

Developing Measurement Principles for Reporting the Performance of Life Insurance Business: the roles of theory and experience in international accounting standard setting

A commentary on the Issues Paper on Insurance issued by the Steering Committee on Insurance of the International Accounting Standards Committee, November 1999

Joanne Horton and Richard Macve
(respectively Lecturer in Accounting and Professor of Accounting,
London School of Economics)

LSE DEPARTMENT OF ACCOUNTING AND FINANCE WORKING PAPER

Financial support from the Centre for Business Performance at the Institute of Chartered Accountants in England and Wales ('ICAEW'), together with financial support and technical advice from Bacon & Woodrow and KPMG, is gratefully acknowledged for the research project on life insurance accounting of which this work forms an early part. We are also grateful to participants in the Warwick Business School Accounting and Finance Group Research Seminar, and to colleagues at LSE—in particular, William Baxter and David Borger—as well as to Bill Abbott, Robbie Graham, Nigel Masters, Hitesh Patel, Wayne Upton, Marsha Wallace and Peter Wright, for their assistance and critical comments on preliminary drafts of this paper. None of these organisations or individuals necessarily agrees with any of the opinions expressed here, for which the authors remain solely responsible.

Draft: revised: 26th May 2000

Submitted to IASC 26th May 2000

Submitted to FASB 26th May 2000

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Contact address:

Department of Accounting & Finance

LSE, London WC2A 2AE, UK

Tel: +44 (0)20 7955 6138

Fax: +44 (0)20 7955 7420

e-mail: J.Horton@lse.ac.uk

R.Macve@lse.ac.uk

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ABSTRACT

The life insurance industry has been experimenting in various ways in recent years with current value based accounting in order to report financial performance on a more realistic basis. Standard setters have also now begun to develop proposals for standardising current value based accounting for insurance companies, and the IASC's Steering Committee on Insurance ('SCI') is working on the basis that insurance contracts are 'financial instruments'. However, the international Joint Working Group ('JWG') is pursuing proposals for accounting for financial instruments based on 'fair value' that are conceptually flawed and unworkable in practice: in so far as the SCI's proposals also follow the JWG's approach they are similarly flawed and unworkable. In particular, they do not take advantage of the experience already gained by UK life companies in developing a basis for reporting 'achieved profits' utilising 'embedded value' methodology. In order to examine how life insurance accounting can be developed in accordance with the underlying conceptual rationales for current value accounting, the SCI now needs first to obtain evidence on, and study the practical experience of, the experiments that have already been made in a number of countries to develop 'realistic' reporting of life insurance business performance, based on various techniques for the estimation of current values.

Keywords : Current value, embedded value, fair value, financial instruments, life insurance, performance reporting

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1. Introduction

The IASC's Steering Committee on Insurance ('SCI') published an 'Issues Paper' in November 1999 as the first stage of IASC's proposed development of an international standard for accounting for insurance activities. While its conclusions are only 'tentative' so far, SCI is proceeding on the basis of two key underlying assumptions:

- 1) that the Joint Working Group¹ formed by the IASC and other standard setters will propose a standard—to replace the interim international standard IAS39 issued in 1998²—which will require comprehensive 'marking to market' for all financial instruments (what JWG calls 'financial assets and financial liabilities').

Consequently, financial instruments will be revalued to 'fair value' at each accounting date and all gains and losses of fair value (both realised and unrealised) will be reported as 'financial performance' of the accounting period. In parallel the 'G4+1' group is planning to propose that all gains and losses will in future be presented in a single statement of financial performance (including not only those which are currently reported in 'earnings', 'net income' or 'profits' but also those which are currently taken to the 'STRGL' in the UK under FRS3, or direct to equity in the US as 'other comprehensive income' under SFAS130—i.e. there will be 'clean surplus' reporting).

- 2) that, as insurance contracts can be defined as 'financial instruments'³, the JWG's proposals should be applied to insurance contracts, thereby resolving the anomaly that, while the investments that insurers hold are already accounted for by 'marking to market' to varying degrees in different countries, their insurance liabilities are not generally accounted for at current value. At present, therefore, the results and reported net assets ('shareholders' equity') of many insurers (and particularly of US insurers under US GAAP, following the implementation SFAS115) are subject to a greater volatility than would be shown if the 'matching' of the values of their asset and liability positions were properly reflected in their financial statements.⁴ Without prejudging the outcome of the work in progress on

accounting for financial instruments, FASB has also already published its 'Preliminary Views' (FASB, 1999) on how it sees comprehensive restatement of financial instruments at 'fair value' being applied to insurance business. While the SCI's intention to develop a sound conceptual and practical basis for current value based insurance accounting is to be supported, in our view the present overall international strategy of standard setters is fatally flawed. In respect of financial instruments generally, their definition of value as 'fair value', which in turn is taken to be 'exit value',⁵ can only be applied in the limited circumstances where there are highly organised, deep markets in which securities are actively traded, and is inadequate to resolve issues such as what is the relevant 'hypothetical' market value (whether 'entry' or 'exit') or, more fundamentally, what is the appropriate choice between 'entry', 'exit' or an intermediate value (such as ASB's 'value in use') in more general circumstances—i.e. it ignores the well-known and well-understood economic and commercial logic of 'deprival value' / 'relief value' or, as ASB (1999) labels it, 'value to the business'. Fair value—under the FASB / IASC definition—is therefore inadequate to provide a clear basis for the valuation of many financial rights and obligations, including those arising under many insurance contracts.⁶

Moreover, even where a satisfactory basis of valuation can be established, the approach whereby the standard setters focus almost exclusively on how to establish appropriate recognition and measurement criteria for assets and liabilities in balance sheets is insufficient to resolve fundamental issues as to how much of any change in recorded balance sheet values is properly reported as financial 'performance' of a period. It is therefore unable to provide a clear basis for determining how profit should be recognised and reported on any contract spanning more than one accounting period (whether or not the contract is a 'financial instrument')—and the difficulties are particularly obvious in the case of long-term insurance contracts.

The major limitations of the current IASC / FASB approach to 'fair value' are set out in Horton & Macve (2000). That paper focuses on the reporting of performance in respect of financial instruments generally, and argues that there are three major areas where it is doubtful how far, if at all, changes in value of financial instruments can be unambiguously reported as 'performance' without regard to individual company circumstances and strategy. Those three—interrelated—areas are (in addition to any specific consequences resulting from inflation): changes in value due to changes in interest rates that leave contractual cash flows unaltered; changes in value of items

that are ‘hedges’ of other items that are as yet unrecorded in the accounts; and—in the case of liabilities—changes in credit risk.⁷

Advancing from those more generic arguments, in this paper we address insurance, and more specifically life insurance,⁸ and set out our preliminary analysis of how the major questions raised in the SCI’s Issues Paper need to be tackled—and in many cases need to be reformulated or supplemented—if progress is to be made. Overall, we consider that insurance accounting would initially be better tackled independently of the developments in the JWG’s project on financial instruments and the G4+1 group’s discussions on ‘a single performance statement’. Indeed, progress on those projects would be likely to benefit more from the understanding gained through the insurance project, than *vice versa*.

In pursuing its present path of building on the JWG’s approach to financial instruments, we consider that SCI is in danger of misunderstanding or ignoring valuable actuarial insights on the performance measurement of life insurance business—as well as the practical experience that has been gained by UK life companies in developing a more realistic basis for reporting ‘achieved profits’ by utilising the well established ‘embedded value’ methodology. While the SCI’s conceptual approach may be considered appropriate for an international accounting standard in so far as it would have to be applied in countries where there is little or no tradition of actuarial expertise, much more flexibility needs to be allowed for countries and situations where actuarial expertise and independence of state control are much higher.⁹ We shall attempt to suggest how the IASC needs to proceed if it is to produce proposals that will command support in actuarially sophisticated countries. If it is unsuccessful, there is a considerable body of opinion in the industry, as well as among actuarial and accounting professionals, that, by default, universal adoption of current US GAAP for insurance accounting will be the inevitable result (‘because it is there’), at least for global companies that are listed across international capital markets. Views are strongly divided on whether this would be an acceptable, albeit pragmatic, outcome but, even in the USA, there is widespread acceptance that the current package of GAAP that has accumulated over the last twenty years or so for insurance business is no longer adequate, especially since the implementation of SFAS115 in 1993 (e.g. Upton, 1996b; Wilkins, 1998; c.f. O’Keeffe and Sharp, 1999; Abbott, 1999; FASB 1999).¹⁰

