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Hedge Fund Risk 2010

Hedge fund industry absorbs lessons of crisis

Risk software providers target smaller managers

New focus on due diligence after Madoff scandal

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Change of tack as hedge fund industry takes on board lessons of the crisis

By Simon Gray

The 2008 slump in hedge fund performance may now be well behind the industry and after bottoming out, the sector's assets under management have resumed growth. Nevertheless, even those firms that are again earning performance fees recognise that in a number of ways hedge fund management has been changed by the crisis and that there will be no return to the balmy pre-2007 days any time soon.

On one level, the return of volatility and the opening up of a broader range of opportunities, coupled with the relative disappearance of gearing, suggest that in the future, gains are destined to come to a greater extent from the effectiveness of managers' investment strategy, market insight and execution, and less from the scaling effects of leverage, whose capacity to result in punishment as well as reward has been amply demonstrated.

On another level, managers – and their investors – are coming to grips with the educational effect of the crisis, which made brutally clear that they were exposed to a much broader range of risks than they had imagined, and that the tools and concepts on which they had relied to identify, measure and manage risks in some cases had shortcomings that left them far more exposed than they realised.

Arguably the hedge fund industry is

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Helping providers meet clients' risk needs

By Ittai Korin

An interesting aspect of the financial upheavals of the past three years has been a change of perspective on the part of service providers that until recently had no interest in or understanding of the fact they needed to be in the risk reporting business. But in the past year or so, the knock-on effects of the financial crisis have alerted everyone in the hedge fund industry from investors to fund managers as well as prime brokers and other counterparties to the fact that risk management is not just important but vital, and that they all need some sort of methodology in place.

The service providers that Portfolio Science works with have not traditionally thought of themselves as being in the risk business, but they now recognise their need to be able to offer these kinds of functionalities. We are very well positioned to help such firms because we provide risk tools not only directly to end-clients but also via the enterprise-wide solution RiskAPI, a service-driven offering specifically designed to be private-labelled and wrapped within other application frameworks.

Other providers of risk tools focus largely on direct sales of a branded application, designed according to their own criteria with a proprietary look and feel. By contrast, Portfolio Science is bringing risk tools to a broader range of investment industry players than ever before through a standardised, networked application programming interface.

We provide a completely flexible, extensible, customisable tool set that an individual fund manager or a service provider can connect to via their front- or back-end systems and whose functionalities can be utilised within their own execution or reporting environment. This requires different priorities as vendor than showcasing your own brand, but Portfolio Science has concluded that what matters is delivering the back-end infrastructural DNA behind the risk services that service providers offer to hedge funds.

Ittai Korin is president of Portfolio Science

Using RiskAPI rather than a stand-alone desktop application or web site allows users to access risk exposure calculations through standard operating environments, connecting securely over the internet to a risk engine running on our servers. The software API contains a collection of individual risk calculations to which the user supplies parameters; the API communicates these securely over the network to the risk engine, which runs them through all its resources and delivers the result.

Fund administrators take position and trade data on a daily basis and compile reports including trade positions, NAV and P&L, and integrate the API within their reporting framework. They feed in position data to determine metrics such as value at risk and correlation, and disseminate the results to their hedge fund clients through existing reports, a secure web site or e-mail.

Portfolio Science has recently extended its offering through an agreement with PortfolioShop, a software vendor that provides reporting infrastructure to fund administrators and prime brokers, and which has decided to offer risk reporting to service providers in response to their feedback on the services they need to offer their own clients in the new market environment.

PortfolioShop can now offer a complete suite of risk reporting tools to fund administrators and prime brokers in addition to the original features in its application. Thanks to this single integration, all the firm's fund administrator and prime broker clients can offer risk reporting to their own fund clients. In this way, Portfolio Science's API approach is able to bring risk capabilities to a substantial new part of the market. ■

3 unlikely to see unprecedented, seismic events on the scale of the Lehman Brothers bankruptcy or the Bernard Madoff fraud again at any time in the near to mid-term future, if indeed at all. But it may well be that the industry will find itself exposed to asset price bubbles again before too long – memories are short in the financial sector.

