the weekend prior to the bankruptcy filing.

Ultimately, however, alternate arrangements were not necessary. Lehman's Index Service was not materially interrupted by the bankruptcy filing, and indices and prices continued to be made available the day of and the days following the bankruptcy announcement. On September 17, 2008, Barclays announced it would purchase this business as part of a \$1.75 billion acquisition of Lehman's North American investment banking and capital markets business.<sup>15</sup> Barclays maintained the family of Lehman Brothers indices and the associated index calculation, publication and analytical infrastructure and tools (although they were rebranded under the Barclays name). In 2016, Barclays Risk Analysis and Index Solutions business was sold to Bloomberg.

Two additional index providers that are important to highlight are Bloomberg and IHS Markit. Bloomberg recently acquired Barclays Risk Analysis and Index Solutions. This acquisition increases the breadth of Bloomberg's index business by integrating Barclays' leading fixed income indices with Bloomberg's analytic dashboards, portfolio analysis, and order management and execution management systems. IHS Markit provides a variety of fixed income and derivative indices that are predominantly used as a reference for products such as index-based derivatives and ETFs. Other index providers include Citi, UBS, and Wilshire Associates.

### Risk Models and Analytics

Since the 2008 global financial crisis, risk management has become a primary focus for financial institutions. While asset managers can build their own risk models or analytics, many license these capabilities from a third-party vendor. It is important to note that the design of these externally provided models are such that different asset managers who use the same third-party risk models can choose to "run" them differently through the use of highly configurable switches, dials, and changing underlying assumptions.

Asset managers use risk models and analytics to measure their risks relative to the risk and return objectives specified by clients as well as to support investment decisions. While the underlying models used in risk systems provide important information, there are many other factors that drive investment decisions. This includes the underlying client's investment objectives, portfolio strategy, security indicative data, rating agency ratings, benchmark constituents and weights, media reports, broker-dealer research, and a manager's own internal research and ratings, among other factors. As a result, different users of the same models are likely to make different decisions at any given point in time.

There are numerous providers of risk analytics solutions. Some examples of risk analytics providers include: BlackRock Solutions, Bloomberg, Clearwater Analytics, Citi, FactSet, IHS Markit, MSCI, FIS/SunGard, S&P Dow Jones, Fitch Ratings, Moody's Analytics, SS&C, UBS, and Wilshire Associates, among others.

Bloomberg's Portfolio and Risk Analytics solution (PORT) is incorporated into Bloomberg's terminals, and provides portfolio risk and performance measures. FactSet provides a market data aggregation, risk analysis, and portfolio management tool to over 2,000 buy-side and sell-side institutions. MSCI provides risk models, analytics, and performance attribution solutions under the Barra and RiskMetrics brand names. BlackRock Solutions provides a risk analytics platform that is offered to its clients in two ways: 1) as part of the Aladdin investment platform, and 2) on a standalone basis. In total, BlackRock Solution's risk analytics

are used by 190 client organizations. We discuss risk models and analytics providers in greater detail in our August 2014 *ViewPoint* entitled, "The Role of Technology within Asset Management".

### Order Generation and Workflow Systems, and Execution Management Systems

**Order Generation and Workflow Systems:** Order management systems (OMS) enable an asset manager to view portfolio positions and cash balances, and to generate trade orders. Oftentimes, OMS will have capabilities that include checking to see if the proposed trades would violate compliance restrictions (e.g., regulatory restrictions on fund composition or client guideline restrictions for separate accounts). OMS allow portfolio managers to review trade orders before they are executed in order to ensure that the trade would be in line with client or fund guidelines and objectives. Once trade orders are generated and approved in an OMS, they need to be executed by traders through interaction with the marketplace. An OMS is not required for trade execution as orders can be traded without an OMS; however, they do increase the efficiency of trading workflows and facilitate coordination with portfolio managers.

**Trade Execution Systems:** Trades are typically executed by traders in one of two ways: 1) phone execution (a call between a buy-side and sell-side trader to agree on price and to execute the trade); or 2) electronic execution through one of several electronic platforms. For equities, electronic execution is typically done using an execution management system (EMS), which sends the order to a broker or exchange, or through direct electronic connectivity to a broker. In addition, in some cases, an integrated order and execution management system (OEMS) is used, where functionality for order generation and trade execution reside in a single platform. In other cases, the OMS sends orders to a separate EMS. The terms and mechanisms work slightly differently for fixed income trades, where electronic execution is typically done through an electronic trading marketplace. That said, phone execution remains a means of executing trades. Phone execution does not require any technological systems to be in place at the asset manager, and serve as a backup in the event of technological failure of electronic execution systems.

Similar to risk analytics, many financial services companies license these capabilities from a third-party vendor as opposed to maintaining a system in-house. For example, Bloomberg is a leading provider within the space, offering order management and execution management systems, both of which are delivered through Bloomberg terminals. Bloomberg's buy-side OMS is called AIM. AIM is used by 14,000 professionals at over 700 firms.<sup>16</sup> Bloomberg's EMS is called EMSX. EMSX supports equity trade execution.

Bloomberg's FIT platform supports trade execution for fixed income, derivatives and futures. Orders executed through EMSX or FIT can come from Bloomberg's AIM OMS or from other OMS that route trade orders to EMSX or FIT to execute trades.

Another example of a service provider in this space is Charles River Development (Charles River). Charles River offers an integrated OEMS as part of its Investment Management System (IMS) offering. IMS is used by 350 investment firms, including 50 of the top 100 asset managers, and supports 25,000 investment professionals.<sup>17</sup>

Thomson Reuters is another vendor in the trade execution space. Its Autex Trade Route is one of the world's largest global order-routing networks, delivering order flow of 40 billion shares per day in equities, options and futures, as well as FX and fixed income trades.<sup>18</sup> Thomson Reuters also provides an FX trade execution platform, FXall, which is used by asset managers, corporate treasurers, banks, broker-dealers, and prime brokers.

Another vendor in this space is SimCorp. SimCorp offers an OMS combined with an accounting system, which is provided as either an installed software or hosted technology. SimCorp has more than 16,000 users.<sup>19</sup>

BlackRock Solutions offers an OMS called Aladdin. Aladdin has 75 clients including asset managers, insurers, pension funds, corporations and financial institutions. Some of these clients route orders to the marketplace directly from Aladdin, while others use Aladdin along with a third party EMS. Importantly, while Aladdin has a number of clients that utilize the Aladdin system, Aladdin does not cross trades between or among Aladdin clients. At one point, BlackRock Solutions initiated a project to develop and promote a proprietary alternative trading system (ATS) that would be integrated into Aladdin. After testing the platform, however, BlackRock Solutions found that while the concept was viable, it did not have a broad enough participant base to meet the needs of participants. As a result, in June 2013 we withdrew our Form ATS application from consideration by the SEC. Instead BlackRock Solutions created integrated order routing interfaces in Aladdin to aggregate third party liquidity, facilitating the ability of Aladdin users to more easily and efficiently effect transactions on an external fixed income platform.<sup>20</sup>

Other notable OMS providers (some of which couple OMS and EMS capabilities) include IHS Markit, Fidessa, Linedata, and Eze Software Group. Other providers of equity EMS include Factset, ITG, and Flextrade. Fixed income trading marketplace providers included Tradeweb and MarketAxess. We discuss order generation and workflow systems and execution management systems in greater detail in our August 2014 *ViewPoint* entitled, "The Role of Technology within Asset Management".

### Accounting Systems

Asset managers use accounting systems to calculate net asset values, performance, and returns. Asset managers managing portfolios of insurers and other financial institutions may use accounting systems to support regulatory accounting requirements to which these institutions are subject. Accounting systems serve as a basis for generating official books and records for portfolios, and outputs from these systems are then used for a variety of reporting purposes. Importantly, however, while asset managers may perform reconciliation and accounting internally, in an outsourced model fund administrators are responsible for maintaining funds' official books and records.

### CLOUD COMPUTING

Within the past decade, financial services companies have started to leverage cloud computing, and use by asset managers is quickly increasing. Cloud computing is the practice of using a network of remote servers hosted on the Internet to store, manage, and process data. This allows financial services companies to reduce IT infrastructure expenses, and achieve further efficiency and scale. Cloud computing providers own and maintain the network-connected hardware required for these application services, while financial services companies provision what they will need via a web application. Cloud computing introduces a different set of considerations and risk factors to consider in a virtual world, including cybersecurity, technology infrastructure, and disaster recovery.

Amazon Web Services (AWS) is the dominant provider in this space and provides services to over a million customers including leading banking, capital markets, insurance, financial technology (fintech), and industry service providers. For example, Nasdaq is moving an average of 5.5 billion rows of data into one of AWS' data warehouse offerings every day, and FINRA is able to analyze billions of market events with tools provided by AWS.<sup>21</sup>

Asset managers use a variety of vendor systems for portfolio accounting and administration, which includes NAV calculation and performance measurement. Major players include SS&C Technologies' Portia system (200+ clients<sup>22</sup>), and FIS (formerly SunGard) Asset Arena. SS&C Technologies offers two additional asset manager accounting systems through its recent acquisition of Advent (Geneva and APX). Eze Software Group and Linedata offer accounting systems integrated with their OMS. In some cases, asset managers use full accounting systems that support multi-basis accounting requirements and portfolio administration. These systems include SimCorp Dimension (\$19 trillion in assets),<sup>23</sup> State Street's PAM system, BNY Mellon's Eagle STAR platform, and SS&C's CAMRA offering.

## Operations Outsourcing Vendors

Every asset manager has a different philosophy on which operational functions they want to control directly versus which functions they want to outsource. This leads to a very diverse set of operating models across the industry. In some cases, economies of scale and the ability to provide a bundle of services cost-effectively may be a factor in decisions to select one or more external service providers, while affiliations with large banks may present other reasons to conduct processes in-house or with affiliates. Another factor may be because the asset manager wants to focus on its core competency of investing, while outsourcing operational functions to a third party. As a result, there are a variety of different models that range from fully outsourced to full execution of these functions in-house. In BlackRock's experience the use of different operating models is well-distributed across the industry. Each manager, regardless of size, needs to decide which functions to manage in-house and which functions to outsource based on various aspects of their business model.

In a fully in-house model, all operational functions are performed internally by the asset manager. This model requires direct investment in personnel, technology, and other resources that are dedicated to these functions. In a fully outsourced model, the asset manager hires a service provider(s) to perform all activities post trade execution, on their behalf. In this situation, the asset manager will typically employ various oversight processes on the outsourced service.