In support of our arguments, we aim to pull together here a number of the conceptual building blocks that are needed to explore the issue of whether the accounting measurement of life insurers' performance can be made to be consistent with accounting generally, while also capturing the commercial and economic factors that are peculiar to that industry, and which should form the focus of its 'rational' management. We will contrast the approach we consider appropriate with that currently being adopted by the IASC's SCI. We shall therefore need to discuss, *inter alia*:

- the implications of different approaches to current value measurement in accounting (e.g. IASC, 1997; AARF, 1998; ASB, 1999; FASB, 1999b, 2000) for financial instruments generally, and life insurance contracts in particular.
- the appropriate conceptual bases for reporting changes in current values in measuring the financial performance of life insurance contracts.
- some of the issues in life insurance identified by the SCI (IASC, 1999) and how we consider they should be resolved, having regard to the various objectives and 'users' for which financial statements of life insurers need to be prepared.¹¹

In the following sections of this paper we begin to develop some of these arguments, giving particular attention to the initiatives by UK life insurers in recent years to develop 'realistic reporting' to overcome the deficiencies of the traditional bases for preparation of accounts, which were established primarily to meet the requirements of prudential supervision under the UK's regulatory framework.¹²

Our overriding purpose here is to suggest how the various actuarial valuation bases (and in particular the UK's 'embedded value' basis of 'achieved profits' reporting) need to be understood and developed if they are both to provide more realistic and relevant accounting for life insurance business and to satisfy—as far as the nature of the business allows—the 'normal' accounting criteria for asset, liability and profit measurement that are applicable to reporting the financial performance of business enterprises generally. Our aim is therefore not to seek to analyse in detail actuarial issues of valuation methodology but rather to focus on the financial reporting objectives. While the issues of principle as to how these objectives are best met are in many respects difficult to resolve, nevertheless we argue that, subject to certain conditions and constraints, different valuation methods or techniques are often likely

to prove to be acceptable practical alternatives for arriving at reasonable estimates of whatever numbers accounting standards would require in order to produce performance reporting on a sufficiently comparable basis. Choice between them will often be more a matter of the practicalities of implementation and of cost than of principle. It can therefore generally be left to appropriate actuarial guidance, rather than to accounting standards, to resolve how the many conceptual and practical difficulties should be approached in choosing between the methods and valuation bases to adopt for different product designs and in different company and national circumstances.

However, while we indicate here the theoretical considerations that we consider are likely to provide the justification for this overall approach, it is also necessary that actual practices and experience in applying techniques are evaluated through empirical survey and observation. We therefore consider it vital that a programme of research into actual applications of 'current value' accounting methods for life insurance is completed before IASC or FASB attempts to make any further *ex cathedra* pronouncements on what an international accounting standard should require.

In the following three sections, we consider briefly the following problems that arise under a 'current value' approach to life insurance accounting:¹³

- how to estimate appropriate discount rates, in particular to allow for risk
- the role of 'embedded values'
- how much profit to recognise on sale of a policy.

Section 5 concludes.

2. Discount rates

It is well known that, given the same underlying assumptions, the present value of future estimated 'risky' cash flows can be expressed alternatively as the 'certainty equivalents' of the cash flows discounted at a 'risk free' rate or rates ('RF'), e.g. by reference to quoted gilt yields; or as the estimated amounts of the cash flows discounted at a risk adjusted rate ('RAD'). While the former method may often be mathematically more tractable, and easier to reconcile directly with capital market propositions about asset pricing (e.g. Feltham and Ohlson, 1999), the latter is more consistent with common business practice. There is no necessary difference of

conceptual principle: and actuaries expect to be able to utilise either approach as a practical tool (e.g. ABI, 1999b; Girard, 2000) to achieve essentially the same desired measurement result.

Under the RAD approach (e.g. Mehta, 1998), one can, at least in principle, either define a weighted average cost of capital ('WACC')—which discounts a company's entire expected future cash flows to its current market value—or one can identify a set of different individual rates, each appropriate to the risk characteristics of each separately identifiable 'risk class' of activities, by which to discount the cash flows of the relevant activities, such that the sum of their present values is equal to the market value of the business as a whole.¹⁴

If a company incorporates debt into its capital structure, whether by formal loan instruments or through ordinary trade credit, bank overdrafts or similar arrangements, this may be analysed as introducing a requirement for 'certain' (or near-certain) future payments to be made as a priority out of the risky business cash flows.¹⁵ This means that the rate of return required by equity shareholders should rise to offset the apparently 'cheaper' debt capital (reflecting the geared up volatility of the expected returns to equity holders, given the obligation to meet debt payments as a first call on the cash flows generated).

The major implication of this underlying capital market theory is that it makes no sense to discuss 'spreads' between different interest rates without explicitly considering how far they merely reflect risk differences. It is of course possible that in real world 'imperfect' markets, spreads may also reflect a number of other factors (including e.g. spreads between the 'wholesale' and 'retail' rates that financial institutions can respectively pay and charge, and oligopolistic benefits they obtain from the regulatory barriers to entering the industry), but analysing out the effect of individual factors, beyond possibly identifying the 'risk premia' and effects of transaction costs, is in practice generally likely to be an impossible task.

In so far as life insurers offer guaranteed policy payments (e.g. non-participating term and whole life policies) they are effectively in a position similar to taking on debt obligations, except that over the portfolio of policies there are only statistical, rather than relatively certain, expectations of the timing and amounts of payments, based *inter alia* on the underlying mortality assumptions for the pool of lives insured. SCI (IASC, 1999, paras. 180, 610-11, and 641) raises issues about the appropriate determination of discount rates for such life insurance liabilities, and what

relationship, if any, there should be between anticipated rates of return on assets and rates used to estimate the present value of liabilities. The SCI has so far been unable to reach a tentative view on this issue and is evenly divided. Those in favour of recognising an interrelationship argue that this reflects the way insurance businesses are managed, as well as observed transaction prices (e.g. when settlements take place, or for reinsurance transactions); while those (such as the FASB, 1999, 2000) who believe that the value of insurers' liabilities should generally be measured independent of the rates of return estimated to be earned from the particular assets held by insurers (e.g. utilising a market-wide 'risk-free' rate) argue that this is the general situation for all liability valuations and life insurers' should not be regarded as exceptional. However, even those supporting this latter argument accept that perceived creditworthiness will affect liabilities' market value, and therefore that the effective RAD charged on them will be a function, *inter alia*, of the borrower's own expected asset returns (e.g. IASC, 1999, para.605).

Consistent with the simple capital market theory outlined above, one would *prima facie* expect the kind of non-participating policies we have initially focused on here to be valued at a high value (i.e. at a low RAD or with high certainty equivalents reflecting very low default risk), at least assuming virtual certainty of required payments and normally with allowance for 'adverse deviation' from the statistical expectations as to timing of payments (i.e. to allow for the possibility of a larger than normal proportion of early deaths).¹⁶ This is consistent with the observation that insurers typically carry a significant proportion of their investment portfolio in 'risk free' (or low-risk) fixed interest securities, matched as far as possible for duration with the term of the liabilities and with allowance for 'mismatch'. The difficulty of course remains of determining how much adverse deviation it is reasonable (but not excessively prudent) to allow for—and regulators concerned with prudential supervision to protect policyholders may have differing objectives here to shareholders concerned primarily to compare the risks of investment in insurance companies with those of investment elsewhere.

These issues require extended analysis in their own right in order to evaluate whether moving to a 'fair value' basis for policy liabilities is feasible. Unfortunately the SIC has not yet really begun to investigate them. Its discussion (primarily in Chapter 11) and related examples (Appendix II, Illustrations A51-A69) are of limited value as they do not make it clear how far the SCI believes 'investment spreads'

might reflect market factors other than mere risk differentials, or how far it is distinguishing factors relevant to the case of non-participating policies (i.e. where amounts payable on the insured contingency are fixed) such as those we have referred to here, and those relevant to policies having differing degrees of participation (i.e. where the policy liabilities share equity characteristics, and the policyholders' expectations are, clearly, at least in part a function of expected returns on the assets, together with expense levels etc., of that particular insurer).¹⁷

Similarly, SIC asserts that 'the spread between earnings on invested assets and the interest credited to policyholders' is a major element in the UK's approach to determining the 'embedded value' of life policies (IASC, 1999, paras. 641-2),¹⁸ but no analyses or examples are presented that isolate the resulting effect of this assertion on the calculation of embedded values, and no detailed analysis is given of how it might interact with other aspects of 'embedded value' methodology in making allowance for differential risks, e.g. the fact that estimated future distributions to shareholders are discounted at a shareholders' RAD, which (consistent with the basic Modigliani-Miller propositions) is in practice set higher than the estimated rate of return on insurers' own 'risky' (equity) investments (e.g. Macve and Wild, 1999; Abbott, 2000).¹⁹

Moreover, the analysis offered by SIC to date (and in particular its *ad hoc* specification of assumptions in its illustrations without any clear indication of what is assumed to be the underlying model of capital market and insurance market behaviour) makes it impossible to determine how far the approaches to policy liability valuation that it is considering are influenced by the more fundamental difficulties that relate to the valuation of all liabilities, including the effect of less than 'normal' creditworthiness (which *ceteris paribus* will require either a reduction in the certainty equivalents of expected payments or an increase in the RAD)—and whether it is in fact acceptable for insurers to assume anything less than cast-iron security of all guarantees under their policies.

