

Ten common failures in independent risk oversight

Tanya Styblo Beder, principal at Capital Market Risk Advisors Inc, outlines the role of the IRO and examines its main shortcomings.

The year 1995 is likely to be remembered as a time of building risk infrastructure, though not everyone has built it well. The stunning risk events of the previous two years defeated corporations, institutional investors, financial institutions and dealers in a multitude of ways. Several securities markets dislocated following the Federal Reserve's rate hikes and several currencies made spectacular moves, notably the Mexican peso, Japanese yen and Italian lira. Billions of dollars were lost in complex or misunderstood transactions that directors and trustees were shocked to learn their companies had been involved in. Firms conducted self-risk assessments and concluded that greater risk infrastructure was called for. To their surprise the risk assessments revealed that the vast majority of losses were caused by insufficient oversight of systems and staff. In many cases unacceptable risk could have been averted had appropriate checks and balances been in place.

A large responsibility rests with directors, trustees and supervisors who face the challenge of stalking unacceptable risk. To do so they must keep up with the breakneck speed of the evolution of risk management. It may seem a monumental task to keep up but regulators, rating agencies and shareholders demand that a firm do so. Thus it is incumbent upon management, directors, trustees and supervisors to be educated in current best practices. To address this, many companies decided to build an independent risk oversight (IRO) function as a first step in updating their risk infrastructure. While dealers and large global banks started to implement the IRO function a few years earlier, corporations, pension funds and money managers largely began in 1995. Perhaps due to the heavy press focus on derivatives, most began the process focused solely on derivatives. However they quickly realised that IRO must exist for all risks, not just derivatives risks. They acknowledged that internal marketing and ongoing education are vital. The discussion

that follows provides a brief description of the IRO function and shares the collective wisdom of several IRO implementations, some successful and some not so.

The IRO function

Executive search for qualified IRO professionals grew dramatically during 1995, demonstrative of the huge challenge in finding qualified staff for this function. Some firms have a single individual who performs the IRO function on a part-time basis while others have a dozen or more professionals in a dedicated department. These staffing differences are a reflection of the magnitude of risks embedded in the firm's financial activities, the geographic breadth of the firm's units as well as data, systems, funding and other business realities. The job of IRO encompasses the area of risk measurement as contrasted with risk management below.

- **Risk measurement:** the oversight activities of the professionals who evaluate, monitor and contain when necessary the risk-management activities of the firm. Examples are the credit-risk approval area, certain aspects of audit and control, areas that perform risk analysis and reporting and the monitoring of market risk management. Typically both existing and anticipated exposures are included.
- **Risk management:** the activities of the professionals who price and transact the firm's products and retain or hedge away resultant risks. Examples are the treasurer's or chief financial officer's activities in the area of managing foreign-currency exposure, raw material or commodity exposure, interest-rate exposure, etc. Typically both existing and anticipated exposures are included.

Note that IRO's role may be proactive: not only does IRO oversee risk-management activities but IRO may have the authority to effect changes in the risk-management activities of the company. Most often the decision to act is based on the decision of a risk management committee on which the IRO function has one or more votes. While over 90% of the dealer and global banking community already has some type of IRO function only 25% of companies, and less than 15% of pension funds and municipalities, have some type of IRO function. Driven by regulatory and other concerns (eg shareholders, taxpayers and pensioners), implementation of IRO by corporations, pension funds and municipalities is expected to increase dramatically during 1996.

Collective IRO wisdom

The following discusses 10 common failures in IRO as well as how successful IRO units address these issues.

(i) Be sure that IRO is properly located in the organisational chart.

IRO needs the authority to analyse and monitor risk independently. Common problems in unsuccessful IROs include conflicts in the reporting relationships and/or lack of control over areas for which IRO is accountable. The reporting lines for IRO vary between companies. Successful IRO units typically have separate authority, however, from the line-execution areas (treasury, liability management, portfolio management, etc). Such separation reduces conflict of interest problems which may arise if the evaluation or salary of the IRO manager is tied to the performance of the line areas. The most common reporting structures for successful IRO units are:

- to senior management with a dotted line to the board of directors, trustees or supervisors;
- directly to the board of directors, trustees or supervisors.

(ii) Obtain policy-level risk/reward mandates.