In some cases, service providers have conducted what is called a "lift out" where previously insourced functions are outsourced to an external party.<sup>24</sup> A lift out can also entail transfer of personnel from the asset manager to the third party. Key providers of this level of outsourcing include BNY Mellon, JP Morgan, Northern Trust, and State Street. In addition, a number of smaller independent service providers have developed similar capabilities targeted to smaller firms and hedge funds.<sup>25</sup>

Of course, there are many operating models that fall in between the two extremes of fully insourced and fully outsourced operational functions. As a result, there are a variety of competitors offering different solutions for the outsourcing of operational functions. While some vendors offer more comprehensive solutions that lend themselves to full outsourcing of operational functions, many vendors are able to provide individual services on a stand-alone basis. For example, asset managers may choose to outsource fund administration to a third party, but perform other operational functions, such as trade processing internally. Given the range of services provided and the variety of vendors that provide outsourcing capabilities, asset managers have the ability to "mix and match" which services they want to perform in-house and which services they want to outsource. Exhibit 3 provides some examples at a high level, though the ability to mix and match is more wide-ranging than is shown in Exhibit 3. As such, while there are many different providers of operations solutions, we will focus on a few key sets of providers in this section, namely providers of middle office outsourcing, portfolio/fund accounting and administration, transfer agents, and custodians.

A deep dive into each asset manager's operating model is needed to understand the role of third party vendors used by an asset manager to perform its operational functions. In the case of BlackRock, our operating model employs a combination of insourcing and outsourcing. In particular, BlackRock's business operations team manages functions including trade support services, data management, corporate actions, cash/position reconciliation, and client reporting. While BlackRock performs portfolio administration for separate accounts internally (though separate account clients often hire third party accounting agents to keep independent books and records), BlackRock outsources fund accounting, custody, fund administration, and transfer agent services for the majority of our commingled funds.

### Exhibit 3: EXAMPLES OF THIRD PARTY VENDORS TO ASSET MANAGERS

	OPERATIONAL FUNCTIONS OUTSOURCING			CUSTODIANS
	Middle Office Outsourcing	Transfer Agent	Fund Accounting & Administration*	
American Stock Transfer & Trust		X		
BNP Paribas	X		X	X
BNY Mellon	X	X	X	X
Brown Brothers	X	X	X	X
CACEIS	X		X	X
Citco	X		X	
Citi	X	X	X	X
Clearwater			X	
ComputerShare		X		
DST		X		
Genpact	X			
IFDS		X		
JP Morgan	X	X	X	X
Northern Trust	X	X	X	X
RBC	X	X	X	X
SEI	X		X	
Societe Generale	X		X	X
SS&C Technologies	X		X	
State Street	X	X	X	X

For illustrative purposes only. Not comprehensive. Many of the organizations perform more functions than are listed in this table.

\*Note, these services can also be provided for separate accounts. In this section, we will focus primarily on fund accounting and administration given several unique responsibilities.

#### Middle Office

The middle office serves as the connection point between trade execution and back office functions (such as fund administration and custody). In particular, the middle office is responsible for keeping investment and accounting systems aligned. Functions of the middle office include, but are not limited to, trade confirmation and settlements, corporate action processing, derivative operations and collateral management, cash and position reconciliation and security data maintenance. Supporting these functions requires a significant investment in headcount and technology. Consequently, some investment managers have chosen to outsource these responsibilities to third party vendors. Furthermore, there are a number of trends that are supporting a shift towards outsourcing investment operations, including an increased need for scale and resource optimization, regional and product nuances, and heightened regulatory requirements. According to BNP Paribas, “the increasing complexity of the functions of the middle office, the burden of maintaining the technology necessary to keep up with reporting and compliance obligations, and a need to be ruthless about finding efficiencies wherever possible are

conspiring to make outsourcing investment operations a more compelling prospect. These trends are set to continue, while the means to outsource post-trade functions will proliferate”.<sup>26</sup>

Some of the key providers of middle office outsourcing services include BNY Mellon, State Street, JP Morgan, Citi, Northern Trust, SS&C Technologies, and Brown Brothers Harriman.

#### Transfer Agents

Transfer agents are responsible for maintaining records of investors in funds, including account balances and transactions and processing and settling subscriptions and redemptions in funds. Transfer agents maintain the unit holder registry for funds and interface with direct clients, broker-dealers, and various industry utilities. The dominant transfer agents are American Stock Transfer and Trust, DST Systems Inc., BNY Mellon, ComputerShare, and IFDS (a joint venture between affiliates of State Street and DST Systems Inc.)

The risk of a lapse in a transfer agent’s systems interrupting its ability to provide services was highlighted in March 20,

2015 when IFDS in the UK experienced a systems hardware failure, which affected its normal operations. At the time IFDS supported around 40% of the UK market and the outage led to delayed payments for clients of funds that use IFDS for executing transactions electronically.<sup>27</sup>

### **Portfolio / Fund Accounting & Administration**

Fund administrators support the process of administering a fund, whether a mutual fund, hedge fund, unit trust or other type of CIV. Though highly interrelated, fund accounting and fund administration are separate services that can be offered together or individually. Together, the fund accountant and fund administrator are responsible for the official book of record for the CIV. These responsibilities may include:

1. Calculation of the NAV including the calculation of the fund's income and expense accruals and the pricing of securities at current market value;
2. Preparation of financial statements;
3. Maintenance and filing of the fund's financial books and records as the fund accountant, including reconciliation of holdings with custody, transfer agents and broker records;
4. Payment of fund expenses;
5. Calculation and payment to the transfer agent of dividends and distributions (if required);
6. Preparation and filing of the fund's prospectus;
7. Preparation and filing of regulatory filings/reports;
8. Calculation of the total returns and other performance measures of the fund;
9. Monitoring investment compliance with regulations; and
10. Supervision of the orderly liquidation and dissolution of the fund (if required).

Most large custodian banks have affiliates that offer fund accounting and administration outsourcing. Some of the largest fund administrators include: State Street, JP Morgan, and BNY Mellon, to name a few. Most fund administrators are also custodians.

Separate account clients may require some of the administrative and accounting tasks mentioned above to be performed – we will refer to this as portfolio administration. Portfolio administrators perform similar functions to fund accountants and fund administrators, including calculating portfolio values and performance measurement. However, there are generally fewer regulatory filings required for separate accounts.

### **Custodians**

Custodians are one of the most important service providers to ensuring that client assets are safeguarded as they are responsible for holding and safeguarding an asset owner's or fund's assets including bonds, equities, cash, and derivatives. Custodians also collect income (e.g., dividends or interest)

from the securities they hold in client accounts and they facilitate the settlement of securities that are purchased or sold. Separate account clients have the ability to select and engage the custodian of their choice. This is an important distinction because the fiduciary obligation shifts to the client to manage the vendor relationship. In addition to providing custodial services, custodians may perform other services for their clients, including cash management, foreign exchange and currency hedging, securities lending agent services, fund accounting and administration, and others. Custodians have fee structures for the provision of services in addition to custody. Regardless of the extent of the outsourcing services provided by the custodian, there is daily interaction between the asset manager and custodian in the course of managing client separate accounts and/or funds.

Most asset managers interact with and maintain connectivity with multiple custodians, given that clients can select the custodian of their choice. For example, client portfolios managed by BlackRock are custodied at more than 80 custodian banks worldwide. The largest custodians are BNY Mellon, Citi, JP Morgan, and State Street. Between them, they provide custody for more than half of the total assets under custody among the 75 largest global banks identified by the Basel Committee on Banking Supervision.<sup>28</sup>

Unlike the majority of third party services discussed in this document, disruption at a large custodian would likely have a significant disruptive impact on *all* asset managers, including both external asset managers and asset owners that manage their assets directly. This is one reason why the largest global custodians are regulated as global systemically important banks (G-SIBs).

### **Vendor Risk Management**

While operational functions may be performed by a third party, asset managers need to ensure that third parties, like the asset manager itself, have sufficient controls to mitigate the risk of operational errors and to ensure adequate business continuity and disaster recovery plans are in place.<sup>29</sup> Further, there are a number of legislative and regulatory requirements in place that require asset managers to have comprehensive controls over the selection and ongoing monitoring of third parties providing critical or important operational functions to the asset manager. In the EU the Markets in Financial Instruments Directive (MiFID) sets out a comprehensive set of requirements on the outsourcing critical functions which apply to both investment firms and their service providers.<sup>30</sup> In the US, there are a variety of regulatory standards in place.<sup>31</sup> Regulators, such as the SEC, also conduct regular reviews of the effectiveness of controls put in place by asset managers. More recently, the SEC issued a proposal for public comment that would require all investment advisers to have business continuity plans in place that address, among other things, the role of critical

third party service providers in the adviser's operating model.<sup>32</sup> Similarly, in July 2016, the Monetary Authority of Singapore (MAS) issued "Guidelines on Outsourcing" for financial institutions, which stipulate that due diligence assessments when outsourcing to third party service providers should include a review of, among other things, the security and internal controls of the service provider, the corporate governance structure of the service provider, disaster recovery arrangements of the service provider as well as the provider's disaster recovery track record, and the reliance upon any sub-contractors to provide the service. Further the MAS Guidelines on Outsourcing stipulate that financial institutions must review BCPs for third party service providers to ensure the plans are satisfactory and in line with the nature of and risks associated with the provision of the service in question.<sup>33</sup>

Where the asset manager has a choice of service providers, conducting due diligence in the selection of third party service providers, followed by ongoing monitoring is key to ensuring that third party service providers are adequately managing operational risk and can continue operations, even during times of market stress or business disruptions. BlackRock maintains a selection program with a comprehensive set of guidelines and criteria to ensure that critical providers meet certain requirements without limitations, such as business concentration, financial stability, proper legal documentation, operational efficiencies, and adequate risk mitigation and controls including business continuity plans (BCP).

## **BUSINESS CONTINUITY RISKS**

Business disruptions can occur from a variety of natural and man-made events resulting in the loss of facilities, technology systems, and the inability of personnel to perform their duties. In order to manage the business continuity risk that could arise as a result of business disruptions, asset managers must have procedures in place to recover business operations and supporting technology in the event of a disruption. We believe that planning for these types of events requires a comprehensive program that includes: (i) business continuity planning, (ii) technology DRPs, and (iii) a crisis management framework to coordinate in crisis situations. As mentioned above, a key component of our overall strategy and a key differentiator for BlackRock is our ability to transfer work across our offices globally. By having staff that utilize shared systems and common processes, we are able to service our client base from our offices around the world. In the event of a disruption that impacts one office or region, work can be transferred to staff at other locations. This capability is included in BCPs and in many cases is utilized in the course of normal business.

Oversight and ongoing relationship management of critical third party service providers includes performance monitoring, onsite process and control reviews, reviewing financial condition, documentation related to internal controls (i.e., SSAE 16), and assessing potential vulnerabilities as well as the results of BCP and technology disaster recovery testing. BlackRock is in regular contact with third party service providers in the course of supporting our day-to-day operations, and, therefore, has an ongoing relationship and understanding of our providers' performance in their given areas. In addition, service level agreements and key performance indicators are metrics used to gauge and measure provider performance and adherence to BlackRock's operational requirements.

