



MANAGED FUNDS
ASSOCIATION



September 21, 2016

By email to fsb@fsb.org

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

Re: MFA and AIMA Comments on FSB Consultation – Proposed Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities

Dear Sir or Madam:

Managed Funds Association (“MFA”)¹ and the Alternative Investment Management Association (“AIMA”)² welcome the opportunity to respond to the Financial Stability Board’s (“FSB”) consultative document -- Proposed Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities (the “Consultation Paper”). Our answers to the questions are set out in the Annex to this letter. Please note that we have only responded to certain questions in the Consultation Paper.

¹ The Managed Funds Association (MFA) represents the global alternative investment industry and its investors by advocating for sound industry practices and public policies that foster efficient, transparent, and fair capital markets. MFA, based in Washington, DC, is an advocacy, education, and communications organization established to enable hedge fund and managed futures firms in the alternative investment industry to participate in public policy discourse, share best practices and learn from peers, and communicate the industry’s contributions to the global economy. MFA members help pension plans, university endowments, charitable organizations, qualified individuals and other institutional investors to diversify their investments, manage risk, and generate attractive returns. MFA has cultivated a global membership and actively engages with regulators and policy makers in Asia, Europe, North and South America, and many other regions where MFA members are market participants.

² Founded in 1990, the Alternative Investment Management Association (AIMA) represents the global hedge fund industry. Our membership is corporate and comprises over 1,600 firms (with over 10,000 individual contacts) in more than 50 countries. Members include hedge fund managers, fund of hedge funds managers, prime brokers, legal and accounting firms, investors, fund administrators and independent fund directors. AIMA’s manager members collectively manage more than \$1.5 trillion in assets. See www.aima.org.

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In general, we appreciate and support the FSB's decision to focus on asset management activities rather than designation of asset managers with respect to its consideration of systemic risk regulation. We also encourage the FSB to work with the International Organization of Securities Commissions ("IOSCO") in developing and implementing any recommendations, given that IOSCO and its members have long-standing and primary regulatory responsibilities for the firms and activities covered by the Consultation Paper. In addition, we support the FSB's suggested end-of-2018 timeline for developing final recommendations and implementation steps, which we believe will help facilitate a thoughtful approach to the issues considered in the Consultation Paper.

MFA and AIMA appreciate the opportunity to comment on the Consultation Paper. If you have any questions regarding any of these comments, or if we can provide further information with respect to these or other regulatory issues, please do not hesitate to contact Benjamin Allensworth or Stuart Kaswell at (202) 730-2600 or Jennifer Wood or Jiří Król at +44 20 7822 8380.

Respectfully submitted,

/s/

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/s/

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

For the reasons discussed in more detail in the responses below, we believe that, as part of this review, it is important for the FSB and others to consider the cumulative impact of the many regulatory actions that have been taken since the financial crisis to mitigate risks, particularly with respect to hedge funds, their activities, and their counterparty relationships, to determine whether any regulatory or information gaps remain. It is important that the FSB ensure that any consideration of new rules takes into account the existing regulatory framework and that any consideration of new rules is based on analysis of a comprehensive risk framework, supported by adequate data collection and assessment, and not make decisions before such analysis is complete. While additional data may be helpful in conducting this analysis, given the size, structure, and risk management practices of the hedge fund industry as well as the comprehensive regulatory framework that they are subject to, we believe it is unlikely that there are systemic risks arising from hedge fund activities, such that additional rules will be necessary. We recognize, of course, that the FSB and national systemic risk regulators must work through their own processes to determine whether any regulatory gaps exist, and we look forward to continuing to engage constructively with the FSB and national regulators as part of their processes.

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

The activities of asset managers are subject to a wide range of regulations that serve to mitigate risks, including systemic risks, associated with those activities. Since the financial crisis, very significant regulatory changes have been implemented with respect to hedge fund managers and their counterparties, and market practices have fundamentally changed the way hedge funds invest and manage portfolio risk. New and revised regulations (such as mandatory OTC derivatives clearing and margin requirements) are applicable to hedge fund managers and to their counterparties and service providers, including banks, broker-dealers, swap dealers and central clearing counterparties. Any assessment of the hedge fund industry and the activities of hedge funds must account for these regulatory and market practice changes in order to analyze properly whether there remain potential sources of systemic risk. Set out below is a discussion of some of the key regulations adopted in the U.S. under the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") and key EU directives and regulations.

Large hedge fund managers³ with a U.S. nexus are now directly supervised by either the U.S. Securities and Exchange Commission (“SEC”) or the U.S. Commodity Futures Trading Commission (“CFTC”) and, in many cases, by both the SEC and CFTC. Similarly, EU hedge fund managers, many of whom are also registered in the U.S., are now subject to increased regulatory scrutiny following the entry into force of the Alternative Investment Fund Managers Directive (“AIFMD”).

As a result of these regulations, the industry has become considerably more transparent to regulators since the financial crisis. Hedge fund managers regulated in the U.S. not only provide detailed information in Form PF about the investment portfolios they manage, the counterparties, their derivatives activities, and other sources of leverage, directly to two primary regulators, the SEC and the CFTC, but those reports are also available to the Financial Stability Oversight Council (“FSOC”) and the Office of Financial Research (“OFR”).⁴ The Dodd-Frank Act further permits the FSOC to obtain “all reports, records, and information” filed with or provided to the SEC by an investment adviser that the FSOC may “consider necessary for the purpose of assessing the systemic risk posed by a private fund.”⁵ The Dodd-Frank Act generally requires all hedge fund managers with a U.S. nexus that have \$150 million or more in assets under management to register with the SEC as investment advisers, submit publicly available Form ADV filings,⁶ and be subject to regular inspections, and hedge fund managers with at least \$1.5 billion in assets under management to comply with substantial non-public SEC regulatory reporting requirements. The CFTC requires a broad swath of the industry also to register as commodity trading advisors or commodity pool operators and report extensive information to the CFTC, if they use more than a *de minimis* amount of derivatives (*e.g.*, futures or swaps) in their investment strategies.

Private fund managers are subject to similar authorization and reporting requirements in the EU under the AIFMD. For example, all alternative investment fund managers (“AIFMs”) who manage or market alternative investment funds (“AIFs”) in the EU are required to regularly submit reports, including the Annex IV report to the national competent authorities of the relevant EU Member State(s) with information on the main instruments in which they are trading and on the principal exposures and most important

³ We use the terms “large hedge fund” and “large hedge fund manager” throughout this letter to refer generally to hedge funds with at least \$1 billion in AUM and their managers. The Preqin database indicates that firms with over \$1 billion in AUM manage over 88% of hedge fund assets. *See Preqin: Billion-Dollar Club Grows by 98 in 2015, Controls 88% of Industry AUM*, FINALTERNAIVES, available at: <http://www.finalternatives.com/node/33160>.

⁴ We note that the OFR has used information reported in Form PF filings in analyses discussed in the OFR’s annual reports.

⁵ Dodd-Frank Act § 404.

⁶ All SEC-registered investment advisers must submit Form ADV to the SEC. We note that the SEC recently amended its Form ADV rules to require additional information, including significant new reporting requirements about separately managed accounts, available at: <https://www.sec.gov/rules/final/2016/ia-4509.pdf>.

concentrations of the AIFs that they manage in order to enable the competent authorities to monitor systemic risk effectively.⁷

Required reports provide regulators with ample information to analyze and inform their view of the industry.⁸ Filings on Form PF, Form CPO-PQR, and Annex IV reports under the AIFMD allow regulators to collect a myriad of firm-specific information from investment advisers, including information about their use of derivatives and borrowings and their key service providers and counterparties. These forms also allow regulators to monitor fund holdings and strategies in depth, to review each fund's asset/liability and liquidity matching, to analyze the outcome of stress tests, to see detailed counterparty exposure at both the fund and industry level and to evaluate funds' susceptibility to market shocks. We encourage regulators to further harmonize the various reporting obligations, which we believe will further enhance their ability to compare and analyze the information they gather from hedge fund managers. Similarly, eliminating duplicative reporting requirements and eliminating reporting requirements with respect to data that regulators do not use for oversight purposes would allow regulators to better focus their resources on monitoring and analysing data that is relevant to their oversight responsibilities and the effective monitoring of systemic risk.

Given the increasing cyber and data security threats that regulators and market participants alike must respond to, it is important for data protection and security to remain a top priority for regulators, particularly in light of the need to review, update, and upgrade data security processes and systems regularly. As such, we believe it is important for the FSB and IOSCO to work with national regulators to ensure the protection of confidential data they collect, and to ensure that those protections remain in place as regulators share information with each other.

In addition to the direct registration and regulation of hedge fund managers, hedge funds are subject to a wide variety of regulations with respect to their activities and with respect to their relationships with bank and prime broker counterparties. Some of those key regulations are summarized below.

Mandatory central clearing of OTC derivatives and margin requirements:
Sufficiently standardized and liquid OTC derivative transactions have been and will continue to become subject to mandatory clearing obligations as clearing determinations are made by regulators globally. According to the International Swaps and Derivatives Association's ("ISDA") SwapsInfo Second Quarter 2016 Review,⁹ approximately 84% of the daily notional volume of all interest rate swaps were cleared in the second quarter of 2016¹⁰ and

⁷ See Articles 3(3)(d), Article 24 and Articles 36(1)(a) and 42(1)(a) of the AIFMD.

⁸ We note that many managers from outside the EU and the U.S. will be required to report on one of these forms regardless of their location if they are marketing to investors in the U.S. or the EU. As such, most of the industry will be subject to reporting requirements on one or more of the above forms.

⁹ August 16, 2016, available at: <https://www2.isda.org/functional-areas/research/research-notes>.

¹⁰ See page 7 of the ISDA Review.

81% of the notional volume of credit default index swaps were cleared in the second quarter,¹¹ showing the progress in two of the largest, most liquid swap markets. Rules for cleared derivatives include robust margin requirements, though we note that most hedge funds already post initial margin for their derivatives and exchange variation margin on the daily mark-to-market value of their contracts. We believe that central clearing plays an essential role in reducing systemic, operational and counterparty risk, and thus, believe that mandatory clearing and gathering of data by swap data repositories offer increased regulatory and market efficiencies, greater market transparency and competition.

Margin requirements for non-centrally cleared derivatives: As noted above, it is the case that most hedge funds already post margin for their uncleared derivatives and exchange variation margin on a daily basis, and this will soon become mandatory for all large asset managers. In addition to mandatory clearing, global derivatives rules also provide for strict risk-mitigation requirements for non-cleared trades. Under the final framework set out by the BCBS and IOSCO (BCBS-IOSCO), all non-centrally cleared derivatives, excluding physically settled foreign exchange forwards and swaps, between financial firms or systemically important non-financial entities, will be required to exchange initial margin, subject to a threshold amount of €50 million, and variation margin, subject to a *de minimis* amount of €500,000. Assets exchanged for such purposes should be highly liquid, reasonably diversified and able to hold their value and remain liquid in a time of financial stress. National implementation is scheduled for early 2017 in the EU and the U.S., and thereafter in key Asian markets, and it is highly likely that such jurisdictions will follow the BCBS-IOSCO final framework very closely.

Mark to market, trade confirmation, relationship documentation, valuation procedures, portfolio reconciliation and compression in respect of all non-centrally cleared derivatives transactions: Under current U.S. and EU rules, entities must satisfy requirements relating to the timely confirmation of trades and the periodic reconciliation and compression of portfolios. In the U.S., entities are required have in place agreed processes for daily valuation of swaps for the purposes of regulatory margin and risk management and trading relationship documentation, such as relevant master agreements, with all counterparties, prior to transacting. In Europe, entities will be required to mark-to-market outstanding non-cleared derivatives contracts on a daily basis, consistent with current common market practices for hedge funds and their counterparties.

Reporting of OTC derivatives transactions to trade repositories: Under current U.S. and E.U. rules, entities must report details of OTC derivatives transactions to an authorized trade repository on a T+1 basis, providing regulators with more comprehensive data on cleared and uncleared OTC derivatives activity and enabling them to intervene if they identify exposures that could contribute to systemic risk.

