Brevan Howard Investment Products Limited
St Helier (Jersey) Geneva Branch
Rue d'Italie 10
1204 Geneva
Switzerland

T +41 (0) 22 884 0600
www.brevanhoward.com

May 29, 2015

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

Re: Consultative Document (2nd) on Assessment Methodologies for Identifying Global Systemically Important Non-Bank, Non-Insurers

Dear Secretariat of the Financial Stability Board:

Brevan Howard Investment Products Ltd ("**Brevan Howard**")[1] welcomes the opportunity to comment on the Consultative Document (2nd) published by the Financial Stability Board ("**FSB**") and the International Organization of Securities Commissions ("**IOSCO**") which proposes assessment methodologies for the designation of non-bank, non-insurer ("**NBNI**") financial entities as globally systemically important (the "**Second Consultative Document**").

We appreciate the efforts of the FSB and IOSCO to develop an NBNI systemic risk assessment methodology that recognizes the important differences between the operations and structures of banks and insurance firms, on the one hand, and those of investment funds, on the other, while at the same time aiming to achieve broad consistency among assessment methodologies across the various sectors.

In our comment letter to the FSB and IOSCO's first consultative document on this topic,[2] we discussed in detail our concerns with the use of delta-adjusted gross notional exposure ("**GNE**") as a factor to determine whether investment funds are subject to assessment as NBNIs and in measuring the use of leverage by an investment fund as part of that assessment.[3] We explained why GNE as proposed is a flawed measure of risk

[1] Brevan Howard is a global alternative asset manager that manages institutional assets across a number of diversified strategies.

[2] Letter from Brevan Howard Investment Products Ltd to the Secretariat of the Financial Stability Board (April 4, 2014), available at http://www.financialstabilityboard.org/wp-content/uploads/r_140423j.pdf.

[3] *Id.* at 3 *et seq*.

for derivative portfolios and thus should not be used as part of the FSB and IOSCO's assessment methodology. We proposed that any materiality threshold for assessment should be based on a risk-sensitive measure such as initial margin. Despite these comments, and those of several other commenters,[4] the FSB and IOSCO did not modify their approach to using GNE in the Second Consultative Document.

In this letter we make the following points.

- For purposes of the proposed initial materiality threshold, more accurate and informative data than GNE are ***currently available*** to regulators and should be used. GNE suffers from four key distortions – duration risk, options risk, offsets, and relative market risk – that are better addressed by other risk measures, which would provide regulators with a more accurate evaluation of potential systemic risk. Specifically, the SEC's Form PF contains derivative exposure data for interest rate derivatives adjusted for duration, removing one of the four key GNE distortions. It may also be possible to use ESMA's Commitment Method, adjusted for "netting" and "duration netting" with a 10-year "target duration," which would remove two of the four key GNE distortions (duration and offsetting risk).

- For purposes of the "Stage 1" assessment, the FSB should mandate a risk-sensitive assessment of a fund's portfolio, as it does for banks. This assessment should be focused specifically on two of the FSB and IOSCO's systemic risk channels: Exposure/Counterparty Risk and Asset Liquidation/Market. The analysis should be conducted using risk-sensitive measures such as initial margin or SA-CCR and take account of mitigating factors such as initial margin posted (protecting counterparties) or redemption notice periods (increasing the time available to liquidate assets). Since the FSB is concerned about systemic risk and GNE is a fundamentally flawed measure of risk, using GNE would be inappropriate in this context.

- Contrary to the assumptions in the Second Consultative Document, traditional funds in the United States and the European Union are heavy users of derivatives. The methods used to assess traditional funds and private funds should be identical.

- The FSB and IOSCO have suggested the risk transmission channels are "exposure" and "liquidation." In respect of those channels the vast majority of the proposed 22 Stage 1 indicators are not necessary or useful; the number of indicators can be reduced dramatically, resulting in a more straightforward, transparent, and useful assessment methodology.

[4] Comment letters from the Alternative Investment Management Association (AIMA), BlackRock, Managed Funds Association, and the Securities Industry and Financial Markets Association (SIFMA) Asset Management Group discuss issues with GNE in some detail. These letters are available on the FSB's website, at http://www.financialstabilityboard.org/2014/04/r_140423/.

1. GNE is a flawed measure of potential systemic significance, exposure and leverage. Better measures are available and should be used.

