Financial Management of a Life Insurer in a Fair Value World

A paper prepared by Nigel Masters and Sam Gutterman

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Introduction

Moves towards harmonised accounting standards and more coherent risk and capital management structures will enhance decision making, strengthen value creation and improve access to capital markets. Yet, they will also have huge implications for the way life insurers price, manage and capitalise their businesses. What are the key implications and how can firms use them to maximise competitive advantage?

Chapter 1: Setting the scene

1.1 This paper examines some of the shifts in financial management that could transform life insurance over the next ten years. During this period, new International Financial Reporting Standards (IFRS) for insurance and investment contracts will, almost certainly, be adopted in Europe. Just possibly, US GAAP for insurance contracts will converge to a point where these standards will be virtually interchangeable. It seems likely that the point of convergence will be the use of prospective provisions.

1.2 In ten years, the solvency regime for life insurers may well also, have developed to a point where most countries in the world will have adopted a risk-based approach to capital management, integrated with some form of prospective technical provisioning. For the sake of convenience, we refer to such an overall accounting approach as 'fair value accounting', though this should not be construed as the full fair value regime envisaged by some theoreticians.

1.3 In the next chapter, we set out in more detail what we mean by these concepts and how they might be integrated into the management of a life insurance business in practice. We do not see this as the only possible outcome of the current deliberations on accounting standards, though we assume that fair value in some form will be the most likely result.

1.4 This paper aims to promote discussion of the impact of the reforms and outlines how life insurers can begin positioning themselves for the new regime. The changes will cover profit generation and reporting, solvency and capital management. Under the integrated system envisaged here, each of these areas will overlap and as a result the various chapters will themselves somewhat overlap. We make no apology for this, as it highlights the requirement for integrated financial management within successful organisations. Indeed, this is a key theme of this paper.

1.5 The paper will close by identifying areas where further research, both theoretical and practical, will contribute to better approaches being taken and to solutions to some of the more important outstanding issues. These should be added to the development agendas of the insurance industry and its professional bodies, both internationally and in individual territories.

Chapter 2: The financial structure of life insurers in a fair value world

This chapter seeks to define what we mean by a 'fair value' environment and to describe how the various elements of a typical life insurer's financial structure might operate in unison.

2.1 Risk/Capital/Reward: The key components of an insurer's finances

2.1.1 We believe that there are three key elements to a fair value system in insurance companies, namely (1) the risks that companies run, (2) the capital that they hold to offset such risks and (3) the return that they expect to earn on that capital at risk. We will focus on each of these components in turn and then examine how the recent proposals for accounting standards and prudential supervision support or detract from the coherent operation of these interdependent elements.

2.1.2 In the majority of this paper, we consider the management of the current portfolio of policies. However, it is also important to consider the need to maintain 'opportunity' capital. Opportunity capital is needed in order to continue to write new business in the future. It includes the intangible goodwill value built up by the insurer that allows the insurer to attract new business. This reflects, amongst other things, a good brand and effective sales channels. It is equally important to produce an appropriate return on these assets over longer term. This is considered in the discussion of product pricing later in this paper.

2.2 How do these components operate coherently?

2.2.1 Put simply, coherence means that the risk, the capital and the reward in respect of a portfolio of policies need to be balanced. In other words, the capital strength of the insurer should be sufficient to offset the risks in the portfolio of policies so that customers will feel confident about purchasing these policies and, at the same time, premiums will be generated that reward the necessary capital at risk on a realistic economic basis.

2.2.2 Where the risks are such that the assets set aside by the insurer for the purpose might be insufficient to meet the obligations associated with a block of policies, the portfolio could be made more secure by attaching extra capital to it. If an insurer wants the capital assigned to a portfolio of policies to provide for a specific level of risk, it can assign more capital to the portfolio until the resulting risk is reduced to the target level. As a consequence, a policyholder will be willing to pay more to an insurer because the risk of not covering an obligation is smaller. The system is coherent if the additional price that the policyholder is prepared to pay for the extra security provided is consistent with the insurer's cost of servicing the additional capital put at risk.

2.3 How does this compare with other financial markets?

2.3.1 A similar situation exists within the fixed interest bond market. No rational

investor would trade in a financial instrument without having some indication of its creditworthiness.

2.3.2 Insurers in effect "borrow" from their policyholders in order to provide for the policyholders' financial risks, in a manner similar to that which issuers of corporate debt do when they borrow assets from banks and other financiers. Policyholders will be prepared to accept a lower rate of return from a secure insurer in the same way as a bank or finance house will accept a lower rate of return from a strong corporate entity.

2.3.3 In an economically rational world, the reduction in the required return will equal the expected cost of servicing the extra capital at risk provided by the issuer or insurer. In practice, there are, of course, many influences on the return available to policyholders and elements such as the cost of insurance risk cover and the policyholders' desire to be underwritten can obscure the yields available. Moreover, policyholders may not be knowledgeable enough to assess whether an insurer will be unable to meet its debts. Indeed, because insurers are regulated entities, many policyholders naively expect all insurers to honour their obligations in all circumstances, regardless of their actual strength.

2.3.4 It is worth considering what happens when capital support for an instrument or a block of policies is reduced or removed all together. The return sought by the investor increases until at some point the risks are so great that most investors will choose instead not to invest and liquidity vanishes. In the insurance context, this would occur if the insurer were left with no solvency capital at all, in which case no rational policyholder would take out a policy. In practice, of course, the regulators would step in before this situation was reached, seeking to protect those policyholders that would not be aware of the insurer's weakened capitalisation.

2.3.5 At the other end of the scale, the policyholder of an exceptionally strong insurer, if he or she can identify the rate of return being received, will accept a return close to the risk-free rate on the invested assets. The insurer then has to plan and manage how to earn enough to service the level of capital required to maintain such a secure position. To do this, the insurer would need to divert a part of the return to policyholders, into servicing the capital required for the lower risk product. For insurance, this diversion of return is often seen as the strongly capitalised insurer being in a position to offer a lower sum assured or benefits for the same premium or to seek to charge a higher premium for the same sum assured.

2.3.6 If the scale of the risk and the return on the capital are economically consistent, then the different levels of risk and reward for the weak and strong insurers and their policyholders are economically equivalent. A strategic question facing the insurer then becomes what level of risk would best serve its target policyholder market. This is examined again later in this paper.

2.4 The risk framework

2.4.1 Our perspective on the financial future for insurers is underpinned by the notion of a common risk framework against which both profitability and capital allocation can be assessed. For this paper, we have assumed that such a risk framework will be along the lines of the system currently proposed by the Solvency Working Party of the IAA's Insurance Regulation Committee and available on the IAA's website. We chose this framework because it has been specifically developed for insurers, while remaining consistent with the risk structures outlined in the Basel Capital Accord.

2.4.2 The actual framework adopted does not affect the following discussions, as long as it comprehensively covers all risks that affect an insurer and is properly calibrated to the risk structures underpinning the wider capital markets.

2.4.3 Importantly, the IAA framework recognises that risks can be separated into product risks and operational risks. The first group of risks relate directly to the products of insurers at the policy level including items such as lapse and mortality. The second category, operational risks, applies at the corporate level and covers such factors as fraud and business disruption, reputational risks including market conduct problems, and political changes.

2.4.4 Clearly, an insurer is subject to a wide spectrum of risks, running from pure product risk at one end to pure organisational risk at the other. In a fair value world, it is important for the products to have a 'standalone' financial existence, as each portfolio of policies should, at least conceptually, be capable of securitisation and hence of fair valuation. Therefore, we have assumed that a risk is a product risk if it would be reflected in the price of a securitised portfolio of the policies concerned. By definition, other risks become operational risks. Amongst other implications, this implies that asset/liability mismatch is an operational risk.

