Alternative Investment Management Association

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

Submitted via email to: fsb@bis.org

1 June 2015

Dear Sir/Madam

AIMA's response to the second FSB and IOSCO Consultation Paper on Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions

The Alternative Investment Management Association (AIMA)[1] welcomes the opportunity to respond to the Financial Stability Board (FSB) and the International Organization of Securities Commissions (IOSCO) second consultation paper (the 'Consultation Paper') regarding assessment methodologies for identifying Non-bank Non-insurer Global Systemically Important Financial Institutions ('NBNI G-SIFIs').

As we stated in our response to the FSB and IOSCO's first consultation paper regarding assessment methodologies for identifying NBNI G-SIFIs, AIMA supports the G20's objectives of identifying systemically important financial institutions ('SIFIs') whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity. Due to the nature of our membership, this response focuses on the parts of the Consultation Paper which relate to hedge funds and their managers.

The stated purpose of the methodologies set out in the Consultation Paper is to identify NBNI global systemically important financial entities. In this response we will seek to demonstrate that the proposed methodologies for identifying private funds and/or asset managers as NBNI G-SIFIs are seriously flawed as they are likely to fail to identify institutions that could be a cause of potential systemic risk at a global level.

Unfortunately, the Consultation Paper appears to introduce an even greater number of methodological inconsistencies and incongruities, which, if left unaddressed, would greatly undermine the credibility of the entire exercise. To name but a few:

- it is difficult to understand why large swaths of asset owners should be exempt from the analysis if their size often dwarfs the size of other sectors of the market which are being examined and if their potential pro-cyclical behaviour is not constrained by regulatory means;
- it is not understandable why derivatives use should be primarily looked at in relation to hedge funds but not in relation any other funds who are often less restricted in their use of derivatives than is commonly believed.

In order to improve the methodologies, we would therefore welcome more attention being given to:

- The size of the global financial market;
- The relative size and activities of the respective financial market participants; and
- The comparative levels of risk and leverage employed by financial market participants.

We would like to make the following high-level points, which we elaborate on in the annex to this response:

[1] As the global hedge fund association, the Alternative Investment Management Association (AIMA) has over 1,500 corporate members (with over 9,000 individual contacts) worldwide, based in over 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.

- **Asset managers are not the appropriate entities to analyse for systemic risk purposes:** Asset managers are not the owners of a significant part of global financial assets. There is therefore little reason to assess asset managers for systemic risk as separate entities from the funds they manage on an agency basis. The risk transmission channels identified in the Consultation Paper are largely not relevant to asset managers – for example the counterparty credit risk transmission channel is not applicable as asset managers are not counterparties to transactions. We therefore consider that, until the FSB and IOSCO can demonstrate that systemic risk can stem from asset management entities, the assessment methodologies process should remain on funds;
- **Consistent criteria for assessing systemic risk:** In examining systemic risk, consistency across sectors is of the utmost importance. AIMA considers that measuring size, leverage and risk in a similar manner, across both all types of funds and all areas of the financial markets, is key to the understanding of risks in the financial markets. Funds, and where possible, other entities should therefore be assessed using the same metrics, especially as regards size and leverage;
- **GNE as a measure of systemic risk:** GNE is not a measure of risk, nor does it accurately portray one's market footprint. The fact that it is used only in a very limited manner in the assessment for G-SIBs who, collectively, control most of the derivatives markets, should hopefully be a reliable indicator to the FSB and IOSCO of its analytical relevance.[2] GNE and GNE-based criteria should therefore be either discarded or only used in a subsidiary manner. If the FSB and IOSCO continue to rely on GNE-based measures, it is essential that they are adjusted from a risk perspective or used at most as proxies of complexity, in a manner consistent with the BCBS methodology for banks, rather than as indicators of size or risk;
- **The proposed threshold of $400 billion GNE:** We agree that the initial filters should focus on simple measures of the size of a portfolio. We consider that use of a net asset value ('NAV') or a gross asset value ('GAV') test could be the starting point. The initial filter thresholds should be chosen based on evidence-based calibration that provides a justification for why a particular size threshold is relevant. If GNE-based assessments are retained (something which we would discourage), account should be taken of the different derivatives classes and the respective thresholds should represent a significant percentage (at least 1-5%) of each derivative class;
- **Alternatives to GNE:** More accurate, consistent and comparable methodologies should be used to measure the size and risk of derivatives portfolios. For example, certain competent authorities already ask market participants to report data on interest rate swaps using 10-year bond equivalents and well-established netting methodologies. AIMA considers that size and leverage measures should be adjusted to take account of potential future exposure of an instrument. A Basel III-like approach or an adjusted commitment method approach should be considered as they are either already calculated by the industry or could be easily calculated in the future. AIMA has applied the Basel III methodology to a sample of real life hedge fund data and has found that the GNE method overstates the Basel III measure of size and leverage by roughly a factor of 10; and
- **The indicators for assessing systemic risk:** The individual assessment criteria need to be re-examined entirely as it is not at all apparent how most of them contribute to systemic risk and what their relative importance for the assessment ought to be. The criteria chosen should represent sources systemic risk which have a non-trivial probability of occurring which can be justified by quantitative analysis. Duplication of criteria should also be avoided.