IRO's goal should not be to exterminate risk: not all risk is bad. Risks which are mispriced, misunderstood, mismanaged or that jeopardise more capital than the entity is willing or able to lose are bad. Unsuccessful IRO units often constrain risk too much, to the exclusion of reward. A common guideline set down by such units is activities are prohibited which are not specifically included here. Other unsuccessful units often establish what they believe to be reasonable risk/reward trade-offs only to learn that with 50-50 hindsight management or the board has a different

opinion of what is reasonable. Successful IRO units obtain policy-level risk/reward mandates prior to implementing reporting and controls.

(iii) Ensure that accountability and authority are aligned.

A common failure in unsuccessful units is responsibility for risks over which IRO has no control. An important exercise is to create two organisational charts to analyse this issue. The first chart details accountability for risk taking and the second details authority to take action related to risk taking. In successful IRO units the charts match.

(iv) Do not rely solely on quantitative methods.

While mathematics is necessary to control risk, it is not *sufficient* to do so. There are several reasons why quantitative methods by themselves are insufficient to contain risk. Unsuccessful IRO units often fail to provide sufficient oversight into these areas.

- Mathematical models are not able to capture qualitative factors such as market liquidity, market gapping, irrational options (eg mortgage prepayments), availability of low-residual risk hedging instruments, paradigm market shifts, etc. Successful IRO units address these issues with nonquantitative techniques.
- There is a wide variance in the valuations produced by widely accepted models (termed mark-to-model risk). For example the commonly employed Black-Scholes and Hull and White options models often produce differences of 5% or more in pricing, even when all input data is identical. The differences in valuations for engineered structures can be 20% or more especially during periods of market dislocations, as experienced during much of 1994. Successful IRO units analyse their dependence on models, and perform sensitivity analyses on model-based assumptions.
- Value at risk (VAR) has gained rapid acceptance as a valuable approach to risk management. But not all VARs are equal. A recent study by Capital Market Risk Advisors Inc (CMRA) of VAR techniques employed by dealers and end-users reveals that VAR calculations for the same portfolio vary by 14 times or more.
- A quantitative technique may produce adequate overnight views of capital at risk but produce inadequate risk views over time horizons of

several months, a year, or longer. Many risk exposures and securities are unable to be liquidated under an overnight time horizon. This can create a severe limitation in sizing true risk exposures. Successful IRO units supplement measures such as VAR with stress testing, limits and other risk techniques.

(v) *Determine whether you are performing high-quality analysis on poor data.*

The vast majority of corporations, pension funds and municipalities employ simplification and aggregation to record data on their entity's business. In unsuccessful IRO units it is not uncommon to discover that data simplification and aggregation is the culprit in situations in which a firm's risk reports indicate the firm is risk neutral but the profit and loss statement indicates otherwise. Due to systems expense and limitations, firms wind up analysing simplified, aggregated versions of their risks which are different from the risks they actually own. Successful IRO units evaluate the degree to which such simplification and aggregation are necessary given time and budget constraints, and incorporate additional measures to manage this issue.

(vi) *Both quants and senior management play a vital role in risk oversight.*

Given the rapid evolution of risk-management techniques and the increased requirements for complex mathematical models, firms often rely on unseasoned quants to determine stress-testing scenarios and to select variance bands that drive the analysis of market movements (interest-rate moves, currency moves, commodity or raw-material price moves, etc) and model variables (curve construction, interim valuation techniques, etc). Quantitative methods must be used to measure risk but given such limitations they should be overseen by seasoned professionals and augmented through risk practices which fill in the gaps left by quantitative tools. Successful IRO units avail themselves of the technical knowledge of quants and of the perspective of senior management.

(vii) *Guidelines are only one part of an overall risk framework.*

There is no single approach to successful risk management. While the numerous quantitative and qualitative components may vary in their implementation each must be addressed. In CMRA's review of unsuccessful IRO units, no matter how well a specific component was built, the lack of another component

caused unintended results. Table 1 summarises the primary components of an updated risk-management framework. Note that the goal is to minimise the items that are beyond the control of the company, for example new forms of fraud, paradigm changes in markets, unexpected market moves, etc. Successful IRO units implement and update as necessary all components in the framework and create written policies, controls, procedures, limits, etc rather than relying on compensation or culture to control risk.

With respect to guidelines successful IRO units work with management to determine where guidelines are to be on the scale of silent to prohibitionist. Silence leaves the interpretation of appropriate risk to others and one may wind up with *more risk* than intended. Prohibitionist (for example, you cannot do it unless it is listed here) leaves little room for managers to take new opportunities and one may end up with *less return* or more expensive funding than intended. Neither extreme is desirable.