2.4.5 The most important determinant of product risk is product design. We believe that in the next ten years there will be far greater emphasis on this aspect of the business, as financial reporting gives greater prominence to the risks incorporated into policies through guarantees and options. There will be more products that seek to mutualise risks amongst policyholders without the insurer itself taking the risk. Similarly, product design will seek to find ways of passing risk back to the policyholders. The most obvious example of this is the unit-linked or variable plan, which switches the investment risk back to the policyholder. The impact of the new accounting procedures on pricing and profitability is discussed further in the next chapter.

2.4.6 Risk drivers are far more diverse on the corporate level. They are arguably more hazardous to an organisation's financial health because they are often beyond the control of management, cannot be shifted to another entity and can arise without significant warning. It is no surprise that most CEOs spend a large part of their time seeking to mitigate operational risks such as those that have the potential to affect the entity's reputation or brand, are of a political nature or are a result of fundamental social change.

2.4.7 Most risk frameworks include a qualitative assessment of a range of risks. However there has been little progress in the quantification of risks and in particular of the correlation of risks with each other. The IAA Solvency Working Group has begun to collect data on a variety of risks and their interaction, but much more research is required.

2.5 Model, Parameter and Process Risk

2.5.1 A distinction between the types of risks that reflects how they can be managed focuses on whether the risks are model, parameter or process risks. The IASB's Steering Committee discusses the difference between these types of risk at some length in its Draft Statement of Principles (DSOP). The DSOP draws a distinction between model and parameter risk, which incorporates the risk that the underlying model is wrong or at least wrongly calibrated to the real world and that the expected net present value has been incorrectly estimated, and process risk, which is the risk that the random process that the model describes generates a result which is different from the expected net present value due to random statistical fluctuations.

2.5.2 The DSOP then asserts that the market, in pricing the financial instrument that is the portfolio of policies, is risk-averse as far as model and parameter risk is concerned but is not risk-averse as far as process risk is concerned. The reason for the market's different attitude to the different risks, it is argued, is that process risk is diversifiable by investors and hence would not be recognised in a market price. In contrast, model and parameter risks are regarded as non-diversifiable and would be recognised in a market price.

2.5.3 The DSOP then develops this argument by expecting the entity specific or fair value of a portfolio to be determined allowing margins (referred to as 'market value margins') in assumptions affected by model and parameter risk but to make no allowance for process risk. The 'market value margins' effectively reflect the price associated with the model and parameter risks. As discussed later, our view is that process risk, while conceptually diversifiable, is, in practice, not completely diversifiable. The price associated with this risk should be reflected in the same manner as the price for model and parameter risk.

2.5.4 A further discussion of the relationship between market value margins and risk capital is set out in the section below on the IASB proposal.

2.6 Risk Measures

2.6.1 There are a number of useful risk measures that we have adopted in the discussions that follow. Generally, these involve the interpretation of the frequency distribution curve of the financial outcomes for a particular financial instrument, although they also may include the expected severity distribution as well. For example,

2.6.1.1 Rating. A financial instrument can be classified in terms such as "AA", meaning that the likelihood that a company would fail to meet its obligations would be the same as an AA rated quoted commercial bond. While statistics differ on the precise failure rate for AA or AAA rated bonds, the percentage default rate might be expected to be about 0.5% over the lifetime of the bond.

2.6.1.2 Confidence level. The rating measure might be re-expressed in terms of a confidence interval, so that the AA rated portfolio might be described as being 99.5% certain of meeting its obligations. Some would argue that this is a more precise risk measure than (1), as expressions such as 'AA' and 'AAA' rated tend to depend in part on the subjective judgement of the individual rating agencies. Against this there is a danger that the use of a confidence level of something as exact as 99.5% might be misinterpreted as implying a very precise knowledge of the distribution, when, considering the combination of model, parameter and process risk described above, it is practically impossible to be that precise.

2.6.1.3 Standard deviations. A third approach to risk measurement is to compare the number of standard deviations with the mean expected outcome. Put simply, this assumes that the outcomes from the financial instrument will be approximately Normally Distributed. Three standard deviations of this distribution, for example, can be translated into a particular percentage confidence interval based on the Normal Distribution. Three standard deviations would therefore not be dissimilar to an AA-rating or a 99.5% confidence interval. Given that the actual frequency distributions of many financial instruments, including portfolios of policies, often differ from the Normal Distribution, the standard deviation measure can only offer an approximate measure of risk. Any such reference can be seen as interchangeable with similar references to credit ratings and confidence intervals, but recognizing that, for any rigorous analysis, the effect of deviation from Normality should also be evaluated.

2.6.2 All of these measures can be a useful measure of uncertainty and can provide an indication of the risk involved.

2.7 Capital and risk management

2.7.1 An explicit allocation of capital to a portfolio of policies, or any other financial instrument, will increase the likelihood that the associated obligations will be met, thus improving the credit rating or other chosen risk measure associated with that instrument. In the context of a 'fair value world', we assert that capital is required to support all manner of risks, both product risks and operational risks

2.7.2 As discussed above, we note that the DSOP suggests that the market will reflect the model and parameter risks in its pricing of the portfolio This should be

expressed in terms of MVM's. We contend that the MVM's, as currently defined by the DSOP, can be re-expressed as the cost of servicing the capital put at risk by the model and parameter risks. This approach leads to consistent calibration of the MVM's.

2.7.3 Where we would differ from the DSOP is that we believe that the market also accepts that there is a need for capital to reflect the process risk – the cost of which is expressed as an increased MVM – again based on the cost of servicing the capital put at risk.

2.7.4 Further, we contend that the capital held in respect of the operational risks should be serviced by the portfolios of policies in force. It is difficult to assess whether the price of a securitised block of policies reflects the equivalent operational risks of the original underwriter. The risks are undoubtedly present somewhere within the restructured financial packages and capital is required to ensure that the risks can be absorbed. The question remains 'from where does the margin emerge to service this capital? This will depend on the securitisation structure. Our view is that, in practice, policyholders are prepared to pay more for the policies of a well-capitalised insurer and the margins ultimately will be financed by policyholders. Accordingly, the cost of operational risk capital should be spread across the portfolios.

2.7.5 The capital can be attached in many ways, ranging from direct allocation to letters of credit and contractual undertakings in which debtors can have secured rights over certain assets. The common feature is that a given amount of capital is subject to the risk that it may be needed to meet its obligations.

2.7.6 A portfolio of policies, together with a particular level of capital, can be constructed to result in a desired credit rating. The capital is set at a level to ensure that there would be an expectation that sufficient resources would be available to cover its liabilities in X% of outcomes, where X is determined by the desired credit rating. For example, as discussed above, a AA-rated portfolio might be expected to meet its liabilities in say 99.5% of possible outcomes. The capital backing needed to achieve this desired level of soundness depends on the product risks in the portfolio. The amount of this capital could be set mathematically if detailed descriptions of the frequency and severity distributions of the risks are available. In practice, this capital level will more likely be determined by stochastic modelling, most commonly at the product design phase.