Under the revised methodology, a private investment fund would be subject to further assessment for systemic importance if it has a GNE of greater than $400 billion (the "materiality threshold"). This use of a private investment fund's GNE as a materiality threshold metric would result in both false positives (i.e., funds above the GNE threshold that are not systemically important) and false negatives (i.e., funds below the GNE threshold that may warrant review for systemic importance). In addition, the Second Consultative Document would use GNE as an indicator of systemic importance during its Stage 1 assessment process for those investment funds with GNEs above the materiality threshold. This application of GNE is also misguided, as GNE does not accurately measure risk exposure resulting from many common types of derivatives positions.[5]

Below we set out our arguments against the proposed use of GNE, supported by specific examples of common types of derivatives transactions in which GNE would be so inaccurate as to render the materiality threshold ineffective as an initial filter for systemic importance. At the end of this section, delineated in a text box, we propose simple alternatives for the materiality threshold and data to be used as part of the Stage 1 assessment.

- ***GNE is not an accurate "footprint" of an investment fund's market exposure.***

The FSB and IOSCO propose to use GNE as a materiality threshold on the basis that it is a "measure of market footprint and provides a picture of all the leverage that is employed by a fund to gain market exposure."[6] However, the proposal employs a flat $400 billion GNE threshold – regardless of the markets in which that exposure occurs. By taking this blunt approach, the proposal ignores that a fund's "footprint" in a market depends not only on the size of its positions but also the size of the markets in which those positions are held.

As shown in the chart below, a position in interest rate instruments with a $400 billion GNE yields a vastly different footprint from the same-sized position in other, smaller markets.

[5] The ECB's May 2015 Financial Stability Review, published yesterday, emphasises this point. "A common way to capture synthetic leverage is by calculating cash-equivalent portfolios… An important factor for calculating cash-equivalent portfolios is the calculation of exposures taking into account relevant netting sets. The definition of these is not trivial as many contracts differ in maturity, coupons or other contractual details." (https://www.ecb.europa.eu/pub/fsr/html/index.en.html)

[6] FSB & IOSCO, Consultative Document (2nd), Assessment Methodology for Identifying Non-Bank, Non-Insurer Global Systemically Important Financial Institutions (March 4, 2015) at 39, available at http://www.financialstabilityboard.org/wp-content/uploads/2nd-Con-Doc-on-NBNI-G-SIFI-methodologies.pdf (Second Consultative Document).

Derivatives GNE outstanding[7] ($ billion)

Asset Class	OTC	Exchange-Traded	Total	$400 bn GNE as a percentage of the total
Rates	483,659	41,285	524,944	0.08%
Equity	5,218	4,408	9,626	4.16%
FX	68,579	321	68,900	0.58%
Credit	16,399	0	16,399	2.44%
Commodity	1,611	2,041	3,652	10.95%

Under the proposal, however, an investment fund with a 0.08% footprint in the interest rate derivatives market would be subject to assessment for systemic importance on the same basis as an investment fund that has positions with a GNE of more than 10% to total GNE of the commodity derivatives market. Where the purpose is to measure the potential for an investment fund to be systemic by measuring market footprint, the $400 billion GNE materiality threshold clearly fails.

- ***GNE's flaws: the four key risk distortion factors.***

The primary failing of GNE is that it does not accurately reflect the risks of various types of derivatives positions. It only partially addresses option risk and fails entirely to reflect three other key risk distortion factors.

- *Duration risk*. For the same notional amount, longer-duration positions give rise to greater risk than shorter-duration positions; a $10 million position in a two-year swap is significantly less risky than a $10 million position in a 30-year swap in the same market, but GNE would treat both swaps identically. GNE therefore greatly overstates the riskiness of shorter-term interest rate derivatives. This overstatement is dramatic in the case of short-term interest rate contracts, such as futures that have a three-month duration, which is 40 times shorter than a benchmark 10-year bond. To compensate for this distortion, all interest rate derivatives should be duration-adjusted and reported as the market-standard 10-year equivalent (i.e., the notional of the 10-year government bond that would have the same interest rate sensitivity).

- *Options risk*. Although GNE partially takes into account options risk through delta adjustment, the full extent of options risk is not captured by GNE. This is because GNE does not take into account the directionality of a position held by an investment fund. The value of a long options position can decline only to zero, while that of a short options position can increase very rapidly and is theoretically limitless. Thus, GNE may understate or overstate options risk.

[7] BIS & Bloomberg; options assumed to have average delta of 50%.

- *Offsets*. Positions held by the same investment fund may have opposite and offsetting derivative exposures on similar or identical underlying instruments, for example, combinations of options on the same underlying index. Not all offsetting positions will reliably reduce risk, but GNE greatly overstates risk by not taking into account any offsets whatsoever.