What's changed permanently, say practitioners, is the understanding by managers and investors not just of the scale of risks they run but their scope. The answer for investors, whether they be funds of hedge funds, institutions or high net worth individuals and families, is now seen to lie in transparency – the willingness of managers to share information to which they clung tightly in the past, and that the investors never believed it was crucial to insist on receiving.

But transparency in itself is no all-encompassing answer to the harsh questions posed in 2007 and 2008. The usefulness of information depends critically on the ability of investors to organise, analyse, understand and act on it. For example, an institution with fiduciary responsibility that lacks the capacity to utilise the new information it is receiving from managers is potentially exposed to greater risk of legal action from disgruntled underlying investors than it would have been if they had not received that information at all.

Over the past year or so, investing through managed accounts has been eagerly embraced by a wide range of investors not only as an answer to the liquidity problems that plagued the industry in 2008 and early 2009 but as a short cut to obtaining effective transparency from underlying managers. However, managed accounts also move responsibility for operational issues to the investor. Unless they have resources and mechanism in place to take on that responsibility, they have shed one kind of risk only to take on another.

For their part, managers too recognise that simply providing investors with information they previously held tightly to their chests is not enough. With the resumption in investment appearing to come much more from institutions than from the industry's traditional high net worth clientele, reinforcing a trend already evident for several years, there are signs that managers are being pushed toward greater investment

of cash and management attention in risk management systems.

Firms that in the past have tried to carry out risk management on the cheap with makeshift in-house systems, and that now may be finding it harder to instil confidence in investors, are scrambling to equip themselves with tools deemed to be "institutional class" and the people to operate them.

All this presents a huge opportunity for providers of risk management solutions to boost their business. However, they were not left unscathed by the crisis either. Risk management and reporting software firms are also under greater pressure to ensure that their products can deliver the information and analysis managers will require, and to guard against offering solutions that "fight the last war". They are also facing the need to strike a balance between the ability to meet every conceivable client requirement and the need of smaller fund managers for adequate tools at affordable prices.

Meanwhile, large investors such as institutions are recognising the need to deploy risk management tools of their own to assess their portfolios as a whole as opposed to individual investments, as well as to provide them with greater resources in screening potential investment opportunities for red flags that would indicate operational inadequacies or, more seriously, fraud. The kind of faith placed by large investors in the likes of Madoff is a thing of the past.

The fallout from the Madoff affair has also alerted service providers to the risks they were running even when they thought, like the custodians of the feeder funds in Luxembourg, Ireland and elsewhere, that responsibility for oversight of the manager and the assets had been left with the underlying investors. UBS may have won a legal battle in Luxembourg against the threat of facing hundreds of individual lawsuits but it's not yet clear that it and other providers are out of the wood. Moves by the European Union to redefine the responsibilities of custodians to Ucits and other funds may move the goalposts again.

All these factor are weighing on members of the hedge fund industry as they re-examine their approach to measuring, understanding and managing risk in the coming months and years. On the most basic level, managers and investors face the same delicate balance they 7

Tracking the warning signs of fraud

By Doug Nairne

As a result of the fraud scandals that have made regular headlines over the past two years, everyone has become much more aware of the risks presented by business partners, clients and employees. Many companies have responded to the threat with comprehensive, risk-based due diligence screening programmes, although others have been slower to understand their legal obligations and lag behind the best practice approach taken by their competitors.

However, the companies taking an "it won't happen to me" approach are becoming an exception rather than the norm. Developments such as an increase in prosecutions launched by the US Department of Justice and the introduction of new anti-bribery legislation in the UK are clear indications that scrutiny from regulators has moved up a gear and that it is incumbent upon companies to take appropriate steps to screen the backgrounds of their clients, business partners and employees.

As one might expect, World-Check has seen demand for its due diligence services grow overall as a result of the financial crisis. Whereas certain sectors such as investment banks have seen less activity as a result of constraints on their business, overall demand for due diligence services has continued to grow, for example through the implementation of screening programmes by large groups. The swift recovery in some emerging markets, especially Asia, has also resulted in increased flows of new business.

Through its IntegraScreen subsidiary, World-Check has offered expertise in enhanced due diligence research since 2000 to clients including hedge fund firms and other asset managers, large US and European banks and other financial institutions, and accountancy firms. One of the world's largest specialist providers of due diligence services, the firm provides clients with background screening of individuals and companies through nine international offices with more than 200 researchers.

