Risk management in the investment process

Risk management may seem daunting, but a strong system can avoid Barings-style investment crises. David Depew of Wellington Management explains.

Risk management in the investment process often seems overwhelming, since few companies have the resources to comply with all the standards or rules proposed by risk management experts. Although it can appear daunting, risk management is an appropriate and important practice for all investors. A strong risk management system will minimise error, provide structure to the investment process and ultimately enhance returns. The key to success here is to build a simple and balanced approach.

This article discusses a balanced approach to risk management in the investment arena, and includes the following areas:

- the three major categories of risk;
- the costs of too much, as well as too little, risk management;
- current efforts in the field of risk management; and
- guidelines for implementing, managing, or enhancing a risk management system.

Simplifying the process

Risk management can be simplified by dividing the process into manageable parts. *Figure 1* (see page 52) shows that there are three major categories of risk: market (investment) risk, counterparty risk and operational risk. The overlap indicates there is rarely a risk management problem that is not a confluence of different risk system breakdowns. (An example of overlapping risk will be highlighted later in this article.)

Market risk – according to a Barra/Rogers Casey survey of pension executives, "Market risk is the number one risk pension executives feel exposed to". To receive market returns, most investors assume market risk. But a deeper level of risk is embedded therein and that is: unintended or excessive market risk. These risks often surface as a result of unanticipated market events.

> Too little risk management can be dangerous. But too much has its own problems, in the form of unnecessary complication and confusion

Counterparty risk – this type of risk arises because investors do not operate in a vacuum, but instead interact with many other parties on a daily basis. Investors deal with brokers, trade on an exchange, store assets with a custodian and often hire an investment manager. Investment in the markets means dealing with counterparties and subsequently assuming the risk entailed therein.

Operational risk – this is the broadest category of risk. It is multifaceted and ranges from risks, such as excessive leverage and fraud, to investment guideline violations, lack of checks and balances and trading errors.

David Depew

The Barings crisis

Although we have designated three categories of risk, risk management problems do not occur in isolation and are generally interrelated. Probably the best illustration of the interrelationship among risk types is the notorious Barings crisis. First, there was an operational problem of insufficient oversight: Nick Leeson was the portfolio manager, the trader, as well as the head of the Singapore back office. (This, we will demonstrate, violates one of the key principles of reducing operational risk, namely a sufficient system of checks and balances.) While no direct problems arose from these operational problems, the market volatility in Japan caused these issues to come to light due to the magnitude of Leeson's Japanese position. This is typical of how investment risk can cause other, hidden risks to surface. But the problems were not confined to operations, since this situation also triggered counterparty risk. Leeson's positions were of significant size that both Simex (Singapore Exchange) and the Tokyo Stock Exchange were in jeopardy of potentially defaulting on their obligations to other counterparties. Again, none of these risks were exposed until a specific market-risk event occurred.

A balancing process

The dangers of too little risk management are well documented. On the other hand, too much risk management has its own problems, in the form of unnecessary complication and confusion. The more complicated a risk management process, the more expensive risk management becomes. In practice, there is a fine line between an adequate process and one that is unnecessarily complicated. An analogous situation occurred in the US space programme: NASA has spent over $1m developing a pen that can write without gravity, while in the Russian space programme, pencils have been used for years.

The more complicated a risk management process, the less likely that investment action will occur in a timely fashion. We believe that risk management should not become an impediment to the investment process. In fact, it is better to avoid an opportunity for investors to either misunderstand, ignore, or circumvent an overly complex system.

One of the byproducts of too much risk management is an excess of information, reports, and statistics. A key point to remember is that information is not the same as knowledge. A quote from David McCullough, noted author and historian, illustrates the difference between the two: "Information is a wonderful thing but it is not knowledge. You wouldn't be educated if you managed to memorise the entire encyclopaedia. You would just be weird."

The ultimate goal for investors is to develop a process that sits between too much and too little risk management.

Some 'best practices'

The following is a synopsis of best practices from various industry groups that have proposed standards. In general, these proposed standards are based on common sense. We elaborate on a number of the best practices grouped by the three main categories of risk:

Investment risk

The risk management failure described earlier in this article did not happen spontaneously; there were some warning signs. This means that there are pre-emptive measures which investors should undertake to avoid or minimise such risk management failures:

- **value investments accurately**;
- **calculate exposures** – exposures are not the same as market value, particularly if an investor is using derivatives. The simplest example is a futures contract, which really has no market value, but that certainly has a lot of exposure;
- **employ market risk measures** – investors should be aware of the differences in each asset class within each specific market; and
- **use risk-adjusted return measures** – it is important to evaluate returns in the context of risks taken, since simple return measures are not always adequate.