[2] The G-SIB assessment methodology uses notional amounts of derivatives as an indicator within the 'complexity' category and assigns only 6.67 % weight to this indicator. See http://www.bis.org/bcbs/publ/d296.pdf.

We hope you find our comments useful and would be more than happy to answer any questions you may have in relation to this submission.

Yours sincerely,

Jiří Król
Deputy Chief Executive Officer
Head of Government & Regulatory Affairs

ANNEX I

AIMA's response to the Consultation Paper

I Introduction

The stated purpose of the methodologies set out in the Consultation Paper is to identify NBNI ***global systemically important*** financial entities. In this response we will seek to demonstrate that the proposed methodologies for identifying private funds and/or asset managers as NBNI G-SIFIs are seriously flawed as they are likely to fail to identify institutions who could be a cause of potential *systemic* risk at a *global* level.

In order to improve the methodologies, we would welcome more attention being given to:

- The size of the global financial market;
- The relative size and activities of the respective financial market participants; and
- The comparative levels of leverage employed by financial market participants.

The global financial market is the "system"

In order to assess those entities which are G-SIFIs thought should first be given to the size of the global financial market and the relative size of the entities in that market. Although the hedge fund industry has grown over that last 20 years, it is still only a small part of the financial sector as a whole, employing lower levels of leverage than the banking sector, managing more liquid portfolios and capable of stemming investor redemptions in stressed market conditions.

The total size of global financial assets is estimated to be somewhere in the order of $300 trillion[3] with the global asset management industry controlling roughly $75 trillion[4] of assets. Within that, hedge funds manage and/or control an estimated $7.25 trillion worth of assets on a gross basis[5] – so roughly 2.4% of global assets.[6]

By way of comparison, certain types of entities which the FSB and IOSCO have chosen to disregard for systemic risk purposes account for a similar or even much larger portion of global assets. For example, sovereign wealth funds account for approximately $6.31 trillion[7] and pension funds account for substantially more than that - approximately $33 trillion[8]. Corporate treasuries and endowments can also breach some of the initial threshold filters but are similarly not being assessed for systemic risk purposes.

II Asset managers are not the appropriate entities to analyse for systemic risk purposes

The first FSB/IOSCO consultation paper on identifying the assessment methodologies for NBNI G-SIFIs (the 'First Consultation Paper') stated the following:

> "Since the core function of an asset manager is managing assets as an agent on behalf of others in accordance with a specified investment mandate, asset managers tend to have

[3] http://www.iii.co.uk/articles/223331/what-worlds-financial-markets-are-worth.

[4] http://www.pwc.com/gx/en/asset-management/publications/pdfs/pwc-asset-management-2020-a-brave-new-world-final.pdf

[5] Hedge fund net asset value has been estimated at approximately $2.9 trillion. Press release, Hedge Fund Research, Hedge Funds Conclude 2014 With Inflows As Investors Position For Volatility (20 January 2015).

[6] Calculated as $2.9 trillion multiplied by an estimate of average hedge fund leverage of 2.5x then divided by the estimated $300 trillion of global assets.

[7] See 2015 Preqin Sovereign Wealth Fund Review at: https://www.preqin.com/docs/samples/The-2015-Preqin-Sovereign-Wealth-Fund-Review-Sample-Pages.pdf.

[8] See the OECD's 'Pension Markets in Focus' (2014) at: http://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2014.pdf

small balance sheets and the forced liquidation of their own assets would not generally create market disruptions."[9]

We believe the analysis from the First Consultation Paper is an accurate representation of the potential risks posed by asset managers and were therefore surprised to see that asset managers were to be included as entities to be assessed in the second Consultation Paper and without explaining the risk-transmission mechanisms that could justify such an inclusion.

The Consultation Paper identifies three channels whereby financial distress of an NBNI financial entity is most likely to be transmitted to other financial firms and markets, and thereby pose a threat to global financial stability. These are as follows:

(i) The *exposures/counterparty channel*, in which the exposures of creditors, counterparties, investors and other market participants could be adversely affected by having a particular entity as a counterparty;

(ii) The *asset liquidation/market channel*, in which the liquidation of assets by the particular entity could trigger a decrease in asset prices and thereby significantly disrupt trading or funding in key financial markets, potentially provoking losses for other firms with similar holdings; and

(iii) The *critical function or service channel/substitutability*, in which the unwillingness or inability of a particular entity to provide a critical function or service relied on by market participants or clients and for which there are no ready substitutes.

None of these channels are relevant to asset management entities. There are several reasons why this is the case, which include the following:

- **Exposures/Counterparty channel**: Firstly, it is the funds that the asset manager manages that hold the financial assets and transacts with other parties in the financial markets. Asset managers, as agents for the funds that they manage, do not act as counterparties to financial transactions and the risks identified in relation to the exposures/counterparty channel are therefore not risks which may arise from the failure of the asset management entity;
- **Asset liquidation/market channel**: Secondly, financial transactions between the fund and other market participants will generally be collateralised and although the Consultation Paper raises concerns with the provision of indemnifications and guarantees by asset managers to their funds, this is extremely rare in practice. The assets managed by an asset manager are typically ring-fenced with a third party custodian or prime broker (which is typically contracted directly by the client, who is the owner of the assets), so that if an asset manager becomes insolvent, the assets themselves are not at risk. The risks identified in relation to the asset liquidation/market channel are therefore not probable risks which may arise from the failure of the asset management entity and assessing the AUM of an asset manager will not act as a proxy for the kinds of risk identified under this channel by the Consultation Paper; and
- **Critical function or services/substitutability channel**: Thirdly, asset managers individually and collectively do not provide a unique or non-substitutable service. The number of managers offering specific strategies is not so concentrated that an investor would not be able to find a suitable replacement if an asset manager did fail. For example, 50% of total AUM managed by all hedge fund managers in the United States is managed by 100 hedge fund managers. By way of comparison, only four bank holding companies represent over 50% of U.S. bank holding company assets. In addition, for the largest asset managers, there is generally no central control over investment decisions and there are often many separate investment teams which may trade in opposite directions for different accounts based on difference in investment objectives, investment restrictions and cash flows from subscriptions and redemptions for example.

We therefore consider that analysis of the fund, rather than the asset manager, is more appropriate for systemic risk purposes.

[9] See paragraph 7.2.2.

III Hedge funds do not pose significant risks to financial stability

With regard to the asset liquidation/market channel, we believe that post-crisis this is a less relevant channel for transmission of potential systemic risk for hedge funds as hedge funds tend to have one or more of the following type of features which act as "shock absorbers" in a crisis:

- **Infrequent redemption dealing days:** Monthly, quarterly, semi-annual or annual dealing are typical, with the majority of hedge funds having quarterly redemption periods. In the first quarter of 2015 AIMA surveyed a number of its members regarding the redemption, liquidity and leverage profile of their flagship hedge funds and the risk management processes used in relation to those funds (the 'AIMA Survey'). We received 80 responses to the AIMA Survey, which represented total global hedge fund assets under management ('AUM') of approximately $400 billion or just over 13% of the estimated total global hedge fund AUM of $2.9 trillion (without factoring in leverage). The results of the AIMA Survey showed that more than 75% of the funds surveyed offer redemptions on a monthly, quarterly or annual basis, with only about 16% of funds offering redemptions on a more frequent basis. Almost half of the funds surveyed impose a notice period for redemptions (with almost 70% of this sample permitting monthly redemption). 41% of the funds surveyed offer a notice period of 31-90 days, with all but one of these being funds permitting redemptions on a monthly or quarterly basis;
- **Redemption gates**: Fund-level, class-level and investor level redemption gates which limit the percentage of the fund's NAV which can be redeemed as at a particular redemption dealing day are commonly available redemption management options. Of the funds included in the AIMA Survey, approximately two-thirds have the ability to impose a lock-up or gate redemption requests. The surveyed managers managed the following strategies: hedged equity (approximately one-third), multi-strategy (approximately 25%), macro (approximately 20%), and relative value and event driven (remainder);
- **Redemption fee and anti-dilution levies**: Mechanisms to charge the cost of redemptions to redeeming investors can help to dis-incentivise investors from making reactionary redemption requests. Frequently, funds are designed with "soft" lock-ups; these types of lock-ups are waivable at the investor's option if the investor pays a redemption fee (a percentage of the amount to be redeemed) to the fund. The redemption fee is designed to compensate the non-redeeming investors for the costs associated with liquidating fund investments early in order to pay the redemption price to the redeeming investor;
- **Institutional/sophisticated investors**: Hedge funds are more and more frequently invested in by institutional investors such as pension funds, endowments, foundations and insurance companies who are investors with longer investment time horizons and who are less likely to redeem to chase trends in the market. Today, pension funds, endowments, sovereign wealth funds, insurance companies and charities are the source of the majority of capital managed by the hedge fund industry. Approximately one in every four dollars managed by hedge funds worldwide is invested by public and private sector pension funds;[10] and
- **Low levels of financial leverage**: Hedge funds use extremely low levels of financial leverage (defined as leverage obtained using borrowing or repo transactions). Most available data shows that the industry, on average, incurs financial leverage to the tune of between 2 and 3 times the NAV of the fund. The responses to the AIMA Survey indicated that the average level of financial leverage is 2.8x, with relative value arbitrage employing the highest levels of financial leverage and event driven strategies employing the lowest levels of leverage. The most illiquid strategies such as illiquid or distressed debt employ little if any financial leverage at all.

These factors make the market channel a less likely transmission channel for hedge funds to transmit distress to other entities.

We believe that the most effective way to address potential systemic issues related to the market channel should be primarily addressed to the market as a whole (e.g., introduction of central

[10] See *AIMA and CAIA association Helping Trustees Navigate the Hedge Fund Sector Paper 1: The way ahead 2015.*

clearing, margin for non-cleared derivatives, minimal haircuts for repo transactions, market transparency) rather than attempting the near impossible task of trying to isolate an impact of an individual fund entity on the way markets may function. This is all the more important as hedge fund managers tend to be more flexible, and opportunistic in the way they approach their risk appetite and exposure.

Furthermore, asset managers, funds and their investors are likely to react differently to the potential economic impact of SIFI designations. Unlike banking or other large financial conglomerates, large investment funds have not heretofore enjoyed explicit or implicit government subsidies that affect their ability to raise finance in the market. It is questionable, whether, for example, the impact of higher capital requirements even matches the overall positive impact of the funding subsidy G-SIBs are able to realize in the market. In the fund sector, however, investors and asset management firm employees would be very likely to react very quickly (and most likely negatively) to any policy measures affecting the returns of their funds' strategies to the extent that a designation process would very likely lose its original purpose.