Doug Nairne is head of enhanced due diligence operations at World-Check

During the past decade there has been a strong trend toward outsourcing of due diligence research that began in Asia and North America but is gaining ground in Europe as companies increasingly recognise the cost and efficiency gains of using external specialists, rather than having to build up and maintain resources in-house. The impact of the economic downturn and the market fluctuations affecting investment firms have added weight to these calculations.

The stakes involved in getting due diligence right are becoming higher. The aggressive enforcement of the Foreign Corrupt Practises Act in the US and the general acceptance of background screening as an important risk mitigation tool has helped make the country the world's largest market for due diligence services.

Europe has trailed the US market but is catching up, and the UK anti-bribery law has the potential to be as important to the industry as the US legislation. Asia is a growing market as multinationals pour resources into the region looking for business opportunities, convinced that the continent will be their main growth engine in the coming years. Based in Hong Kong for the past decade, I have seen a corresponding growth in demand for due diligence services.

Due diligence is not a panacea – it may not find everything, but it's much better than doing nothing. Many of the people implicated in recent fraud cases had previously faced litigation, investigations by regulators or allegations of wrongdoing by former business partners. It's a rare occasion when the perpetrator of a major fraud hasn't left a trail of less serious problems that could serve as a warning. ■

5 ▸ have always done about the trade-off between risk and returns, albeit with their knowledge refined in the light of their experience over the past three years.

Without risk the hedge fund industry could offer no meaningful returns, but all the evidence points to the balance being skewed by a long period of prosperity and rising asset prices that came to an end two years ago. One of the key priorities for the future is to develop a better understanding of extreme risks that were not adequately picked up by risk management tools in the past, and to develop strategies that offer protection against large market gyrations and the collapse of generally understood relationships between asset prices.

A survey of 34 large pension funds and asset managers from around the world conducted by MSCI Barra in August and September last year found that institutional investors are rethinking their previous approach to risk management, which had largely involved a reporting and controlling function of investments within asset classes.

The report found that while investors used a wide range of risk measures including tracking error, value at risk, beta and volatility, the fact that their measurements were mostly applied within rather than across asset classes had potentially resulted in overestimation of diversification benefits, since the same underlying factors might drive what had been assumed to be quite distinct types of asset such as publicly-traded equities and private equity.

Another rethink concerns the organisation and status of risk management within investing organisations. Many participants in the MSCI Barra survey reported that risk management had traditionally been the responsibility of the chief investment officer, and that often risk managers not only had little investment expertise but tended to be junior to portfolio managers, limiting their impact on investment decisions.

Some of the pension fund managers interviewed acknowledged that the crisis had brought home the realisation that they did not have enough transparency into the activities of their external managers, for example how illiquid hedge funds could become or how leveraged some investments were.

MSCI Barra says the institutions surveyed were most surprised by the "sudden and violent appearance" of liquidity and counterparty risk and their impact on investments across all asset classes. "Both types of risk had been largely ignored up until this crisis and are still not well understood," the report says. "Going forward, almost all survey participants highlighted the need to better understand these two types of risk and are looking for guidance from consultants and risk management vendors."

The report says that a major rethink now appears to be underway regarding a number of areas within the industry. First, the position of risk management within institutions is being upgraded, gaining status and seniority, with reporting in some cases switched from the chief investment officer to the chief executive, for example. In addition to their control functions, risk managers may develop investment expertise in order to be able to provide 'independent' advice to investment management teams.

Finally, institutions are looking to carry out risk management on a firm-wide rather than asset-specific basic in order better to understand common factors across asset classes. "Traditionally risk management was a reporting role, but now it is moving towards managing, policing and intervening," says one pension fund sponsor quoted by MSCI Barra.

Respondents also indicated that they planned to invest significantly in improved risk management tools, with particular focus on the weaknesses exposed by the crisis, including identifying, measuring and managing counterparty and liquidity risk and adding or enhancing stress testing and capabilities for measuring extreme risks. They are also seeking to identify the underlying drivers of risk and return across asset classes and complementing quantitative criteria with qualitative risk assessments.

