CASTLE HALL ALTERNATIVES

FROM MANHATTAN TO MADOFF:

THE CAUSES AND LESSONS OF HEDGE FUND OPERATIONAL FAILURE

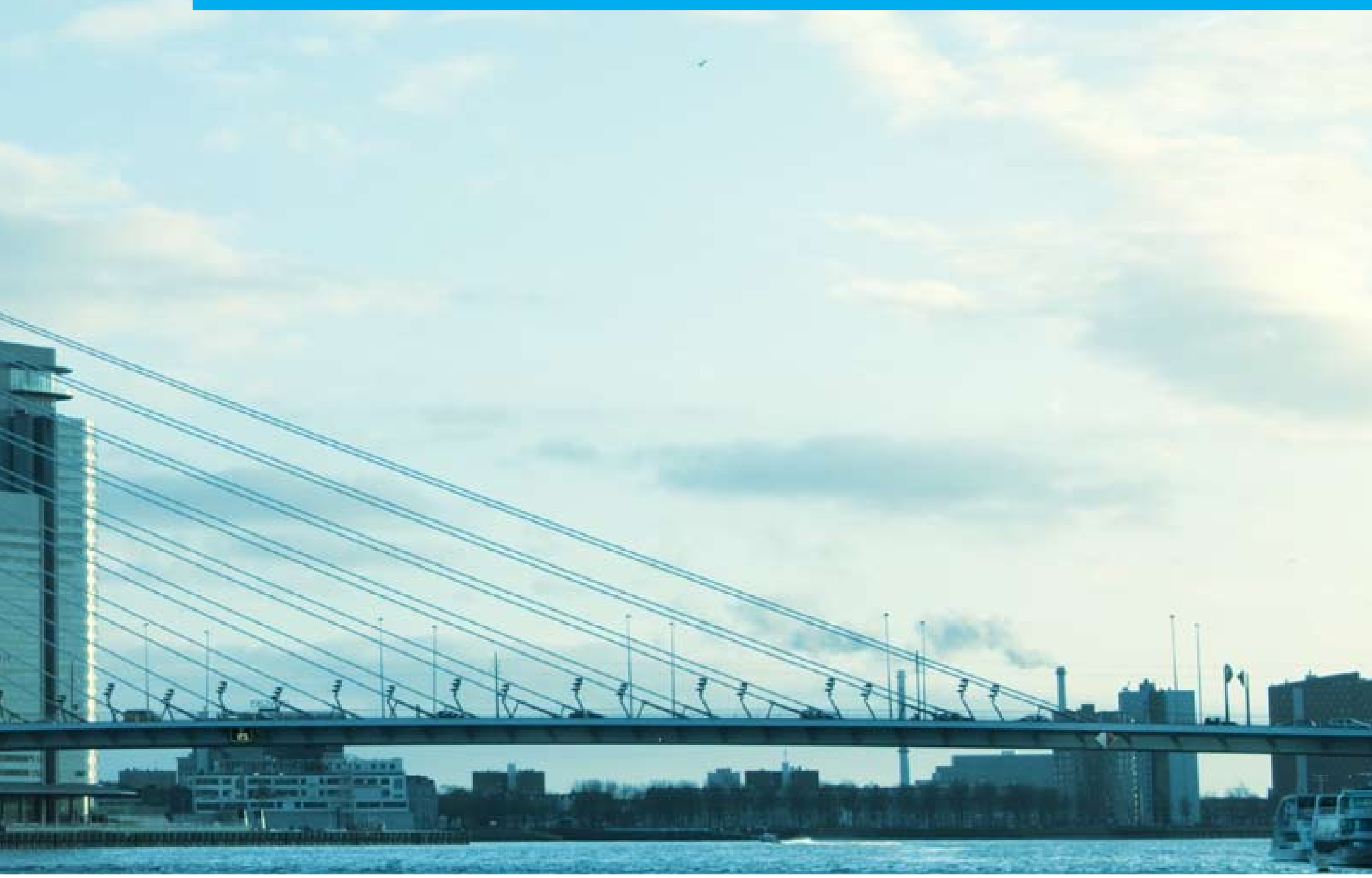
ABOUT CASTLE HALL ALTERNATIVES

Castle Hall is the industry's leading provider of operational due diligence. Our clients include institutions, fund of funds, endowments and family offices who rely on Castle Hall to evaluate whether hedge fund managers meet operational best practice. Our shared goal is to avoid the penalty of uncompensated operational risk, or "Risk Without Reward".

The founding principle of Castle Hall's business is independence. We do not manage assets, perform investment analysis or recommend funds based on investment performance. We therefore avoid any "investment versus operations" conflict: irrespective of the investment case, we provide an objective assessment of each fund's operational quality.

Unlike many consulting firms, Castle Hall has also chosen not to sell services to hedge fund managers. We do not audit hedge funds, provide valuation services, act as a compliance consultant or sell legal advice. As such, Castle Hall is never faced with the conflict of performing due diligence on our own work. Instead, we are proud to offer a unique, unconflicted model which directly aligns our interests with our clients.