2.7.7 We assert, perhaps controversially, that a policy portfolio can only be soundly valued in the context of a given 'credit rating' or creditworthiness. Put another way, the portfolio can only be realistically evaluated if an amount of capital consistent with a desired certain credit rating is ascribed to that portfolio. It would of course be possible to attach no prudential capital, but then the obligations of the policies would only be met when the claims were equal to or less than the 'fair value' or 'entity specific' technical provisions that had been established. This might be in around only 50% of possible outcomes. In practice, this would be

untenable within a regulated industry. Indeed, many insurers operate at probabilities of repayment well in excess of these levels. We therefore argue that any valuation of a portfolio needs to take account of the level of capital required to achieve the credit rating at which the policies have been presented to the public.

2.7.8 As the proposed financial system is internally consistent, it is economically possible to operate at any chosen level of creditworthiness. The required rating will largely depend on the business and can be contrasted with some current practices where management swaps risk for reward and then only reports the reward because risk is not accounted for transparently under most current accounting regimes. The challenges of new business development and of risk management for existing plans are discussed in the next two chapters.

2.8 Capital at the corporate level

2.8.1 Up to now we have looked in the main at the capital required to support the product risks. Organisations also hold capital to cover corporate risks and to fund new business and potential opportunities. The capital covering corporate risk seeks to offset operational risks, such as market conduct risks and asset and liability mismatch. The required level for corporate risk capital will often be dictated by the desire for a particular credit rating for the business as a whole. This overall rating usually determines the cost of raising capital and the overall performance targets that shareholders require. It will also influence the credit rating of individual product lines, as the rating agencies will normally not give a higher credit rating to a subsidiary or product line than that awarded to the consolidated organisation as a whole. Again, as discussed above, targeting and managing corporate risk becomes a key strategic decision and activity of central corporate management.

2.8.2 One consideration in managing corporate risk is that the capital assigned to support individual product lines is likely to appear excessive when examined at the aggregate level. This is because many product risks are independent of one another, as it is likely that certain of the risks will offset others, and so less capital is required to achieve an overall target risk measure. The excess will normally contribute to the total capital needed to cover operational risks.

2.8.3 The management of corporate risk capital therefore has two chief priorities. First, management should seek to reduce operational risk and so lower the amount of capital needed to support the operational risk component within the desired credit rating. Second, management should seek to identify capital synergies that could make certain product lines more advantageous than would otherwise be the case. Sophisticated modelling tools are needed to achieve this. We would expect more firms to develop such systems as financial reporting makes the benefits more transparent and immediately realisable.

2.9 The return on capital

2.9.1 As capital is needed to support individual products, that capital will have to be serviced to give it an economic return in keeping with the risks it supports. Therefore, servicing capital is regarded as an expense (like salaries, fees, and so on) and would normally be factored into product pricing. When determining the costs that should be built into product pricing, it would be normal to assume that some of the capital at risk will have to be invested in liquid assets to be available if the need arises and that the invested capital will achieve at a minimum the risk-free rate. The question remaining is how much additional margin needs to be incorporated into the pricing in order that the total rate of return on the capital at risk is sufficient to compensate for the risks borne.

2.9.2 In our opinion, the total required return should be no lower than the insurer's own cost of raising capital. If all products and corporate risks were operated at a single credit rating, then external investors might be expected to offer capital at the same rate. If, alternatively, the firm offers different products at particular risk ratings then, theoretically at least, the organisation could raise capital at the aggregate of these different levels. The required increase in the rate of return on the additional capital is therefore determined by the target credit rating that it has been usual to achieve. Accordingly, the cost of servicing the capital to reflect in the pricing of a product should be the amount of supporting capital multiplied by the difference between the risk-free rate and the market return on investment in financial instruments with that credit rating. The cost will alter in each projected year because the level of capital will change, as will the difference in rates because of the term structure of interest rates. The capital changes each year to bring the overall level of risk to the chosen level so that the overall risk does not change from year to year. The aggregate cost of capital over the policy lifetime, discounted at the risk-free rate, will need to be funded from all the different sources of profit generated by the portfolio.

2.9.3 In describing this linkage between capital, risk, and reward, we recognise that one of the obstacles to the creation of a completely coherent structure is that credit rating agencies do not use coherent measures to establish their ratings. We believe that, over the next five to ten years, credit rating agencies will also change their approach. This will be accelerated by the development of internal risk models by insurers to which rating agencies can give weight.

2.9.4 The loadings for the product risks are relatively easy to describe. Indeed, this approach is already used in many countries where embedded value style profit testing forms the basis of product pricing. The treatment of operational risk and the capital that is used to alleviate it is less certain and indeed is sometimes ignored. One argument is that operational risk is extremely difficult to model and any quantification of the required level of capital is unrealistic. This leads to an approach where firms try to contain the risks within the capital available to the corporation by stress testing possible adverse risks and insuring or securitising those risks that can be expected to breach available capital resources and that can be placed with an underwriter. Financial performance is then measured as the profits generated from the products minus the cost of corporate level risk

management and the impact of retained operational risks.

2.9.5 A slightly more refined approach is to set minimum product profitability targets, which would be expected to fund the estimated cost of operational risks. However, this would still require some basic evaluation of the impact of operational risks, but as noted above the statistical basis for assessing such risks has yet to be resolved. Having said this, some firms are already developing credible operational risk models. Within the time horizon of this paper it is conceivable that much better pricing of this risk will improve economic discipline.

2.9.6 In closing this section, it is worth noting that the discussion is predicated on the assumption that investors in an economically efficient market will only achieve their desired returns by exposing their capital to a commensurate level of risk. However, this ignores the fact that in practice, the return on capital can be influenced by the level of sales achieved as a result of the intangible values built up through the operation of the insurer and judicious investment in its distribution systems. Indeed, the initial profits on portfolios of policies should be designed to give a proper return on the opportunity capital sunk into brand and sales channel development. This does not detract from the previous discussion but points up the need for management to look to both new business and existing policies to optimise the return on capital.

2.10 The contribution of the IASB to a coherent financial framework

2.10.1 The aim of this section is to consider to what extent the IASB proposal for the new IFRS on insurance contracts will introduce or support an economically coherent system.

2.10.2 It is not necessary to go over the proposal in detail, as many readers will be familiar with the key points. For those that are not, the Draft Statement of Principles developed by the Steering Committee on Insurance Accounting is now available on the IASB website. It outlines clearly the principles and background to the accounting issues and is recommended reading for anyone interested in recent developments in financial reporting.

2.10.3 We welcome the current proposals because many of the components of the draft IFRS are consistent with the conceptual risk/capital framework discussed in this paper. We believe that assessing provisions on the basis of realistic prospectively assessed cash flow projections is a significant step forward. The principle that policies should be accounted for on a portfolio basis is also in line with the economic rationale for the insurance business and reflects the manner in which companies are run. Most importantly, the proposed reporting and disclosure regime will offer unprecedented transparency in reporting value creation, including giving proper weight to the value of effective risk/capital management structures. This transparency will drive many of the changes in business practice that we discuss in later chapters.

2.10.4 The reporting proposal focuses on the stages in the insurance business cycle that create value. The first stage looks at the new business process. The value created by writing new policies in a year is assessed by recognising and measuring all the expected cash flows, positive and negative, of the policies over the whole term (subject only to renewal of the policies in the portfolio being rational from the policyholders' viewpoint).

2.10.5 The second stage reports on the value created from the existing portfolios of policies. The changes in value arise either from actual cash flows that differ from those previously expected or from a re-assessment of future experience that requires amended provisions to be established at the reporting date. Given that the difference between the actual and expected cash flows and the re-evaluation of assumptions are expressions of the risks to which the policies are subject, the reporting clearly shows the extent to which such risk exposures are being explicitly reflected in pricing and provisioning. Further, it highlights the ability of management to control the risks to which the business are subject. In this way the new IFRS proposal puts heavy emphasis on the risk framework of the insurer as envisaged in the risk/capital/return model discussed above.