Finally, the report confirms that among pension scheme sponsors, risk management capabilities will become a more important factor in the selection of external managers. "Asset managers with a fully integrated risk and portfolio management process will have the competitive edge," the authors conclude. "Counterparty and liquidity management will be scrutinised, and [pension] plan sponsors will require more transparency from hedge funds." ■

Providers look to extend risk management solutions to wider market

By Simon Gray

In an industry environment where even the smallest start-up managers are being called upon by potential investors to demonstrate their commitment to effective risk monitoring and management, service providers are seeing opportunities to extend their market by targeting firms that in the past might well have handled risk through an improvised spreadsheet solution, if at all.

The development of products and service delivery mechanisms more attuned to the needs and budgets of smaller industry players is one aspect of the sea-change across the industry in the wake of the crisis of the past couple of years. It has opened up a broad range of new opportunities for providers of risk management and reporting software, but is also presenting challenges to these firms as managers and investors put their existing arrangements under critical examination in the light of the risk management failings the crisis exposed.

One important development is that service providers such as administrators are increasingly recognising their need to offer risk services alongside the other reporting functions used by their hedge fund manager clients – whether this involves building their own risk measurement capabilities or teaming up with specialist providers that can integrate their software within the administrators' existing systems.

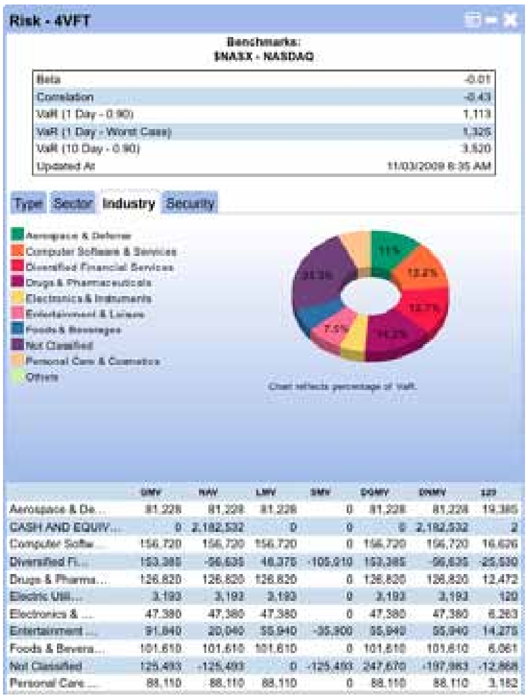
Butterfield Fulcrum, the international hedge fund administration group formed a couple of years ago by the merger of Fulcrum, owned by private equity firm 3i, with the administration business of Bermuda's Bank of N.T. Butterfield, is one industry player that has embraced the new industry requirements, having recently launched an integrated operations and risk reporting service.

Says chief executive Akshaya Bhargava: "The reporting service takes the positions from our accounting system and generates a whole set of risk information, including all the ratios and reports on liquidity, on leverage, and on concentration by industry, geography and strategy. It includes some P&L analysis and elements of stress-testing within a very holistic package. Broadly speaking, we provide two sets of reports, one for the investment manager, which has position-level detail, and the other aimed at the investor, which does not."

Bhargava says the initiative meets growing demand from clients for risk services as an integral part of a fund administration offering. "It is the logical place to do it, because an administrator is the only place where you get independent reconciled data on the fund," he says. "The fund manager itself can do it, but it's not independent, and prime brokers can do it, but their data isn't reconciled. That's why risk reporting integrates best with an administration service, and our clients are reporting that we offer quite a powerful package."

This logic has informed the market approach adopted by New York-based risk software provider Portfolio Science. The firm's product range includes RiskAPI, which involves integration of risk reporting into the systems of administrators and prime brokers through an application programming interface, bringing risk services to a much broader range of managers.

Portfolio Science president Ittai Korin notes that the experience of the past couple of years has brought home to service providers that risk reporting has become a much more important service for their clients, and that they need to be able to respond.



At the same time, he says, this approach necessitates the willingness of his firm to eschew promoting its brand and controlling the application's look and feel in favour of allowing the administrator or prime broker to deliver the service on a white-label basis.

"You have to change your priorities as a vendor," he says. "You have to not care about having your logo out there, about the traditional concepts of the brand or the look and feel of the front end. What matters is being the back-end infrastructural DNA behind the services that they've realised they need to provide."