Castle Hall's team of highly qualified professionals brings together more than 30 years of direct operational due diligence experience, representing significantly more than 1,000 due diligence reviews. This unrivaled experience provides the knowledge base which underpins each Castle Hall operational assessment.



AN INTRODUCTION TO HEDGE FUND OPERATIONAL FAILURE

In recent years, hedge fund investors have become increasingly aware of operational risk issues and the need to include operational due diligence within their fund selection process. However, the colossal fraud perpetrated by Bernie Madoff – the largest fraud in the entire history of the financial services industry – has placed a new emphasis on operational risk.

In some ways this is unfair, as Madoff was an entirely atypical hedge fund organization both in terms of its size and its structure. However, post Madoff, investors recognize that it is now impossible to justify an allocation to any manager unless each firm passes a comprehensive operational due diligence review.

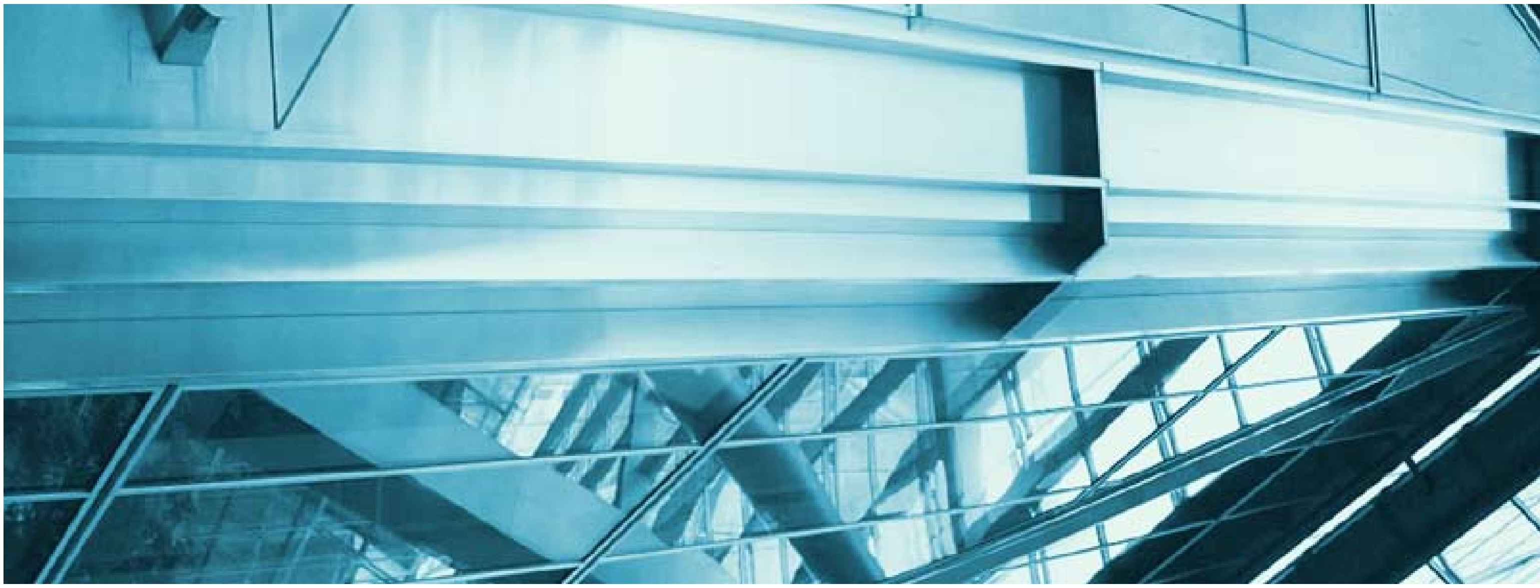
A necessary starting point when designing any effective operational due diligence process is to understand the lessons of prior hedge fund "blow-ups", frauds and failures. As a specialist provider of operational due diligence, Castle Hall Alternatives has, since inception, conducted extensive, proprietary research on several hundred funds which have suffered some type of operational event. This detailed understanding of operational failures has always been a core foundation of our own due diligence process and an important tool to educate our own team on operational issues. We have now made this proprietary research available to our clients through HedgeEvent, a comprehensive, web-based database of information specific to hedge fund operational failures.

This White Paper summarizes some of the key findings of HedgeEvent and, looking forward, identifies risk areas which should be the focus of ongoing investor attention. Our analysis is organized around three questions:

- What has been the **financial impact** of operational failure?
- What **strategies** have been most exposed to operational failure?
- What are the most common **causes** of operational failure?

Overall, we believe that the reprioritization of operational risk post Madoff will be strongly positive and, over time, will help create a more robust hedge fund industry. Going forward, investors will have a more consistent awareness of operational issues and, using the example of Madoff, will have more leverage to influence managers to improve operational procedures.

The challenge for investors, therefore, is to "close the loopholes" which can be identified from prior operational failures. With this knowledge and through more informed and vigorous due diligence, investors can ensure that the events of the past will not be given the chance to repeat themselves.