2.10.6 The third and final stage reports on the value created by the financing and other miscellaneous operations of the insurer that are not directly associated with the policy portfolios. Although not currently envisaged in the DSOP description of the third stage, there is some merit in the proposal that this stage also reports any value created or destroyed by volatility in the investment markets. The volatility in earnings due to movements in economic conditions will undoubtedly be a major driver of results and its identification would aid transparency. Also, if it is accepted that asset/liability mismatch is an operational risk, then it is appropriate to report the volatility caused by the asset/liability mismatch in the third stage, where other sources of profit or loss unrelated to policy portfolios are reported.

2.11 Shortcomings of the Present Proposal for the IFRS

Having said that we are very supportive of the present proposal, there are three areas where we would like to point out potential flaws where we believe that the proposal departs unnecessarily from the underlying economic rationale.

2.11.1 A loading for the cost of capital

2.11.1.1 The DSOP suggests that the technical provision should recognise that the market will expect the insurer to hold capital in respect of the model and parameter risk, because these are non-diversifiable, by loading the technical provision for the cost of servicing that capital. The cost of that capital is, as explained earlier, captured through the market value margins.

2.11.1.2 At the time of writing, it appears that the DSOP goes on to say,

however, that the market will not expect the insurer to hold capital in respect of its process risk because it is a diversifiable risk. As discussed earlier in this paper, we would disagree with this stance because in practice process risks are not completely diversifiable and the market acknowledges this in the pricing process, reflecting an appropriate charge for such risks

2.11.1.3 Some would argue that, over many portfolios, the positive and negative actual outcomes would offset each other so that capital is not required. But, in reality, there are a finite number of portfolios at any one time, so the spread of aggregate outcomes is still relatively large. If an insurer aspires to a certain level of creditworthiness, then it should carry sufficient capital to absorb enough of this volatility to sustain its credit rating.

2.11.1.4 Another way of thinking about whether there is a cost of holding capital is to consider what is often referred to as a default option asset. This asset arises because, on the liability side of the balance sheet, the technical provision allows for the possibility of all outcomes however onerous. The range of outcomes will reflect the scale of the risks, including process risk. Some of these outcomes will result in more claims than anticipated by the capital held and the insurer will default. In economic terms, the insurer has an option to default and this option can be regarded as a valuable asset. [Note: In a regulated environment, this asset is in turn offset to some extent by the implied warranty provided by any insurance industry guarantee mechanism.]

2.11.1.5 The argument then runs that, if an insurer injects more assets, the default option asset is reduced in value because more claims can be met. The expected amount of destruction of value represents a cost to shareholders in economic terms. However, it is not a cost in accounting terms because the option to default is not recognised as an asset in any current accounting regime. This would suggest that accounts should not recognise a cost of capital item in respect of additional capital injected to meet such adverse outcomes.

2.11.1.6 A contrary view of this situation claims that the default option asset has only been created because the liability itself was incorrectly calculated. This view leads to a liability that should be calculated with the recognition that claims would not exceed the amount of capital held by the insurer. This would reduce the expected net present value of outcomes; in other words, it would reduce the technical provision.

2.11.1.7 If this approach were taken, the injection of additional capital would directly increase the liabilities, albeit by a smaller amount

than the capital injected. This increase in liabilities is exactly the same quantity as the value by which the default option asset was reduced in the situation described above. The difference is that the increase in the liabilities would be properly recognised in the accounting system. This suggests that there should be recognition of a cost of capital element.

2.11.1.8 Our proposition is that on the basis of economic effect, there is good reason to recognise a cost of capital in respect of process risk to the extent that the risk is not fully diversifiable or that the cost of the diversification is significant. Moreover, on at least one basis, there is a reason to recognise a cost of capital in accounting terms. Further, this is a cost that is observable in market transactions. We therefore propose that the cost of capital held in respect of process risk should be incorporated into the measurement of market value margins. Further, the capital in respect of which the cost is calculated, should be that amount required to achieve the target creditworthiness of the insurer.

2.11.1.9 Consequently, we argue that MVM's should be set to cover the cost of all the capital required to support the given level of creditworthiness chosen by the insurer, not just the capital in respect of model and parameter risk.

2.11.1.10 This implies that different insurers would have different technical provisions for the same portfolio of policies – although those insurers that have the same credit rating would have the same level of technical provision for the same portfolio.

2.11.1.11 We believe that this is in fact borne out by markets where AA-rated bonds reach a higher price than BBB-rated bonds. Interestingly, and controversially, this line of argument supports the 'own credit rating' argument.

2.11.1.12 On a practical note, if the concept of MVM is not extended to cover the cost of capital held to absorb process risk, the technical provisions will be inconsistent with the pricing approach adopted by insurers, which reflects the economic reality of the business. In consequence, the present value of the margins in the pricing basis for this part of the capital cost will be released at outset. This would result in a large profit being reported in the first year of a policy followed by a shortfall in the returns available in later years to service the capital employed. This does not reflect economic reality in that shareholders would expect the return on the capital at risk to emerge over time as the capital is exposed to risk.

2.11.2 The treatment of future margins from crediting rate strategy

2.11.2.1 At the time this paper was written, it appears that the IASC Steering Committee proposal on the treatment of discretionary margins achievable by insurers on policyholder account balances goes against economic logic. For many types of products, insurers pay an explicit rate of return on policyholder accounts. For others, an implicit margin is provided through premiums charged that are less than the maximum guaranteed. The rate of return paid to policyholders, although discretionary (i.e. not explicitly a function of a contractually or regulatory determined formula) and capable of change from year to year, reflects economic conditions and the level of competition. The rate paid out will usually be less than the return the insurer itself earns on the assets underlying the account balances. The difference between the two rates provides a margin from which expenses and sometimes other risks and expected costs are funded.

2.11.2.2 The current IASB proposal emphasises the uncertainty as to whether the expected level of margin can be achieved, because of the competitive pressures placed on insurers to optimise the rate credited to policyholders. Consequently, the proposal suggests that the provisions established should be based on the assumption that no such margin is achieved.

2.11.2.3 While we accept that it is unwise to be unduly optimistic about expected future margins when arriving at an appropriate level of technical provisions, it might be equally unrealistic to assume that an insurer would offer products without receiving at least a sufficient margin to cover its costs. A proven track record of being able to produce such a margin should be sufficient to allow the recognition of this margin.

2.11.2.4 Moreover, if the proposal remains unchanged, the provisions for these contracts will effectively contain a large margin equal to the expected future investment earnings. This is inconsistent with the concept of containing only those margins that the market would recognise in a transaction. We believe that it is important to develop a more realistic approach. Such an approach might assume that the margins would at least allow the insurer to cover its costs, including all MVMs, expected credit default risk, and the cost of any embedded options. The profits can then be reported over time as the margins achieved by the insurer exceed the costs that must be covered. Such an approach would certainly be more consistent with the use of an entity-specific approach to the measurement of liabilities.

2.11.3 The reporting of the cost of operational risks.

A relatively minor issue is that the proposed reporting regime does not explicitly take account of the expected losses caused by operational risks at the corporate level. This is due to a focus in the standard on insurance contracts rather than the insurance company as a whole. We would recommend that, at a minimum, the cost of covering operational risks be disclosed as an inherent expense of operating an insurance business. This could be reported in the third stage of the proposed new Income Statement.