Overall, it is unclear whether, given the lack of deep markets for insurance liabilities, the SCI's approach of adopting 'exit value' for liabilities (following the lead of JWG and FASB)²⁰ is introducing an inappropriate and unrealistic distortion to the liability valuation process (which conceptually should be 'relief value', as argued for example in the conceptual statements of principles of both the ASB (1999) and the AARF (1998), and discussed further in Horton & Macve, 2000) and thereby confusing the

discussion of what are the relevant risk discount rates to employ in different situations. Much more research is needed to explore how far present-day capital market asset (and liability) pricing theory can usefully be applied to practical valuation of insurers' asset / liability positions, taking account, *inter alia*, of the particular form of serial options embedded within them (e.g. Vanderhoof & Altman, 1998; Girard, 2000).

3. Are 'embedded values' an appropriate basis for policy valuation?

The embedded value approach increasingly utilised by UK life insurers to report 'achieved profits' focuses on expected future releases to shareholders from the current 'book' of policies, that will be permitted under the UK's regulatory regime for prudential supervision (e.g., Salmon & Fine, 1991). The SCI tentatively rejects embedded value (IASC, 1999, para. 643) but in doing so both relies on the undeveloped assertions about relationships between the various rates of return involved that we have discussed in section 2 above (e.g. IASC, 1999, paras.608, 641 and Appendix A, para. A133), and confuses arguments about 'substance' and 'form' (i.e. presentation).

In respect of the former issue we have pointed out briefly above that no meaningful analysis of the appropriate accounting for 'investment spreads' can be undertaken without analysing the differences in underlying risk characteristics of different assets and liabilities (e.g. Babbel, 1998, p.123). The latter issue arises because, under the Insurance Accounts Directive, UK companies are legally required to report their policy liabilities in their accounts on a very conservative basis. Their reporting of the embedded value of the shareholders' interest therefore has effectively to act as a 'correction' to bring policy liability estimates (and any other accounting elements valued on a 'statutory solvency' basis) onto a realistic basis overall (e.g. Horton & Macve, 1997, pp.56-9, 94-6, 176). The SIC (rightly) would prefer realistic valuations of policy liabilities and other related assets and liabilities, and therefore considers that (para. 643): 'embedded values should not be recognised as assets in financial statements as a means of correcting for inappropriate measurements of insurance liabilities' and 'an insurer's rights under an insurance contract should be factored into the measurement of the insurer's net liability (*sic*)²¹ under the contract'. Ideally, this would be so but, given the reality of existing regulatory constraints, it is clearly

preferable to introduce a ‘correction’ than to do nothing, and identifying the value of expected distributions to shareholders under the prevailing regulatory regime is an effective way of achieving this.²²

In our view the SCI, constrained by its focus on valuation issues, is not asking the right questions about how far ‘embedded value’ offers a satisfactory basis for measuring life insurance profits. Those questions need to be asked directly (e.g. O’Brien, 1984; Horton & Macve, 1995; Klumpes, 1999), and in particular the focus should be on whether the pattern of profits reported on this basis gives an acceptable picture of how and when life insurers earn their profits (or incur losses).

4. How much profit should be recognised on sale of a policy?

The primary focus of the SCI, following the ‘asset-liability’ approach adopted in the conceptual framework of IASC and other standard setters (e.g. IASC, 1989), is on the issues relating to valuation of policy liabilities. Actuarial discussion has also focused primarily on how far different valuation methodologies can be substituted (e.g. Vanderhoof and Altman, 1998; Girard, 2000). SCI thus introduces the possibility that a profit be recognised on sale (i.e. inception) of a life insurance policy solely in the context of its (tentative) conclusion that the appropriate value measure for life insurance liabilities is ‘exit’ value (IASC, 1999, 597). Given that the primary focus of accounting in financial statements is on reporting financial performance, at least two major issues are left unanalysed here: would *other* approaches to valuation also lead to profit recognition on sale? and *how much* profit should be recognised on sale?

It is commonplace to refer to the insurance accounting problem as one of measuring policy liabilities, and this is reinforced by statutory regimes for prudential supervision such as that in the UK which impose a such a degree of conservative estimation that they do not allow a policy to be treated as an asset. However, on a ‘realistic basis’ clearly a life insurer regards the policies (at least at portfolio level) as economic assets, else there would be no prospect of profit, and hence no reason to do business. The more fundamental approach is simply to set out the entire schedule of anticipated future cash flows and to consider whether they are adequate.²³ However, economic and commercial choices require comparisons with other opportunities, so market values, interest rates etc. are convenient tools for converting an otherwise often intractable set of patterns of complex possible future cash flows into a

convenient form for making opportunity cost comparisons (e.g. Edey, 1963; Gould, 1974; Benjamin, 1976).²⁴

How should accounting approach the recognition, measurement and reporting of a life insurer's business performance? 'Accrual' accounting has developed to provide a method for calculating annual profits when cash flow patterns are not steady between periods. Typically, for each policy, there is a peak of cumulative cash outflow up to point of sale (and maybe some way beyond if initial commissions, policy record keeping and administration costs etc. exceed initial premiums), followed by a steady level of cash inflows (premiums less ongoing expenses), growing with reinvestment, followed by a large cash outflow at termination.²⁵ Clearly there is no 'inherently' correct attribution of profits to individual periods (Macve, 1980; 1983).

Can a 'valuation of financial instruments' approach resolve the issue by accurately assessing the value of the accrued assets and liabilities at each accounting date, thereby providing a measure of the accumulation [or decrement] in value—i.e. profit [or loss]—to each period? Ignoring for simplicity all interactions with past and future policies and all other lines of the insurer's business, and assuming for simplicity that the investments acquired out of premium inflows have a readily available and unambiguous market value at all times,²⁶ basically all that is needed is a 'valuation' of the remaining policy cash flows at any time. If one starts before sale one faces, for an overall profitable policy book, an expectation of initially rising values (as the need to pay acquisition costs is removed by paying them and the prospect of premium receipts draws closer), and then an expectation of falling values (as the right to receive premiums is whittled away by receiving them, and the time for the final settlement draws nearer), until in the last stages the valuation is increasingly negative. On the other side there is the accumulating value of investments. If all forecasts were deterministically correct, and the correct total amount of profit were distributed during the policy's term, there would just be sufficient value retained in investments such that their realisation at the end would exactly meet the policy claim. Taking the values of the (net) policy liability and the investments together the net amount at any time should be zero if all profit to date were distributed (e.g. Upton, 1996b; Forfar & Masters, 1999; c.f. Edwards, 1993; Edwards & Higson, 1994).

Even thinking about such an extremely simplified model is sufficient to bring out a number of issues that are fundamental to life insurance business management and

ought therefore to be reflected in any accounting standard that seeks to convey a satisfactory measure of its performance.

