Occupy the SEC

www.occupythesec.org

May 29, 2015

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

Submitted via email to: fsb@bis.org

RE: Assessment Methodologies for Identifying Non-Bank, Non-Insurer Global Systemically Important Financial Institutions

Occupy the SEC ("OSEC")[1] appreciates the opportunity to comment on the Financial Stability Board's ("FSB") notice[2] regarding Assessment Methodologies for Identifying Non-Bank, Non-Insurer Global Systemically Important Financial Institutions ("Assessment Methodologies").

Like the FSB, we are concerned by the systemic risks posed by investment funds, asset managers and other non-bank, non-insurer financial institutions. In particular, we urge the FSB and other regulators to seriously consider the direct and indirect impact of those risks on "the 99%." We welcome the FSB's and the International Organization of Securities Commissions' ("IOSCO") attention to these pressing issues.

Occupy the SEC strongly supports the IOSCO's efforts to develop methodologies to identify Non-Bank, Non-Insurer Global Systemically Important Financial Institutions ("NBNI G-SIFIs" or "SIFIs"). We do have concerns about the specific approach proposed for asset managers and investment funds. We believe that a more comprehensive approach is necessary and we also have some specific comments regarding some of the measures in the proposal. We will address the specifics of the proposal and our critique of it in Section II of this letter.

Further, we believe that it is important for IOSCO to address systemic risks related to finance companies and market intermediaries. We also observe, with some dismay, the complete

[1] Occupy the SEC (www.occupythesec.org) is is a group of concerned citizens, activists, and financial professionals that works to ensure that financial regulators protect the interests of the public, not Wall Street.

[2] FSB and IOSCO Propose Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions (Mar. 4, 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/.

absence of comment letters submitted in the previous round by disinterested parties advocating for the public interest.[3] While we believe that regulators attempt to take those broader perspectives into account, our worry is that those perspectives may be lost in the instant matter.

At the outset, it must be recognized that systemic crises often have the most adverse consequences for those who do not participate directly in the financial markets, with pernicious impacts on pensions, employment and housing. Thus, it is essential that these public concerns be well-represented. Therefore, we strongly recommend that the FSB or IOSCO commission a study from a public advocacy organization with expertise in these areas. Such a study may uncover risks that have been overlooked or gaps in the proposed methodology. We think this would be a very modest, and worthwhile, investment that could promote more transparent and sound policy-making.

Finally and most importantly, we feel compelled to call for broader measures to address the systemic risks posed by asset managers more generally. While we recognize that this Consultative Document has specifically asked for comments solely on the methodologies to identify G-SIFIs, we would be more satisfied if there were a viable forum for broader comments on systemic risk. We do not think that one exists -- which is illustrative of the problem.

The IOSCO published a discussion paper entitled "Mitigating Systemic Risk: A Role for Securities Regulators" in February 2011. As that paper noted, "one of the lessons of the crisis was that securities regulators, among others, paid too little attention to systemic risk" and that "IOSCO has an essential role to play in coordinating activity across regulators and establishing best-practices."[4] We agree with the IOSCO discussion paper that regulators must learn the lessons of the past, and we call on the IOSCO to lead in this regard.

Accordingly, in Section I below we briefly describe the reasons why we feel that broader measures are necessary, and roughly outline our suggestions for such measures. We also attach for your reference the public comment letter that we recently made to the U.S. Financial Stability Oversight Council (FSOC) as Appendix A. That letter outlines our views in much greater depth.

Section I: Industry-Wide Measures are Needed.

A. Nature of Systemic Risks Related to Asset Management Companies

To understand the nature of systemic risks posed by the asset management industry, it is useful to review some of the past crises in which investment managers played a central role. Recognizing that this discussion may fall slightly outside of the requested domain of the FSB's

[3] An arguable exception would be the few letters submitted by students of finance.

[4] IOSCO, *Mitigating Systemic Risk: A Role for Securities Regulators* 4, 8 (Feb. 2011), *available at* http://www.iosco.org/library/pubdocs/pdf/IOSCOPD347.pdf.

Consultative Document, we will touch on these issues only briefly, leaving a fuller discussion to our FSOC letter (Appendix A) and other sources.[5]

In the mid-1980s, the U.S. asset management industry created a product called Portfolio Insurance. This product sought to assure clients that the value of their portfolio would not fall below some set threshold. The methods to implement this product had some sophistication but their essence was to reduce the client's exposure to stocks when portfolio value declined. In other words, during and after the stock market declines, managers would sell stocks. This behavior only reinforced stock market declines. The firms selling portfolio insurance were probably not, on their own, large enough to destabilize the market. However, inevitably, other market participants understood and anticipated the trading of portfolio insurers and acted to profit from it, or at least to avoid being harmed. This led these other participants to, quite rationally, also trade in a similar manner. The result of this activity was the crash of 1987, where the U.S. stock market declined 20% in one day and nearly 30% in less than a week. There were also substantial market declines globally around the same time. *There was no fundamental economic or financial crisis underlying this behavior*. Rather, the crash was essentially the creation of asset managers. In response to this crash, the U.S. Federal Reserve felt compelled to ease monetary conditions to stave off deleterious economic impacts, including potential problems at futures and options clearinghouses.

In the early to mid-1990s, investors poured billions of dollars into various East Asian countries, largely as debt financing in U.S. dollars. In 1997, there was a "sudden stop" as investors generally refused to roll over maturing obligations and sought to withdraw capital from these countries. This was similar to the Latin American debt crisis of the 1980s. However, one major difference from that earlier crisis was that the major participants in 1997 were now investors who were largely represented by asset managers. While it is theoretically possible that investors, making decisions independently of asset managers, would have behaved in the same way as managers, it is more likely that asset managers coordinated and exacerbated investment swings by first entering into these investments in the early 1990s and then actively withdrawing from them in 1997.

We also wish to note that in 1998 the NY Federal Reserve Bank was sufficiently concerned about the systemic impact of the failure of a large hedge fund, Long Term Capital Management (LTCM), that it convened a meeting and encouraged the major banks and investment banks to recapitalize the fund.

Similarly, money-market funds played a crucial role in the recent financial crisis. When the Reserve Primary Fund shocked investors by "breaking the buck" in September 2008, investors panicked and began withdrawing liquidity from such funds at an alarming rate. As a result, the US Treasury was compelled to cobble together an ad hoc guarantee program to prevent widespread withdrawals from money-market funds.

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[5] We recommend Chapter 3 "Asset Management Industry and Financial Stability" of the latest IMF Global Financial Stability Report (2015), *available at* http://www.imf.org/external/pubs/ft/gfsr/2015/01/pdf/text.pdf, as well as the Comment Letter from Americans for Financial Reform to the FSOC dated March 30, 2015, *available at* http://www.regulations.gov/#!documentDetail;D=FSOC-2014-0001-0058.

More recently, the precipitous decline and recovery of stocks in the afternoon of May 6, 2010 (aka the "Flash Crash") was a clear sign of potential instability in our current market structure.

We believe that asset managers either played a primary or secondary role in facilitating the above-mentioned crises. Asset managers introduce an additional layer of principal/agent problems and potential moral hazard. Further, asset managers are more active than end investors in moving investments and so herding behavior by asset managers may well have propagated these crisis conditions from one asset class to others.

Turning to the present day, it seems clear that the asset management industry continues to present systemic risks. Indeed, the IMF devoted a chapter of its most recent Financial Stability Report to the topic of asset managers and systemic risks. The IMF presented both conceptual and empirical evidence for various mechanisms through which asset managers appear to be contributing to, or could contribute to, systemic risk.

We further note that there are continuing problems with financial institutions, including asset managers, mishandling client assets.[6] If such problems were to be discovered in a period of distress and resulted in a loss or impairment of client funds, they could set off a more general panic, even if the asset manager involved were not large or leveraged enough to be a G-SIFI.[7]

To make matters worse, as both the president of the European Central Bank and the leaders of several large financial institutions have recently warned, systemic instability can become even more dangerous should quantitative easing programs be rapidly withdrawn (as has been suggested of late).

B. Need for Comprehensive Tools to Monitor and Mitigate Systemic Weaknesses

As the 1990's East Asian crisis illustrated, asset managers have come to assume some of the roles that banks used to fill. More generally, there has been extensive discussion of the dramatic growth of the "shadow banking system" and asset managers clearly are a significant part of that system. While a few, specific vulnerabilities have been addressed, there has not been meaningful broad-scale reform. As the IMF report discusses, regulators simply do not have good data on many segments of the industry. For instance, the report notes the absence of information about separately-managed accounts (SMAs), somewhat sanguinely taking comfort in the "fact" that SMAs use little leverage. While we have no reason to doubt that claim, it is also difficult to validate.[8] The lack of market data about the asset management industry precludes robust, reliable modeling about the risks that new forms of asset management pose.

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[6] Fortado, Lindsay, *Fines Fail to spur banks into action on client cash*, Financial Times, Apr. 15, 2015, *available at* http://www.ft.com/intl/cms/s/0/715f781c-e385-11e4-9a82-00144feab7de.html.

[7] The bankruptcy of MF Global was an example of how client funds can become impaired. If that were to occur to an asset manager during a crisis, it would likely trigger a widespread lack of confidence.

[8] *See* IMF Global Financial Stability Report, at Chapter 3.

One thing is certain: the industry will evolve. Managers will push the envelope, especially in the current environment of extremely low interest rates. Traditional managers are increasing their use of leverage and derivatives in search of risky "alternatives."[9] IOSCO and national regulators need to be cognizant of the fact that risk is likely to move wherever regulation is least present. So, systemic regulations should not merely focus on specific entities, but rather on entire classes of entities engaging in asset management. Regulators need to vigilantly scour the market for emerging risks, and closely examine any asset class or strategy that is growing rapidly.

While individual managers or funds can undoubtedly contribute to systemic risk in the investment management industry (as evidenced by the LTCM failure), the type of dynamic we are most worried about involves the interaction of many different entities. Our primary concern is more of the failure of the system as a whole than of any one part.

A good example of this dynamic is something we refer to as the "paradox of risk management."[10] By way of analogy, consider John Maynard Keynes' description of the "paradox of thrift," whereby it makes sense for discrete individuals to increase savings if they expect an economic downturn, even if, in aggregate, such saving could cause or worsen a downturn. *Similarly, rational efforts by separate institutions to manage their specific risks can, in many circumstances, exacerbate systemic risks.* In particular, if market volatility increases, risk management can lead institutions to reduce their exposure to risky assets to keep their portfolio volatility within acceptable bounds -- a sensible move at an individual level. But, keeping risk down while total risk is rising is like squeezing part of a balloon while it is being inflated. Doing so will only increase tension elsewhere.

When managers seek to lay off risk during crises, they need to find other entities that will increase exposure to risky assets even while market volatility is rising – we can call these entities "risk-absorbers." Risk absorbing makes sense for a firm so long as it is being sufficiently compensated, and further provided that the boost in volatility will be reasonably bounded in magnitude or duration. But, if volatility rises excessively, the risk absorbing capacity in the system can be exhausted, as we saw in 2008. During the recent crisis many large firms who were ostensibly market makers actually withdrew their offers (becoming, in effect, "market takers") in an effort to stave off losses.

Such an outcome should be expected. If risk-absorbers can foresee destabilizing market dynamics, they will rationally stand back and wait for the episode to play out or look to profit from the situation by exacerbating the trend. This is what happened in 1987 and when LTCM was being forced to de-lever in 1998. There is widespread agreement that the government should

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[9] *See, e.g.*, Cremers, Martijn, Ferreira, Miguel A., Matos, Pedro P. and Starks, Laura T., Indexing and Active Fund Management: International Evidence (Jan. 5, 2015), *available at* http://ssrn.com/abstract=1830207; ICI Global, Globalization and Global Growth of Long-term Mutual Funds (Mar. 2014), *available at* http://www.ici.org/pdf/icig_per01-01.pdf; Segal, Julie, *Neuberger Berman Unites Hedge Funds and Mutual Funds*, Institutional Investor (May 27, 2015), *available at* http://www.institutionalinvestor.com/Article/3457362/Neuberger-Berman-Unites-Hedge-Funds-and-Mutual-Funds.html?LS=EMS1168187.

[10] For a more thorough discussion of the potential for failures of this nature see Richard Bookstaber, *Demon of Our Own Design* (2007).

not be the risk absorber of last resort. To avoid this, it behooves us all to have a clear idea exactly who will be absorbing the risk and under what circumstances.

