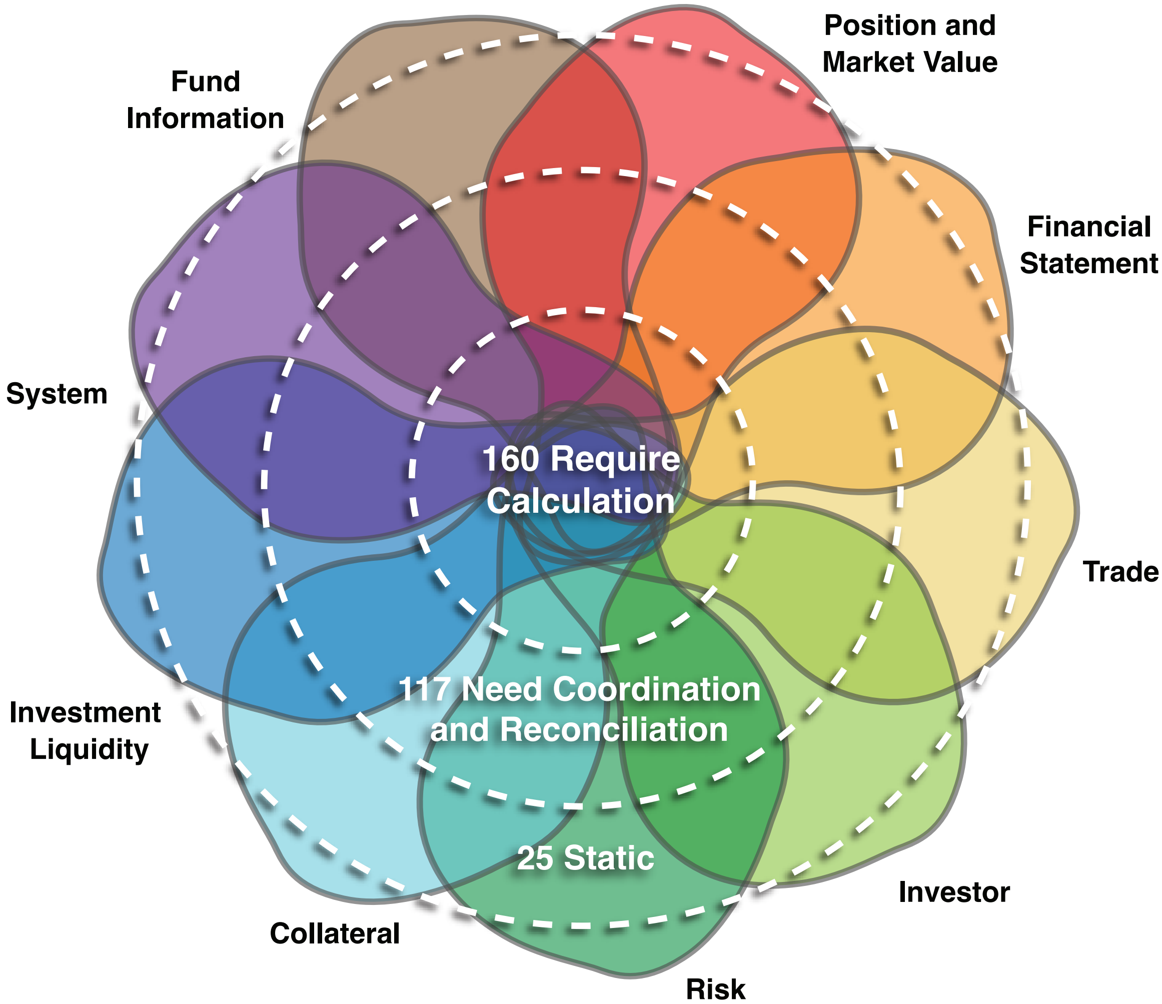
AIFMD Annex IV:
A Multitude of Questions, Calculations, and Decoding Considerations



CONTACT

EMEA: Ranjan Mishra
+44 20 7016 9171 ranjan.mishra@viteos.com

USA: Jonathan White
+1 646 861 3409 jonathan.white@viteos.com

ASIA: Danny Lim
+65 6850 7797 danny.lim@viteos.com

AUTHORS

Srinivasan KS
Vice President, Fund Accounting, VITEOS
+91 80 66082370
srinivasan.ks@viteos.com

