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ASSET LIABILITY CONVENTION

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A two-day convention was held at Peterborough by the Institute of Actuaries and the Faculty of Actuaries on 'Asset Liability Management' issues for financial institutions. The convention was attended by 120 participants and was based on four plenary sessions, followed by three concurrent workshops and two further plenary sessions.

The opening plenary session covered a general review of Investments. Mr G. Davies began by covering the macro economic scene. He concentrated mainly on the United Kingdom with a medium-term view of the main economic issues, including the prospects of economic growth and their implications, Government borrowing, consumer debt, balance of payments and inflation. He talked about the historic situation, especially within the last few years, and how he saw the possibilities for the next few years, in particular in respect of inflation rates, real interest rates and returns on investments.

The second speaker was Mr S. Wadhwani, who gave his view on the prospects for equities. He put forward his reasons for a bullish view of equities, arguing that prospects are good, whether real interest rates and inflation are high or low.

The next speaker was Mr J. N. Allan, who analysed the position and prospects for bonds. He mentioned that the proportions of bonds in the portfolios of pension funds, life and general insurance companies have been reducing over the last 20 years, both in the U.K. and overseas, and gave his view for the medium-term future.

The third main investment category, property, was covered by Mr P. G. Scott. He gave a brief descripton of the property scene over the last decade in respect of the institutional investors, and continued with his view for the next decade. He mentioned negative points such as the present over-supply of space, high bank lending to property companies, prospects of lower inflation and the changing investment portfolio requirements of pension funds and life companies because of their changing liability profiles. He also mentioned, however, that current yields can be very good compared to other investments.

The final speaker of this session was Mr A. Simpson, who gave a talk on 'Tactical Asset Allocation'. He outlined the requirements of a model, and said that the aim of a good model was to find a superior investment performance whilst minimising the risk of market volatility. The result of the model should be a well-balanced optimal portfolio. The model should allow for expression of flexible views, and he suggested that one based upon 'Universal Hedging' equilibrium would allow a tilt in the direction favoured by the investor without unbalancing the portfolio.

The second plenary session covered the subject of Appropriate Levels of

Solvency and Funding for Financial Institutions. The first speaker was Mr C. D. Daykin, who listed the common characteristics for capital adequacy of financial institutions, including benefit promises, expenses, investment of the assets and the need to safeguard consumer interests. In addition, he listed the supervision necessary for financial institutions, including fit and proper managers, authorisation, financial monitoring and disclosure. He defined the solvency criteria as having assets sufficient to meet existing liabilities with resilience in adverse conditions, plus the strength to write new business and meet future liabilities. The test of solvency is enough money to meet all future commitments with probability c, which needs to be defined. The shortcomings of the EC solvency margin were mentioned, including the fact that it is not risk based and does not include an account of the methods of determining the values of the assets and liabilities. In addition, it does not cover the security of reinsurance. He went on to give the requirements of adequate solvency, covering both the adequacy of the technical reserves and the adequacy of capital for the risks undertaken. He mentioned some of the research that has been carried out in the U.K. and other parts of the world, especially in Finland. He then went on to review the current situation with regard to assessing the financial strength of institutions. The limitations of the balance sheet has led to emerging costs (cash flow) methods for assessing financial strength. Key features include the uncertainty of the run-off of risks, adequacy of premiums and dynamic feedback mechanisms to reflect management. He proposed that deterministic models are too narrow, and that a stochastic approach should also be a key feature. The models should take account of the competition in the market and reaction of companies against each other.

The second speaker of the session was Mr W. M. Abbott, who began by saying that the question was not if you are solvent, but how solvent are you? He gave a review of traditional formulae for determining required capital, and mentioned the requirements for banks and building societies. The advantages of using formula mechanics, including their simplicity and consistency, were listed. They had many limitations, however, and potential for misuse. The objectives for a solvency rule should include a level playing field, conforming to economic reality, and it should minimise insolvencies, but not failures. For dynamic solvency testing, the question is, is a deterministic method with 'what if' scenarios sufficient, or are stochastic models the answer?

The third plenary session was begun by Dr S. M. Coutts, who entitled his talk 'The Death of Immunisation'. He began by briefly reviewing Redington's ideas on immunisation, mentioning some of the assumptions, such as all assets in fixed interest with long mean terms and small changes in interest rates. The practical problems were listed, including profit being immunised as well as loss, equities outperforming fixed interest and the implementation requiring frequent changes of portfolio. The way forward was to use cash flows using computer technology. The cash flows bring together asset proceeds and liability outgo, and lead to investment strategy. This applies equally to general insurance, pension schemes, life assurance and banks. He suggested that future work should include reinsurance models, asset allocation and financial options, and concluded that the immunisation theory was for the 1950s and 1960s, but cash flow is for the 1990s.

In the second part of the session Professor A. D. Wilkie gave a talk on his paper, 'An Overview of Stochastic Asset Models'. He began by mentioning non-stochastic interest rate models, stating that Redington's model, for example, could have been made stochastic. He then went on to discuss yield curves, the theoretical and empirical approaches fitting observed data to the model and testing the yield curve over time. His next subject was share price models and the Wilkie stochastic investment model, which includes modelling both shares and bonds. After his talk, there were a number of points and questions made by participants. These included incorporating a relationship between inflation and dividends, and questions concerning representing extraneous factors and input assumptions. Professor Wilkie pointed out that the model was not designed for short-term factors, but to model creeping changes coherently.

