

SESSION H

GENERAL INSURANCE CONVENTION 1991

LLANDRINDOD WELLS 23-26 OCTOBER

FINANCIAL REINSURANCE

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GISG October 1991

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SUMMARY

Financial reinsurance is a growing phenomenon, as illustrated by the (known) growth in premiums written by financial reinsurers. Current annual premiums are estimated to be in the order of \$5Bn per annum. It arises out of the desire of insurers to introduce an element of control into their reported results whether to smooth, enhance or reduce profits; and out of the skill of reinsurers in designing contracts which minimise the risk of significant loss to the reinsurers. There are many commercial pressures on insurers which encourage them to consider purchasing financial reinsurance, and in current market conditions one particularly important need is to obtain reinsurance cover to continue the previous level of gross writing.

The primary mechanism of financial reinsurance is fairly easy to understand. By utilising the differences in tax or regulatory rules in different jurisdictions, the result is to effect a change - or to set up a means whereby a change can be controlled in the future - in the reinsured's balance sheet/revenue account without commensurately altering the underlying economic reality.

It is not true to say that there is never any real insurance element to a financial reinsurance contract. There may be elements of risk transfer, especially when the contract is marketed as filling a gap in cover in a difficult conventional market. However, it will usually be found on examination that such cover is only a small part of the contract, the potential downside (but admittedly also the upside) to the reinsurer is very limited, and its price may be high when the effects of compound interest are taken into account.

Financial reinsurers are extremely inventive - they even use disproportionately high numbers of (mainly US) actuaries - and they try to anticipate regulatory changes around the world. Financial reinsurance may or may not be in the interests of policyholders and reinsureds, but in any event it poses challenges to insurers, regulators, fiscal authorities, accountants, actuaries, auditors and investment analysts. Ignoring the phenomenon is not an option.

We do not believe it is necessary, or even desirable, to impose a blanket ban on financial reinsurance. The debate over whether or not a particular contract is insurance is, we feel, not necessarily the answer - even though the US appears to be going down that route. Instead, the majority of the working party feel that the answer may lie in the accounting and reserving treatment of all contracts, whether financial reinsurance or not. Regulatory and fiscal authorities should recognise that different jurisdictions will always offer different treatments, in some cases as part of a policy of encouraging the development of financial services. The challenge is what to do about it.

FINANCIAL REINSURANCE

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FINANCIAL REINSURANCE

1 TERMS OF REFERENCE

Following the conference in Newquay in 1990, this working party was established with a view to presenting a paper to the conference of the General Insurance Study Group of the Institute of Actuaries to be held at Llandrindod Wells in October 1991.

The working party has taken as its terms of reference:

To provide an introduction to Financial Reinsurance and to make comments and recommendations which may be of use to actuaries.

This paper represents the consensus view of the working party as a whole and is not necessarily the personal view of any individual member or of any organisation with which a member works.

2 INTRODUCTION

In this section of the paper, we explain what financial reinsurance is and discuss the reasons for its development. We also discuss briefly how it operates.

In the following section we consider in more detail the positions of the buyers and sellers, then in section 4 we look at various types of contracts, illustrating some of the important features with simplified wordings. Then follows an analysis of financial reinsurance from a number of different viewpoints and our main conclusions are summarised in section 6. Although we have tried, for ease of reading, to organise our analysis into various headings, many of the issues covered are inter-related and cannot be considered in isolation.

2.1 Nature and size of the market

Financial reinsurance, sometimes called "non-traditional" or "non-conventional" reinsurance, is being actively advertised and sold, and is often promoted as the solution to otherwise insoluble problems.

It is not an exotic, unimportant development in a few fringe markets around the world. Financial reinsurance is a growing phenomenon. From small beginnings in the early 80's, the annual premium has recently been estimated to be about \$US5bn. This may be an underestimate as the secrecy attached to some of these contracts makes them difficult to identify.

2.2 Why read this paper?

An actuary is likely to encounter financial reinsurance either when he is required to recommend reserves for an insurer which has effected such contracts or at the earlier stage when the possibilities inherent in financial reinsurance are being considered. Since this is only an introductory paper, the actuary working in the specialised field of pricing and selling these contracts for a reinsurer is probably already aware of what we have written.

The issues raised by financial reinsurance will become even more pressing if there is further expansion of the statutory role of actuaries in general insurance.

Perhaps our main message is that it is important to analyse thoroughly any financial reinsurance contract to see what makes it tick before deciding what to do about it. Having deciphered the various provisions and contingencies in the contract, especially any cancellation terms, the actuary should be able to put into perspective the message from those selling the contract and those who have a vested interest in it.

2.3 Why financial reinsurance exists

At the outset, it appears that, like life insurance, financial reinsurance was sold and not bought. Certain sophisticated reinsurers realised that it was possible to design products that gave a relatively risk-free profit and then to persuade insurers to buy them. The attraction of such products to the seller was that they did not risk their capital in the way that conventional reinsurers do, whilst the buyers found the cover cheap for the protection or enhancement it appeared to give their balance sheet, profit and loss account or other aspects of their operation such as tax.

Until recently, financial reinsurance has frequently been bought by insurers who fully understood its operation. However, the recent rise in interest is a direct result of shortage of capacity in the reinsurance and retrocession market. Underwriters may be desperate for cover and thus take the view that any cover is better than none. They may not realise the cover may be illusory and that the balance sheet is only "protected" if the accounting fails to reflect the full substance of the contract.

Thus it is not necessarily the case that the buyer's motives are questionable. Nor is it the case that financial reinsurance always transfers zero risk. There is a spectrum of contracts in existence with different degrees of risk transfer.

2.4 Description of financial reinsurance

It is not easy to describe an elephant but "you know one when you see one". Financial reinsurance is similar.

By way of contrast, traditional reinsurance is based upon the indemnification of the reinsured by the reinsurer in respect of risks underwritten by the reinsured. The reinsurance premium for the period of cover is determined in advance, either in cash terms or as a function of premiums written by the reinsured, and is largely non-returnable in the event of nil claims. The nature of the cover given by the reinsurer can be illustrated by the terms "follow the fortunes" and "pay as paid". Thus, for a price, the reinsurer shares in the underwriting fortunes of the reinsured, whether on a pro rata or on an excess of loss basis. If there is a profit commission, it will be for the purpose of encouraging good underwriting by the reinsured; it will only be paid when the reinsurer has made a good profit, and it will be payable within clearly defined limits. Although an upper bound may be placed on the reinsurer's payments under the contract, the ultimate loss is uncertain at the date of writing the contract.

Financial reinsurance contracts will tend to depart from some of the features described above and examples of such departures are:

- (a) Part or all of the premium may be returnable, with or without interest, if the claims are low.
- (b) Extra premiums may be contractually payable if the claims are high.
- (c) There may be a date or dates before which claims are not payable.
- (d) There may be a date or dates by which the balance of the sum insured is payable if not claimed previously.
- (e) Total claims payable are restricted in some way related to premiums. The present value of claims rarely exceeds that of premiums by a large margin.
- (f) There may be side agreements which significantly modify the terms of the policy document, for example to embrace one or more of the departures above.
- (g) The contract may operate across accounting years in such a way as to blur the allocation of premiums, claims and cash flow between these years, for example run-off policies on long tail classes on which limits, excess points and premiums are re-adjusted each year, whether or not on a pre-determined basis.

In order to operate effectively, a number of financial reinsurance contracts may need side agreements not apparent from the contracts themselves, or at least a clear understanding between the parties covering how the contract is to be managed over the longer term.

We have not devised a precise definition of financial reinsurance, but in this paper we interpret a financial reinsurance contract as one, a major result of which is to effect a change - or to set up a means whereby a change can be controlled in the future - in the reinsured's balance sheet/revenue account without commensurately altering the underlying economic reality. The economic reality is of course changed if, following the purchase of such a contract, either funds are paid away or profits held back.

The result of taking out a financial reinsurance contract is a matter of fact, irrespective of motive. However, it is frequently useful to consider the motives of the buyer in order to understand his purpose in taking it out. For example, assume that one can take out an aggregate excess of loss contract on a liability book at the beginning of the underwriting year for £50m excess of £100m. The premium might be small, say £5m, reflecting the fact that there is a good chance of no claims under the contract. In the event that there are significant losses, the company might, five years later, take credit in the reserves of £50m against the outstandings and IBNR. Contrast this with buying the same contract at the later date. The claims are now very likely to occur; the premium may be £25m, being an estimate of the present value of the £50m ultimate claims. This latter purchase could be described as a financial reinsurance, whereas the former would not.

A large non-insurance company could take out financial insurance as opposed to either insurance or financial reinsurance. The considerations are presumably similar to those for financial reinsurance, with the exception that such a company would not be subject to the same accounting and regulatory framework as an insurance company.

2.5 Accounting Issues

In much financial reinsurance the accounting treatment is crucial. If a contract is treated as (re)insurance, outgo will broadly be debited to the revenue account as premiums, and income credited as claims recoveries, return premiums or commissions; if the contract is regarded as an investment the published accounts may be materially different. If a contract is treated as (re)insurance, reported profits may be affected by the timing of credits and debits. While we do not wish to claim that all financial reinsurance should be disallowed, we do think that it is undesirable for a reinsured to have a choice of substantially different ways of presenting its accounts without any warning to third parties.

There are, however, several difficulties, both practical and conceptual, in deciding how matters should be improved. At its most basic it may not always be easy to say which method of accounting (out of several possibilities) is the most suitable. If a contract contains an element of reinsurance risk, it could be argued that it is in law a reinsurance contract and attempting to analyse it into its component parts for the purposes of accounting is often highly subjective. Furthermore, most definitions would deem a considerable number of life assurance contracts not to be insurance. We return to this topic later in the paper.

Most actuaries, when faced with a financial reinsurance contract, are surprised that any reinsured would be at all interested. The broker and the reinsurer will each make a profit and, by definition, there is minimal change to the reinsured's economic reality; that being so the reinsured appears to have paid good money for no benefit. Is this as silly as it sounds?

In practice, an insurer may consider that the advantages from a change in its accounts are well worth the costs. One function of financial reinsurance could be to permit what is in effect discounting in environments in which discounting is discouraged or forbidden; for example a Lloyd's syndicate might believe that discounting - forbidden for solvency purposes at Lloyd's - is the only practical way to achieve equity in the reinsurance to close.

As another example, to the extent that tax follows the accounts, it is theoretically possible to obtain deferral of tax through financial reinsurance. In this case, financial reinsurance could provide an economic benefit.

So called "loss spreading reinsurance" may allow a catastrophe insurer, who has had to pay large claims, to take account of the premiums on next year's business and hence to show a better financial position (and in the extreme case to stay in business). While one might not approve of this in accounts prepared for the purposes of demonstrating solvency to the regulatory authorities, it is possible to present a case that it is the correct thing to do on a going concern basis, if this can be reconciled with the principle of prudence.

BUYERS AND SELLERS OF FINANCIAL REINSURANCE

3.1 The reinsured

Financial reinsurance has arisen as a result of strong commercial pressures, including international competition, on insurers and aims to help them respond to them. Examples include:

- (a) The need to build up, as tax efficiently as possible, funds to enable the next big catastrophe to be paid for. It seems harsh for a catastrophe insurer to pay taxes on profit in good years, but not to be able to relieve the loss fully in the occasional bad year.
- (b) The desire to reduce capital employed in circumstances when, it is argued, undiscounted reserves are excessive.
- (c) The desire to use capital efficiently to support new business writings (surplus relief).
- (d) The need to put by, as tax efficiently as possible, a safety margin to protect against deterioration of liability reserves. Recent experience from the US lends particular weight to this argument.
- (e) The desire to smooth results.
- (f) The desire to assume more risk than the capital available will stand.