Reporting on repurchase and securities lending transactions: Certain market activities relevant to hedge funds, such as repurchase agreement transactions and securities

¹¹ See ISDA review, page 16.

lending, will also become subject to specific reporting requirements in the EU,¹² with other regulators globally considering similar requirements. We support regulators' efforts to collect more market-wide information in these areas, as they determine necessary to ensure effective regulatory oversight. Similarly, existing and pending rules requiring transaction reporting, short sale reporting, large position reporting, and creating a consolidated audit trail all provide regulators with significant information to conduct oversight of the activities of hedge fund managers and other market participants.

Increased capital requirements for banks: The G20 Declaration in 2009 on Strengthening of the Financial System called for internationally consistent efforts designed, among other things, to improve the quantity and quality of capital in the banking system. In December 2010, the Basel Committee on Banking Supervision ("BCBS") published final measures on strengthening the regulation of the banking sector, known as the Basel III framework. Basel III requirements include provisions to improve the quality and volume of equity capital, including a countercyclical capital buffer and additional capital buffers for systemically important financial institutions ("SIFIs"). Risk weightings for certain assets, such as securitized collateral or assets with exposure to major financial institutions, as well as liquidity risk management and leverage are also dealt with. Measures stemming from Basel III, including the Net Stable Funding Ratio, the leverage ratio, and strengthened counterparty credit risk requirements, are already having a contractionary effect on the credit hedge funds have been able to get from banking entities.

In addition, changes in market regulations, such as circuit breakers and enhanced short sale rules in the equities markets, together with enhanced oversight of technology preparedness from rules such as the SEC's Regulation SCI, have diminished the risk of significant disruption in the event of a failure in market infrastructure.

These regulations, both direct and indirect, including the reforms implemented under the Dodd-Frank Act, EMIR, MiFID, AIFMD, and other post-crisis reforms, as well as those undertaken in Asia, have had a substantial impact on hedge funds and their managers because banks, broker-dealers, swap dealers and other hedge fund counterparties have changed their business practices in order to comply with the new rules. MFA and AIMA have supported many of these new initiatives and constructively engaged in the related rulemaking process.

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

¹² Regulation (EU) 2015/2365 on transparency of securities financing transactions and of reuse, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2015_337_R_0001&from=EN.

As discussed above in response to question 2, policy makers and regulators have enacted a significant number of regulatory reforms since the financial crisis, and a number of these reforms have yet to be finalized or fully implemented. Policy makers also have not had adequate opportunity yet to review and determine the positive, negative, and unintended consequences of these rules, many of which have created overlapping requirements for market participants. Regulators also continue to work to address cross-jurisdictional concerns that have arisen with respect to a number of regulatory reforms. We encourage regulators to finalize those pending projects and assess their impact before determining whether there are remaining gaps in regulatory oversight that require additional rulemaking. As part of this process, we encourage regulators to continue to better harmonize reporting requirements, given the importance of quality data in determining what regulatory gaps, if any, remain.

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

We believe that the proposed recommendations are most relevant for open-ended investment funds that are subject to requirements regarding investor redemption rights, for example, registered investment companies subject to Section 22(e) of the Investment Company Act of 1940, or funds subject to the redemption requirements of the UCITS Directive, such as Article 76 Article 84 of the UCITS Directive.¹³ We do not believe that the recommendations are appropriate for private funds, which are not subject to similar regulatory requirements on redemptions.

Private funds structure investors' redemption rights in light of the strategy and liquidity of their portfolios and use a variety of liquidity risk management tools to manage and mitigate liquidity risk.¹⁴ It is critical, therefore, for managers to investment funds to have sufficient flexibility to tailor their liquidity risk management approaches to their strategies, assets, investor redemption rights, and financing arrangements. Importantly, private funds are not subject to regulations requiring prompt redemption and generally limit investor redemption rights to specific points in time, with advance notice requirements. These measures support a more stable capital profile than an open-end fund structure that has daily redemptions.

¹³ Article 76 requires a UCITS to publish the redemption price of its units each time it redeems them, and at least twice a month, and Article 84 requires a UCITS to repurchase or redeem its units at the request of any unit-holder. Section 22(e) of the Investment Company Act requires open-ended mutual funds to redeem within seven days of an investor's request.

¹⁴ MFA's March 2015 letter to the Financial Stability Oversight Council, *available at*: https://www.managedfunds.org/wp-content/uploads/2015/03/MFA_Response_to_Dec_2014_FSOC_Notice1.pdf, discussed in detail the key characteristics of the hedge fund industry, the risk management tools used by hedge fund managers, and the regulatory regime applicable to the hedge fund industry.

Private funds, such as hedge funds, use a broad array of contractual tools to manage capital outflows, including:

Limited investor redemption rights: Hedge funds have established redemption periods, sometimes monthly, and more often quarterly, annually, or even less frequently, depending on the fund's investment strategy.

Lock-up periods: Hedge funds also often limit investors' ability to withdraw some or all of their investments for periods of time after their initial investment. For example, a fund that normally allows for quarterly redemptions may institute an initial one-year lock-up period during which investors are not able to redeem their interests.

Advance notice requirements: Hedge funds require investors to notify the fund manager of their desire to redeem a specified number of days (usually 30 to 90 days) prior to the requested withdrawal date. Advance notice provides managers time to prepare to meet redemption requests.

Fees for early redemptions: Some funds provide investors with the ability to redeem earlier if they pay an early redemption fee. That fee not only deters investors from making premature redemptions, but, as it is often returned to the fund, not the manager, also serves to defray any costs associated with the sale of assets for the benefit of the remaining investors.

Side pockets: Hedge funds' contracts may also allow managers to establish side pockets to hold investments that are illiquid or difficult to value. Side pockets have more restrictive redemption provisions than their associated main funds, and redemptions from side pocket vehicles are generally only allowed when realizations occur.

Gates: If redemption requests in a given redemption period exceed a certain specified threshold (*e.g.*, 10% of assets), a fund may have a so-called "gating" mechanism that limits redemptions beyond the threshold level. In subsequent periods, the gate can be triggered again until all redemption requests can be met or the fund is wound down. Although the precise terms of gates can vary from fund to fund, common types of gates include fund-level gates, which limit the percentage of assets a fund is obligated to redeem on any given redemption date, and investor-level gates, which are applied on an investor-by-investor basis and limit the amount any one investor can redeem at a time (*e.g.*, 25% of its investment per quarter). These gates are clearly stated in investor subscription agreements, and it was not uncommon for funds to apply gates during the global financial crisis.

Limited suspensions of redemptions: Fund agreements often permit the general partner or board of a fund to suspend redemptions during the course of unusual events (*e.g.*, a significant market disruption such as severe market-wide liquidity issues or market dislocations) at the manager's discretion. This kind of provision is used infrequently in practice but provides another tool to manage acute liquidity issues that can arise during periods of severe market stress.

Redemptions in-kind: Fund agreements often permit redemptions in-kind. If a fund does not have enough cash on hand to meet redemptions in cash or believes that redeeming in-kind is in the best interest of all fund investors (*e.g.*, to avoid selling assets at depressed prices to the detriment of redeeming and remaining investors), the manager may distribute the assets held by the fund to redeeming investors on a *pro rata* basis. We note that this is extremely rare in practice, as the other liquidity mechanisms discussed above are usually more than sufficient to allow the manager to ensure that any outflows are orderly.

Although hedge funds, to various degrees, have implemented the tools described above to address liquidity risks related to investor redemptions, managers generally avoid using tools such as side pockets, suspensions of redemptions or redemptions in-kind unless, pursuant to their fiduciary obligations, the fund's interests as a whole would be better protected. In fact, private fund managers are obligated to make decisions with respect to redemptions that are in the best interests of their clients.

Hedge funds also use a variety of tools to monitor and manage financing risks.¹⁵ The hedge fund industry has exhibited consistent and modest use of leverage over time, as exhibited in the SEC's reporting on Form PF submissions and the UK Financial Conduct Authority ("FCA") hedge fund surveys.¹⁶ Data from Form PF submissions also shows that funds that hold illiquid or hard to value assets generally utilize less leverage than funds that hold more liquid assets.¹⁷ In addition, the SEC, OFR, and FCA have shown that hedge funds rely much more on secured than unsecured borrowings.¹⁸ Secured borrowing

¹⁵ See MFA, SOUND PRACTICES FOR HEDGE FUND MANAGERS (ed. 2009), available at: https://www.managedfunds.org/wp-content/uploads/2011/06/Final_2009_complete.pdf, see also, ASSET MANAGER'S COMM., PRESIDENT'S WORKING GRP. ON FIN. MKTS., BEST PRACTICES FOR HEDGE FUND MANAGERS (Jan. 2009), available at: <http://www.cftc.gov/ucm/groups/public/@swaps/documents/file/bestpractices.pdf>.

¹⁶ See for example, the FCA's HEDGE FUND SURVEY 2015, available at: <http://www.fca.org.uk/static/documents/hedge-fund-survey.pdf>.

¹⁷ See 2013 OFR Annual Report stating that "funds with larger leverage ratios may be choosing assets that are relatively easier to dispose of during a crisis." More specifically, the 2013 OFR Annual Report explored the relationship between a hedge fund's leverage and the portion of its assets that are less liquid by sorting hedge funds into five categories, with the first category containing funds that reported zero leverage on Form PF and the other four categories containing the remaining funds, broken into quartiles. The OFR report showed: "Hard-to-value assets represent a little more than 20 percent of the assets of funds with no leverage. For the category of funds with the highest leverage . . . the corresponding fraction was less than 5 percent." OFR report at 94 (citations omitted).

¹⁸ See for example, the FCA's statement that "[o]ur survey highlights that, by far, the largest proportion of total leverage used by hedge funds in the UK is acquired using derivatives, and that any unsecured financial leverage in aggregate appears minimal", at page 5 of the FCA's Hedge Fund Survey 2015 and that "[t]he predominant approach is towards secured and collateralised borrowing, with less than 10% of funds using unsecured borrowing", at page 6 of the FCA's Hedge Fund Survey 2015. See also, OFR's 2015 Financial Stability Report, Figure 2-41 (page 38), available at: https://financialresearch.gov/financial-stability-reports/files/OFR_2015-Financial-Stability-Report_12-15-2015.pdf, and SEC DIVISION OF INVESTMENT MANAGEMENT STAFF REPORT, PRIVATE FUND STATISTICS, FOURTH QUARTER 2015 ("SEC Private Fund Report"), Table 33 (page 27), available at: <https://www.sec.gov/divisions/investment/private-funds-statistics/private-funds-statistics-2015-q4.pdf>.

structures, pursuant to which borrowers pledge assets to lenders on a mark-to-market basis, reduce lender credit risk. Discussed below is a summary of some of the hedge fund industry's most prominent funding risk management practices.

Asset liquidity assessments: Managers often assess asset liquidity on an ongoing basis, taking into account key asset characteristics such as instrument type, historical trading volume, bid-ask spreads, etc. This work helps them understand their ability to liquidate assets when necessary to reduce risk or meet redemption requests.

Balanced term structure: Hedge funds manage the term structure of their credit arrangements in light of their investor profiles, including contractual restrictions on redemptions, as well as the liquidity of their assets. Hedge funds frequently negotiate for term financing and, since the financial crisis, have extended the duration of their borrowing arrangements to provide greater funding stability.¹⁹

Collateral requirements: Hedge fund borrowing is generally collateralized on a daily mark-to-market basis. Daily variation margin requirements, which require each of the counterparties to post margin if its position begins to lose money, considerably reduce the risk of a sizeable, destabilizing margin call at any point in time. Providing collateral to lenders also increases the likelihood that financing will be provided on an ongoing basis, since lenders take less counterparty credit risk under secured funding structures than if they were to lend on an unsecured basis.

Counterparty diversification: Hedge funds seek to diversify their financing relationships to ensure ongoing availability of funds. They also conduct diligence on their counterparties to understand their risk management practices and assess the risk of counterparty default. Counterparty exposures are disclosed to regulators in Form PF, Form CPO-PQR, Form CTA-PR, and Annex IV reports.

