ASSET PRICING AND FUND VALUATION PRACTICES IN THE HEDGE FUND INDUSTRY

By the Alternative Investment Management Association (AIMA)

Alternative Investment Management Association

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Foreword

The hedge fund industry has experienced considerable and steady growth in recent years, both in terms of the number of funds and the assets under management. Investments from institutional investors have increased considerably. With this development has come a growing focus from investors on the more complex hedge fund strategies and the manner in which the portfolios of such hedge funds are priced.

This research on **Asset Pricing and Fund Valuation Practices in the Hedge Fund Industry** is the result of the industry's desire to ensure that investors interests are protected, as well as a desire by the industry to continue to improve its practices. This research analyses the views of investors, hedge fund managers and service providers to the industry with respect to the critically important issues surrounding valuation. I am delighted AIMA has been able to lead this initiative. This first global survey is unique as it contains the views of the principal participants in our industry. This allows our industry to continue to improve and provide the most sound practices to value those new assets that are becoming more attractive as investment opportunities.

For the purposes of clarity, it should be noted that the use of the term Net Asset Value (NAV) has been used to solicit input from the industry and its investors on the overall issue of **fund** valuation. However, the sections devoted to **asset** valuation are, more accurately, looking at the Gross Asset Value (GAV) of the fund, ie excluding the calculation and deduction of any fees or other liabilities.

It has always been paramount that investors fully understand the strategy that the manager is trading and are cognisant of the pricing methodology applied to funds' portfolios. We believe that the results of this research will be a useful general resource to hedge fund investors and an important step in the development of standardised industry practice.

On behalf of AIMA, I would like to thank the research sponsors, editors, the Committee's working group and all those who responded to the survey for their valuable contributions.

AIMA will continue to work with all parties to improve practices in this important area.

Segun Aganga,
Chairman,
AIMA Alternative Investment
Research Committee

Executive summary

A note about terminology

At the outset, it is useful to describe the terms "GAV", "NAV" and "Valuation" when those terms are used in this paper. For the purposes of clarity, it should be noted that the use of the term Net Asset Value (NAV) has been used to solicit input from the industry and its investors on the overall issue of fund valuation. However, the sections devoted to asset valuation are, more accurately, looking at the Gross Asset Value (GAV) of the fund.

Net Asset Value ("NAV"): The value of a hedge fund's total assets minus the value of its total liabilities. NAV is the basis for ascertaining the prices applicable to investor subscriptions and redemptions. NAV calculations should include accrued interest, dividends and other receivables of the hedge fund, as well as accrued expenses (including fees) and other payables. As indicated previously, this document does not aim to look at the calculation of NAV: rather, it focuses on the Gross Asset Value ("GAV") of the fund portfolio, i.e. the value of a hedge fund's total assets without deducting its liabilities.

Valuation: The process of calculating the value of the assets and liabilities in a hedge fund's portfolio.

Pricing and valuation issues involving hedge funds have become very topical. Consistent with the industry's desire to continuously enhance and develop practices, a number of managers and investors approached AIMA to undertake a project to assess how instruments in hedge fund portfolios are priced (GAV) and NAVs calculated today, to publish the findings and make recommendations for future enhancements to practices in this area.

This project complements other AIMA initiatives, including the creation of illustrative due diligence questionnaires for the selection of managers and service providers[1], and the Guides to Sound Practices for Managers[2] (for Europe, Canada and Asia) and Administrators. These materials were developed as a means to encourage greater understanding of the hedge fund industry and to encourage all participants to continue the industry's focus on sound practices.

It is commonly accepted that the hedge fund industry is no larger than 5% of the global fund industry. Specifically and by end of Q4 2004, the hedge fund industry was estimated to comprise nearly US$1trn in assets (according to Hedge Fund Research[3]) across approximately 7,436 underlying hedge funds. HFR also tracks data from approximately 1,654 funds of hedge funds.