As mentioned in section 2.3, example (f) above is currently highly relevant in the London Market. It is not always the case that the buyer understands fully how a financial reinsurance contract works; for example, he may not appreciate the implications of a contingent additional premium clause. In such circumstances, the buyer may get an unpleasant shock if or when the solvency position, after a claim on the contract, has to be reflected properly in the statutory statements. This has happened in a number of instances already.

Without debating the merits or otherwise of each of the examples above, it is clear that, within the rules, insurers will want to use whatever techniques are available to respond to the commercial pressures. The additional challenges to insurers are to make the correct economic assessments of the techniques available, but also to be aware of the possibilities of future regulatory changes which could make some of the techniques less viable. Where the commercial pressures are widely understood and are likely to find sympathy with the Government (for example the arguments for a level playing field in Europe), one option is for insurers to lobby for the rules themselves to be changed.

3.2 The financial reinsurer

The financial reinsurer exists because there is a demand for the product, as described in 3.1 above. Typically, a financial reinsurer will sell a limited number of policies, each very large, frequently involving complex actuarial analysis. They have very low overheads per unit of premium (but a high cost per contract!) and are capital intensive rather than labour intensive. Financial reinsurers do not expose their capital in the way conventional insurers do; a very prudent limit on downside risk in comparison with the premium is a feature of all financial reinsurance.

Financial reinsurers are supported by brokers and bankers, who together account for a large part of the loadings in financial reinsurance contracts. The broker's role is to sell and explain the complexities of the product and the banker's role is to provide security to the reinsured.

Financial reinsurers need to innovate to be successful, as margins can be very low without product differentiation. They also need to be aware of regulatory and fiscal developments in the countries of their clients.

By kind permission of DYP, we set out below an analysis of the market put forward by David Garner of Citibank:-

Size: Large

- Over US\$3bn in premium for US and Lloyd's alone
- International M & A activity substantially widens market

Growth: Likely to be high

- Most insurers not yet aware/familiar with product
- Investment bankers taking strong interest
- "An Industry Under Siege"
- TRA 86 forcing P/C insurers to develop new plans for taxes
- Many life companies constrained by surplus

Profitability: High

- ROE 20-30% reported by some existing players
- Can be managed by leverage
- Low fixed expenses

Competitive Intensity: High

- Intensive for undifferentiated products
- Low barriers to entry
- But wide scope for creativity and packaging

Risk: Low

- Largely limited to asset, credit, and timing risk
 - Underwriting risk minimized by contract and/or retrocession.
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Because of the complexity of the contracts and the importance of compound interest, it is not surprising to find a number of actuaries involved in or running financial reinsurance companies.

4 TYPES OF FINANCIAL REINSURANCE

4.1 Use of examples

This section sets out the essential features of several types of financial reinsurance in a deliberately simplified way. We do not attempt to describe the many possible variations on the underlying themes, nor are we concerned with the detailed terms, such as rates of interest or amounts of profit commission. It should also be pointed out that a real contract is likely to be lengthy, detailed and complex. This is not invariably the case, however; in some cases wordings are short and leave much detail unsaid, and in extreme cases there may be no separate policy document, the slip embodying the policy by means of the endorsement "sign slip for policy".

Much that has been written about financial reinsurance avoids giving details of specific contracts, as the wordings are, with some justification, regarded as valuable intellectual property. It is, however, impossible to get a clear understanding of financial reinsurance without looking at a selection of wordings. There is a steep learning curve. At first it may be very difficult to understand how a contract operates, but after a while the various clauses and structures become more familiar and it is much easier to identify and analyse a financial reinsurance contract.

We hope that readers new to the subject will, as a consequence of studying the examples in this section, be better able to recognise a financial reinsurance contract and to decide what steps to take including, if appropriate, consulting with colleagues.

In order to appreciate what one of these contracts is all about, it is helpful to consider:

- (a) why it is attractive to a reinsured;
- (b) how it works, including the accounting, under various contingencies;
- (c) where the risks lie between reinsured and reinsurer.

4.1.1 The types of financial reinsurance we describe are:

- Rollover covers
- Retrospective Aggregate covers, including:
 - Loss Portfolio Transfers
 - Time and Distance policies and Funded Covers
- Prospective Aggregate covers, including:
 - Spread-Loss contracts
 - Experience funded accounts
- Financial Quota Share/Surplus Relief contracts
- Finite risk

There is no standard terminology and we would warn that the terms which we have used may be applied to other sorts of contract, just as the contracts we describe may be called by different names.

The reader who wishes to see a wider selection of wordings could consult "A Practical Guide to Financial Reinsurance" by A. Barile, published by Executive Enterprises Publications Co., Inc. New York. This book also includes examples of side agreements.

4.2 Rollovers

The essence of a traditional "rollover" reinsurance was that the sum assured was payable when required by the reinsured and consisted of the premium plus interest less expenses.

When the premium is charged to the revenue account at the time of payment, and no credit is taken for the recovery until it is received, a rollover contract presents a convenient way of establishing a contingency reserve, or a profits equalisation reserve. In effect, a rollover creates an asset which does not appear in the balance sheet.

It appears to the working party that this accounting treatment is unjustifiable, whether for an insurance company or, particularly, a Lloyd's syndicate and this view is probably generally accepted nowadays. Nevertheless, until the Inland Revenue took firm action such contracts were probably not uncommon.

The rollover contract does not, in principle, lead to the payment of a lesser amount of tax but there may be a considerable deferment of tax payment; additionally, many of the rollover contracts were placed with overseas reinsurers who were able to earn, and credit to the contract, gross interest. The Inland Revenue has acted upon its belief that a rollover is an investment, not a reinsurance contract, to such good effect that there are now probably very few such policies.

Rollover contracts were involved in at least one of the scandals at Lloyd's which came to light in the early eighties. With minimal and deliberately vague documentation it was possible for underwriters to pay premiums to entities which they controlled, so that only some of the funds were actually returned to the syndicate.

There is a danger that something similar may occur without any dishonesty on the part of the reinsured. Some of the reinsurers who have offered these contracts have not been of the first standing and may have been unable or reluctant to pay what they ought when they ought; any reluctance may be assisted by the imprecise documentation.

A "reverse rollover" is a contract which involves recovering from the reinsurer before paying the premiums and not accounting fully for the premiums. It thus enhances the reinsured's apparent financial position by creating an off-balance sheet debt. In this case the tax authorities will have no complaints but the regulators should be concerned about solvency.

4.3 Retrospective Aggregate Insurance

The reinsurer accepts the liability for certain defined claims arising from past business in return for a premium which will probably allow, implicitly or explicitly, for investment income from the date of receipt up to the likely date of payment of claims.

Since the reinsured can reduce reserves, or remove the need to strengthen reserves, by an amount greater than the premium there is an apparent release of surplus, thus making the balance sheet look stronger and the underwriting result better.

4.3.1 Loss Portfolio Transfers

Loss Portfolio Transfers can appear particularly attractive to an insurer wishing to discontinue some line of business or effectively to commute old underwriting years, and will generally apply to known losses on a specific book of business. Alternatively, a Loss Portfolio Transfer could be used to provide retroactive mitigation of one unusually large loss affecting a net account.

4.3.2 Example 1 (LPT)

- Contract term : Effective from 01/01/91 until all obligations hereunder have been discharged.
- Coverage : Aggregate Excess of Loss Reinsurance.
To reimburse the Reinsured for the ultimate net losses \$20m in the aggregate excess of \$10m in the aggregate of paid losses on or after 01/01/91 on the Reinsured's US liability account for underwriting years 1985 and prior.
- Reinsurance Premium : \$14m payable on or before 15/02/91.
- Claim Payments : The ultimate net aggregate losses paid by the Reinsured during each calendar year and recoverable hereunder shall be paid to the Reinsured within 15 days of receipt of loss report or on February 15 of the following year whichever is later.
- Cancellation : At sole option of the Reinsured on or after 31/12/95. Within 45 days following cancellation, the Reinsurer agrees to pay the Reinsured a Profit Commission equal to 95% of the balance of the Cover Limit less the cumulative amount of the Reinsurer's claim payments hereunder.

4.3.3 Analysis (LPT)

The Reinsured had known loss reserves of \$30m as at 31/12/90. By entering into this contract there will be an apparent improvement of \$6m in the balance sheet/revenue account. The reinsured has locked in a fixed rate of return and has passed on the risk that claims may be paid earlier than expected. The deductible in the contract is intended to protect the Reinsurer against a freak early surge of claims. If the ultimate claim exceeds \$30m, the reinsured will be liable for the excess. Since there is a guaranteed return of the balance of the limit by 31.12.95, the contract can be regarded as having a current value of at least the present value of any unclaimed balance. If there is little likelihood of claims being payable before 31.12.95, this contract is close in substance to a time and distance policy.

The provision that recoveries will be made only once a year, within fifteen days of 15th February, occurs in many of the examples we quote. Obviously, it gives a margin to the reinsurer and should be taken into account in any financial assessment by either party. It is possible, however, that the major reason for its inclusion is to reduce the administration. Otherwise there might be a continual flow of paper between reinsurer and reinsured once the excess point has been reached. On the other hand, annual settlement seems to be a common feature of financial reinsurance, as compared with conventional reinsurance which settles more frequently.

If the reinsured's loss reserves as at 31.12.90 had been only \$10m then, depending on the likelihood of deterioration of these reserves, the contract might be thought of as a rollover. A rollover effect could be achieved by not recognising the asset value of the guaranteed recovery at 31.12.95.

4.3.4 Time and Distance policies/Funded covers

These usually provide for a structured payment schedule so that the Reinsurer is exposed to no, or very little, risk if the reinsurer has to pay claims earlier than expected. The premium is often the discounted value of the payments, together with loadings.

4.3.5 Example 2 (T&D)

Contract term	:	Effective from 01/01/91 until all obligations hereunder have been discharged.
Coverage	:	Aggregate Excess of Loss Reinsurance. To reimburse the Reinsured for ultimate net losses \$20m in the aggregate excess of \$10m in the aggregate of paid losses on or after 01/01/91 on the Reinsured's US liability account for underwriting years 1985 and prior.
Reinsurance Premium	:	\$12.5m payable on or before 15/02/91.
Claim Payments	:	The ultimate net aggregate losses paid by the Reinsured during each calendar year and recoverable hereunder shall be paid to the Reinsured within 15 days of receipt of loss report or on February 15 of the following year whichever is later, subject to a maximum cumulative recovery of not more than the Reinsured's Cumulative Estimated Claim Payments, as follows:

<u>Calendar year ending</u>	<u>Reinsured's cumulative Estimated claim payments</u>
31.12.94	\$ 3.3m
31.12.95	\$ 6.7m
31.12.96	\$10.0m
31.12.97	\$12.5m
31.12.98	\$15.0m
31.12.99	\$17.5m
31.12.00	\$20.0m

Outstanding claims advance clause	:	At 15 February 1995 and annually thereafter, the reassured may collect from reinsurers by way of OCA any balance remaining after collection of paid loss recoveries, up to and not exceeding the policy limit (being for this purpose, the reinsured's cumulative estimated claim payments at the relevant time), or the sum of noted outstanding losses plus the reassured's calculation of IBNR, whichever be the lesser at the relevant date. In the event of any subsequent reduction of such amount, the reassured shall return any surplus to the reinsurers at the following recovery date as above.
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Cancellation : At sole option of the Reinsured on or after 31/12/00. Within 45 days following cancellation, the Reinsurer agrees to pay the Reinsured a Profit Commission equal to 95% of the balance of the Cover Limit less the cumulative amount of the Reinsurer's claim payments hereunder.