IV Consistent criteria for assessing systemic risk

If the FSB and IOSCO conclude that, despite our comments above, hedge funds may pose a threat to the global financial system, we strongly disagree with the proposed threshold measure for hedge funds. We discuss further below why GNE is not a good reflection of systemic risk, but before assessing GNE as a calculation methodology, we would like to make the following points in relation to the use of inconsistent criteria for assessing systemic risk among similar entities:

- **All funds should be subject to the same threshold criteria and indicators**

We strongly disagree that there should be a threshold methodology for 'traditional investment funds' and separate threshold methodology for 'private funds' and that the indicators should be applied differently.

Firstly, we note that it may be difficult to divide the asset management industry into these two distinct sectors in a way the Consultation Paper attempts. In some instances, it may equally not be useful for the purposes of assessment of financial stability to try to divide the fund industry in that way. Traditional investment funds are increasingly using techniques which used to be more prevalent in the hedge fund sector (for example, the use of leverage, derivatives and short positions), while hedge fund managers are diversifying their product range by offering simpler, long-only strategies, or offering some alternative investment strategies through a UCITS or US registered investment company format.

This convergence in the historically distinct categories is the result of both investor demand and changes in legislation governing retail asset management products which has become more flexible in the recent past, allowing for greater use of sophisticated risk management techniques and instruments. Where possible, and, in particular, as regards the initial screening threshold assessments, we would therefore welcome the FSB and IOSCO applying identical criteria to all types of investment funds.

Secondly, there are no ex-ante reasons to treat investment funds differently given the ability of even the most regulated retail products to use investment techniques such as derivatives, leverage and short positions which were the historical domain of the hedge fund sector. If embedded leverage through investments in derivatives is considered to be a potential systemic risk, then this risk would be present in both hedge funds and non-hedge funds that carry out this activity.

Under the proposal set out in the Consultation Paper, the application of the threshold criteria as proposed will result in both the potential for being over-inclusive and under-inclusive as follows:

Captured by proposed thresholds	Not captured by proposed thresholds
$375 million hedge fund trading certain short term rates having a GNE in excess of $400 billion (see the worked example below on page 12)	$99 billion 40 Act fund trading in derivatives well in excess of the $400 billion GNE

We therefore consider that the initial screening threshold assessments should be adapted so that identical criteria apply to all funds. We discuss the indicators further below.

- **Consistency across the financial market**

Not only is it important that consistent assessment methodologies for systemic risk purposes are used for funds that act in a similar manner, but it is also imperative that when looking at measures of size and leverage as potential indicators of systemic risk, consistency is achieved across all sectors of the global financial market including banks. In relation to this, we note that there are currently a variety of measures that are used to measure size and leverage, but regulators outside the banking sector have yet to agree upon what the most accurate measure is.

We would urge regulators not to use a calculation methodology which uses the gross notional value of derivatives as a measure of size and leverage as this (i) does not measure actual risk exposure, (ii) does not reflect differences by asset or tenor, and (iii) does not reflect netting, collateralisation, or the impact of clearing. As a result, among other misleading outcomes, it exaggerates activity in the largest and single most liquid derivatives market (interest rate derivatives).

GNE is not used for assessment of any other financial entity and should not be used for hedge funds. However, if it is used for purposes of a threshold for assessing hedge funds, it should also be used as a threshold for assessing all other types of entities engaged in activities that affect the magnitude of GNE, such as trading in derivatives.

We note that regulators already have better measures than GNE available to them such as the commitment approach under the Alternative Investment Fund Managers Directive (2011/61/EU) (the 'AIFMD') or the 10-year equivalent calculation in the U.S. Securities and Exchange Commission's (SEC) Form PF, which corrects for duration which is a main distortion associated with the pure GNE calculation. This is discussed further below.

V GNE as a measure of systemic risk

As mentioned above, we do not consider that GNE is a good measure of systemic risk. The Consultation Paper states that the main advantage of GNE is its simplicity and the fact that it cannot be gamed through risk mitigating techniques. However, we consider that there are good reasons to use a different measure as GNE is not only not useful, but also the most inaccurate measure of systemic risk as compared to the other various measures put forward.

One of our main concerns with the use of GNE as a screen for systemic risk is that it is likely to result in a relatively high number of "false positive" results among certain types of funds which regulators will have to sort through. For example, the proposed GNE threshold will over-count derivatives positions with large notional amounts but relatively low risk exposures (e.g., interest rate and currency derivatives) while at the same time undercounting perhaps riskier derivatives positions that happen to have a lower notional amount.