As it relates to BCP, asset managers should review the BCPs and technology disaster recovery plans (DRPs) of critical third party service providers both during the initial due diligence process and on an ongoing basis, thereafter. As part of these reviews, onsite meetings are typically conducted in which individual contingency plans are reviewed, evaluated, and, where appropriate, tested. These standards are to ensure that key incidents faced by critical third party vendors will not have an adverse impact on the asset manager's business. It is important to ensure that technical experts from the asset manager are engaged with the corresponding teams from the service providers. This helps asset managers ensure that their service providers are appropriately prepared to handle adverse circumstances and mitigate risk, while continuing to provide their services during such a crisis.

The level of engagement with providers will likely vary based on the services being provided and potential impact to the asset manager should the vendor's services be interrupted. Written contracts with third party service providers should clearly outline the duties, obligations and responsibilities of each third party. That said, it is important to recognize that while asset managers can perform rigorous due diligence on third party vendors and engage in a high level of ongoing communication and oversight, asset managers cannot and do not control every aspect of a third party vendor's functioning, nor do they have the ability to guarantee that a third party vendor will never make a mistake or face an operational or business continuity challenge of their own. To this end, it is important for regulators to act as a "second pair of eyes" and to ensure that custodians, fund administrators, and financial market infrastructure are sufficiently regulated and supervised, regardless of their affiliations with other types of financial institutions. Indeed, the regulation for custodians and financial market utilities have been updated post-Crisis in most jurisdictions to the benefit of asset managers and their clients; regulators should ensure that ongoing supervision is robust and keeps up with the rapidly evolving financial market

ecosystem, particularly as the need to maintain a durable technology infrastructure and cybersecurity program becomes more prevalent.

## Financial Market Infrastructures (FMI)

There are certain operational risks that are present for all market participants – in particular, those related to the FMI or the “plumbing” that makes the financial system work. These firms and services include exchanges, electronic trading and affirmation platforms, trade messaging systems (i.e., SWIFT), and depositories that facilitate the movement of securities, foreign exchange and other positions from one counterparty to another (i.e., Depository Trust Company (DTC) and National Securities Clearing Corp. “NSCC)) to

execute investor subscriptions and redemptions. Likewise, CCPs are used for centrally cleared OTC derivatives. All of these FMI are central resources that are relied on by virtually all participants in the asset management ecosystem. While these firms and services may not technically be defined as “third party services”, all market participants, including asset managers, are dependent on the critical infrastructure that is provided by these entities, as are other market participants. Unlike with respect to third party services, where asset managers or asset owners have the ability to select their service provider among a number of competitors, there is limited or no ability to select vendors for FMI – in other words, FMIs are not generally substitutable.

### MUTUAL FUND ADMINISTRATION AND ACCOUNTING SYSTEM ISSUE IN AUGUST 2015

Even with robust vendor risk management standards in place, asset managers are not immune to operational issues that impact their third party vendors’ abilities to provide services. One example of this was the BNY Mellon/SunGard pricing issue that began on August 24, 2015 and persisted for several days thereafter. While unrelated, this issue occurred simultaneously with the US equity market structure opening issues on August 24, 2015.<sup>34</sup>

BNY Mellon is a prominent fund administrator, providing fund administration services to several hundred registered mutual funds and ETFs across the US fund industry. To perform these services, BNY Mellon relies on SunGard’s InvestOne fund administration and accounting system. On August 24, 2015, the SunGard system experienced an outage and abruptly ceased to function correctly. The issue simultaneously corrupted the backup environment that BNY Mellon had in place as a fall back for a system issue of this nature. While BNY Mellon invoked its business continuity and disaster recovery procedures to address the issue, they were unable to restore the system before the end of the day, when NAVs needed to be delivered to funds. The issue rendered BNY Mellon unable to produce NAVs for 1,200 individual fund structures across 66 BNY Mellon fund manager clients.<sup>35</sup> The issue persisted for several days before BNY Mellon was able to restore full fund administration services to its clients.

To address the situation and publish NAVs for their funds, managers using BNY Mellon as fund administrator needed

to rely on alternate pricing mechanisms (including using internal “shadow” accounting systems) to determine fund NAVs. In addition, BNY Mellon performed processes manually to help produce fund NAVs. These alternate procedures permitted impacted funds to produce NAVs, which enabled them to continue processing purchases and redemptions throughout the week, despite the disruption to BNY Mellon’s normal processes.

The situation resulted in a lesson learned for the industry. Namely, that it is important to consider not only one’s third party vendors but also the vendors upon which those third parties rely (known as “fourth parties”). At this point in time, the industry has not entirely come to a consensus on best practices regarding the level of oversight of fourth parties that can reasonably be expected of asset managers who rely on third party vendors, and asset managers have implemented different policies and procedures in this regard.

At BlackRock, we shadow the books for the fund administrator, including computing daily NAVs, using internal systems. This allows us to oversee and validate fund administrator calculations by comparing our computed NAVs to the fund administrator-calculated NAVs and reconciling differences. While this type of reconciliation is commonplace between asset managers and custodians, it is not widely used between asset manager and fund administrator records. This process also provides us with a backup estimated NAV, which can be used if the fund administrator became unable to produce them.

A significant breakdown in a major component of FMI would pose substantial operational risk to all market participants, including asset managers and their clients, and could potentially require regulatory intervention to resolve. Recent examples demonstrate that there is more work to be done to ensure appropriate protections are in place. While many market entities have been designated systemically important financial market utilities (SI-FMUs) which are subjected to greater regulatory safeguards,<sup>36</sup> other elements of the financial market infrastructure are not subject to the same degree of attention.

In particular, post-Crisis regulations have successfully shifted credit risks from bi-lateral counterparties to CCPs. These risks are now concentrated in a smaller number of market participants whose resilience is paramount to market stability.

## CYBERSECURITY ISSUES

Cybersecurity is a critical component of market plumbing. Recent incidents in which unauthorized SWIFT messages were used have highlighted the importance of cybersecurity protections. For example, \$100 million was stolen from the account of the Bank of Bangladesh from the New York Federal Reserve Bank as a result of unauthorized SWIFT messages sent by an unknown source,<sup>37</sup> \$12 million was stolen from a bank in Ecuador,<sup>38</sup> and an unsuccessful fraud attempt was made at a bank in Vietnam.<sup>39</sup> SWIFT recently stated that new cyber theft attempts, some of which were successful, have surfaced since June 2016.<sup>40</sup> In August 2016, US regulators – the Federal Reserve Board, OCC, and FDIC – indicated in a letter to Representative Carolyn Maloney that they are working to conduct expanded reviews of cyber controls for banks that are members of SWIFT and urging US banks to review their risk management and cybersecurity systems.<sup>41</sup> This follows up on a request by the Bank of England in April 2016 calling for the banks it regulates to update their cybersecurity measures and a similar request by the Monetary Authority of Singapore.<sup>42</sup> As highlighted in recent testimony by SEC Chair Mary Jo White, “cybersecurity is...one of the greatest risks facing the financial services industry and will be for the foreseeable future” and ensuring cybersecurity protections are in place is a key consideration for asset management.<sup>43</sup> This focus by regulators across the globe underscores the need for robust cybersecurity measures at financial institutions and other participants within the financial ecosystem. Further regulatory guidance on controls and other cyber-defense measures would be helpful to the resiliency of the financial markets. In April 2015, the SEC’s Division of Investment Management issued guidance related to cybersecurity measures that should be considered by investment advisers.<sup>44</sup>

We have outlined our concerns in various documents over the past few years.<sup>45</sup> We support increased standardization and centralized clearing of derivatives; however, we also agree with US Commodity Futures Trading Commission (CFTC) Chairman Massad that central clearing is not a “panacea”.<sup>46</sup> To address this concentration of risk, we encourage regulators to implement safeguards to reduce the likelihood of a CCP failure and to avoid the contagion effect of such failure. We recommend regulators focus on establishing rigorous capital standards for CCPs, requiring global standardized stress testing of CCPs, and improving transparency to counterparties of the CCP. Regulators should consider recommendations that have been made for policies that would promote CCP soundness, such as developing comprehensive risk management processes, focusing on strengthening risk model development and model validation practices, ensuring CCPs have business continuity plans and technology disaster recovery plans, and regularly conducting end-to-end testing of default management processes with market participants. Some regulators have already addressed these topics.<sup>47</sup>

## Recommendations

Any analysis of third party services in asset management needs to start with an understanding of the different business models of various firms. As regulatory compliance and reporting requirements increase, scale has become ever more important. Gaining insight into the buy versus build decisions and the increasing importance of scale will help to understand the growth in third party vendors and the important role that they play in assets managed by asset managers and asset owners. As purchasers of services, asset managers need a vendor management program and business continuity plans that factor in outsourced services. We recommend that where they have not done so already, regulators provide guidance for conducting due diligence on vendors and for developing business continuity plans.

Likewise, understanding the landscape of the services that are available and the vendors who provide these services is critical. Often custodians offer add-on services such as cash management, foreign exchange and currency hedging, securities lending, fund accounting, fund administration, compliance and risk analysis, as well as legal and tax support. Many clients find this bundled approach attractive. Alternatively, there are a growing number of independent firms that offer niche services tailored to specific areas of emerging demand. Importantly, as the needs increase, the number and types of competitors increases, thereby offering purchasers choice and cost-effective solutions. As providers of services, technology disaster recovery and cybersecurity should be critical components of the business models for these vendors, regardless of whether they are affiliated with a bank or asset manager, or whether they are independent.

In considering the potential vulnerabilities in the system, special attention should be given to shared infrastructure that is critical to managing assets. While these firms and services may not technically be defined as “third party vendors”, asset managers and asset owners alike are dependent on critical infrastructure that is provided by other firms. Custodians, CCPs, exchanges, and the SWIFT messaging network are just a few examples. The role of third party vendors in asset management warrants additional analysis.

While this paper provides a foundation, it is by no means comprehensive with respect to the lists of vendors shown in Exhibits 2 and 3, nor with respect to the operating models that are employed by asset managers large and small. If regulators are interested in assessing potential risks associated with the role of third party vendors in asset management, we recommend that as a first step, regulators or global policy bodies (e.g., IOSCO, FSB) conduct a more in-depth survey than is provided in this *ViewPoint* to develop a more comprehensive understanding of the landscape.