First, if insurance business itself was perfectly competitive, no insurer would expect to earn more than the appropriate RAD for the kinds of risks undertaken. This RAD would cover all economic costs (including interest on capital for time, and the appropriate return for risk borne) but no more. Clearly there is a significant release from risk at point of sale—it is a 'critical event' (ASB, 1999, paras. 5.33-5.36)—as there is now much greater certainty of recovering what are normally very substantial acquisition costs. But considerable risks, whether from 'insurance' factors (e.g. mortality), business factors (e.g. lapses, expense control), or investment factors (e.g. changing interest rates and risk premia) remain. If the accounting is tracking profit-earning through utilising valuations, the valuations of the policy liabilities at inception, given that there are as yet no investments²⁷, must themselves be less than zero, i.e. each policy contract, after due allowance for risk, is in itself an 'asset'.²⁸

In this context, if market values for insurance liabilities were indeed as unambiguous as those often available for investments (i.e. where the difference between bid and offer prices is minimal) tracking those values should yield an unambiguous result for how at least the market sees the timings of release from risk and the emergence of other economic profit factors, thereby identifying the 'profit on sale' when the contract is first recognised in the accounts.²⁹

It may be helpful to compare accounting for life insurance with the accounting for other long-term contracts, such as construction contracts, under international accounting standards, as reflected in the UK's SSAP9 (ASC, 1975), and ask how the pattern of profit for them would emerge if the accounts were prepared on the basis of measuring the current value of the contract assets and liabilities at each accounting date.³⁰ If we hold initially to the conventional practice under SSAP9 that no profit is reported on inception, this is equivalent to saying that there are no assets or liabilities at that date (the contract is wholly 'executory') or, equivalently, that no costs have been incurred before inception which are regarded as having created any value.³¹

As a construction contract progresses, conventional 'historical cost' accounting effectively values an increasing proportion of the work-in-progress at sale price³² in order to report profit as emerging over the duration of the contract. Would the SSAP9 result be different under a 'current value' approach whereby profit emerged as a function of valuing contract assets and liabilities at each period? Baxter argues (1975,

pp.134-5) that obtaining relevant 'deprival values' (e.g. for a half completed bridge)³³ would in practice prove difficult given the specialised nature of many such contracts, but in principle one could estimate 'replacement cost' as the effect of having to 'start again' allowing *inter alia* for costs of inputs at current prices, for the loss of time (and any consequent penalties), for the risks involved in rebuilding, etc. etc., and thereby for the accrual of profit to date.

As we have argued above in relation to insurance, if the construction industry in question were fully competitive, the 'profit' emerging from these valuations (assuming initial estimates proved accurate) would represent no more than the competitive rate of return on capital (for time and risk) together with payment for all factor costs. In the real world, however, the rate of profit would often be higher, reflecting (as argued in FASB, 2000) the 'realization' of business-specific intangibles, such as particular skills, or the marketing power of a brand name, reputation etc. which enable a higher price to be commanded. So even under an approach which was able to be based on satisfactorily valuing assets and liabilities (making due allowance, *inter alia*, for time and risk), decisions would still be needed on how much 'realization' of this further intangible value ('super-profit' or 'residual income') is to be recognised in each period in reporting profit on the construction contract.³⁴

The situation in insurance with a long-term (or 'life') contract is essentially the same except that the actual cash flow pattern and the actual nature of the risks incurred and services performed are different. So even where assets and liabilities under policy contracts can be reliably measured there remain issues as to the rate of recognition of 'realization' of intangible value.

However, unlike most other long-term contracts such as construction contracts, it is already conventional in insurance accounting (e.g. under US GAAP and under the EU Insurance Accounts Directive—e.g. Horton & Macve, 1995, 1997) to recognise that the policy 'activity' for insurers begins before inception, so that the convention is to carry forward acquisition costs in anticipation of signing the policy and recovering the outlays through future premiums. Under a current value approach, it would therefore be consistent to allow profit recognition on policy signing, as assets and liabilities are first valued at that date, which is regarded as a 'critical event'.³⁵ Under perfectly competitive conditions, the profit then recognised would represent no more than the competitive reward for the effort incurred to date and the corresponding release from risk when the policy is signed. In more realistic real world conditions, the issue still

remains of whether the policy signing also represents a trigger for recognition of some of the insurer's 'intangible' value and if so, how much. Clearly some 'reasonable' basis has to be adopted that makes due allowance for the remaining term and risks of the policy, but this cannot be resolved simply by relying on valuation of assets and liabilities. The SCI (IASC, 1999) and FASB (1999; 2000) gloss over this issue by arguing that the valuations of assets and liabilities should always simply be at current 'exit value'—but, as with the example of the construction contract, whether or not this will either fully value the contract asset/liability or include the appropriate amount of the value of 'intangibles' will depend on the prevailing market conditions.³⁶

Moreover, even in the simplified structure examined here, and even where reliable asset and liability values are available, changes in both interest rates and perceived creditworthiness after sale, as well as the need to account for hedges, will still leave as problematic how to report major impacts on subsequent results.³⁷

What if policy values are not unambiguous (e.g. if there would be high transaction costs in settling the liability before maturity)? One would expect that competitive forces would require insurers to determine the 'optimal life' and the optimal portfolio aggregation of their liabilities (as asset owners in principle have to do for their assets, e.g. AARF, 1998, Chapter 3; Baxter, 1975), and the appropriate value for the liabilities would then be the 'present value of future cash flows assuming optimal action' (e.g. payment on policy maturity), just as such a present value can represent the appropriate deprival value in an asset calculation. Current exit price will normally set an upper bound for liabilities, and current entry price a lower bound (mirroring the normal situation for assets),³⁸ but if these diverge widely they will provide no more than a check on the calculations (e.g. AARF, 1998, para. 4.17), and it would appear that the insurer may legitimately calculate a different value for liabilities than that presently envisaged by SCI, JWG and FASB. This difficulty may be compounded if investment values may also be legitimately valued above exit price (albeit normally still subject to a ceiling of entry price). These divergences will in turn be reflected in legitimately different patterns of profit emergence over the term of the policy.

Unfortunately, constrained by the views of both the JWG and the FASB in support of the appropriateness of exit values, SCI has not entered into any rigorous analysis of what role, if any, the wider concept of 'relief value' may have for insurance liability measurement. But given SCI's own frequent acknowledgement that the market for insurance liabilities is far from perfect—and much less perfect than that for

commonly traded financial instruments—it would appear that it should not have taken the JWG’s (or FASB’s) views on financial instrument valuation, even if thought to be correct in the contexts that they have addressed, as applying without further investigation to insurance liabilities.

Overall, it is clear that issues of profit recognition cannot be simply resolved by appeal to methods for asset and liability valuation, but need to be addressed directly even when standard setters adopt an ‘asset and liability’ approach as their conceptual framework and even when reliable market values are readily available (e.g. Macve, 1997). *A fortiori*, a direct approach will be needed when asset / liability markets are much thinner, as SCI argues is generally the case for insurance markets. The UK’s ‘achieved profits’ method attempts to cope with these real-world situations and needs to be evaluated fully on its practical merits as a method for more realistic life profit reporting.

5. Conclusions

The SCI is rightly attempting to develop a comprehensive ‘current value’ basis of accounting for insurance business. However, in this paper we have argued that there are both ‘balance sheet’ and ‘income statement’ problems in moving towards a version which is based on the current approach of the JWG to accounting for other financial instruments, and which in turn has been endorsed by FASB (FASB, 1999). We have focused on three major issues: the choice of appropriate discount rates; the role of ‘embedded values’; and the timing of profit recognition.

The ‘balance sheet’ problems have been the more prominent in the literature and here the standard setters’ discussions have been hobbled by their equation of ‘value’ with ‘fair value’, and their further equation of fair value with ‘exit value’. This approach has no theoretical basis in economic logic or capital market theory, except in the special circumstances of deep markets where all value measures converge—as the extensive and well-understood literature on ‘deprival value’ / ‘relief value’ shows (see e.g. Horton & Macve, 2000).

Pursuing ‘fair value’ for insurance liabilities also illustrates clearly the well-known conundrum that the market value of financial liabilities will necessarily reflect what has been called ‘organisation efficiency’ (e.g. AARF, 1998), in particular through its impact on the market’s assessment of the company’s creditworthiness. This renders

problematic the estimation of a suitable discount rate for valuing both assets and liabilities whenever ‘deprival / relief value’ does not equal market value (whether ‘entry’ or ‘exit’ value).

More fundamental than the ‘balance sheet’ problems of asset and liability measurement, we have argued, are the ‘income’ or ‘performance’ measurement problems that remain, even if satisfactory current valuations of assets and liabilities could be obtained. For example, by what time-pattern is ‘realization’ of the value of ‘intangibles’ to be recognized over the duration of any long-term contract? Moreover, the IASC’s / JWG’s (and by inference the FASB’s³⁹) concept of capital maintenance is inadequate to resolve the paradoxical effects that ‘book’ gains [losses] appear when there is a reduction [increase] in market value of liabilities—whether resulting from general changes in interest rates or from company specific changes due to changes in its perceived creditworthiness—while the overall impact on the value of equity is as, if not more, likely to be negative [positive]. This dilemma cannot be resolved under the present accounting model which arrives at ‘equity’ and ‘comprehensive income’ by a ‘bottom up’ process that aggregates individual recognised asset and liability values and changes in them. This same accounting model also gives rise to the problem of apparently ‘unmatched’ hedges.⁴⁰ Such issues of revenue / income recognition need to be addressed directly if financial statements are more realistically to reflect—and help users to understand—whether or not insurers are making profits, how and when they make them, and how much they make (c.f. Solomons, 1961).