- *Relative riskiness of different markets*. Different markets have different risk profiles based on their inherent characteristics. For example, a $10 million position in U.S. Treasuries is much less risky than a $10 million position in Brent crude oil; price volatility of physical commodities is generally much higher than interest rate and currency volatility. GNE would treat these positions equally, however.

These risk adjustments are key to determining the actual risk exposure to a fund arising from derivatives positions. Because GNE fails to account for these adjustments, any assessment metric using GNE is likely to be both over- and under-inclusive.

- ***GNE's flaws: examples of common transactions.***

The importance of considering these adjustments in any risk analysis can be demonstrated by examining simple examples such as the following four common derivatives transactions:

i. a two-year interest rate swap;

ii. a Eurodollar futures (three-month U.S. dollar interest rate futures) call option;[8]

iii. a Eurodollar futures option butterfly;[9] and

iv. WTI crude oil futures.

The two-year interest rate swap is affected by the first distorting factor (duration). The Eurodollar futures call option is affected by the first and second factors (duration and options), and the Eurodollar futures option butterfly is affected by the first, second and third factors (duration, options and offsets). WTI crude oil futures are affected by the fourth factor (different markets).

[8] This example transaction is an at-the-money call option on June 2015 Eurodollar futures, priced on 18 May 2015.

[9] This example transaction is a 98.625-98.75-98.875 call butterfly on June 2016 Eurodollar futures, expiring 12 June 2015, priced on 18 May 2015.

For the same GNE, these four transactions have dramatically different risk profiles, as shown by the following table.

Riskiness of common transactions with identical GNEs

	Two year interest rate swap	Eurodollar futures call option	Eurodollar futures option butterfly	WTI crude oil futures
GNE ($ million)	400,000	400,000	400,000	400,000
Largest daily change in value since May 2014 ($ million)	840	40	2	43,000
Initial margin ($ million)	2,000	60	5	31,000
Maximum possible loss ($ million)[10]	na	60	5	na

WTI crude oil has experienced price movements of more than 10% in a single day during the last year, such that the $400 billion GNE futures position could generate changes in value of $43 billion in a single day. In contrast, the Eurodollar call option strategy, with the same GNE, has not generated changes in value of more than $40 million, an amount that is one thousand times smaller. The table clearly demonstrates that for these four common transactions, GNE is no guide to their potential risk. In contrast, initial margin is a much more reasonable guide.

- ***Regulators currently collect, and should use, more accurate data for the materiality threshold.***

Despite the recognized shortcomings of GNE, the Second Consultative Document nonetheless proposes to utilize GNE for the materiality threshold. The FSB and IOSCO claim, as the basis for using GNE, that other measures are too complex and more accurate data are not currently available through regulatory reporting.[11]

This is simply incorrect. First, we believe that any potential additional complexity associated with other risk measures must be balanced with the benefits those measures offer in terms of accurately measuring risk. As illustrated above, GNE is far too blunt and inaccurate to provide meaningful information to regulators about an investment fund's potential systemic risk.

Second, data about investment funds' risk exposure calculated using other measures are currently available to regulators – on the same basis as is information about GNE. Specifically, private funds managed by investment advisers registered with the U.S. Securities Exchange Commission ("**SEC**") report exposure data to the SEC through Form PF filings. All interest rate derivatives are reported on Form PF in 10-year equivalent amounts, thus eliminating the duration distortion. This measure of exposure (which we shall refer to as "adjusted GNE") is a far better measure than GNE and should be used in preference.

[10] This shows maximum possible losses for the option buyer.

[11] Second Consultative Document at 39.

The Commitment Method is used by ESMA in its investment fund reporting requirements under AIFMD. The rules for its calculation allow for netting of offsetting risks and duration adjustments under certain circumstances. If ESMA were to clarify that "netting" and "duration netting" with a 10-year "target duration" could always be applied in the calculation, this would consistently remove two of the four key GNE distortions (duration and offsetting risk) and render the Commitment Method a useful measure of exposure (see the discussion in the text box below for details). Indeed, the Commitment Method would be a better measure of risk than the SEC's adjusted GNE approach. The reports to ESMA and SEC are the sources from which the FSB and IOSCO could easily obtain data for the materiality threshold that are of a far higher quality than the proposed GNE.