David A.A. Ross
Global Head of Marketing, VITEOS
+1 732 356 1200 Ext. 1220
david.ross@viteos.com

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Executive Summary

Abstract

Insofar as scope is concerned, responses compiled from multiple sources must be accurately filed in a format defined by ESMA. To do so requires considerable operational resource allocation. This paper describes the range of data questions, calculations, and decoding relevant to operations. The AIFM set is 38 questions (9 require calculation) across five categories. The AIF set is 302 (160 require calculation) questions across nine categories. A firm with one fund will provide 340 responses. While AIFM responses can be aggregated across funds, AIF responses are fund specific. Thus, for firms with one fund there are 302 AIF questions, for two funds 604, etc. Additionally, AIF reports must be filed within 30 calendar days of the end of the reporting period, and with NAVs published 10 working days into the calendar month, a firm has 10 more working days to submit its filing.

Included is a light examination of rationale, calculation, and interpretation, with particular focus on data intensity and complexity. It elucidates this topic with an example of the commitment method for leveraged computations and concludes with markets and instrument coding. 10 separate fields must be coded, illustrating the data intensity involved. Regarding complexity, computational methods repeated in multiple categories are mandated. The leverage and exposure computation must follow the gross and commitment or advanced methods; Assets Under Management (AUM); and counterparty exposure (contingent upon whether agreement provides for netting or not). The first two require the conversion of derivatives into the equivalents of their underlying assets. The assumed straightforward calculation of AUM requires adjustment to standard NAV calculation that will affect whether an AIFM is subject to the directive, even if the NAV lies below the presumed threshold for reporting. The paper includes an example of this case.

In the case of the commitment method for leverage, the definition of netting and hedging are not open to interpretation. There are specific conditions for hedging arrangement, all of which must be met and a Commitment Method Decision Tree illustrates the process

Finally, the AIFM and/or its administrator must record the market type code and market code and associate these with each trade. Further markets and instruments must be ranked by aggregated value, with the top 5 aggregated values listed. Each instrument in the portfolio must also be mapped using standard ESMA codes.

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Introduction

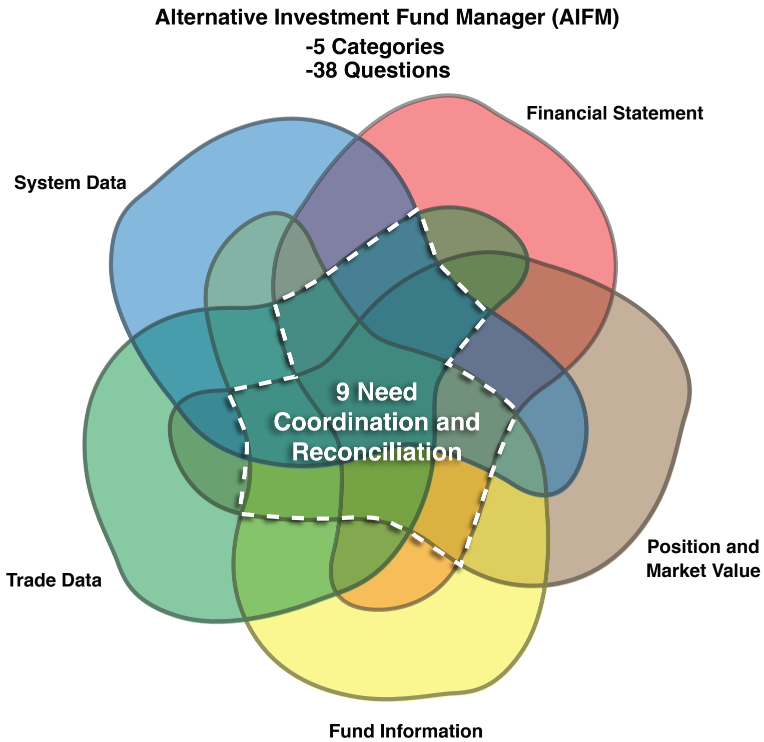
To avoid wasting time and energy, it is essential for operations groups to approach the 340-question Alternative Investment Fund Manager/Alternative Investment Fund (AIFM/AIF) Annex IV filing with forethought. This will enable them to achieve the greatest efficiencies, including the benefit of repurposing the reporting outputs for other uses. Aside from the process considerations, the individual questions that must be answered in the filing are at the heart of the matter. Although the directive comprises a number of annexes, we focus only on Annex IV questions (38 regarding the manager and 302 regarding the fund). To assist you with preparation, we shed some light on the scope of data decoding and the commitment method for leverage computations, and we also provide some market and instrument coding examples.