KEY FINDINGS

- HedgeEvent contains 327 cases of hedge fund operational failure through June 30, 2009 (each case is referred to as an "Event"). Entries to HedgeEvent include only cases involving specific operational issues: hedge fund failures related primarily to failures of investment management or risk control, such as Long Term Capital Management, Amaranth and Sowood, are excluded.
- The total financial impact of hedge fund operational failure is estimated to be $80 billion. Excluding Madoff, the estimated financial impact is approximately $15 billion.
- Of the 327 operational events, 121 are identified to have had a financial impact of $10 million or more, and 31 of at least $100 million.
- Across all Events, the most common causes of operational failure are theft and misappropriation followed by existence of assets (the manager claimed to own fake securities or operated a Ponzi scheme where reported assets did not exist). For Events with an estimated financial impact in excess of $10 million, the order of these factors is reversed: existence of assets is the most common causal factor, followed by theft.
- The most common strategies subject to operational failure are long / short equity followed by managed futures. This is an important finding, as many hedge fund investors have traditionally viewed these strategies, holding largely exchange-traded securities, as straightforward and low risk.
- There have been very few examples of rogue trading within the hedge fund industry. However, given the incidence of rogue trading amongst large, well-resourced institutions (SocGen, Barings etc.) investors should remain conscious of this risk in any asset management environment, including hedge funds.
- Going forward, we consider misvaluation of fund assets to be the most significant, unresolved operational risk for hedge fund investors.

1 THE FINANCIAL IMPACT OF OPERATIONAL FAILURE

HedgeEvent contains 327 entries from inception to June 30, 2009.

Of these, the majority of entries – 206 – have resulted in an estimated financial impact (based on observable data) of zero or less than $10 million. There are 121 cases which have an estimated financial impact of $10 million or more, of which 31 have estimated losses of at least $100 million.

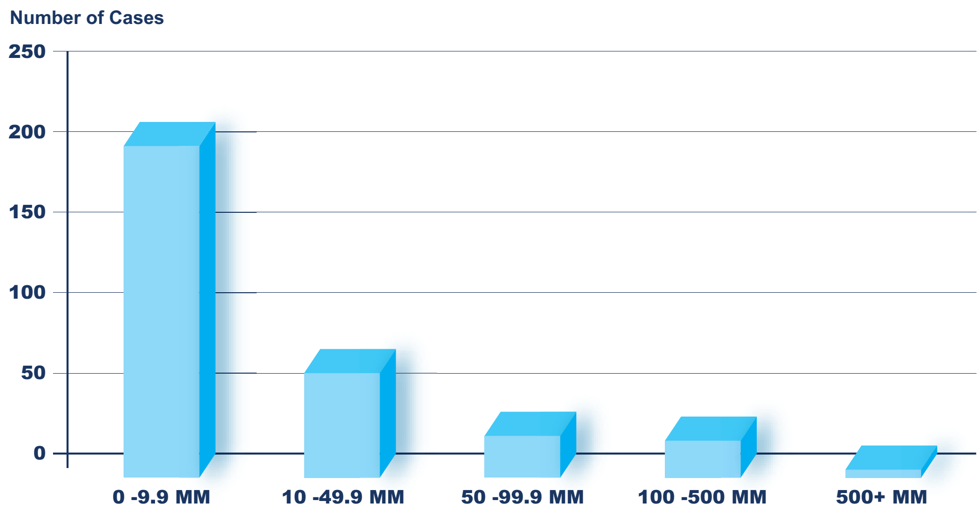


Figure 1: Number of Events by Estimated Financial Impact

TOTAL FINANCIAL IMPACT

The total financial impact across all hedge fund operational failure is estimated to be $80 billion. This figure is, of course, skewed by Madoff, with a current estimated loss of $64 billion. The remaining cases of hedge fund operational failure are estimated to have had a financial impact of approximately $15 billion.

OPERATIONAL FAILURE IS MATERIAL, BUT NOT PERVASIVE

While material in both dollar terms and the number of cases, hedge fund operational failure does not appear to be pervasive. Efforts to place the impact of operational failure in the context of the entire hedge fund industry are difficult, as there is a lack of accurate information as to total number of fund managers. Many databases focus on the number of individual fund entities, not managers (many managers run multiple products and have an onshore feeder, an offshore feeder and a master fund for a single strategy). Equally, databases tend to show the number of active funds at a point in time, not the total number of managers who have entered the hedge fund industry since inception: many firms are not successful and subsequently cease operations.

According to recent data from Hedge Fund Research, for example, there were approximately 9,200 active hedge funds at the end of 2008 [1], while data from Pertrac identified more than 15,000 hedge fund entities as of the same date [2]. If we take a conservative assumption that there have been 10,000 active hedge fund *managers,* then HedgeEvent suggests that approximately 3% of the universe of hedge fund management companies have been subject to an operational event.