Customer asset protection: Funds benefit from customer protection rules, and we have advocated for additional rules that would further buttress protection of customer collateral and margin, even in the event of a counterparty default. The MFA and AIMA have also advocated for increased access for buy-side market participants to central clearing facilities.

Cash buffers: One key element of a hedge fund manager's risk management program is maintaining an appropriate cash buffer that is designed to enable the fund to meet margin calls and investor redemption requests without having to sell assets. Hedge funds typically set aside significant cash reserves to meet margin calls and regularly scenario test their cash buffers to confirm that they will be able to meet margin calls in periods of market stress. Cash buffers are carefully calibrated to reflect possible market risk and asset price volatility that might affect margin payments.

¹⁹ This is supported, for example, by the former Financial Services Authority's (now the FCA) studies on the hedge fund industry which found that the assets of the surveyed hedge funds could be liquidated in a shorter timeframe than the period after which their liabilities (to investors and finance providers) would become due. *See, e.g.,* FSA, ASSESSING POSSIBLE SOURCES OF SYSTEMIC RISK FROM HEDGE FUNDS 8 (July 2010), available at: http://www.fsa.gov.uk/pubs/other/hf_report.pdf.

Back-up credit facilities: A small number of hedge funds enter into back-up credit agreements that provide liquidity on an as-needed basis. These funds can be used to meet redemption requests, fund margin requirements or for other purposes.

Stress tests: Many hedge funds run periodic liquidity stress tests on their funds' assets and liabilities. Managers consider a range of possible scenarios as part of their testing, including, for example: what would happen if certain categories of financing dry up or lenders pull back on the amount of leverage they are willing to offer? These tests do not deliver pass/fail results, but ensure awareness of key liquidity factors and highlight potential risks. Managers also monitor liquidity risk metrics, such as the ratio of available cash to the amount of financing or the levels of margin and risk of demand for additional margin. These approaches help managers develop an understanding of risks and potential mitigating actions.

As noted above, private fund managers of larger funds report information in Form PF filings that allows the SEC, the OFR and the FSOC to monitor fund liquidity, taking into account asset liquidity profiles as well as investor redemption rights.²⁰ Private fund managers report similar information to national regulators in the EU under the AIFMD on Annex IV reports. This transparency allows regulators to confirm that the protections that we describe above are in place. According to the SEC, data collected on Form PF reflected that funds expected to be able to liquidate more than 50% of their assets within seven days, and more than 80% within 90 days,²¹ suggesting that the liquidity terms commonly used in hedge fund structures are well matched to the assets in the funds.²² It is also important to note that private fund investors, who are generally sophisticated investors, as well as their third-party consultants, also monitor these issues diligently.²³ Private fund investors understand that

²⁰ The Commodity Futures Trading Commission collects similar information from commodity pool operators and commodity trading advisors in its Form CPO-PQR and Form CTA-PR, respectively.

²¹ See Form PF Questions 32, 46, 48, 49, 50, 63, 64. The SEC has analyzed hedge fund liquidity information collected on Form PF in the past. The SEC staff has compiled the following chart showing the percent of aggregated qualifying hedge funds reported on Form PF portfolios capable of being liquidated within certain time periods. SEC Private Fund Report, at Table 31, page 26 (July 2016).

Percent of Aggregate Net Asset Value 2015Q4	Time Period
30.0%	1 day or less
57.5%	7 days or less
73.2%	30 days or less
81.1%	90 days or less
85.2%	180 days or less
88.9%	365 days or less

²² See also, the FCA's Hedge Fund Survey 2015, which found that "in normal market conditions more than 60% of the aggregate hedge fund assets can be liquidated within a week."

²³ See, e.g., Deutsche Bank Global Prime Finance, *Third Annual Operational Due Diligence Survey*, at 21, 49 (Summer 2014), available at: <https://www.managedfunds.org/wp-content/uploads/2014/07/Third-Annual-Deutsche-Bank-Operational-Due-Diligence-Survey-Summer-2014.pdf> (citing that 73% of investor due diligence teams ranked fund compliance and regulatory framework as one of their top areas of focus, more than any other area,

their ability to redeem funds may be limited and generally do not view these investments as short-term sources of cash.²⁴

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

We believe that the liquidity risk management tools and approaches described in response to question 4 above are well-suited to the broad array of asset classes that private funds hold. These practices help mitigate liquidity risks across the private fund industry and therefore benefit the system as a whole. We note that these tools and practices also have been developed to protect investors. As regulators consider how these risk management tools can help mitigate potential systemic risk concerns, it is important that they consider their investor protection implications as well to ensure that those benefits are not lost.

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

Private fund managers are required to assess portfolio liquidity when completing Form PF in the U.S. and when completing Annex IV reporting under the AIFMD in the EU. These reporting forms provide appropriate flexibility in the metrics or characteristics managers must consider in making that assessment. We believe that flexibility is important in determining the liquidity of an asset, both individually and in the context of the entire portfolio, as prescriptive metrics may not be well suited to determining an asset's liquidity or illiquidity in all situations. It also is important for regulators to consider that any metric used to determine the liquidity of an asset may not be of significant importance when compared to other factors a manager considers when it is determining the appropriate risk management framework for its entire portfolio.

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

and that 95% of investors plan to review a fund's Form ADV as part of their pre-investment and ongoing due diligence). See also generally AIMA, *In Concert – Exploring the alignment of interests between hedge fund managers and investors* (2016), available at: <https://www.aima.org/en/document-summary/index.cfm/docid/85FCC93E-D908-4B71-89DD763CDF7F88AF>.

²⁴ Despite the fact that their investors are sophisticated and are unlikely to withdraw their funds on a whim, hedge funds did face significant redemptions during the financial crisis in 2008. See International Financial Services London, *Hedge Funds 2009*, at 1 (Apr. 2009), available at: <http://www.finalternatives.com/node/7511> (“Hedge funds returned 13.2% of investors' assets in 2008. . . . This is only the second time over the past two decades that the industry has suffered an annual net outflow of funds.”). Importantly, however, these net outflows did not have any systemic effect on the wider financial system. Rather, hedge funds were able to manage redemption requests by using their contractual tools, such as gates and suspensions. Those funds that were unable to meet their redemptions requests uneventfully liquidated or merged into other funds.

should be mandatory and which should be discretionary. Please explain the rationales.

Unlike banks, neither asset managers nor their investment funds have access to central bank borrowing facilities. Fund managers understand the dire consequences of failing to appropriately manage liquidity risk and invest significant time and effort into ensuring that their liability profiles are appropriate given their asset mix.

We believe that it is critical for all managers to investment funds, private and registered alike, to tailor their liquidity risk management approaches to their strategies and assets. For example, the manager to a fund trading large-cap, listed equities will need to address different risks than a manager to fund that trades illiquid credit instruments. As such, we believe that a prescriptive and potentially overly precise ‘one-size fits all’ approach to liquidity risk management and reporting, even with respect to rules that are limited to open-ended funds such as US mutual funds or UCITS funds, would not enhance risk management. In fact, we believe that such an approach could give rise to unintended consequences for markets by creating procyclical forces that push asset managers into herd-like behavior. Accordingly, we encourage the FSB to ensure that its final recommendations provide sufficient flexibility to asset managers in designing and implementing their liquidity risk management programs.

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

As noted in response to question 7 above, we believe that asset managers need flexibility to implement liquidity risk management tools in light of the facts and circumstances relevant to their investment funds. As such, we do not believe that regulators should require managers to use specific risk management tools or mandate the circumstances in which a manager must use a particular tool or tools.

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

As an initial matter, we believe it is important for the FSB to re-examine certain of its underlying assumptions regarding leverage and the potential for increased risks associated with the use of leverage. We are concerned that the FSB appears to base its analysis of potential risks associated with investment funds that use leverage on flawed assumptions.

First, on pages 5 and 6 of the Consultation Paper, the FSB states that the use of leverage appears to be concentrated among a small number of large hedge funds. This statement cites the FCA’s 2015 Hedge Fund Survey, which uses gross notional exposure (“GNE”) to calculate leverage. FSOC, in its April 2016 report on asset management activities makes a similar statement, though it also used GNE data, as reported on Form PF,

to reach that conclusion.²⁵ As discussed in more detail in response to question 12 below, we believe that GNE is a flawed metric which we believe does not accurately reflect leverage or risk. Some of the flaws associated with GNE as a measure of leverage are noted not only in the FCA's survey, but also by the FSOC in its April 2016 report on asset management products and activities²⁶ and the OFR's 2015 Financial Stability Report.²⁷

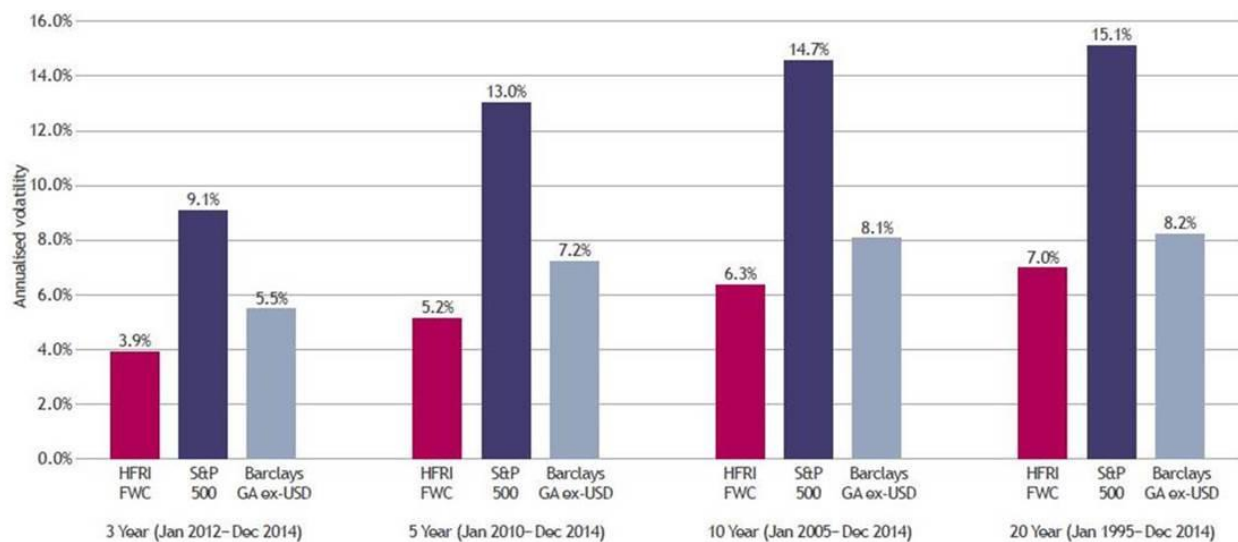
The Consultation Paper also states that leveraged funds are more sensitive to changes in asset prices.²⁸ As demonstrated in the chart below, hedge funds (which includes leveraged hedge funds) have had less volatility the broader financial markets, either equities (represented by the S&P 500) or global bonds (represented by Barclays Global Aggregate ex-USD > \$1B: Corporate Bond Index). As such, we do not believe it is accurate to assume that leveraged hedge funds are more sensitive in changes in asset prices. Indeed, many hedge funds use leverage to reduce sensitivity to asset prices and other market risks.

²⁵ See FSOC Update on Review of Asset Management Products and Activities, page 17 (April 2016), available at: <https://www.treasury.gov/initiatives/fsoc/news/Documents/FSOC%20Update%20on%20Review%20of%20Asset%20Management%20Products%20and%20Activities.pdf>.

²⁶ See FSOC Update on Review of Asset Management Products and Activities, page 16, (“[GNE] incorporates financial and synthetic leverage, but has limitations. First, the summing of long and short positions ignores favorable effects of hedging or offsetting positions, which may reduce risk. A related shortcoming is that it treats all notional derivative values equally when calculating leverage levels, so it does not capture differences in risk exposure across different classes of derivatives.”)