It is not possible to present data to indicate with any certainty the sub-set of the hedge fund universe that is invested partially, substantially or completely in "hard-to-value" instruments, as the data is likely to change on a dynamic basis. Whilst hedge funds may use (or have the ability to use) more esoteric types of instruments, only a minority tend to operate strategies in which pricing or valuation issues may arise. The data[4] in the table below shows that, broadly speaking and as at Q4 2004, 80% of assets managed in the hedge fund industry are within "easy-to-value" strategies.

Strategy	Easy-to-value	Hard-to-value
	Assets ($bn)	Assets ($bn)
Total	**773,694 (80%)**	**198,913 (20%)**
Convertible Arbitrage*	44,773	
Distressed Securities		46,256
Emerging Markets		32,032
Equity Hedge	285,952	
Equity Market Neutral	21,077	
Equity Non-hedge	43,418	
Event-driven	128,673	
FI: Arbitrage		25,385
FI: Convertible Bonds		748
FI: Diversified		18,500
FI: High Yield		6,689
FI: Mortgage-backed Securities		25,583
Macro*	107,405	
Market Timing	3,562	
Merger Arbitrage	14,472	
Regulation D		1,686
Relative Value Arbitrage	121,541	
Sector		42,034
Short Selling	2,821	

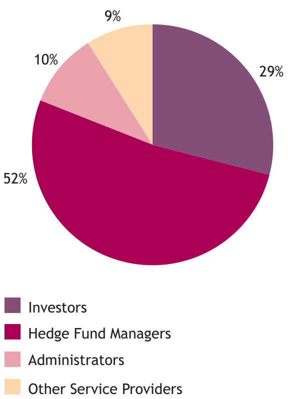
* More than the others, these strategies straddle both easy and hard-to-value strategies. For such funds, a substantial portion of the assets will be easy-to-value although a significant portion may be hard-to-value.

AIMA's Alternative Investment Research Committee created an extensive questionnaire, which was issued to institutional investors, managers and service providers (including prime brokers, administrators and auditors). This was followed up with interviews with investors and industry participants in various parts of the world. The survey was developed with

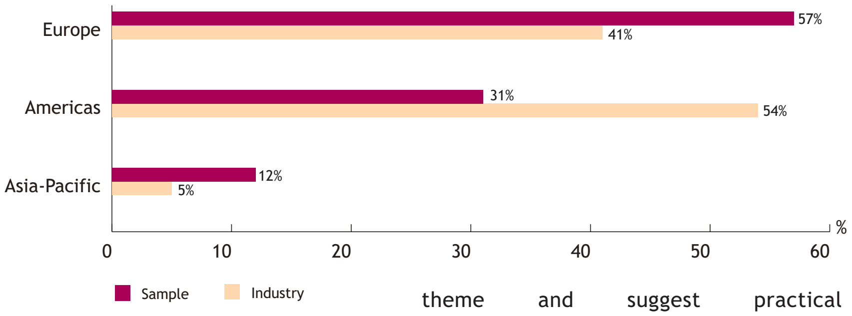
1 - Available only to AIMA member companies and institutional investors on AIMA's confidential database.
2 - Available at www.aima.org under 'Starting a Fund'
3 - www.hfr.com ($972,608bn)
4 - www.hfr.com

Executive summary

Graph 1
Respondents by type



Graph 2
Comparison of distribution of assets across geographic location[5]



the objectives of better understanding the issues associated with pricing and valuation, the reasons for portfolio mis-pricings and also formulating pragmatic enhancements to current practices.

The survey has confirmed the commonly held view that the hedge fund industry continues to mature and grow in sophistication. It has also shown that there is a general understanding within the industry of the issues that may arise in the context of pricing and valuation and how those issues should be addressed. Usefully, the study has also revealed a perception that certain enhancements to particular aspects of existing practices and procedures would be generally well received.

This analysis attempts to summarise a number of issues, draw them together by theme and suggest practical recommendations, with a view to increasing the common understanding of approaches taken to pricing and valuation and enhancing existing practices and procedures within the industry. The analysis neither purports to cover all aspects and details of the valuation and pricing processes, nor attempts to define the models or practices that are optimal or appropriate for all industry participants.