2.11.4 The treatment of investment contracts

Many of the policies currently written by insurers will not fit the definition of an insurance contract proposed in the DSOP. In consequence, these policies will fall outside the proposed accounting rules and will have to be accounted for under other standards. At present, it is a matter of concern that these contracts will be accounted for in a manner which is very different to that proposed for insurance contracts. This will severely disrupt the current operations of insurers. The IASB has suggested that further proposals will be developed for the contracts that fall outside the definition of an insurance contract. We strongly support this suggestion and recommend that these proposals allow policies that are operated by insurers in exactly the same manner as insurance contracts to be accounted for as insurance contracts.

2.12 Role of the regulators and regulatory capital

2.12.1 In a coherent economic environment, there is arguably no need for financial regulators. If insurers set target levels of creditworthiness and manage them effectively, then policyholders would choose to invest at the risk level that suited their risk appetite and pay premiums at a level commensurate with that risk.

2.12.2 Of course, this is not the case in practice, because policyholders are not necessarily able either to assess their own risk appetite or choose policies that are consistent with their risk criteria. Equally, insurers may not be able to achieve their target level of creditworthiness, because, among other factors, of a lack of available capital or insurance cover, or perhaps because of conceptual difficulties or insufficient data. Accordingly, and unsurprisingly, there will be a role for the regulators for the foreseeable future.

2.12.3 Having said this, we expect regulatory priorities to change. At present, they tend to focus on the correct calculation of technical provisions, which have often been set at artificially conservative levels. In many jurisdictions, these provisions are then strengthened by the addition of solvency margins designed to cover additional contingencies but with little or no explicit reference to the level of risks to which the insurer is exposed. In some territories, the provisions and solvency margins do take some account of the policy risks, though they sometimes do not always focus on the most significant risks of the insurer. The result is that

regulators and insurers pay too little attention to their risks, which has led to several notorious collapses of insurers.

2.12.4 The IASB proposal, with its greater emphasis on risk in the technical provisions and financial reporting, offers an opportunity for regulators to move towards a more rational basis for prudential supervision and capital or solvency requirements. If risk margins used in financial reporting were better aligned with regulatory risk criteria, then disclosure and prudential supervision would be able to be placed on a more compatible basis. By adopting a rigorous risk-based approach to setting minimum capital requirements, this would mean that insurance was compatible with the Basel Capital Accord, holding out the elusive but highly desirable prospect of a single coherent capital adequacy framework for banks and insurers. Harmonisation would also provide the benefit of a reduction in the workload of preparing different sets of accounts. Greater transparency and compatibility would also improve insurers' ability to compete for investment in the increasingly global capital markets. A more consistent and coherent framework would also contribute to better internal management communication.

2.12.5 If we are able to move towards more risk-based capital systems, then the role of regulators will become much more focused on the quality of insurers' risk management. This will include paying more attention to risk mitigation, including reassurance, securitisation and the resulting need for more counterparty risk management. Regulators will also be able to better focus their attention on the assessment of the quality of risk measurement models used. The ability to translate effective modelling of risk into capital /credit levels will be of considerable importance to insurers and to regulators. We believe that it will be possible over the next decade for larger insurers to have developed sufficiently robust and reliable models, developed under the management of an appointed actuary, that regulators will accept the results of such models as the required solvency capital level. This will avoid the need for arbitrary factor-based capital measures for the larger companies and also will provide an incentive to smaller companies to improve their risk management. This would allow insurers to operate closer to an optimum capital level and within a consistent risk/reward framework. Whether this is achievable in practice and within the time frame envisaged for this paper is debatable, but is undoubtedly a useful target.

Chapter 3: Products and pricing in a 'fair value' world

So far we have set out to define what a fair value environment might look like. This section looks at the strategic considerations that would result from the adoption of the proposed IFRS on insurance contracts, including how products and pricing might change in an entity specific or fair value/risk based capital (collectively refer to in this paper as a "fair value") environment.

3.1 Drivers of profit

3.1.1 The first difference will be that the proposed reporting regime will put much more emphasis on the realistic assessment of profitability of new business as it is written. Profitability will be assessed and reported on the entity specific value or fair value of the new business written. This value may not always be the best value to use for management information purposes, for example because not all expected premiums are recognised under the accounting rules. However, for external perceptions of the company, this measure will become highly influential. Consequently, the elements driving up the fair value of new policies will be very important, not least for the promotion of a profitable image of the company.

3.1.2 The first driver of a profitable fair value at outset will be, of course, adequate premiums and charges to cover the main benefits and expenses. Secondly, the value will be affected in this case adversely by any guarantees and options that have been granted, and, thirdly, the profit at outset will be decreased by the extent to which any future investment performance that is anticipated in the pricing cannot be recognised in the calculation of the fair value.

3.1.3 In addition, there are a number of other factors that may well be influential. For example, if the underlying statistical basis for the pricing results in significant uncertainty as to the costs of the policy benefits, then the market value margins in the calculations should be larger and the profit deferral will be greater.

3.1.4 A further significant example is the extent to which premiums or other sources of revenue, resulting from the expected continuance of the policy, that have been anticipated in pricing might not be recognised in the fair value. For instance, if a renewable single premium policy pays initial commission on the basis of, say, receiving five years of renewals but the fair value calculation can only take into account the first premium, then the policy will show a loss in the first year even though it is expected to be profitable in the longer term. On the positive side, subsequent renewals will be treated as new business as they arise, which will boost subsequent new business profits. Nonetheless, on such a basis, reporting can distort the underlying economics of the transaction.

3.1.5 A further aspect of profitability will be the recognition of constructive obligations in determining fair values. This will be particularly important for certain types of participating business. If there is a constructive obligation to pay policyholder dividends at a certain level, even if there is no contractual requirement, the

obligation must be recognised in calculating the liability.

3.1.6 A final point to mention and one to which some attention will need to be given is the treatment of margins that are set at management's discretion. For example, if annual management charges or credits can be changed at management's discretion, as is the case in many policies, a decision needs to be stated, as part of the accounting policies, as to how the discretion will be exercised in the future. The fair value will need to reflect a realistic and not optimistic view of what that discretion might allow.

3.1.7 At this point, it is perhaps worth re-iterating the comment made earlier, namely that the target level of profitability of new business should be set to provide an appropriate reward for the risk taken in investing capital in the insurer's brand and sales channels. The target profitability should be carried through into the design of new products.

3.1.8 In order to illustrate these points in a more concrete manner, we look, in the next section, at some products that are affected by the changes and discuss their possible reporting in the future.

3.2 Annuities in payment and Guaranteed Investment Contracts (GICs)

3.2.1 Immediate annuities, as sold in the UK, are a product on which it could prove difficult to show a profit at outset in the future. Immediate annuities in the UK are priced on the basis of the insurer's views of investment return on fixed interest corporate bonds and of annuitant mortality. In order to achieve competitive rates, many insurers are prepared to price close to the expected result with little margin. However, it can be argued that this approach fails to recognise the inherent uncertainties in the mortality of annuitants and the current default rates for fixed interest stocks. The uncertainties require substantial market value margins to be added to the mortality assumptions and a reduction in the current yields assumed for the fixed interest stocks in order to recognise the default risk. Under the proposed fair value regime, this approach would result in losses being posted at outset reflecting, in part, the capitalised value of the market value margins included in the discounting basis for the fair value calculation.