Given that the costs of moving wholesale from the present accounting model are likely to be seen as too great to contemplate, any attempt to rationalise valuation bases and performance measurement rules for financial instruments generally, as well as for insurance contracts, can only be on a ‘second best’ basis by attempting to ‘fix’ the distortions that arise within the current model. This suggests that—while conceptual discussion aids clarity of thinking and debate—accounting concepts cannot in themselves demonstrate the appropriate solution to the ‘conceptual and measurement issues’ of accounting for insurance business and other financial instruments and derivatives (c.f. IASC, 1997, Chapter 1, para.6.1).

It also seems unlikely that a single, necessarily pragmatic solution, will meet the objectives of all users, particularly in the case of financial institutions such as banks and insurance companies where depositors and policyholders—whose protection is the primary stated objective of prudential supervision by the responsible regulatory

authorities—are at least as important, if not more important, potential users of financial statements as the shareholders. Hence the need for careful examination of how current value based systems actually work and how far they successfully satisfy the needs and objectives of different financial statement users.

Making positive recommendations on how the insurance project should be carried forward is much more difficult than analysing the conceptual problems and practical difficulties revealed in SCI's the Issues Paper. But it behoves us to go beyond critique and attempt to make some positive recommendations (e.g. Solomons, 1989). So if the SCI's current approach represents how *not* to develop an insurance accounting standard, how should it proceed? We restrict our comments to life insurance.

- 1) Given that there is no dominant method currently recognised as life insurance GAAP, a useful place to begin would be by examining the merits and disadvantages of the methods currently in use. This might begin with the 'G4+1' countries, especially as these (together with South Africa, but with the exception of the US)⁴¹ have been the most proactive in developing more 'realistic' approaches to life insurance accounting in recent years (e.g. Horton & Macve, 1995, pp.77-80).
- 2) It would also be helpful initially to consider the approaches to 'general purpose financial' statements wholly independently of the objectives of reporting for prudential supervision and other regulatory requirements. This is not to prejudge the issue of whether or not a single approach can satisfactorily meet the variety of objectives and needs of different users, but merely to recognise that, where developments in practice to date have also been on the basis of usefulness to prudential supervisors, taxing authorities etc., or have been constrained by local company law objectives, various pragmatic compromises and trade-offs may have been effected which may obscure other primary issues for development of an international accounting standard.⁴² On the other hand, it also behoves the SCI to ask, when considering the various supervisory requirements for accounting that currently prevail, how far these do reflect a considered outcome of both conceptual thinking and practical experience that reflects important user objectives in the context of a realistic commercial understanding of the essential limitations of any accounting model for reflecting value, risk and performance.⁴³ One practical implication would be that, given the nature of, increasingly global, regulatory environments, issues relating to valuation of insurance liabilities should be

analyzed, at least initially, on the assumption that they would be accounted for assuming no default risk (e.g. FASB, 2000, para.79). This would clear away many of the currently contentious issues in the SCI's issues paper.

3) While, *ceteris paribus*, conceptual consistency is indeed desirable, it cannot be the overriding objective of an accounting standard (c.f. IASC, 1997, Chapter 1, para.6.1). Given the fundamental conceptual difficulties of attempting to utilise the existing accounting model, whether or not restated comprehensively to report current values, as the basis for reporting financial performance (e.g., Macve, 1997; Horton & Macve, 2000; ICAEW, 1999), it is not even a feasible objective. SCI's attention should therefore be focused instead on analysis of how well 'fair value' accounting for insurance actually works in those countries that have experimented with it,⁴⁴ and on discussion of the very—if not more—important issues about disclosure (where one of the main strengths of the SCI's draft paper does appear to lie—see paras. 836-88). As already stated, SCI could usefully focus on the UK's practical experience with embedded value ('achieved profits') reporting,⁴⁵ giving attention not so much to alleged conceptual deficiencies (which is all SCI has drawn attention to so far in IASC, 1999)⁴⁶ as to the practical implications, and in particular the following issues:

- how the underlying basis of the UK's 'achieved profits' method should best be explained to demonstrate consistency with 'normal' accounting concepts, such as those set out in the ASB's *Statement of Principles* (ASB, 1999)⁴⁷
- how far ranges of assumptions should and can be standardised without losing relevance to individual companies' particular situations⁴⁸
- how 'active' or 'passive' should be the updating of assumptions and how the effects of 'variances' (including e.g. expense overruns) should be calculated and reported⁴⁹
- how the effects of changes in assumptions should be reported and explained⁵⁰
- in particular, how the effects on values of changes in discount rates should be reported and explained (c.f. Horton & Macve, 1996; 2000).
- how the allocation of investment return between 'insurance' and 'investment' results should be presented and explained (in particular in relation to the 'unwind of the discount': c.f. Wright, 1995; IASC, 1999, paras. 802-3), and how far it is helpful to distinguish 'longer-term' investment return (given *inter alia* the method

recently introduced in the UK for the reporting of insurers' 'operating profit' (ABI, 1999a))⁵¹

- how far similar reporting principles could be adopted by mutual insurance companies⁵²
- how the UK approach compares with those being adopted in other countries as a candidate for providing the basis for the development of the international standard.⁵³

We have argued here that the UK proprietary life insurers' experiment with 'embedded values' is of particular significance, and that SCI's initial (albeit tentative) rejection of it appears to reflect misunderstanding and conceptual confusion (c.f. Wright, 1995; Forfar & Masters, 1999; Abbott, 2000). However, the ASB has also so far refused to endorse 'embedded value' as an acceptable method for adoption in the primary accounts of UK insurers, so that to date it normally remains only supplementary information.⁵⁴ Clearly if the IASC is to accept that a current value approach to life insurance reporting based on embedded values is generally acceptable, it will be necessary that the ASB itself is persuaded that it would be correct to endorse it in the UK. Exploring the conceptual and practical issues in the light of practical experience to date, at both national and international levels, is therefore the priority for further research and, in our opinion, is a prerequisite if the SCI is now to make any appreciable progress in developing an acceptable international accounting standard on insurance.

It may well turn out that the only practicable way forward is now to detach insurance accounting (and accounting for other financial institutions such as banks) from the less specialised issues arising from 'accounting for financial instruments' generally. However, the difficulties of resolving how to account for insurance business on a current value basis are also instructive for the JWG if it is to make any appreciable progress in developing an acceptable international accounting standard on other financial instruments. They are also instructive for IASC, and individual country standard setters, if they are to make any appreciable progress in developing other acceptable accounting standards that reflect the advantages of incorporating current values of assets and liabilities into financial statements for the purpose of more realistically reporting financial performance.

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Notes:

¹ The JWG comprises representatives of the 'G4+1' group of standard setters, and also of France, Germany, Japan and the Nordic countries (e.g. AARF, 1998, 14.69).

² For a critique of IAS39 (IASC, 1998) see Macve, 1999a.

³ The SCI's definition of an insurance contract would include a lottery ticket (IASC, 1999, para. 25.1), as it is unable to find an adequate simple definition of 'insurable interest'. In many countries, 'insurance' and 'gambling' are distinguished in law by requiring 'insurable interest', e.g. in the UK so as to make gambling contracts legally unenforceable (e.g. Horton and Macve, 1994; c.f. IASC, 1999, paras. 21-3). By contrast, the IASC definition (resting on 'if a specified uncertain event occurs') would appear to exclude 'whole life' and 'endowment' contracts where the uncertainty relates only to *when* death occurs, rather than *whether or not* it occurs. These issues are not pursued further in this paper but, while analysis of gambling can provide useful insights into the pricing of risk, there is a clear need for the SCI to engage more directly with real-world commercial insurance practices and the corresponding criteria needed for 'good insurance accounting'.

⁴ To reduce this volatility, 'special' accounting treatments are adopted by insurers in several countries, for example, the use by UK life insurers—who report the changes in market value of nearly all their investments—of the 'Fund for Future Appropriations' under the Companies Act 1985, following implementation of the EU Insurance Accounts Directive (see e.g. Horton & Macve, 1995).

⁵ Differences between individual standard setters' definitions are discussed further in Horton & Macve (2000), which also offers a critique of Barth & Landsman (1995).

⁶ FASB (1999, Appendix B) has now also set out what it sees as the implications for insurance accounting of its current 'preliminary' views on financial instruments, and the consequential changes these would bring to SFAS60 (FASB, 1982).

⁷ Copies of the paper (Horton & Macve, 2000) in which these issues are more fully discussed are available on request from the authors.

⁸ We use the common terminology, while accepting SCI's view that a better distinction is between 'short-term' and 'long-term' rather than 'general' and 'life' (IASC, 1999, para.84).

