

REPORT OF SOLVENCY WORKING PARTY

ABSTRACT

The Working Party sets out to challenge the traditional approach to the solvency of a general insurance company based on balance sheet accounting concepts and to apply actuarial concepts of cashflow to the run-off of a portfolio of general insurance business. However, the uncertainties in the amount of the liabilities necessitate a stochastic approach rather than a deterministic one and the difficulty of matching the liabilities with suitable assets presents a similar need to take explicit account of asset variability.

The approach adopted is, therefore, to simulate the run-off of outstanding claims with a model which incorporates the variable nature of the eventual claims payments, both in real terms and as a result of inflation, and combines this with an integrated model of asset behaviour. The model provides a statistical framework for examining the run-off of different types of outstanding claims portfolios, with different asset backing, and on different assumptions as to the reserving basis adopted.

The emerging cost approach is put forward as a valid alternative to the accounting concept of solvency, indeed as a preferable approach. However, using this approach does not in itself deal with the problem that it is often not known in advance how adequate the provisions are, nor is it known whether any particular model used for assets and inflation is a valid one, given the starting position. Simulation can, therefore, be seen as a tool which can be used effectively only by a professional person within the company or working closely with the company, in close contact with the business being written and with a good feel for the dynamics of the company's own situation. Seen in this context, simulation techniques provide an effective means of quantifying uncertainty and of testing the adequacy of a company's resources to meet the liabilities with an acceptably low probability of ruin.

An extension of the model to incorporate the underwriting of new risks, and to deal more adequately with the risk of reinsurance failure, is under development. This will enable a more complete analysis of the risk of insolvency to be carried out within the time-scale usually considered by supervisory authorities. It will also pave the way for the model to be used by companies as an instrument of long-term financial planning, with suitable adaptations to incorporate feed-back and control mechanisms and appropriate dynamic responses.

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