3.2.2 Similarly, GICs in the US are often priced and administered on the basis of the full return available on fixed interest investments, with minimum adjustment for any asset default risk. Consequently GICs will also show a loss at outset. This is because fair value will likely require the discount rate to be the interest rate adjusted for the default rate, to bring the return to a risk-free rate. We note that it is debatable whether this should represent a real loss at outset. From a financial economics' standpoint, ignoring the risk of default might be seen as storing up trouble but in practice many insurers feel they have sufficient capital to survive one or two asset failures and that, by careful asset selection, they can minimise the risk. The new regime's approach is to recognise the possibility of default loss at outset, and to the extent that the insurer does manage to minimise defaults, this

will be reflected in profits over the life of the policy.

3.3 Annuity options and technical rates.

3.3.1 It was a common practice, in the UK, for deferred annuity contracts to provide policyholders with an option at retirement either to take the proceeds of their policy as cash and purchase an immediate annuity at the then current rates, or to take an immediate annuity with the insurer of a guaranteed amount. This clearly gives an option against the insurer and was given by the insurer to provide policyholders with some certainty when planning their retirements. At the time that the options were being provided, the guaranteed amounts seemed very low and consequently were not charged for when setting the premium rates. Over time, interest rates have fallen, longevity has increased markedly and the guaranteed amounts are now very valuable, with resulting pressures on insurance company finances. In a fair value environment, the current value of these options on existing policies will be quantified in the technical provisions. Further, if such options were written today, the value of the guarantees would be recognised in the fair value on a full option-pricing basis and, to the extent that the option was not priced into the premiums, losses would be reported at outset.

3.3.2 A little less dramatic than the annuity option problem, but far more prevalent in Europe, is the problem of policies written on technical interest rates that are high compared to currently available returns. Policies are structured so that premiums are expected to earn at least the technical interest rate and, to the extent that investment earnings exceed the technical rate, the policyholders can expect dividends. Surrender values are also guaranteed on the basis that the technical rate will be earned. Technical rates are effectively long-term interest rate guarantees, and if re-investment rates fall below the technical rates, solvency margins are eroded, negative interest rates spreads emerge and, if the position does not reverse, collapse follows. Some people argue that the spread between current rates at around 4%pa in the Euro territories and new technical rates at around 3%pa is wide enough to avoid problems. However, it is quite conceivable that European interest rates will fall to Japanese levels with the obvious consequences. The new accounting proposal will require that, if losses at outset are to be avoided, the technical rate will need to be assessed on option-pricing principles. The result will be that the interest rate guarantee will be revealed as a very valuable option.

3.3.3 If, for whatever reason, the true costs of these options cannot be reflected in premiums, this means that selling products with guarantees would be presented as unprofitable. However, if contracts with options are priced properly, this is not necessarily the case. Provided the right premium is charged and the public chooses to take up the guarantees at that price, then an acceptable expected return may be achievable. The more realistic and transparent that insurer accounts are, the more likely it is that the true costs of insurers' products will be recognised in industry prices.

3.3.4 It may also be worth searching out financial counterparties that will be prepared to

hedge insurance guarantees more cheaply than traditional banking alternatives because this will show immediate value in the income statement, although the increased counterparty risk would have to be taken into account.

3.3.5 Insurers may seek to create a market for financial instruments that are backed by individual cash flow streams, such as future annual management charges for unit-linked funds, so that the riskier parts of the portfolio can be traded away. While theoretically the overall value would be unchanged by such decomposition, in practice it may be that a cash flow stream could be targeted to specific groups of buyers with a particular risk appetite. Liquidity could also be improved if standardised cash flow packages could be sold with fixed and well-understood contract terms. Again, this would lower risk and associated capital needs.

3.4 Unit-linked and Variable Policies

3.4.1 Variable or unit-linked products could come to be seen as more profitable because they hold less risk for insurers than conventionally structured plans because much of the investment risk is passed on to the policyholder. In addition, if the currently proposed IFRS is adopted, more earnings will be able to be recognised at issue, making such products even more appealing in the eyes of many insurers.

3.4.2 Theoretically, certain unit-linked and variable plans could be criticised for mismatching charges based on percentages of fund values against the relatively fixed cost of administering policies each year. However, we would expect such mismatching of charges and costs to be designed out of the next generation of variable life plans.

3.5 Participating Policies

3.5.1 While the outlook for variable products is positive, participating business could suffer under the new regime. Participating business has been a key component of life insurance sales in many countries for many years. However, as discussed above, their structure can include expensive interest rate guarantees and fixed surrender value terms. Preliminary work suggests that such guarantees could prove expensive if an option pricing approach is adopted. We believe that policyholders may not be prepared to pay the likely higher premiums or fees to cover such guarantees. Equally, we do not expect insurers to offer these plans, at least without adequately pricing for the options and guarantees, with the kind of transparent income statements likely to be required by the new reporting regime. Accordingly, such plans will need to be radically re-engineered to remove some of the risks, either by transferring them to the policyholders or through mutualising the risks between policyholders. An example of the latter approach would be to deduct mortality charges from policies on the basis that the charges are not fixed at outset, but are instead calculated on the basis of the actual experience of the portfolio of policies.

3.5.2 Another feature of participating business in some jurisdictions that has come to the

fore is the existence of cross-subsidies between product lines and between generations of policies. Cross-subsidies between acquisition expenses such as commissions and investment performance are common. These subsidies will become more transparent, increasing the pressure on insurers and their sales channels to control expenses, or at least recognise the real costs of the policies and the support provided from investment returns.

3.5.3 The proposed IFRS will also affect the extent to which management will have discretion and will choose to use it, over the contract terms of many policies. The precise impact is hard to gauge. Discretion in setting policyholder dividends and bonuses is a fundamental risk management tool. It allows management to respond to the many different financial circumstances and risks that can be expected over a 20-year or more policy term and in turn, result in a diminished need for capital. Such flexibility may be more limited in the future because the new regime requires the technical provisions to reflect the constructive obligations arising out of the exercise of this discretion. At worst, such provisions could encourage policyholders to expect a certain course of action, which in turn becomes an obligation.

3.5.4 We believe that this aspect of the new regime, together with the growing emphasis on market conduct and consumer protection, will reduce the usefulness and potential benefits of the flexibility of using discretion. As a result, more contractual-based fees will be incorporated into insurance products. Moreover, the new regime will require insurers to articulate their policyholder dividend or bonus strategy and how this strategy will change under different economic circumstances. This will leave much less room for manoeuvre. These developments will add to the pressure on insurers to pass on the risks to policyholders and force more of them away from participating business and towards variable and unit linked plans.

3.6 Renewal of Premiums

3.6.1 The proposed regime places great emphasis on the likelihood of contract renewal. Based on the current proposals, the key determinant is whether a policyholder can gain valuable options from the insurer at some point in the future, even if this is many years away. The need to demonstrate the likely renewability of premiums and potential policyholder benefit means that insurers may need to incorporate new incentives such as loyalty bonuses into the benefit structure. This should, in general, reduce the technical provision for such policies and allow the full value of the policy to be recognised. Concurrently, it will require clear disclosure of any potential loss of such benefits if significant numbers of policies terminate early.

3.6.2 At the other extreme, it will be required to recognise the potential cost of lapse-supported products and secondary guarantees. With more transparent reporting and truer recognition of the costs associated with these plan features, prices will likely better reflect their costs.