Complete responses received during the course of the survey amounted to 76 questionnaires and 16 qualitative interviews, totalling 92 organisations who manage US$58bn (unlevered), invest /allocate $72bn (unlevered) and service US$420bn, the latter representing more than half of global industry assets at the time of the survey. Industry participants and investors throughout the course of the project supplied further qualitative input. It is important to note that the service providers who responded to our survey are significant industry participants and span various disciplines involved in the valuation process (including prime brokerage, custody, audit and administration).

The geographical locations of respondents to the survey did not precisely match the geographical spread of the industry. The U.S. industry, for example, is under-represented, thus skewing response rates from the European and Asia-Pacific regions.

One of the specific objectives of the survey was to obtain an understanding of the extent to which there is focus on pricing and valuation issues. Respondents were asked to list what they considered to be the three most important issues in this area. Various themes emerged from the survey, with the top three comprising:

(1) Practical issues associated with pricing and valuation;

(2) The precise role of the administrator and investment manager in the NAV calculation process; and

(3) Understanding the limitations of NAV information.

5 - Sources: Edhec Risk and Asset Management Research Centre, based on proprietary and public data; Alternative Fund Service Review (as reported in the International Fund Investment weekly publication, issue 116, May 17 2004).

Executive summary

Practical issues associated with pricing and valuation

When asked to identify pricing issues, 41% of respondents advised that pricing *sources* are seen as the main challenge to pricing instruments. It is submitted that any or all of the following potential problem areas associated with price sources may have prompted this feedback: availability, accessibility, quality or timeliness of the relevant information. With regard to sourcing prices for OTC instruments, our survey clearly shows that U.S. institutions prefer to source information from independent brokers and market makers, while European firms tend to use information provided by the counterparties to the specific OTC transactions.

It is submitted that this data should be viewed in the wider context of the types of instruments typically held by hedge funds: 92% of the portfolio positions of the hedge funds held by respondents are such that they are priced using recognised industry sources. Reuters and Bloomberg are the most favoured sources for market data and are used as a primary source by 66% of respondents.

32% of respondents report that the pricing of *illiquid instruments* represents the most significant challenge with regard to portfolio valuation. Complex derivatives (28% of respondents), mortgage-backed securities (12% of respondents) and distressed debt (12% of respondents) are the most frequently cited illiquid instruments in this context.

The hedge fund strategies that are most frequently cited as 'potentially' giving rise to pricing and valuation issues are: distressed debt (35%), fixed income arbitrage (18%) and convertible arbitrage (17%). Again, it is important to put this data in context: funds using these strategies at Q4 2004 represented only 10.76% of the hedge fund market according to HFR, as shown in Table 1 below[6].

Table 1

Strategy	Respondents believe may give rise to pricing/valuation issues	Actual % of global hedge fund market (US$)
Distressed Debt	35%	3.18% ($30,929bn)
Fixed Income Arbitrage	18%	4.22% ($41,044bn)
Convertible Arbitrage	17%	3.36% / $32,680bn)
Total		**10.76% / $104,653**

6 - www.hfr.com (28.1.05)

The role of the administrator and investment manager in the NAV calculation process

The management body of a hedge fund (whether it is the board of directors, the trustee or the general partner) is ultimately responsible for disseminating accurate NAV information relating to the fund. Having regard to the exigencies of business and the constitutional documents of the fund, however, the function of NAV calculation may properly be left to some other appropriate person. Nonetheless, consistent with basic principles, the power to delegate – even a power expressly contained in the fund's governing documents – does not enable the management body to abdicate its functions and responsibilities. It must retain the power of overall control.

Investors, managers, administrators, prime brokers and auditors were questioned on four different aspects of their activities in relation to NAV calculation: governance and transparency; operations and processes; controls; and third party involvement.