²⁷ See OFR's 2015 Financial Stability Report, page 38 (“One shortcoming of both GNE and aggregate derivative metrics is that they do not differentiate between different types of derivatives, making it difficult to identify a hedge fund's portfolio risks by position type or notional size. For example, the notional values of a credit default swap and an interest rate swap do not pose equivalent risk. GNE also does not account for netted positions, because it is based on summed absolute long and short values.”).

²⁸ Consultation Paper, page 22.



Source: AIMA research

A third assumption contained in the Consultation Paper is that “investors may be more inclined to redeem from leveraged funds that experience stress because these funds may be perceived to be riskier than unleveraged funds.”²⁹ Hedge fund investors are sophisticated investors who conduct significant due diligence before investing in a fund to ensure that the fund’s investment strategy (including the use of leverage) and risk-return profile are consistent with the exposure that investor is seeking. Further, as discussed above, sophisticated investors understand that a hedge fund’s use of leverage may reduce, rather than increase risk, and also understand that leverage must be considered in context with other factors, such as the liquidity of the fund’s portfolio. As such, we do not believe that sophisticated investors are more likely to redeem from a leveraged fund than an unleveraged fund.

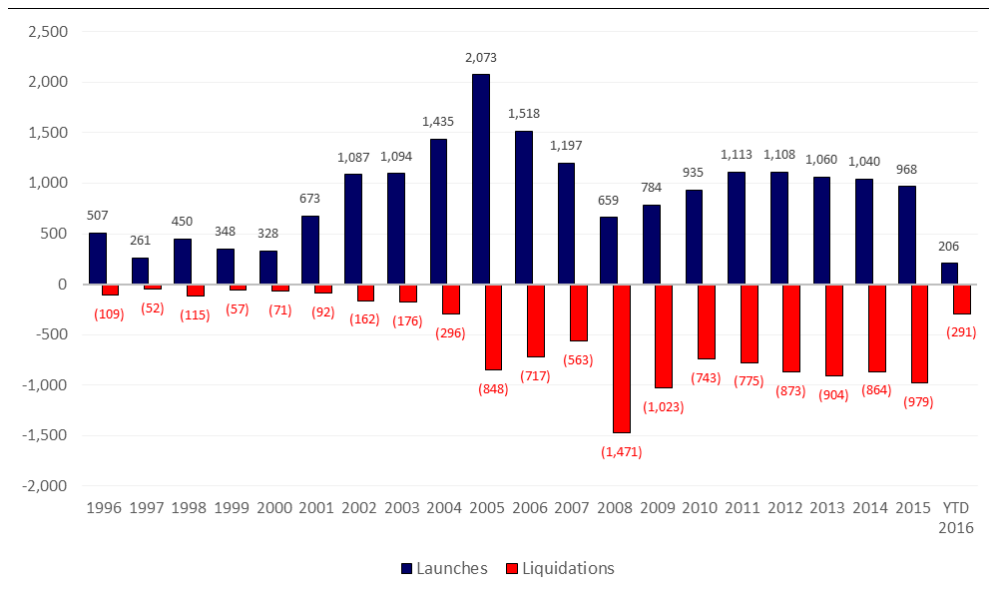
We believe the flaws in the assumptions discussed above highlight the importance of the FSB and other regulators analyzing systemic risk by identifying a risk framework that considers leverage in connection with other factors that could lead to systemic risk, rather than focusing solely on leverage. Regulatory focus on GNE, for example, creates an incentive for asset managers to limit or reduce their GNE, even in circumstances when a fund’s use of leverage reduces its risk, because the leverage increases its GNE. As noted by the FSOC, “Evaluating risks from the use of leverage by hedge funds requires an analysis of other factors, which could include the nature of investment positions, trading and hedging strategies, financing arrangements, counterparties, margin requirements, and the effects of central clearing.”³⁰ Analyzing leverage in this broader context is critical because leverage does not equal risk and systemic risk regulators should be analyzing risk holistically, rather than focusing on one potential risk factor.

²⁹ Consultation Paper, page 22.

³⁰ FSOC Update on Review of Asset Management Products and Activities, page 16.

In considering leverage within a broader risk framework, the FSB should also consider existing risk mitigants, including market practices and regulations that reduce the likelihood that the use of leverage by a hedge fund might create systemic risk. These regulations and market practices help reduce the potential for systemic risk by reducing the risk footprint hedge funds may pose to counterparties and to systemically important markets generally. Importantly, because of the substantial reporting requirements for hedge fund managers, regulators have access to much information that enables regulators to monitor and analyze the activities of hedge funds with respect to these issues.

The lack of systemic risk from hedge funds, even hedge funds that use leverage, can be seen from the fact that hedge fund closures have not historically had systemic impact. As illustrated by the chart below, hedge funds close and liquidate quite frequently with no impact on the stability of the financial system.³¹ During the financial crisis, many hedge funds liquidated, but neither created nor amplified systemic risk and did not require government intervention.



Source: HFR

Even large funds that have closed suddenly have had no systemic impact. For example, in 2006, a hedge fund managed by Amaranth Advisors LLC lost nearly \$4 billion in

³¹ One study sought to distinguish hedge fund “failures” from normal attrition and discovered that the number of “failures” is quite low. See Ging Lian & Hyuna Park, *Predicting Hedge Fund Failure: A Comparison of Risk Measures*, 45 J. FIN. & QUANTITATIVE ANALYSIS 199 (2010) (finding a 3.1% closure rate versus an 8.7% attrition rate for hedge funds on an annual basis from 1995 to 2004, differentiating the conventional measure of hedge fund closures used in prior academic studies – or “attrition” – from “real failure”, defined as a fund (i) with a negative average rate of return for 6 months, (ii) with decreased AUM for 12 months and (iii) that was listed in a database (such as Lipper TASS or HFR) but is no longer reporting). In 2014, 764 hedge funds launched and 260 hedge funds liquidated. See 2015 Preqin Global Hedge Fund Report.

natural gas futures in less than 14 days, forcing it to liquidate and wind up.³² Despite the size of Amaranth's losses, and the speed of its collapse, no government intervention was required and there was no systemic crisis associated with Amaranth's closure. This is the case even though there was some initial concern that Amaranth's size, particular in relation to the natural gas futures market in which it traded, could lead to systemic risks. Despite these initial concerns, the hedge fund's portfolio of natural gas futures was sold off, making "barely a ripple in broader markets."³³ We think this example illustrates the functioning of the private markets under these circumstances.

We note that regulators often refer to the near-failure of Long-Term Capital Management ("LTCM") in 1998 as an example of a market destabilizing hedge fund closure that might exist today. We do not believe that LTCM is a relevant case study for regulators today in light of the many regulatory and market practice changes that have been implemented in the past 15 years. LTCM's excessive position size and leverage, along with its counterparties' inadequate risk management, were the primary underlying causes of LTCM's closing. The seminal analysis of the matter, conducted by the U.S. President's Working Group on Financial Markets, found that LTCM, as of January 1, 1998, was leveraged more than 25-to-1,³⁴ and that LTCM was able to get such leverage because its counterparties did not require LTCM to post initial margin on its over-the-counter derivatives or "OTC" trades. This practice of not requiring initial margin was not found to have occurred in the 2008 crisis in the case of hedge funds, and today hedge funds are required to post initial margin to their counterparties, an established practice which is now required under the Dodd-Frank Act and EMIR. Finally, despite initial concern from regulators, there was no actual impact on taxpayers or retail investors from the LTCM closure. While Federal regulators coordinated a private sector solution, importantly, there was no taxpayer bailout.

Since the LTCM event, there have been significant changes in the market with respect to counterparty risk management. As noted above, regulations have dramatically raised the amounts and quality of collateral required in secured financing as well as creating mandatory clearing regulations. Counterparties now consistently limit the amount of leverage used by hedge funds by requiring the use of collateral to secure financing to hedge funds. Also, as a result of improvements to counterparty risk management best practices, financial institutions today conduct more in-depth due diligence on and have a much greater degree of transparency with respect to their hedge fund clients' overall portfolios.

³² Ludwig Chincarini, *A Case Study on Risk Management: Lessons from the Collapse of Amaranth Advisors L.L.C.*, 18 J. APPLIED FIN., no. 1, Spring/Summer 2008 at 1, 22.

³³ Steven Mufson, *Hedge Fund's Collapse Met With a Shrug*, WASH. POST, Sept. 20, 2006, available at: <http://www.washingtonpost.com/wp-dyn/content/article/2006/09/19/AR2006091901388.html>.

³⁴ PRESIDENT'S WORKING GRP. ON FIN. MKTS., HEDGE FUNDS, LEVERAGE AND THE LESSONS OF LONG-TERM CAPITAL MANAGEMENT 12 (Apr. 1999), available at: <http://www.treasury.gov/resource-center/fin-mkts/Documents/hedgfund.pdf>.

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

As discussed in response to question 9 above, we believe that leverage should be considered within a broader framework that considers other factors, which when coupled with leverage, potentially could create systemic risk, as well as market practices and regulations that mitigate the potential for any such systemic risk. Moreover, in the Consultation Paper the FSB acknowledges that measuring leverage requires regulators to make assumptions regarding netting and hedging and the effects those have on the risks associated with the use of leverage.³⁵ While we believe that other adjustment factors also need to be considered, we appreciate the FSB's recognition that adjustments need to be considered and we believe this demonstrates that any measure of leverage requires risk-based adjustments. Indeed, we believe that any simple metric to measure leverage will be misleading and not useful for regulators trying to assess and analyze potential systemic risks.

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

For the reasons discussed in response to questions 9 and 10 above, and in response question 12 below, we believe a more comprehensive approach to analyzing leverage and risk that considers market risk, liquidity, counterparty risk, financing, and regulatory requirements, among other factors, is more likely to provide a useful analytical framework for national regulators than attempting to develop a simple leverage metric. Given the need for a more comprehensive framework, we believe the 2018 timeline the FSB has recommended for IOSCO to develop leverage measures is appropriate.

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

Set out below are concerns with respect to two particular methodologies, gross notional exposure and value at risk. Other methodologies currently being used also present challenges, which we believe demonstrates the importance of a more comprehensive framework for analyzing leverage and risk, rather than attempting to develop a single or simple leverage metric. In addition, enclosed with this letter is an AIMA white paper, *Comparing Measures of Leverage in Funds*, which provides further discussion regarding various regulatory methods of calculating leverage.

Gross Notional Exposure

While we understand the FSB's and IOSCO's goal of measuring a fund's market footprint, we do not believe that GNE is an appropriate metric for determining the relevant

³⁵ See Consultation Paper, page 25.

size of a hedge fund.³⁶ When assessing the potential impact of derivative portfolios, total GNE does not represent a fair appreciation of economic or market exposure. Given that the intent is to assess the market or counterparty “exposure through derivatives, considering the resulting exposure to the underlying asset or reference,” it is improper to look at gross notional amounts alone without adjusting for significant variations in actual risk and exposure that vary by (i) asset class, (ii) tenor, (iii) netting terms, (iv) margining and collateral arrangements, and (v) clearing status. GNE is thus a highly flawed metric that is ill suited to this purpose and significantly overstates a fund’s true market or counterparty exposure. We also believe that a regulatory focus on GNE can create unintended consequences, for example, by creating an incentive for managers: (i) to reduce their use of leverage, even if that leverage reduces risk, because the use of leverage increases GNE; or (ii) to reduce trading certain products in large, liquid markets because they have higher notional amounts and instead trade products that have lower notional amounts, but are in less liquid markets.

At the most basic level, the notional value of a derivative is purely a nominal number. For example, Contract A could have a notional value of \$1 billion and a fixed rate of 1 bps while Contract B could have a notional value of \$100 million and a fixed rate of 10 bps. The economics of the two are identical, but the notional value differs by a factor of 10x.