Concerns about the Commitment Method without Netting Adjustments

ESMA's Commitment Method in its basic form gives identical results to GNE, and we therefore do not support its use in basic form as a measure of risk. The calculation rules, however, permit additional adjustments of "netting" and "duration netting" to be applied in certain circumstances. If these two adjustments are applied consistently, and duration netting is always carried out with a 10-year "target duration," the Commitment Method would remove distortions due to duration and offsetting risks and would be a useful risk measure. If, however, these adjustments are not applied, then the Commitment Method suffers all the deficiencies of GNE and is not a useful metric. In our view, the consistent application of the netting and duration netting adjustments would need clarification from ESMA. In this letter, we denote Commitment Method calculations that use netting and duration netting with a 10-year target duration as the "adjusted Commitment Method."

Initial margin requirements for derivatives portfolios are also available to regulators pursuant to fund reporting templates. Where the data are not available directly, they can be deduced from answers to questions in existing regulatory reports regarding, for example, unencumbered cash holdings and collateral posted. As we argued in our response to the First Consultative Document, initial margin is set by creditors, usually subject to regulatory minimums and is the most risk-sensitive measure.

The chart below summarizes the sources of information from which the risk measures discussed above can be obtained and which of the risk distortion factors is addressed by each measure.

Risk measures: sources of data and distortions addressed

Risk Measure	Available From	Distortion Addressed			
		Option riskiness	Duration	Offsetting risks	Relative risk of different markets
GNE	CFTC	partial	no	no	no
Duration and delta adjusted GNE	SEC	partial	yes	no	no
Adjusted Commitment Method	ESMA[12]	partial	yes	yes	no
Initial margin	ESMA, CFTC, SEC[13]	yes	yes	yes	yes

While initial margin would be by far the best measure of riskiness for investment funds' derivatives positions, because it most fully addresses each of the key risk factors, we acknowledge that practical difficulties in obtaining data may persuade the FSB and IOSCO members to resist its adoption. However, these same practical difficulties do not exist for adjusted GNE and adjusted Commitment Method measurements, as these data are currently collected[14] by U.S. and E.U. regulators for most relevant investment funds. The FSB and IOSCO should use this more accurate data for its materiality threshold rather than relying on GNE, a measurement that will result in both over- and under-inclusiveness in the investment funds that will be assessed for systemic risk.

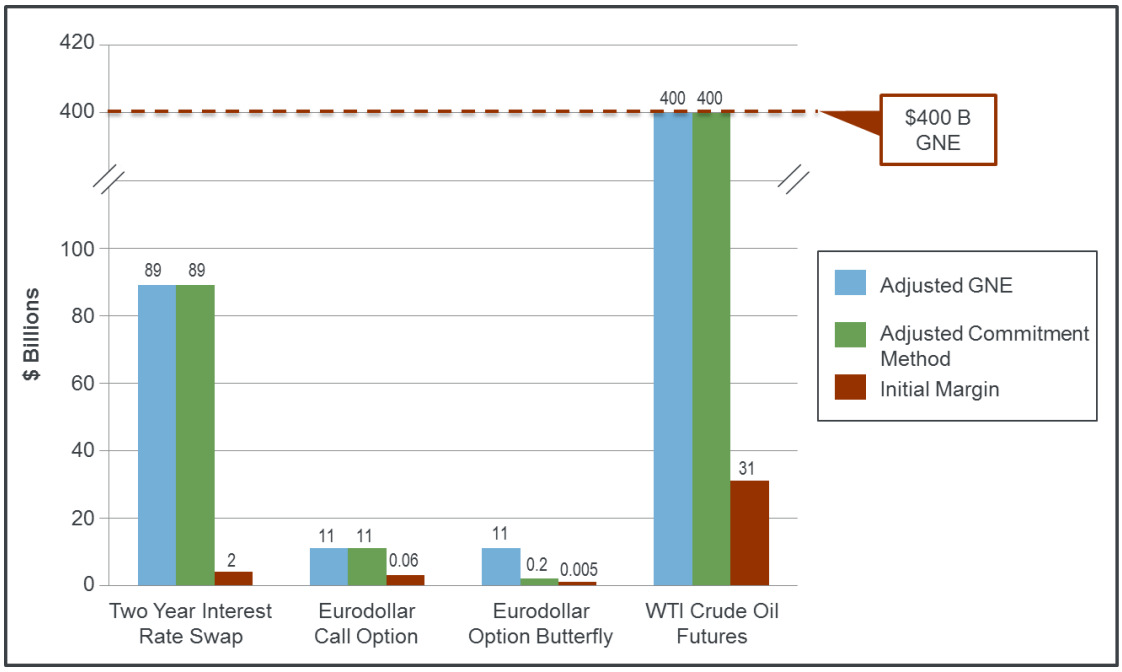
The bar chart below shows adjusted GNE, adjusted Commitment Method, and initial margin calculations for the four example transactions discussed above (a two-year interest rate swap; a Eurodollar futures call option; a Eurodollar futures option butterfly; and WTI crude oil futures). For each transaction, the GNE is set at the $400 billion materiality threshold. The progressive improvements of each method as relates to risk sensitivity are clear.