## RELATED CONTENT

- ▶ [ViewPoint – The Role of Technology Within Asset Management, August 2014](#)
- ▶ [Letter to FSOC, Request for Comment on Asset Management Products and Activities, March 25, 2015](#)
- ▶ [Letter to SEC, Adviser Business Continuity and Transition Plans, September 6, 2016](#)

For access to our full collection of public policy commentaries, including the *ViewPoint* series and comment letters to regulators, please visit <http://www.blackrock.com/corporate/en-us/news-and-insights/public-policy>

## Notes

1. Financial Stability Oversight Council, Update on Review of Asset Management Products and Activities (Apr. 18, 2016), available at <https://www.treasury.gov/initiatives/fsoc/news/Documents/FSOC%20Update%20on%20Review%20of%20Asset%20Management%20Products%20and%20Activities.pdf>; Financial Stability Board (FSB), Consultative Document, Proposed Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities (Jun. 22, 2016), available at <http://www.fsb.org/wp-content/uploads/FSB-Asset-Management-Consultative-Document.pdf>.
2. For example, in the US, in 2009 the Securities and Exchange Commission adopted amendments to the custody rule for investment adviser client funds or securities, rule 206(4)-2 under the Investment Advisers Act of 1940. SEC, Custody of Funds or Securities of Clients by Investment Advisers, 75 Fed. Reg. 1456 (Jan. 11, 2010) available at <https://www.sec.gov/rules/final/2009/ia-2968fr.pdf>. In the EU, see Alternative Investment Fund Managers Directive (AIFMD) – Directive 2011/ 61/EU, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:174:0001:0073:EN:PDF>; Undertakings for Collective Investment in Transferable Securities Directive (UCITS V) – Directive 2014/91/EU, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0091&from=EN>, which have both introduced higher standards for depositaries of investment funds. The Markets in Financial Instruments Directive (MiFID II) – Directive 2014/65/EU, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0065&from=EN> has also been recast, treats custody as a core MiFID service and provides for more rigorous standards for the holding of client assets.
3. US federal securities laws require public companies to disclose information on an ongoing basis. For example, US publicly-traded companies must submit annual reports on Form 10-K, quarterly reports on [Form 10-Q](#), and current reports on [Form 8-K](#) for a number of specified events and must comply with a variety of other disclosure requirements. For More information, see SEC, Fast Answers: Form 10-Q, available at <https://www.sec.gov/answers/form10q.htm>.
4. For example, BlackRock Solutions, which is a provider of risk analytics, order management systems and trade processing, among a variety of other capabilities, through the Aladdin® platform, is affiliated with BlackRock.
5. Ben McLannahan, Financial Times, Banks' belt-tightening threatens to drive a terminals decline (Jun. 3, 2016), available at <http://www.ft.com/cms/s/0/5950311c-2961-11e6-83e4-abc22d5d108c.html#axzz4K9P5wVzq>.
6. Bloomberg, History & Facts, available at <http://www.bloomberg.com/company/bloomberg-facts/>.
7. Burton-Taylor International Consulting LLC, Bloomberg Extends Market Share Lead over Thomson Reuters (Mar. 9, 2016), available at <https://burton-taylor.com/bloomberg-extends-market-share-lead-over-thomson-reuters-report/>.
8. U.S. Department of Labor, Definition of the Term “Fiduciary”; Conflict of Interest Rule - Retirement Investment, 81 Fed. Reg. 20946 (Apr. 8, 2016), available at <https://www.gpo.gov/fdsys/pkg/FR-2016-04-08/pdf/2016-07924.pdf>; Morningstar, How the DOL's Fiduciary Rule Will Affect Advisors, Investors (Jun. 3, 2016), available at <http://www.morningstar.com/advisor/v/115449243/how-the-dol-s-fiduciary-rule-will-affect-advisors-investors.htm>; Julia Binder, Investment Management Consultants Association, Implications of the Final DOL Fiduciary Rule for Asset Managers (Jul./Aug. 2016), available at [https://www.imca.org/sites/default/files/current-issues/IWM/IWM16JulAug\\_ImplicationsDOLFiduciaryRule.pdf](https://www.imca.org/sites/default/files/current-issues/IWM/IWM16JulAug_ImplicationsDOLFiduciaryRule.pdf); Liz Skinner, Figuring out Fiduciary: Now Comes the Hard Part (May 9, 2016), available at <http://www.investmentnews.com/article/20160509/FEATURE/160509939/the-dol-fiduciary-rule-will-forever-change-financial-advice-and-the>.
9. John Authers, Financial Times, Investing: the index factor (Aug. 16, 2015), available at <http://www.ft.com/cms/s/2/40bb7c10-419f-11e5-9abe-5b335da3a90e.html#axzz4HR9UpTr2>.
10. S&P Dow Jones Indices, S&P 500 Fact Sheet, available at <http://us.spindices.com/indices/equity/sp-500>.
11. FTSE Russell, LSEG launches new FTSE Russell Brand, available at <http://www.ftserussell.com/files/press-releases/lseg-launches-new-ftse-russell-brand>.
12. FTSE Russell, About Us, available at <http://www.ftserussell.com/about-us>.
13. MSCI, MSCI Indexes, available at <https://www.msci.com/indexes>.
14. Lehman Brothers, Index Subscription Service & Data Licenses, available at [http://www.lehman.com/fi/indices/index\\_subscription.pdf](http://www.lehman.com/fi/indices/index_subscription.pdf).
15. The Guardian, Barclays agrees \$1.75bn deal for core Lehman Brothers business, available at <https://www.theguardian.com/business/2008/sep/17/barclay.lehmanbrothers1>.
16. Bloomberg, Products: Buy-Side, available at <http://www.bloomberg.com/trading-solutions/buy-side/>.
17. Charles River, available at <https://www.crd.com/solutions/charles-river-ims/>.
18. Thomson Reuters, Equity Market Solutions, available at <http://financial.thomsonreuters.com/en/markets-industries/equity-market.html>.
19. SimCorp, Why SimCorp, available at <http://www.simcorp.com/en/why-simcorp>.
20. In 2012, BlackRock announced that it planned to create and launch a fixed income trading platform, the Aladdin Trading Network (ATN). After testing the platform, we found that while the concept was viable, ATN did not have a broad enough participant base to meet the needs of participants. In June 2013, we formally withdrew the Form ATS application submitted to the SEC which would be required to run an ATS. As a next step, in April 2013, BlackRock formed a strategic alliance with MarketAxess, a leader in electronic credit trading. See Cate Long, Reuters, Aladdin's new lamp (Apr. 13, 2012), available at <http://blogs.reuters.com/muniland/2012/04/13/aladdins-new-lamp/>; Matthew Leising and Alexis Leondis, Bloomberg, BlackRock Electronic Bond-Trading Fails From Client Imbalance (Apr. 24, 2013), available at <http://www.bloomberg.com/news/articles/2013-04-24/blackrock-electronic-bond-trading-fails-from-client-imbalance>; BlackRock Press Release, BlackRock and MarketAxess Announce the Creation of a Unified, Electronic Trading Solution in the US Credit Markets (Apr. 23, 2013), available at <http://phx.corporate-ir.net/phoenix.zhtml?c=119943&p=irol-newsArticle&ID=1809975>.
21. Amazon Web Services, Financial Services in the Cloud, available at <https://aws.amazon.com/financial-services/>.
22. Matthew Bellias, SS&C, The Continuing Evolution of Data Governance, available at <http://www.ssctech.com/eBriefings/eBriefingArticle/tabid/597/Default.aspx?V=&A=3986>.
23. SimCorp, Facts and Figures, available <http://www.simcorp.com/en/about/about-simcorp/facts-and-figures>.
24. For example, see Institutional Investor, BBH, OppenheimerFunds Ink Deal (Sep. 23, 2010), available at <http://www.institutionalinvestor.com/Article/2676216/BBH-OppenheimerFunds-Ink-Deal.html#.VMKQjih0zcs>.