Therefore, there is every reason to believe that asset managers still have the potential to create, transmit or amplify systemic risks. Vulnerabilities may be caused by:

- Common factors across managers
- Reinforcing feedback loops within strategies and also among different institutions and sectors of the financial system
- Dynamic strategies employed by managers
- Inattention by asset managers to "externalities" caused by their behavior.
- Structural problems in asset management agreements; and
- Misplaced incentives.

These risks are structural and result from the coordination of many actors across the financial system. That is, such risks result from the complexity and interconnectedness of the financial system. As the IMF notes, "assessments of individual institutions are not sufficient for assessing systemic risk."[11] The Consultative Document acknowledges that the proposed methodology "is not designed to focus on or to address potential financial stability risks that could be posed by the asset management entities as a whole or particular activities that are commonly conducted across the asset management sector."[12] We agree and urge the IOSCO to embark on a program that does address those risks.

Systemic risks need to be assessed with stress tests that incorporate interactions between institutions and addressed by comprehensive, industry-wide measures. The FSB and IOSCO should coordinate a global effort of securities regulators to begin to address those issues that are well understood. *They should also implement comprehensive, real-time data collections and stress testing in order to better understand how risks can be created or propagated across the financial system.* This analysis needs to consider interactions among asset managers, between asset managers and other financial institutions, and asset managers' joint effects on financial markets. This analysis is likely to uncover other potential systemic risks that need to be addressed by the appropriate regulatory authorities. Stress testing should be performed on an on-going basis to determine how market developments or innovations are affecting systemic risk and to gauge whether the above reforms have been successful.

Occupy the SEC believes that there are a plethora of systemic issues that the FSB should be addressing. We are not advocating that the FSB simply try to eliminate or absorb risk that is inherent in the financial markets. Rather, we advocate that regulatory agencies address any weaknesses specific to the structure of the markets, or the asset management industry, that could lead to or amplify crises. A more thorough discussion of these risks and the means to address

[11] IMF Global Financial Stability Report at 118.

[12] Consultative Document at 31.

them are included in our recent comment letter to the U.S. Financial Stability Oversight Council, attached as Appendix A.[13]

[13] Letter from Occupy the SEC to U.S. Financial Stability Oversight Council regarding Asset Management Products and Activities, (Mar. 25, 2015), *available at* http://www.regulations.gov/#!documentDetail;D=FSOC-2014-0001-0060.

Section II. Comments on Assessment Methodology - Sections 6 and 7 of the Consultative Document Relating to Investment Funds and Asset Managers

While we urge the FSB and IOSCO to primarily engage in a program to address systemic risks through industry-wide regulations, we do agree that some individual investment funds and asset management companies should be subject to special monitoring and regulation as SIFIs. We believe that the measures outlined in the Consultative Document are a good start in that direction.

Most of the following comments pertain to both section 6 (investment funds) and section 7 (asset managers). These sections are really addressing the same issues and consequently many of the proposed measures overlap.

The previous Consultative Document (January 2014) proposed a detailed methodology for investment funds. We believe that this is too narrow a focus because multiple funds, as well as SMAs managed by the same asset management company can trade in a similar manner. We are glad to see that the FSB and IOSCO recognize that this is not adequate. However, we are uncertain as to whether what is proposed here is alternative (iii) as proposed in the January 2014 Consultative Document or (iv). That is, is the measure assessing asset managers on a stand-alone basis or on a collective basis? It appears from Section 7 that the latter approach is to be adopted, and we certainly hope that that is correct. The risks posed by asset managers are predominantly the result of their trading on behalf of funds or SMAs that they manage. So, it is necessary to consider their activities and any attendant risks collectively. It appears from the methodology described in Section 7 that the measures would apply to the manager and all of the assets under its control. That is certainly what we recommend.

In addition, Section 6 of the Consultative Document expresses concern about "those whose distress or disorderly failure could cause significant disruption of the global financial system." We think it is important to note that actions of investment funds or asset managers could disrupt the global financial system even if these firms were not themselves in distress. The excessive investment in, and sudden withdrawal from, East Asian countries in the 1990s is an example of that scenario. Another such example would be the sudden stoppage of trading by a firm that is the primary provider of liquidity to an essential part of the financial system (e.g. Reserve Primary Fund).

As part of any information collection about asset managers, regulators should collect holistic information about strategies and accordingly separate the accounts that an asset manager oversees into corresponding groups. Some managers will have a consistent strategy or philosophy that is used across all of their funds but most managers (especially large managers) manage accounts in a variety of different "styles." It would be helpful to collect data at the level of investing style, because otherwise collected data could lose significance by being too aggregated. For instance, a manager may have a group of accounts that trade very actively in illiquid asset classes. These might get overlooked if data were collected at the level of the total active manager. As a result, the data would not accurately convey the full impact of such asset classes at the fund level. This lack of transparency played a troubling role in the crash of 1987,

as many of the portfolio insurance related-assets at the heart of that crisis were in opaque SMAs that were managed for large pension funds.

Section III. Comment on Section 6.4 - Indicators for Assessing Systemic Importance of Investment Funds

This section (like section 6.3) proposes a specifal rule for hedge funds. We think any rule of this sort should be applied to all funds.[14] Footnote 58 of the Consultative Document notes that

> For investment funds other than hedge funds, GNE is generally deemed to be less relevant as a result of the strict leverage limitations imposed by existing regulations. Furthermore, unlike for hedge funds, use of derivatives is not intended to obtain (synthetic) leverage, but more commonly to hedge exposures and gain exposures to certain asset categories. For these funds, rules on counterparty exposures apply in tandem to limit these funds' recourse to leverage or to any other source of external financing through a counterparty.

We consider this to be somewhat dangerous. While we agree that funds that are not hedge funds *generally* use less leverage (often because of regulatory limitations) there is nothing gained by *presuming* this the case for *all* funds or that this will *remain the case* indefinitely. If the presumption were true, then the materiality threshold may not be relevant to non-hedge funds and our comment would have no effect. But, if the presumption were not true, then excluding non-hedge funds from the criterion would result in some funds unjustifiably avoiding regulations.

We are particularly concerned about the assertion in the above footnote that for "investment funds other than hedge funds … use of derivatives is not intended to obtain (synthetic) leverage." We suspect that exceptions to this are more common than the FSB and IOSCO suspect, and that such exceptions will become increasingly common as time passes.

In addition, it is notoriously difficult to define what is a hedge fund and what is not. If a common set of standards is applied to all funds, then it is not necessary to define hedge funds. This also reduces the possibility that the rules will be gamed by those seeking to avoid SIFI designation.

Second, we do not understand why the GNE threshold would be so much higher than the AUM threshold. A fund with $200 billion in gross assets that is highly leveraged is at least as systemically dangerous as one with an equal amount of assets that are not leveraged. While we realize that there can be double-counting in measuring GNE that can exaggerate GNE beyond the true risk exposure (e.g. the assets held and the repos used to finance them are both counted) this is not necessarily the case, especially if derivatives are used.

In addition, we are concerned about the use of "delta-adjusted" exposure. Deltas change. Particularly during crises, deltas can increase in magnitude quite dramatically. Deltas measured at any specific time, particularly during calm times, can substantially understate exposure during crises. It would be more prudent if the measure considered how the delta will change if there is a large adverse move in the underlying asset price, rather than simply using deltas measured under current conditions. In addition, deltas are model dependent, which opens the door for

[14] Note that some of these comments (particularly those about consistent use of criteria) apply to section 6.3 as well.

manipulation of the delta-adjusted measure. External oversight or audits would make the measure more reliable.

The same concern pertains to the use of collateral as a measure of risk. While this approach has some appeal, as it reflects an external assessment of the exposure of the fund, additional collateral may become necessary if volatility increases, if there is an adverse move in the underlying assets or if the credit quality of the fund declines. Consequently, the current amount of collateral posted probably understates a fund's exposure in distress.

Section IV. Other Considerations

A number of additional measures would be desirable, as described below:

The Consultative Document proposes measuring trading activity as a percentage of total trading in a market as a measure of substitutability. We agree but also suggest measuring trading activity as a percentage of AUM to better assess how reliant a particular fund, style or asset manager is on continued market liquidity. Some styles will be fairly passive and are likely to weather a market crisis relatively easily, while others (especially if they contain derivatives whose market exposures vary) will be highly dependent on continuous trading to keep exposures at manageable levels.

Risk management practices, even in the absence of leverage, can amplify market risks. Attempting to maintain a stable risk level for an account requires selling (or hedging) risky assets when market volatility increases. This has the tendency of exacerbating market movements because assets commonly become more risky as their prices decline. In such a scenario the manager is typically selling in response to a price decline. Other strategies like momentum trading and option replication also share the same pro-cyclical characteristics.[15]

Leverage also tends to create destabilizing trading patterns because losses lead to the need to de-lever, which is done by selling assets in the portfolio that have probably just suffered declines. Thus, regulators should pay particularly close attention to the usage of leverage in conjunction with trend-following strategies.

These sorts of strategies may not be a problem if a sufficient number of other investors can absorb the swings (possibly even at a profit). Even so, a single manager or fund which holds extremely large positions relative to an asset class could destabilize a market. In fact, this is likely one of the factors that led LTCM to require a bailout.

Additionally, we are particularly concerned about the scenario where many managers are all trading similarly, as occurred in 1987, and quite possibly also in 2007-08. That is why we have called for more industry-wide measures in Section I, above. As a result of these concerns, we believe that securities regulators should consider trading styles and activity in assessing whether an asset manager should be designated a SIFI.

Our concerns are undergirded by the notion that an asset manager's risk profile is an active process, not a static one. While the measures proposed in the Consultative Document could help the IOSCO and local regulators to assess the systemic risk that asset managers pose, we believe this ability would be enhanced by an understanding of how a manager's risk may evolve. This enhanced approach would allow regulators to better assess whether asset managers are likely to pose a risk to the financial system during a crisis.

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[15] For a further discussion on that point, see Roberto Perli and Brian Sack, Does Mortgage Hedging Amplify Movements in Long-Term Interest Rates? (Aug. 2003), *available at* http://www.federalreserve.gov/Pubs/FEDS/2003/200349/200349pap.pdf.

Indicator 2-7 to assess interconnectedness is an understanding of the fund's investors so that regulators can assess whether losses in the fund would impair "cornerstone-investors." This approach is valuable but we also think that regulators should consider the nature of the fund's investors from another perspective -- how likely are the investors to run in the event of losses? For example, a hedge fund that is primarily reliant on investors via funds-of-funds is probably more susceptible to a run than one that raises money from a more diverse set of investors. In a different part of the financial system, the failure of the Royal Bank of Scotland was in part due to a funding model that was particularly susceptible to runs. It would behoove regulators to ensure that large asset managers are not operating in a similar fashion. We would suggest measures based both on the empirical persistence of investors and also on an understanding of the types of investors and concentration or diversity of the firm's client base.

We recommend one more addition to the list of measures collected, relating to the holdings of asset managers or funds. The IMF report found that bonds held by a small number of large funds suffered particularly large declines both during the 2008 crisis and during the emerging market "taper shock" in 2013.[16] Regulators could better avert crises if they had transparency into which particular funds and fund families were most likely to contribute to systemic risk.

[16] IMF Global Financial Stability Report, Chapter 3, "Asset Management Industry and Financial Stability" Annex 3.2 Empirical framework at 130.

Conclusion

Occupy the SEC appreciates this opportunity to comment on important matters regarding the designation of NBNI G-SIFIs. We urge you to consider and act on our broader comment that there is much to be done to address structural issues related to asset managers and investment funds. These issues can only be effectively addressed at a global level and so it is urgent that IOSCO and the FSB take the lead. We also hope that you will modify the assessment methodology to identify asset managers and investment funds as SIFIs and resist industry pressure to undermine this process.

We also hope that you will commission a qualified entity that advocates for small investors (and for the all-too-many people who have little or no savings) to comment on the process for designating finance companies and market intermediaries as systemically important. Systemic risk can have profoundly adverse effects on these largely powerless individuals, so it is crucial that their interests be safeguarded.

If you would like further elaboration of any of the suggestions in this letter, we can be reached at info@occupytheSEC.org. Thank you for your attention to this matter of great public concern.

Sincerely,
/s/
Occupy the SEC

Josh Snodgrass
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Neil Tailor
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Simisola Durosomo
George Bailey
Eric Taylor
et al.