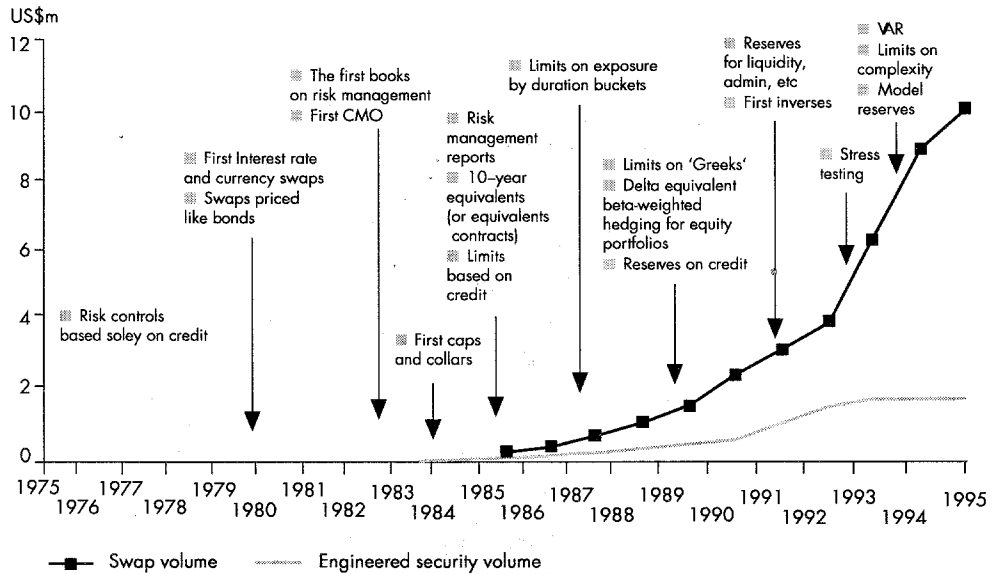
(viii) *Launch an internal marketing effort regarding IRO.*

Successful IRO units bring together the collective wisdom and muscle of the line-operating areas with staff areas such as operations, audit, legal, accounting, tax, credit, information technology, regulatory compliance, etc. Without appropriate marketing of the IRO concept IRO can be hampered by being viewed as a big brother rather than as a partner in business. Unsuccessful IRO units fail to acknowledge the natural conflicts that exist between certain areas and do not benefit from their valuable input and ability to assist in establishing the appropriate risk/reward balance.

Table 1: Current best practices in risk management

Key components	
Overarching guidelines	Random audits
Business-unit guidelines	VAR measures
Outside manager guidelines	Multidimensional risk monitoring
Specific guidelines	Systems and database
Policies	Timely information and risk reporting
Limits and violation procedures	Checks and balances
Controls	Education and Knowledge
Procedures	Calendar and market event updating
Stress tests	Legal, tax, accounting, other interfaces

Figure 1: Evolution of risk management



(ix) Be sure everyone speaks the same language.

A review of unsuccessful IRO units often reveals that risk management for currency (commodity, interest rate, earnings, tax or accounting) programmes is conducted without agreed definitions for crucial terms such as hedging, speculation or anticipatory hedging. One company's senior management was of the opinion that several anticipatory transactions reviewed were better classified as speculative and thus in violation of company policy. Guidelines were subsequently updated to include minimum criteria for qualifying as anticipatory with significant debate over questions such as:

- Who is to determine whether an anticipated transaction is likely?
- How certain must they be?
- How will the probability or likelihood of a future event, for example the need to hedge receivables over the next two years or the need to finance transactions in a foreign market, be determined?

(x) Do not suffer from carbon dating.

Far too often in an independent assessment one discovers that a company employs the 1987 or the 1992 version of risk management. And because risk is viewed via outdated techniques losses have occurred that could have been avoided. Figure 1 illustrates the rapid evolution of risk management over the past decade.

Conclusion

Table 2 details the six key components of today's best practices in risk management. The list is compiled from the recommendations of regulators and industry groups from around the world. The infrastructure required is substantial.

Table 2: Current best practices in risk management

- A VAR measure.
- An IRO function.
- Requisite knowledge and systems.
- Specific written policies, controls and procedures.
- Frequent mark-to-market.
- Stress testing and simulation.