⁹ Anecdotal evidence was that there was only one professionally qualified actuary in Russia in 1996. By contrast, Germany has recently introduced a supervisory system relying on a 'responsible actuary' (Macve & Struyven, 1995) and US and Canadian insurance companies now also have 'appointed actuaries' (Griffin, 1998, p.201). Professional actuarial tradition is therefore particularly strong in the UK and 'old Commonwealth' countries such as Australia and Canada—who are also members of the 'G4+1' group of standard setters (see e.g. IASC, 1999, Vol.2, pp.A108-113). For how a '2-tier' system of standards could work for insurance accounting (i.e. providing a default 'benchmark' but allowing flexibility subject to greater information disclosure), see the discussion in Horton & Macve, 1997, Ch. 12 (pp.181-90).

¹⁰ US GAAP for 'traditional' life insurance products under SFAS60 (FASB, 1982) incorporates 'lock-in' of original assumptions in the measurement of policy liabilities, except where changing conditions result in a 'premium deficiency' which has to be recognised as a loss by reducing the balance of unamortized Deferred Acquisition Costs ('DAC') and, if necessary, increasing the liabilities (SFAS60, para.21; Upton 1996b). Following the implementation of SFAS115 (FASB, 1993), requiring market valuation of 'trading' and 'available for sale securities', increased volatility in the level of life insurers' reported equity, and to some extent of earnings, was introduced, as, for example, investment assets might have increased in value due to a fall in interest rates, but matching liabilities were not remeasured to fair value. Correspondingly, the SEC in 1993 introduced new safeguard requirements. In the case of SFAS60 liabilities, if a 'gross premium' valuation at the rate of return implicit in the revised SFAS115 asset values would result in a loss, then a reduction in DAC and, if necessary, an increase in liabilities would have to be recognised. [This requirement is comparable to the UK DTI's approach in respect of updating the valuation rate of interest to be used in the solvency returns, which is also based on market value of investments (Horton & Macve, 1995, pp.19-24; c.f. FSA, 2000)]. Requirements were also imposed by the SEC in respect of SFAS97 (FASB, 1987) products (Becker, 1998, p.222; Klumpes, 2000).

¹¹ We do not directly address here the important question of how comparable the approaches for insurers should be to those adopted for other financial institutions (c.f. Horton & Macve, 1997, pp.177, 186). Banks have mounted an orchestrated resistance to the proposals that the whole of their banking assets and liabilities should be accounted for by 'marking to market' (e.g. Borger, 2000), even though, at least in the UK, they now consolidate their life insurance subsidiaries on the basis of 'embedded

values', and this element of their reserves has been accepted for purposes of UK prudential supervision as 'Tier 1 Capital' (Horton and Macve, 1997, pp.78, 124).

¹² UK initiatives in 'embedded value' reporting are of particular importance in relation to the arguments put forward in the SCI's Issues Paper. That paper describes accounting practices in different countries (IASC, 1999, Vol.2, Appendix B)—including the experiments in 'realistic reporting', undertaken, for example, in Australia, Canada, New Zealand and South Africa (see Horton & Macve, 1995, Ch. 6; c.f. IASC, 1999, Vol.1, para. 561)—but does not directly comment on the acceptability or otherwise of individual countries' methods except in the case of the UK. Here the paper explicitly refers to the 'embedded value' method, first in the context of whether the fair value of insurance contracts should be estimated using rates of return on the insurer's assets (sub-issue 11G), on which the SCI is at present evenly divided (IASC, 1999, Vol.1, paras. 606 and 610-11); and secondly in considering whether the embedded value method is an appropriate approach to use in estimating and reporting the fair value of insurance liabilities (sub-issue 11K), on which the SCI's tentative conclusion is hostile to the recognition of embedded values (IASC, 1999, Vol.1, paras. 636-7 and 643). The FASB has also now expressed its hostility to embedded value in its response to the IASC on the SCI's Issues Paper, dated April 21, 2000 (posted on the IASC's website: www.iasc.org.uk). More analytical objections to embedded value have been argued by O'Brien (1994) (c.f. Macve, 1994), Falahati, 1995 and Klumpes (1999) (c.f. Horton & Macve, 1995; 1997). The UK is therefore 'in the front line'.

¹³ SCI recognises that it has not yet specifically addressed many issues of performance measurement, except in so far as the necessary approach can already be deduced from its views on how assets and liabilities are to be measured. In some cases it is awaiting progress by JWG on financial instruments generally; in others it is awaiting further progress by the 'G4+1' group on its project on how performance should be reported (i.e. where and how various aspects of performance should be presented in the financial statements) (IASC, 1999, paras. 803, 818). However, as we argue further below, there are many other aspects of revenue recognition and performance measurement that cannot be resolved simply by focusing on asset and liability measurements or on presentation issues but need to be addressed directly by SCI (e.g. ICAEW, 1999; c.f. Solomons, 1961).

¹⁴ It may be particularly important to identify such rates when considering incremental investment which would significantly alter the company's overall risk profile and therefore change its WACC.

¹⁵ It will be a matter of fact in each case how risky the borrowing may be: common business practice is to charge a higher rate of interest on 'riskier' loans to compensate for the increased risk of default (see Horton & Macve (2000) for further discussion of the impact of default risk on valuation of liabilities and equity). In any case (at least for 'normal' ranges of borrowing, and ignoring taxation effects for simplicity) the standard result from the basic theory of finance is the well-known 'Modigliani-Miller' (1958; 1963) proposition that, under perfect capital market assumptions, the most important feature of substituting debt for equity in the capital structure, without any change in underlying activity, is that the overall WACC for the company as a whole should remain unchanged (reflecting only the risk of the cash flows generated by the business from utilising the underlying assets), and will be a weighted average of the cost of borrowing and the (correspondingly increased) cost of equity.

¹⁶ SCI (IASC, 1999, para. 619) tentatively concludes that 'the estimated fair value of an insurer's liability should include the premium that marketplace participants demand for bearing the uncertainty inherent in estimated future cash flows'. However, the SCI appears divided on whether or not it believes that the secondary market for insurance liabilities is in fact sufficiently deep and efficient that the only risk premium actually charged would be for 'systematic' (undiversifiable) risk (para. 614). It does not attempt explicitly to analyse the effect of statutory requirements on insurers' to offer a higher level of security than 'normal' corporate bonds, nor the interaction between shareholders and bondholders on the one hand (who may more easily 'undo' corporate risk structures by their own portfolio rebalancing) and policyholders (who typically may have much more restricted opportunities).

¹⁷ In wholly 'unit-linked' policies, all the investment risk is borne by the policyholders, except in so far as investment performance in turn affects the insurer's fee and expense levels, and has reputational impact.

¹⁸ The assertion is now repeated in the FASB's response to the IASC, dated April 21, 2000 (posted on the IASC's website: www.iasc.org.uk).

¹⁹ In Vol.2, para. A133 a comparison is made between applying 'certainty equivalents' and an RAD and it is asserted that the level of RAD needed to achieve the same effect would require 'a rate adjustment well in excess of that typically employed in existing applications of embedded-value measurements'. But the example being used (which requires raising the rate from 7% to 16%, given a certainty-equivalent adjustment of nearly 5%) makes no allowance for tax and has policies with only a 4-year life, whereas over typically longer lives (due to the increasing allowance for risk over time

implicit in RADs) a much smaller after-tax rate adjustment would be required. (Care is however needed in handling large payouts at distant dates when using RADs—c.f. Falahati, 1995.) Abbott (2000) provides illustrations of how the apparent ‘investment spreads’ would effectively disappear if reasonable risk adjustments were made to the related cash flows (see also Babbel, 1998, pp.122-3).

²⁰ Although the SCI has not yet determined the appropriate approach to discount rates, paras.178-9 of Appendix B of the FASB’s Preliminary Views (FASB, 1999) assert that the appropriate discount rate for determining the fair value of policy contracts is either the risk-free rate applied to ‘certainty equivalents’ of cash flows or ‘a rate that reflects the credit risk of the policy issuer and other risks’, and that the effects on fair value of any changes in assumptions would be reported in income when they occur. (There appears to be no explicit consideration here of whether the appropriate RAD should relate to the rate for the policies themselves or rather to the shareholders’ discount rate, which, under standard capital market theory, should be higher to compensate for the gearing risk.)

²¹ As we have argued above, a profitable policy contract must, at least at some stages, be a (net) asset.

²² It is comparable to the argument that, in a ‘perfect capital market’, the value of a business is equivalently measured as the present value of its expected future cash flows or as the present value of expected future dividends to shareholders (e.g. Modigliani and Miller, 1958; Feltham and Ohlson, 1999).