The Breadth and Volume of AIFM/AIF Questions

the sheer volume of questions increasing by 302 for each additional fund hints at the enormity of the job ahead.

The challenges of data sourcing, collection, and coordination for each response constitute the largest hurdle in a comprehensive project that will eventually become a process that is embedded into the operation of each fund regulated by the Alternative Investment Fund Managers Directive (AIFMD). The trials of dealing with the data are exacerbated by the decoding required for certain responses and by the sheer volume of questions, which increases by 302 (604, 906, 1208 etc.) for each additional fund. The following Venn diagrams — which encompass the data itself, the number of questions, and the complexity of the questions — indicate that AIFMs have an unprecedented amount of work to do. A clinical look at the scope of the question sets hints at the enormity of the job ahead and the prerequisite preparation and devotion required to compile a compliant filing.

AIFM categories and their overlap



Source: Viteos

The AIFM question set comprises 38 items/questions across five categories: financial statement, positions and market value (PMV), fund information, system, and trade data. Nine of the 38 items require calculation at various levels of complexity beyond data collection. The remaining items are static, but each still requires considerable resources to provide an appropriate response.

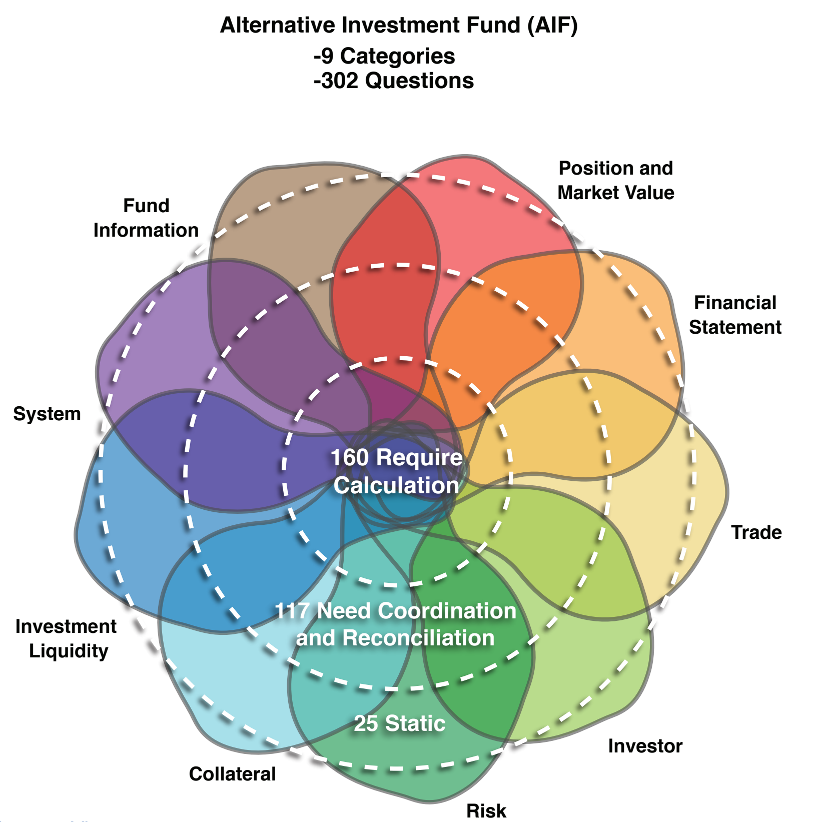
AIFM Category	Number of Items/Questions
Fund Information	27
Financial Statement	2
PMV	3
Trade Data	4
System Data	2

AIF Category	Number of Items/Questions
Fund Information	72
Financial Statement	14
PMV	77
Trade	22
Investor	50
Risk	52
Collateral	5
Investment Liquidity	8
System	2

Source: Viteos

…a fund has 10 working days to collect, analyze, calculate and submit the final report to each authority.