[12] Assuming netting, duration netting and 10-year target duration are allowed, as explained in the sidebar on page 7.

[13] This information is not directly available to regulators, but can be inferred from answers to questions in existing regulatory reports relating to unencumbered cash and pledged collateral.

[14] Or, in the case of adjusted Commitment Method, the information could easily be collected with clarifications from regulators.

GNE overstates risk exposure



- ***Proposed materiality threshold for SEC's adjusted GNE***

As noted above, adjusted GNE (i.e., GNE with interest rates converted to 10-year equivalent) is a better measure of exposure than GNE because it removes the distortion arising from duration effects. However, it remains an imperfect measure because it neither adjusts for offsets nor for the relative riskiness of different markets. The table below shows the size of the derivatives markets per asset class in terms of adjusted GNE. It is apparent that the interest rate and currency derivatives markets (even after duration adjustment for interest rates) are significantly larger than other markets. Given that the FSB and IOSCO have suggested a materiality threshold of $400 billion, representing more than 10% of the global commodity derivatives market, we propose that a 10% materiality threshold is used in each asset class. This would have the beneficial property of adjusting over time with the size of the derivatives markets.

Derivatives duration-adjusted GNE outstanding[15] ($ billion)

Asset Class	OTC	Exchange-Traded	Total	$400 bn GNE as a percentage of the total
Rates	96,732	1,180	**97,911**	0.41%
Equity	5,218	4,408	**9,626**	4.16%
FX	68,579	321	**68,900**	0.58%
Credit	16,399	0	**16,399**	2.44%
Commodity	1,611	2,041	**3,652**	10.95%

[15] LCH, BIS & Bloomberg; options assumed to have average delta of 50%.

- ***Proposed materiality threshold for adjusted Commitment Method***

If ESMA made the relevant clarifications that allowed the adjusted Commitment Method to be consistently reported (as described in side bar on page 7), the reported data would reflect adjustments (at least partly) for three of the four key distorting factors. It would therefore be reasonable to apply a materiality threshold of, for example, $400 billion in adjusted Commitment Method exposure.

- ***For investment funds above the materiality threshold, additional, more accurate information can and should be collected.***

Once an investment fund's investment exposure causes it to cross the proposed materiality threshold, the fund would be subject to further assessment for systemic importance. This process is termed the Stage 1 assessment in the proposal. As contemplated, Stage 1 assessments would involve regulators using data that are already provided to regulators as well as "information obtained directly from the relevant NBNI financial entity (e.g. interviews)."[16] As part of this more detailed assessment, the FSB and IOSCO propose to use GNE as an indicator of systemic risk to provide a "picture of all the leverage that is employed by a fund."[17]

For all of the reasons described above, GNE is not an accurate or appropriate measure of risk. Given that regulators plan to obtain additional information from those investment funds subject to the Stage 1 assessment, arguments against using more accurate risk measures at this stage because they are not currently reported to regulators are unconvincing. Instead, during the Stage 1 assessment, regulators should collect and use the most accurate measurements possible, rather than summarily dismissing these other measures because they are not currently reported to them.

The chart below expands on the types of risk measures that could be used by regulators as part of the Stage 1 assessment. In particular, it describes risk measures currently used by banks and bank regulators to measure risk, which are more sensitive and accurate measures than adjusted GNE and the Commitment Method.

[16] Second Consultative Document at 14.

[17] Second Consultative Document at 39.

Additional risk measures: distortions addressed

Risk Measure	Distortions Addressed			
	Option riskiness	Duration	Offsetting risks	Relative risk of different markets
Delta adjusted GNE	partial	no	no	no
Duration and delta adjusted GNE	partial	yes	no	no
Commitment method	partial	yes	yes	no
Initial margin	yes	yes	yes	yes
CEM (used by banks)	partial	partial	no	yes
SA-CCR (used by banks)	partial	yes	yes	yes

Both initial margin and data as reported on SA-CCR provide for some adjustment for each of the key risk factors. Moreover, in different contexts, these methodologies have been vetted and approved by regulators: initial margin requirements for cleared derivatives are currently set by clearinghouses subject to regulatory approval (and regulatory proposals exist for margin requirements to also apply to uncleared derivatives) and SA-CCR is used by banking regulators. Regulators assessing investment funds for systemic importance should take advantage of these more sensitive risk measures as part of the more detailed Stage 1 analysis, where reliance upon existing data is less important.