Appendix A: Comment Letter from OSEC to the U.S. Financial Stability Oversight Council (FSOC)

Occupy the SEC

www.occupythesec.org

March 25, 2015

Financial Stability Oversight Council
Attention: Patrick Pinschmidt
1500 Pennsylvania Avenue, N.W.
Washington, DC 20220

RE: Financial Stability Oversight Council ("FSOC") Notice Seeking Comment on Asset Management Products and Activities (FSOC-2014-0001)

Dear Mr. Pinschmidt:

Occupy the SEC ("OSEC")[1] appreciates the opportunity to comment on the Council's notice[2] regarding Asset Management Products and Activities. As we noted in our letter of November 5, 2012,[3] we are concerned by the systemic risks posed by investment funds, and are particularly concerned by the direct and indirect impact of those risks on the 99%. We are also concerned more broadly with the systemic risks posed by the investment management industry, and welcome the Financial Stability Oversight Council's ("FSOC") attention to this pressing issue.

EXECUTIVE SUMMARY

Occupy the SEC strongly supports the FSOC's exploration of systemic risks posed by the asset management industry. Asset managers have created, propagated and amplified systemic risk during past crises. While some past weaknesses have been addressed, many have not, and there are also new developments that could create new risks. In addition, asset managers and investors are important components of the shadow banking system that plays an increasing role in the financial system, and poses significant systemic risks through money market funds and other

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[1] Occupy the SEC (www.occupythesec.org) is a working group within the New York-based Occupy Wall Street ("OWS") protest movement. This letter represents the opinion of the group's members, and does not represent the viewpoints of OWS as a whole.

[2] Notice Seeking on Asset Management Products and Activities (FSOC-2014-0001), 79 Fed. Reg. 77,488 (Dec. 24, 2014).

[3] Letter from Occupy the SEC to Timothy Geithner, Secretary of the Treasury and Mary Schapiro, Chairman of the U.S. Securities and Exchange Commission, (Nov. 5, 2012), *available at* http://www.sec.gov/comments/4-619/4619-275.pdf.

segments of finance. Therefore, there is every reason to believe that asset managers still have the potential to create, transmit or amplify systemic risks. Vulnerabilities may be caused by:

- Common factors across managers
- Reinforcing feedback loops within strategies and also among different institutions and sectors of the financial system
- Dynamic strategies employed by managers
- Structural problems in asset management agreements; and
- Misplaced incentives.

Although we are by no means opposed to the FSOC's designation of individual asset managers as systemically important under Section 113 of the Dodd Frank Act ("DFA"), we wish to emphasize that most of the systemic risks related to asset managers are aggregate in nature and result from interactions between funds, common behavior by many funds, fire sales on fund types or other complex phenomena. The FSOC should utilize its existing authority under Section 120 of the Dodd-Frank Act to recommend several important measures that can be taken by primary regulators to address these risks.

In this letter, we have identified some areas of concern including dynamic risk management, allocation of transactions costs and in-kind distributions. FSOC and the SEC should begin to address these issues now, and should consider implementing a comprehensive method of stress testing that goes well beyond what the SEC is currently planning in order to better understand how risks can be created or propagated across the financial system. This analysis needs to consider interactions among asset managers, between asset managers and other financial institutions, and asset managers' joint effects on financial markets. This analysis is likely to uncover other potential systemic risks that need to be addressed by the appropriate regulatory authority (or at least identified by FSOC under Section 120). The stress testing should be performed on an on-going basis to determine how market developments or innovations are affecting systemic risk and whether the above reforms have been successful. These measures must be comprehensive, and must cover hedge funds and other less-regulated entities, or risk will merely shift into the shadows.

Occupy the SEC believes that there are a plethora of systemic issues that the Council should be addressing. We are not advocating that the government should try to eliminate or absorb risk that is inherent in the financial markets. Rather, we advocate that the regulatory agencies address any weaknesses specific to the structure of the markets, or the asset management industry, that could lead to or amplify crises. Our full response is included below. Our answers to specific questions asked by the FSOC are in Appendix A.

COMMENTS

A. Introduction

It is crucial that FSOC consider the risks that the asset management industry poses to financial stability. Given that asset managers have contributed to, amplified and propagated financial instability in the past, it is clear that additional regulatory scrutiny is needed.

While we believe that some asset managers should be designated as non-bank SIFIs under Section 113 of the DFA, we argue that it is even more important to put in place a regime that can consider the impact of asset managers on each other, on other institutions, and on the markets as a whole. The existing regulatory framework is focused on individual companies or, even more narrowly, on individual funds. This framework relies inordinately on public disclosure by firms of the risks that individual products pose to investors. This tactic is important but does not address the broader risks to the public that asset managers, or segments of the industry, may pose, amplify or transmit. To better address systemic risk issues, regulations must look at risks in a much more comprehensive and dynamic manner. Section 120 of DFA gives FSOC authority to call for regulations to address "financial activity or practice conducted by … nonbank financial companies … if the Council determines that [those activities] create or increase the risk of significant liquidity, credit or other problems" in the financial markets. The code's emphasis on activities rather than firms is tailor-made to address the broad, systemic issues presented by the asset management industry. Accordingly, we urge FSOC to make strong recommendations regarding the risks posed by the asset management industry pursuant to Section 120. As always, OSEC is making these comments out of concern for the direct and indirect impact that financial instability would have on the 99%.

Comments from the asset management industry go to great lengths to emphasize that asset managers are not banks and are not as central to the payment system as banks. Their comments also argue that asset managers do not own the assets that they manage, generally do not put their own capital at risk, and only manage a minority of the assets in the capital markets.

Admittedly, the regulation and oversight of the asset management industry is, and should remain, quite different from that of banks. However, this does not mean that the asset management industry cannot present its own form of systemic risk, or that interconnections between asset managers and other financial institutions cannot result in systemic events. Due to heighted capital requirements and the restrictions posed by the Volcker Rule, risky capital has begun to flow from banks into the asset management industry, and it would behoove regulators to recognize this trend before the next crisis. Moreover, asset managers have indubitably contributed to systemic risk in the past. We think that we should learn from history. We are not advocating that the Council or other government agencies simply eliminate or absorb risk. Rather, we urge FSOC and other regulators to work to mitigate the risks that could be created or amplified by the structure of the asset management industry.

1. History

To understand potential future risks, it is helpful to review past episodes where the asset management industry created, amplified or propagated systemic risk.

A. 1987 Crash

In the mid-1980s, the asset management industry created a product called Portfolio Insurance. This product sought to assure clients that the value of their portfolio would not fall below some set threshold. The methods to implement this product involved some sophistication, but their essence was to reduce the client's exposure to stocks when portfolio value declined. This behavior reinforced stock market declines. The firms selling portfolio insurance were probably not, on their own, large enough to destabilize the market. However, inevitably, other market participants anticipated the trading of portfolio insurers and acted to profit from it (or at least to avoid being harmed by trading in a similar manner). This activity was a significant contributor to the crash of 1987, where the stock market declined 20% in one day and nearly 30% in less than a week. In response to this crash, the Federal Reserve felt compelled to ease monetary conditions to stave off damaging economic impacts and potential problems at futures and options clearinghouses.

B. 1997-98 Asian Crisis

There were economic crises throughout East Asia in 1997 and 1998. While fundamental factors underlay these crises, the imbalances that produced them were exacerbated first by large inflows of capital from the United States and other developed countries through capital markets in the years leading up the crisis, and later by the "sudden stop" of funding in 1997. Asset managers behaved in a pro-cyclical manner that amplified the crisis. They launched or promoted funds to invest in these markets and invested, or encouraged their clients to invest, in such markets leading up to this crisis. They also withdrew funds from these markets when the crisis began.

This pattern of rapid capital inflows followed by a sudden reversal is characteristic of many similar crises throughout the world.[4] The U.S. participated in IMF bailouts of several of the affected countries. While the DFA only charges FSOC with addressing threats to U.S. financial stability, global crises of this sort are surely of concern to, and have impacts on, the U.S.

C. 1998: Long Term Capital Management

In 1998, hedge fund Long Term Capital Management (LTCM) took large, highly leveraged positions in a number of traditional and derivatives markets. Because of LTCM's high degree of leverage, the fund was forced to reduce its positions when it began to take losses. Some of these positions were in relatively illiquid markets or in markets where the fund's holdings were a large share of the total trading volume. As a result, unwinding some of these positions had a large market impact, which further reduced the value of the fund's remaining holdings. This induced a self-reinforcing spiral that threatened to wipe out the firm's capital. This should have been simply an unfortunate event for LTCM, its investors and potentially its creditors. However,

[4] Carmen M. Reinhart & Kenneth Rogoff, *This Time Is Different: 800 Years of Financial Folly* (2011).

LTCM's fund held very extensive positions in interest rate swaps and other derivatives. Banks were counterparties on many of these positions and were otherwise involved in the swaps markets. The potential failure of LTCM deeply worried the banking system because of the opaque and highly inter-connected nature of the fund's over-the-counter derivatives, which would have been very difficult to untangle quickly. As a result, the NY Federal Reserve Bank convened a meeting of the major banks and investment banks and "encouraged" them to take over LTCM to stave off a disorderly bankruptcy.[5] LTCM is the classic example of a single fund having the ability to systemically damage the financial markets.

D. 2003-2010: Housing Bubble and Collapse

In the mid-2000s, asset managers contributed to both the size of the housing bubble and the depth and breadth of the subsequent crash. The sub-prime mortgage industry would never have been able to issue the amount of mortgage debt that it did without herding by asset managers into sub-prime CDOs and other securities. The asset management industry ultimately fueled the demand for risky mortgages. In addition, demand for exposure to this market led to the creation of loan derivatives that magnified the total risk undertaken.

Then, when the housing market began to fall, some of the responses of asset managers to protect their businesses and clients had the unintended effect of amplifying and propagating the declines to other markets. For instance, the use of dynamic risk models is very sensible, in fact, almost necessary, on the part of individual asset managers. However, concerted usage of these models exacerbated the downturn during the crisis. In the summer and fall of 2008, the models correctly indicated that the capital markets had greatly elevated risks and that this higher level of risk was likely to persist for some time. The natural reaction to this was for managers to look to reduce their risk by selling assets across their entire portfolios. Of course, whole-scale risk reduction and deleveraging by asset managers produced dramatic declines across multiple markets.

E. 2008: Reserve Primary (Money Market) Fund

The money market industry – a critical segment of the asset management industry – was implicated in systemically risky activities that occasioned the largest single government backstop during the recent crisis. The Reserve Primary Fund announced in September 2008 that its NAV had declined from 1.00 to 0.97. This was the first large money market fund to "break the buck," which shocked investors. Concern about widespread withdrawals from money-market funds led the Treasury to provide a backstop for funds with $3 trillion in assets.[6]

F. May 2010 Flash Crash

As members of the FSOC are doubtless aware, a large sell order entered by a single asset management firm is believed to be responsible for triggering the "Flash Crash" of May 2010.

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[5] Subsequent experience with Lehman Brothers suggests that it would have taken years for the bank's obligations to be sorted out in the event of a bankruptcy.

[6] Diana B. Henriques, *Treasury to Guarantee Money Market Funds,* N.Y. Times, Sept. 18, 2008, http://www.nytimes.com/2008/09/20/business/20moneys.html.

While the crash reversed itself quickly, this debacle showed that "normal" operations of asset managers have the potential to produce global instability in the matter of seconds.[7]

G. MF Global bankruptcy.

One of the goals of systemic regulation is for firms to be able to fail without the need for government involvement beyond the bankruptcy courts or FDIC receivership. From that perspective, the bankruptcy of MF Global was a success as it was handled in the bankruptcy courts without systemic impact. However, it did raise two more frightening specters. First, this episode showed that a financial services firm that would not normally be putting its capital at risk might fail because of proprietary bets taken on its own capital. Second, and more worrisome, this episode showed how regulatory boundaries that were thought to be sacrosanct could be violated. The MF Global bankruptcy revealed that segregated client assets were missing and remained impaired for more than two years. If a large asset management firm were to fail in a similar manner, it could undermine confidence in the industry as a whole. Failures of that sort are more prone to happen during turbulent financial times, when a discrete shock could have severe ripple effects.[8]

2. *Could Such Events Recur?*

Financial institutions and regulators have responded to these events and changed policies, tightened regulations and put measures in place to improve financial stability, including reforms to money market funds and the expansion of circuit breakers. We believe that many of these steps will be helpful. There are, however, reasons to doubt that they will be sufficient. In addition, some of these measures are being rolled back or may be undone in the future.[9] In addition, the asset management industry has seen numerous "innovations", and undoubtedly there will be more in the future. The increasing commitment of mutual funds to so-called "liquid alternatives" and the growth of ETFs raises concerns.[10] New products bring new risks, even as their lack of history often leads to overconfidence in their safety due to the so-called "Law of Small Numbers."[11] There is also a worrisome trend toward increased leverage in the asset

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[7] Findings Regarding the Market Events of May 6, 2010, Joint Report of SEC and CFTC (2010), *available at* http://www.sec.gov/news/studies/2010/marketevents-report.pdf.