4.3.6 Analysis (T&D)

As before, the reinsured had reserves including IBNR of \$30m as at 31/12/90 and entering into this contract would produce an apparent release of surplus of \$7.5m.

The interest rate on medium term US treasuries at 01/01/91 was approximately 8.3%. The payment schedule in the example has a present value of \$11.8m at 8.3%.

4.3.7 Taxation of Loss Portfolio Transfers/Time and Distance Policies

There is a popular myth to the effect that these contracts provide a tax advantage, possibly because the reinsurer is often located in a territory with a low rate of tax on investment income. With some exceptions, this is not so; by immediately improving the underwriting result, payment of tax is brought forward. Indeed, the higher the rate of interest that the reinsured effectively receives, the greater the immediate payment of tax, so it is not anticipated that the Revenue authorities would, in general, have any objections to these contracts.

It is understood that some mutual companies are taxed on investment income but not on underwriting profits (and hence do not receive allowances for underwriting losses). There would be an obvious tax advantage in a time and distance policy for such a company.

There would also be a tax advantage for a company which could not, in practice, obtain tax relief in respect of its provisions for future claims, whether this be all future claims or merely the IBNR element. While an insurance company is, perhaps, unlikely to be in such a position, an industrial company with potential uninsured claims from, say, asbestosis and pollution might find it worthwhile to effect a financial insurance policy for this reason - always provided that the Revenue did not require recognition of the policy in the tax computation as an asset!

4.3.8 Comment (LPT/T&D)

- (a) Are these contracts reinsurance policies or are they a form of investment? If the "premium" is regarded as a deposit and the "recoveries" as a repayment of the deposit with interest, and the transactions are recorded as such, the reinsured would, in general, gain nothing from effecting the "policy" as such.

We are uncertain whether the risks to the reinsurer in Example 1, are such that the contract should be thought of as reinsurance; there are arguments both ways, depending on the circumstances. The inclusion of a guaranteed payback date gives some cause for doubt and a clear clue as to motive. A quick compound interest calculation will give further clues, given financial market conditions at the time of purchase of the contract. If the reinsured had entered into a contract providing for exactly the same recoveries before the losses had occurred, there would perhaps be a stronger case for treating it as genuine reinsurance, provided that the cancellation option were removed. If the cancellation option is included then appropriate credit should be taken for it, however the contract is described.

- (b) Doubts about Example 2 are rather greater. In the United Kingdom at present, however, it seems to be frequent practice to regard contracts of this nature as reinsurance and account accordingly, though some accountants are uncomfortable about this. We attach as Appendix I, a copy of a letter from the Department of Trade and Industry to UK general insurance companies setting out their attitude to Financial Reinsurance generally.

With some minor exceptions the reinsured could obtain the same result by discounting its reserves for the time value of money, without having to pay for the expenses and profit margin of the reinsurer and the commission to the broker, if there is one.

Without wishing to enter into a discussion of the circumstances in which discounting would be acceptable, or the conditions which should be imposed, it appears to the working party that if time and distance policies are permitted there is no reason why discounting should not be; to put it the other way round, if discounting is not permitted it is illogical to allow time and distance, or at least to allow insurance accounting to achieve the same effect.

It appears to us that, if contracts are effected which provide for limitations (or enhancements) on when recoveries may be made, there should be at least as much disclosure as if the reinsured had discounted reserves.

We note that syndicates at Lloyd's are required to disclose fully their time and distance policies.

It is claimed by some that a time and distance policy has an advantage over discounting in that the effective rate of interest is set by an outside party and is not at the discretion of the reinsured. We give little weight to this.

We also give little weight to the idea that the reinsured will obtain the benefit of superior investment performance by effecting a policy. We can, however, conceive of theoretical circumstances where this might apply - e.g. a reinsured in a jurisdiction which requires investment in low yielding local assets unmatched to liabilities.

- (c) If the reinsurer had to reserve for the full amount of likely payments at the inception of the contract, there would be a considerable new business strain. To avoid this it is important for the reinsurer to be located in a territory where discounting of reserves is permitted. Solvency margins related to premium income might also impose a capital strain which would render the writing of financial reinsurance less attractive. It is for this reason, rather than that of tax avoidance as is often claimed, that reinsurers are to be found in offshore jurisdictions such as Bermuda. In a wider sense, much of financial reinsurance could be regarded as obtaining the benefit of less demanding regulatory or fiscal jurisdictions.

4.4 **Prospective Aggregate Insurance**

We are accustomed to thinking of insurance as spreading the losses of a few among the many exposed to risk and our opinions are often based upon this view of affairs. In some cases, however, what is required is spreading the losses in a few years over the many years in which they might have occurred. The most obvious example is property catastrophe (re)insurance but professional indemnity cover for, say, a firm of accountants exposed to an occasional very large claim might be another case.

In fact, there is no market in which a property (re)insurer could buy catastrophe reinsurance for the next, say, ten years for a yearly premium fixed at outset. That notwithstanding, the reinsurance markets tend to work informally as though reinsurers and reinsureds will be around year after year buying and providing similar cover. Because it is a competitive market not entirely driven by the theoretically correct premium rate, if there is such a thing, premium rates do fall after a period without a catastrophe and increase in the aftermath of one, so costs are not spread absolutely evenly; there is a greater amount of spreading losses into the periods shortly after major catastrophes. At such times a reinsurer may find that the market for its own retrocessional protections has dried up and that, without catastrophe reinsurance, it cannot continue to accept the low frequency/high value risks which would provide the "payback" for its own inward losses. To handle this sort of situation, and to compensate brokers for the loss of retrocession business, several schemes have been devised and some are being actively sold by reinsurers and brokers.

4.4.1 **Spread Loss Contracts**

Example 3 (PAC-SL)

Contract term : Effective from 01/01/91 until all obligations hereunder have been discharged.

Coverage : Aggregate Excess of Loss Reinsurance.
To reimburse the Reinsured for the ultimate net losses \$20m in the aggregate excess of \$2m in the aggregate of paid losses on or after 01/01/91 on the Reinsured's US professional indemnity account for all losses occurring from 01/01/91 to 31/12/95.

- Reinsurance premium : \$3.3m payable on or before 15/02/91
\$3.3m payable on or before 15/02/92
\$3.3m payable on or before 15/02/93
\$3.3m payable on or before 15/02/94
\$3.3m payable on or before 15/02/95
- Claim Payments : The ultimate net aggregate losses paid by the Reinsured during each calendar year and recoverable hereunder shall be paid to the Reinsured within 15 days of receipt of loss report or on February 15 of the following year whichever is later.
- Cancellation : At sole option of the Reinsured on or after 31/12/95. Within 45 days following cancellation, the Reinsurer agrees to pay the Reinsured a Profit Commission equal to 95% of the balance of the Cover Limit less the cumulative amount of the Reinsurer's claim payments hereunder.
- Termination : In the event that the Reinsured shall fail to pay any premium due, the Reinsurer shall have the sole right to terminate the agreement with effect from inception, when the Reinsurer shall return all premiums paid less any claims paid.

Analysis (PAC-SL)

For this contract to be effective for the reinsured it has to be possible to account for the premium as a reinsurance premium, allowable for tax, in the year in which it is paid; and to account for a recovery in the year in which the inward loss occurs/the profit commission becomes due.

From the point of view of the reinsurer, it is likely that there will be a delay before any claims have to be paid so that there will be interest earnings on the accumulated premiums. \$3.3m pa rolled up for five years at 7% pa gives \$20.4m.

Comment (PAC-SL)

This sort of arrangement is in response to a genuine need, which arises because conventional methods do not take into account the nature of low frequency/high value losses. Another more extreme example would be a natural disaster, such as a hurricane or an earthquake, which would affect either almost everyone in the market or no-one. It is thus not a case of spreading the losses of a few reinsureds over many. To write such business and retain substantial net exposure simply requires large amounts of capital. It is an area in which there may be a marked difference between a going concern and a break up set of accounts.

It is the view of the working party, however, that the contract will fail to achieve its purpose if reserving is done correctly.

First, assume that a total loss occurs soon after inception of the policy. The reinsured has no more cover under the contract but is still obliged to pay the future premiums and, in our opinion, it is necessary to establish a provision for them at that time.

Secondly, if there is no loss, the reinsured knows that the reinsurer is contractually bound to pay a profit commission or to pay a claim and the accounts ought to recognise an asset at least equal to the lower amount valued to the present from 31.12.95 less the present value of future premiums.

Such a reserving policy, which we consider to be the only correct one, would remove any significant benefit from the contract.

Under such a regime, there is unlikely to be any major tax effect so there would be little incentive for the Inland Revenue to make a challenge. If the reserving is such as to make the contract of use, it might be expected that the Revenue would have an interest.

It seems to us that the contract is really an investment transaction and the accounting should reflect this fact; there would then be no need to have a reserving policy.

Since for a Lloyd's syndicate each underwriting year is a distinct legal entity, there are regulatory and equity difficulties in entering into contracts which commit future years. More generally, any underwriting agency which follows the Lloyd's principle of reinsurance to close (which passes liability from one cohort of insurers to another) would be faced with what appear to be insuperable problems of equity, if the contract is to be operated in a way which produces any benefit. To which set of participants should the profit commission be allocated? If there has been a total loss, how can premiums be charged to participants who will obtain no benefit from them?

4.4.2 Experience Funded Accounts

These contracts are a more sophisticated version of a spread loss policy. In particular, the reinsurer is prepared to advance claims up to a fixed amount in excess of the fund of premiums held. Even if these contracts are accounted in such a way as to reduce their loss-spreading effects, they could be akin to a line of credit with a bank, set up in advance for a rainy day, albeit on expensive terms. Potential cash shortages are now more of a concern than they used to be.

4.4.3 Example 4 (PAC-EFA)

Contract term	:	Effective from 01/01/91 until all obligations hereunder have been discharged.
Coverage	:	Aggregate Excess of Loss Reinsurance. To reimburse the Reinsured for the ultimate net losses \$5m per occurrence excess of \$1m per occurrence of paid losses on or after 01/01/91 on the Reinsured's US professional indemnity account for all losses occurring from 01/01/91 to 31/12/95.
Reinsurer's maximum annual aggregate liability	:	Exposure Fund balance at beginning of year plus \$10m.
Reinsurance premium	:	\$2.5m per annum

- Exposure
Fund : Charges to the Fund :
- claims paid for the year
- interest on deficit Fund balance (e.g. base + 2%)
Credits to the Fund :
+ premium for the current year
+ interest on positive Fund balance (e.g. base - 1%)
- Cancellation : The contract may be cancelled by either party on or after 31/12/95, when the following will occur :
- The reinsurer will return 100% of any positive balance of the Fund to the Reinsured
- the Reinsured will reimburse 100% of any negative balance of the Fund to the Reinsured if the Reinsured terminated the agreement.

Analysis (PAC-EFA)

The reinsurer is exposed to having to pay claims of \$10m in addition to the fund which has been built up. This is of course just a credit risk, because the reinsurer will eventually be repaid. Under this example the contract may be cancelled after five years at the discretion of either party. Another variant permits the reinsurer to cancel only if there is a positive balance but commits the reinsured to pay larger premiums if there is a negative balance. Such an arrangement would relieve the reinsured of the obligation to repay a negative balance at an inconvenient time but would involve the reinsurer in a theoretically open-ended commitment, which would no doubt be taken into account in the charging structure.