We suggest GNE should be replaced by a measure which is common to all investment funds. Below is a summary of some of the main issues related to the usefulness of GNE:

- **Duration:** GNE does not differentiate between derivatives with different durations. It therefore does not reflect market or economic exposure and is a poor measure of risk. For purposes of reporting under the SEC's Form PF, which was specifically designed to assist regulators in assessing potential systemic risk of hedge funds and other private funds, funds report GNE after

adjusting all interest rate derivatives to 10-year equivalent, reflecting the SEC's recognition that the measures of risk under interest rate derivatives must be adjusted for their duration. We would therefore consider that this measure would be more representative measure than pure GNE and is already available and being used;

- **Offsetting**: The GNE approach does not allow for the offsetting of positions that might decrease or eliminate risk in a portfolio. For example, the GNE method counts 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, these leverage measures would either (i) count twice the full notional values or (ii) not permit the full netting of two perfectly offsetting positions, even though the fund's net economic exposure would be zero;
- **Relative risk of different types of derivatives:** The GNE method does 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. In the banking context by contrast, the relative risks of different types of derivatives has been considered for purposes of risk assessments;
- **Nature of the risks of options:** The GNE method does 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 under the GNE method, a one-month at-the-money call option on the S&P 500 index generally will have a value of approximately 1% of its notional amount compared to its delta of 50%; the gross method would indicate an exposure for such an option position which is 50 times greater than its maximum possible loss; and
- **Comparability with banks:** When the FSB, in close collaboration with the Basel Committee on Banking Supervision (BCBS), considered a leverage calculation methodology as part of its process for identifying global systemically important banks, it utilised the Current Exposure Method (CEM), a method that recognised legally enforceable netting arrangements and took 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. That method was replaced in March 2014 by an updated method, the Standardised Approach (SA-CCR), which provided even greater recognition of hedging and netting benefits and differentiates between margined and unmargined trades. 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 is suggested for hedge funds, that figure would be substantially higher.

If, despite our comments in relation to GNE, GNE is used as a measure of leverage, we would suggest increasing the initial threshold dramatically as the $400 billion notional exposure can be reached with extremely small levels of assets under management. The information below illustrates the point.

For $1m notional USD interest rate swap:

	Initial Margin in $
2Y	5,000
5Y	15,000
10Y	32,000

So, by only transacting in one specific maturity, in order to get to $400bn notional, one would need the following AUM (***provided that one can use 50% of AUM as margin***):

	AUM required to support $400bn notional
2Y	$4 billion
5Y	$12 billion
10Y	$25.6 billion

If a fund only transacted two-year swaps, $4 billion AUM would be sufficient to transact $400 billion notional, while half of AUM stays unencumbered.

If one considers the margin required for Eurodollar futures, the capital required to breach the $400 billion threshold is even smaller. Currently, the margin for December 2015 expiry Eurodollars is $467 per contract (notional $1 million). So $400 billion notional would be 400,000 contracts which would require $187 million margin. Assuming the 50% cash requirement stated above, generating a $400 billion of notional exposure would need a fund of only $375 million in size.

VI Alternatives to GNE

Leverage measures should be adjusted to take account of actual potential future exposure. A commitment method approach or a Basel III-like approach should be considered as they are either already calculated by the industry or could be easily calculated in the future.

Leverage is usually calculated as a ratio of some kind of a measure 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 NAV is the best estimate of capital or equity. However, there is no agreement on what would constitute the best measure of exposure. This is mainly because there is little agreement on how to approach off-balance sheet exposures obtained via the use of derivatives.

Fund Leverage = Exposure measure/Equity

1. **<u>Analysis of various types of fund leverage</u>**:

There are three relevant types of leverage for purpose of this response.

(i) Financial leverage/Balance sheet leverage:

Fund leverage can be calculated in a number of ways. The first and arguably, the most recognised measure for calculating leverage is through the fund's balance sheet, taking the fund's gross value of assets controlled (i.e., total long positions plus short positions in their absolute terms) divided by its total capital or NAV of the fund.

(ii) Gross leverage (using GNE):

Another method which can be used and has been contemplated by the FSB-IOSCO consultation paper which, depending on certain detail, would use the full gross notional position arising from derivatives transactions in its measure of exposure (GNE), adding this measure to the size of the balance sheet and then dividing by the NAV.

In a simple example, if a futures contract is purchased on 100 shares of a stock trading at $50 then the value for the off-balance sheet exposure used to calculate leverage would be $5,000 ($50 x$10).

(iii) Estimate of Basel III method of leverage:

Under this method, one can simply take the exposure measure to be 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: Conversion factor matrix for OTC derivative contracts for Basel III (Basel Capital Market Risk Final Rule)

2. Calculating hedge fund leverage on a sample of real hedge funds

We appreciate that it can be difficult to understand measures of leverage and risk without some data. To address this, AIMA has undertaken a study of a diverse sample of real-life hedge fund exposures to provide greater understanding of how the leverage ratio of funds varies dramatically depending on the exposure measure chosen for the leverage calculation. The AIMA study included analysis of 21 hedge funds of varying sizes and hedge fund strategies accounting for approximately $60 billion in hedge fund assets under management and the over 88 thousand individual positions. The analysis was done in based on 31 March 2015 data and conducted with the help of MSCI RiskMetrics.

The study provides a unique analysis of hedge fund portfolios and attempts to estimate what the leverage measure of those portfolios would be if it were calculated in line with the measure of leverage adopted by the Basel III methodology, thus obtaining the most relevant comparison of risk to what is an internationally agreed methodology for measuring exposure arising from derivatives positions.

In demonstrating the extreme differences obtained around the measure of leverage depending on the exposure measure used, we present the following Table 2 (below) for consideration.