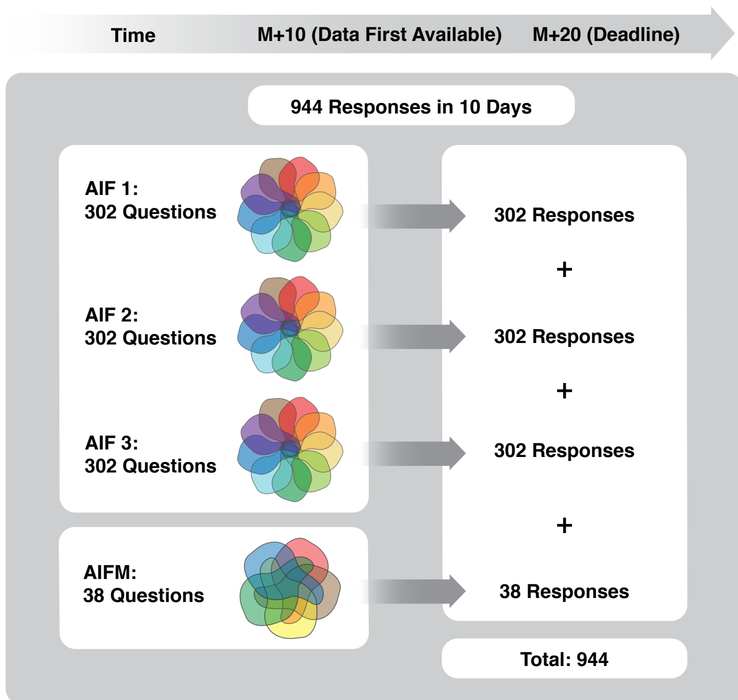
The AIF question set contains 302 items/questions across nine categories. Of these, 160 items require calculation, 25 are static, and 117 require coordination/reconciliation of data from various sources. Added to the volume of data inputs is the timing precision for filing specific to the AIF. AIF reports must be filed within 30 calendar days of the end of the reporting period. As net asset values (NAVs) are published approximately T+10 working days (or 10 working days into the calendar month — because reconciliation and resolution take time), a fund effectively has only 10 more working days to collect, analyze, calculate and submit the final report to each national authority by month's end.



Source: Viteos

…data demands on a firm expand as a function of the number and type of funds it manages.

The data collection and calculation challenge is intensified by the exponential effect of the number of funds covered under the regulatory regime. If a firm has three funds, it must file one AIFM report for all three funds in aggregate and individual AIF reports for each fund. The spectrum of data and demands on a firm expand as a function of the number and type of funds it manages.



Source: Viteos

There are also multiple counterparties who must cooperate for a successful filing, as much of the data has never been requested before and needs to be gleaned from multiple sources, including internal accounting, trading, and risk; the fund administrator; industry sources; prime brokers; and risk firms. Reports must be accurate and properly filed in the format defined by the European Securities and Markets Authority (ESMA), granted each national authority can request more than ESMA dictates. Staying current with requirements and potential changes to ESMA and each national authority's directives will stress regulatory filing resources.

…multiple counterparties must cooperate for data never requested before and stay current with requirements—together these will stress the firm's resources.

The aforementioned challenges demonstrate the commitment that is required by AIFMs to achieve an internal process that is seamless and replicable. Securing an independent provider to coordinate the process separately from daily operations means the AIFM can focus on its core business without developing a parallel internal regulatory enterprise.

…independent providers coordinate separately from daily operations, there is no need to build a parallel internal regulatory enterprise.

the primary challenges are data intensity and complexity of calculation.