Korin says the API approach avoids the need for a front-end interface. "The API allows users to access risk exposure calculations through standard operating environments. APIs normally allow users to customise software by developing code that can access and manipulate the software's features, but RiskAPI takes the concept further by using a standardised interface to connect securely over the internet to a risk engine running on our servers. The API communicates user-defined parameters securely over the network to our engine, which runs them through all its resources and delivers the result."

He argues that the model saves the service provider a great deal of time and effort. "Even for the simplest asset class, for instance domestic equities, they would

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Evaluating and managing risk

By Meredith Jones


Meredith Jones is a managing director and head of global marketing at PerTrac Financial Solutions

The past year-and-a-half has been particularly difficult for alternative investment professionals. Many traditional quantitative risk assessment tools couldn't help save investors from performance losses, while qualitative risk measures did not account for liquidity problems, gates and fraud.

During this period PerTrac Financial Solutions has talked extensively to clients about the changes they expect in the wake of the financial crisis and market turbulence, and we've concluded that new tools are necessary to bolster risk mitigation, manager research, evaluation and management.

Historically, quantitative risk analysis has relied on traditional measures based on normal distributions. While useful to a degree, these measures do not encompass more complex characteristics of alternative investment return streams, such as fat tails, skewness, kurtosis, and non-normal correlation analysis.

In addition, position-level information can be difficult to obtain and interpret, especially for more complex strategies. Position-level data needs to be practically real time to provide optimum analytical value, otherwise investors can end up "chasing ghosts" of positions (and risks) that no longer exist. Even if managers embrace this level of disclosure, at a cost of low to mid-six figures the systems are not an option for many investors.

Extensive interviews with clients including endowments, foundations, pension funds, sovereign wealth funds and funds of funds helped us determine that a new breed of risk management system was needed. Investors need a returns-based system that can evaluate information from managers but still allows them to decompose the risks and returns of opaque investments – at a more widely affordable price.

PerTrac's answer is RiskPlus, an advanced risk module offering highly sophisticated, academically proven modelling of risk factors that are pertinent to alternative investments. It produces critical information on managers and portfolios, such as the potential for losses during periods of market stress, and expands investors' knowledge about managers both quantitatively and qualitatively. Priced between USD12,500 and roughly USD20,000, RiskPlus will offer investors on tighter budgets access to some of the sophisticated tools used by larger investors.

The past 18 months have also highlighted transparency issues. At present, most investors receive qualitative information on their hedge fund investments, such as geographic and sector exposure and leverage data, weekly or monthly in .pdf format.

Re-keying information from these .pdfs is both a time-consuming and error-prone process. Our response is PerTrac P-Card, a system for the direct, efficient transmission of transparency and risk information between managers and investors. Managers are able to provide daily, weekly and monthly returns as well as exposure and other information via encrypted e-mail directly to investors and prospects. Recipients open the e-mail attachment and instantly have access to information in an electronically usable format. The P-Card Generator software is free to any manager, and any user of the PerTrac Analytical Platform can receive and decrypt the information.

P-Card increases efficiency without which increased transparency is of somewhat limited value – if an investor must spend valuable time entering information rather than analysing it, it is very possible to miss critical signals. Currently installed with more than 225 funds and 250 investors, the system has been adopted as the preferred data collection method of the Managed Funds Association.

Risk remains a key concern globally for investors large and small. With the right tools, evaluating and mitigating those risks is a less daunting task. ■

9 ▶ otherwise have to build and manage a database of historical data and deal with splits, capital adjustments and all kinds of corporate actions," he says. "Just maintaining that database of historical pricing would be a significant challenge for a fund administrator.

"In addition they would need a full understanding of the mathematics that goes into the risk engine. You're talking about a massive divergence from their core business. Instead, RiskAPI enables them to deliver a whole structure of results with just a small amount of initial input. All they have to decide is what calculations they want and how they want to present them. We make it very affordable and speedy to go from the position data to the risk calculations they want."

Portfolio Science has now moved a step further through an agreement with PortfolioShop, a software vendor that provides reporting infrastructure to administrators and prime brokers, to integrate RiskAPI into the enterprise investment management system FixQ. "Today in the fund administration and prime brokerage market there are different types of player," Korin says. "Some offer reporting capabilities by purchasing systems or building them in-house, while others buy it in as a product or service.