Table 2:

Measure	**NAV**	**GAV**	**GNE**	**Adjusted Derivatives Exposures (BIII)**
Value (USD 000)	60,413,999	229,545,881	2,975,649,744	77,645,517

Source: AIMA/RiskMetrics, 2015

Key to this calculation

NAV = net asset value of the fund

GAV = gross asset value of the fund calculated as PV Total long + PV Total short positions (in their absolute terms) as reported in their reporting currency.

GNE = Gross Notional Exposure (GAV + notional value of derivatives positions)

Adjusted Derivatives Exposures = Notional value of derivatives positions x risk weighting from Table 1 (adaptation of the Basel III CEM approach).

(a) *Calculation of financial leverage (or balance sheet leverage).*

From Table 2, and with reference to the second and third columns, we provide the following:

GAV /NAV of the portfolio

- 229,545,881/60,413,999 = 3.8x

(b) *Calculation of gross leverage.*

As mentioned above, when calculating fund leverage using derivatives, it is suggested to do this by accounting for the fund's GNE, which is the absolute sum of all long and short positions including gross notional value (delta –adjusted when applicable) for derivatives. 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. From Table 2, positions for GNE are reported as notional reporting currency.

The estimated fund leverage will be calculated using the formula provided below:

GNE /NAV of the Portfolio

And from Table 2 above, this equates to Total GNE/NAV of the portfolio:

- 2,975,649,744/60,413,999 = **49x**

(c) *Use of the Basel III measure.*

If it is the intent to calculate size and leverage in a manner which is comparable to the banking industry and the broker/dealer sector, we suggest that one should use some form of a Basel III measure in calculating a fund's leverage. We have attempted to estimate the risk-weighted exposure of each underlying derivatives exposure and add this to the gross assets of the portfolio and then divide into the fund's balance sheet total.

Applying the risk factors in Table 1 to the various types of derivatives in the portfolio provides us with an estimate Basel III risk measure:

Applying the formula:

Gross assets + adjusted gross exposures/ NAV of the portfolio

- 229,545,881 + 77,645,517/60,413,999 = **5.08x**

The sum of total adjusted gross exposures are calculated by multiplying out the gross notional exposure of the portfolio fund positions broken down by the relevant derivatives types by the most conservative of the various risk weights. This means we assume that the maturity of all the derivatives positions in the portfolio is greater than 5 years.

Summary of study results and conclusion

The measure of leverage for hedge funds varies significantly depending on the manner in which derivatives exposures are taken into account.

1. Simple financial leverage (GAV/NAV) – **3.8X**
2. Gross (GNE) method (GNE/NAV) – **49x**
3. Basel III (AdjGNE/PV) – **5.08 x**

The gross method is shown as a very poor measure for calculating leverage, as it does not: (i) allow for the netting of positions that might decrease or eliminate risk in a portfolio, (ii) account for the relative risk of different types of derivatives positions held by a fund, and (iii) take account of the non-linear nature of the risks arising from options and other similar derivative positions.

The application of the adjusted Basel III method shows how the dominance of one particular type of derivative – interest rate swaps – creates an impression of excessive size and leverage of hedge fund portfolios when looked at on a gross basis. Applying the Basel III adjustments to the GNE measure of size results in a dramatic shrinkage of both size and leverage.

It therefore appears that the GAV and a simple financial leverage is a better approximation of a size riskiness of a hedge fund portfolio than a measure of leverage based on GNE. This is corroborated by the application of the Basel III methodology to a sample of real life hedge fund data. If we agree, as the Basel Committee and FSB/IOSCO that the Basel III method is the most appropriate method to estimate size and leverage that also takes account of derivatives exposures, we see that the GNE method is overstates this measure by roughly a factor of 10.

There is also another method that appears to provide similar adjustments to measuring size in the funds space which is the commitment method used to calculate exposure and leverage under the UCITS Directive and the AIFMD. We have not been able to estimate the size and leverage of the portfolio using this method as this would require the analysis of offsetting positions which may differ depending on strategies employed. We would recommend the FSB/IOSCO also examine this method closely in order to find a better manner of accounting for derivatives exposure than the gross method.[11]

We would note, however, that the commitment method suffers from a potential lack of clarity and subjectivity as to how netting and offsetting of position may be applied. For example, netting is permitted only 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". It is unclear how this qualitative test of the intention at the time of trade can be verified or tested.

Conditions when duration netting rules can be applied are also not fully specified. The rules and guidance state that funds that primarily invest in interest rate derivatives can make use of specific duration netting rules. They further state that "the duration-netting rules shall not be used where they would lead to a misrepresentation of the risk profile of the [fund]."

It is unclear how all of these tests should be carried out and as at the date of this document the European Securities and Markets Authority has not published further guidance on this matter. Determining whether netting, duration netting and offsetting rules may be applied is therefore matter of judgment for each fund manager and therefore potentially less easy to calculate in a consistent manner than an adjusted Basel III approach.