## Notes

25. Ed Moisson, Ignites, Fund outsourcing Management 'more profitable' (Aug. 18, 2016), available at [http://igniteseurope.com/c/1431433/164543/funds\\_outsourcing\\_management\\_more\\_profitable?referrer\\_module=emailMorningNews&module\\_order=0&code=Y21GamFHVnNMbUpoY25KNVfHsnNZV05yY205amF5NWpiMjBzSURNNU1UWTVOak1zSURJd01qYzRPRF16TKRrPQ](http://igniteseurope.com/c/1431433/164543/funds_outsourcing_management_more_profitable?referrer_module=emailMorningNews&module_order=0&code=Y21GamFHVnNMbUpoY25KNVfHsnNZV05yY205amF5NWpiMjBzSURNNU1UWTVOak1zSURJd01qYzRPRF16TKRrPQ); Richard Henderson, FundFire, Managers Weigh Benefits of Outsourcing to Boost Distribution (Aug. 15, 2016), available at [http://fundfire.com/c/1428693/164223/managers\\_weigh\\_benefits\\_outsourcing\\_boost\\_distribution?referrer\\_module=emailMorningNews&module\\_order=4&code=Y21GamFHVnNMbUpoY25KNVfHsnNZV05yY205amF5NWpiMjBzSURNNU1UWTVOak1zSURFM05ETXdORFE0TmPFQ](http://fundfire.com/c/1428693/164223/managers_weigh_benefits_outsourcing_boost_distribution?referrer_module=emailMorningNews&module_order=4&code=Y21GamFHVnNMbUpoY25KNVfHsnNZV05yY205amF5NWpiMjBzSURNNU1UWTVOak1zSURFM05ETXdORFE0TmPFQ); Jackie Noblett, Ignites, Cost Pressure Turns Spotlight on Middle-Office Outsourcing (Feb. 26, 2016), available at [http://ignites.com/c/1300283/147373/cost\\_pressure\\_turns\\_spotlight\\_middle\\_office\\_outsourcing?referrer\\_module=emailMorningNews&module\\_order=4&code=Y21GamFHVnNMbUpoY25KNVfHsnNZV05yY205amF5NWpiMjBzSURNNU1UWTVOak1zSURFeE1EZ3pNVGs1T1RnPQ](http://ignites.com/c/1300283/147373/cost_pressure_turns_spotlight_middle_office_outsourcing?referrer_module=emailMorningNews&module_order=4&code=Y21GamFHVnNMbUpoY25KNVfHsnNZV05yY205amF5NWpiMjBzSURNNU1UWTVOak1zSURFeE1EZ3pNVGs1T1RnPQ); Tim Cave, Financial News, Buyside traders beware: outsourcing set for revival (May 25, 2015), available at <http://www.efinancialnews.com/story/2016-05-25/outsourced-buyside-dealing-desks-set-for-comeback>.
26. BNP Paribas, Middle Office Outsourcing: From Experiment to Strategic Imperative, available at [http://securities.bnpparibas.com/files/live/sites/quintessence/files/Hot%20topics%20-%20marketing/Files/4431%20BP2S%20Middle%20office%20outsourcing%20\(FINAL%20SCREEN\).pdf](http://securities.bnpparibas.com/files/live/sites/quintessence/files/Hot%20topics%20-%20marketing/Files/4431%20BP2S%20Middle%20office%20outsourcing%20(FINAL%20SCREEN).pdf).
27. David Oakley, Financial Times, Technology glitch hits UK investment transactions (Mar. 20, 2015), available at <http://www.ft.com/cms/s/0/4b9e7554-cf19-11e4-9949-00144feab7de.html?siteedition=uk#axzz4luFudXLj>.
28. Office of Financial Research, A Comparison of U.S. and International Global Systemically Important Banks (Aug. 4, 2015), available at [https://financialresearch.gov/briefs/files/OFRbr-2015-07\\_A-Comparison-of-US-and-International-Global-Systemically-Important-Banks.pdf](https://financialresearch.gov/briefs/files/OFRbr-2015-07_A-Comparison-of-US-and-International-Global-Systemically-Important-Banks.pdf).
29. Note that given the diversity of ways that asset managers utilize third party service providers, our views on this topic are inherently based on our operational model which may be different than those of other asset managers.
30. MiFID Directive 2014/65/EU article 16(2) & (5) at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0065&from=EN> and Article 31 of the MiFID 2 Level 2 Delegated Regulation of 25 April 2016 at <https://ec.europa.eu/transparency/regdoc/rep/3/2016/EN/3-2016-2398-EN-F1-1.PDF>.
31. SEC, Compliance Programs of Investment Companies and Investment Advisers, 68 Fed. Reg. 74714 (Dec. 17, 2003), available at <https://www.sec.gov/rules/final/ia-2204.pdf>; OCC Comptroller's Handbook on Asset Management Operations and Controls at 14 (Jan. 2011).
32. SEC, Adviser Business Continuity and Transition Plans Proposed Rule, 81 Fed. Reg. 43530 (July 5, 2016), available at <https://www.gpo.gov/fdsys/pkg/FR-2016-07-05/pdf/2016-15675.pdf>.
33. Monetary Authority of Singapore, Guidelines on Outsourcing (Sep 2014), available at [http://www.mas.gov.sg/~media/MAS/News%20and%20Publications/ConsultationPaper\\_Guidelines%20on%20Outsourcing.pdf](http://www.mas.gov.sg/~media/MAS/News%20and%20Publications/ConsultationPaper_Guidelines%20on%20Outsourcing.pdf). See sections 5.4 and 5.7.
34. BlackRock, *ViewPoint*, US Equity Market Structure: Lessons from August 24 (Oct. 2015), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-us-equity-market-structure-october-2015.pdf>.
35. Transcript of the BNY Mellon Teleconference Hosted by Gerald Hassell on the SunGard Issue (Aug. 30, 2015), available at <https://www.bnymellon.com/global-assets/pdf/events/transcript-of-bny-mellon-teleconference-on-sungard-issue.pdf>.
36. Federal Reserve Board, Designated Financial Market Utilities (Jan. 29, 2015), available at [http://www.federalreserve.gov/paymentsystems/designated\\_fm\\_u\\_about.htm](http://www.federalreserve.gov/paymentsystems/designated_fm_u_about.htm); Financial Services Roundtable, Comment Letter, Response to FSB-IOSCO's Consultation Regarding Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions (Apr. 7, 2014), available at <http://fsroundtable.org/letter-re-assessment-methodologies-for-identifying-non-bank-non-insurer-global-sifis-4-7-14/>.
37. Arun Devnath, Bloomberg, Printer Error Triggered Bangladesh Race to Halt Cyber Heist (Mar. 16, 2016), available at <http://www.bloomberg.com/news/articles/2016-03-16/printer-error-set-off-bangladesh-race-to-halt-illicit-transfers>.
38. Gavin Finch, Bloomberg, Ecuador Bank Says It Lost \$12 Million in Swift 2015 Cyber Hack (May 20, 2016), available at <http://www.bloomberg.com/news/articles/2016-05-20/ecuador-bank-says-it-lost-12-million-in-swift-2015-cyber-hack>.
39. Trong-Khanh Vu and Katy Burne, The Wall Street Journal, Vietnam's Tien Phong Bank Targeted in Bangladesh-Like Cyberattack (May 16, 2016), available at <http://www.wsj.com/articles/vietnamese-bank-says-it-was-target-of-attempted-cyber-heist-1463405095>.
40. Jim Finkle, Reuters, SWIFT discloses more cyber thefts, pressures banks on security (Aug. 31, 2016), available at [http://www.reuters.com/article/us-cyber-heist-swift-idUSKCN11600C?feedType=RSS&feedName=topNews&utm\\_source=twitter&utm\\_medium=Social](http://www.reuters.com/article/us-cyber-heist-swift-idUSKCN11600C?feedType=RSS&feedName=topNews&utm_source=twitter&utm_medium=Social).
41. Rep. Carolyn Maloney, Press Release, U.S. Banking Regulators Respond to Rep. Maloney Inquiry on Banking Security (Aug. 24, 2016), available at <https://maloney.house.gov/media-center/press-releases/us-banking-regulators-respond-to-rep-maloney-inquiry-on-banking-security>.
42. Andrew MacAskill and Jim Finkle, Reuters, UK banks ordered to review cyber security after SWIFT heist (May 19, 2016), available at <http://uk.reuters.com/article/uk-cyber-heist-bankofengland-idUKKCN0Y92K0>.
43. In testimony before Congress, SEC Chair, Mary Jo White recently highlighted the critical role that cybersecurity plays in asset management. SEC Chair Mary Jo White, Testimony on Oversight of the U.S. Securities and Exchange Commission Before the Committee on Banking, Housing, and Urban Affairs, United States Senate (Jun. 14, 2016), available at <https://www.sec.gov/news/testimony/testimony-white-oversight-sec-06-14-2016.html>.
44. SEC Division of Investment Management, Guidance Update: Cybersecurity guidance (Apr. 2015), available at <https://www.sec.gov/investment/im-guidance-2015-02.pdf>.
45. BlackRock, *ViewPoint*, Modernization of US Asset Management Regulation (Mar. 2016), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-modernization-us-asset-management-regulation-march-2016.pdf>; BlackRock, *ViewPoint*, Central Clearing Counterparties and Too Big To Fail (Apr. 2014), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-ccp-tbtf-april-2014.pdf>; BlackRock, Comment Letter to CFTC, Roundtable on Recovery of Derivatives Clearing Organizations (Apr. 27, 2015), available at <http://www.blackrock.com/corporate/en-us/literature/publication/cftc-recovery-of-derivatives-clearing-organizations-042715.pdf>; BlackRock, Comment Letter to FSO, Notice Seeking Comment on Asset Management Products and Activities (Mar. 25, 2015), available at <http://www.blackrock.com/corporate/en-us/literature/publication/fsoc-request-for-comment-asset-management-032515.pdf>; BlackRock, Comment Letter to FSB, 2<sup>nd</sup> Consultative Document on Assessment Methodologies for Identifying NBNI G-SIFIs (May 29, 2015), available at <http://www.blackrock.com/corporate/en-us/literature/publication/2nd-nbni-gsifi-fsb-iosco-052915.pdf>.

## Notes

46. CFTC Chairman Timothy Massad, Testimony before the US House Committee on Agriculture (Feb. 12, 2015), available at <http://www.cftc.gov/PressRoom/SpeechesTestimony/opamassad-11>.
47. CFTC, Chairman Timothy Massad, Statement before the Commission Open Meeting (Sep. 8, 2016), available at <http://www.cftc.gov/PressRoom/SpeechesTestimony/massadstatement090816>; CFTC Final Rulemaking, System Safeguard Testing Requirements (Sep. 8, 2016), available at <http://www.cftc.gov/idx/groups/public/@newsroom/documents/file/federalregister090816c.pdf>.

---

This publication represents the regulatory and public policy views of BlackRock. The opinions expressed herein are as of September 2016 and are subject to change at any time due to changes in the market, the economic or regulatory environment or for other reasons. The information in this publication should not be construed as research or relied upon in making investment decisions with respect to a specific company or security or be used as legal advice. Any reference to a specific company or security is for illustrative purposes and does not constitute a recommendation to buy, sell, hold or directly invest in the company or its securities, or an offer or invitation to anyone to invest in any BlackRock funds and has not been prepared in connection with any such offer.

This material may contain 'forward-looking' information that is not purely historical in nature. Such information may include, among other things, projections and forecasts. There is no guarantee that any forecasts made will come to pass.

The information and opinions contained herein are derived from proprietary and non-proprietary sources deemed by BlackRock to be reliable, but are not necessarily all inclusive and are not guaranteed as to accuracy or completeness. No part of this material may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronic, mechanical, recording or otherwise, without the prior written consent of BlackRock.

This publication is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation.

In the EU issued by BlackRock Investment Management (UK) Limited (authorised and regulated by the Financial Conduct Authority). Registered office: 12 Throgmorton Avenue, London, EC2N 2DL. Registered in England No. 2020394. Tel: 020 7743 3000. For your protection, telephone calls are usually recorded. BlackRock is a trading name of BlackRock Investment Management (UK) Limited. In Singapore, this is issued by BlackRock (Singapore) Limited (Co. registration no. 200010143N) for use only with institutional investors as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore. In Hong Kong, this material is issued by BlackRock Asset Management North Asia Limited and has not been reviewed by the Securities and Futures Commission of Hong Kong. This material is for "Professional Investors" (as defined in the Securities and Futures Ordinance (Cap.571 of the laws of Hong Kong) and any rules made under that ordinance.) and should not be relied upon by any other persons or redistributed to retail clients in Hong Kong. In South Korea, this material is for Qualified Professional Investors only. In Japan, this is issued by BlackRock Japan. Co., Ltd. (Financial Instruments Business Operator: The Kanto Regional Financial Bureau. License No375, Association Memberships: Japan Investment Advisers Association, The Investment Trusts Association, Japan, Japan Securities Dealers Association, Type II Financial Instruments Firms Association.) for Professional Investors only (Professional Investor is defined in Financial Instruments and Exchange Act) and for information or educational purposes only, and does not constitute investment advice or an offer or solicitation to purchase or sells in any securities or any investment strategies. In Taiwan, Independently operated by BlackRock Investment Management (Taiwan) Limited. Address: 28/F, No. 95, Tun Hwa South Road, Section 2, Taipei 106, Taiwan. Tel: (02)23261600. Issued in Australia and New Zealand by BlackRock Investment Management (Australia) Limited ABN 13 006 165 975 AFSL 230 523 (BIMAL) for the exclusive use of the recipient who warrants by receipt of this material that they are a wholesale client and not a retail client as those terms are defined under the Australian Corporations Act 2001 (Cth) and the New Zealand Financial Advisers Act 2008 respectively. This material contains general information only and does not constitute financial product advice. This material has been prepared without taking into account any person's objectives, financial situation or needs. Before making any investment decision based on this material, a person should assess whether the information is appropriate having regard to the person's objectives, financial situation and needs and consult their financial, tax, legal, accounting or other professional advisor about the information contained in this material. This material is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. BIMAL is the issuer of financial products and acts as an investment manager in Australia. BIMAL does not offer financial products to persons in New Zealand who are retail investors (as that term is defined in the Financial Markets Conduct Act 2013 (FMCA)). This material does not constitute or relate to such an offer. To the extent that this material does constitute or relate to such an offer of financial products, the offer is only made to, and capable of acceptance by, persons in New Zealand who are wholesale investors (as that term is defined in the FMCA). BIMAL is a part of the global BlackRock Group which comprises of financial product issuers and investment managers around the world. This material has not been prepared specifically for Australian or New Zealand investors. It may contain references to dollar amounts which are not Australian or New Zealand dollars and may contain financial information which is not prepared in accordance with Australian or New Zealand law or practices. BIMAL, its officers, employees and agents believe that the information in this material and the sources on which the information is based (which may be sourced from third parties) are correct as at the date specified in this material. While every care has been taken in the preparation of this material, no warranty of accuracy or reliability is given and no responsibility for this information is accepted by BIMAL, its officers, employees or agents. Except where contrary to law, BIMAL excludes all liability for this information. Past performance is not a reliable indicator of future performance. Investing involves risk including loss of principal. No guarantee as to the capital value of investments nor future returns is made by BIMAL or any company in the BlackRock Group." In Latin America and Iberia, this material is for educational purposes only and does not constitute investment advice nor an offer or solicitation to sell or a solicitation of an offer to buy any shares of any Fund (nor shall any such shares be offered or sold to any person) in any jurisdiction in which an offer, solicitation, purchase or sale would be unlawful under the securities law of that jurisdiction. If any funds are mentioned or referred to in this material, it is possible that some or all of the funds have not been registered with the securities regulator of Brazil, Chile, Colombia, Mexico, Panama, Peru, Portugal, Spain, Uruguay or any other securities regulator in any Latin American country and thus might not be publicly offered within any such country. The securities regulators of such countries have not confirmed the accuracy of any information contained herein.