3.7 Anomalies in the proposals

While a coherent risk/capital structure will leave fewer loopholes than the current regime, opportunities will arise as a result of inevitable exploitable gaps and anomalies in the new reporting and solvency regime. Insurers will undoubtedly seek to take advantage of such shortcomings to the extent that the standards and regulations do not reflect perfect economic reality. Similarly, the design of new products will seek to exploit any imbalance of competitive advantage resulting from the classification of policies as either insurance or investment policies, to the extent that differences in accounting measurement will exist between these types of financial products. Exactly how this emerges will depend on the final form of the IFRS and any accompanying prudential regime, though the continuing ingenuity of the insurance industry will ensure that few opportunities will be missed.

3.8 The costs of social policy

Governments may wish to regulate charges for or indeed benefits of products to support social policy. The new proposal for financial reporting will have the advantage of demonstrating to governments the realistic financial impact of their proposals, hopefully discouraging the introduction of uneconomic policies for political or social reasons.

Chapter 4: Managing existing business and investment strategy

The move to entity specific or fair valuation and more transparent disclosure will give insurers and their investors a much better understanding of where profit and value are being created or destroyed across the book of existing business and the risks that this business faces. Over time, this will encourage insurers to pay more attention to embedded costs in their products and risk mitigation and to focus more closely on each element of the value chain. We illustrate this with a discussion of some areas of the management of existing policy portfolios that we expect to change in the future.

4.1 Investment strategy

4.1.1 Many insurers in the UK and Europe have invested in equities to improve profit and investment performance over the longer term. Over the past two or three decades, this has proved successful. However, if the assets invested in equities were being used to back policies that theoretically should have been matched by fixed interest instruments, then it is clear that the high equity returns were achieved at the expense of leveraged investment risk borne by both shareholders and participating policyholders. Many policyholders or shareholders may not be fully aware of this risk leverage.

4.1.2 If, on the other hand, the assets held in equities represented surplus funds, a financial economist might well argue that the shareholders and participating policyholders might be better off if the surplus funds were returned to them and, if they wished, they could undertake their own equity investment management or use the money in any other manner. In practice, if policyholders understood the situation, many would be pleased to trust in the insurer's greater investment expertise.

4.1.3 Any overlap between the function of insurance and investment manager will be more transparent under the new regime because of the need to report actual and expected investment returns. It is likely that over the next decade, the growing separation between investment and insurance, already seen in the US and to some extent in the UK, will accelerate, in many cases leading to financial groups that contain completely separate entities.

4.2 The Management of Lapse Rates

The management of lapse rates will also need to evolve. At present, many insurers monitor lapses retrospectively and at best speculate on why rates have increased or decreased. Some insurers now realise that a proactive dialogue with their distribution system and with their policyholders can improve retention and protect and even improve the value of the portfolio to shareholders and participating policyholders. We expect that these proactive schemes to manage withdrawals and other forms of policyholder discretionary action, often referred to as Client Relationship Management or ‘CRM’, will become more common as their value becomes more immediately evident on the income

statement.

4.3 Administration Costs

The proposed reporting regime will highlight any policy maintenance expenses over and above those expected in the technical provisions of insurance policies. This will intensify the spotlight on costs and reduce cross-subsidies from other parts of the business such as investment returns. We believe that, amongst other things, this will lead to greater use of third party administration ('TPA'). First, the third party may be less expensive and more competitive, either through the use of more advanced technology, economies of scale or through lower labour costs. Second, the supplier might offer fixed price administration packages that reduce or eliminate the risk to reported expense performance (albeit with an increased counterparty risk). This development of TPA's will require management to acquire greater skill in the evaluation and monitoring of service levels, risk management and financial strengths of their suppliers.

4.4 Managing Financial Risk in the Existing Portfolio

4.4.1 Perhaps the biggest change will arise in the active management of the financial risks in the existing portfolios. In the past, the inherent stability of the reporting regime meant that the value of active risk management went largely unnoticed and was consequently ignored. Under the new proposal, active management of insurers' financial positions, along the lines that many major treasury departments in non-financial institutions carry out, will become more important than in current practice. There will be an immediate impact on performance if the management can take advantage of shortages in the market to shift the fixed interest portfolio to a higher credit rating for a cost less than that recognised in technical provisions and risk based capital requirements. More radically, there may well be times when the market will have an appetite for the securitisation of insurance portfolios in which case an alert firm may be able to profit by securitising or reassuring away blocks of business for less than the technical provisions. We can see the possibility of a much larger and more liquid securitisation market emerging over the coming decade, perhaps with the reassurers playing a major role as market makers.

4.4.2 Such active financial management will in turn expose insurers to the rigours of the capital markets with all their inherent opportunities and pitfalls. Insurers will have to become more sophisticated in their approach to pricing and risk measurement if they are to compete with banks and mutual funds in these markets. This will include developing or acquiring expertise in derivatives and other securitisation instruments. For example, as mentioned above, part of the cash flows from a portfolio of policies could be securitised. It could be practical to fund some of the financial guarantees by swapping capital backing for guaranteed cover. However, it is essential that the value of the earnings signed over to the bank be of equal value to the guarantees, reflecting both risk and return. As a simple caution, without accurate pricing, an insurer should not trade away the whole of the upside investment performance to an investment bank in return for the investment bank guaranteeing a certain minimum investment return. In general, insurers should

seek ‘cap and collar’ structures where the upside and downside risks are costed explicitly.

4.4.3 If insurers want to compete with other financial institutions, such as banks, in this area they will need to invest in the personnel and systems infrastructure that many banks or asset managers already have in order to monitor and analyse the financial markets. The only major difference in the risk management practices between the institutions that will remain may be the expected duration of their cash flows. With increased securitisation, even this might converge over time. Some insurers already have such sophisticated dealing facilities, but many do not. Of course some insurers will choose to rely on these other financial institutions to provide this information, but if they do so, they must recognise that their role in the future will be limited to passive or at best strategic management of their existing portfolios.

4.5 Asset Liability Management

A major focus for insurers will be the management of the relationship between their asset and liability cash flows, for major mismatches will likely result in the most serious sources of instability in reported values. In addition, a premium will be placed on more accurate estimation of the sources of cash flows, such as policy persistency and claims costs, as major differences between actual and expected assumptions will again lead to financial instability.

4.6 Analysis of Added Value and Management Information Systems

4.6.1 The proposed income statement for insurance contracts will emphasise the comparison of actual events with expectations incorporated in the measurement of technical provisions. Experience with developing such value analysis suggests that this can add to insurers’ and investors' understanding of the business, yet input to such analysis can be subjective and difficult to report within auditable standards. This will prove to be a significant challenge to many insurers and their auditors. Financial reporting systems have tended to track actual cash flows and budgets related to expenses, rather than assumptions inherent in technical provisions. Management forecasts of income, claims and investment return have tended to be confined to stand-alone actuarial software. The productions of reliable comparisons between actual and expected cash flows and claims experience within the timeframe currently expected for financial reporting will require significant restructuring of the organisations' management information and valuation systems. Further we believe that the time allowed to prepare financial statements will decrease even more in the next decade, putting even more pressure on the financial reporting system.

4.6.2 The redesign of the management information systems to integrate general ledger and model office systems will be a significant exercise and may not be achieved within the 2005 IFRS European deadline. This may be achievable for most insurers over the longer ten-year horizon addressed in this paper. Our experience

with similar situations suggests that the insight gained into the insurers operations, risks and profit drivers from such an integrated system is significantly greater than that achievable through most current systems. Of course, the drawback is that much of this valuable information will have to be shared with the general public and with competitors almost immediately after it is available to management. One approach might be to accept that this information will have to be made public each quarter, though internal dissemination could be on a monthly and more detailed basis. We believe that this will become the standard approach.