With respect to asset class, GNE overstates interest rate derivatives, which for similar amount of risk have much higher notional amounts than other derivatives. For example, the risk of a \$100 million notional USD 5 year interest rate swap and the risk of a \$100 million notional 5 year single-name credit default swap are significantly different and bear no relation to each other. This is why, for example, the Basel conversion factors vary by asset class (*e.g.*, 0.5% for a 1-5 year interest rate swap compared to 8% for a 1-5 year equity swap). Moreover, BIS data show that the global OTC derivative notional amount outstanding is approximately \$493 trillion, of which \$384 trillion (78%) is interest rate derivatives and only \$7 trillion (1%) is equity derivatives.³⁷ Given the size of the interest rate derivatives market, an investment fund with a higher GNE compared to other funds because of the amount of its interest rate derivatives is significantly less likely to create disruption via the market channel than an investment fund with a similar GNE because of the amount of its derivatives of other asset classes. Further, because of the difference in risk exposure per dollar of notional of derivatives in different asset classes, the potential for a fund to lose money – and hence cause losses for its counterparties – is significantly different per dollar of notional depending on what asset class the derivative represents.

With respect to tenor, we believe that notional exposures of derivatives (listed and OTC) without modification to account for differences in duration do not provide a particularly useful measure for purposes of understanding the true size or systemic impact of

³⁶ MFA and AIMA have frequently noted concerns with the use of GNE as metric for leverage or risk, including our joint letter on the SEC’s proposed rules limiting the use of derivatives by registered investment companies, *available at*: <https://www.managedfunds.org/wp-content/uploads/2016/03/MFA-AIMA-Comment-Letter-on-SEC-Derivatives-Proposed-Rule-Final-4.pdf>.

³⁷ *See* BIS semiannual derivatives statistics, *available at*: http://www.bis.org/statistics/d5_1.pdf.

an investment fund. The risk of a \$100 million notional 1 year interest rate swap is significantly different than the risk of a \$100 million notional 30 year interest rate swap. In addition, the delta adjustment for options fails to differentiate not only among options of different terms, but also between long and short options – the maximum loss on a long option is generally much less than its delta equivalent, while the maximum loss on a short option can be considerably higher. The SEC’s Form PF, for example, uses an approach that accounts for differences in duration by providing for the calculation of exposures of interest rate derivatives in terms of the 10-year equivalent duration-adjusted value for such positions.

With respect to netting and hedging, GNE overstates the risk in portfolios that have demonstrable and widely accepted offsetting exposures. Such offsetting exposures should not be included in the calculation of a GNE amount designed to identify funds or activities that may present systemic risk, absent a sound basis to specifically include such offsetting risks. In particular, options that are hedged with the reference asset or other offsetting options, futures hedged with the deliverable reference asset, interest rate swaps hedged with corresponding government bonds, and interest rate derivatives held under the same master agreement or at the same clearinghouse should, to the extent there are offsetting cash flows, be recognized in any effort to measure a fund’s total exposure. The fact that interest rate derivatives do not currently have standardized starting dates or fixed rates means that offsetting positions with nearly identical cash flows, durations, and other risk characteristics will generate notional exposure without creating any material economic risk to a clearinghouse or a counterparty, let alone creating systemic risk through the counterparty or market channels. We note that, with respect to interest rates derivatives, the industry has developed mechanisms to deal with offsetting cash flows, including measuring interest-rate exposures in maturity buckets and using delta-equivalent exposures in those maturity buckets. We also note that, at present, there are still no effective buy-side compression solutions (whereas there are for the sell-side) as they are still under development. The July 2016 report, *Derivatives Market Analysis: Interest Rate Derivatives*, from the International Swaps and Derivatives Association (“ISDA”) showed that compression reduced the amount of notional interest rates derivatives for the sell-side by approximately 67%.³⁸ Until such solutions for the buy-side are fully developed, we believe that buy-side notional amounts outstanding likely looks larger than they should, further creating a misleading impression of the risk associated with investment fund portfolios.

With respect to margin and collateral, it is important that any metric designed to leverage measure account for the fact that derivatives positions for which initial and daily variation margin are posted pose significantly less risk than derivatives positions for which margin or collateral is not posted. We note in this regard that many hedge funds have zero net uncollateralized exposure, and typically create a negative exposure as they are overcollateralized with their counterparties. When a fund posts initial margin and exchanges daily variation margin, the fund poses less counterparty risk because the initial margin protects the counterparty against future exposure to the fund and the daily variation margin protects the parties against current exposures. It is worth noting that, as part of the U.S.

³⁸ July 21, 2016 ISDA report, *Derivatives Market Analysis: Interest Rate Derivatives*, available at: <https://www2.isda.org/functional-areas/research/research-notes/>.

SEC's and CFTC's "major swap participant" calculations, uncleared swaps that are subject to daily mark-to-market margining arrangements receive a discount factor (0.2x).

With respect to clearing, it is important to note that positions cleared through a central counterparty (a "CCP") create less risk than uncleared transactions. In broad terms, a CCP reduces systemic risk by interposing itself as a counterparty to every trade, performing multilateral netting, and providing various safeguards and risk management practices to ensure that the failure of a clearing member to the CCP does not affect other members. Moreover, CCPs ensure that initial and variation margin is posted with respect to all cleared positions, also resulting in less risk for cleared transactions than uncleared transactions. Given the different risk profiles of cleared positions compared to uncleared positions, we believe that any metric designed to measure leverage provide for adjustments to account for cleared versus uncleared positions.

Value at Risk ("VaR")

VaR can be a useful metric for certain types of investment funds, under certain types of market conditions; however, it is not a useful metric for all funds nor for highly stressed market conditions. The VaR approach is a measure of the maximum potential loss due to market risk, which measures the maximum potential loss at a given confidence level (probability) over a specific time period under normal market conditions. The VaR approach work best for investment funds that have liquid assets and diverse portfolios. VaR is not a useful approach for strategies that have less liquid assets, for example, listed equities that are not traded frequently, illiquid assets, for example privately traded equity or credit securities, because VaR measures are reliant on historical data and less liquid assets have fewer data points for comparison. Further, with respect to concentrated portfolios, VaR is not a useful approach because risks associated with concentrated portfolios are more likely to be idiosyncratic in nature, which is difficult to model using VaR.

Even for more liquid and diverse portfolios, the VAR approach utilizes correlations which have a propensity to break down in stressed market conditions and so there may be a tendency for the calculation methodology not to work in the very conditions where a robust leverage figure may be most valuable to competent authorities and investors.

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

Once regulators have determined the appropriate metrics for measuring systemic risk and the data necessary to conduct that analysis, we believe that IOSCO should work to harmonize the reporting requirements across jurisdictions. In that regard, we note that the Consultation Paper suggests that IOSCO develop leverage measures by the end of 2018, which we believe is an appropriate timeline, given the complexities involved in determining how best to analyze systemic risks and what data would best enable regulators to effectively and efficiently analyze those risks. Harmonization of data collection, and eliminating data requests that do not further regulators' objective of monitoring and analyzing systemic risks

create significant challenges in achieving that objective. Different reporting requirements, including different regulatory interpretations of seemingly consistent reporting requirements, create substantial burdens on managers while limiting the ability of national regulators to compare information and analysis.

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

We agree with the FSB and with the FSOC³⁹ that there is a connection between leverage and liquidity and that the liquidity of a fund's assets, restraints on investor redemption rights, and stability of financing arrangements are some of the relevant factors to consider in connection with leverage as part of a risk assessment. As discussed in more detail in response to question 9 above, we believe the interconnections between leverage and other risk factors, as well as risk mitigants, is necessary to develop a meaningful assessment of potential systemic risks and why simple, single metrics of leverage are misleading.

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

As an initial matter, we believe it is important to look at the services provided by asset managers in context with other types of financial institutions that provide similar services. To the extent regulators look at the services provided by asset managers in isolation, it may create a misleading impression of the relative size or complexity of a manager's activities as well as a misleading impression of whether the manager's services can be easily replaced by other service providers. Similarly, regulators should consider the relative size and importance of the market and industry in which a manager provides such services to determine whether any risks might be systemic in nature.

As discussed in more detail in MFA and AIMA's joint letter in response to the U.S. SEC's recent proposed rule requiring business continuity and transition plans for investment advisers,⁴⁰ for many years, hedge fund managers have implemented transition plans that have effectively met the needs of clients. The structure of hedge fund managers creates a framework that protects investors, even when managers fail or investors redeem their shares

³⁹ See footnote 30 and accompanying text above regarding the FSOC's statement about evaluating leverage risk in connection with various other factors.

⁴⁰ MFA-AIMA comment letter, available at: <https://www.managedfunds.org/wp-content/uploads/2016/09/MFA-AIMA-Comments-on-SEC-Business-Continuity-and-Transition-Plan-Proposed-Rule.pdf>.

and wind up a fund. Indeed, the SEC acknowledges in its the rule proposal that “advisers routinely transition client accounts without a significant impact to themselves, their clients, or the financial markets,” due to the agency relationship of advisers managing client assets, and the U.S. Investment Advisers Act of 1940 requirement that client assets must be held at a qualified custodian, such as a bank or broker-dealer.⁴¹ These characteristics of the investment adviser industry enable accounts to be transitioned from one adviser to another without the physical movement or sale of assets.⁴²

We believe that the provisions of fund agreements and advisory contracts provide adequate documentation to prepare for and guide a liquidation event. The relationships between hedge fund managers and their hedge fund clients are straightforward and detailed in fund agreements and advisory contracts. Fund agreements allow for an orderly wind down and liquidation if a manager were to go bankrupt or a fund were to close. Fund agreements prescribe the types of events that would trigger the dissolution of a fund, such as a vote of the limited partners (by majority or super-majority), a discretionary decision by the manager, or the bankruptcy of the manager. In the case of a bankruptcy of a fund’s manager, however, most agreements permit the fund to continue if the holders of a majority of the voting interests vote to continue the business and elect a new fund manager. If investors elect to liquidate the fund, fund agreements generally provide that a trustee or liquidator previously designated by the manager or the majority-in-interest holders will wind down the fund. When distributing assets of the fund, the liquidator is obligated to follow the priority of payments detailed in the fund agreement. This priority of payments affords creditors predictability and fairness and generally follows the statutory provisions of the fund’s state corporate law regarding partnership or limited liability company dissolutions. In addition, advisory contracts typically permit clients to terminate the advisory relationship and replace a fund’s manager if it is in the best interest of the fund.

The SEC also recognizes the additional protections for transitioning client assets that are built into the structure of pooled investment vehicles, including that clients have the ability to terminate the investment advisory contract or remove the governing entity of the fund, and appoint a new investment adviser or governing entity. Funds and managers are legally separate entities, and a manager cannot commingle the assets of a fund it manages with its proprietary assets or the assets of other funds it manages. Fund managers do not guarantee the performance or financial obligations of the funds they manage, and they do not otherwise create counterparty exposure between themselves and their clients with respect to trading activities of their funds or other clients. Although accounting rules may bring fund assets onto the adviser’s balance sheet, this does not reflect the economic or legal reality of the adviser. Accordingly, there is no interconnectedness between the fund and the manager’s balance sheet.

⁴¹ Available at: <https://www.gpo.gov/fdsys/pkg/FR-2016-07-05/pdf/2016-15675.pdf>. We note that the AIFMD also contains rules requiring AIFMs to appoint a depositary with respect to the funds it manages.

⁴² See SEC release at 43535.

These characteristics of the hedge fund industry are clearly exhibited in the regular winding down of hedge funds. As noted above in response to question 9, each year, many hedge funds close for any number of reasons such as extended poor performance, the retirement or departure of senior personnel, or a changed market environment. In each case, the fund's portfolio is wound down by the manager, sometimes gradually over many months and, less frequently, in a "liquidation" by the prime brokers or other market participants that hold the fund's collateral. This market discipline is a hallmark of the industry as hedge funds and their managers close while new funds and managers emerge. Moreover, because hedge funds are one of many different types of asset management structures, other types of investment managers and institutional investors also replace the services of hedge funds that cease operations. This continued cycle of fund closures and launches evidences that client assets are protected during the course of transitions, and that a transition planning rule is not necessary to protect investors.

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

No comment.