Comment (PAC-EFA)

The comments made about the spread loss treaty apply with equal force in this instance. It should be noted that the cancellation terms may be different depending on who cancels. The cancellation terms may be crucial to the operation of the contract.

Example 5 (PAC-EFA)

The contract is the same as in Example 4, except that on termination only 50% of the balance is payable by the relevant party.

Comment

Because there is now a significant uncertainty in the underwriting outcome, this contract is arguably now a reinsurance policy, albeit with several complicating features, and so we would expect it to be accounted for as reinsurance, at least in part. When reserving, it would seem appropriate to provide for any contractual future premiums and to make allowance for any cancellation charges that would become due from either party, if there are no (more) claims in the future. In practice, at least 80% of the balance would normally be payable, and the contract would be drawn up so that after taking account of interest margins and other charges, the real downside to the reinsurer was minimal. At first glance, however such a contract will look more risk bearing than it really is.

The difficulties in operating a reinsurance to close system would still seem insuperable, unless reserving and/or accounting policies nullify the effect of the contract.

4.5 **Financial Quota Share/Surplus Relief Contracts**

Having sufficient capital and free reserves to continue writing incremental business is a key requisite for any underwriting entity. In the U.S.A. in particular, a great deal of attention is paid to the premium to surplus ratio, and senior executives may consider it important to "manage" the trends in this ratio. By transferring a portion of its unearned premium reserve (UPR) to a financial reinsurer, a cedant might be able to improve the solvency margin or alleviate capital strain. As a consideration for the UPR transfer, the financial reinsurer could pay the cedant a commission which, depending on the contract wording, might be treated by the cedant as current income and thus statutory surplus.

The reduction in the cedant's net premium through the financial reinsurance premium payment will increase capacity for writing incremental business without detriment to the solvency margin.

The cedant decides the amount of reinsurance to be ceded, and then the reinsurer will calculate the limit that it is prepared to offer for the contract relative to the anticipated settlement of losses. By contrast, the traditional quota share would provide unlimited cover.

Such a quota share deal may have an unlimited sliding scale for commission to the reinsured. Real risk transfer may, in consequence, be very limited. Thus the application of the principle of substance over form in the solvency margin and premium rules might render such contracts ineffective.

4.6 **Finite Risk Reinsurance**

In view of the pressure, particularly in the U.S.A., to classify purely financial reinsurance contracts as investments or deposits rather than reinsurances unless there is an identifiable transfer of risk, reinsurers writing this sort of business have begun to offer policies which are intended to have the same effect as before, but which also provide a limited amount of risk transfer designed to satisfy U S accounting guidance. Such contracts are often known as finite reinsurance or finite risk reinsurances.

The fundamental concept is that, in return for accepting a limit on losses recoverable, the cedant has the expectation of sharing in any profits following low claims experience. Finite risk reinsurance represents a further step in a chain which started with policies under which the reinsurer has no risk and continued with policies where the reinsurer is exposed to timing risk. Once again, assessment of the real degree of risk transfer involves the application of compound interest principles.

4.7 **Comments on Security**

The sums involved in financial reinsurance may be quite large and certainly material to the parties to the contract. It has been the general practice for reinsurers and reinsureds to be protected against the credit risk by including in the contract a provision that the party in funds would provide a letter of credit from a reputable bank to provide security to the other party. Indeed without provisions of this sort it is doubtful whether there would be scope for very much financial reinsurance.

In the past banks have charged about 1% p.a. of the face value for a letter of credit. With the introduction of the Bank for International Settlements' rules for capital it appears that this rate is being increased to at least 2% p.a. Quite what effect this will have on financial reinsurance, beyond making it more expensive to the reinsured, is not known.

There is now a move to replace letters of credit with trust funds which are not as flexible and time will tell whether this procedure becomes popular.

Banks, of course, are never totally secure and both the letter of credit and trust fund routes involve banks as either guarantor or custodian.

5 PERSPECTIVES ON FINANCIAL REINSURANCE

5.1 The Accounting Position

The Working Party approached this section with caution because we are not accountants.

The accounting treatment of financial reinsurance policies is vital, and is often their *raison d'être*. The UK accounting profession is currently giving thought to the question of "substance over form" in accounts generally, and similar discussions are taking place in the US and Canada. We discuss regulatory developments in some detail later, but the current idea is to treat a contract either as reinsurance or as a deposit depending on the answer to the question:

"Does the contract transfer significant insurance risk?"

To this, we would suggest adding the question:

"Does it matter?"

The working party, perhaps because we are actuaries, believe that the valuation of assets and liabilities, and hence the balance sheet and profit and loss account are of prime importance. Obviously, however, the classification of a contract will also affect other areas such as measures of net premium, taxes on premiums, solvency margins, etc. Some of the Working Party thought that reinsureds should have a degree of choice when it comes to characterisation of policies as (re)insurance or investment, provided that there is adequate disclosure, at least in notes to the accounts; others felt that this approach was not good enough but would agree that practical solutions are not easy.

The reactions of accountants depend to some extent upon their backgrounds and traditions. In some parts of the world the major concern is that accounts should conform to the letter of the law and the commercial reality is not regarded as particularly relevant.

We understand that the UK accounting profession is concerned over the "right" way to deal with financial reinsurance in accounts, coupled with a feeling that what is being done at present is not completely satisfactory. There are so many transactions which can be accounted in more than one way - reinstatement premiums, profit commissions and portfolio transfers are three obvious examples - that this is manifestly a major topic and one which can only be resolved after much work.

We attach as Appendix II to this report a draft paper from a task force of the American Institute of Certified Public Accountants (AICPA) which makes proposals about the way in which American companies should account for financial reinsurances. At the time of writing this paper, these proposals are still at the draft stage and are part of the continuing debate. We have been told that the FASB (Federal Accounting Standards Board) was due to begin deliberations in September of what could be a more far reaching project.

If the accounting treatment depends on a "yes/no" answer to the question of insurance risk transfer, the response of reinsurers will be to design contracts that are just sufficient to be classed as insurance; it may be difficult, given that they conform to the letter of the law, to take a hard line on reserving. This problem is inherent in any regime, whether accounting or reserving, which gives different treatments to contracts on the basis of an arbitrary classification. Solvency regulation could be rendered ineffective

In an ideal world, the accounting/reserving system and the framework of rules would be sufficiently robust to cope with all kinds of contracts, whether classed as insurance or not, in a consistent fashion. Until that can be achieved - and it may not be ultimately possible - there will always be serious, possibly insuperable difficulties for the regulators.

An obvious difficult issue is discounting. At present there is a discrepancy between an ostensible policy of not discounting (and hence having implicit margins in provisions) and the practice of allowing these margins to be eroded by the purchase of some financial reinsurance policies. These margins are, in fact, also eroded by ordinary excess loss contracts and we believe that the issue of providing a suitable margin needs to be addressed by regulators and accountants as well as by actuaries. Present practice lets reinsureds face both ways simultaneously.

Actuaries do not have the same perspective as accountants and, as we have said earlier, it may be possible to achieve a result which is satisfactory to an actuary, whatever the accounting methods, by ensuring that adequate reserves are established. This would involve setting up provisions for all expected outgo, whether described as premiums, reinstatement premiums, experience loadings or any other exotic term, and by taking credit for any contractual income - the lowest amount if there are several possibilities depending upon future contingencies.

5.2 Regulation and Taxation

These are areas of considerable change at present. In the UK, the forthcoming set of changes in accounting standards relating to "substance over form" is a response, not specifically to issues in the insurance industry, but to perceived weaknesses in accounting in the property and banking industries. Compliance with accounting standards has now been brought within the Companies Acts by virtue of the 1989 Companies Act. The accounting and regulatory issues, and a number of other issues both in the UK and elsewhere, are summarised in an excellent Insurance Briefing on financial reinsurance by accountants Ernst & Young. A copy of this Insurance Briefing is attached as Appendix III.

There has been some reaction from the UK Regulators specifically aimed at financial reinsurance. Lloyd's now requires syndicates to disclose sufficient detail of time and distance policies to enable readers of accounts to assess their economic impact. A Lloyd's Market Bulletin was issued on 25 September 1990 on the subject of outward reinsurance, emphasising existing guidance that the substance of outward reinsurance should be in accordance with the principles of insurance and agency law and in accordance with Lloyd's Byelaws. This guidance has now been consolidated into a revised Underwriting Agents manual.

UK Taxation is also mentioned in the Ernst and Young Insurance Bulletin. The US revenue authorities are further advanced than the European tax authorities in dealing specifically with financial reinsurance; this may be largely due to the far reaching impact of the US 1986 Tax Reform Act, which imposed discounting of reserves for tax purposes. In Europe, there is a slow trend towards harmonisation of taxes between countries.

5.3 The Investment Analyst

The accounts of companies quoted on the Stock Exchange are widely available and are the subject of considerable study by investment analysts.

Insurance investment analysts attempt to assess the future performance of shares within the sector and the relative performance of the sector compared with the market as a whole and most of the information to be used will come from published sources, which usually include little about reinsurance programmes. It is because of lack of information, rather than any perceived unimportance, that financial reinsurance will not usually be taken into account when rating a company's shares. Clues may be obtained from Form 30, particularly for the names of major reinsurers, but the data are, at best, limited.

Since financial reinsurance may materially alter a company's reported earnings and the strength of its balance sheet, a certain amount of analysis and comparisons between companies may be based upon inconsistent information.

In general, the Stock Market assigns a greater value to a level stream of profits than to the same quantity of profits emerging irregularly; the share price of a company that reports earnings of £100m each year will normally be higher than that of a company which reports, say, £50m, £200m, £50m and £100m over a four year cycle. A company which is concerned about its share price - and few aren't! - therefore has an incentive to do anything which will smooth its profit stream; most companies would also like to defer recognition of worse than usual results, on the Micawber principle.

As mentioned above, the main problem for an analyst is not one of interpretation but of obtaining sufficient information about what might be a highly price-sensitive matter. Suggestions which have been made by investment analysts include:-

- (a) Fuller disclosure of reinsurances and the timing of recoveries.
- (b) Published actuarial reports on the effects of financial reinsurance in an explicit manner, consistent between companies. This seems most unlikely to come about, even if it were easy to define which contracts should be reported on.

- (c) Greater flexibility in reserving to permit insurance companies to smooth their results, without financial reinsurance.

5.4 An Actuarial Perspective

The examples in section 4 were simplified in order to illustrate points of principle. In practice, contracts will probably not be identifiable as financial reinsurance without a study of the detail. At a casual glance, they will look like any other reinsurance treaty and will frequently contain all the standard clauses, such as the Nuclear Exclusion Clause, even if they are not particularly relevant. Payments to and from the reinsurer may be described as reinstatement premiums and profit commissions and would not appear to be markedly different from similar provisions in conventional reinsurance. When there are many different treaties each year, the work necessary to isolate those which need extra attention should not be underestimated.

Reinsurers actively promoting financial reinsurance contracts will argue strongly that the contracts are genuine reinsurances indistinguishable from other reinsurances, as will any broker involved, and the reinsured may believe that it is inappropriate to treat them in any different way. It is also possible that the reinsured has not appreciated the circumstances under which claim payments would have to be returned to the reinsurer in the guise of, say, reinstatement premiums; in such a case, the actuary will need to make his own investigations in addition to his discussions with the reinsured's management. In other cases, of course, the reinsured has initiated the policy and approached the broker and will be fully aware of the details, so a discussion with the underwriters should be the first step as usual.