MANY FUNDS WERE NEVER OF INSTITUTIONAL QUALITY: BUT A SIGNIFICANT SUBSET WERE PLAUSIBLE INVESTMENTS

HedgeEvent shows that there have been a significant number of small hedge funds which, quite simply, were set up from inception to defraud investors. In many instances, these funds gathered relatively small sums from a local community or social group and did not have any form of plausible track record or infrastructure. As such, these funds were very unlikely to have attracted interest from any large, sophisticated investor.

Investors should, however, be very focused on the 100 plus hedge funds which had a financial impact in excess of $10 million. From Madoff down, many of these funds were attractive to larger investors and received money from reputable allocators. The lessons from these cases, therefore, are highly relevant to all investors evaluating their future due diligence objectives.

INVESTORS SHOULD CONSIDER REPUTATIONAL AS WELL AS FINANCIAL IMPACT

While HedgeEvent captures the financial impact of hedge fund operational failure, the impact of operational losses should not only be measured in financial terms. For many investors, being caught in a hedge fund fraud can also have severe reputational and business implications which extend far beyond the dollar value of the actual investment loss. The role of the operational due diligence function is therefore not only to prevent monetary losses in the portfolio: it can also be a key function tasked to protect the asset management business itself.

OPERATIONAL DUE DILIGENCE IS NOT ONLY ABOUT FRAUD: IT IS ALSO ABOUT PERFORMANCE

HedgeEvent concentrates on the worst outcome of mismanaged operational risk, when investors suffer a complete or substantial financial loss due to operational failure. As a final comment, however, we should remember that operational due diligence is not only about fraud detection: effective due diligence also evaluates the overall quality of each manager's business. Strong operational controls are vital if any hedge fund is to be successful over the long-term: over time, managers who build a top tier business infrastructure will have fewer mistakes, errors and interruptions. By comparison, managers who fail to invest in people, systems and service providers will suffer an unavoidable drag on performance.

THE ROGUE'S GALLERY: EXAMPLES OF SIGNIFICANT HEDGE FUND OPERATIONAL FAILURES

Case	Estimated Financial Impact ($)	Year Discovered	Primary cause
Bernard L. Madoff Investment Securities	64,000,000,000	2008	Existence of Assets- Ponzi Scheme
Petters	3,500,000,000	2008	Existence of Assets- Ponzi Scheme
Bear Stearns	1,800,000,000	2007	Marketing Misrepresentation
Weavering Capital	637,000,000	2009	Conflict of Interest
Westridge Capital Management	554,000,000	2009	Theft and Misappropriation
Lancer Management Group	500,000,000	2003	Legal /Regulatory Violation
Beacon Hill Asset Management	472,000,000	2002	Misvaluation of Fund Assets
Bayou	450,000,000	2005	Theft and Misappropriation
Dreier	400,000,000	2009	Theft and Misappropriation
Manhattan Capital Management	393,000,000	2000	Concealment of Trading Losses
Agape World Inc.	370,000,000	2009	Theft and Misappropriation

2 OPERATIONAL FAILURE BY STRATEGY

HedgeEvent shows that the largest number of operational failures have occurred with respect to funds trading Long / Short Equity strategies and Managed Futures (including commodity trading advisors, or CTAs). This finding holds whether we examine all operational failures (figure 2) or only the 121 operational failures with a financial impact of $10 million or more (figure 3)