VII Comments on the indicators for assessing systemic risk for asset managers

Size

- **Indicator 1-1: Net assets under management (Net AUM):** This indicator focuses on net AUM risks in terms of outflows from funds managed by the asset manager or transfers of separately

[11] The rules relating to the commitment method are set out for UCITS funds in "CESR's Guidelines on Risk Measurement and Calculation of Global Exposure and Counterparty Risk for UCITS", 28 July 2010 (referred to below as 'CESR') and for alternative funds in the leverage regulations EU 231/2013 relating to AIFMD.

managed accounts ('SMAs'). It is not uncommon for an asset manager (even the largest ones) to have significant net outflows of AUM from funds that they manage. However, such events have not historically had a significant impact on the entire market, even where investments have had to be sold in order to fund redemptions. It is important to keep in mind here that the focus of this indicator is outflows from the AUM of a single asset manager do to a firm specific "failure" event rather than the potential effect of outflows across a number of asset managers. Further, large asset managers are more likely to have a significant portion of their business in SMAs. However, the factor for SMAs is that they are owned by the client and of all of the accounts managed by an asset manager they are the accounts that are the easiest to transfer efficiently to a new manager in the event of a "failure" by the asset manager and they are also the accounts that are least likely to sell assets into the market in such an event. As a result, SMAs should not affect an asset manager's systemic risk profile in a negative manner.

- **Indicator 1-2: Balance sheet assets:** The Consultation Paper states that: "As asset managers generally maintain low balance sheet assets (since they invest their client's assets), a significantly larger balance sheet than usual in terms of assets could indicate the existence of potentially significant activities other than asset management activities in a particular asset manager." However, large asset managers are more likely to have significant operations in multiple countries around the world which will require perhaps having significant real estate holdings in the form of office buildings from which the asset manager conducts its operations and computers and desks. None of these items are any different than other operating companies and should not be seen to be increasing "systemic risk" in the event of a manager's failure. Office buildings are sold all the time without impacting the global financial system. In addition to these types of assets, some asset managers are required for specific reasons under US GAAP or IFRS to consolidate certain funds or other products they manage onto their balance sheets despite the fact that they are not the beneficial owners of those assets.

Interconnectedness

- **Indicator 2-1: Leverage ratio:** If the balance sheet has been inflated by the consolidation process (see the discussion of Indictor 1.2), this ratio will be inflated as well. Moreover, using this indicator along with Indicator 1.2 gives the balance sheet a double weighting in the consideration of the indicators as a whole.
- **Indicator 2-2: Guarantees and other off-balance sheet exposures:** As stated above, asset managers do not typically provide guarantees. This indicator is therefore likely to not yield many results.

Substitutability

- **Indicator 3-1: Substitutability, measured by a percentage of the asset manager's revenues as compared to the total revenues attributable to the relevant business.** Asset managers individually and collectively do not provide a unique or vital service. They are highly substitutable, and the number of managers offering specific strategies is not so concentrated that an investor would not be able to find a suitable replacement if an asset manager did fail. For these reasons, this indicator is not likely to yield any applicable results.
- **Indicator 3-2: Market share, measured by percentage of the asset manager's AUM in a particular strategy as compared to the total AUM invested in the same strategy for all managers:** This factor is not helpful because it is measuring market share only by reference to assets that are managed by an asset manager. As was noted above, significant portions of the market are not considered as AUM of asset managers, including but not limited to assets controlled by banks, insurance companies, pension funds, sovereign wealth funds, corporates and individual investors.

Complexity

- **Indicator 4-1: Impact of the organisational structure:** No comment.

- **Indicator 4-2: Difficulty in resolving a firm:** No comment.

Cross-jurisdictional activities

- **Indicator 5-1: Number of jurisdictions in which an asset manager has a presence:** This indicator should not be measured based on the number of jurisdictions in which major counterparties of funds are domiciled, especially if these counterparties are actually the counterparties of the funds the asset manager manages and the asset manager is acting solely on an agency basis. A fund's number of counterparties would only be relevant in connection to an assessment in respect of the fund.

VIII Comments on the indicators for assessing systemic risk for funds

As an overarching comment on the risk indicators, we would suggest that the number of indicators should be reduced and the indicators should be simplified from what has been proposed in the Consultation Paper. As currently drafted, the 22 proposed indicators appear to be more confusing than helpful when assessing the systemic importance of an entity. In relation to the particular indicators for assessing the systemic importance of hedge funds, we would like to make the following comments:

Size

- **Indicator 1-1: Net assets under management (AUM or NAV) for the fund:** While one may accept that size is a relevant figure, NAV assessments should also be accompanied by assessments of gross asset value as well;
- **Indicator 1-2: For hedge funds and where available, gross notional exposure (GNE) as an alternative indicator:** For the reasons discussed above, we consider that GNE is a poor measure of size as well as risk and will not give a genuine indication of the relative risks posed by different funds. As explained above, we therefore consider that Indicator 1.2 should be removed. If it is not removed, then it should be calculated with adjustments for duration, offsets and different types of derivatives and should take into account the nature of the risks involved with specific derivatives, all as described above.

We suggest that a more appropriate indicator would be to consider the overall potential of the fund to cause counterparty losses, based on a risk-sensitive assessment of the entire portfolio net of credit mitigants.