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

As an initial matter, we note that these concerns have relatively limited application to hedge funds because they much more frequently borrow securities rather than lend them. It also is important to note that the repo and securities financing markets are well established and play an important role in today's capital markets by providing liquidity that reduces the cost of trading and promotes price discovery. The repo and securities financing markets improve market liquidity, create more efficient settlement, lead to tighter dealing prices and are believed to reduce the cost of capital for issuers (including governments). We believe that any recommendations should be calibrated to avoid creating unintended, adverse consequences for these important markets.



Alternative Investment
Management Association

AIMA WHITE PAPER

Comparing Measures of Leverage in Funds

September 2016



Introduction

There are currently several different methods of calculating leverage that are used in the fund management industry. The methods differ largely because they are used for different purposes. For many investors in alternative asset funds who want to compare leverage across funds in their portfolio and look for changes over time, for example, a more straightforward, easy-to-calculate measure may work best. For regulators concerned primarily with considering the potential impact of fund leverage on the stability of the financial system as a whole, the most relevant measure of leverage is likely to take into account current market conditions. This paper explains some of the main methods of calculating leverage that are used currently in various jurisdictions and discusses their differences, as well as their relative advantages and disadvantages.

What is leverage?

Leverage is generally thought to mean increasing financial exposure by borrowing funds to acquire assets, but for financial firms a more precise definition is necessary. In this context, leverage is any technique that is used by investors to try to create hedges against unwanted risks or to amplify gains. Leverage can be created by borrowing money or securities directly from counterparties (sometimes called ‘financial leverage’) or indirectly by using derivative instruments such as options, futures or swaps (sometimes called ‘synthetic leverage’).¹

Why leverage?

Leverage is frequently used by both public and private companies of all sizes, various governmental entities ranging from sovereign states to municipalities as well as a variety of other investor types, even individuals and families. In a corporate context, companies raise debt through a variety of channels to fund their working capital requirements, growth initiatives or expansion plans. Most governmental agencies around the world issue debt to fund operations, build infrastructure, and provide various public services. Families borrow to purchase large assets, like homes and cars.

In the asset management industry, leverage is often incorporated as part of an investment strategy in which borrowed money is used to adjust risk exposures with the intention of multiplying gains and/or limiting losses of an investment. In an investment context, portfolio managers can borrow money or assets to create a pool of capital larger than their initial equity obtained from investors to be used for adding more risk exposure with a goal to generate higher expected returns. Leverage can also be used to purchase hedges, instruments that protect against risks in a portfolio like an unexpected change in foreign exchange or interest rates. Leverage is used as a legitimate tool for asset managers and investors to help achieve their return goals as well as offset risk.

Measuring leverage of funds

Due to their different needs, investment managers, investors and regulators often employ different methodologies for measuring leverage. Leverage is usually calculated as a ratio of exposure/size of a portfolio of assets to the level of capital or equity that may support that. For funds, it is generally agreed that the fund’s net asset value (‘NAV’), which reflects the current value of the fund’s investors’ holdings, is the best estimate of capital or equity.

$$\text{Fund Leverage} = \frac{\text{Exposure/Size}}{\text{NAV}}$$

However, there are different methods of how to calculate exposure. These vary mainly by their approach to measuring off-balance sheet exposures obtained via the use of derivatives.

Balance sheet leverage takes into account a fund’s assets compared with its equity. Where the entity’s assets exceed its equity, under this method of calculating leverage, the fund would be leveraged. For example, if a fund had on-balance sheet assets worth £2 million and an NAV of £1

¹ See [The Leverage Ratio](#), Katia D’Hulster, The World Bank (December 2009).

million, it would be employing 2x leverage under the balance sheet calculation method. In cases where the quality of the asset pool is broadly similar across entities, balance sheet leverage can be a useful proxy for relative riskiness because the greater the size of the assets, the greater the potential variability in their value. This is why balance sheet leverage is a useful metric for simple banking entities where the assets may be loans to corporations and mortgages. A shortcoming of balance sheet leverage as a risk measure is that it does not differentiate between asset portfolios of relative riskiness. For example, a portfolio of short-term U.S. government bonds is likely to be far less risky than a portfolio of emerging market equities of the same size.

As can be seen from the observations in the table below, classic financial statement based leverage definitions do not incorporate off-balance sheet positions (for example, derivatives). Incorporating derivatives into a leverage calculation requires consideration not only of the problem of relative riskiness (which applies for example to options and bonds of different durations) but also the issues of hedging (derivative positions which are highly negatively correlated with other risks in the portfolio and therefore reduce risk) and netting (long and short derivative positions which are virtually identical and have a very small net risk). These factors mean that derivative positions can both increase and decrease leverage, and therefore it is more useful to consider risk-based measures of leverage.

Risk-based measures of leverage are more complicated than the balance sheet measure of leverage, as they try to overcome the shortcomings of classic measures by relating a risk measure (for example, market risk when using value at risk ('VaR') measures) to a fund's capacity to absorb this risk (for example, the fund's equity). More sophisticated dynamic measures of leverage incorporate a fund's ability to adjust its risk position during periods of market stress.²

Regulatory measures of leverage

Regulators have invested considerable time in developing methods of measuring leverage, typically in order to analyse how much capital a bank or securities firm should be holding in light of the risks of their businesses. These methods take into account the risk that the value of the assets of the firm may fluctuate, which would necessitate the holding of higher capital levels, and the use of both borrowing and derivatives is incorporated into these analyses. In order to further analyse leverage arising from the use of derivatives, or synthetic leverage, many other methods may be used. These include the following:

(i) Gross methods

Gross methods generally take the sum of the absolute values of all long and short exposures, including those which are notional off-balance sheet exposures, and divide this by the fund's NAV. Most gross methods call for some calibration of the gross amount of derivatives, instead of using the face value of the contracts.

$$\text{Gross Leverage} = \frac{\text{long + short exposures (including off-balance sheet activities, e.g., borrowed securities and notional exposures of derivative contracts)}}{\text{NAV}}$$

The gross method used by the AIFMD

The Alternative Investment Fund Managers Directive ('AIFMD')³ requires alternative investment fund managers ('AIFMs') to calculate leverage using both a gross method and a commitment method (see below). The gross method essentially adds to the balance sheet exposure measure all of the fund's off-balance sheet notional exposures gained via the use of derivatives without taking into account any netting or hedging of such absolute values.

² See Appendix E of the Hedge Fund Working Group's "[Hedge Fund Standards: Final Report](#)" (January 2008).

³ Directive 2011/61/EU.

The gross method consists of calculating the absolute value of all positions of an AIF, as per the requirements for valuation. Initially this should include all short and long assets and liabilities, borrowings, derivatives (converted, as discussed above, into their equivalent underlying positions), repurchase and reverse repurchase agreements where the risks and rewards of the assets or liabilities are with the AIF and all other positions that make up the net asset value of the AIF.

Any cash and cash equivalent assets that are highly liquid and are held in the base currency of the AIF which provide no greater return than a three month high quality government bond are removed from the gross calculation because such assets are not deemed to increase exposure. This includes cash held for collateral by a counterparty. Any borrowing used to increase exposure should be excluded from the gross method calculation to avoid double counting. The exposure resulting from the reinvestment of cash borrowings should therefore be expressed as the higher of the market value of the investment realised or the total amount of the cash borrowed.

Gross method proposed by FSB/IOSCO: GNE

A variant of the gross method has also been contemplated as a useful measure both of size and leverage of the hedge fund industry in the most recent Financial Stability Board (FSB) and International Organization of Securities Commissions (IOSCO) consultation regarding the methodologies of identifying non-bank non-insurance systematically important financial institutions ('NBNI SIFIs'). This would take the absolute sum of all long and short positions, including gross notional value (delta-adjusted when applicable) for derivatives as its measure of exposure. This is called 'gross notional exposure' or 'GNE'. As noted by the UK Financial Conduct Authority:

"this measure provides a complete appreciation of all the leverage that is employed by a fund to gain market exposure, i.e. financial leverage (repos, prime broker financing, secured and unsecured lending) and synthetic leverage (exposure through derivatives, including exposure to the underlying asset or reference). GNE does not directly represent an amount of money (or value) that is at risk of being lost. It is a reference figure used to calculate profits and losses."⁴

(ii) Commitment methods

Some risk based measures of leverage will attempt to measure the commitments of the entity. The AIFMD and the Undertaking for Collective Investment in Transferrable Securities ('UCITS') legislation both set out ways to calculate commitment measures of leverage.

The commitment method used by the AIFMD

The AIFMD not only requires that a fund's leverage be calculated using the gross method, but also mandates that a commitment method is used. The commitment method calculates the exposure of an AIF by taking the sum of the absolute values of all positions. Further detailed criteria are set out in paragraphs 2-9 of Article 8 of the AIFMD Level 2 Regulation.⁵ The commitment method allows for the netting of exposures (which is not permitted under the gross method) as well as a limited recognition of hedging to decrease the exposure measure of the leverage ratio. Furthermore, the commitment method requires the notional amounts of interest rate derivative contracts to be adjusted to the fund's "target duration". However, it should be noted that the conditions for netting and hedging are opaque and that some arrangements that a manager employs for hedging purposes may not qualify.

Derivatives can be removed from the calculation if they swap the performance of assets held by the AIF for other reference financial assets or offset the market risk of the swapped assets held in the AIF so the performance of the AIF does not depend on the swapped assets. In these cases the derivatives are removed from the calculation because they reduce the exposure of the AIF.

⁴ <http://www.fca.org.uk/static/documents/hedge-fund-survey.pdf>.

⁵ Commission delegated regulation No 231/2013.

The commitment approach used by the UCITS legislation

A UCITS may elect to use either: (i) the commitment approach for measuring global exposure and leverage; or (ii) an advanced risk measurement technique (e.g., VaR (see below)). Detailed methodologies to be followed by UCITS when they use the commitment or the VaR approach have been developed by the Committee of European Securities Regulators (CESR), the predecessor to the European Securities and Markets Authority (ESMA). In these guidelines, CESR states that: “It is the responsibility of the UCITS to select an appropriate methodology to calculate global exposure. More specifically, the selection should be based on the self-assessment by the UCITS of its risk profile resulting from its investment policy (including its use of financial derivative instruments).”

CESR’s guidelines state that the commitment approach is appropriate for a UCITS that does not use complex derivatives or trade derivatives extensively.⁶ This approach is based on the market value of the asset underlying the derivative and sums up the aggregate absolute value of the underlying exposures’ notional values. For a UCITS using the commitment approach, derivatives are converted into their equivalent position in underlying assets. The exposure is then calculated following netting.

Using the commitment approach to measure global exposure, financial derivatives instrument (‘FDI’) exposure is measured as the positive market value of the equivalent underlying position.

FDI and security positions may be netted to reduce global exposure as follows:

- Between FDI, provided they refer to the same underlying asset, even if the maturity dates of the FDI are different; and
- Between FDI (whose underlying asset is a transferable security, money market instrument or a collective investment undertaking) and the same corresponding underlying asset.⁷

Hedging arrangements may only be taken into account when the following criteria are satisfied:

- Investment strategies that aim to generate a return should not be considered as hedging;
- There must be a verifiable reduction of risk at the UCITS level;
- The risks linked to the FDI should be offset;
- They should relate to the same asset class; and
- They should be efficient in all market conditions.

The calculation of global exposure is always presented as an absolute positive number and does not allow for the calculation of negative commitments. This calculation is used to limit overall leverage in UCITS funds so that the exposure may not exceed the NAV of the UCITS.

(iii) VaR methods

Another calculation methodology that may be used under the UCITS legislation to calculate a UCITS’s global exposure, where appropriate, is one which utilises VaR. The VaR approach is a measure of the maximum potential loss due to market risk, which measures the maximum potential loss at a given confidence level (probability) over a specific time period under normal market conditions.

For example if the VaR (1 day, 99%) of a fund is £2 million, this means that, under normal market conditions, the fund can be 99% confident that a change in the value of its portfolio would not result in a decrease of more than £2 million in one day. This is also equivalent to saying that there is a 1% probability (confidence level) that the value of its portfolio could decrease by £2 million or more during one day, but the level of this amount is not specified and could be far greater than £2 million.

⁶ See [CESR’s Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS](#).

⁷ Id., at box 2.