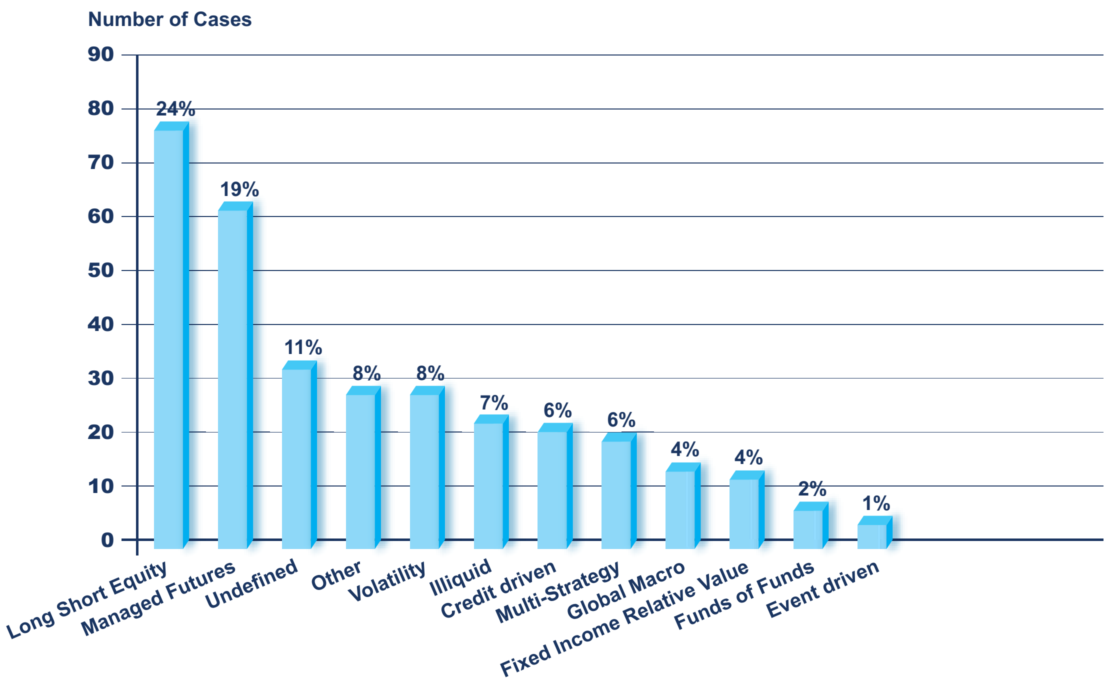


Figure 2: Operational Failures By Strategy (all Events)

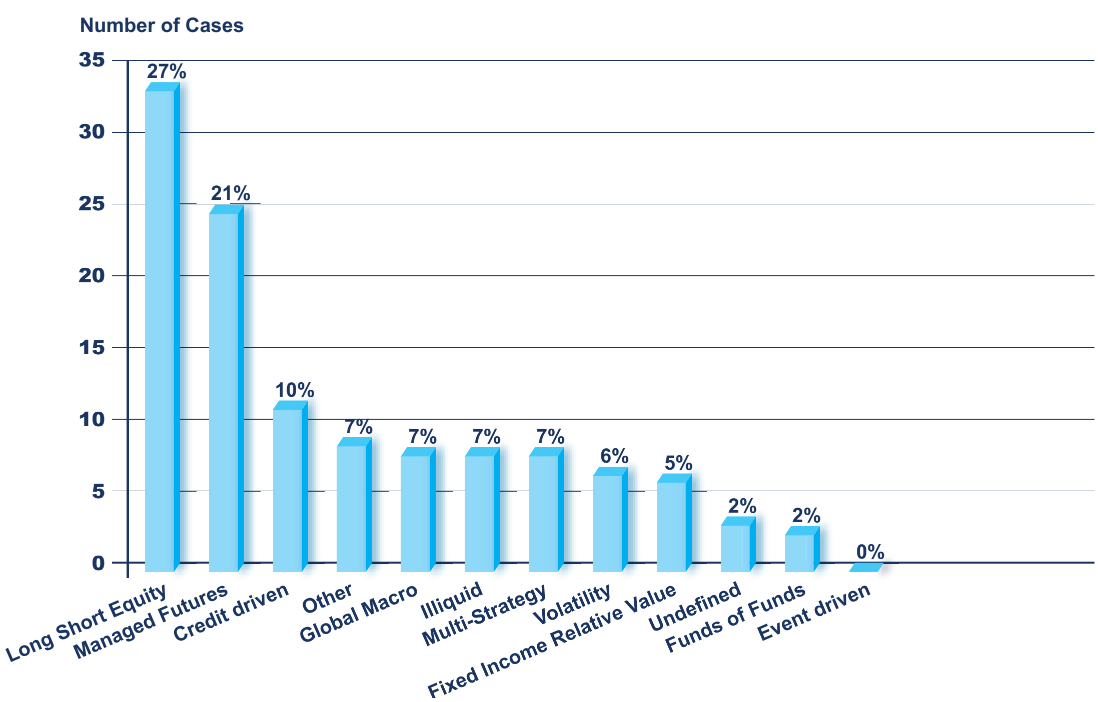


Figure 3: Operational Failures by Strategy (Events With Estimated Financial Impact of $10 Million or More)

“SIMPLE” STRATEGIES ARE THE MOST VULNERABLE TO OPERATIONAL FAILURE

The finding that long / short equity and managed futures funds have been the most frequent strategies exposed to operational failure is, at first glance, counterintuitive. As these funds trade only exchange traded instruments, typically with little pricing risk and straightforward custody and brokerage relationships, most investors have considered these strategies to be low risk. As a result, operational due diligence teams have often adopted streamlined procedures when visiting long / short managers and CTAs.

We believe that the frequency of fraud in these strategies is linked to our finding, discussed below, that the largest number of operational failures involve either straight theft or non-existent assets. To sustain either of these types of fraud, a hedge fund manager must prepare fake accounting records and generate fictitious investor statements. Quite simply, “cooking the books” is easier when dealing with more straightforward strategies which do not involve complex securities, high volumes of trades and multiple brokers and counterparties.

It is also likely that a long / short equity manager or CTA can plausibly operate with a much smaller team than a more complex hedge fund. In general, the smaller the number of people involved, the easier it is to conduct a fraud. It is clearly more likely for an individual or 2 to 3 employees to act together to defraud investors than it is for every member of a 30-person firm to collude, with each and every employee risking fines and imprisonment. HedgeEvent supports this finding, as multiple frauds involving equity long / short funds (notably Manhattan) were conducted either by a sole portfolio manager or by firms with only a handful of employees. This leads us to the conclusion that larger hedge funds following complex strategies are more likely to suffer losses due to the actions of a rogue employee than they are to pervasive, illegal activity across the entire organization.