When a financial reinsurance contract has been identified it is imperative to establish who has to pay what to whom in which circumstances. Having done that, it ought to be simple in principle to decide what reserves will be necessary under the various contingencies - and this may be dependent upon the accounting methods - and from that it will be possible to see whether there is any benefit to the reinsured from the contract. One question that must always be asked - and it should be asked automatically when making assessments for solvency purposes - is what happens if the contract is not renewed or is cancelled early.

Appendix IV gives an analysis of a more than usually complex policy which we believe demonstrates the difficulties which may be faced in analysing a financial reinsurance contract.

In general, most of the spread loss and experience funded contracts will be found not to assist the reinsured, if all debts and assets are brought back onto the balance sheet. Although the advice may not be at all welcome, it is probably better for the reinsured to be aware that some of his catastrophe protections are illusory at the outset, rather than waiting until there is a claim and then being required to provide for the repayment to the reinsurer. It has to be said, however, that, if there turns out to be no catastrophe claim, the reinsured may well wish to have accepted profitable inwards business, while covered by notional retrocession!

Time and distance type policies may produce the results which the reinsured wishes if the accounting and reserving treatment permits. Essentially, not discounting reserves increases them by an implicit and undefined margin, which may have no relationship to the risks involved. Because the margin is so loosely connected with the risk, it is difficult to defend any one particular level as superior to another.

By way of example an insurer with reserves for future claim payments of £10m will have a margin of £2m if the discounted value is £8m, and this margin is available to meet the contingency that claims exceed the predicted £10m. Should the insurer have a quota share reinsurance all these amounts will be reduced pro rata, which would seem eminently reasonable. However, if the insurer has a reinsurance which pays the first £10m of claims, the net undiscounted reserve will be nil, containing no margin, even though the insurer bears exactly the same risk of claims exceeding £10m gross as before. This applies whether the reinsurance is a time and distance policy or whether it is a conventional reinsurance, effected before any underwriting had been done, at a time when it was expected that there was unlikely to be any claim on it.

While it has been our intention throughout the paper to avoid a discussion of the merits, or otherwise, of discounting reserves, there can be no doubt that there are wider issues. It is, perhaps, because these issues have not been adequately resolved that there can be such debate about the merits of time and distance policies.

The key issues seem to us to be:

- (a) Should technical reserves exceed the current best estimate of the present value of future claims by a margin? If so, should the margin take into account both the probability of actual claims exceeding the current estimates and the amount by which they might do so? If so, how would this be done and is it even possible? Who should bear the responsibility for calculating the margin? (Would the answers be the same for solvency reserves as for Lloyd's reinsurance to close?)
- (b) In the light of (a), does the present practice of not discounting for the time value of money achieve what is required? If not, is there any practical way of improving matters?
- (c) In answering (b) it should be realised that the margin from not discounting, as at present, has to provide for variations in the amount of gross claims less any applicable reinsurances, as well as reinsurance failures, but is, in effect, a function of current net reserves.

5.5 Other Commercial Considerations

As already mentioned in this paper, there is currently a shortage of capacity in parts of the excess of loss market, particularly for catastrophe cover. This is forcing insurers used to writing large gross lines but small net lines, to search for other types of "cover".

Is this a logical response? The capacity of an insurer or reinsurer to withstand a loss is a function of his liquid assets. The capacity of the worldwide insurance market to withstand losses is a function of the assets in the entire insurance industry. If an insurer cannot write small net lines, perhaps he should instead write gross lines somewhat larger than the previous net lines and charge a lot more. Otherwise it is possible that the benefits to reinsurance profitability and financial strength which should flow from the contraction of the excess of loss market could be delayed or reduced because of insurers choosing to write very large gross lines on the back of partly illusory reinsurance cover. The worst scenario would be a series of large losses which had to be paid back, thus threatening solvency.

Similar considerations could apply to financial reinsurance which has the effect of improving the reported solvency position in relation to past liabilities. Past experience indicates that only when the insurance industry is in balance sheet difficulties does a cycle really turn. The interests of shareholders generally is therefore not to inflate balance sheets, perhaps the reverse.

The interests of individual companies and individual managements may, of course, run counter to the analysis above.

One of the commercial results of the purchase of financial reinsurance is the reduction in cash held in the UK insurance industry, the cash being replaced by credits with various financial reinsurers. This could conceivably have solvency implications.

6

CONCLUSION

Is financial reinsurance a good thing or a bad thing - or is it a mixture? On the whole, whilst we might have sympathy with some of the commercial pressures, we are not comfortable with the idea that it should be possible to circumvent the spirit of the existing regulatory, accounting and fiscal framework through the judicious use of various reinsurance policies. Reinsurance is, however, an international business and it could frequently be argued that financial reinsurance makes the playing field more level.

If financial reinsurance is a vehicle to circumvent accepted accounting rules, there is a contradiction which must be addressed. We believe this issue is indeed being addressed by the accounting bodies.

A similar point applies to reserving, especially when related to solvency regulation. Whilst discounting is not forbidden by the DTI, they have signalled an interest in financial reinsurance. Furthermore, the forthcoming EC accounting directive is most likely to ban implicit discounting. If companies have to disclose the fact when they are discounting two conclusions follow: first, that they may be more reluctant to discount explicitly and second, that there is no need to use financial reinsurance as a means of discounting.

We are nervous of rules which need to categorise a contract into financial reinsurance or not, because of the grey areas involved. This leads us to ask questions, about real solvency margins in particular, which affect all insurance, not just financial reinsurance. If, in generally accepted practice, one of the purposes of not discounting is to provide a margin against all the risks and costs associated with past liabilities, then why should this margin be reduced when there is reinsurance? To the extent that reinsurances will pick up future deterioration in reserve estimates, the margin requirement should reduce, but a further argument is that a reinsurance, whether financial reinsurance or not, weakens the balance sheet if it is valued on an undiscounted basis.

An actuary advising any company which has bought, or is buying, reinsurance should, we feel, get acquainted with the characteristics of financial reinsurance. Each individual contract or proposed contract needs a detailed analysis before conclusions are drawn. This may be easy enough; it may be more difficult to ask the right questions to ensure that no existing contracts are missed.

We end with a number of questions:

- Are there professional dangers for actuaries in financial reinsurance, and if so, should we give thought to tackling them?
- Is education the answer? - for actuaries and others.
- Should we start a dialogue with the:
 - accountants?
 - regulators?
 - taxman?
- Is disclosure enough, or should financial reporting rules including solvency margins be rethought to accommodate financial reinsurance?
- Would too much "thou shalt not" stifle potentially valuable innovation?

7

ACKNOWLEDGEMENTS

The working party is grateful to all the people who have helped us. In particular, we wish to acknowledge the following:-

Insurance publishers DYP for David Garner's summary of the Financial Reinsurance market; Mr A C Russell of the DTI for his letter to UK insurance companies (Appendix I); Mr M Allen of Coopers and Lybrand Deloitte for providing the AICPA document (Appendix II); Ernst & Young for the Insurance Bulletin (Appendix III); Mr P Smith for his analysis of a particular reinsurance contract (Appendix IV).



APPENDIX I

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Trade and Industry

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Date 15 April 1991

Dear Finance Director

DTI RETURNS: DISCOUNTING OF CLAIMS AND RELATED PROVISIONS BY COMPANIES WRITING GENERAL INSURANCE BUSINESS

This letter offers guidance to all companies reporting outstanding general business liabilities in Returns submitted to the Secretary of State under the Insurance Companies Act 1982. It concerns the accounting practice which the Department considers appropriate where companies choose to discount such liabilities to take account of any difference between the estimated ultimate settlement cost of claims and the amount which it is considered necessary to set aside now to meet those costs. There is a danger that unless full disclosure of any discounting practice is made, a company's financial position, as reported in the DTI return, will be distorted and it will be difficult for the Department to exercise effective supervision without seeking substantial additional information.

The Department is considering whether any changes should be introduced in the format of the Returns to allow the effects of discounting to be shown more clearly. For the present, while discounting is permitted under the regulations made under the Act (the Accounts and Statements Regulations 1981), its application and disclosure must be consistent with the general principle that liabilities in the Returns must be calculated in accordance with accepted accounting practice.

The Statement of Recommended Practice (SORP), Accounting for Insurance Business, issued by the Association of British Insurers (ABI) and franked by the Accounting Standards Committee in May 1990 is intended to represent current best practice. Copies are available, from the ABI, 10/15 Queen Street, London EC4 1TT. Your attention is drawn in particular to the following paragraphs.



Recycled Paper

- 124 Implicit discounting (ie an accounting practice which places a present day value on an outstanding claims provision without disclosure of that fact) is not acceptable. Explicit discounting of provisions for outstanding claims is acceptable if a satisfactory estimate of the amount of the liability can be made and there is adequate past experience on which a reasonable model of the timing of the run-off of the liability can be constructed. It is for the insurance enterprise to decide whether or not it is appropriate to discount. Where claims provisions are discounted, the related reinsurance recoveries should also be discounted.
- 125 The rate used for discounting claims liabilities should not exceed a conservative estimate of the rate of investment income which the enterprise considers is most likely to be earned on its investment portfolio over the term during which the claims are to be settled.
- 126 The accounting policy adopted for any discounting of provisions for claims outstanding and direct claims handling expenses should be disclosed in the financial statements. In particular, disclosure should be made of:
- the classes of groupings of business involved;
 - the methods applied, including:
 - the range of discount rates used;
 - the mean term of the liabilities;
 - the treatment of the attributable investment income;
 - the effect of discounting on the profit or loss before taxation for the accounting period and on the net assets at the end of the accounting period.
- 127 If an enterprise alters its accounting policy for providing outstanding claims from a non-discounted basis to a discounted basis or from a discounted basis to a non-discounted basis, the change should be dealt with as a prior year adjustment in accordance with the requirements of SSAP6.
- 131 The accounting policy adopted in assessing the requirement for an unexpired risks provision, and whether investment income has been taken into account, should be disclosed together with the amount of the unexpired risks provision and changes in the amount of the provisions from one accounting period to the next.



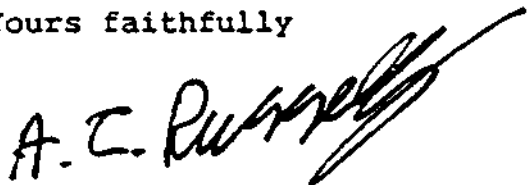
FINANCIAL REINSURANCE

The Department has noted the increasing use of "financial reinsurance" where the risk transfer element is small and where the purpose of the transaction is often to allow for the recognition of a greater surplus, or the reporting of a lower level of liabilities, than would otherwise be possible. In practice such transactions are frequently seen as an alternative to discounting. The Department will consider whether, in the light of the further development of such reinsurance arrangements, additional guidance would be desirable on how this type of transaction should be reported in the DTI returns. Meanwhile you should note that this subject is covered by paragraph 120 of the ABI SORP:

- 120 Reinsurance arrangements, where the amount of risk transferred is not significant, should be accounted for having regard to their economic substance. Sufficient disclosure should be made in the financial statements to enable the nature and the financial effect of the arrangements to be understood.

I should be grateful if you would ensure that this letter is seen by all those, including your company's auditors, who are involved in, or have responsibility for, the preparation and submission of your Returns to the Secretary of State.