4.7 Management of Operational Risks

4.7.1 Alongside the more focused management of product risks will come the more sophisticated management of operational risk, either by mitigating manageable risks or by insuring or reinsuring those risks which it are difficult to control. It is unclear whether the current IASB proposal will make it necessary to report the cost of operational risk, because it will not be reflected in the technical provisions. If reported as a separate element in the income statement, the cost of operational risk would be highlighted as a miscellaneous outgo with no apparent balancing income item.

4.7.2 Inevitable uncertainty will make the identification and management of the costs of such operational risks a considerable task. There are various ways to reduce the resulting volatility. For example, ongoing contracts with facilities management companies to provide disaster recovery facilities can be based on regular fees, which will spread these costs across time. Reputational risks are harder to spread. However, investment in preventive measures, for example, good market conduct practices and staff training can mitigate the risks and might be allocated directly to 'operational risk costs. We believe that firms will seek to turn such practices into potential competitive advantage over the next decade, particularly as the quality of market conduct becomes a more transparent consumer issue.

4.7.3 Management will also liaise closely with credit rating agencies to achieve better credit ratings and the resulting lower cost of capital. Liaison at a general level with credit rating agencies is already well developed in some countries, such as the US. We expect this dialogue to become much more detailed and specific. This liaison with the credit rating agencies can be expected to spread worldwide. The dialogue will undoubtedly be two way with insurers explaining the techniques employed to manage or insure away risk, while the rating agencies will highlight what they consider best practice and hence what should lead to better credit scores

4.7.4 Regulators will also take a much closer interest in the risk management techniques used by insurers, with the more sophisticated insurance organisations running internal risk capital models that align their business risks with the required asset backing. As discussed earlier in this paper, it is possible that the regulators will allow such in-house capital models to take the place of statutory capital requirements if certain conditions are met. Improved risk management and mitigation, validated by such models, would help to reduce capital levels.

However, regulators will need to be assured that risks are properly identified, modelled and well managed, which will require open and frequent dialogue with management and with appointed actuaries.

4.8 The Impact on Staff

Accounting and finance teams will need specialists trained in financial risk management and possibly option-pricing techniques, further adding to costs. Additional actuarial involvement with these teams will be likely. Investment staff will be affected as the emphasis shifts from optimising the absolute performance of assets to improving the matching of the assets to the liabilities in order to limit volatility, or at least to understand the costs, risks and possible earnings volatility associated with any mismatch. Enhanced communication between investment and actuarial staffs will be of prime importance in this area. Similarly, sales staff will be affected as the value creation of the sales process, including improved policy persistency, comes under greater scrutiny.

4.9 Managing Participating Business

4.9.1 In some countries, a new method of profit participation for policyholders will be needed. As a broad generalisation, policyholders are generally looking for reliable dividends. Reported earnings emerging from a fair value accounting system are likely to be too volatile for the current formulaic approaches followed in some jurisdictions and a discretionary system may have disadvantages as discussed earlier. Accordingly, some other mechanism will be needed. For example, it might be necessary to develop some form of policyholder bonus account to reduce dividend fluctuations. This is not dissimilar to the approach adopted under the German participation system.

4.9.2 Such an approach does not, however, cope with some national legal requirements. For example, in some territories participating plans have a statutory right to a proportion of earnings passing through the income statement, which often currently excludes unrealised gains. Under the new regime, all gains will likely pass through the income statement and, in consequence, the participating policyholders will have rights over all gains. This will change the fundamental profitability of existing business, as the deferral of the realisation of asset gains contributes significantly to the capital base of the insurers in these countries. It may require political support to resolve anomalies between the current and new financial structures.

4.9.3 Another change for the management of many participating plans is the greater transparency of cross-subsidies between generations of policyholders. This is a significant issue in some countries where new business is supporting older plans with excessive technical interest rates relative to current earnings. Under the new regime, portfolios of plans written in earlier years should arguably be treated as different cohorts. In this case, if the older policies have technical rates that are no longer sustainable in current economic conditions, the potential interest rate losses will need to be capitalised and reported immediately. New policies written at

attractive commercial rates will show profits, but it is unlikely that these profits will offset reported losses. Of course, much of the interest rate loss will be absorbed into opening balances for existing business; there is a possibility that these opening losses will leave the balance sheet looking less healthy than current commentators might expect.

4.10 Taxation

We have not discussed the impact of the new reporting regime on taxation because the situation in each territory will be different. There is some logic for the base of measuring shareholder tax to be the profits earned under the new approach as this saves calculation and projection work. However, the logic breaks down when the liquidity and potentially the financial soundness of the insurer is strained because profit and hence tax arises before the profits are realised as cash. Taxation will be an area of continuing debate.

Chapter 5: Further research and concluding remarks

5.1 The IASB reforms will create huge challenges for life insurers. Although change is often traumatic, the changes resulting from totally new accounting and actuarial standards will be particularly acute. Nevertheless, at the same time they will also generate many possible opportunities.

5.2 Insurers will need to improve management information on both product and operational risks, their distributions and the correlation between them. They will need to develop new IT systems and modelling techniques to recognize, measure, understand and manage risks and how they impact on an increasingly transparent balance sheet. In addition, in order to take advantage of this information, they will need to integrate their financial reporting and actuarial modelling systems. Staff will need to be trained in the new disclosure/risk and capital management structures and techniques, including option-pricing based calculations.

5.3 Life insurers will need to work closely with auditors, actuaries, regulators, rating agencies and accounting bodies to interpret the new models and their resulting values, as well as to ensure disclosure is placed on a firm and coherent basis. Also, there are areas of the new regime where changes may still be advantageous and the insurance industry and the IASB must work together effectively to reach a useable and useful solution.

5.4 Equally important will be educating analysts, market professionals, regulators and in time policyholders themselves, in how the basis of performance and value creation has changed, in particular alerting them to what might appear to be anomalies in the profit and loss structures of particular products when compared to previous statements.

5.5 In the long run, business will benefit. More economically responsive bases of modelling and reporting on risk and optimising capital allocation should improve decision-making and the exploitation of new opportunities. They will help define and promote the value drivers upon which modern business depends, open up greater access to securitisation and other developing risk mitigation techniques, and, above all, open investors' eyes to the true performance and potential of the life insurance company.

5.6 Further research, both of a conceptual and applied nature will be needed over the next ten years in many areas, particularly covering

(1) enhanced understanding, recognition and management of operational risks;
(2) asset/liability management and more refined approaches to forecasting experience assumptions;
(3) the analysis of costs and risks associated with options and guarantees embedded within insurance products through stochastic or other methods;
(4) the development of robust internal risk models; and
(5) the measurement of intangible assets and liabilities to enhance the value of the insurer.

5.7 No matter what the details of the new regime will be, significant product development

and educational efforts involving almost all insurance professionals will be required in response.

5.8 We would like to thank all our colleagues, both within our own organisation and throughout the international actuarial profession, who have helped us develop our ideas. We also thank our organisation for the support it has provided while we have been preparing this paper. However, it is important to emphasise that the views expressed in this paper are our own and do not necessarily represent the views of any commercial or professional organisation.

Nigel Masters, Sam Gutterman

December, 2001.

[Biographical note: Sam Gutterman is currently chair of the Insurance Accounting Sub-Committee of the IAA, and Nigel Masters is currently the chair of the Insurance Regulation Sub-Committee of the IAA. Nigel and Sam both work in the insurance actuarial practice of PricewaterhouseCoopers.]