[8] Rena S. Miller, *The MF Global Bankruptcy, Missing Customer Funds, and Proposals for Reform*, Congressional Research Service (August 2013), *available at* http://fas.org/sgp/crs/misc/R42091.pdf; Ben Protess, *MF Global Customers to Be Paid Back in Full*, N.Y. Times, Apr. 3, 2014, *available at* http://dealbook.nytimes.com/2014/04/03/mf-global-customers-to-be-paid-back-in-full/.

[9] See, for example, the provisions included in the recent Cromnibus bill and the proposed H.R. 37 which has passed the House of Representatives.

[10] *See* Letter from Occupy the SEC to Securities and Exchange Commission Regarding Liquid Alternative Mutual Funds (Nov. 25, 2014), *available at* http://occupythesec.org/files/Alt-Fund-Comment-Letter.pdf.

[11] Matthew Rabin, *Inference by Believers in the Law of Small Numbers*, The Quarterly Journal of Economics (2002) 117 (3): 775-816, http://qje.oxfordjournals.org/content/117/3/775.abstract.

management industry.[12] In short, we believe that there are still glaring vulnerabilities in the industry.

We are sure that the above list is not exhaustive. In fact, one of our strongest recommendations is to put in place a robust data-gathering system to more comprehensively understand interconnections within the financial system and to develop a deeper understanding of the dynamics underlying these interconnections. Even if there were no reason for concern today, the industry evolves and innovates, so it would still be prudent to have such system in place to anticipate future developments. The purpose of such a system would not be to squelch innovations but rather to allow the government to become aware of destabilizing mechanisms before they have unwieldy systemic effects.

3. Reinforcing Feedback Loops

Several market dynamics have created problems in the past, and need to be monitored to reduce risks in the future. Probably the most troublesome of these is the phenomenon of self-reinforcing feedback loops (i.e., adverse events that in turn cause others). This sort of dynamic was very prevalent in the 2008-2009 crisis, when declines in house prices led to financial stress and economic slowdowns that in turn further lowered house prices. In a similar vein, sales by leveraged financial institutions depressed asset prices, thereby leading to more (fire)sales. This same dynamic was at work in the portfolio insurance crisis in 1987, and in the collapse of LTCM. We feel that the current financial system is rife with such dynamics, which have the potential to set off similar vicious cycles as in the past.

A. Paradox of Risk Management

John Maynard Keynes described the "paradox of thrift" whereby individuals respond rationally to a potential downturn by increasing saving, only to cause or worsen a downturn through their aggregated behavior. Similarly, rational efforts by individual institutions to manage their specific risks can, in many circumstances, exacerbate systemic risks. In particular, if market volatility increases, risk management can lead institutions to reduce their exposure to risky assets to keep their portfolio volatility within acceptable bounds. While this is sensible at an individual level, keeping risk down while total risk is rising is like squeezing part of a balloon while it is being inflated. Doing so will only increase tension elsewhere.

When managers seek to lay off risk during crises, they need to find other entities that will *take on* exposure to risky assets even while market volatility is rising — we'll call these entities risk-absorbers. Risk absorbing makes sense as long as the risk-absorber is being paid sufficiently and as long as the boost in volatility will be reasonably bounded in magnitude and duration. But, as we saw in 2008, if volatility rises excessively, the risk-absorbing capacity of the system can be exhausted.

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[12] *See, e.g.*, *Risk Parity: Why We ~~Fight~~ Lever*, AQR, Sept. 24, 2014, https://www.aqr.com/cliffs-perspective/risk-parity-why-we-fight-lever; *Investing with Style*, AQR, Jan. 10, 2015, https://www.aqr.com/library/journal-articles/investing-with-style; *Asset Managers Delve Deeper into Shadow Bank Territory for Returns*, FT.com, Feb. 3, 2015, http://www.ft.com/cms/s/0/e6e7589a-ab52-11e4-81bc-00144feab7de.html.

Even if their capacity is not exhausted, the risk-absorbers may foresee circumstances in which there is a destabilizing dynamic, in which case they will rationally stand back and wait for the episode to play out or look to profit from the situation by exacerbating the trend. This is what happened in 1987 and when LTCM was being forced to de-lever in 1998.[13] There is widespread agreement that the government should not be the risk absorber of last resort. To avoid this, it behooves us all to have a clear idea of who will be absorbing the risk, and what capacity there is to do so.

B. Dynamic Strategies

Many investment strategies are not static. Rather, they will respond to market movements in predictable ways. Some strategies (such as value investing) are stabilizing in that they favor buying when prices drop. However, others strategies (such as momentum plays) reinforce existing trends. Portfolio insurance in the 1980s was a classic example of a pro-cyclical investment strategy.

Certain hedging activities also have a pro-cyclical character. For example, mortgage-backed security durations increase when interest rates rise. This leads mortgage hedgers, or fixed income investors with a fixed duration target, to sell more when bond prices fall. This may be a contributing cause of so-called "market tantrums." Economists have modeled other mechanisms that can also produce destabilizing behavior.[14]

One common characteristic of dynamic strategies is that they generally rely on continuous liquidity in the markets. That is, these strategies implicitly assume that it is always possible to trade. Yet, it is worth examining the impact of such strategies in tail scenarios where trading becomes extremely costly or infeasible.

C. Leverage

Market actors have long been aware of the risks of leverage and the potential for large amounts of leverage to be destabilizing. Nonetheless, in calm times the temptation to extend leverage remains very strong. Market participants are prone to fool themselves that leveraged risk can be "managed." However, effective management of these risks is dependent upon continuously trading markets and the presence of risk-absorbers willing to take on risky positions. As we have repeatedly seen, the liquidity of even the most robust market can be prone to evaporating during times of market stress. We would note that even though memories of the past crisis are still pretty fresh, there are signs of return to past practices by asset managers – driven by somewhat

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[13] *See* Richard Bookstaber, *Demon of Our Own Design* (2007).

[14] *See* Michael Feroli, Anil Kashyap, Kermit L. Schoenholz & Hyun Song Shin, *Market Tantrum and Monetary Policy* (Feb. 1, 2010), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2409092.

Pollyanna hopes that risks will be "managed" more intelligently or in some special way because "this time is different."[15]

4. Herding

Even if a particular asset manager utilizes the most sophisticated risk management techniques, he or she may still contribute to negative systemic outcomes because of the phenomenon of herding. We emphasize to the FSOC that while systemic risk may derive from the activities of a single faulty fund (like LTCM), such risk can just as well derive from the concerted actions of a number of well-managed funds.

A. Human Nature

Individuals have been found to exhibit herd behavior. As people, asset managers are prone to this as well. In fact, there are reasons to think that asset managers may be even more prone to herding than investors are generally. The community of asset managers is much less diverse than the population as a whole by any measure. They have generally been educated at the same schools, studied in the same fields, risen from the same socio-economic culture and are economically well off. In addition, they read the same research, use the same information sources, attend the same conferences and socialize in the same circles. As a result, the supposed risk diffusion that is ostensibly produced by the large number of asset management firms may be illusory.

B. Institutional Structure

There are institutional factors that exacerbate herding effects. Many pension plans use asset management consultants to help hire and oversee their asset managers. These consultants tend to give their clients similar mandates, write similar guidelines and essentially hire similar managers. Even without consultants, asset management clients often look to their managers for guidelines, or to familiar law firms or public resources that create substantial consistency and correlation.

In addition, asset managers' performance is compared to benchmarks or peer groups consisting of other managers. This practice creates incentives for asset managers to be different, but not *too different*, from their peers. Straying too far from the norm could alienate an asset manager's clients in a way that mere mediocrity – borne of herding – would not. Some possible results of this herding phenomenon have been described in detail by economists Feroli, Kashyap, Schoenholz and Shin.[16]

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[15] Cliff Asness, *Investors: Financial Leverage is Your Friend, Seriously,* Institutional Investor, Feb. 11, 2015, http://www.institutionalinvestor.com/blogarticle/3426750/blog/investors-fin%20ancial-leverage-is-your-friend-seriously.html; *Asset Managers Delve Deeper into Shadow Bank Territory for Returns,* FT.com, Feb. 3, 2015, http://www.ft.com/cms/s/0/e6e7589a-ab52-11e4-81bc-00144feab7de.html.

[16] *See* Michael Feroli, Anil K. Kashyap, Kermit L. Schoenholz and Hyun Song Shin, *Market Tantrum and Monetary Policy* (Feb. 1, 2010), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2409092.

C. Promoting Hot Asset Classes

Investors have a tendency to invest using a rear-view mirror. That is, money flows into asset classes that have recently had good returns.[17] We suspect this phenomenon would occur even if the asset management industry did not encourage it, but the asset management industry clearly does encourage it. Advertising focuses on funds with good returns, as do brokers and others.[18] Fund companies also launch and promote new funds and products in assets that have done well for competitors. While there are some contrarian voices in the industry, our experience suggests that the industry contributes greatly to herding into asset classes, posing significant risks of the type identified by Reinhart and Rogoff.[19]

D. Manager Myopia

Asset managers recognize that their competitors often follow similar strategies. They attempt to monitor and avoid these situations because being in a "crowded" trade can increase the market impact of trading and the risk of the position if many participants attempt to exit simultaneously. However, many managers recognize that they do not have sufficient information to effectively monitor cross-industry movements.

Crucially, while managers have some concern about herding (or "crowding") of trades, they only care about the potential effects on their own performance. Managers will not take into account the full systemic impact that herding would have because their incentives (including those crafted by their regulatory and compliance obligations) are focused solely on the solvency of their client accounts. Market-wide externalities are simply not a consideration. As a result, a particular manager is likely to follow herding strategies despite being in a crowded trade, even if such a strategy were sub-optimal from a systemic risk perspective.

E. Concentration in Service Providers

Service providers to the asset management industry are much more concentrated than asset managers themselves. For example, many asset management firms use standardized external risk models. Again, we think this is good practice at an individual-firm level. However, there are very few well-respected risk models and so the commonality across the industry in this respect has increased. Even if firms develop their own proprietary models, the inputs (and consequently the outputs) of these models may still exhibit herding for the reasons mentioned above.

One particular example of concentration of service providers is the continued use of a few rating agencies -- ones which have proven both incompetent and lacking in integrity in the recent past. Since these ratings are used widely, and are often written into contracts or guidelines used by

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[17] *See* YiLi Chien, *The Cost of Chasing Returns,* St. Louis Federal Reserve Bank (July 2014), *available at* https://www.stlouisfed.org/On-The-Economy/2014/July/The-Cost-of-Chasing-Returns.

[18] Of course, assets managers typically disclaim that "past performance is no guarantee of future returns" but any favorable historical figures are nevertheless touted and emphasized.

[19] *See* footnote 4.

asset managers and others, a downgrade of a systemically important asset manager could lead to a sudden and substantial rise in its cost of capital, which in turn could worsen a crisis.[20]

Services such as credit monitoring or risk analysis also feature substantial economies of scale. Similarly, a handful of familiar law firms routinely advise the same funds and fund managers (often based on standard templates and forms). Asset managers are typically small in manpower (especially in comparison to banks) and so reliance on third party servicers is understandable and also inevitable. This market reality is not going to change in the near future, and so regulators must consider its systemic implications.

5. Perverse Incentives / Moral Hazard

Asset managers, like many other financial institutions, can suffer from perverse incentives that exacerbate systemic concerns. The following discussion contains a few examples of such incentives, but by no means constitutes a complete list.

A. Performance Fees

Almost all hedge funds and an increasing number of other financial firms receive fees based on their performance. This arrangement is supposed to align investor incentives with managers, but it only partially accomplishes that goal. And when it fails, this incentive structure has perverse effects that can contribute to systemic risk. The most typical structure for hedge fund fees is for the manager to earn 2% of assets plus 20% of the positive performance.[21] Because the management firm receives a portion of the upside but does not absorb losses, this creates moral hazard and gives the manager an incentive to take excessive risk. We would note that this incentive is particularly strong when the fund has been performing badly because the manager then has little to lose. This problem is likely to be aggravated when the entire financial system is under stress.

There is an additional source of risk if the fund is doing particularly poorly: not only may the fund have little prospect of earning fees this year, it may be in the position that it will have difficulty recovering sufficiently to earn fees in the next 2-3 years. In such a scenario, key employees are likely to leave the firm and those who remain would be unmotivated and have perverse incentives. This would create a risk of zombie funds, which could well exacerbate risks or, at least, further endanger the assets of any financial institutions invested in them.