The VaR approach can be further subdivided into (i) an absolute and (ii) a relative VaR approach. The maximum absolute VaR limit is set at 20% of the NAV over a 20-day holding period and based on a 99% confidence interval⁸. The relative VaR limit is twice the VaR of a derivative free benchmark.

A UCITS using the VaR may use absolute VaR or relative VaR. A proper VaR limit should be assigned (which is not necessarily the one allowed by regulation) where the risk/reward indicator will be at its highest level. Another set of CESR guidelines,⁹ state that for absolute return funds, the VaR should be calculated using volatility determined by the maximum of historical volatility and the risk limit. If there is not enough historical data to compute the VaR, then it is calculated only by using the risk limit.¹⁰

Relative VaR is the VaR of a UCITS divided by the VaR of a UCITS reference portfolio. Relative VaR cannot exceed 200% or two times the VaR on a comparable benchmark portfolio or derivatives-free portfolio.

The VaR model must comply with the following requirements:

- The confidence level (one tailed) must be 99%;
- The maximum holding period is 20 days;
- The minimum historical holding period is one year;
- Stress tests should be performed monthly; and
- Back-testing should be performed monthly.

The VaR model may use a different confidence level and/or holding period, provided the confidence interval is not below 95% and the holding period does not exceed 20 days. In such instances, the VaR limit may be adjusted accordingly.

For any UCITS using the VaR approach to calculate its global exposure, ESMA also requires the UCITS to use the so-called “sum of notionals” method to calculate its leverage for disclosure purposes.¹¹ The sum of notionals method adds together all notional amounts of any derivative positions without using any netting or hedging. This method, which is similar to the gross method under AIFMD in that it provides valuation of derivatives, has the benefit of providing a common comparative standard amongst various funds, though clearly its applicability across different strategies may vary significantly.

(iv) Leverage calculation methodologies used by 1940 Act funds

With respect to leverage, the U.S. regulatory regime imposes implicit limits on leverage via the Section 18(f)(1) of the Investment Company Act of 1940 (the ‘1940 Act’), which generally prohibits registered open-end investment companies from issuing “senior securities”. Broadly speaking, a “senior security” is any security or obligation that creates a priority over any other class to a distribution of assets or payment of a dividend. Permissible “senior securities” include, among other things, a borrowing from a bank where the fund maintains an asset coverage ratio of at least 300% while the borrowing is outstanding. This is referred to as the 300% asset coverage requirement. For instance, a 1940 Act fund with \$100 million in assets may borrow up to \$50 million from a bank. Following the borrowing, the 1940 Act fund would have \$150 million of assets and \$50 million of borrowing and would therefore satisfy the 300% asset coverage requirement. However it is

⁸ See [CESR’s Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS](#), at box 15.

⁹ [CESR’s guidelines on the methodology for the calculation of the synthetic risk and reward indicator in the Key Investor Information Document](#).

¹⁰ See [CESR’s Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS](#), at box 5.

¹¹ See Questions 2 of [ESMA’s Questions and Answers on Risk Measurement and Calculation of Global Exposure and Counterparty Risk for UCITS](#).



important to note that, under the current rules (which are proposed to be changed),¹² 1940 Act funds can potentially use some forms of leverage without requiring a 300% coverage ratio by using levered investment vehicles. In particular, cash-settled derivative contracts can be used almost without limit.

The U.S. Securities and Exchange Commission (SEC) currently limits use of leverage from short sales and derivative instruments by prohibiting complex capital structures in 1940 Act funds and the issuance of “senior securities” as defined in Section 18 of the 1940 Act. The SEC has deemed that leverage may exist when “an investor achieves the right to a return on a capital base that exceeds the investment which he has personally contributed to the entity or instrument achieving a return.”¹³ The types of transactions explicitly identified by the SEC as potentially creating “senior securities under Section 18 include reverse repurchase agreements, written options, futures and options on futures, forward contracts on currencies or securities, firm commitment agreements, standby agreements, and short sales. Specifically, derivatives transactions that may create “senior” securities are writing call futures, writing call options or entering into swaps, because each such transaction obligates the fund to deliver a security or make a payment in the future.

To comply with Section 18(f) of the 1940 Act, a fund must “cover” the obligation (indebtedness) created by a “senior security” transaction with cash and/or liquid securities in the fund’s portfolio, provided the “cover” assets are placed in a segregated account at the custodian. Alternatively, the fund may enter into a directly offsetting transaction. Current SEC guidance permits two types of segregation: “notional” and “mark-to-market.” Futures, forwards, options and short sale contracts that on expiry require physical settlement (i.e., the delivery of the underlying security) must be “covered” by segregating the full notional amount (i.e., the full value of the potential obligation of the fund under the contract) or by entering into certain offsetting transactions. However, where the contracts are cash settled (i.e., on expiry there is no delivery of the underlying security but rather a cash payment of the net value), the “cover” requirement is limited to the fund’s daily marked-to-market obligation, i.e., the daily difference between the fund’s obligation to its counterparty and the counterparty’s obligation to the fund.

In a 1987 no-action letter,¹⁴ the SEC’s Division of Investment Management clarified that covering a derivatives position with an offsetting position effectively eliminates the derivatives exposure and obviates the need to segregate assets to comply with the 300% asset coverage requirement. The SEC stated that a fund that has purchased a futures or forward contract can cover that position by purchasing a put option on the same futures or forward contract with a strike price equal to or higher than the futures or forward contract price. The no-action letter also provided that a fund that has sold a put option could cover its position by selling short the instrument or currency underlying the put option at the same or a higher price than the strike price of the original put.

While the requirements for segregation and offsets are quite complex and derived from years of interpretative positions, the table below gives at least a flavour of what is involved.

Types of Transactions	Segregation Requirement
Forward Currency Contracts	For physically settled long positions, the fund must segregate the gross settlement amount. For physically settled short positions, the fund must segregate the market value of the foreign currency that the fund has sold, marked to market daily. For cash settled long or short positions, the fund must, segregate the net settlement amount, marked to market daily. In all cases, however, the amount that the fund must segregate can be reduced in some specific circumstances if the fund has posted margin or collateral against its obligations (posting collateral is the equivalent of segregating assets) and the fund has “covered” its obligation.

¹²See [Use of Derivatives by Registered Investment Companies and Business Development Companies](#), Investment Company Release No. IC-31933 (11 Dec. 2015).

¹³See Investment Company Act Release No. 10666 (Apr. 18, 1979) 17 SEC Docket 319.

¹⁴See <https://www.sec.gov/divisions/investment/imseniorsecurities/dreyfusstrategic033087.pdf>.

Types of Transactions	Segregation Requirement
Purchased Options	None. Since the fund has no obligation to exercise the option, it has no payment or delivery obligation against which it must segregate any assets.
Long Futures Positions and Long Written Options Purchase of Futures Contract and sale of Put Option	The fund must segregate the amount of the purchase price that the fund will be required to pay on the settlement date for the futures contract or on the date that the put option is exercised. This may be limited to the net amount that fund would be required to pay if the position is cash settled. The amount that the fund must segregate is reduced by the amount of any initial or variation margin (or other collateral) that has been deposited posted with an FCM, broker or the counterparty; and to the extent that the fund has “covered” its position.
Short Futures Positions and Short Written Options Sale of Futures Contracts or Call Options	The fund must segregate an amount equal the current market value, marked to market daily, of the security (or index, instrument, etc.) underlying the contract. This may be limited to the net amount that fund would be required to pay if the position is cash settled. The amount that the fund must segregate is reduced by the amount of any initial or variation margin (or other collateral) that has been deposited posted with an FCM, broker or the counterparty; and to the extent that the fund has “covered” its position.
Spreads and Straddles	If proceeds of one leg of the transaction can be used to satisfy all or part of the fund’s obligation under the other leg, the fund only needs to segregate an amount equal to its obligations (marked to market daily) under the prong providing the larger potential exposure - e.g., the written put option in a straddle, where the fund writes both a put and a call option on the same security.
Swaps (Other than Credit Default Swaps)	For fully cash-settled swaps, the fund must segregate the “fund out of the money amount”, marked to market daily, plus the amount of any accrued but unpaid premiums or similar periodic payments, net of any accrued but unpaid periodic payment payable by the counterparty. The amount that must be segregated is reduced to the extent that the fund has posted collateral against its obligations under the swap. Special considerations apply to credit default swaps though.
Reverse Repurchase Agreements	The fund must segregate an amount equal to the repurchase price, marked to market daily.
Short Sales	The fund must segregate an amount equal to the current market value of the securities sold short. The amount that must be segregated is reduced to the extent that the fund has posted collateral - other than the proceeds of the short sale - against its obligations with respect to the short sale position. The proceeds of the short sale are not counted for purposes of satisfying a fund’s segregation requirements.

(v) Leverage calculation methodologies used by banks

The Basel Committee on Banking Supervision (BCBS) introduced the Basel III leverage ratio in order to create “a simple, transparent, non-risk based leverage ratio to act as a credible supplementary measure to the risk-based capital requirements.”¹⁵ In its paper entitled ‘Basel III leverage ratio framework and disclosure requirements’ the BCBS stated that in their view “a simple leverage ratio framework is critical and complementary to the risk-based capital framework; and a credible

¹⁵ See <http://www.bis.org/publ/bcbs270.pdf>.

leverage ratio is one that ensures broad and adequate capture of both the on- and off-balance sheet sources of banks' leverage."¹⁶

The Basel III leverage ratio is defined as the capital measure (the numerator) divided by the exposure measure (the denominator), with this ratio expressed as a percentage:

Leverage ratio = capital measure/exposure measure

The capital measure used for the leverage ratio at any particular point in time is the Tier 1 capital measure applying at that time under the risk-based framework.¹⁷ In order to calculate the exposure measure, at present banks generally adopt the Current Exposure Method (CEM) to capture off-balance sheet derivatives exposures, including centrally cleared derivatives exposures. The exposure measure for the leverage ratio should generally follow the accounting value, subject to (i) on-balance sheet, non-derivative exposures are included in the exposure measure net of specific provisions or accounting valuation adjustments (e.g., accounting credit valuation adjustments); and (ii) netting of loans and deposits is not allowed. A bank's total exposure measure is the sum of the following exposures: (a) on-balance sheet exposures; (b) derivative exposures; (c) securities financing transaction exposures; and (d) off-balance sheet items.¹⁸ The CEM takes the sum of the gross assets held by the fund and the adjusted GNE whereby the different derivatives asset classes are weighted by the factors indicated in Table 1 below.

Table 1: Risk weighted factors = from the table and we have applied the most conservative factor in each case.

Remaining Maturity	Int Rate	FX rate & Gold	Credit (Investment Grade)	Credit (non-investment grade)	Equity	Precious Metals (except Gold)	Other
<=1 year	0	0.01	0.05	0.1	0.06	0.07	0.1
>1 yr and <= 5 yrs	0.005	0.05	0.05	0.1	0.08	0.07	0.12
>5 yrs	0.015	0.075	0.05	0.1	0.1	0.08	0.15

Source: ConverseSource conversion factor matrix for OTC derivative contracts for Basel III (Basel Capital Market Risk Final Rule)

The CEM recognises legally enforceable netting arrangements and takes into account the potential future volatility in the market value of the underlying asset and the remaining maturity of derivative contracts. CEM is a more accurate representation of risk than straightforward leverage. However, the CEM has been criticised for several limitations, in particular that it does not differentiate between margined and unmargined transactions, that the supervisory add-on factor does not sufficiently capture the level of volatilities as observed over recent stress periods, and the recognition of netting benefits is too simplistic and not reflective of economically meaningful relationships between derivatives positions.

The CEM method will therefore be replaced by an updated method, the Standardised Approach (SA-CCR), in January 2017.¹⁹ The SA-CCR is a method for measuring exposure at default (EAD) for counterparty credit risk (CCR) and will be used by banks in the exposure component of the 'leverage ratio' in place of the CEM. The SA-CCR provides even greater recognition of hedging and netting benefits than the CEM and differentiates between margined and unmargined trades.

¹⁶Id.