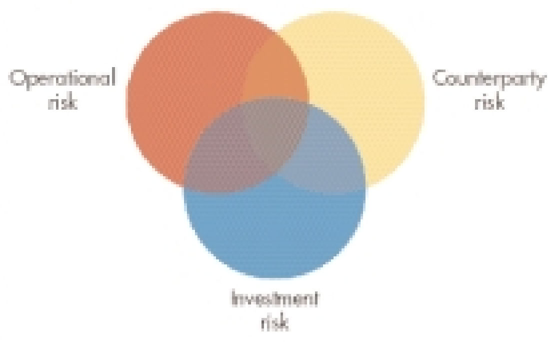
Counterparty risk

Best practices for counterparty risk include:

- understanding the legal relationships with brokers/intermediaries and exchanges; and
- performing due diligence on each broker/intermediary and exchange.

FIGURE 1

Simplifying the risk management process



Investors should begin this process by determining the risks and exposures of the counterparties. Next, they should ascertain the policies and procedures used in market stress. Finally, they should determine the rights/responsibilities/obligations of the counterparties in different scenarios. Investors should use various tools, including credit reports and ratings from agencies, as well as intermediary balance sheets.

Operational risk

In determining best practices for operational risk, all the industry groups recommend that investors do the following:

- **implement a system of checks and balances** – this can prevent fraud or the covering of innocent mistakes; and
- **implement a system of reporting market values and exposures regularly** – it is no longer sufficient to do this reporting annually, quarterly, or even monthly. The technology is now available to prepare reports daily or, in the case of very volatile instruments, intra-day.

It is still unclear as to what will transpire with regard to regulation in the field of risk management. What is clear is that standards are created at an accelerated rate and today investors can either ignore risk management standards until enforced by either government or industry groups, or select and implement the standards and practices that are applicable to their particular situation.

First steps in the process

We advocate implementing appropriate risk management elements into the overall investment process. To apply these standards effectively, there are several key guidelines for investors to keep in mind:

Solicit assistance – as risk management practices can often seem confusing and complex, investors should not take on the responsibility for beginning a system alone. Consultants, custodians, trustees and investment managers can all assist in the risk management process; they can educate, provide analysis and analytical tools, as well as troubleshoot. Buying tools may also be a better option than building them. The investor should stay closely involved and manage the process to ensure that it is tailored to the investor's specific needs.

Set priorities – there may be difficulty knowing where to begin a risk management programme. This problem is compounded by the limited resources available to most investors. Therefore, it is critical that market participants know their limits and prioritise accordingly. Any successful system should include the following priorities, as directed towards the needs of a fund sponsor:

- risk management begins and ends with senior management support. The latter must: understand the investment and risk management process; provide adequate resources and incentives for people to apply the risk management system;
- a risk system should include defined procedures, consistent calculations and a common language;
- accurate exposures and market values should be stated;
- an informed dialogue between fund staff and investment managers based on the common language established by risk system must be ongoing;
- a higher level discussion concerning risk management between senior

- management and fund staff should occur regularly; and
- a verification process to ensure that returns reflect exposures.

These priorities can also be the basis for a risk management due diligence process when selecting a money manager. This is particularly relevant given that 70% of respondents to a recent Wellington Management risk survey formally considered risk management in selecting a manager.

The cultural aspect

All the standards that are proposed by the various industry groups are process-driven and ignore the importance of the people involved. This is a critical oversight because people can circumvent any risk management process, no matter how elaborate or controlled it is. In the Barings case mentioned earlier, the risk management problems and failures were perpetrated by one individual who operated in a culture that implicitly encouraged extreme risk-taking.

The following are proposed guides to imbue an organisation with culture receptive to risk management:

Open investment process – there must be a forum for disseminating all trade and investment ideas and this forum should encourage questions and challenges.

Separation of responsibilities – this is imperative; separation between portfolio management and trading, as well as between client service (for example, performance measurement) and back office. The management structure must be flat where all the functions have equal stature and adequate resources. It is important that back office personnel be able to question and challenge portfolio managers. While separation of responsibilities is important, it is also necessary that one individual retains ultimate responsibility for the investment process.

Internal review – there is a need constantly to evaluate the risk management process. Is it being followed or is it just getting in the way?

Policies and procedures – all policies and procedures should formalise a strong code of ethics, which should include personal trading, error resolution, trade allocation and brokerage relationships. These procedures should be reviewed with all personnel on a regular basis. The world is getting more complicated and it is easy to lapse into a compromising situation.

Recommendations

The broad recommendations essential to successful risk management are:

- know your limits and decide what is most important for your particular organisation and strategy;
- while statistics are useful they should be used carefully and balanced with judgment; and lastly
- people can render any risk process ineffective; therefore, people are paramount.

There is no substitute for hiring honest individuals with judgement and market experience. The real challenge, however, is to create a culture that attracts and motivates this type of individual. ■

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