Rationale, Calculation, and Interpretation

To sufficiently address each question, we recommend segmentation as the first step when approaching Annex IV. The two primary challenges of data collection and calculation are data intensity and complexity of calculation. The accompanying table illustrates the data intensity and lists the complex calculations repeated in multiple categories, assuming the breadth and depth of data intensity is addressed adequately.

Data Intense Coded Fields
• MIC (marked identifier code)
• LEI (legal entity identifier)
• AII (alternative instrument identifier)
• Classification of asset types into 3 categories
• Classification of strategies
• Classification of issuer type into financial institution or others
• Domicile of derivative underlying
• Hedging percentage
• Credit ratings
• Identification of EU vs. non-EU, G10 vs. non-G10

Complex Calculations Repeated In Multiple Categories	
A	Leverage and exposure computation – by two different methods (Gross and Commitment or Advanced)
B	Assets Under Management (AUM) Calculation
C	Counterparty exposures (based on whether agreement provides for netting or not)

(A and B above require the conversion of derivatives into equivalent in their underlying)

Source: Viteos

…rationale requires expertise the firm will need to either develop internally or obtain from regulatory reporting experts.

67% of respondents who complete regulatory filings use a third-party provider other than their administrator to do so.

At the levels of the AIFM and the AIF, a real issue for firms is the complexity of the responses themselves. The number of calculations is not simple. Their interpretation must have a rationale that will meet the regulator's threshold. This exercise alone requires expertise the firm will need to either develop internally or obtain from regulatory reporting experts who have the requisite accounting experience and technological sophistication.

Ultimately, AIFMs are responsible for meeting the mandates of the directive and run the risk of enforcement action for either failure to comply or for inaccuracies. Given the level of complexity, even though 80% of filing-related data resides with the fund administrator, one administrator is not going to complete or coordinate a filing on behalf of another fund administrator. Technology certainly helps, but its use is limited without domain expertise and the experience needed to manage, interpret, and coordinate filings. Hence, it was not surprising to learn from a survey of US and UK hedge funds that 67% of respondents who complete regulatory filings use a third-party provider other than their administrator to do so.

The task is amplified when there are multiple administrators and multiple funds. Each regulatory filing requires both analysis and normalization, fund by fund. The other 20% of the data, which may originate from any number of sources, provides enrichment and may include risk, liquidity, strategy, and investor data.

…task is amplified with multiple sources as filing requires both analysis and normalization, fund by fund.

The following table shows the percentage of US and UK hedge funds surveyed that said they use an external provider other than their principal fund administrator for various services.

Do you use an outsource provider other than your principal fund administrator for any of the following services?

Answer	%
Regulatory reporting (Form PF, Form CPO-PQR, AIFMD, etc.)	**67%**
In-house reconciliation and break resolution	33%
Risk management/reporting	33%
Confirms and settlement	25%
Stock loan/borrow optimization	25%
Cash management	25%
Collateral management	17%

Source: Global Custodian Viteos Hedge Fund outsourcing survey of USA and UK respondents, September 2013

Leverage Computations

As noted earlier, the mandates go well beyond the mere collection and reporting of data. An examination of leverage and AUM reveals the detail, interpretation, and attendant burden on managers that is expected. For leverage, exposure is calculated by the gross method and also by either the commitment method or the advanced method. The calculation of AUM, which one would assume to be straightforward, requires adjustments to classical NAV calculation that can affect whether an AIFM is subject to the directive, even if the NAV lies below the threshold that would ostensibly exempt the AIFM from reporting.

AUM calculations requires adjustments to classical NAV calculation that can affect whether an AIFM is subject to the directive.

Assume that an AIFM has an AIF with the following investments ($ mn):

Assets & Liabilities	Market Value	Underlying Exposure
Cash and cash equivalents	66,278,888.72	
Bond 1	124,914,660.79	
Bond 2	82,400,000.00	
Equity	36,302,491.36	
CDS 1	29,506,260.00	140,000,000.00
CDS 2	906,700.00	100,000,000.00
CDS 3	-1,756,312.86	72,088,000.00
Option	24,348,091.00	700,000,000.00
CFD	27,746.71	113,205.33
Liabilities	18,146,426.29	
AUM of the AIF	**1,322,097,246.20**	
NAV of the AIF	**344,782,099.43**	
Exposure	**1,255,818,357.48**	(securities + underlying)
Leverage ratio	**3.64**	(exposure / NAV)

This simplified example computation of AUM yields an NAV of ~$345 million; however, the AIFM actually has AUM of $1.32 billion. Therefore, the AIFM is required to file quarterly.