B. Competitive Race to the Bottom

In Question 7 ("Liquidity and Redemptions") the Council asks "[t]o what extent can competitive pressures create incentives" for asset managers to behave in ways that violate best practices.

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[20] In an ironic circularity, the rating agencies give SIFIs and other large banks higher ratings than justified by their fundamentals because the agencies believe there is a significant chance of government support for those institutions. *See, e.g.*, Moody's, *Key Drivers of Ratings Actions on Firms with Global Capital Market Operations* (July 12, 2012), *available at* https://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBC_143246.

[21] There are many variants of this specific structure. It is increasingly common for asset managers' fees to have an option-like structure.

This is an excellent question that should be considered more broadly. Competition can create incentives that erode standards of practice or risk control. It is notoriously hard for risk officers to maintain the influence needed to enforce necessary controls within asset management firms. This is because much of the time those controls reduce the performance of the firms' accounts. In addition, the term "best practices" is ambiguous. "Best practices" for individual funds or firms may not be in the best interest of the market, investors or the economy as a whole.

The process whereby business imperatives lead to erosion of integrity and standards is strikingly illustrated by the behavior of the rating agencies during the bubble in sub-prime mortgage-backed securities. Thanks to the Department of Justice investigation into Standard & Poor's, we are very fortunate to have documentation of how this process worked.[22] According to the investigation, S&P debated the conflict between "market share and analytical integrity." They agonized that "we cannot ignore the real risk of losing transaction revenue." Ultimately, they chose to use "business-friendly" models.[23] That is, they chose market share over accuracy. As a result, what was ostensibly a control on the risk taken by asset managers was undermined by the profit motive.

It is very uncommon for the public to get access to a company's internal documents and we suspect that most companies are smart enough not to put discussions of this sort in writing.[24] It would, however, be extremely naïve to think that profit considerations are not a major factor in decision-making within asset managers or firms such as rating agencies, risk analytics providers or others important to asset management. Even when profit considerations are not explicitly considered by company employees, it is nearly impossible for such considerations not to erode standards and indirectly influence the decision-making process.

6. Fictions

The asset management industry operates upon certain fictitious premises that must be debunked. We encourage the FSOC to look past these fictions and view market conditions with a more critical gaze. Even if such fictions do not inflict substantial harm in normal circumstances, they can serve to worsen a financial crisis.

For example, standard mutual fund redemption provisions create a fiction of greater liquidity than actually exists. These provisions allow investors to redeem shares, without any transaction costs, at the current market price. If an investor calls (or more likely enters an order on-line) at 3:59 pm, he will be liquidated at the 4:00 pm price. But in reality, even for the most liquid mutual fund holdings, there are transaction costs — trading takes time and there is price impact. Stated briefly, there is a great deal of inaccuracy in prices for many funds.[25]

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[22] *See* Complaint, *United States of America v McGraw-Hill Companies Inc., and Standard and Poor's Financial Services LLC*, No. CV13-00779 (C.D. Cal. 2013), *available at* http://blogs.reuters.com/felix-salmon/files/2013/02/U.S.-v.-SP.pdf.

[23] *Id*. at 52, 56. Pages 39 to 58 are a case study in how concern for profit undermined the integrity of the ratings at high levels of the organization and over several years.

[24] Even S&P noted early in the process that "if it is not practical to speak to a person, only then should these concerns be expressed in an e-mail or written memorandum." *Id*. at 41.

[25] The 2003 mutual fund scandal would not have happened if the practices we recommend were in place. *See* Knowledge @ Wharton, *Mutual Fund Scandal: Once Again, Individual Investors are the Losers* (Sept. 24, 2003),

A. Fiction: Zero Transactions Costs

One fiction is produced by the absence of an accurate bid-asked spread when fund purchases or redemptions occur. Investors buying or selling large amounts of fund shares impose costs on the fund. But the cost is incurred by the fund as a whole, not the specific shareholders producing the cost. This results in inequitable outcomes: over time, long-term investors subsidize those who trade more actively since long-term investors disproportionately bear the externality costs produced by active investor redemptions. In many cases the cost to long-term investors may be small vis-à-vis fund assets, but for funds that hold illiquid assets these externalities can become quite material. Funds would better convey the true bid-ask spread if they were to disclose both a bid-side NAV as well as an offered side NAV. Such a dual-disclosure would more accurately allocate transactions costs.

This arrangement would help address systemic risk because it would create a natural impediment to fire sales. The specifics of implementing this are beyond the scope of this letter but the idea, the details of implementation and the advantages are discussed in BlackRock's publication "Fund Structures as Systemic Risk Mitigants."

B. Fiction: Perfect Pricing

Another fiction that could be disruptive is the idea that pricing is perfect. In fact, funds that hold securities traded over-the-counter cannot observe market prices. As a result, they base their NAV on price estimates. These estimates are surely lagging, particularly in turbulent times.

We examined the pricing behavior of a number of high yield funds and found that their NAVs failed a simple test for pricing efficiency: daily price changes have autocorrelation of around 0.4.[26] This means that the prices are being smoothed, are stale, or are otherwise imprecise. As a result, if prices decline substantially, then the fund NAV is very likely to be overstated by material amounts. If investors are generally aware of this, then concerns about a first mover advantage could spark a rush to the exit.[27] We discuss specific measures that could be taken to address this in answers to the questions about redemptions.

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http://knowledge.wharton.upenn.edu/article/mutual-fund-scandals-once-again-individual-investors-are-the-losers/. We would note that while there have been reforms since 2003, there remains potential for abuse, particularly with funds investing in non-US securities.

[26] The daily returns of all of the high yield bond funds we examined had autocorrelations above 0.4 even in fairly calm times. For example, in 2014, the autocorrelations of daily price changes for Fidelity High Income Fund (SPHIX), Vanguard High-Yield Corporate Fund (VWEHX) and PIMCO High Yield Fund (PHIYX) were 0.49, 0.41 and 0.46, respectively. In contrast, funds in more liquid assets were much closer to zero. In the same year, the daily autocorrelations of Fidelity Investment Grade Bond Fund (FBNDX), Vanguard Intermediate Term Bond Fund (VBIIX) and PIMCO Investment Grade Corporate Bond Fund (PIGIX) were 0.03, -0.04 and 0.10, respectively. Correlations for stock funds were similar to those of investment grade bonds. It is important to note that during crises, there is less liquidity and so it comes as no surprise that even investment grade funds had significantly positive autocorrelations in the second half of 2008.

[27] In fact, it is likely that only some sophisticated investors will be aware of this price anomaly, so this would serve as another example of less sophisticated investors being harmed. It is likely that this happened in 2008.

C. Fiction: Cash Distributions

Another worrisome fact is that almost all mutual funds have provisions that allow them to make in-kind distributions in lieu of cash distributions. A fund is most likely to exercise in-kind distribution provisions for liquidity reasons during a crisis or other period of extreme illiquidity. Although such provisions have been rarely exercised, they remain a viable redemption option of which many investors are likely unaware. We believe that this surprise factor has the potential to set off a similar reaction to what occurred when the Reserve Primary Fund "broke the buck."

In practice, in-kind distributions are usually only required for very large redemptions made by institutional investors. Regulators should explicitly limit the usage of in-kind distributions to those circumstances so that there is not the potential for widespread misunderstanding or panic during a liquidity crisis. Again, we discuss how this weakness might be addressed in answers to specific questions regarding liquidity and redemptions.

D. Fiction: Liquidity

There is much discussion here and elsewhere about liquidity. Indeed, trillions of dollars of securities change hands in U.S. markets every day. In that sense, U.S. capital markets are extremely liquid. Ultimately, however, investors can only withdraw money from the markets to the extent that other investors are willing to add funds. We should keep in mind that the willingness of entities to supply capital during adverse times is very different from, and more important than, the ability to flip securities in a fraction of a second. The former, and not the latter, is the true hallmark of liquidity.

E. Fiction: Regulations Work Perfectly

Some of the concerns that we are raising in this letter could be addressed through other regulations that have nothing to do with system risk. For example, margin requirements imposed on all market participants by central clearinghouses would help mitigate some of the leverage risks that we observe in the asset management industry. However, it would be foolish to simply assume that other regulations will be passed, will remain in place and will not be evaded. In fact, as we write this comment, Congress is considering a bill that would remove margin requirements for many derivatives participants.[28] Even if these other regulations remain on the books, they may be circumvented in myriad ways. As a result, it is vital that FSOC give full force to its recommendations to reduce systemic risk without undue consideration for potentially overlapping rules. The concerned regulators are in a better position to remove redundancies, and it may actually be desirable to have multiple safeguards.

In any event, part of the monitoring for potential systemic risk should include monitoring of regulations being removed, weakened or evaded.

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[28] H.R. 37 "Promoting Job Creation and Reducing Small Business Burdens Act" has passed the House.

7. Normal Accidents

Our financial system is complex and tightly coupled. Complexity is self-evident. Tight coupling means that one event can rapidly impact other entities in the system. Systems such as this can be impossible to understand and, even when overseen by capable operators, can experience catastrophic accidents. [29] We believe that tight coupling is endemic throughout the financial system and that asset managers play a key role in interconnecting risks. The "Flash Crash" was a prime example of this phenomenon.

8. What Needs to be Done?

Considering that asset managers have, both individually and collectively, caused or contributed to systemic risk in the past, it would be foolhardy not to monitor them for future risks at ***both*** the individual and aggregate levels. While regulators and the industry have taken some modest steps to address systemic weaknesses, there have also been many innovations that raise new risks or concerns. Of course, the asset management industry is quite different from banking. This does not mean, however, that asset managers do not present systemic risks. They do, and the monitoring and oversight process needs to be specifically tailored to the type of systemic risk that the asset management industry poses.

A. Are Some Asset Managers SIFIs?

Most of the risks we are concerned about involve the interactions of multiple entities, often including both asset managers and other financial institutions. Therefore, we believe that the most important regulations will be systemic measures that address the issues discussed above. Still, we do think that some institutions may be large and active enough to merit special scrutiny. Before making such a determination, of course, FSOC needs to arrive at a method for assessing the systemic importance of asset managers. To make this assessment, we believe that many factors should be borne in mind. These include size of assets managed, leverage, trading activity, interconnections with other financial institutions, liquidity of assets in stressful circumstances, optionality of assets, exposure to runs and importance to the financial system of asset classes managed.[30]

B. Comprehensive Measures

It bears noting that LTCM and the Reserve Primary Fund were not particularly large. Thus, it is quite unlikely that they would have been designated as SIFIs under present standards, which demonstrates that simply designating a handful of institutions as SIFIs will not fully address the risks posed by the asset management industry.

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[29] *See* Charles Perrow, *Normal Accidents: Living with High Risk Technologies* (1999) for an overview of normal accident theory and Richard Bookstaber, *Demon of Our Own Design* (2007) for a discussion in the context of the financial system.

[30] For instance, the system can more easily bear disruptions in equity issuance than in the issuance of commercial paper.

The most important aspects of FSOC's oversight will be in steps taken to monitor and address vulnerabilities in the asset management industry comprehensively. Regulators must create a system that allows them to both address structural weaknesses and monitor market developments to determine when counter-cyclical policies may be desirable.

Section 120 (a) of the Dodd Frank Act reads:

> The Council may provide for more stringent regulation of a financial activity by issuing recommendations to the primary financial regulatory agencies to apply new or heightened standards and safeguards, including standards enumerated in section 115, for a financial activity or practice conducted by bank holding companies or nonbank financial companies under their respective jurisdictions, if the Council determines that the conduct, scope, nature, size, scale, concentration, or interconnectedness of such activity or practice could create or increase the risk of significant liquidity, credit, or other problems spreading among bank holding companies and nonbank financial companies, financial markets of the United States, or low-income, minority, or underserved communities.

We are pleased that Congress had the insight to realize that such authority would be needed. We urge the Council to use its authority under Section 120 to assure that the problems we have raised are addressed. We note that Section 120 calls upon the Council to consider specifically the impacts on low-income, minority or underserved communities. Occupy the SEC supports the idea of showing particular concern for those communities. And, it is vital to remember that financial markets affect everyone, even those with no assets to manage. Indeed, communities of color have been among the most adversely affected by the foreclosure and employment crisis. That said, we believe that all of the measures we are recommending are justified by concern for everyone in the country and the economy as a whole.