FUND OF FUNDS HAVE ALSO BEEN SUBJECT TO OPERATIONAL FAILURE

While there have been relatively few fund of funds which have suffered an operational failure, investors should be conscious that cases do exist. Notably, three material cases – Charles Schmitt in Hong Kong and Portus and Norshield in Canada – involved fund of funds. All shared a similar theme, whereby the fund of fund manager created fictitious assets within the portfolio in addition to third party hedge fund holdings. It is also notable that all of these cases occurred in countries where hedge fund managers were regulated and subject to inspection.

3 OPERATIONAL FAILURE BY CAUSE

HedgeEvent highlights that the majority of the causes of operational failure are due to theft and misappropriation and existence of assets.

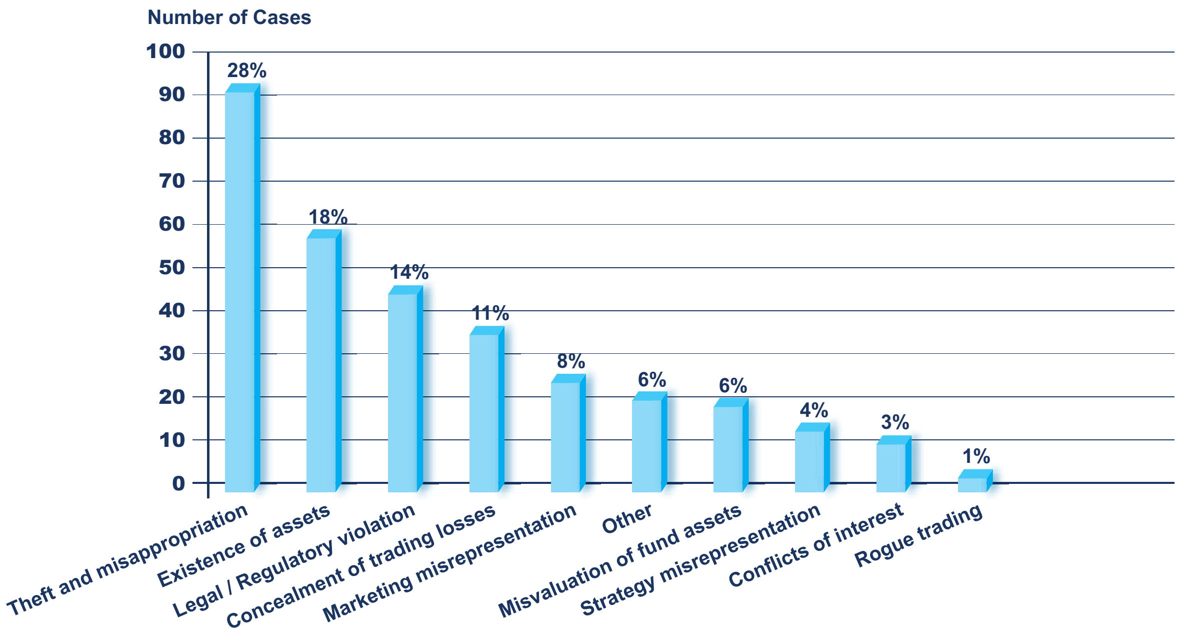


Figure 4: Operational Failure By Primary Cause: All Events

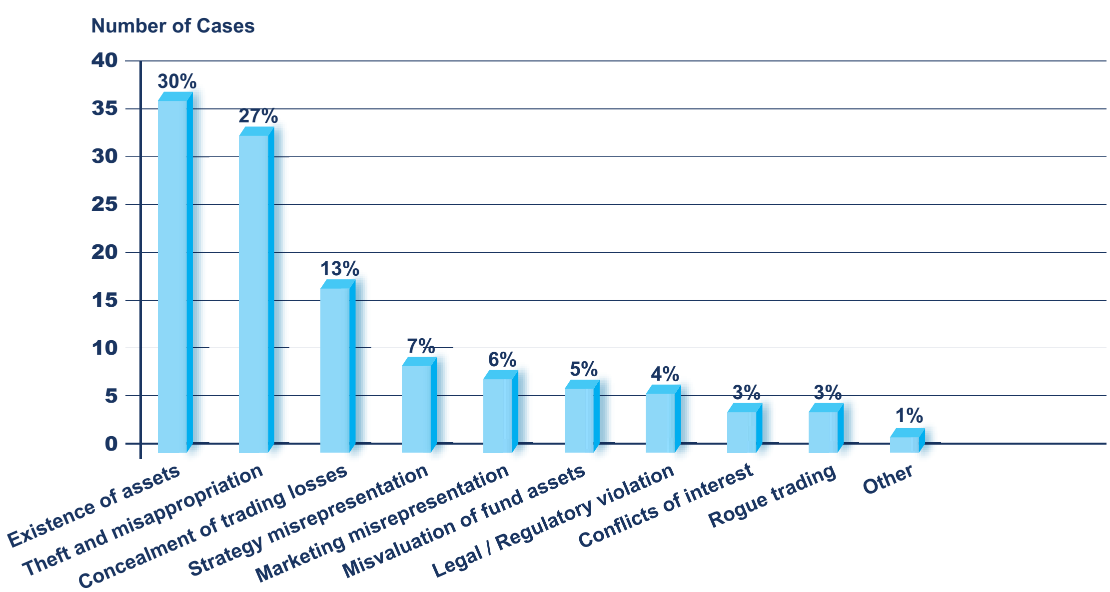


Figure 5: Operational Failure By Primary Cause: Events with a Financial Impact of $10 Million or More