©2016 BlackRock. All rights reserved. BLACKROCK is a registered trademark of BlackRock.  
All other marks are property of their respective owners.

GOV-0113

**BLACKROCK**<sup>®</sup>

**Appendix F: ViewPoint – Securities Lending: The Facts**

# SECURITIES LENDING: THE FACTS



MAY 2015

## Introduction

Though often poorly understood, securities lending is a well-established practice in the global financial system that provides liquidity to markets while also generating additional returns to investors who lend securities. In the wake of the 2008 Financial Crisis (the “Crisis”), securities lending has come under scrutiny by policy makers globally. In part, this reflects the excessive risk-taking in certain cash collateral reinvestment pools associated with securities lending businesses<sup>1</sup> as well as other risks associated with securities lending that were exposed in the Crisis. Since the Crisis, significant regulatory reforms have been implemented to specifically address cash reinvestment vehicles. The Financial Stability Board (FSB),<sup>2</sup> European Commission,<sup>3</sup> European Securities and Markets Authority (ESMA),<sup>4</sup> International Organization of Securities Commissions (IOSCO),<sup>5</sup> the Financial Stability Oversight Council (FSOC),<sup>6</sup> and Securities and Exchange Commission (SEC)<sup>7</sup> have each reached out to market participants to develop a better understanding of securities lending to identify the risks in the activity and whether enhanced regulation of securities lending practices is appropriate.

In this *ViewPoint*, we explain the respective roles of lenders, lending agents, and borrowers. In addition, we address some of the common misunderstandings that have arisen regarding securities lending and potential conflicts of interest, leverage, counterparties, collateralization of loans, use of cash collateral and cash reinvestment vehicles, the use of non-cash collateral and rehypothecation, and borrower default indemnification. We explain the mechanics of each practice, the risks involved, and how these risks are managed.

## Who are the participants in a securities lending transaction?

The securities lending market is driven by demand to borrow securities. This demand is driven primarily by large banks and broker-dealers on behalf of their clients, including other banking institutions or hedge funds. The end-clients typically use the loaned securities to take active positions or hedge against market risk vis-à-vis a short sale or to facilitate settling of trades that could otherwise fail. Collectively, the large banks and broker-dealers as well as their end-clients are referred to as “borrowers”.

An asset owner that chooses to lend its securities to enhance the returns on its portfolio is referred to as the

“lender”. For the most part, lenders consist of large institutional investors such as pension plans, sovereign wealth funds, charities, and endowments as well as a variety of collective investment vehicles (i.e. mutual funds, UCITS, and bank collective funds).

Lenders can either lend securities directly to a borrower or they can do so through a securities lending agent acting on their behalf.<sup>8</sup> The lending agent may be the lender’s custodian, the lender’s asset manager, or a third party vendor that specializes in securities lending.<sup>9</sup> BlackRock acts as a lending agent for some of its asset management clients.

## Mechanics of a Securities Loan

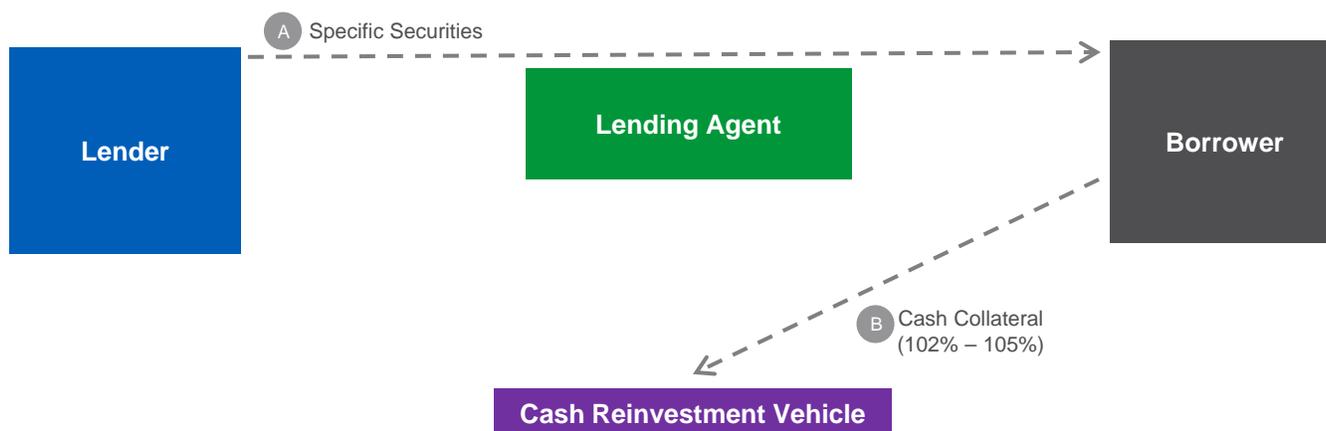
Before a securities loan can occur, several decisions need to be made:

- ▶ A lender must choose to participate in a securities lending arrangement and make its securities available to be lent
- ▶ A lender must choose whether to lend directly or to appoint a lending agent
- ▶ A lender must specify its collateral guidelines, including indicating cash reinvestment guidelines if cash collateral will be received, and
- ▶ A lender and a lending agent must enter into a fee arrangement, generally a fixed percentage split of the income generated by the lending activity and the reinvestment of collateral (where applicable).

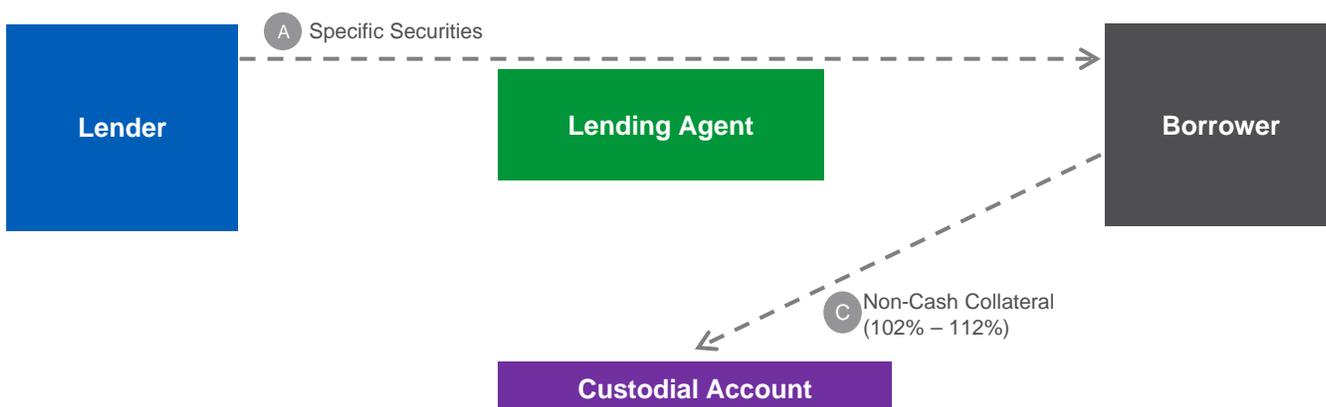
After these decisions are made, the lending agent can enter into securities loans on behalf of a lender. The process begins when a borrower requests to borrow a stock or bond from a lender. In order to borrow the security, the borrower must pay a fee and provide collateral for the benefit of the lender. The collateral is held to secure repayment in case the borrower fails to return the loaned stock or bond. In order for the lender to have a safety cushion to protect them from potential loss, the lending agent requires that the value of the collateral exceeds the value of the loaned security. When acting as a lending agent, BlackRock typically requires borrowers to post collateral between 102% and 112% of the value of the securities lent. The over-collateralization percentage varies depending on the type of collateral posted. In some cases, prevailing market practices effectively determine the level of over-collateralization.

## Exhibit 1: ILLUSTRATION OF CASH AND NON-CASH COLLATERAL TRANSACTIONS

### Cash Collateral Transaction



### Non-Cash Collateral Transaction



### Here's an example of how it works:

#### To start the process:

1. A hedge fund indicates to a bank or broker-dealer that they seek to borrow a security to hedge or cover a short position.
2. The bank or broker-dealer then asks to borrow a stock from a lender.
3. The lending agent requests the borrower (the bank or broker-dealer) to deliver collateral to secure the loan. The collateral can come in the form of cash or securities (referred to as "non-cash collateral").
4. Once the collateral is received, the lending agent delivers the security to the borrower (the bank or broker-dealer) on behalf of the lender. The length of the loan is negotiated at the time of trade, with overnight being the most common term.