"PortfolioShop's decision to offer risk reporting to its service provider clients represents a new strategy that reflects how the industry has changed and what service providers now need and want. It can now offer a whole suite of risk reporting tools to administrators and prime brokers alongside the original features of its application. Through this single integration, all PortfolioShop's clients can offer risk reporting to their own fund clients in turn."

PortfolioShop president Harvey Sontag adds: "Using RiskAPI, we have been able to completely embed a full suite of risk analysis features into FixQ. Our clients' fund customers now have instant access to dynamic exposure and risk analysis. The service has allowed us to quickly offer powerful multi-asset risk analysis including value at risk, correlations, betas, derivative sensitivities, stress-testing and much more. The result is a ground-breaking combination encompassing accounting, reporting, performance and now risk."

Another provider that is examining different ways to meet the new needs in the market is PerTrac Financial Solutions, provider of the eponymous analytical platform used by managers and investors, and which is looking to reach players in the market that in the past have been deterred by cost factors from investing in advanced risk management tools. Says managing director and head of global marketing Meredith Jones: "In April, we are launching an advanced risk module for our platform called RiskPlus, which allows very sophisticated modelling of a variety of risk factors.

"The PerTrac platform has always had a strong risk evaluation component that enables clients to perform analysis such as Monte Carlo simulations and stress testing as well as statistical analysis to help determine the risk/reward profile of the fund. This new product takes the process a step further by

bringing more sophisticated, academically-proven risk evaluation tools to a wider section of the market."

Jones notes that historically risk evaluation tools have cost as much as USD100,000-plus, pricing them out of the range of smaller investors and managers. "Our new product will be priced between USD12,500 to roughly USD20,000 range to offer smaller investors and those on tighter budgets access to some of the same sophisticated risk evaluation and management tools used by larger investors," she says.

PerTrac is also responding to the new environment by actively promoting its P-Card system for the transmission of information by managers to investors in a way that enables the latter to integrate the data directly into their own systems rather than having to re-key it, with all the loss of time and potential for errors that entails.

"If you need to make adjustments to your portfolio or send in a redemption request, time is of the essence," Jones says. "That's a huge part of managing risk. Without transparency you cannot possibly manage the risk in your portfolio. And without efficient transparency, a lot of people end up receiving critical information but not necessarily being able to act on it, which is dangerous on a number of levels.

"First, if you have any type of fiduciary responsibility, it increases when you receive information from a manager. If you don't do anything with the information you receive, due to lack of either time or expertise, you have effectively increased your liability toward your end-investors. Even investors that may not have fiduciary responsibility face increased headline risk – that if a fund blows up and they had information that might have mitigated that risk, had it been acted upon, it all ends up in the Wall Street Journal. It's not just mitigating the risk within the portfolio but risk to the organisation as a whole."

She likens the experience of the past two years to that of a car accident: "Before 2008 the perception of risk in the marketplace was like having an accident in a Hummer – risk was something that was really far away and didn't necessarily touch you personally. Since 2008, the perception of risk is more like having an accident in a Smart car. Anything that hits is up close, personal, and it's definitely going to affect you.

"Errors and fraud are no longer abstract things you read about in newspapers on occasion but things that happen to you or to other investors that you know. That has given everyone a much healthier appreciation of the true extent of risk and made people more willing to do the work necessary to mitigate it. Investing in anything, whether it's a house, a mutual fund, a hedge fund or a private equity fund, cannot be easy if you do it right. You have to be vigilant and do the research. If you don't, now we really know what can happen."

This appreciation has also brought new business to specialist firms such as World-Check, which provides enhanced due diligence on individuals and companies. Doug Nairne, head of enhanced due diligence operations, says that scandals like the Madoff affair and others have brought home to investors, including institutions and fund of funds managers, the importance of conducting background checks.

"Conducting due diligence is like getting a medical check – it may not find everything, but it will find more than doing nothing," he says. "Many of the people implicated in recent fraud cases had previously faced litigation, investigations by regulators or allegations of wrongdoing by former business partners. It's a rare that the perpetrator of a major fraud hasn't left a trail of less serious problems that could serve as a warning." ■