²³ The flows are of course stochastic not deterministic, so there are many potential patterns *ex ante* of which only one will actually be realised *ex post* (e.g. Beaver & Wolfson, 1995; c.f. Becker, 1998). As SCI correctly concludes (IASC, 1999, para.190), the relevant element on which to focus is the portfolio (or ‘book’) of policy contracts. However, as risk diversification will generally increase with the addition of a variety of lines of business and / or the number of corporate entities in a ‘composite’, bancassurance or conglomerate group, it has to be an arbitrary accounting convention how to define the relevant ‘policy lines’ that are accounted for separately, as in current practice (c.f. ABI, 1999a; IASC, 1999, paras. 190, 716-7.)

²⁴ For analysis of this approach in a supervisory context see Harte & Macve (1991).

²⁵ In broad terms the cash flow profile of a book of traditional life policies, assuming for simplicity no policy lapses, will comprise:

a) an initial period of outflows on ‘acquisition costs’

b) on sale of the contract, the beginning of a series of premium inflows. These will exceed ongoing expenses so there is a net cash inflow for a number of years, which will be invested to earn investment return

c) on death or maturity premium inflows cease, and the policy value is paid out immediately as one large cash outflow (although it may be commuted into an annuity). As an increasing proportion of policies in the book terminates, annual cash flows become increasingly negative.

(A numerical worked example to illustrate a book of US-style policies over a 50 year term is given in Upton, 1996b and, with adaptations, in Appendix A of the SCI’s Issues Paper (IASC, 1999, Illustrations A16-A50).)

²⁶ As the investments are basically no more than the vehicle whereby past cash inflows are stored to earn the returns that are required, and which in turn allow any discounting in valuing the policy liabilities, one must be consistent in approach and either focus on values or continue to work with the underlying cash flow estimates, and in particular be careful to avoid any ‘double counting’.

²⁷ Where premiums are front-loaded, at the extreme in single premium policies, there is of course an immediate balance of invested cash, and the ‘policy liability’ itself will be normally be negative as only net cash outflows are now expected apart from the investment earnings. SCI uses this kind of contract in its main ‘fair value’ illustrations (IASC, 1999, Vol.2, Illustrations A51-A69) which does not help much in considering more traditional forms of contract where cash inflows from the contract (e.g. level premiums) are spread out over the full term (c.f. Illustrations A16-50).

²⁸ Under standard finance theory, the shareholders, under the competitive conditions assumed so far, can themselves earn no more than the appropriate RAD, so the value of their interest is equal to the policy value. This also fits with standard accounting theory as, given the ‘Balance Sheet Equation’, the valuation of the policy asset represents the value of the equity interest in it, or in UK terminology represents the ‘embedded value’. However, in real-world markets it is well known that market capitalisation diverges from balance sheet ‘net asset value’ even where net assets are reported at fair value, e.g. in the case of investment trust companies (‘closed end funds’). The value of the business is therefore not the same as the value of its net assets—this familiar relationship is explored e.g. in Edey (1957), Edwards and Bell (1961), Ohlson (1995), AARF (1998): 3.15-3.22, Feltham & Ohlson (1999). The underlying accounting model is therefore more analogous to that of a unit trust (‘open end fund’) where the owner’s ‘units’ are priced to represent their proportion of the net value of the underlying

investments. It may therefore be helpful to think of financial reporting as providing the 'unit' information about the underlying business to assist investors, through the capital market, determine the actual market price at which their shares in the business are traded (c.f. ICAEW, 1999). In a proprietary life company where there are also participating policyholders some of the equity interest is theirs, and so if one is focusing on the equity shareholders' interest, amounts allocable to participating policyholders must be deducted to arrive at the amounts attributable to equity shareholders.

²⁹ Including a valuation of policies before sale (i.e. as in an 'appraisal value'), has not been proposed as a feasible change in any discussion of life insurance accounting, even though such valuations have to be considered in justifying the balance of goodwill in consolidated accounts under 'acquisition accounting' when takeovers and mergers take place (e.g. Horton & Macve, 1997, pp.171-2), and even though, on the traditional accounting basis, at least within the European Union as set out in the Insurance Accounts Directive, 'deferred acquisition costs' may include expenses accumulated up to the date of sale (Horton and Macve, 1995, p.35).

³⁰ This analogy was used in developing the 'accruals' basis for UK life insurance profit reporting (e.g. Horton & Macve, 1998). Although the basis proved not to be as popular in practice as the 'embedded value' basis, the ABI (1999b) argues that both bases are acceptable alternatives for computing 'achieved profits', and this view is supported in Horton & Macve (1995, 1997).

³¹ Nonetheless, in cases where it is estimated immediately after signing that a loss in fact will be made overall, the loss must be provided for immediately (which could be reviewed as reflecting the recognition of the customer's now valuable option to insist on performance of the contract at the contracted price).

³² In the UK SSAP9 had to be revised to effect this by recording this element of value in 'contract debtors' rather than in the traditional 'contract work-in-progress' in order to comply with the EU 4th Directive.

³³ Clearly 'exit value' would be unlikely to be helpful here: the market for half-built bridges is not well developed, and any amount obtainable on sale would depend crucially on the bargaining power of the interested parties and the circumstances and might range from no more than the break-up value of the components (or less where the contractor faces contract penalties and / or costs of any obligations for site restitution) to the present value of the remaining net contract receipts from completing the bridge. Devising the best basis and timing on which to sell is how liquidators earn their keep.

³⁴ A similar analogy is with revenue recognition from a 12-month magazine subscription that spans an accounting period. The traditional approach of 'deferring' the recognition of revenue in proportion to the number of months remaining on the contract, ought, in situations where the publisher faces a fully competitive market, and if proper allowance for time and risk is made, result in deferring the same amount as would be estimated as the liability for remaining performance under the contract (i.e. the costs, time and risk of production and delivery of the remaining issues). But where the publisher earns a more than competitive rate of return, the deferral of revenue for the months remaining will include an element representing deferral of recognition of the realization of the value of the corresponding 'intangible' (the masthead) that is included in the price charged in the up-front subscription payment. Even though 'financial liabilities' fix the obligation as a monetary amount, they are in principle no different from such production / service liabilities (at least from the perspective of the generation of net cash flows for the company's investors) and it is anyway recognised that financial liabilities such as life insurance policy liabilities or bank deposit liabilities include some service element (e.g. FASB, 1999; IASC, 1999, paras. 48-60). The SCI's proposal (IASB, 1999, paras. 316-17) to reclassify the conventional provision for 'unearned premium' in general insurance as a provision for 'unexpired risk' will therefore generally only produce the same result as current practice if general insurers face perfectly competitive markets—in the real world, the substitution represents an implicit decision as to the pattern of reported realization of the insurer's 'brand value' etc. to be adopted. FASB (1999, paras. 166-7) smuggles in the same implicit decision on revenue and profit recognition, which appears inconsistent with the conventional practice in the 'magazine subscription' case. This proposal needs considerable further analysis.

³⁵ Strictly, from a valuation perspective, waiting for inception is itself an arbitrary convention, since value is being created through release from risk as the activity underlying the build-up of acquisition costs (e.g. marketing of, advising on and selling of the policy) is undertaken. But normal accounting conventions (and all standard setters' conceptual frameworks) require waiting for the inception of a contract to trigger recognition of profit in financial statements, and 'embedded value' does not include value of future sales, unlike 'appraisal value' (e.g. O'Brien, 1994).

³⁶ As already noted, FASB (1999, Appendix B) has now shown how it considers its financial instrument value approach would apply to life insurance contracts. How can this be sufficient if one

cannot assume 'perfect competition' in the life insurance industry itself? In perfect competition, market values could be sufficient to provide at least a basis for profit recognition. But where an insurer has a competitive advantage, whether or not built up by its own investment in skills, branding etc., it will expect to be able to earn a RAD in excess of the competitive rate of return. (Several life insurers explain their 'embedded value' profits on new business in these terms: e.g. Irish Life plc, *Annual Report and Financial Statements 1998*, p.46, note 23 (c)). The issue then arises as to when insurers should recognize the 'realization' the value of these entity-specific intangibles, and how much should be recognized in each period. As we have argued, it is unlikely that market prices for insurers' assets and liabilities will in themselves unambiguously reveal the 'correct' pattern of emergence of these elements of profit, and some reasonable pattern of allocation over time will have to be adopted, making due allowance for risk (e.g. Horton and Macve, 1995, p.126). Again, these issues need considerable further analysis before SCI (or FASB) proceeds to make firm proposals.

