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CONTROL REQUIREMENTS FOR DERIVATIVES

SEMINAR, 8 DECEMBER 1994

FIMAG held a seminar on the topic of 'Control Requirements for Derivatives' on 8 December 1994 at the Merchant Centre, London. The seminar was well attended by over 100 delegates, primarily actuaries from life assurance companies.

In recent years there has been a substantial increase in the use of derivatives by financial institutions, including life companies. This reflects the potential for derivatives such as futures and options to improve the speed and efficiency of the asset (and liability) management process. However, it is these very characteristics of derivatives which also bring with them potential dangers of abuse. There have been several well-publicised examples of such abuse in the wider financial community in recent years. Increasing concern about the control of derivatives has lead to the production of guidance notes on the subject from both the DTI and the Institute and the Faculty. The purpose of the seminar was to discuss these guidance notes and the practical implementation of control systems.

The most important message of the day was that all interested parties — directors, Appointed Actuaries and senior management — must improve their level of understanding of derivatives. If the risks inherent in these products are not well understood, then the process of controlling their usage becomes futile. The risks can be divided into several categories:

(1) credit;
(2) market;
(3) liquidity;
(4) operational; and
(5) legal.

The DTI have issued a guidance note outlining how life companies should interpret recent legislation implementing the Third E.C. Life Directive, with particular reference to the use of derivatives. The guidance is directed at the directors of life companies whose responsibility it is to comply with the legislation, but it is also of direct importance to actuaries.

The criteria of 'sound and prudent management' require the directors to ensure that adequate systems of control of the business and records are maintained. Although this statement has wide applicability, the DTI intends to lay particular emphasis on it in relation to the use of derivatives. The board must ensure that its management:

(1) understands and is competent to deal (in derivatives);
(2) understands the nature of exposures and risks;

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(3) has clear guidelines, policies and limits in place;
(4) has access to adequate and timely information about exposures;
(5) is capable of analysing and monitoring risks;
(6) recognises the implications of uncovered transactions; and
(7) can control exposures endangering solvency and adversely affecting PRE.

It is implicit that a clearly-defined investment strategy should have regard to the various sections of the legislation. Broad investment guidelines for derivatives (as well as a summary of exposures) will have to be disclosed in the DTI Returns. In addition to the admissibility limits, controls over the exposure to derivatives should include a credit assessment of counterparties. Limits will apply to the exposure to any one counterparty or connected companies, not just in relation to derivatives, but aggregating all exposures including, for example, stock lending, bank deposits, loans and investments. The intention seems to be that, in practice, the mangement will set lower internal limits than those laid down in the regulations. Such limits will depend on, for example, the volatility of markets, credit rating of the counterparty bank, length of exposure, margining facilities and collateral facilities.

The Faculty and the Institute have also issued a (draft advisory) guidance note directed at actuaries required to advise upon a portfolio of assets or liabilities where derivatives are involved. The guidance note has wider application than only to Appointed Actuaries of life companies. The note is divided into 3 main sections:

— *Prudent management controls.* The Appointed Actuary must be satisfied that adequate systems are in place to monitor and control derivatives activity. It is suggested that the Appointed Actuary should monitor activity on a daily basis. At least one participant thought that this was unnecessary, it certainly seems to confuse the issue of ensuring that monitoring systems and working limits are in place and the need to review each individual investment transaction.
— *Assessing the adequacy of control procedures.* This is essentially a question of ensuring that clear and explicit lines of communication are in place between the board of directors and the investment manager setting out investment strategy, the types of derivatives that may be used and the limits on exposures in terms of market risk and credit risk with counterparties. In addition, there is a need to ensure that those responsible for the control of derivatives activity are independent of those concerned with day-to-day activity, a point made by several speakers.
— *Quantifying the financial impact of derivatives.* A number of interesting points were made here. If in-house derivatives pricing models are used to value positions, then these should be suitably controlled, validated and documented. Particular attention should be paid to uncovered derivatives

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positions, for example in connection with the setting up of prudent liability reserves. Proper account must be taken of the movement in the value of derivatives positions under the resilience test scenarios. When assessing the yield on the portfolio of assets, not only should the Appointed Actuary consider the effective economic exposure of the portfolio, but also the need to allow for the increased default risk from holding assets in derivative form.

A number of practitioners gave talks on how their various activities in derivatives markets are controlled. The complexity and sophistication of the system must reflect the usage. A large investment bank involved in proprietary trading and market making of derivatives has to manage large volumes of transactions, often with very complex exposures. A robust risk management system has to be in place to reflect this level of sophistication. It is unlikely that a system used to control derivatives activity within an investment bank would be appropriate within a life office. Firstly, the volumes of activity are unlikely to justify the cost of such a system, and secondly, the definition of risk for a life office is very different to that of a bank. However, it is also true that this is a rapidly developing activity, so that an actuary putting in place a control system should ensure that there is sufficient flexibility to cope with future expansion.

Ultimately, any system which attempts to quantify the various types of risk is only as good as the model being used to calculate the risk numbers, and no speaker gave a convincing performance that this problem has been solved. Indeed, one was given the impression that slavish adherence to numbers produced by a model introduced yet another risk category into the equation, model risk.

Mr Andrew Smith breathed life into a rather flagging seminar with an enlightening 'tongue-in-cheek' talk on some of the ways derivatives can be used to circumvent the regulations of various official bodies. The speaker seemed to treat the DTI, Lautro and the Inland Revenue as fair game, with a variety of creative financial structures designed to 'increase mangement freedom'. Most members of the audience appeared comfortable with the concept of tax efficient structures, but less so with investment structures which avoided the problems caused by, for example, the net premium method of valuation and the resilience tests. The speaker himself admitted that the creation of these arbitrage possibilities raises important professional issues for actuaries, as, even if the strict legislation is being adhered to, the spirit of the legislation must also be considered.

The increasing use of derivative products by life companies has acted as a catalyst to the restructuring of the whole investment management process. The necessity to control and monitor credit, investment and solvency risk is no more than common sense, but the new guidance notes will force all

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offices, at least, to review existing roles and responsibilities. Identifying and quantifying the various risks a life company is exposed to has long been the staple diet for actuaries, but the nature of the problem, as well as the tools available to manage the problem, are constantly changing, and the profession must react to such developments.

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