Yours faithfully



A C RUSSELL
ROOM 723
HEAD, INSURANCE DIVISION

APPENDIX II

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6/20/91

(File Name:Trans6.20)

Proposed Statement of Position

*Guidance for Assessing Risk Transfer in
Property and Liability Reinsurance Contracts*

Prepared by
Reinsurance Auditing and Accounting Task Force
of the Insurance Companies Committee
Accounting Standards Division
American Institute of Certified Public Accountants

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I. Introduction

1. FASB Statement No. 60 *Accounting and Reporting by Insurance Enterprises* mentions several issues affecting insurance enterprises that were being and continue to be studied by the insurance industry and the accounting profession. One is the determination of the circumstances that constitute a transfer of economic risk under a reinsurance contract. This SOP discusses the nature of risk transfer in property and liability reinsurance contracts and accounting principles to be applied. This SOP does not discuss the assessment of credit risk, which is covered in the Audit & Accounting Guide, *Audits of Property and Liability Insurance Companies*.

II. Economic Risks in Reinsurance Contracts

2. Insurance enterprises are routinely involved in reinsurance transactions. Their major reasons for doing so are to accomplish the following:

- o Reduce their exposure on particular risks or classes of risks.
- o Protect themselves against accumulations of losses caused by catastrophes.
- o Reduce their premium volumes and total liabilities to levels appropriate to the amounts of their capital.
- o Obtain the ability to accept risks and policies involving

amounts larger than they could otherwise accept.

- o Help stabilize their operating results.
- o Obtain assistance with new products and lines of insurance.

Relevant Accounting Literature

3. FASB Statement No. 60 currently provides guidance to insurance enterprises on how to determine whether reinsurance contracts provide for indemnification against loss or liability and on how to account for such contracts.

4. Paragraph 40 of FASB Statement No. 60 states that

[t]o the extent that a reinsurance contract does not, despite its form, provide for indemnification of the ceding enterprise by the reinsurer against loss or liability, the premium paid less the premium to be retained by the reinsurer shall be accounted for as a deposit by the ceding enterprise. Those contracts may be structured in various ways, but if, regardless of form, their substance is that all or part of the premium paid by the ceding enterprise is a deposit, the amount paid shall be accounted for as such. A net credit resulting from the contract shall be reported as a liability by the ceding enterprise. A net charge resulting from the contract shall be reported as an asset by the reinsurer.

In applying this guidance, each insurance enterprise has to interpret the expression "indemnification...against loss or liability." That expression could be interpreted differently for similar reinsurance contracts. Some interpret the expression to include indemnification against losses resulting exclusively from

risks that are unique to insurance. Others interpret it to include indemnification against losses from such risks as well as other business risks not unique to insurance, such as investment yield risk, credit risk, or expense risk.

5. Some insurance enterprises account for certain reinsurance contracts that provide for contingent commissions or retrospective experience adjustments as deposits, in accordance with paragraph 40 of FASB Statement No. 60, based on the view that the underwriting result is predeterminable. Other enterprises, while conceding that the underwriting result may be predeterminable, point out that the contract contains timing risk, investment yield risk, credit risk, or expense risk. Accordingly, they account for such contracts as providing reinsurance.

6. FASB Statement No. 60 does not describe the circumstances that constitute transfer of risk in a reinsurance contract, but it implies that risk has not been transferred if "a reinsurance contract does not, despite its form, provide for indemnification of the ceding enterprise by the reinsurer against loss or liability." FASB Statement No. 60 thus requires that the substance of a reinsurance contract, not its legal form, should determine whether a ceding company has been indemnified against loss or liability. Such a determination is subject to the judgment of each person applying the guidance to interpreting a reinsurance contract.

7. To achieve consistent judgments as to whether reinsurance

contracts indemnify against loss or liability as contemplated by FASB Statement No. 60, the kinds of risks that are involved need to be understood.

Discussion of Risk

8. Insurance risk involves uncertainties as to the ultimate amount of any claim payments (*underwriting risk*) and the timing of those payments (*timing risk*). An insurance contract provides for the insurer to indemnify the insured against loss from such risks. Risk must be fortuitous, that is, the possibility of adverse events occurring must be outside the control of the insured.

9. A reinsurance contract is an agreement between the ceding company (*reinsured*) and the assuming company (*reinsurer*) whereby the assuming company, for consideration received, assumes all or a portion of the insurance risk. Such a contract provides that the assuming company will indemnify the ceding company against loss or liability from that risk. However, the legal rights of the insured are not affected by the reinsurance transactions and the insurance company issuing the insurance contract remains liable to the insured for payment of policy benefits.

10. In addition to insurance risk, reinsurance contracts involve other business risks including, but not limited to, *investment yield risk*, *credit risk*, and *expense risk*:

- o Investment yield risk pertains to uncertainties, other than the effect of timing risk, as to the ultimate amount

of investment income that will be earned on the net funds received under the reinsurance contract. Such risk includes not achieving expected returns or obtaining expected future values.

- o *Credit risk* relates to the exposure that the amounts due or to become due under the contracts may not be fully collectible. Such amounts include those currently due for reinsurance recoverable on paid losses as well as amounts that will become due for reinsurance recoverable on unpaid losses and amounts receivable under contingent commission or profit-sharing arrangements.
- o *Expense risk* relates to the exposure that acquisition and operating expenses may exceed amounts expected when the reinsurance premium was established.

Conclusion

11. To be accounted for as providing reinsurance, a contract should provide for indemnification of the ceding company's insurance risk by the assuming company. Contracts that do not provide for such indemnification should not be accounted for as providing reinsurance regardless of their legal form. Those contracts are referred to in this statement of position as financing arrangements. Reinsurance contracts do not generally provide for indemnification of the ceding company against loss or liability resulting from investment yield risk, credit risk, or expense risk. Investment yield risk, credit risk, and expense risk,

unless those are the risks being indemnified by the underlying primary insurance coverage, should not be considered in evaluating whether a contract indemnifies the ceding company against loss or liability from insurance risk.

12. Many contracts that have elements of financing arrangements provide for indemnification of insurance risk. However, if an analysis of the terms of an agreement indicates that the assuming company's exposure to insurance risk is remote, such an agreement should be accounted for as a financing arrangement. For example, a financing arrangement may contain provisions under which the assuming company assumes insurance risk only at unrealistic loss ratios or levels. Although such provisions may technically indemnify insurance risk, such risk is so remote as to be incidental to the overriding substance of the arrangement. Nevertheless, the infrequency of the loss, such as on certain catastrophe treaties, does not necessarily indicate that insurance risk is not present.

13. A contract should be accounted for as providing reinsurance if the ceding company's insurance risk (both underwriting and timing) has been transferred to the assuming company. A ceding company's insurance risk has been transferred when all of the following conditions have been satisfied:

- o The terms of the contract, for a fixed or reasonably determinable cost, provide for the reinsurer to assume a specified level or percentage of the ceding company's claims incurred or exposure to claim occurrences.

- o The terms of the contract, including any adjustable features, do not allow the ultimate underwriting margin or deficit under the contract to be determinable in advance. Therefore, after application of any adjustable features contained in the contract, there should still be a reasonable degree of potential variability in the ultimate underwriting results under the contract in relation to the total consideration paid. (For purposes of applying this condition to contracts that provide for adjustments based on actual or imputed investment earnings, such adjustments should be considered, as appropriate, in determining whether the underwriting margin or deficit under the contract is determinable in advance.)
- o The terms of the contract provide for the timely reimbursement of covered losses by the reinsurer. Provisions that delay reimbursement to the ceding company, such as predetermined payment schedules, do not provide for the timely reimbursement of covered losses.

14. Reinsurance contracts that do not transfer both components of insurance risk must be accounted for as deposits under the provisions of paragraph 40 of FASB Statement No. 60. Reinsurance contracts that transfer only timing risk have no bearing on whether the ceding company should discount liabilities for unpaid claims and claim expenses.

15. One ceding company may accomplish a specific reinsurance program through the use of excess layers involving more than one reinsurance contract. Another ceding company may accomplish this same objective through a single reinsurance contract. In assessing whether indemnification against loss or liability has occurred in a multi-layer program, it may be appropriate to evaluate the aggregate results of the applicable reinsurance contracts rather than the results of each individual contract.

16. Reinsurance contracts are often complex, so it may be difficult to evaluate whether a reinsurance contract indemnifies against insurance risk. Such an evaluation requires a thorough understanding of all the provisions of the contract and all related modifications. The presence of any of the following factors in a contract may indicate that the conditions specified in paragraph 13 have not been satisfied:

- o The agreement has cancellation or commutation provisions that would result in a loss to the ceding company.
- o The substance of the agreement is such that the present value of the consideration paid by the ceding company and the present value of the scheduled reimbursement under the agreement, at current interest rates, are substantially equivalent.
- o The agreement has retrospective adjustments, sliding scale commissions, contingent commissions, profit sharing, experience rated refunds, or other similar provisions.

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- o The agreement does not constitute the entire understanding between the ceding company and the assuming company.
- o The agreement provides financial guaranties to the assuming company, either directly, indirectly, or by side agreement.
- o The agreement contains predetermined payment schedules or other provisions that delay reimbursement to the ceding company.
- o The agreement has provisions that require or permit the payment, directly or indirectly, of additional consideration by the ceding company to the assuming company.
- o The agreement does not provide for the periodic transfer of cash.
- o The agreement has provisions for the subsequent assumption, either directly or indirectly, of business previously ceded.
- o The consideration to be paid by the ceding company is not reasonable in relation to the amount of insurance risk transferred under the agreement.
- o The financial viability of the assuming company is questionable.

III. Accounting for Reinsurance Contracts

17. A reinsurance contract can be prospective, retroactive, or both. Under a prospective reinsurance contract, the ceding company pays a premium to the assuming company in return for indemnification against loss or liability relating to events that occur following the effective date of the contract. Under a retroactive reinsurance contract, the ceding company pays a premium to the assuming company in return for indemnification against loss or liability relating to events that have already occurred. Insurance risk may be indemnified in both prospective and retroactive reinsurance contracts.

18. Ceding companies should account for prospective reinsurance contracts that provide for indemnification of insurance risk in accordance with paragraphs 38 and 39 of FASB Statement No. 60:

Amounts that are recoverable from reinsurers and that relate to paid claims and claim adjustment expenses shall be classified as assets, with an allowance for estimated uncollectible amounts. Estimated amounts recoverable from reinsurers that relate to the liabilities for unpaid claims and claim adjustment expenses shall be deducted from those liabilities. Ceded unearned premiums shall be netted with related unearned premiums. Receivables and payables from the same reinsurer, including amounts withheld, also shall be netted. Reinsurance premiums ceded and reinsurance recoverables on claims may be netted against related earned premiums and incurred claim costs in the income statement.

Proceeds from reinsurance transactions that represent recovery of acquisition costs shall reduce applicable unamortized acquisition

costs in such a manner that net acquisition costs are capitalized and charged to expense in proportion to net revenue recognized (paragraph 29). If the ceding enterprise has agreed to service all of the related insurance contracts without reasonable compensation, a liability shall be accrued for estimated excess future servicing costs under the reinsurance contract. The net cost to the assuming enterprise shall be accounted for as an acquisition cost.

Assuming companies should account for such contracts the way they account for contracts they write directly with insureds, in accordance with paragraphs 13 through 37 in FASB Statement No. 60.

19. Ceding companies should account for prospective reinsurance contracts that do not provide for indemnification of insurance risk in accordance with paragraph 40 of FASB Statement No. 60.