Additionally, the AIF's exposure of $1,255,818,357 (cash and equivalents excluded, sum of market value of securities and underlying exposure of derivatives) yields a leverage of 3.64 by the gross method (exposure / NAV). A ratio above 3.0 is considered significant leverage.

The complexity of the leverage computation is due to the AIFMD inclusion of the underlying exposures of each derivative position despite the fact that the underlying assets are not usually captured in records and hence are not readily available. The inclusion of the underlying assets increases the reporting workload, because the greater the complexity of the asset classes in the portfolio, the more involved the computation of leverage becomes.

Source: Viteos

Commitment Method

in netting trades refer to the same underlying in hedging arrangements trades may not

The AIFM is responsible for accurate calculations, the commitment method is the most complex of these hence requires substantive attention. The following criteria and considerations alone will not fulfill the commitment method. However, the example illustrates specifics in calculation as well as alerts operations to the time and personnel resources a firm may expend.

Netting and hedging not open to interpretation

In comparison, the computation of leverage by the commitment method allows adjustments for netting, where the trades refer to the same underlying asset, and hedging arrangements, where the trades do not necessarily refer to the same underlying asset. Netting can occur between derivative instruments irrespective of maturity provided they refer to the same underlying asset. For example, instruments whose underlying is a transferable security, money market instrument or units in a collective undertaking investment. In cases when the AIF's policy is to invest in interest rate derivatives, specific duration netting rules apply.

The determination of netted trades and those treated as hedge arrangements is known only to the fund. Such knowledge, even if readily available within the fund, may not be available to the administrator — another instance requiring inputs from more than one source. Here too, because the directive prescribes stringent conditions for the hedging arrangement the definition of "hedging" is not open to interpretation and has ensuing effects on leverage computations. We highly recommend establishing an auditable system for the identification and matching of hedges to monitor offsets of general and specific risks with associated assets. The derivative positions within the hedging relationship must not aim to generate returns; rather, the intent should be general in nature, with the goal of offsetting specific risks with a verifiable reduction of market risk at the fund level. Hedging arrangements must relate to the same asset class and be efficient in stressed market conditions. In these instances the AIFM is required to track the efficacy of hedge. If even one of the conditions is not met the AIFM is prohibited from applying the hedging arrangement in exposure calculation.

Treatment as hedging arrangement requires all the following conditions.

A | the positions involved within the hedging relationship do not aim to generate a return and general and specific risks are offset;

B | there is a verifiable reduction of market risk at the level of the AIF;

C | the risks linked to derivative instruments, general and specific, if any, are offset;

D | the hedging arrangements relate to the same asset class;

E | they are efficient in stressed market conditions.