³⁷ 'Mismatches' from changes in interest rates are a factor in the SCI's inability to date to determine the appropriate approach to determining the discount rate to be used (IASC, 1999, para. 609, and Vol.2, Illustrations A57-A60). FASB (1999, Appendix B, paras. 178-9) is apparently untroubled by this problem in the context of life insurance, but in our view, yet again, these issues need considerable further analysis. For further discussion of the problems of performance measurement in respect of financial instruments generally when either interest rates or credit ratings change (or where there is inflation), and in 'hedging' situations, see Horton & Macve, 2000.

³⁸ As argued in Horton & Macve, 2000, following the logic of 'relief value' as 'the increment in total entity value which would occur if that liability were excluded' (AARF, 1998, 4.3), instances may occur for financial instruments generally (e.g. where loans are available on 'special terms' cheaper than the 'market rate') where relief value may be the higher proceeds obtainable from raising a replacement loan of this kind by continuing to incur the currently contracted loan payments. Indeed, insurers who are market leaders may anticipate being able to receive higher premiums than are justified by the risks and other inputs involved, so that relief from a policy liability at the margin would allow the writing of an additional profitable policy. Such refinements are not pursued here, although any practical model needs to be able to deal with them (e.g. Macve, 1984, p.102). However, as Baxter observes (1999, p.75; c.f. 1994), other than in the case of the simplest liabilities, 'the [relief value] formula is elusive'.

³⁹ FASB (1999; 2000) does not explicitly discuss 'capital maintenance' concepts: but as it proposes full marking to market of financial instruments (including insurance contracts) its implicit concept must be the same as IASC's.

⁴⁰ In a UK life insurance company, acceptance of the obligation to meet policy liabilities, if and when they arise, is 'hedged' primarily by the combination of investments backing the liabilities together with the expectation of future premium receipts from policyholders (in different proportions for different products), and the prospective investment earnings thereon. Secondly, it is hedged by the existing assets representing the required minimum 'solvency margin' under prudential regulation, together with the existing assets representing shareholders' and participating policyholders' 'free' surplus, and also now thirdly through any guarantees provided by industry levies callable under the Policyholders Protection Act 1975—see e.g., Horton and Macve, 1995, Chapter 2 and Appendix I; Horton and Macve, 1997, Chapter 3. However, the statutory rules for solvency determination under the prudential legislation are based on initially requiring such conservative assumptions that the primary hedge will be reckoned as insufficient, and therefore the secondary hedges are seen as vital, giving rise to 'new business strain'. (For a summary of sources of UK prudential regulation, see FSA 2000.) It was not until 1870 that UK legislation formally acknowledged that actuarial principles could even determine the level of adequacy of the primary hedge and were not 'mere puffs' (Horton and Macve, 1994).

⁴¹ The FASB appears to accept that current US GAAP for insurance are overdue for comprehensive overhaul (e.g. Upton, 1996b; FASB, 1999).

⁴² In this regard one may note that the bases of 'realistic reporting' adopted in Australia and Canada are also utilised for prudential supervision (although in the case of Canada this appears to have been an additional advantage (e.g. Brender, 1998)). Again, the accounting required in European countries under the IAD is generally (albeit not in the UK) the basis for prudential supervision, as well as for determination of taxation and 'distributable profits'. In the UK these matters are the subject of separate legislative requirements so that, at least directly, there would be no consequential economic consequences from adoption of 'achieved profits' and 'embedded values' as the basis for financial reporting (which is consistent with the empirical findings in Horton and Macve, 1998). Tweedie (1999) has indicated that ASB is content to maintain this separation (c.f. IASC, 1999, paras.145-7).

⁴³ Horton & Macve (1994) explore the interrelationship between the objectives of Companies Act legislation on accounting and audit generally in the UK in the 19th century, when a major concern of

the then UK Governments was to combat widespread insurance company frauds on policyholders and shareholders, and trace the effect of the emergence of the actuarial profession. IASC (1999, paras. 145-7) appears to be attempting to stake out the accountants' 'turf' by arguing that its own recommendations should be of value to insurance supervisors (who generally have relied more on actuarial expertise, e.g. Klumpes, 1995), while at the same time warning the same supervisors to 'keep off the grass' of attempting to achieve their objectives of policyholder protection by legislating to impose undue conservatism on insurance accounting. In our view the SCI has not yet established the cost/benefit advantage of developing 'general purpose financial statements' independent of supervisors' requirements—a major issue for mutual insurers (e.g. Klumpes, 2000)—and should therefore make this a priority.

⁴⁴ Given its steer from the JWG's project, it seems surprising that SCI's issues paper devotes only 38 pages out of 233 to discussing 'fair value' approaches to insurance accounting. Examining experience to date—including analyzing its conceptual consistency with modern capital market theory on asset pricing—is the objective of the research project that we are now undertaking for the ICAEW's Centre for Business Performance (with collaboration from Bacon & Woodrow and KPMG).

⁴⁵ For preliminary discussion see K. Wild and R. Macve, *Accountancy*, December 1999. See also KPMG, 1999.

⁴⁶ As argued above, some of these criticisms by SCI appear to reflect confusion of substance and presentational form, while others appear to be based on misunderstandings of the underlying conceptual issues. The SCI's objection to embedded value (despite the limitations of its analysis of 'investment spreads', as discussed above and demonstrated in Abbott, 2000) is reiterated in the FASB's response to IASC [posted on the IASC website at www.iasc.org.uk], which is still basing its prime objection to 'embedded value' on the allegation that it 'recognizes hoped-for future investment spreads as if those amounts were assets'.

⁴⁷ for further discussion see e.g. Horton & Macve, 1995, 1997; Forfar & Masters, 1999.

⁴⁸ For example, major US oil companies such as Exxon have long argued that, because standardised reserve values are mandated by the SEC, their Reserve Recognition Accounting ('RRA') disclosures are 'not meaningful and may be misleading' (Scott, 1997, p.25; c.f. Macve, 1983).

⁴⁹ SCI (IASC, 1999, para.205, 272) correctly favours incorporating the latest information into assumptions, but, in common with the general level of analysis so far reached in 'official' accounting conceptual frameworks, does not adequately address how 'information' is to be extracted from outcomes of stochastic processes in determining how far expectations about probable future outcomes should be revised (c.f. Edey, 1963; Beaver and Wolfson, 1995; Horton & Macve, 1995, p.122; Horton & Macve, 1997, pp.164-5). As actuaries have traditionally expressed the problem in lay terms, how does one determine whether a rain shower in mid-summer in England after a spell of dry weather represents a random occurrence within the expected range, a change in the weather, or a change in the climate?

⁵⁰ This issue is briefly addressed by SCI, but it has not yet reached a conclusion (IASC, 1999, para. 818; c.f. FASB, 1999, Appendix B, para.179).

⁵¹ In the case of UK listed insurers, the ABI SORP (1999a) recommends that, while all investment gains and losses are included in each year's profit and loss account, they are presented as split between the 'longer term rate of return', which is included in operating results, and the remainder. The SCI (IASC, 1999, para.826) 'tentatively' rejects this approach, but without any analysis of the issues. For further discussion see e.g. Horton & Macve (1997), pp.143-69; Macve & Jackson (1991), and for UK insurers' presentation, see KPMG, 1999.

⁵² SCI addresses some issues relating to mutuals (IASC, 1999, paras. 465-474) but does not discuss the practical implementation difficulties of its tentative views (c.f. Horton & Macve, 1995, pp.80, 143-4, 213-7).

⁵³ Relevant comparisons need to be made with international practice, in particular with US GAAP, but also with 'realistic' reporting practices in Australia and Canada, and with developments in reporting elsewhere in Europe (e.g. by Allied-Zurich).

⁵⁴ As previously noted, both banks and some insurance companies have begun to incorporate such 'achieved profits' into their accounts. Why has the ASB, which in principle favours the use of current values where practicable (e.g. 1999, Appendix III, para.59), been so circumspect to date (a new joint working party with the ABI was established in 1999 following ASB's latest rejection of the ABI's proposals (ABI, 1999b))? It appears that, firstly, ASB has failed to understand the significance of the fact that, unlike changing the basis of profit determination in 'ordinary' companies, adopting achieved profits reporting cannot affect distributions to life companies' shareholders (a major concern where other kinds of companies have attempted to 'frontload profits' (e.g. Tweedie, 1999)). Secondly, the

ASB hesitates to move forward and then find itself out of step with IASC (remarks of Allan Cook, ASB technical director, at ABI/KPMG seminar on the SCI's draft Issues Paper, London, November 1999). Here, the FASB's publicly stated opposition (e.g. in its comments of 21 April 2000 on the SCI's Issues Paper) may be a significant factor.