Each entry in HedgeEvent is matched to a primary cause and then, if appropriate, to one or more contributing factors. (nb: data presented in figures 4 and 5 considers only the primary cause of each Event and does not include other contributing factors). To ensure consistency, Castle Hall has created a proprietary matrix of 12 operational causal factors used to evaluate each Event.

HEDGEEVENT: CAUSAL FACTORS

Causal Factor	Definition
1. Theft And Misappropriation	Manager misappropriates fund assets for personal use.
2. Existence Of Assets	Manager creates fictitious assets or operates a Ponzi scheme whereby reported assets do not exist.
3. Misvaluation Of Fund Assets	Securities recorded at a price in excess of fair market value in the NAV calculation.
4. Rogue Trading	Losses due to unrecorded trading activities.
5. Concealment Of Trading Losses	Manager issues fictitious statements to investors showing positive returns when actual trading has been loss making.
6. Strategy Misrepresentation	Manager provides falsified information as to trading activity and portfolio holdings.
7. Fictitious Service Providers	Manager commits fraud through creation of fictitious service providers.
8. Conflicts Of Interest	Losses due to affiliated entities (i.e. related party broker-dealer) and other conflicts of interest.
9. Legal / Regulatory Violation	Manager conducts an investment strategy that is illegal or subsequently found to be illegal; Manager subject to other form of legal or regulatory violation.
10. Marketing Misrepresentation	Manager deliberately misrepresents issues such as assets under management, performance or infrastructure.
11. Inaccurate Personal Background	Manager misrepresents personal, educational or professional credentials.
12. Other	Other operational issues including unethical business activities and relationships, political risks, pending litigation.

EXISTENCE OF ASSETS AND THEFT

The Net Asset Value of any hedge fund ultimately depends on two factors – existence and valuation. Put more simply, investors need proof that the fund owns what it says it owns, and that those assets are worth what the fund says they are worth.

The causal factors theft and misappropriation and existence of assets (fake assets, Ponzi schemes etc.) both illustrate that every hedge fund must have adequate controls over the recognition and safekeeping of portfolio securities. For investors, this leads to several due diligence conclusions:

- Internally, hedge fund managers need adequate accounting systems and appropriate segregation of duties to correctly record and then reconcile portfolio holdings and transactions.
- Externally, best practice universally calls for a full service administrator to maintain transaction level accounting records and reconcile those records to independently received prime brokerage, custody and counterparty information to vouch security existence.
- Hedge fund managers should not be able to disburse shareholders' capital using a sole signature.

Investors should recognize, however, that certain strategies unavoidably create more existence risk. Private securities such as loan originations, secondary market debt, private convertibles, hard assets and straight private equity, for example, are typically not custodied, making it much harder for investors to prove existence (Lancer is one fraud which included exposure to allegedly fictitious securities).

ROGUE TRADING

HedgeEvent confirms that there have been very few examples of rogue trading within the hedge fund industry: only one, Pheonix in Canada, has had a material financial impact. This compares to relatively regular examples of rogue trading in larger institutions, including Société Générale, Barings, Allied Irish, MF Global and the National Australia Bank.

We believe that the relatively small size of most hedge fund organizations likely provides a degree of protection from rogue trading activity. When everyone in the company sits around the same desk in the same room, it is clearly harder to hide transactions from fellow employees. Moreover, most hedge funds have a single, centralized accounting system and back office function, as compared to institutions, which often have a more segmented systems platform. An informed trader – as Jérôme Kerviel proved – may find it easier to exploit systems weaknesses and lack of communication across departments in a larger, institutional environment.

However, if rogue traders can generate hundreds of millions of dollars of losses in large, highly regulated institutions, prudent investors should remain conscious of the risks of rogue trading in a hedge fund context. Just as for the existence of assets, investors should evaluate the quality of a hedge fund's accounting systems and reconciliation procedures, both in house and externally at the administrator, to ensure that all trades are recorded on a timely basis.

More subjectively, we believe that good due diligence should also evaluate the potential motivations of a rogue trader – by which we mean compensation. In our view, managers who have a discretionary compensation model based on firmwide achievement create an environment where there is less risk of rogue trading, as each trader's individual P&L does not drive his or her entire compensation. This model contrasts to the risk profile of a hedge fund which pays its staff using the "eat what you kill" model of a proprietary trading desk, where each trader receives a formulaic payment based only on his or her personal profit and loss.