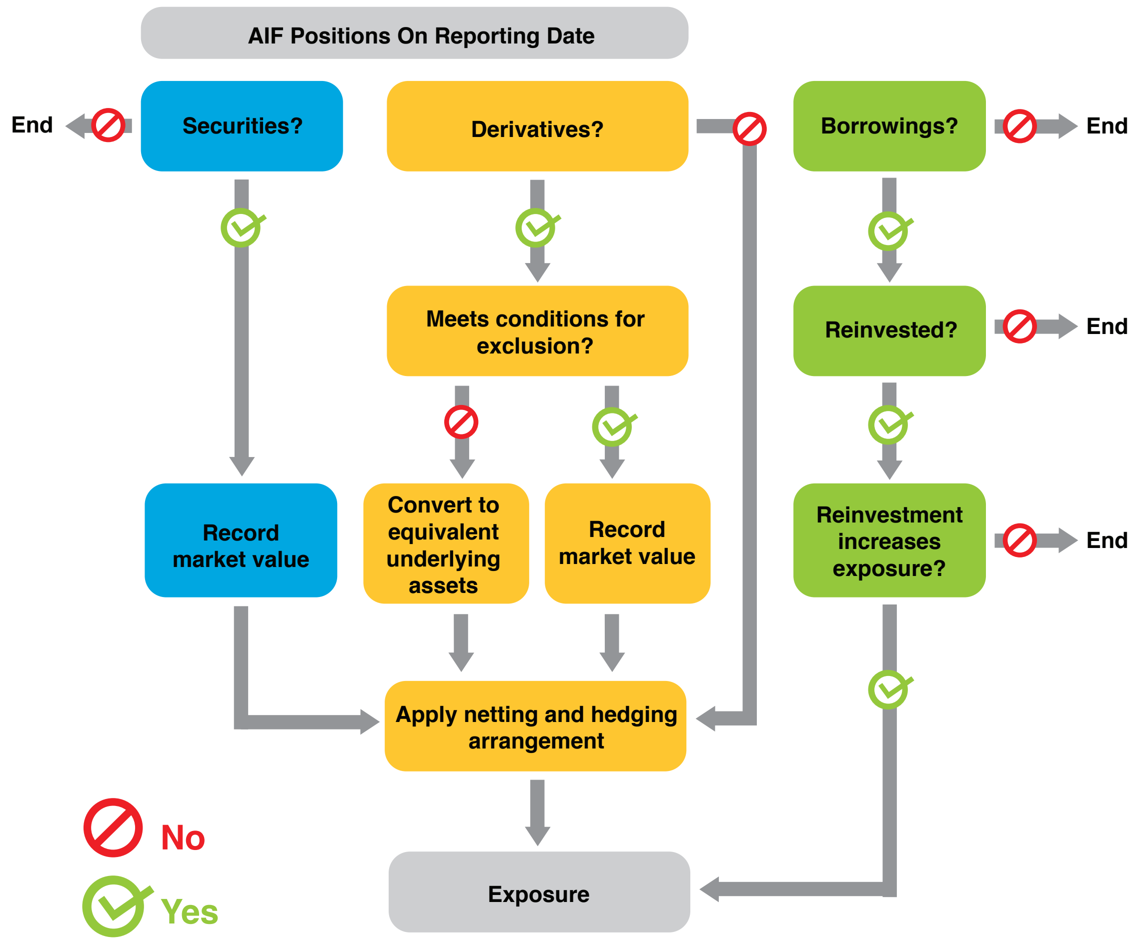
Source: AIFMD

"hedging" is not open to interpretation and has ensuing effects on leverage computations.

…establish an auditable system for matching hedges to risks with associated assets.

If even one of the conditions is not met the AIFM is prohibited from applying the hedging arrangement in exposure calculation.

Commitment Method Decision Tree



Source: Viteos

The leverage and the AUM are but two among a myriad of issues that must be considered and addressed by AIFMs. Other considerations for an accurately calculated AUM include requirements which depend upon the AUM. These include initial and additional internal funds, additional capital to cover professional liability and frequency of reporting. For example, the AIFM's own internal funding is required to be at least 0.01% of the value of the portfolios of AIFs managed. ESMA may allow a lower level (but not lower than 0.008% of value of assets) or insist on a higher level than 0.01%. If the AUM of AIFs managed exceeds €250 million, additional own funds equal to 0.02% of the amount by which AUM exceeds €250 million (up to a maximum of €10 million) is to be provided by the AIFM. Also, appropriate insurance for protecting investors is 0.9% of AUM for claims in aggregate annually and 0.7% of AUM per individual claim.

Coding for Principal Markets and Instruments

Other decoding areas in AIFM reporting requiring recordkeeping beyond what is traditional are those dealing with principal markets and instruments in which the AIFM invests and trades. To respond accurately, for each security traded, the AIFM must have historical records capturing the market where the trade was executed. At present, common practice is to record the security details and not the market code or type. To remain compliant, the AIFM and/or its administrator must record the market type code and market code and associate these with each trade. Furthermore, the markets and instruments must be ranked by aggregated value, with a listing of the top five aggregated values. Similarly, the AIFM or its service provider must map each instrument in the portfolio to the long list of standard ESMA codes.

AIFM and/or its administrator must record the market type code and market code and associate these with each trade.