Executive summary

The role of the administrator and investment manager in the NAV calculation process

75% of all respondents, including managers, investors and service providers, regard the day-to-day practical functions in computing the NAV as being that of the administrator appointed by the hedge fund. There were differences of opinion regionally: 20% of U.S. hedge fund managers retain day-to-day practical functions in connection with calculating NAV, whilst less than 10% of hedge fund managers based in Europe and the Far East retain such functions. The precise role of administrators will of course vary in scope, depending on the precise terms of the underlying administration agreements. It is submitted that the data in relation to U.S. managers might be explained by the fact that the higher occurrence of "in-house" NAV calculations is a legacy from many years ago when the industry may not have had such a broad choice of sophisticated administrators. The U.S. industry includes some of the most established and largest hedge fund managers globally. For them, the appointment of an external administrator may not be appropriate; rather than outsource the function, they may have developed internal capabilities with regards the NAV calculation process prior to the development of the administration market and, as their businesses have grown in size and complexity, may have developed appropriate internal controls in connection with that function. They are likely to review their procedures as institutional demand increases.

As a general rule (there are of course always exceptions depending on particular facts and circumstances), separate NAV computation represents a good practice in the hedge fund portfolio valuation process, although the involvement of a third party service provider (such as an administrator) in the NAV computation process should not be regarded as insulating those relying on the NAV information against price determination and valuation risks.

The survey revealed that:

- 73% of hedge fund respondents have an independent administrator to produce the NAV;
- 27% of fund managers may have provided prices to their administrator on occasion for NAV purposes; and
- As part of triangular reconciliation processes (between manager, administrator and broker), 36% of hedge funds may have occasion to revise the prices used by the administrator in certain circumstances, such as identifying rogue pricing from an external source.

Where the investment manager or the fund itself has adjusted the price of a position in a portfolio or actively participated in the determination of the NAV (either upwards or downwards and usually for legitimate commercial reasons), basic principles suggest that such involvement should be disclosed to those relying on such financial information, including investors.

On the premise that (a) the appointment of an administrator does not enable the management body of a fund to abdicate its functions and responsibilities, and (b) the involvement of a third party service provider (such as an administrator) in the NAV calculation process cannot insulate those relying on the NAV information against pricing and valuation risks, the

Executive summary

Understanding the limitations of NAV information

survey also sought to establish what current practice is in connection with pricing policies. The survey revealed that 62% of all hedge fund managers have no formalised pricing policy with respect to the funds they manage. This is broken down into 65% in the Americas and 57% outside of the Americas. It is submitted that the basis upon which NAV is calculated is usually disclosed to investors in the funds' offering documents, along with information on how positions may be priced and how (to a greater or lesser degree of specificity) price discrepancies are resolved.

Understanding the limitations of NAV information

Expectations with regards to NAV information should be appropriately managed. In particular, the survey reveals a perception that NAV information is not appropriately qualified. Investors should ensure that they understand the nature of NAV information. It is submitted that for certain strategies, where the underlying assets are so illiquid or speculative, NAV should perhaps be viewed in much the same way as investments in private equity / venture capital strategies. The involvement of a third party service provider (such as an administrator) in the NAV calculation process should not be equated with a guarantee as to realisable value. The following findings emerged from the survey with regard to the value of NAV information:

- Some strategies result in hedge funds holding illiquid instruments for which a transparent, objective price does not exist, and "fair value" pricing requires an element of commercial subjectivity;
- Pricing and valuation techniques are limited and may not have universal application to all portfolio and investment strategy types.

Other key findings

- On average, 'hard-to-value' instruments represent only 14% of the aggregate value of the funds managed by respondents.
- When asked to suggest up to three ways in which the hedge fund industry could simplify/improve issues associated with NAV, the three most common responses from respondents were: (i) ensure independent pricing source; (ii) set up industry standards; and (iii) use third party administrators.
- Investors did not indicate that additional information from fund administrators or fund prime brokers would provide added comfort.
- 65% of all respondents (investors, managers and service providers) have a valuation error tolerance that their firm uses before re-calculating NAV. The highest percentage of that group, 29%, has a tolerance of between 25-50 bps.
- 71% of the Asia-Pacific respondents consult with their audit firm before restating a NAV, whilst this drops to 50% in Europe and 34% in the Americas.