C. Standardized Fiduciary Standard

Although the FSOC's notice does not explicitly consider broker dealers as potential sources of system risk, these parties nonetheless may contribute to market-wide weakness. Small retail investors are increasingly investing in alternative instruments and strategies upon the recommendations of broker-dealers. Broker-dealers have turned to these strategies to provide for returns at a time of increasing volatility within the equity markets. While investment advisors are subject to a fiduciary duty pursuant to the Investment Advisor Act, broker dealers in both the retirement and non-retirement arenas have only been subject to an amorphous "suitability" standard. This difference results in a glaring regulatory lacuna that contributes to systemic risk. Free of the strictures of a fiduciary standard, broker dealers are more apt to tout risky strategies to their client.

The line between broker-dealers and investment advisers has grown amorphous in the real world. And the recommendations of broker dealers can suffer from many of the same correlations described above in the context of investment advisers. The upshot of these factors is that broker dealers may be needlessly contributing to systemic risk because of the lower standard of conduct that is placed upon them.

Thankfully, the DOL and SEC have announced plans to issue fiduciary rules for broker dealers and the SEC has even cooperated in offering technical advice to the agency. These efforts are predicated on protecting investors from predatory practices and fees and (*a fortiori* in the retail investment world) are legitimate under the explicit language of DFA Section 913.

We urge adoption of rules that harmonize the fiduciary standard across retail investment types and platforms. Harmonized rules will ensure that risk contained in one silo of the financial system is not channeled into another less regulated one. Furthermore, the move toward clear and standardized fiduciary rules should militate against the creation of loopholes and exemptions for high net worth investors and novel instruments such as ETFs. Novel forms of risk (in the form of alternative and high risk investments) must be subject to regulatory scrutiny and examination because they threaten to metastasize into new crises.

In accordance with Sections 115 and 120 of the Dodd-Frank Act, we also recommend full disclosure of the fees that advisors and broker dealers charge for their advice and services. This duty of disclosure as well as the fiduciary duties of loyalty and care will further safeguard retirement security for the general investment community and for poor and minority communities in particular.

9. Conclusion

In conclusion, we recommend that the FSOC facilitate the creation of a regulatory framework that would:

- Develop a better understanding of the interconnections of the financial system, including the part played by different segments of the asset management industry. This needs to consider how institutions will behave in response to shocks. The agent-based modeling approach proposed by Bookstaber, Paddrik and Tivnan in their paper, "Agent-based Model of Financial Vulnerability" seems appealing. In any event, the model needs to consider interactions under stress.
- Periodic stress tests: Once a comprehensive model has been developed, a regime of periodic stress tests should be put in place. Consider the behavior of firms and strategies when they come under duress. For example, stress tests analyzing the impact of a seizure in market liquidity on asset management strategies may uncover vulnerabilities. The market will evolve and so it is important for there to be regular review to identify developing threats.
- Monitor cash flows and growth in types of derivatives. Most crises have been preceded by large cash flows into the asset classes that subsequently crash. Regulators must subject any aspect of the industry experiencing rapid growth to specific scrutiny.
- Address the structural weaknesses we, and others, have identified. These include reducing the reliance on "fictions" by better allocating transactions costs among mutual fund shareholders, tightening the potential use of in-kind distributions and rigorously auditing the pricing of collective investment vehicles.[31]

[31] More specifics of these proposals are given in answer to the Council's questions in Appendix A.

- Establish real-time data reporting requirements across the asset management industry. Such reporting should be required of all registered investment advisers, as well as state-regulated advisers. The electronic collection and analysis of such data would allow regulators to actually avert crises instead of just reacting to them.

As a final recommendation, we believe it is important that these measures apply to all asset managers. It is dangerous if certain classes of managers, such as hedge funds, can avoid oversight, as systemic risks are likely to migrate into any area exempt from regulation.

We ask that you vigorously implement the considerable responsibilities that have been discharged to you by Congress, remain faithful to the Dodd Frank Act's intent and consider the comments contained in this letter.

Thank you.

Sincerely,
/s/
Occupy the SEC

Josh Snodgrass
Akshat Tewary
Neil Tailor
Anchard Scott
Simisola Durosomo
George Bailey
Eric Taylor
et al.

APPENDIX A: ANSWERS TO SPECIFIC QUESTIONS POSED BY THE COUNCIL

I. Liquidity and Redemptions:

1. How does the structure of a pooled investment vehicle, including the nature of the redemption rights provided by the vehicle and the ways that such vehicles manage liquidity risk, affect investors' incentives to redeem? Do particular types of pooled investment vehicles, based on their structure or the nature of their redemption management practices, raise distinct liquidity and redemption concerns (e.g., registered funds, private funds, or ETFs)?

Pooled vehicles can genuinely reduce transactions costs in various ways. For example, if some investors are increasing investment while others are liquidating, the pooled vehicle may need to do less trading than the investors would be trading individually. However, mutual funds and other pooled vehicles often fail to appropriately allocate the transactions costs that they incur. In particular, the investors who are liquidating often fail to be fully charged for costs they are imposing. As a result, certain investors will trade too much because they don't incur the full costs of their trading.

In addition, pooled vehicles redeem shares at prices that may not be current or accurate. As we noted previously, we found very high autocorrelation on the price changes of high-yield bond funds (0.45 typically), even in calm times, and lower, but still worrisome autocorrelation in investment-grade bond funds during 2008.[32] The implication of this is that price changes are easily predictable and can be taken advantage of. This creates several problems that should be of concern to regulators, although we will focus on those related to systemic risk here.[33]

The most common cause of autocorrelation of that degree is that prices are stale. A price move that actually occurred on one day ends up spread over multiple days. This means that if prices decline substantially, then the NAV becomes overstated, creating an incentive for shareholders to sell. This can create a fire sale.

There are other reasons to think prices of illiquid assets may be overstated. Asset managers, or pricing services, often have problems finding dealers who will evaluate obscure or illiquid securities. A pricing service will tend to rely on the dealer who sold the fund the security. Such dealers prefer to maintain artificially high prices on the security because they want to profit from future sales of similar securities to the fund manager. In addition, asset managers have incentives themselves to overstate the prices of the securities that they hold. A high NAV results in higher fees. In addition, an overstated NAV causes overstated performance, which in turn can increase cash inflows.

We present possible solutions to this problem in the answers to question 9.

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[32] *See* footnote 26.

[33] Another is that less sophisticated investors, or any who do not trade actively, can be taken advantage of.

2. To what extent do pooled investment vehicles holding particular asset classes pose greater liquidity and redemption risks than others, particularly during periods of market stress? To what extent does the growth in recent years in assets in pooled investment vehicles dedicated to less liquid asset classes (such as high-yield bonds or leveraged loans) affect any such risks?

The less liquid asset classes such as high-yield bonds are particularly prone to these problems as noted in the previous answer.

3. To what extent might incentives to redeem shares in a pooled investment vehicle or other features of pooled investment vehicles make fire sales of the portfolio assets, or of correlated assets, more likely than if the portfolio assets were held directly by investors?

Inaccurate pricing, particularly pricing that is systematically too high, and transactions costs that are zero (or lower than the true transactions costs) will encourage investors to liquidate their fund investments, leading to fire sales of the fund assets. This can create a self-reinforcing feedback loop as those asset sales will further depress market prices and increase the mispricing. As a result, there may be a large incentive to get out early even for investors who would otherwise be willing to hold the assets.

Our answer to question 1 gave our reasons to be concerned about inaccurate and, in particular, overstated prices.

4. To what extent does the potential for terminations of securities loans that would trigger redemptions from cash collateral reinvestment vehicles or other asset sales pose any distinct financial stability concerns? To what extent do investment vehicles reinvest cash collateral in assets with longer maturities relative to the lender's obligation to repay the collateral, which may increase liquidity risk? How much discretion do lending agents have with respect to cash collateral reinvestment? To what extent do lending agents reinvest cash collateral in vehicles managed by the same firm that manages the investment vehicle lending the securities?

5. How do asset managers determine whether the assets of a pooled investment vehicle are sufficiently liquid to meet redemptions? What liquidity and redemption risk management practices do different types of pooled investment vehicles employ both in normal and stressed markets, and what factors or metrics do asset managers consider (e.g., the possibility that multiple vehicles may face significant redemptions at the same time, availability of back-up lines of credit) in managing liquidity risk?

6. To what extent could any redemption or liquidity risk management practices (e.g., discretionary redemption gates in private funds) used in isolation or combination amplify risks?

We are particularly concerned about the use of in-kind redemption provisions in mutual funds. The fact that the provisions exist but are almost never exercised has created a situation similar to that of money-market funds before the Reserve Fund "broke the buck." That is, most investors

are not aware of the possibility of in-kind redemption and we suspect that even sophisticated ones who are aware do not expect those provisions to ever be used. If a fund were to exercise in-kind provisions during a market crisis, we suspect that it could trigger a loss of confidence and potentially spark a run on many similar funds.

We think that investors should be allowed to request in-kind redemptions if they so prefer. But we believe that *imposing* in-kind redemptions on investors would be onerous and problematic.

In-kind distributions will not generally avoid fire sales as the investors receiving them are likely to try to sell those assets themselves. Still, our real concern is that other investors, hearing about the inability to receive cash redemptions from one fund, may begin to stampede out of all similar funds -- greatly exacerbating the problem.

We are also very concerned that industry representatives seem to take comfort in in-kind provisions and cite those provisions as a reason that systemic risk oversight is not necessary for the asset management industry. While they assert that these provisions will address any potential problems, we believe that in kind provisions may worsen a crisis rather than avoid one. This is a sign that industry lobbyists do not take systemic risk seriously enough.

7. To what extent can competitive pressures create incentives to alter portfolio allocation in ways that may be inconsistent with best risk management practices or do not take into account risks to the investment vehicle or the broader financial markets?

Competitive pressures can create perverse incentives in multiple ways, as noted above in our letter. The asset management industry actively encourages herding by promoting hot asset classes and encouraging managers to follow similar trading strategies to eschew large losses.

In addition, asset managers do not have incentives to consider the impact of their trading on others and so are not sufficiently averse to entering into crowded trades.

But, most insidious is that competitive pressures undermine the authority of risk management. In good times, risk management serves as a restraint on profit. This gives asset management companies, and their employees, a strong incentive to fight against best risk management practices both directly and indirectly by exploiting blind spots that risk models may have.

One of the clear lessons of the housing bubble/crash is that relying entirely on corporate governance is folly. As Alan Greenspan said "I made a mistake in presuming that the self-interests of organizations, specifically banks and others, were such as that they were best capable of protecting their own shareholders and their equity in the firms."[34] Occupy the SEC hopes we can learn from the past.

8. To the extent that liquidity and redemption practices in pooled investment vehicles managed by asset managers present any risks to U.S. financial stability (e.g., increased

[34] Brain Knowlton & Michael M. Grynbaum, *Greenspan Shocked that Free Markets are Flawed*, N.Y. Times, Oct. 23, 2008, http://www.nytimes.com/2008/10/23/business/worldbusiness/23iht-gspan.4.17206624.html.

risks of fire sales or other spillovers), how could the risks to financial stability be mitigated?

Some funds charge a fee on share purchases, such that the fee approximates the transaction costs borne by existing shareholders as a result of the share purchase. Such a fee more accurately reflects the cost of shareholder transactions to the fund.[35] This fee structure could also be useful in mitigating risks if made more prevalent and modified in three ways. First, it should be applied to both purchases and sales. Second, it should be variable, depending on trading conditions and net cash flows in the fund. Third, it should increase with the size of the trade. Large transactions have more market impact and are less likely to be offset by flows in the opposite direction. Again, these modifications would more accurately allocate costs to the shareholders who cause them. But, they would particularly serve to subdue fire sales during crises. Any shareholders who want to liquidate during the crisis would be able to. But they would pay a fair cost for doing so -- one that reflected trading costs at that time.[36] The FSOC should recommend that the SEC require funds to impose such transaction fees.

In addition, we suggest that the FSOC ask the SEC to revisit the question of in-kind distributions. As noted above, such distributions could substantially upset the market during times of crisis -- the very times they are most likely to be used. Since in-kind redemptions are rarely used in normal times, it seems little would be lost by removing funds' ability to use them. Alternatively, if funds want to maintain the option of making in-kind distributions, perhaps they should be required to exercise that option on occasion -- essentially running a fire drill.

9. What additional information would help regulators or market participants better assess liquidity and redemption risks associated with various investment vehicles, including information regarding the liquidity profile of an asset class or of a particular type of investment vehicle?

There is much information that would be helpful. We will just focus on one area that we expect will not be addressed by others and rely on others to give a more comprehensive answer.