#### While the security is out on loan... (See A in diagram).

5. If the borrower provides cash collateral, the lending agent directs the cash into a cash reinvestment vehicle designated on behalf of the lender. This cash collateral is marked-to-market daily and the borrower may be required to deliver additional collateral to maintain the required over-collateralization cushion. The cash collateral must be invested in accordance with the lender's investment guidelines. Where BlackRock is the lending agent for U.S. based lenders, lenders can choose cash vehicles which are managed in accordance with SEC Rule 2a-7 or by Office of the Comptroller of the Currency (OCC) short-term investment fund (STIF) rules. See B in diagram.
6. If the borrower provides non-cash collateral, the collateral is delivered directly to a custodial account for safekeeping. The non-cash collateral is marked-to-market and the borrower may be required to deliver additional collateral to maintain the required over-collateralization cushion. Where BlackRock is the lending agent, and non-cash collateral is delivered, the collateral is not used by either the lender or BlackRock, except in the event that the borrower defaults, at which time the collateral would be used to cover the replacement cost of the securities that were on loan. See C in diagram. BlackRock does *not* rehypothecate collateral.
7. If the stock or bond pays dividends or interest while out on loan, the borrower must send to the lender what the lender would have received if the security had not been out on loan. (Note we have not included this in the diagram for simplicity).
8. The total income from the transaction is continuously divided between the lender and the lending agent according to the previously negotiated fee split. The lending agent's portion represents its compensation for arranging the loan.

#### To end the process...

9. At the end of the loan (or when the lending agent requests), the borrower must return the security to the lending agent.
10. The lending agent will instruct the release of the collateral back to the borrower.

## Securities Lending: Facts Versus Concerns Raised

As policy makers have begun to review securities lending, several common misunderstandings have arisen regarding securities lending practices and associated risks, including potential conflicts of interest, leverage, collateralization of loans, use of cash collateral and cash reinvestment vehicles, the use of non-cash collateral and rehypothecation, and

borrower default indemnification. In addition, there are many misunderstandings specific to BlackRock's involvement with securities lending. Unfortunately, these concerns have formed the foundation of recent policy discussions. We believe it is imperative for policy makers to have all the facts. A recent staff report issued by the Federal Reserve Bank of New York raises a number of concerns about securities lending.<sup>10</sup> In Exhibit 2, we identify the concerns raised and explain how these issues are addressed.

### Exhibit 2: SUMMARY OF HOW CONCERNS RAISED ARE ADDRESSED

Concerns Raised	Industry & BlackRock Practices
<b>Potential Conflicts of Interest</b>	
<p><i>An asset manager can lend directly from a mutual fund for which it acts as securities lending agent to a hedge fund for which it acts as investment manager, potentially suggesting that self-dealing is occurring.</i></p>	<ul style="list-style-type: none"> <li>• Consistent with a combination of regional regulatory requirements, market practices, and BlackRock's policies and procedures, BlackRock does <i>not</i> arrange transactions between the lenders for which it acts as securities lending agent and entities for which it acts as investment manager.</li> <li>• BlackRock has two broker-dealers for the distribution of mutual funds and other retail sales activity and for agency execution services, as required by SEC rules. Neither of these entities have any involvement in the securities lending markets.</li> </ul>
<b>Leverage</b>	
<p><i>Securities lending introduces a material amount of leverage into a lender's investment portfolio.</i></p>	<ul style="list-style-type: none"> <li>• Securities lending does not introduce a material amount of leverage into a lender's portfolio because the effective lending utilization rates are typically quite low and, more importantly, post-Crisis regulations highly constrain the economic risks allowable in cash collateral reinvestment pools.</li> <li>• The intent of requiring collateral for securities loan transactions is to protect against a borrower default and it is designated for that purpose. The cash is not intended as a source of funding to purchase additional assets in a portfolio.</li> <li>• At BlackRock, collateral is held either in a custodial account in the case of non-cash collateral or in a cash reinvestment vehicle for cash collateral.</li> </ul>
<b>Use of Cash Collateral and Reinvestment Vehicles</b>	
<p><i>The use of cash reinvestment pools for cash collateral represents both maturity and liquidity transformation and cash collateral reinvestment pools are subject to "run risk".</i></p>	<ul style="list-style-type: none"> <li>• In response to issues associated with cash pools that arose during the Crisis, significant reforms have been implemented to address cash reinvestment vehicles: SEC Rule 2a-7 Reforms in 2010<sup>11</sup> and OCC STIF reforms in 2012.<sup>12</sup> The resulting cash portfolios are comprised of short maturity and high credit quality securities, and have a high degree of liquidity (Exhibit 3).</li> <li>• In BlackRock's securities lending program, securities lending transactions involving cash collateral use cash reinvestment vehicles that are managed consistent with Rule 2a-7, OCC STIF rules, or funds with similar investment guidelines (e.g. those which only allow short term instruments).<sup>13</sup> Therefore, BlackRock's reinvestment of cash for securities lending clients does <i>not</i> entail meaningful maturity, credit, or liquidity transformation.</li> <li>• However, we note that the rules pertaining to STIFs managed by state-chartered trust banks in the U.S. have not yet been modified.</li> </ul>
<b>Use of Non-Cash Collateral and Rehypothecation</b>	
<p><i>Non-cash collateral is re-hypothecated (e.g., used as collateral in other transactions), reflecting multiple intermediation chains.</i></p>	<ul style="list-style-type: none"> <li>• BlackRock does <i>not</i> rehypothecate non-cash collateral.</li> <li>• In BlackRock's securities lending program, the borrower posts all non-cash collateral directly to a custodial account for the benefit of the lender. The collateral is not used by either the lender or lending agent, except in the event that the borrower defaults, at which time the collateral would be sold to cover the replacement cost of the securities that were on loan.</li> </ul>

## Exhibit 2: SUMMARY OF HOW CONCERNS RAISED ARE ADDRESSED (CONTINUED)

Concerns Raised	Industry & BlackRock Practices
<b>Borrower Default Indemnification</b>	
<p><i>Borrower default indemnification represents a material balance sheet risk to lending agents that provide borrower default indemnification. While banks hold capital against borrower default indemnification liabilities, asset managers do not.</i></p>	<ul style="list-style-type: none"> <li>• Where “borrower default indemnification” is provided, the lender is <i>not</i> indemnified for investment results, such as cash reinvestment.</li> <li>• Borrower default indemnification is triggered only when <i>both</i> of the following conditions are met: (i) the counterparty defaults on the loan and (ii) the collateral is insufficient to cover the cost of replacing the securities (Exhibit 4). Each loan is over-collateralized, and the collateral is marked-to-market daily.</li> <li>• In the unlikely circumstance where a borrower defaults and collateral received is insufficient to cover the repurchase price of the lent securities, this shortfall would be borne by the indemnification provider. If the indemnification provider was unable to cover a shortfall, the loss would be borne by the client.</li> <li>• BlackRock typically requires borrowers to post collateral between 102% and 112% of the value of the securities lent. Additionally, loans and collateral are marked-to market daily.</li> <li>• BlackRock provides borrower default indemnification to some clients for which it acts as lending agent. The fair value of these indemnifications was not material at Dec. 31, 2014 as disclosed in BlackRock’s 10-K.<sup>14</sup> BlackRock (and its predecessors) has never had its indemnification agreements triggered or had to use its own monies to repurchase a security on a lending client’s behalf.</li> <li>• BlackRock holds \$2 billion in unencumbered liquidity against potential indemnification exposure to which it is subject and has access to an additional \$6 billion of liquidity, both in the form of unencumbered cash and a \$4 billion, 5-year bank credit facility as of December 2014. BlackRock does not rely on wholesale funding nor government-insured deposits to support its liquidity.</li> <li>• BlackRock is currently rated A1 and AA- by Moody’s and S&amp;P, respectively, which is among the highest in the asset management industry, and equal to or higher than other major securities lending agents.</li> </ul>
<p><i>The amount of securities loans that BlackRock indemnifies grew significantly between 2012 and 2014.</i></p>	<ul style="list-style-type: none"> <li>• The increase observed by various commentators reflects a major organizational change during this time period. As part of the terms governing the acquisition of BGI by BlackRock, Barclays was contractually obligated to continue providing counterparty default indemnification to certain BlackRock securities lending clients through Dec. 1, 2012. BlackRock assumed these indemnification obligations prior to or upon the expiration of Barclays’ indemnification obligation.</li> <li>• As disclosed in our 10-K, the amount of securities on loan in BlackRock’s securities lending program subject to indemnification as of Dec. 31, 2014 was \$145.7 billion. Borrowers posted \$155.8 billion as collateral for indemnified securities on loan at Dec. 2014. The fair value of these indemnifications was not material at Dec. 31, 2014.<sup>15</sup></li> </ul>

## Exhibit 3: POST-REFORM RULES FOR CASH MANAGEMENT VEHICLES

	SEC Rule 2a-7	OCC STIF Rules
<b>Quality / Concentration / Diversification</b>	<ul style="list-style-type: none"> <li>• Max. issuer concentration: 5%</li> <li>• Max. 2nd tier issuer concentration: 3%</li> </ul>	<ul style="list-style-type: none"> <li>• Portfolio and issuer quality standards and concentration restrictions must be identified, monitored and managed</li> </ul>
<b>Maturity / Duration</b>	<ul style="list-style-type: none"> <li>• Max. WAM: 60 days</li> <li>• Max. WAL: 120 days</li> </ul>	<ul style="list-style-type: none"> <li>• Max. WAM: 60 days</li> <li>• Max. WAL: 120 days</li> </ul>
<b>Liquidity</b>	<ul style="list-style-type: none"> <li>• ≥10% in daily liquid assets</li> <li>• ≥30% in weekly liquid assets</li> </ul>	<ul style="list-style-type: none"> <li>• Liquidity standards, contingency plans for market stress must be developed and regularly tested</li> </ul>
<b>Stress Testing</b>	<ul style="list-style-type: none"> <li>• Required to periodically stress test MMF to examine MMF’s ability to maintain a CNAV</li> </ul>	<ul style="list-style-type: none"> <li>• Required to periodically stress test STIF to examine STIF’s ability to maintain a CNAV</li> </ul>
<b>Transparency / Disclosure</b>	<ul style="list-style-type: none"> <li>• Monthly public disclosure of portfolio holdings and additional data (i.e. shadow NAV)</li> <li>• Daily NAV</li> </ul>	<ul style="list-style-type: none"> <li>• Monthly disclosure to client and OCC of portfolio holdings and additional data (i.e. shadow NAV)</li> </ul>

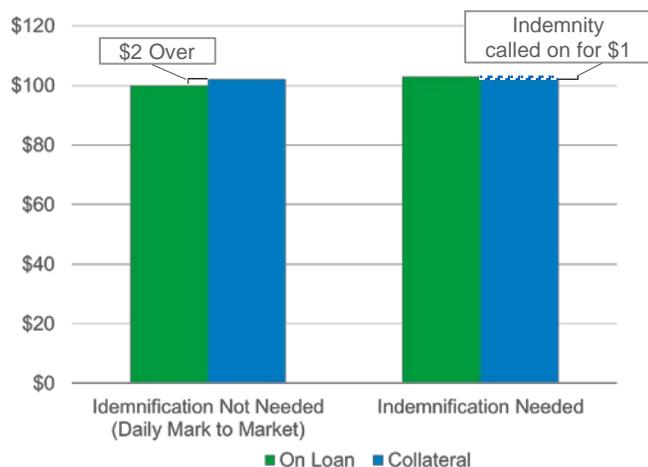
WAM = Weighted Average Maturity

WAL = Weighted Average Life

CNAV = Constant Net Asset Value

#### Exhibit 4: ILLUSTRATION OF INDEMNIFICATION

Borrower default indemnification is limited to the shortfall that could occur in the event the borrower has defaulted and the collateral is insufficient. For example, in the event of a borrower default, if a borrower had delivered \$102 of collateral to borrow securities currently valued at \$100, and the cost of repurchasing the loaned securities was \$103, the indemnification provider would make the lender whole only for the difference between the collateral delivered and the cost to repurchase the loaned securities (in this example, \$1).