¹⁷ See the Tier 1 capital of the risk-based capital framework as defined in paragraphs 49 to 96 of the Basel III framework at <http://www.bis.org/publ/bcbs128.pdf> and see <http://www.bis.org/publ/bcbs270.pdf>.

¹⁸ See further <http://www.bis.org/publ/bcbs270.pdf>.

¹⁹ See <http://www.bis.org/publ/bcbs279.pdf>, which explains the SA-CCR in detail.

It is worth noting that the ten largest banks in the world have an average balance sheet leverage (ratio of assets to equity) of approximately 20x but the highest derivatives leverage (ratio of derivatives gross notional to equity) exceeds 1000x even taking into account the available netting and other reductions of gross notionals permitted under the CEM. If bank leverage were measured on a gross notional exposure basis, as has been suggested for hedge funds by the IOSCO-FSB consultation papers (and as implemented under the AIFMD), that figure would be substantially higher.

(vi) Major Swap Participants

Historically, when people have looked at systemic importance or relative importance of certain entities within the derivatives market place, they have not used simple measures of leverage for making such determinations. One such example can be seen in the calculation methodologies in place for determining whether an entity qualifies as a major swap participant ('MSP') in one or more derivatives markets. The approach taken when assessing whether an entity is a MSP is akin to the Basel III approach to assessing derivatives holdings in as much as certain netting and discount factors are applied before reaching a relevant figure.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (the 'Dodd-Frank Act') introduced a requirement that all MSPs must register with the Commodity Futures Trading Commission (CFTC). The CFTC and the SEC adopted a [final rule](#) defining, "major swap participant" as a person, other than a swap dealer, that meets any of the following three tests:

- it maintains a "substantial position" in any of the major swap categories, excluding positions held for hedging or mitigating commercial risk and positions maintained by certain employee benefit plans for hedging or mitigating risks in the operation of the plan;
- it has "substantial counterparty exposure that could have serious adverse effects on the financial stability of the U.S. Banking system or financial markets"; or
- a "financial entity" that is "highly leveraged [12 to 1] relative to the amount of capital such entity holds and that is not subject to capital requirements established by an appropriate Federal banking agency" and that maintains a "substantial position" in any of the major swap categories.

A position is a "substantial position" if it satisfies either the "uncollateralized exposure test" or the "potential future exposure test" and each of these tests apply to a person's swap positions in each of four major swap categories:

- rate swaps (any swap based on reference rates such as interest rates or currency exchange rates);
- credit swaps (any swap based on instruments of indebtedness or related indices);
- equity swaps (any swap based on equities or equity indices); and
- other commodity swaps (any swap not included in the first three categories, including any swap based on physical commodities).

The uncollateralized exposure test measures a person's current uncollateralized exposure by marking the swap positions to market using industry standard practices. This test also allows the deduction of the value of collateral that is posted with respect to the swap positions, and calculates exposure on a net basis, according to the terms of any master netting agreement that applies. The thresholds adopted for this test are the daily average current uncollateralized exposure of US\$1 billion in the applicable major category of swaps, except that the threshold for the rate swap category would be US\$3 billion.

The second substantial position test determines potential future exposure by:

- (i) multiplying the total notional principal amount of the person's swap positions by specified risk factor percentages (ranging from ½% to 15%) based on the type of swap and the duration of the position;
- (ii) discounting the amount of positions subject to master netting agreements by a factor ranging between zero and 60%, depending on the effects of the agreement; and
- (iii) if the swaps are cleared, further discounting the amount of the positions by 90% or, if the swaps are not cleared but nonetheless subject to daily mark-to-market margining, further discounting the amount of the positions by 80%.

The thresholds adopted for the second test are US\$2 billion in daily average current uncollateralized exposure plus potential future exposure in the applicable major swap category, except that the threshold for the rate swap category would be US\$6 billion.

Substantial counterparty exposure is calculated using the same method used to calculate substantial position but it is not limited to the major categories of swaps and does not exclude hedging or employee benefit plan positions. The thresholds as adopted for substantial counterparty exposure are a current uncollateralized exposure of US\$5 billion, or a sum of current uncollateralized exposure and potential future exposure of US\$8 billion, across the entirety of a person's swap positions.

An alternative to measures of leverage such as the gross methods would be to use the methodology for identifying MSPs as an initial threshold. This methodology also has the benefit of being more akin to the Basel III approach to assessing derivatives holdings in as much as certain netting and discount factors are applied before reaching a relevant figure.

Evaluating different regulatory measures of leverage

(i) Problems with gross measure of leverage

AIMA considers that the use of GNE as defined by FSB and IOSCO or any of the variants of the gross method is not particularly useful for funds or other financial entities, managers and investors monitoring risk or regulators looking to assess and monitor systemic risk for the following reasons:

- **Offsetting of risk:** The gross methods do not allow for the offsetting of positions that might decrease or eliminate risk in a portfolio. These leverage measures generally include all positions, even those that offset risks arising from a fund's investment portfolio. For example, these methods count the full notional value of a swap that offsets currency or interest rate risk of an equity or debt position held by a fund, despite the swap serving to decrease the exposure of the fund. Similarly, they would count twice the full notional values of two perfectly offsetting positions, even though the fund's net economic exposure would be zero;
- **Relative risk of different types of derivatives:** The gross methods do not account for the relative risk of different types of derivatives positions held by a fund. For example, in related contexts global regulators have consistently recognised that derivatives referencing short-term interest rates are less risky, given a particular amount of notional exposure, than those referencing long-term interest rates or other asset classes such as currencies, equities or commodities;
- **Nature of the risks of options:** The gross methods do not take account of the non-linear nature of the risks arising from options and other similar derivative positions. A fund whose derivative positions consist only of purchased options may have a high gross leverage, but the maximum possible loss is the current value of the options, a figure that may be orders of magnitude lower than the notional. For example, a one-month at-the-money call option on the S&P 500 index currently has a value of approximately 1% of its notional amount, so the notional is 100x greater than the maximum possible loss; and
- **The gross methods over-weight the risk of interest rate, currency or other types of derivatives relative to other assets:** The notional, or face, amounts of such contracts (rather than their market values) are required to be included in the calculations. This particularly

affects managers employing relative value, macro and managed futures strategies. Funds using these types of instruments generate leverage figures under the gross method that are not necessarily reflective of the risk of those funds. The market value or the cost to close out these contracts is a small fraction of the notional. These factors pose difficulties both for supervisory authorities when seeking to assess the build-up of systemic risk in the financial system and for investors in terms of making meaningful comparisons between different funds.

(ii) Problems with the commitment method

The commitment method addresses some of the issues inherent in the gross method through the application of netting and hedging arrangements and the use of duration netting rules. Although this is an improvement on the gross method, the commitment method still has limitations, which include the following:

- **Intention at the time of the trade:** Under the AIFMD commitment method, netting is only permitted where “trades on derivative instruments or security positions are concluded with the sole aim of eliminating the risks linked to positions taken through the other derivative instruments or security positions.”²⁰ This is therefore dependent on the intention at the time of the trade, which is a subjective test. There has been no further guidance as to how this intention can be ascertained and determining when netting is permitted is therefore a matter of interpretation for each AIFM, which gives rise to uncertainty. It is therefore unclear what the conditions for permitted netting are;
- **Potential for excessive netting:** The commitment method also provides that netting is permitted across derivatives “which refer to the same underlying asset... irrespective of the maturity date”. This would therefore permit the netting of a very long term interest rate derivative (for example, a 30-year swap) with a short term interest rate derivative (for example, a 2-year swap), or a long-dated commodity derivative (for example, natural gas futures with 5-year maturity) with a short-dated commodity derivative (for example, Natural Gas futures for December 2014 maturity), in both cases leaving an exposure of zero. This leaves the potential for excessive netting which may mask real exposures;
- **Application of duration netting rules:** The AIFMD commitment method permits “duration netting” under certain conditions. Article 8(9) of the Level 2 Regulation provides that “AIFMs managing AIFs that, in accordance with their core investment policy, primarily invest in interest rate derivatives shall make use of specific duration netting rules in order to take into account the correlation between the maturity segments of the interest rate curve as set out in Article 11.” In relation to this provision, Article 11 provides that:

“The duration-netting rules shall not be used where they would lead to a misrepresentation of the risk profile of the AIF. AIFMs availing themselves of those netting rules shall not include other sources of risk such as volatility in their interest rate strategy. Consequently, interest rate arbitrage strategies shall not apply those netting rules... The use of those duration-netting rules shall not generate any unjustified level of leverage through investment in short-term positions. Short-dated interest rate derivatives shall not be the main source of performance for an AIF with medium duration which uses the duration netting rules.”

These tests lack clarity and determining whether duration netting rules may be applied, absent further guidance, is therefore a matter of interpretation for each AIFM, which gives rise to uncertainty; and

- **Maturity range buckets:** It may also be possible for the duration netting rules to lead to excessive netting. The duration netting rules specify that interest rate derivatives should be allocated to one of four maturity range buckets: 0-2 years, 2-7 years, 7-15 years and >15 years. Within each bucket, 100% offset is allowed. This means that under these rules, for example, a 2-year swap can be netted with a 7-year swap, leaving an exposure of zero. This leaves

²⁰See Article 8(3)(a) of the Level 2 Regulation.

potential for excessive duration netting and can mask real exposures. The use of the four maturity range buckets and the offset percentages is also an arbitrary choice and bears no relation to risk measurement. For example, a 2-year vs 7-year offset will be fully netted, while a 1.9-year vs 7.1-year offset will only be netted 25%, despite these spreads having almost identical risk.

(iii) Problems with the VaR method

Whereas the commitment and gross approaches principally focus on derivatives, the VaR method's principal focus is the total market risk level of the portfolio. The use of the commitment approach for market risk computation in the context of UCITS funds has clearly been imposed to limit the leverage opportunities as the commitment approach converts any derivative exposures into fully funded values.

By contrast, VaR provides the estimation of the maximum loss a portfolio will suffer during a defined future period with a defined confidence interval. The VaR computation needs to be considered as an indicator. It is most useful in evaluating portfolios of more liquid instruments and derivatives where there is ready and accurate pricing data and history. However, VaR is less useful for illiquid instruments with little price data. On the ends of the liquidity spectrum, VaR is a good measure for an equity-fund focused on large cap stocks, but relatively useless for a real estate fund and it should not be considered a guarantee of limited losses.

Although VaR can be a useful metric for certain types of investment funds, under certain types of market conditions, it is not a useful metric for all funds nor for highly stressed market conditions. The VaR approach utilises correlations which have a propensity to break down in stressed market conditions and so there may be a tendency for the calculation methodology not to work in the very conditions where a robust leverage figure may be most valuable to competent authorities and investors.²¹ VaR measures are also reliant on historical data.

Under the right circumstances, VaR can be a strong and advanced indicator that will (as long as tools and models are properly implemented) give clear and easy to interpret information to the risk managers and any related parties of the current portfolio risk levels.

Which methodologies are most suitable for funds?

In this paper, AIMA has sought to demonstrate the problems with the current methodologies that are used for calculating leverage in the asset management sector for regulatory purposes. We consider that more accurate, consistent and comparable methodologies should be used to measure the leverage employed by financial institutions.

Irrespective of the approaches chosen, the most important elements of any appropriate leverage measure should include the differentiation between the types of different derivatives instruments based on the manner notional exposure translates into a real economic exposure by a fund. Such a measure will recognise the fact that notional exposure means different things for different derivatives. It will also need to take appropriate account of netting and offsetting exposures. Neither one of these two core elements are present in any of the varieties of gross measures of leverage which either exist in some national regulatory regimes or have been contemplated at the global level.

In conclusion, we would like to reiterate that there is no single measure of leverage which would represent the most appropriate measure of risk for the purposes of investor disclosure or financial stability for all types of funds or all types of investment strategies. Indeed, leverage is not necessarily correlated or to be equated with a risk a particular portfolio may represent.

²¹ See ESMA's consultation paper on draft technical advice to the European Commission on possible implementing measures of the Alternative Investment Fund Managers Directive: http://www.esma.europa.eu/system/files/2011_209.pdf.