Executive summary

Recommendations

Recommendations

Based on the findings of this survey, we have made several practical recommendations. As explained above, these are suggestions with a view to increasing the common understanding of approaches taken to pricing and valuation, and enhancing existing practices and procedures within the industry. They do not represent a comprehensive or complete list and may not be optimal or appropriate for all industry participants.

Recommendations on Governance

1. A summary of practical and workable pricing and valuation practices and procedures should be documented, approved by the board of directors, trustee or general partner of the fund and reviewed on a regular basis by the same management body. The fund auditor may be involved in this process;

2. The offering document should explicitly describe the potential limitations of valuation and pricing practices;

3. It is important to have adequate segregation of duties in the NAV determination process. The NAV of the fund should be produced by parties who are not involved in the investment process of the investment management entity. The board of directors, trustee or general partner of the fund must ensure independence in practice, which may be achieved by delegating the calculation, determination and production of the NAV to a suitably competent and experienced third party administrator.

4. Oversight of the entire valuation process and, in particular, resolution of pricing issues associated with "hard-to-price" illiquid positions and exotic instruments remains the ultimate responsibility of the board of directors, trustee or general partner of the fund;

5. There should be adequate disclosure of any material involvement by the investment manager in the pricing of underlying portfolio positions or otherwise in the calculation, determination or production of the NAV;

Recommendations on Transparency

6. The pricing and valuation policy should be formalised in advance of the fund's launch and should be adequately described in the fund's offering document, including a practical escalation or resolution procedure for the management of exceptions;

7. The pricing and valuation policy should explicitly clarify the role of each party in the valuation process;

8. The pricing and valuation policy should incorporate appropriate controls;

9. Price sources for routine pricing should be identified within the details of the pricing and valuation policy document;

Recommendations on Procedures, Processes and Systems

10. Where necessary, NAV calculations should be subject to appropriate checks and balances to ensure any actual or potential conflict of interest is appropriately managed;

11. The industry recognises that in certain instances the investment manager has the

Executive summary

Recommendations

best insight with respect to the valuation of particular instruments. Wherever prices are provided or sourced by the investment manager, the administrator (or those responsible for determining NAV) should be provided, where possible, with supporting information by the investment manager;

12. The administrator (or those responsible for determining NAV) should use reasonable endeavours to consistently apply any pricing policy, unless there is good reason not to do so;

13. NAV reports should be addressed directly to investors by the administrator, where an administrator is used;

14. Where practical and appropriate, a second price should be sought for hard-to-value instruments/illiquid positions where there is readily available market data;

15. Practices described in the pricing and valuation policy for a particular fund must be capable of practical implementation by the relevant service providers (such as the fund's administrator or those responsible for determining NAV);

Recommendations on Pricing Models

16. The use of pricing models or determination methods should be approved by the board of directors, trustee or general partner of the fund;

17. Where practical and appropriate, pricing models or determination methods should typically be used for illiquid or "hard-to-price" securities, where an independent source is not available or where it appears that it may not be reliable;

18. The decision to use a pricing model rather than a market price should be properly justified by back-testing in normal market conditions and applying appropriate stress tests to identify model weaknesses;

19. Internal valuation models should be appropriately tested and, where possible and appropriate, independently reviewed and verified; and

20. Underlying data used in pricing model-based calculations should be formally reviewed and approved.

The benefit to the hedge fund industry of enhancing current practices has been confirmed in several recent publications[7]. The growth in numbers of independent pricing/valuation providers and the rapidly expanding market for independent administrators and independent back office providers are welcome trends. Individual debacles often have a disproportionate effect on outside perception of the hedge fund industry. However, they can also serve as important reminders to those in the industry that it is important to continue to strive for excellence. With 73% of hedge fund managers supporting focus on pricing and valuation issues, we believe that this study highlights the fact that the industry is continuing to embrace enhancements in this area.

7 - The reader may wish to refer to the following: Valuation Concepts for Investment Companies and Financial Institutions and their Stakeholders, International Association of Financial Engineers, June 2004; Survey of Best Practices for Valuation of Financial Instruments, commissioned by the Group of Thirty Survey of NAV/Fair Value Practices, CMRA, 2000

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