Proposed Modifications to the Use of GNE

1. ***Materiality threshold***. For the materiality threshold for investment funds, regulators should use more accurate, existing data with thresholds that better reflect market footprints. Specifically, we proposed the following:

- Where data from the SEC's Form PF are available, the materiality threshold should be set at an adjusted GNE of 10% of adjusted outstanding notional in each of the rates, foreign exchange, equity, credit, or commodity asset classes.
- Where Commitment Method data is available, and provided that netting and duration netting with a 10-year target duration are consistently applied to all positions, the materiality threshold should be set at $400 billion of exposure.

2. ***Stage 1 assessment***. Regulators should use the best available risk measures, regardless of whether they are currently reported to regulators. Either initial margin or risk calculations under SA-CAR would provide appropriately risk-sensitive and accurate data and would be an enormous improvement on the FSB and IOSCO's proposal to use GNE.

2. Applying different materiality thresholds to hedge funds and "traditional funds" is misguided because traditional funds are able to use derivatives extensively.

The Second Consultative Document would apply a different materiality threshold to "traditional investment funds" (defined as funds other than hedge funds and private equity funds) than the $400 billion GNE materiality threshold that would apply to other investment funds. The Document offers two alternatives for the tradition investment fund materiality threshold: $30 billion in net asset value ("**NAV**") and balance sheet financial leverage of three times NAV, with a backstop of $100 billion net assets under management ("**AUM**"); or $200 billion in gross AUM, unless the investment fund is not a dominant player in its markets. The FSB and IOSCO explain this bifurcated approach on the rationale that the materiality threshold focuses on leverage and "public funds are limited in their ability to borrow or use leverage by regulation."[18] This is a commonly held view but inaccurate: it does not fully describe the significant amount of leverage actually employed by traditional investment funds.

The FSB and IOSCO's analysis of traditional investment funds, principally U.S. funds registered under the Investment Company Act of 1940 ("**1940 Act**"), which include mutual funds and ETFs, and UCITS funds in the European Union, is based on regulatory limits or caps on the leverage that these funds can employ. However, as a practical matter, these limits and caps do not meaningfully limits the use of leverage by these types of funds.

In the United States, the 1940 Act restricts the amount of borrowing in which a registered investment company may engage up to 33% of its NAV. The 1940 Act and SEC guidance mandate that potential future commitments or liabilities of the registered investment company be covered by cash or liquid assets. This requirement, in theory, limits the use by funds of repurchase agreements and derivatives that settle through physical delivery of the underlying assets, as the registered investment company would need to hold sufficient assets to meet the delivery requirement at any moment. However various commentators have noted[19] that for cash-settled derivatives, the only "cover" required under SEC guidance is the current mark-to-market value of the derivatives contract, which is an amount significantly less than the full settlement amount that would be required for physically settled contracts. It is apparently common for funds to enter into arrangements with brokers under which all derivatives – even those ostensibly requiring physical settlement – will automatically be cash settled, thereby giving the fund access to the entire universe of exchange-traded and OTC derivative contracts without requiring full cover of its exposure.

In the European Union, UCITS funds are not allowed to borrow more than 10% of NAV and further are subject to restrictions on "exposure" to derivatives. However, the borrowing limit excludes repurchase agreements, and an "advanced" exposure rule allows the use of any derivatives (notwithstanding the limit), provided that the one-month

[18] Second Consultative Document at 32.

[19] For example, "Asset managers: The SEC's road ahead", PwC, May 2015 available at http://www.pwc.com/en_US/us/financial-services/regulatory-services/publications/assets/asset-managers.pdf.

99% VaR is below 20% of NAV. These exceptions to the general borrowing limit allow UCITS funds to maintain large derivative portfolios.

The significant actual levels of derivatives use by regulated funds can be seen by a relatively simple analysis based on publicly available data. The table below shows the size of derivative portfolios held by four traditional funds, as listed in recent, publicly available annual reports.[20] It is clear that traditional funds are heavy users of derivatives.