Example for illustrative purposes only.

### BlackRock's Approach to Securities Lending

Since 1981, BlackRock and its predecessor firms have served as securities lending agents as a fiduciary for our clients. In order to provide this service, we have built a proprietary securities lending infrastructure which brings together best investment practices and prudent risk management. Lenders conduct due diligence on the lending agent which includes an assessment of risk management and operational controls as well as the financial strength of the lending agent.

- ▶ **Independent risk management.** BlackRock's Risk & Quantitative Analysis group (RQA), an independent function within BlackRock, works closely with our securities lending business to manage the risks associated with securities lending. In addition to monitoring counterparty risk, RQA monitors all aspects of the risk process including loan to collateral correlation, fair allocation controls, and macro market trends affecting securities lending risk.
- ▶ **Robust assessment of borrowers.** We select borrowers based on conservative credit standards defined by our Counterparty and Concentration Risk Team, which is a part of the larger RQA group. BlackRock continuously monitors the financial performance of borrowers and sets individual lending limits for every borrower to help minimize default

risk and monitor all trading activity against these limits to prevent new transactions if the limits are reached.

- ▶ **Collateral standards.** BlackRock typically requires borrowers to post collateral between 102% and 112% of the value of the securities lent; the over-collateralization percentage varies depending on the type of collateral posted. Additionally, loans and collateral are marked-to-market daily, and BlackRock reserves the right to recall a security or require a borrower to provide additional collateral at any time.
- ▶ **Prudent collateral management.** Cash collateral is conservatively invested in funds with guidelines that are consistent with Rule 2a-7 or OCC STIF rules.
- ▶ **Proprietary technology.** Our dedicated team works on custom-built reporting, operations and trading systems to help ensure transparency and operational efficiency. Our core trading system enables our traders to extract value for our lending clients in rapidly changing markets by incorporating proprietary trading research and securities lending supply and demand data in a rapid, consistent and scalable manner. Capturing re-pricing opportunities is a key component in outperforming competitors. Our trading system helps to ensure that traders focus on the most significant opportunities.

Our proprietary collateral and loan processing technology delivers a seamless exception-based process for loan management. While borrower default is rare, our collateral and loan processing technology is designed to manage the default process systematically, and mitigate risks to the lender.

- ▶ **Integrated investment process.** Using one vendor for asset management, securities lending, and cash reinvestment can be advantageous to clients by ensuring consistent policies and procedures and facilitating the management of settlement cycles and other time-sensitive interactions. The synergies amongst securities lending professionals and portfolio and risk management teams enables us to reduce the operational risks of securities lending.
- ▶ **Financial Strength.** Securities lending agents may hold liquidity on their balance sheet to cover a potential loss associated with the provision of borrower default indemnification. For example, BlackRock holds \$2 billion in unencumbered liquidity against potential indemnification exposure to which it is subject and has access to an additional \$6 billion of liquidity, both in the form of unencumbered cash and a \$4 billion, 5-year bank credit facility as of December 2014. BlackRock does not rely on wholesale funding nor government-insured deposits to support its liquidity. BlackRock is currently rated A1 and AA- by Moody's and S&P, respectively, which is among the highest in the asset management industry, and equal to or higher than other securities lending agents.

## RELATED CONTENT

- ▶ [Asset Management Products and Activities, Letter to FSOC, March 2015](#)
- ▶ [Borrower Default Indemnification in the Securities Lending Marketplace, May 2014](#)
- ▶ [ViewPoint - Securities Lending: Balancing Risks and Rewards, May 2012](#)
- ▶ [Green Paper on "Shadow Banking", Letter to European Commission, June 2012](#)

For access to our full collection of public policy commentaries, including the *ViewPoint* series and comment letters to regulators, please visit <http://www.blackrock.com/corporate/en-us/news-and-insights/public-policy>

## Notes

1. See for e.g., Nicola Cetorelli, Federal Reserve Bank of New York, Staff Report No. 705, Hybrid Intermediaries (Dec. 2014), available at [http://www.newyorkfed.org/research/staff\\_reports/sr705.pdf](http://www.newyorkfed.org/research/staff_reports/sr705.pdf) ("NYFRB Staff Report") which cited the example of American International Group, Inc. ("AIG") and securities lending activities undertaken by its subsidiaries leading up to the Crisis. The securities purchased by AIG using cash collateral in 2008 would not be eligible investments for securities lending activities subject to SEC or OCC regulation today. Short-Term Investment Funds, 77 Fed. Reg. 61229 (Oct. 9, 2012); Money Market Fund Reform; Amendments to Form PF, 79 Fed. Reg. 47735 (Aug. 14, 2014). Similarly, UCITS funds would not be permitted to reinvest cash collateral in such securities under ESMA's rules today.
2. See FSB and IOSCO, Second Consultation on Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions (Mar. 2015), available at <http://www.financialstabilityboard.org/2015/03/fsb-and-iosco-propose-assessment-methodologies-for-identifying-non-bank-non-insurer-global-systemically-important-financial-institutions/> ("Second Consultation").
3. European Commission, Green Paper on Shadow Banking (Mar. 2012), available at [http://ec.europa.eu/internal\\_market/bank/docs/shadow/green-paper\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/shadow/green-paper_en.pdf). See also European Commission, Reporting and Transparency of Securities Financing Transactions (Jan. 2014), available at [http://europa.eu/rapid/press-release\\_MEMO-14-64\\_en.htm](http://europa.eu/rapid/press-release_MEMO-14-64_en.htm). See also European Commission, Consultation Document on Undertakings for Collective Investment in Transferable Securities (UCITS): Product Rules, Liquidity Management, Depository, Money Market Funds, Long-term Investments (Jul. 26, 2012), available at [http://ec.europa.eu/internal\\_market/consultations/docs/2012/ucits/ucits\\_consultation\\_en.pdf](http://ec.europa.eu/internal_market/consultations/docs/2012/ucits/ucits_consultation_en.pdf)
4. ESMA, Consultation Paper: ESMA's Guidelines on ETFs and Other UCITS Issues (Jan. 2012), available at [http://www.esma.europa.eu/system/files/2012-44\\_0.pdf](http://www.esma.europa.eu/system/files/2012-44_0.pdf). This resulted in the publication of ESMA's Guidelines (Dec. 2012), as subsequently revised (Aug. 2014).
5. See Second Consultation.
6. See FSOC, Notice Seeking Comment on Asset Management Products and Activities (Dec. 18, 2014), available at <http://www.treasury.gov/initiatives/fsoc/rulemaking/Documents/Notice%20Seeking%20Comment%20on%20Asset%20Management%20Products%20and%20Activities.pdf>.
7. SEC, Examination Priorities for 2014 (Jan. 2014), available at <http://www.sec.gov/about/offices/ocie/national-examination-program-priorities-2014.pdf>.
8. Some lenders are not permitted to lend directly and some may be permitted to lend directly but lack the capacity to do so themselves. In either case, the lender would engage a lending agent in order to participate in securities lending.
9. There are numerous global entities providing securities lending agency services, including BMO, BNP Paribas, BNY Mellon, Brown Brothers Harriman, Citibank, Comerica Bank, Credit Suisse, Deutsche Bank, eSecLending, Frost Bank, Goldman Sachs, JP Morgan, Northern Trust, Schwab, Scotia, State Street Bank, Sumitomo, US Bank, Vanguard, and Wells Fargo.
10. NYFRB Staff Report.
11. SEC, Press Release, SEC Approves Money Market Fund Reforms to Better Protect Investors (Jan. 27, 2010), available at <https://www.sec.gov/news/press/2010/2010-14.htm>.
12. Short-Term Investment Funds, 77 Fed. Reg. 61229 (Oct. 9, 2012).
13. Certain separate account clients may not be obligated by regulation to use cash vehicles governed by Rule 2a-7, OCC STIF rules or similar, but currently all clients using BlackRock's lending program have chosen cash vehicles governed by Rule 2a-7, OCC STIF rules, or similar requirements.
14. BlackRock 10-K Filing as of December 2014, available at <http://www.blackrock.com/corporate/en-us/investor-relations>.
15. Ibid.

---

This publication represents the views of BlackRock and is intended for educational purposes to discuss topics related to public policy matters and issues helpful in understanding the policy and regulatory environment. The information in this publication should not be construed as research or relied upon in making investment decisions with respect to a specific company or security or be used as legal advice. It should not be construed as research. Any reference to a specific company or security is for illustrative purposes and does not constitute a recommendation to buy, sell, hold or directly invest in the company or its securities, or an offer or invitation to anyone to invest in any BlackRock funds and has not been prepared in connection with any such offer.

This material may contain 'forward-looking' information that is not purely historical in nature. Such information may include, among other things, projections and forecasts. There is no guarantee that any forecasts made will come to pass.

The opinions expressed herein are as of May 2015 and are subject to change at any time due to changes in market, economic or other conditions. The information and opinions contained herein are derived from proprietary and non-proprietary sources deemed by BlackRock to be reliable, but are not necessarily all inclusive and are not guaranteed as to accuracy or completeness. No part of this material may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronic, mechanical, recording or otherwise, without the prior written consent of BlackRock.

This publication is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. This material contains general information only and is for use with Professional, Institutional or permitted investors only, as such terms are applied in relevant jurisdictions.

Issued by BlackRock Investment Management (UK) Limited (authorised and regulated by the Financial Conduct Authority). Registered office: 12 Throgmorton Avenue, London, EC2N 2DL. Registered in England No. 2020394. Tel: 020 7743 3000. For your protection, telephone calls are usually recorded. BlackRock is a trading name of BlackRock Investment Management (UK) Limited.

In Hong Kong, this is issued by BlackRock Asset Management North Asia Limited. In Singapore, this is issued by BlackRock (Singapore) Limited (company registration number: 200010143N). In Taiwan: Independently operated by BlackRock Investment Management (Taiwan) Limited. Address: 28/F, No. 95, Tun Hwa South Road, Section 2, Taipei 106, Taiwan. Tel: (02)23261600. Issued in Australia by BlackRock Investment Management (Australia) Limited ABN 13 006 165 975 AFSL 230 523 (BIMAL).

©2015 BlackRock. All rights reserved. BLACKROCK is a registered trademark of BlackRock. All other marks are property of their respective owners.