The last plenary session of the first day was a talk by Mr A. S. Macdonald on the use of Asset Liability Models. He began by stating the need to link asset and liability models. The model should project the long-term behaviour of the institution and would enable comparison between the valuation assumptions and real world assets, and would give a probabilistic description of how asset decisions drive institutions. For life offices, it would help to suggest answers to questions on bonus policies, the cost of guarantees and solvency. For pension funds, a model would assist in strategic asset allocation decisions and for general insurance, pricing and reserving. Limitations and general problems with models were mentioned, such as its use for short-term decisions, comparison of results with the current position, delay in information becoming available and new products or lines.

For the last part of the first day and the first part of the second day, there were concurrent workshops on Life, Pensions and General Insurance.

In the Life workshops, the first workshop considered the general financial framework for the management of surplus. It was emphasised that asset shares were important in their role as a measure of policyholders' reasonable expectations. There was a discussion on policy asset shares, but much of the discussion centred on the appropriateness of a net premium valuation where an office is heavily invested in equities, and on the current mismatching reserve calculation. There was a general feeling that this can lead to being overly prudent and perhaps to an artificial reserving basis, which could ultimately act against the long-term interests of policyholders. In the second workshop, stochastic investment models were presented with a more practical than theoretical emphasis. They were presented as helping to answer some of the typical questions facing a life office actuary. The session was useful in particular for those who were not familiar with stochastic methods, with discussion on the advantages and disadvantages compared to deterministic methods. The third workshop expanded on the central concept of asset shares, and there was discussion on the asset allocation by policy type assumptions, assessment and allocation of surplus from non-profit business and the impact of capital gains and its taxation. The sensitivity of asset share to asset mix was illustrated. A recurrent theme was how the relationship between asset shares and actual payments is determined and how much disclosure is desirable in this area.

In the General Insurance workshops, the first workshop covered the subject of capital adequacy and allocation of capital to business lines, and a paper on this subject was presented by Mr H. E. Clarke. He said that it is important to plan the amount of capital required and measure its profitability and solvency. The capital requirement was considered for the margin on existing liabilities, the margin on the unearned premium reserve, the writing of 1 or 2 years' new business and allowance for fluctuations in assets. After the paper was presented, the discussion centred on the objectives of capital, including remaining solvent, comparison with competition, definition of capital and its return. The second workshop covered matching and asset-liability modelling. Mr M. H. D. Kemp explained the objectives and factors involved in an asset-liability model. Mr J. P. Ryan gave his views on the matching of general insurance liabilities with appropriate assets and the difficulties involved. The third workshop consisted of a panel discussion on asset-liability modelling. Questions were discussed such as why modelling is needed, the move to stochastic from deterministic models, duration of the model and frequency of updating, tactical and strategic models.

The first Pensions workshop discussed the derivation of benchmarks for asset allocations. Mr P. J. Lee lead the discussion and opened by explaining that his approach examined the effect of adopting an optimum asset distribution on the medium/long assessment of funding parameters: the funding level, the surplus or the recommended contribution rate. The portfolio modelling was, therefore, an input to this exercise rather than the object itself. He emphasised the value of the dialogue with the client in discussing the variability of these parameters, and their sensitivity to chosen actions and random influences. The relevance of time horizons of, say, 10, 15 and 20 years to the anxieties of typical trustees and employers, caused a fair amount of discussion. The benchmarks to be established were defined as a set of portfolio asset allocations by type of investment; the distinction between developing these on a 'buy and hold' or 'constant mix' basis was carefully made. The second workshop discussed the role of benchmarks. There was a discussion of the paper by Mr P. R. Lockyer, in particular on the monitoring of asset performance, where the paper concluded that a sensitivity analysis of strategies would provide a benchmark for objective measurements of asset allocation skills, avoiding the problems of industry norm benchmarks. The third workshop discussed the way forward for asset liability modelling. The speaker was Mr G. Clarke, who considered the link between the modelling process and the triennial valuation. The discussions concentrated on two areas: the choice of model and the choice of suitable assumptions. The model processes were classified into simulation, analytical, 'what if' scenarios and rule of thumb, and each was commented upon. It was felt that the theory of the stochastic models were not generally understood by most actuaries, and the Institute and the Faculty should take steps to educate their members. The current stochastic models are not suitable for the short or medium term (up to 5 years) time horizon, deemed to be of most interest to the trustees and the sponsor. Much more research will be required in this area.

The last part of the Convention consisted of two further plenary sessions. Mr M. Kerry gave a talk on the use and misuse of derivatives. He explained the different types, their history, how they worked and how they can be used by life companies and pension funds. This was followed by a talk from Mr W. Rugland (U.S.A.) on lessons in surplus management from the United States of America. He talked about the history and regulatory background which led to the difficulties of a number of U.S. life companies, including some important ones. This included guarantees of surrender values and policyholder dividends, disjointed regulations and investment strategies.

The last plenary session began with a talk by Mr L. Peabody (U.S.A.) and Mr C. A. Coote on Asset Liability work for Banks, Building Societies and Savings and Loans Institutions, both in the U.K. and U.S.A. They talked about how actuaries can apply their training and experience to these other savings institutions, the management of their assets and liabilities, the regulatory issues and comparisons with the insurance industry. There was discussion on the lessons that can be learnt from the recent history in both the U.K. and U.S.A.

The last talk was by Mr P. G. Scott about the future with regard to regulations, currencies, ERM, etc. He gave his thoughts on the possibilities and timing of monetary union in the EC, inflation, the single market for pension funds and insurance and international investment. He went on to mention other relevant factors which will affect pension and insurance business, such as valuation regulation changes, reform of the Financial Services Act and development of SSAP24. Finally, he summarised the need for using and developing asset liability models to manage the business. He concluded that it is important to manage the future.

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