Fraud, like any crime, requires both motive and opportunity. A strong control structure can reduce the opportunity for fraud; investors should, however, also think of motives. The question of why a hedge fund manager would want to defraud investors is one of the most interesting lessons from each case within HedgeEvent.

VALUATION

Going forward, we consider misvaluation of fund assets to be the most significant, unresolved operational risk for hedge fund investors. Despite numerous examples of misvaluation in HedgeEvent, including Lipper Convertibles, Lancer and Beacon Hill, Castle Hall's ongoing due diligence continues to regularly identify hedge funds which have not implemented best practice valuation procedures.

We see a number of issues facing hedge fund investors considering valuation best practices. The first is the progressive shift of the industry towards strategies which trade more illiquid and harder to value securities. While, 10 years ago, the industry was dominated by long / short equity and CTA firms, today's multi-strategy, distressed and arbitrage managers can trade highly complex instruments which are unavoidably hard to price. The second is the specific liquidity and pricing challenges created by the current financial crisis: many managers trading debt securities, for example, faced unprecedented liquidity and price transparency issues during Q4 2008.

The biggest problem, however, is the ongoing ability of some hedge fund managers to price securities themselves. This practice is not in any way universal, but, unfortunately, becomes progressively more prevalent as instruments become more complex and harder to price. It goes without saying that it is precisely those instruments which are the most difficult to value which are the most susceptible to pricing fraud – it is obviously very hard to fake the price of IBM common stock.

To date, investors have relied upon third party administrators to assume responsibility for valuation. However, we see a rapidly growing "expectations gap" in the hedge fund administration sector, which Castle Hall first discussed in our October 2008 White Paper, "Hedge Fund Investing in a New World". Today, hedge fund investors continue to expect – rightly in our view – that third party administrators paid by investors to calculate a hedge fund's net asset value should independently value security positions. However, many of today's administrators argue that they have no responsibility for security pricing and that the administrators' role is limited to that of a "verification" not "valuation" agent. Indeed, we see an increasing trend for administrators to accept manager prices for hard to value securities without further checks.

Given the complexity and illiquidity of some of the assets held in today's hedge fund portfolios there is likely not a one size fits all solution to eliminate valuation risk. However, in the absence of universal, third party oversight, valuation remains the most significant, unresolved operational risk faced by hedge fund investors.

CONCLUSION

Criminals will always follow money, and it is hardly surprising that hedge funds, just like every sector of the financial services industry, have been subject to fraud and operational failure. Indeed, one of HedgeEvent's key findings is relatively reassuring – while the 300+ cases of hedge fund operational failure have generated material losses (Madoff spectacularly so), overall, fraud does not appear to be pervasive in the industry. This is a testament to the ethics and integrity of the vast majority of hedge fund professionals, together with the quality of work performed, day in and day out, by operations and accounting personnel working at funds worldwide.

Hedge funds, however, remain a paradox. While, on the one hand, many funds now trade high volumes of complex and hard to value securities, most managers remain privately owned businesses with a small number of employees. There are only a handful of managers who employ more than 200 staff and the vast majority of firms have less than 50 employees. As such, it remains the case that investors in hedge funds cannot rely on the depth of resources and controls – and deep pockets - which can be taken for granted at a major asset management company or global financial institution.

Against this background, due diligence is vital. No due diligence process can entirely eliminate the risk of fraud, but, with care and attention, investors can better understand the operational risks present within their portfolios. HedgeEvent provides a new tool to aid the due diligence process: Castle Hall's research allows investors to study and learn from the examples of prior hedge fund Events. With this knowledge, investors can be better prepared to avoid the "risk without reward" of hedge fund operational failure.

ENDNOTE

1. Reported in Opalesque, March 19, 2009
2: Financial Times: “Hedge funds with $1bn-plus plummet 40%”, Anuj Gangahar April 2 2009

ACKNOWLEDGEMENTS

Castle Hall would like to acknowledge the particular contribution made by the following during the development of HedgeEvent: Nicholas Kepper, Hamir Patel and Jason Coviensky.

DISCLAIMER

Information contained within HedgeEvent and analyzed in this document has been gathered from publicly available sources. Such information is presented without any warranty, express or implied, as to completeness or accuracy. Publicly available information sources (such as news articles) may be inaccurate, contradictory or incomplete. Information reported in publicly available sources may be alleged and not yet proven in a court of law. Analysis of publicly available information requires the use of estimates, assumptions and judgments (particularly in relation to the financial impact of each operational event). Such estimates, assumptions and judgments may be incorrect and other, equally informed commentators may reach different conclusions. Entreprise Castle Hall Alternatives Inc. accepts no liability for any inaccuracies, errors or omissions in this document, however arising.

CONTACT:

CHRISTOPHER J. ADDY CA CFA
PRESIDENT AND CEO

email: chris.addy@castlehall.ca
tel: +1.450.465.8880
www.castlehallalternatives.com

CASTLE HALL ALTERNATIVES

Hedge Fund Operational Due Diligence