"(T)he premium paid less the premium to be retained by the reinsurer shall be accounted for as a deposit" by the ceding company. Assuming companies should account for such contracts similarly, recording the net premiums to be returned to the ceding enterprise as liabilities.

20. Ceding companies should account for retroactive reinsurance contracts that provide for indemnification of insurance risk by reducing their liabilities for unpaid claims for amounts indemnified by the contracts and recognizing a gain or loss equal to the difference between the amounts by which the liabilities are reduced and the amounts owed reinsurers under the contracts.

21. An assuming company should account for such a contract as follows:

- o Record at the inception of the contract:
 - The consideration received
 - A liability equal to the ultimate amount of the claims assumed
 - A deferred charge equal to the difference between the amount of the claims assumed and the consideration received from the ceding company. The deferred charge represents the costs incurred to earn future investment income under the contract.
- o Amortize the deferred charge using the interest method over the period the claims are expected to be paid.

The liability should be adjusted if estimates of the ultimate amount to be paid change. Increases to the liability should be charged to claims incurred; decreases should be credited to the deferred charge. The amount of the unamortized deferred charge should not exceed the investment income expected to be earned over the remaining amortization period.

22. A ceding company should account for a retroactive reinsurance contract that does not indemnify insurance risk as follows:

- o The consideration paid should be recorded as a deposit, and
- o The difference between the consideration paid and the amounts it expects to receive under the contract should be recognized as investment income over the period specified in the contract (or, if no period is specified, over the

expected repayment period) using the interest method (see APB Opinion No. 21, paragraph 15).

23. An assuming company should account for such a contract as follows:

- o The consideration received should be recorded together with a liability of the same amount, and
- o The difference between the consideration it received and the amount it expects to pay under the contract should be recognized over the period specified under the contract as a reduction of investment income (or, if no period is specified, over the expected payment period) using the interest method (see APB Opinion No. 21, paragraph 15).

IV. Disclosures

24. Disclosure of the effects on policyholders' statutory surplus for contracts that have been reported as financing arrangements under GAAP should be made. Disclosure of the nature and significance of these financing arrangements to the insurance enterprise's operations, including deposits paid and received during the year and amounts that are recoverable/payable from/to reinsurers, should be made.

V. Effective Date and Transition

25. This statement of position should be applied prospectively to contracts or arrangements covered by it and entered into in

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fiscal years beginning after December 15, 19XX. Retroactive application, by restating all prior years presented for contracts entered into on or before the effective date, is encouraged but not required.

APPENDIX II (continued)

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GUIDANCE FOR ASSESSING RISK TRANSFER IN PROPERTY AND LIABILITY REINSURANCE CONTRACTS

TREATY EXAMPLES

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The following examples of reinsurance treaties are provided to assist in applying the provisions of the exposure draft, *Guidance for Assessing Risk Transfer in Property and Liability Reinsurance Contracts*. The treaties are intentionally over simplified in order to more clearly illustrate the application of the principles of the draft.

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**LOSS PORTFOLIO TRANSFER -
NO LIMITATIONS**

Coverage: Unpaid incurred losses as of December 31, 199X.
Though the best estimate of unpaid incurred losses is \$10 million, the ultimate amount to be paid could be more or less than that amount.

**Reinsurance
Premium:** \$7 million

Settlement: Promptly on payment of covered losses

Analysis: There is uncertainty as to the amounts that will ultimately be paid under the contract as well as the timing of those payments.

Conclusion: All of the conditions in paragraph 13 have been met, so the contract should be accounted for as reinsurance. (Both underwriting and timing risk are transferred)

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LOSS PORTFOLIO TRANSFER - CESSION OF AMOUNT

Coverage: \$10 million of unpaid incurred losses as of December, 199X. If less than \$10 million of losses are ultimately to be paid, only the amount of losses paid will be recovered from the assuming company.

Though the reserves are stated at \$10 million, which represents the lower range of the estimated unpaid losses, it is probable that the ultimate amount to be paid will be that amount (\$10 million) or more.

**Reinsurance
Premium:** \$7 million

Settlement: Promptly on payment of covered losses

Analysis: The substance of the contract is that the full amount of the coverage will be paid because it is probable that ultimate losses will exceed \$10 million.

Conclusion: The underwriting margin or deficit under the contract is determinable in advance, so the second condition of paragraph 13 has not been met. The contract should not be accounted for as reinsurance. (Underwriting risk has not been transferred.)

If the facts change such that it is reasonably

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possible that ultimate amounts to be paid will be less than \$10 million, the second condition of paragraph 13 would be met and the contract should be accounted for as reinsurance. (Both underwriting and timing risk are transferred.)

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LOSS PORTFOLIO TRANSFER - CESSION OF A LAYER

Coverage: \$10 million excess of \$20 million of unpaid incurred losses as of December 31, 199X. The best estimate of total unpaid incurred losses is \$100 million.

**Reinsurance
Premium:** \$7 million

Settlement: Promptly on payment of covered losses

Analysis: The substance of the contract is that the full amount of the coverage will be paid because it is probable that ultimate losses will exceed \$30 million.

Conclusion: The underwriting margin or deficit under the contract is determinable in advance, so the second condition of paragraph 13 has not been met. The contract should not be accounted for as reinsurance. (Underwriting risk has not been transferred.)

If the facts change such that it is reasonably possible that the full coverage amount will not be paid, the second condition of paragraph 13 would be met and the contract should be accounted for as reinsurance. (Both underwriting and timing risk are transferred.)

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**LOSS PORTFOLIO TRANSFER -
RETROSPECTIVE PREMIUM ADJUSTMENT**

Coverage: Unpaid incurred losses as of December 31, 199X. It is probable that ultimate losses under the contract will range from \$10 to \$15 million.

**Reinsurance
Premium:** \$7 million

**Retrospective
Premium
adjustment:** Premiums will be increased dollar-for-dollar to the extent that actual losses exceed \$10 million such that the difference between the losses paid and the premium will always be \$3 million.

Settlement: Promptly on payment of covered losses

Analysis: The substance of the contract is that the full amount of the coverage, after considering the retrospective premium adjustment, will be paid because it is probable that ultimate losses will exceed \$10 million.

Conclusion: The underwriting margin or deficit under the contract is determinable in advance, so the second condition of paragraph 13 has not been met. The contract should not be accounted for as reinsurance. (Underwriting risk has not been transferred.)

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If the facts change such that estimated unpaid incurred losses range from \$8 to \$12 million, the underwriting margin or deficit is no longer determinable in advance. Therefore, the second condition of paragraph 13 would be met and the contract should be accounted for as reinsurance.

(Underwriting and timing risk are transferred.)

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**LOSS PORTFOLIO TRANSFER - NO LIMITATIONS ON
RETROSPECTIVE PREMIUM ADJUSTMENT**

Coverage: Unpaid incurred losses as of December 31, 199X.
Though the best estimate of unpaid incurred losses is \$10 million, the ultimate amount to be paid could be more or less than that amount.

**Reinsurance
Premium:** \$7 million

**Retrospective
Premium
adjustment:** Premiums will be increased or decreased dollar-for-dollar to the extent that actual losses differ from \$10 million, such that total losses paid adjusted for the retrospective premium adjustment will always be \$10 million.

Settlement: Promptly on payment of covered losses

Analysis: Because the retrospective premium adjustment eliminates variability as to the amount to be ultimately paid, the underwriting margin or deficit is determinable in advance.

Conclusion: The underwriting margin or deficit is determinable in advance, so the second condition of paragraph 13 has not been met. The contract should not be accounted for as reinsurance. (Underwriting risk has

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not been transferred.)

If the facts change such that the retrospective premium adjustment was substantially less than dollar-for-dollar, there would be a reasonable degree of potential variability in the ultimate underwriting result under the contract. Therefore, the second condition of paragraph 13 would be met and the contract should be accounted for as reinsurance. (Both underwriting and timing risk are transferred.)

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LOSS PORTFOLIO TRANSFER-
PREDETERMINED PAYMENT SCHEDULE

Coverage: Unpaid incurred losses as of December 31, 199X.
Though the best estimate of unpaid incurred losses is \$10 million, the ultimate amount to be paid could be more or less than that amount.

**Reinsurance
Premium:** \$7 million

Settlement: Settlements are according to the following:

<u>End of Year</u>	<u>Amount</u>
1	\$2 million
2	2 million
3	2 million
4	2 million
5	Note
6	Actual claim payments

Note: Actual claim payments through year 5
less \$8 million

It is probable that settlements per the above schedule will result in a delay in reimbursement to the ceding company for covered losses.

Analysis: The existence of the predetermined payment schedule significantly reduces the magnitude of timing risk which has been transferred.

Conclusion: Because the third condition of Paragraph 13 has not been met, the contract should not be accounted for as reinsurance. (Timing risk has not been trans-

ferred.)

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**PROSPECTIVE QUOTA SHARE REINSURANCE CONTRACT-
NO ADJUSTMENTS**

Coverage: 40 percent of losses applicable to a block of business

**Reinsurance
Premium:** 40 percent of premiums applicable to that block

**Reinsurance
Commission:** 25 percent of reinsurance premiums

Settlements: Premiums, losses, and commissions to be settled quarterly by cash transfers.

Analysis: Underwriting risk has been transferred because the underwriting margin or deficit on the contract cannot be determined in advance. Under this contract, timing risk is indemnified because settlements are made on a timely basis.

Conclusion: All of the conditions of paragraph 13 have been met, so the contract should be accounted for as reinsurance. (Both underwriting and timing risk are transferred.)

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**PROSPECTIVE QUOTA SHARE REINSURANCE CONTRACT-
WITH REASONABLE ADJUSTMENTS**

Coverage: 40 percent of losses applicable to a block of business

**Reinsurance
Premium:** 40 percent of premiums applicable to that block

**Reinsurance
Commission:** 25 percent of reinsurance premiums

**Retrospective
Commission**

Adjustment: The target loss ratio is 73 percent. The commission is adjusted upward or downward as the actual loss ratio deviates from the target ratio. For example, if the subject loss ratio is 65 percent, the commission is adjusted upward by 8 percent. If the subject loss ratio is 80 percent, the commission is adjusted downward by 7 percent. The maximum adjustment is plus or minus 10 percent. Loss ratios on this business have ranged from a low of 58 percent to a high of 92 percent over the last 5 years.

Settlements: Premiums, losses, and commissions to be settled quarterly by cash transfers. Contingent commission to be settled annually.

Analysis: It is reasonably possible that loss ratios on this business could be outside the adjustment range, so

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underwriting margin or deficit is not determinable in advance. Timing risk is indemnified because settlement is made on a timely basis.

Conclusion: All of the conditions of paragraph 13 have been met, so the contract should be accounted for as reinsurance. (Both underwriting and timing risk are transferred.)

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**PROSPECTIVE QUOTA SHARE REINSURANCE CONTRACT-
UNREASONABLE ADJUSTMENT**

Coverage: 40 percent of losses applicable to a block of business

**Reinsurance
Premium:** 40 percent of premiums applicable to that block

**Reinsurance
Commission:** 25 percent of reinsurance premiums

**Retrospective
Commission
adjustment:** The target loss ratio is 73 percent. The provisional commission of 25 percent (resulting in the sum of the target loss ratio and provisional commission equaling 98 percent) is adjusted upward or downward as the actual loss ratio deviates from the target loss ratio. For example, if the subject loss ratio is 80 percent, the commission is adjusted downward by 7 percent. If loss ratio is 60 percent, the commission is adjusted upward by 13 percent. There is no limit to the adjustment.