We believe that the SEC should perform very rigorous audits of the pricing, and pricing procedures of securities that do not have easily observable market prices to address the concerns we raised in the answer to question 1. To be valid, these tests should include actual independent verification of the pricing. We believe this should be done by a unit of the SEC that independently puts securities held in the portfolio out for a bid. Ideally, to keep the bids honest, this unit should sometimes execute on these bids. This could be accomplished if the fund gave the price-auditing unit a reserve price above which the fund would be willing to sell. This would ensure that those indicating bids would not give inflated prices.

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[35] See, for example, Vanguard's Long-Term Corporate Bond Index Fund Admiral Shares VLTCX, which has a 1% purchase fee. http://money.cnn.com/quote/mutualfund/mutualfund.html?symb=VLTCX.

[36] We presume that the rationale for only charging on purchase is that, since shareholders buy and sell equal numbers of shares over their lifetime, it is moot when it is charged. But this logic only holds if trading costs do not vary.

In addition to verifying prices, the dispersion between different dealers' bids would provide a good indication of the reliability of the prices and the depth of market for the securities.

II. Leverage:

1. How do different types of investment vehicles obtain and use leverage? What types of investment strategies and clients employ the greatest amount of leverage?

The greatest leverage is typically used in certain investment strategies that, in their unlevered form, offer small and (apparently) low-risk profits. The unlevered version of these strategies is of little interest to asset managers because of limited profit potential. Conversely, substantial leveraging is seen as attractive, especially in light of the perceived low risk profile of these strategies. For example, fixed income strategies are often used with higher leverage than are equity strategies.

Different vehicle types use varying amounts of leverage. Mutual funds typically use little or no leverage and are legally restricted in the amount of gearing that can be undertaken overtly.[37] Hedge funds, on the other hand, generally take the greatest amount of leverage, especially in pursuit of so-called "arbitraging" opportunities.

The use of leverage is increasing and particularly expanding within mutual funds that traditionally have not employed leverage.[38] For example, a large and respected hedge fund manager, AQR, claims that leverage is necessary to achieve satisfactory return/risk relationships at most risk levels and is essential to effective "style investing." AQR notes:

> A skeptic might say, "There must be a catch." There is, of course, *but it is a small one that can (and must) be managed.* In order to achieve proper risk balance and attain the high returns and low correlation properties investors seek, style investing requires the "three dirty words in finance" — *leverage, short-selling and derivatives*. For investors willing (and able) to use these risky tools, there is the potential for huge rewards in terms of better and more stable returns.[39]

Let us assume for argument's sake that catastrophic risks can be managed, as AQR sanguinely claims, and high-risk "style investing" is deemed an attractive approach for investors. Even under that scenario the decision to choose that investing strategy only considers the limited interests of a particular investor or fund. In reality, investor returns are only half the story. Regulators must also consider the systemic impact of leveraged investing, and the risks attendant to such strategies need to be carefully considered and monitored on a real-time basis.

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[37] It is worth remembering that indirect leverage can be used to circumvent such restrictions, to some extent. Nonetheless, even accounting for such evasion, mutual funds are typically much less leveraged than hedge funds.
[38] *Asset Managers Delve Deeper into Shadow Bank Territory for Returns*, FT.com, Feb. 3, 2015, http://www.ft.com/cms/s/0/e6e7589a-ab52-11e4-81bc-00144feab7de.html.
[39] *Investing With Style*, AQR, Jan. 2, 2015, https://www.aqr.com/library/journal-articles/investing-with-style.

Regulators must be ever-cognizant of the simple truth that apparently stable relationships can quickly break apart.[40] A recent example of such vanishing stability is the Swiss Franc / Euro exchange rate. Leveraging creates systemic risks because that practice magnifies the damage that unexpected and otherwise minor market fluctuations can create.

2. To what extent and under what circumstances could the use of leverage by investment vehicles, including margin credit, repos, other secured financings, and derivatives transactions, increase the likelihood of forced selling in stressed markets? To what extent could these risks be increased if an investment vehicle also offers near-term access to redemptions?

Unleveraged long positions can be held indefinitely (or until maturity/expiration) if the owner/manager so choose, without the need to contribute additional capital regardless of market conditions. Leveraged or short positions, on the other hand, can require additional capital if prices move adversely or risk increases. Even in good times, this requires that capital be drawn from elsewhere. Large price moves and other factors leading to an increase in volatility will be particularly common during a crisis. As such, leverage inevitably creates a risk of forced sales. Fund regulations must take that conclusion as axiomatic.

Funds that offer immediate (or quick) redemption may be especially susceptible to liquidity crunches due to leveraging. Margin calls can lead these cash-strapped funds to divest from positions and force investor withdrawals.

3. How do asset managers evaluate the amount of leverage that would be appropriate for an investment strategy, particularly in stressed market conditions?

It is important to emphasize at the outset that "the amount of leverage" taken by an asset manager can be mischaracterized. Any true measure of leverage must incorporate implicit leverage, as well as any contingent obligations embedded in the portfolio that could magnify the impact of market movements (even if those obligations are not formally structured as "leverage").

To what extent do asset managers evaluate the potential interconnectedness of counterparties? How do lenders or counterparties manage their exposures to investment vehicles?

While some of us are financial professionals, including former asset managers, we are not in a position at this time to answer this specifically. However, since practices undoubtedly vary from

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[40] *See* Stephen Blyth, *The Quant Delusion: Financial Engineering in the Post-Lehman Dodd–Frank Landscape.* 29 CFA Institute Conference Proceedings Quarterly 1, 1-8 (2012), *available at* http://www.cfapubs.org/doi/full/10.2469/cp.v29.n1.6 (containing several compelling examples of relationships that were taken for granted in 2007 and that fell apart shortly thereafter). The following passage contains an illuminative example: "This straightforward logical argument that swap spreads must be positive was taken for granted until 2008. From the inception of liquid swap markets until 2008, the 30-year swap spread was indeed positive. Then, a month after Lehman Brothers collapsed, the spread moved negative, going down to nearly –50 bps, and it remains negative as of late 2011, even as other markets have normalized. Something in this foundational argument has failed." *Id*.

firm to firm and from time to time, FSOC should take only modest solace if it finds that at the present time most funds evaluate leverage in an appropriate manner. That too will change unless FSOC prevents it. *Managers do not have an incentive to account for the full cost that they impose on the market through interconnectedness because they do not bear the full burden of that risk.* Managers impose costs on each other and on the market through externalities. Also, managers, lenders and counterparties are not well positioned (and probably do not have adequate information) to evaluate these risks without receiving proprietary information about competitors, which is not feasible or desirable. It would be better if a regulatory agency were to receive and process market information, disseminate aggregated information and make counter-cyclical regulatory adjustments, as needed. The markets cannot be relied upon to achieve these ends.

4. What risk management practices, including, for example, widely-used tools and models or hedging strategies, are used to monitor and manage leverage risks of different types of investment vehicles? How do risk management practices in investment vehicles differ based on the form of leverage employed or type of investment vehicle? How do asset managers evaluate the risk of potential margin calls or similar contingent exposures when calculating or managing leverage levels? How are leverage risks managed within SMAs, and to what extent are such risks managed differently than for pooled investment vehicles?

Again, we do not have specific knowledge of current methods. We would note however, that many asset managers use external models. This practice can be beneficial in some way, since third party risk assessments are likely more objective, less subject to manipulation and perhaps less apt to be ignored or overridden.

However, the use of external risk models has some costs as well. There are many fewer firms selling external risk models than there are asset managers. So, widespread use of external risk models reduces the diversity of such models. Second, and inevitably, there are flaws in these models. When a particular type of risk is underestimated or unrecognized, asset managers will end up taking an inordinate amount of that risk. And when the actual risk is realized, many managers will be adjusting to it in concert. Thus, usage of external risk systems increases linkages between managers and promotes herding.

5. Could any risk management practices concerning the use of leverage by investment vehicles, including hedging strategies, amplify risks?

First of all, we wish to emphasize that risk management practices, even without use of leverage, can amplify risks. Attempting to maintain an account (i.e., fund or SMAs) with a stable risk level requires selling (or hedging) risky assets when volatility increases. Risk mitigation is therefore possible for investors acting individually. But as risk management practices become more commonplace and uniform, they will work to exacerbate volatility rather than manage it at the systemic level.

Individual managers reduce their exposure to risky assets when volatility rises. To do so means that they must find other investors willing to increase exposure to risky assets, even while the overall market is becoming more volatile. Managers trying to maintain a constant risk level are akin to someone trying to keep part of a balloon from expanding while the balloon as a whole is

being inflated. One can do it but that only increases expansion, and tension, elsewhere. In 2008, we saw what can happen when those that have been increasing exposure to risk feel they have gotten overextended and they consequently want to reduce that exposure. Suddenly, there are very few buyers.

Leverage does commonly amplify risk. If managers wish to maintain a constant leverage ratio, they need to trade in a trend-reinforcing manner. When their portfolio falls in value, they become over-leveraged and will be forced to sell (and conversely buy when their portfolio rises in value). A portfolio leveraged 3:1 needs to sell $3 million in assets for every $1 million lost simply to maintain a constant ratio. This is a pro-cyclical trading strategy. A prominent advocate of the use of leverage by asset managers indicates that they "temporarily pull back when losses mount."[41] This means that they reduce their leverage in adversity. This is even more pro-cyclical than a constant degree of leverage. Pro-cyclical strategies amplify volatility. Counter-cyclical policies dampen it.

Some hedging strategies behave similarly. They require trading in a manner that reinforces market movements. For example, replicating a long option position requires increasing exposure to the underlying asset when prices rise and decreasing exposure when prices fall. This is the same dynamic that we saw with portfolio insurance in 1987. Mortgage-related securities, and other instruments, have imbedded short option positions and so strategies that hedge them will display this characteristic.[42]

6. To what extent could the termination of securities borrowing transactions in stressed market conditions force securities lenders to unwind cash collateral reinvestment positions? To what extent are securities lenders exposed to significant risk of loss?

Many fund managers engage in the risky practice of lending plan assets to third parties in exchange for cash that is then reinvested. Even if those reinvestment positions appear to be highly liquid under normal conditions, they may be difficult to unwind under turbulent conditions. That leads the concerned fund to have two levels of exposure instead of one: first, in its inability to return cash collateral, and second, in its inability to redeem plan assets (in cash or in kind).

While we are confident that most securities lenders aspire to protect themselves against such risks, the fact remains that market forces impel them to undertake risky securities lending practices. In a competitive market it is very difficult for securities lenders to protect themselves against rare, systemic, events because doing so would put them at a competitive disadvantage with respect to the utilization of plan assets. Thus, market forces promote a "race to the bottom" whereby securities lenders veer towards offering easier credit, expanding securities lending, and increasing collateral reinvestment.

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[41] Cliff Asness, *Investors: Financial Leverage is Your Friend, Seriously*, Institutional Investor, Feb. 11, 2015, http://www.institutionalinvestor.com/blogarticle/3426750/blog/investors-fin%20ancial-leverage-is-your-friend-seriously.html.

[42] Roberto Perli and Brain Sack, *Does Mortgage Hedging Amplify Movements in Long-term Interest Rates?*, *available at* http://www.federalreserve.gov/pubs/feds/2003/200349/200349pap.pdf.

7. To the extent that any risks associated with leverage in investment vehicles present risks to U.S. financial stability, how could the risks to financial stability be mitigated?

Addressing these problems requires a comprehensive regulatory framework that properly accounts for the aggregated impact of interactions among multifarious asset managers. We believe that these risks can be mitigated by comprehensive regulatory limits on leverage and by direct oversight of the largest, most leveraged and most actively trading managers as SIFIs.

The fund management industry suffers from a vexing lack of transparency. While some data may be gleaned from mutual fund disclosures, call reports at bank-managed funds, and Form PF submissions by private funds, the data from these sources is far from real-time. And regulators have zero visibility into nearly $20 trillion in separate accounts (despite the systemic momentum that these accounts bear upon the broader markets). In an economy where the entire stock market can plummet in the span of a few milliseconds, as seen in the recent Flash Crash, it is essential that regulators gain access to real-time data on market movements. Such data must be particularized as much as possible.

U.S. regulators have the technological capability to monitor all fund transactions on a real-time basis. The establishment of such a system would clearly be expensive and politically unpopular. But absent such a system regulators can only take middling half-steps towards monitoring systemic risk.

If such a system were in place, regulators would be enabled to understand which pools of capital could best absorb risk during crises. They would also have a better sense of how stressed the market is becoming, *a priori*, and when it might be approaching a breaking point.

8. What are the best metrics for assessing the degree and risks of leverage in investment vehicles? What additional data or information would be useful to help regulators and market participants better monitor risks arising from the use of leverage by investment vehicles

Measures of leverage need to consider implicit leverage and contingent risks. For instance, credit default swaps (CDS) on high-grade companies may seem to have relatively little market exposure on their face, but in crisis that exposure can become greatly magnified.