Interconnectedness

- **Indicator 2-1: Balance sheet financial leverage of the investment fund:** AIMA disagrees that this is a reasonable factor to examine as although balance sheet financial leverage can be destabilising, it is not an indicator of interconnectedness or counterparty risk.
- **Indicator 2-2: Leverage ratio of the investment fund:** Using this factor in addition to separate factors for the NAV and for the financial leverage seems to multiple the implied weighting unnecessarily.
- **Indicator 2-3: Ratio of Gross Notional Exposure (GNE) to the NAV for the investment fund:** For the reasons discussed above, we consider that GNE is a poor measure of size, risk or interconnectedness and so creating a ratio from this figure still will not give a genuine indication of the relative risk of different funds. We therefore consider that Indicator 2.3 should be removed. Moreover, with separate indicators for GNE and NAV at Indicators 1.1 and 1.2 above, this factor multiplies unnecessarily the apparent weighting of the GNE and NAV figures.
- **Indicator 2-4: The ratio of collateral posted by the Investment Fund to its NAV:** In respect of hedge funds, this will typically be a meaningless number it is usually the case that all of a hedge fund's assets are pledged to the prime broker even if the assets are not in fact being used at any given time to support specific transactions. As a result, this indicator will need to be made more

specific and focus needs to be on collateral posted to support a specific transaction as opposed to capturing all general pledges.

- **Indicator 2-5: Counterparty credit exposure to the investment fund:** This could be a reasonable indicator but needs to be looked at on a net basis in order to be a good measure of risk.
- **Indicator 2-6: Intra-financial system liabilities to G-SIFIs:** Intra-financial system liabilities, at the relatively low thresholds of NAV and GNE, spreading out transactions with multiple counterparties makes the risk of the fund failing trivial to all of the counterparties rather than creating systemic risk.
- **Indicator 2-7: Nature of investors of the funds:** This indicator purports to focus on the status of investors in the fund and the size of their investments. Bear in mind that a large investment relative to the size of the fund is unlikely in most cases to be a large investment relative to the overall investment portfolio of an institutional investor, especially institutional investors such as banks and insurance companies. That being the case, the failure of an investor's investment in one specific fund is unlikely to have a systemic implications. Moreover, the Consultation Paper itself refers to institutional investors such as pension funds as "patient money". AIMA agrees with this premise that institutional investors (which tend to have longer term liabilities to fund) are less likely to withdraw their assets from funds than retail investors.

Substitutability

- **Indicator 3-1: Daily trading volume of certain asset classes of the fund compared to the overall daily trading volume of the same market segment:** This Indicator appears to focus on a market risk rather than a systemic risk. It also appears to be redundant of the other indicators in this category.
- **Indicator 3-2: Fund holdings per certain asset classes compared to the overall daily trading volume of the same asset class:** This indicator is generally ok, but it also appears to be redundant of the other indicators in this category.
- **Indicator 3-3: NAV of the fund compared to the size of the underlying market:** This indicator is also generally ok, but it appears to be redundant of the other indicators in this category.

Complexity

- **Indicator 4-1: Non-centrally cleared derivatives trade volumes of the fund/Total trade volumes of the fund:** This indicator should be excluded as it is inadequate for systemic risk purposes. We consider that the number of holdings rather than the trading volume should be considered.
- **Indicator 4-2: Ratio (%) of collateral posted by counterparties that has been re-used by the fund:** This should be excluded as it is not relevant to an assessment of systemic risk.
- **Indicator 4-3: Proportion of an investment fund's portfolio using High-Frequency-Trading (HFT) strategies:** It is often difficult to define what is meant by high frequency trading and no clear definition is offered in the Consultation Paper. High frequency traders often have many transactions open during the course of a day but are flat at the end of the day, meaning that it is unlikely that any of these types of fund will be captured by the size threshold in the first instance.
- **Indicator 4-4: Investment fund liquidity profile:** The liquidity a fund is able to provide to its investors is not an indication of the complexity of the fund nor or its systemic risk;
- **Indicator 4-5: For leveraged funds, ratio of unencumbered cash to gross notional exposure (GNE):** For the reasons set out above, we do not consider that GNE is a good measure of systemic risk. Unencumbered cash on its own does not pose a systemic risk, so all this factor does is give additional weight to the GNE as a systemic risk factor. Moreover, it would generate such a tiny

number that it would be difficult to calibrate the use of the factor to judge what is a risky ration and what is not.

- **Indicator 4-6: The ratio of unencumbered cash to the NAV of the investment fund:** Unencumbered cash on its own does not pose a systemic risk, so all this factor does is give additional weight to the NAV as a systemic risk factor.
- **Indicator 4-7: Amount of less liquid assets:** The amount of less liquid assets is only really relevant in the funds context in combination with a consideration of the redemption profile and life expectancy of a fund. The risk of less liquid assets arises when a fund may be forced to liquidate assets at a less than advantageous price to meet redemption requests. For closed-end funds, this is not a relevant consideration for example.

Cross-jurisdictional activities

- **Indicator 5-1: Number of jurisdictions in which a fund invests:** Making investments in multiple countries should reduce the riskiness of the fund through diversification rather than increasing its riskiness.
- **Indicator 5-2: Number of jurisdictions in which the fund is sold/listed:** Dealing with counterparties in different countries should also reduce the risk to the fund, decreasing the possibility of a failure related to a single counterparty or an event affecting all the counterparties in a jurisdiction will have a significant impact of the fund.
- **Indicator 5-3: Number of jurisdictions where the fund has counterparties:** Having investors in different countries may also reduce pressure on a fund in times of stress as investors in different countries will be subject to different internal pressures to redeem.