Principal Markets Example

If an AIFM trades in the five principal markets shown in the following table on behalf of the AIFs it manages, the table of rankings would resemble the following list. Specifically, responses must identify the markets in which the AIFM is investing, align them to the appropriate market type code and the market code provided by ESMA, and then list the top five aggregated values.

Ranking	Market Type Code	Market Code (ESMA)	Aggregated Value (€ mn)
1	MIC	XLDN	75.0
2	MIC	XEUR	24.0
3	OTC		20.0
4	XXX	XEUR	12.5
5	NOT		10.0

XXX is a permitted code under the directive. XXX, OTC, and NOT market codes are not required; hence, these are left blank.

Source: Viteos

Principal Instruments Example

Assuming the AIFM trades in five principal instruments on behalf of the AIFs it manages, the table of rankings would resemble the following list, which is a subset of all the instruments the AIFM is trading in all funds. Instruments must be matched to ESMA asset type codes and then ranked. The top five must be arranged by the aggregated value of the sub-asset type.

Ranking	Instrument	ESMA Sub-Asset Type Code	Aggregated Value of Sub-Asset (€ mn)
1	Listed Equities - Others	SEC_LEQ_OTHR	75.0
2	Fixed Income Derivatives	DER_FID_FIXI	24.0
3	Timber	PHY_TIM_PTIM	20.0
4	Investment in collective investment undertakings – operated / managed by AIFM	CIU_OAM_OTHR	12.5
5	NTA_NTA_NOTA		10.0

Source: Viteos

Conclusion

While the examples and insights provided herein hint at the scope of the upcoming reporting task, it is only when operations teams are in the midst of responding to the multitude of questions required for filing, with the deadline looming, that a true sense of the enormity of it all will become unmistakably real. Having completed the initial regulatory filings for a number of US-based funds, we encourage you to consult with any provider who has the prerequisite expertise and devotion required to assemble a compliant filing. The volume of questions means that managers have an unprecedented amount of work to do in a short period, and there is comfort in knowing that help is available. For further information on our regulatory offerings and other recommendations for seamless filings, please call or visit us at www.viteos.com/AIFMDquestions.

About Us

Our Best Thinking and Best Practices help investment managers grow.

You want the scalability and flexibility to add new clients, gather new assets, develop new strategies and enter new markets. We provide efficient services and knowledgeable people that make it possible, incorporating customized processes and technologies that are fully integrated with your business.

Key facts:

- Founded in 2003
- 350+ professionals worldwide
- 24x7 operations
- Daily straight through processing
- $26+ billion in administration
- $200+ billion in assets serviced
- Serving 34 management companies with 70 funds
- Headquartered in New Jersey
- Branch offices in New York, London, Cayman Islands and Singapore
- Delivery centers in NY Metro, Mumbai and Bangalore
- Serving clients in North America, Europe, Far East and Asia Pacific
- Credit Suisse is a strategic partner and stakeholder
- SSAE16 Level II accredited audit from Ernst and Young

We turn your data seamlessly into information from New York to Hong Kong to Mumbai. We live and breathe the complexities of the post-trade life cycle, leverage and risk management. We know how to account for asset classes across the full spectrum of listed and private equities, fixed income, derivatives, and strategies ranging from the conventional to the exotic. Our solutions make advanced automation affordable without the need to build expensive accounting and IT infrastructure.

Straight through processing means we work in real-time, and layers of built-in redundancy and bandwidth promise security and reliability.

Mid-sized funds often reach a stage where they need a more sophisticated accounting solution, but don't want the expensive distraction of building their own proprietary infrastructure or a tedious implementation. Viteos is strategically aligned with these firms.

VITEOS Fund Services, LLC
U.S.A
Tel: +1 732-356-1200

VITEOS Fund Services, LLC
New York
Tel: +1 646-861-3409

VITEOS Fund Services
UK
Tel: +44 (0)20 7016 9170

VITEOS
Mumbai
Tel: +91 22 30952200

VITEOS Asia Pacific Pte, Ltd
Singapore
Tel:+65 6850 7797

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441 Lexington Avenue
Suite 1404
New York, NY 10017

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