The systemic risks posed by the asset management industry are dynamic and involve interaction among market participants. We believe an agent-based or similar approach would be most successful in allowing regulators to understand such risks and devise strategies to address those risks. The approach would need to account for not just the current exposures of asset managers and other institutions but also how these parties would respond under stress. We believe that the approach outlined in the Treasury document "An Agent-based Model for Financial Vulnerability" is promising.[43]

[43] Richard Bookstaber, Mark Paddrik and Brian F. Tivnan, *Agent-based Model of Financial Vulnerability* (July 29, 2014), *available at* http://www.treasury.gov/initiatives/ofr/research/Documents/OFRwp2014-05_BookstaberPaddrikTivnan_Agent-basedModelforFinancialVulnerability_revised.pdf.

III. Operational Risk:

1. What are the most significant operational risks associated with the asset management industry and how might they pose risks to U.S. financial stability? What practices do asset managers employ to manage operational risks (e.g., due diligence, contingency planning)?

2. What are the risks associated with transferring client accounts or assets from one manager to another and how do these risks vary depending on the nature of the client, the asset types owned by the client (e.g., derivatives), or how the asset type is traded or cleared? For certain asset classes or strategies, are the number of asset managers offering a comparable strategy so concentrated that finding a substitute would present challenges? How rapidly could investment management accounts be transferred, including during a time of financial market stress?

If there is concern about an impending failure of a broker, prime broker, asset manager or similar service provider, clients would want to their transfer assets away before such a failure occurs. While, in theory, there are safeguards in place so that bankruptcy of such a firm should not impair client assets, it seems likely that there would be at least a short period when assets would not be accessible. And the experience of MF Global shows that much worse outcomes are possible. The cost to clients or customers of transferring is low and so a 'better safe than sorry' approach to moving money away from weakness is prudent. Clearly, concerns about failure of firms are greater during crises and so the possibility of a mass transfer of accounts is higher during times of systemic stress.

We would recommend that investment managers implement contingency planning and routine "fire drills" to assure that transfers can be effected smoothly, and to identify any potential sources of difficulty. Derivatives that are not centrally cleared are more difficult to transfer, as is any associated collateral. Regulators must ensure that asset managers avoid purchasing derivatives or other products that inhibit orderly redemption, transfer or windup of plan assets during times of systemic stress. Fire drills (especially if conducted on a repeated and periodic basis) would be useful to properly assess which products in a plan's portfolio are undesirable because of insufficient liquidity.

3. What market practices, processes, and systems need to be in place to smoothly effect transfers of client accounts or assets by asset managers and/or custodians? What differences exist in information technology systems, processes, or data formats that could pose operational risk, particularly when markets are stressed? Are there specific risks related to foreign clients, foreign custodians, foreign assets, or the use of offshore back-office operations?

Fire drills would be invaluable in answering these questions. Our experience suggests that there will be unanticipated difficulties, and repeated fire drills reduce the likelihood that a fund manager will be taken off guard by erratic price movements.

4. While asset liquidation is not required for, and is not typically associated with, the transfer of client accounts, are there any significant risks of asset liquidations in the event of a large-scale transfer of accounts or assets from an asset manager?

5. To what extent do asset managers rely on affiliated or unaffiliated service providers in a concentrated or exclusive manner for any key functions (e.g., asset pricing and valuation, portfolio risk modeling platforms, order management and trade processing, trading, securities lending agent services, and custodial services)? What would be the impact if one or more service providers ceased provision of the service, whether due to financial or operational reasons, or provide the service in a seriously flawed manner? To what extent do potential risks depend upon the type of service provided, whether the provider is affiliated with the asset manager, or whether the service provider is non-U.S. based? What due diligence do firms perform on systems used for asset pricing and valuation and portfolio risk management?

Providers of many services to the asset management industry are more concentrated than the industry itself. We believe that concentration risk management systems are one area of particular concern because if the risk of a particular type of asset were seriously underestimated, that misestimate would be shared across many asset managers. Rating agencies (which are also risk-assessors) are also a concern and there continue to be very few of these for many securities.

6. What operational interconnections exist between the asset manager and the investment vehicles it manages, among investment vehicles managed by the same asset manager or affiliated managers, or between the asset manager and its affiliates? For example, to what extent do asset management firms rely on shared personnel, technology, or services among affiliates? Could any of those interconnections result in operational risk transmission among affiliated investment vehicles or asset managers in the event of a failure and resolution of an affiliate? Do market practices ensure that operational interconnections are sufficiently documented to allow for an orderly continuation of an investment vehicle's operations if the asset manager or affiliated or independent third-party service providers were to declare bankruptcy?

7. What are best practices employed by asset managers to assess and mitigate the operational risks associated with asset management activities performed by service providers, whether affiliated with the asset manager or not, and how common are these practices across the industry? What agreements or other legal assurances are in place to ensure the continued provision of services? What are asset managers' contingency plans to deal with potential failures of service providers, and how might these plans be impacted by market stress?

8. To the extent that any operational risks in the asset management industry present risks to U.S. financial stability, how could these risks to financial stability be mitigated?

Enforced fire drills and stress tests may help asset managers prepare for events and identify areas of weakness that need to be addressed.

Many of the operational risks identified by FSOC occur at the macroscopic level, and an individual firm may not be able to account for such risks. Therefore it is incumbent upon regulators to implement a robust data-gathering system to more comprehensively understand interconnections within the financial system and to develop a deeper understanding of the dynamics underlying these interconnections.

If regulators gain access to real-time data on market movements, they will be able to effectively monitor operational risks, not just deriving from an individual fund but also from one or more service providers. At present many service providers have no reporting requirements, and so the impact that they have on asset managers is not properly accounted for by regulators. If asset managers were required to provide real-time data, regulators could analyze systemic correlations and could investigate whether, for instance, one particularly service provider were the cause of systemic turbulence.

IV. Resolution:

1. What financial interconnections exist between an asset manager and the investment vehicles it manages, between an asset manager and its affiliates, or among investment vehicles managed by the same or affiliated asset managers that could pose obstacles to an orderly resolution? To what extent could such interconnections result in the transmission of risk among asset managers and affiliated investment vehicles? Do market practices ensure that any financial interconnections are sufficiently documented to allow for an orderly continuation of operations if an asset manager, investment vehicle (e.g., private fund), or affiliate were to become insolvent, declare bankruptcy, or announce intent to close?

In theory, each asset manager is a discrete entity and is separate and apart from other managers, and is insulated from the actual vehicle, account or pool that is managed. The reality tells a different story.

Clients utilize asset managers not just because of their intelligence and skill but also because such managers enjoy certain economies of scale that the client may not. (After all, if clients could efficiently invest on their own, there would be no need for asset managers). Such economies of scale are inextricably linked with the expertise that managers provide, and can be observed in a number of industry-wide correlations.

As discussed above, the usage of a small number of service providers (including asset management consultants, ratings agencies, custodians, pricing services, etc.) produces correlative behavior. Financial engineers who price risk often use very similar mathematical models. Similarly, a large number of fund managers use increasingly uniform investing strategies. The prevalence of index-based strategies is testament to that phenomenon. We would also point out that financial professionals often derive their news from the same sources — how many asset managers watch CNBC during the course of the work day, and does that simple fact alone cause herding behavior?

These points attest to the simple fact that the asset management industry suffers from high levels of correlation industry-wide. Those correlation levels are only exacerbated when it comes to the link between affiliates or between funds and their managers. A simple understanding of human nature tells us that a particular asset manager has natural biases to using similar strategies across all of the funds that she manages, even despite her best efforts to hew close to the client's investment objectives.

These high levels of correlation pose risk to orderly resolution. A decline in a particular plan asset may be proliferated to other affiliates, thereby magnifying the impact of such a decline. And no fund manager can, at present, accurately account for the impact of systemic externalities because of the lack of transparency in the fund market.

If regulators were equipped with real-time data on fund activities, they would be able to provide insight into systemic risks, *a priori*, and could help manage the orderly resolution of systemically important institutions.

2. Could the failure of an asset manager or an affiliate provide counterparties with the option to accelerate, terminate, or net derivative or other types of contracts of affiliates or investment vehicles that have not entered insolvency?

Yes, ISDA master agreements allow for such acceleration activities in case of "credit events" that may fall short of outright insolvency.

3. In what ways, if any, could the potential risks associated with liquidity and redemption or leverage discussed in Sections I and II, respectively, impact the resolution of an asset manager or investment vehicle in times of financial stress?

High levels of leverage exacerbate insufficient levels of liquidity. The combination of these factors directly inhibits the ability of asset managers to unwind during times of market stress.

If an asset manager were not leveraged, resolution would be simply a matter of selling plan assets at the market price (or returning them to clients in-kind). But when funds are levered, obligations are in excess of assets, which can complicate (if not preclude) orderly resolution.

Therefore, funds must have sensible restrictions on leveraging and illiquidity, with a view towards facilitating orderly resolution, if required.

4. Are there interconnections that exist between asset managers and other financial market participants that in times of financial stress could transmit risks? For example, are there risks that securities lenders indemnified against borrower default by an asset manager lending agent may terminate their loans if the asset manager were to fail? If so, could those terminations have disruptive consequences if counterparties face an unexpected requirement to return borrowed securities upon early loan terminations?

See above.

5. For asset managers, investment vehicles, or affiliates that operate internationally, in what ways could cross-border resolution complicate an orderly insolvency or resolution in one or more jurisdictions? Do contracts with service providers, such as custodians or prime brokers, allow for assets to be custodied, or sub-custodied, at offshore entities, and what are the implications for resolution?

Extraterritorial custody clearly complicates orderly resolution. The fire-drills and stress tests advocated above would reveal whether a fund suffers from jurisdictional limitations on orderly resolution. Any cross-border complications need to be addressed *before* financial failure, not after.

6. What contingency planning do asset managers undertake to help mitigate risks to clients associated with firm-specific or market-wide stress?

7. To the extent that resolution and liquidation in the asset management industry present risks to U.S. financial stability, how could the risks to financial stability be mitigated?

MF Global failed in 2011 for reasons unrelated to its core business as a Futures Commission Merchant. Nonetheless, a large amount of client assets that were in segregated accounts ended up "missing."[44] Clients were unable to trade for several days, clear confusion about the amount and whereabouts of the missing assets continued for weeks and substantial amounts of client assets were impaired for more than two years. This did not result in risks to financial stability because, while MF Global was a large FCM, a) the assets involved were very small compared to asset managers, b) the failure occurred during relatively calm times, and c) the CME group stepped in to provide support. Nonetheless, the clients who withdrew their money from their account before the failure were far better off than those who waited.

If there were rumors of a potential failure of a large asset manager, investors would sensibly pull their money out before the failure occurred rather than risk loss or impairment of assets. This is true even though, in theory, SIPC insurance or additional private insurance could protect clients. And, an actual failure of a manager during a crisis would likely engender panic and large scale withdrawals from funds and SMAs of other managers, especially if transfer of accounts from the failed manager did not go smoothly or there were questions about whether client assets were intact.

The best way to mitigate the risks to financial stability would be to avoid the need for liquidation and resolution of funds in the first place. To that end, regulators should consider imposing bank-like capital requirements and other prudential restrictions on managers' activities. Moreover, regulators should mandate the submission of real-time data so that they can effectively monitor systemic risk.

8. What data currently are available or should be collected to monitor activities that may affect a resolution?

The fund management industry suffers from a vexing lack of transparency. While some data may be gleaned from mutual fund disclosures, call reports at bank-managed funds, and Form PF submissions by private funds, the data from these sources is far from real-time. And regulators have zero visibility into nearly $20 trillion in separate accounts (despite the systemic momentum that these accounts bear upon the broader markets). In an economy where the entire stock market can plummet in the span of a few milliseconds, as seen in the recent Flash Crash, it is essential that regulators gain access to real-time data on market movements. Such data must be particularized as much as possible.

U.S. regulators have the technological capability to monitor all fund transactions on a real-time basis. The establishment of such a system would clearly be expensive and politically unpopular. But absent such a system regulators can only take middling half-steps towards monitoring systemic risk.

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[44] James B. Stewart, *A Loophole Big Enough to Lose a Billion,* N.Y. Times, June 22, 2012, http://www.nytimes.com/2012/06/23/business/mf-globals-billion-dollar-loophole-common-sense.html.

If such a system were in place, regulators would be enabled to understand which pools of capital could best absorb risk during crises. They would also have a better sense of how stressed the market is becoming, *a priori*, and when it might be approaching a breaking point.