Registered fund exposures ($ million)

Fund	Type	NAV	GNE[21]	GNE/NAV ratio	Report Date
Fund 1	US	231,914	1,565,677	7	31-Mar-14
Fund 2	EU	29,889	89,705	3	30-Sep-13
Fund 3	EU	80	2,550	32	31-Mar-14
Fund 4	EU	717	14,593	20	31-Mar-14

For these reasons, we submit that it is misguided for the FSB and IOSCO to apply different materiality thresholds to traditional investment funds and other types of funds. Instead, the regulators should apply the thresholds proposed above to all funds, equally.

Proposed Revision to Approach to Traditional Investment Funds

Traditional investment funds and private funds should be subject to an identical analysis, including the same materiality threshold.

[20] This letter presents the fund data anonymously; however, we would be happy to provide the FSB and IOSCO with additional details to the extent helpful.

[21] For these GNE calculations, delta of all options is assumed to be 50%

3. The proposal's assessment methodology is unnecessarily complicated and should be simplified.

The FSB and IOSCO have proposed a complex, multi-stage, multi-factor assessment methodology under which investment funds would be assessed for systemic importance. The methodology identifies three types of systemic risk – exposures, asset liquidation, and critical functions or services – and associates those risks with transmission mechanisms – counterparty channels, market channels, and substitutability. It then identifies five input factors that relate to one or more of those risks and transmission channels: size, interconnectedness, substitutability, complexity, and global activities. From those five factors, the methodology derives twenty-two "indicators," which are specific metrics that are to be applied to investment funds as part of the systemic risk assessment.

This methodology is needlessly complex. It misidentifies the key sources of potential systemic risk relevant to investment funds and would require an analysis of metrics that are not relevant to these sources. We respectfully submit that a much more streamlined approach would serve the FSB and IOSCO by better identifying investment funds that are systemically important and would provide needed transparency to the process by avoiding unnecessary confusion about how the various indicators, factors, channels, and risks would be evaluated.

As proposed in the First Consultative Document, two sources of systemic risk are relevant for investment funds: levels of market exposure that could cause losses to creditor counterparties (the "Exposure/Counterparty channel") and levels of exposure that could cause extreme market disruptions if holdings had to be liquidated (the "Asset liquidation/Market channel").

With respect to the Counterparty/Exposure channel, the risk is the potential for a fund to cause losses to counterparties, that is, banks and other dealers. This can be measured simply by calculating a fund's potential losses to counterparties, using a risk-sensitive analysis of exposures and netting collateral and other credit mitigants that give protection to creditors. In other words, the potential exposure to creditors can easily be calculated as:

- the potential decline in value of the entire portfolio using a risk-sensitive measure
- less unpledged cash and other high-quality liquid assets held by the fund
- less initial margin posted.

The assessment indicators for this source of risk and transmission channel should focus only on this measure.

Regarding the Asset liquidation/Market channel, the most important factors are the time it would take a fund to liquidate its holdings relative to the notice period available to investors and also relative to the notice period with which financing can be withdrawn for leveraged positions. The former is already proposed as indicator 4-4 and

the latter should be a new indicator. Indicators relating to this channel should focus only on these measures.

The majority of the proposed indicators, however, are not relevant to either of these objectives. In our view, of the 22 proposed indicators, we believe only four address relevant sources of systemic risk. We suggest that the unnecessary metrics be excluded from any final assessment, but that the FSOC and IOSCO consider adding two new indicators, which we believe will provide useful information about the potential systemic risk posed by an investment fund. These new indicators are (1) the riskiness of a fund's portfolio, net of credit mitigants; and (2) the time needed to liquidate a fund's assets and the notice period that creditors can give to materially change credit terms. We provide a more detailed list in Appendix A of the proposed metrics that should be excluded or retained, and the two additional metrics that would provide regulators with greater insight about a fund's systemic importance.

Proposal to Address Unnecessary Complexity in the Assessment Methodology

The majority of the proposed indicators are not relevant to any of these objectives and should not be included as part of a final SIFI assessment methodology. New indicators should be added regarding (1) the riskiness of a fund's portfolio, net of credit mitigants; and (2) the time needed to liquidate a fund's assets and the notice period that creditors can give to materially change credit terms. By this means, the 22 proposed indicators can be reduced to six. Additional detail is included in Appendix A.

* * *

Brevan Howard appreciates the FSB and IOSCO's consideration of its views. Please do not hesitate to contact me with any questions at aron.landy@brevanhoward.com.

Sincerely yours,

Dr. Aron Landy
Partner and Chief Risk Officer
Brevan Howard Investment Products Limited St Helier (Jersey) Geneva) Branch

Appendix A

The majority of the "indicators" that the Second Consultative Document would apply to investment funds would not provide useful information regarding a fund's systemic importance. This chart sets out our recommendations for the unnecessary or unhelpful indicators that should be excluded and for those that should be retained as part of a final assessment methodology. It also suggests two new indicators that would be useful as part of an assessment.

Indicators for assessing systemic importance of investment funds

Indicator	Comment
1-1: Net assets under management (AUM or NAV) for the fund	Retain: useful when considering exposure measurements.
1-2: For hedge funds and where available, gross notional exposure (GNE) as an alternative indicator	Exclude: GNE is a flawed measure. A new indicator measuring riskiness should be used (see row below).
Proposed new indicator: overall riskiness of an investment fund's portfolio, net of credit mitigants (i.e. potential size of counterparty losses)	We propose adding a new indicator measuring the overall potential of the fund to cause counterparty losses, based on a risk-sensitive assessment of the entire portfolio net of credit mitigants.
2-1: Balance sheet financial leverage of the investment fund	Exclude: not, in itself, an indicator of counterparty risk.
2-2: Leverage ratio of the investment fund	Exclude: not, in itself, an indicator of counterparty risk.
2-3: Ratio of Gross Notional Exposure (GNE) to the NAV for the investment fund	Exclude: GNE is a flawed measure. And this is not, in itself, an indicator of counterparty risk.
2-4: The ratio of collateral posted by the Investment Fund to its NAV	Exclude: not in itself an indicator of counterparty risk.
2-5: Counterparty credit exposure to the investment fund	Retain only if based on risk-sensitive assessments of potential losses, net of credit mitigants.
2-6: Intra-financial system liabilities to G-SIFIs	Retain only if calculated on a risk-sensitive basis net of credit mitigants.
2-7: Nature of investors of the funds	Exclude: not relevant to systemic risk.
3-1: Daily trading volume of certain asset classes of the fund compared to the overall daily trading volume of the same market segment	Exclude: Analysis of trading volumes is unlikely to be relevant to systemic risk. Furthermore, "Market segment" is not defined. Careful analysis would have to be undertaken in order to restrict this to systemic risk only.
3-2: Fund holdings per certain asset classes compared to the overall daily trading volume of the same asset class	Exclude: this risk is covered by indicator 4-4.
3-3: NAV of the fund compared to the size of the underlying market	Exclude: undefined - for example what is the size of the underlying market for macro strategies? Also addressed by indicator 4-4.
4-1: Non-centrally cleared derivatives trade volumes of the fund / Total trade volumes of the fund	Exclude: the definition is inadequate for any systemic risk assessment. For example, FX derivatives are not centrally cleared yet are highly liquid. In a resolution of a fund, the number of holdings, not the trading volume, is relevant.
4-2: Ratio (%) of collateral posted by counterparties that has been re-used by the fund	Exclude: this is not relevant to systemic risk.

Indicator	Comment
4-3: Proportion of an investment fund's portfolio using High-Frequency-Trading (HFT) strategies	Exclude: not relevant to systemic risk.
4-4: Investment fund liquidity profile	Retain: this is an important indicator of a fund's susceptibility to having to liquidate assets quickly due to redemptions.
Proposed new indicator	We suggest adding a new indicator comparing the time needed to liquidate assets and the notice period that creditors can give to materially change credit terms.
4-5: For leveraged funds, Ratio of unencumbered cash to gross notional exposure (GNE)	Exclude: GNE is not useful.
4-6: The ratio of unencumbered cash to the NAV of the investment fund	Exclude: not in itself an indicator of systemic risk.
4-7: Amount of less liquid assets	Exclude: "less liquid" is undefined. The issue is better addressed by indicator 4-4.
5-1: Number of jurisdictions in which a fund invests	Exclude: this metric is misconceived. Liquidation is not complicated by a fund holding securities listed on multiple stock exchanges.
5-2: Number of jurisdictions in which the fund is sold / listed	Exclude: this will not make the resolution of a fund more complicated.
5-3: Number of jurisdictions where the fund has counterparties	Exclude or amend: this is only relevant to creditors of the fund, not to investors. Also it is not the jurisdiction of the creditor that matters but the jurisdiction of the governing law of the credit agreement. In practice almost all credit agreements are governed by either New York law or English law so this indicator is very unlikely to be important.