Settlements: Premiums, losses, and commissions to be settled quarterly by cash transfers. Contingent commission to be settled annually.

Analysis: The retrospective adjustment has the effect of

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guaranteeing a profit of two percent of premiums to the assuming company therefore, underwriting margin can be determinable in advance. Timing risk is indemnified because settlements are made on a timely basis.

Conclusion: The contract does not meet the second condition of paragraph 13, so the contract should not be accounted for as reinsurance. (Underwriting risk has not been transferred.)

If the facts were changed such that, in addition to the commission adjustment based upon deviations in the loss ratio, commissions also are adjusted based on investment income on funds held by the assuming company, then the underwriting margin under the contract will vary based on the timing of cash flows and the actual investment income earned. As suggested in the parenthetical phrase of the second condition of paragraph 13, the commission adjustment based on investment income should not be treated as additional consideration under the contract for purposes of determining whether the underwriting margin or deficit under the contract is determinable in advance. Therefore, the contract does not meet the second condition of paragraph 13, so the contract should not be accounted for as reinsurance.

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**EXCESS REINSURANCE CONTRACT - PER OCCURRENCE
NO LIMITATIONS**

Coverage: Losses of \$200,000 in excess of \$650,000 per occurrence. It is reasonably possible that losses within the layer could occur.

**Reinsurance
Premium:** 10% of subject premiums

Settlement: Promptly on payment of covered losses

Analysis: Ultimate claim payments are uncertain and settlement is made on a timely basis.

Conclusion: All of the conditions in paragraph 13 have been met, so the contract should be accounted for as reinsurance. (Both underwriting and timing risk are transferred.)

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EXCESS REINSURANCE CONTRACT - AGGREGATE EXCESS

COVERAGE: Aggregate losses of \$20 million in excess of \$65 million. Aggregate excess coverage. It is probable that estimated aggregate losses will significantly exceed \$85 million.

**Reinsurance
Premium:** 10 percent of subject premiums of \$100 million

Settlement: Promptly on payment of covered losses

Analysis: Past experience indicates that the ultimate losses will be greater than \$85 million. Therefore, it is probable that the coverage of \$20 million will ultimately be paid.

Conclusion: The underwriting margin or deficit can be determined in advance, therefore the second condition of paragraph 13 has not been met. The contract should not be accounted for as reinsurance. (Underwriting risk has not been transferred.)

If the facts change such that, in addition to the original contract, the ceding company also has negotiated a related aggregate excess reinsurance contract (\$40 million in excess of \$85 million), the aggregate excess contract should be accounted for as reinsurance because ultimate claim payments are

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uncertain. (The underwriting margin or deficit is not determinable in advance.) Further, the two insurance contracts should be evaluated in the aggregate because the ceding company is accomplishing a specific reinsurance program through the use of excess layers involving more than one reinsurance contract. (See paragraph 15.) After such evaluation, the original contract also should be accounted for as reinsurance because ultimate claim payments are uncertain under both contracts. (Both underwriting and timing risk are transferred.)

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CATASTROPHE REINSURANCE CONTRACTS
Multi-Line Funded Catastrophe and Excess Coverage
(No transfer of risk)

Coverage: Losses of \$5 million in excess of \$1 million per occurrence, limited each year to Exposure Fund balance at beginning of year (as defined below), plus \$10 million

Settlement: Promptly on payment of covered losses

**Exposure
Fund:**

At beginning of year:

Exposure Fund at end of previous year plus
current year premium.

Credits to the fund:

Interest on positive fund balance

Charges to the fund:

Claims paid for the year

Interest on deficit fund balance

Exposure Fund end of year:

Beginning year balance plus credits to the fund
less charges to the fund

**Annual
reinsurance
premium:**

\$10 million

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Expense and

Risk Charge: Annual charge equals the greater of:

- 2.5% of assuming company's annual total liability
- or
- 5.0% of premium due for the year

Termination: The term is continuous, but the contract may be terminated by either party with 60 days prior notice. At termination, agreement will be automatically commuted and the following will occur:

- o The assuming company will return the positive amount in Exposure Fund adjusted for unpaid claims to ceding company.
- o The ceding company will reimburse the assuming company for any negative amounts in the Exposure Fund adjusted for unpaid claims if the ceding company terminated the agreement.

Analysis: The following summarizes how the terms of the contract were applied to each condition for transferring insurance risk in paragraph 13 of the exposure draft:

- o Assuming company assumes specific level of claims
- o Deficit pay-back clause eliminates the variability in the underwriting margin or deficit. Thus, the assuming company is guaranteed of making a profit equal to the expense and risk charge.

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- o Though there is timely reimbursement for covered losses, the interest debit clause limits the assuming company's exposure to timing risk.

Conclusion: All of the conditions of paragraph 13 have not been met, so the contract should not be accounted for as reinsurance. The risk and expense charge should be recognized in income, currently.

If the facts change such that at termination the Exposure Fund balance is shared in proportions resulting in a reasonable degree of potential variability in the ultimate underwriting results under the contract, the second condition of paragraph 13 would be met. Also, if shared proportions result in a reasonable variability in the assuming company's exposure to timing risk, the third condition of paragraph 13 would be met. Accordingly, the contract should be accounted for as reinsurance. (Both underwriting and timing risk would be transferred.)

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Number 1

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AUGUST

1991

Insurance

briefing

FINANCIAL REINSURANCE

Steadily worsening claims experience on longtail liability business has resulted in the increasing use of financial reinsurance, not only in Lloyd's but also in the company market. In the recent crisis of available reinsurance and retrocessional cover, many Lloyd's syndicates have also sought to fill gaps in their traditional programmes by various forms of financial reinsurance many of which are frequently referred to as spread loss contracts. Lloyd's solvency regulations have been amended to recognise the existence of so called time and distance policies but there is no laid down framework in the UK addressing accounting and disclosure issues for financial reporting. Underwriters and accountants have had to resolve the issues arising out of financial reinsurances within the current framework.

For some people the issues regarding Financial Reinsurance are far too important to be left to accountants. However, it is important for there to be a clear understanding between the professional accountants and the underwriting community of the issues involved so that the commercial pressures from which financial reinsurance was born can in fact be mitigated without prejudice to reporting requirements.

In this article, we look at the position of the accounting profession and give our perceptions of the current and possible future attitudes of the regulators in both the UK and the USA.

Background

Financial reporting in the United States is far more prescriptive than in the UK. They have an Accounting Standards setting body known as the Financial Accounting Standard Board generally referred to as FASB and the Accounting Standards Committee of the AICPA (American Institute of Certified Public Accountants). FAS 60, entitled 'Accounting and Reporting by Insurance Enterprises' which addresses financial reinsurance was produced as long ago as June 1982. More recently the AICPA has set up a 'Reinsurance Auditing and Accounting Task Force of the Insurance Companies Sub-Committee'. This body has produced a draft proposed statement of position for property and liability reinsurance, the latest copy of which is dated May 2, 1991. The proposals are being circulated to the industry for comment with a view to adoption by the end of 1991.

In addition the National Association of Insurance Commissioners is expected to implement a new statutory (that is reporting for regulatory purposes) accounting rule for limited risk reinsurance contracts. It is believed that the NAIC will incorporate the substance of the AICPA proposals.

In Canada the professional accounting Institute would appear to be following the direction of the USA very closely and may well promulgate corresponding accounting standards.

In the UK we have generally been content to produce broader fundamental guidance to be applied by each industry as it sees fit. However, there has been something of a sea change in the last year or so. First, compliance with accounting standards has been brought within the Companies Acts by virtue of the 1989 Companies Act. Secondly, there has been an attitude change. Considerable concern has been expressed in the media, Parliament and elsewhere about financial engineering. The response has been to put forward a revised exposure draft, ED 49, entitled Reflecting the substance of Transactions in Assets or Liabilities. This proposal is likely to be adopted as a mandatory standard, probably by the end of this year. The extent to which it has immediate effect or retrospective effect is uncertain but the indications are that it may be immediate and therefore might well have impact on financial statements prepared at December 31, 1991. The general reaction to the latest exposure draft has been broadly supportive and we think it is likely to be adopted as a standard along its present lines. The proposals outlined argue from general principles but the application of these general principles to the insurance industry and to financial reinsurance in particular is likely to result in UK practice broadly following the US treatment which is presently outlined in FAS opinion No. 60.

FAS 60

To be accounted for as reinsurance, a contract should provide for indemnification of the cedant's insurance risk by the assuming underwriter.

Contracts that do not provide for such indemnification should not be accounted for as providing reinsurance regardless of their legal form. Those contracts are referred to in the draft statement of position of the AICPA as financing arrangements. The general principles are that a contract should be accounted for as providing reinsurance if the cedant's insurance risk, that is both underwriting and timing, has been transferred to the assuming company. Reinsurance contracts that do not transfer both components of insurance risk must be accounted for as deposits under the provisions of paragraph 40 of FAS 60. Reinsurance contracts do not generally provide for indemnification against loss or liability resulting from investment yield risk, credit risk or expenses risk: these are non-insurance risks.

In our experience, a number of reinsurance contracts, particularly those that have been promoted by the financial reinsurance market are often hallmarked by their complexity and obscurity, so it may be difficult to evaluate whether a contract in substance indemnifies against insurance risk. An evaluation therefore requires a thorough understanding of all the provisions of the contract and all related modifications.

Many contracts containing elements of financing arrangements provide for indemnification of insurance risk. However, if the substance of the terms of the agreement indicate that the primary purpose is financing because the assuming underwriter's exposure to insurance risk is remote, such an agreement should be accounted for as a financing arrangement. For example, a financing arrangement may contain provisions under which the assuming underwriter assumes insurance risk only at unrealistic loss ratios and levels. Although such provisions may technically indemnify insurance risk, such risk is so remote as to be identical to the overriding substance of the arrangement. Nevertheless, to be fair, the infrequency of the loss such as on certain catastrophe treaties, does not necessarily indicate that insurance risk is not present. This is clearly very important in respect of contracts for very high level catastrophe protection.

FAS conditions for transfer of insurance risk

- The terms of the contract provide for the reinsurer to assume a specified level or percentage of the cedant's claims incurred or exposure to claims occurrences for a fixed or reasonably determinable cost.
- The terms of the contract including any adjustable features do not allow the underwriting margin or deficit under the contract to be determinable in advance. Therefore, after application of any adjustable features contained in the contract, there would still be a reasonable degree of potential variability of the ultimate underwriting results under the contract in relation to the total consideration paid.
- The terms of the contract provide for the timely reimbursement of covered losses by the reinsurer. Provisions that delay reimbursement to the cedant such as predetermined payment schedules do not provide for the timely reimbursement of covered losses.

AICPA Proposals

The proposals from the AICPA identify certain hallmarks of financing arrangements.

- The agreement has a cancellation or commutation provision that would result in a loss to the cedant.
- The agreement has provisions that specify the amounts to be reimbursed at fixed or determinable future dates.
- The substance to the agreement is such that the present value of the consideration paid by the cedant and the present value of the scheduled reimbursement under the agreement at current interest rates are substantially equivalent.
- The agreement has retrospective adjustments, sliding scale commissions, contingent commissions, profit sharing experience rated refunds or other similar provisions.
- The agreement does not constitute the entire understanding between the cedant and the assuming underwriter.

- The agreement does not provide for the transfer of cash.
- The agreement has provisions for subsequent assumption either directly or indirectly of business previously ceded.
- The consideration to be paid by the cedant companies is not reasonable in relation to the amount of insurance risk transferred under the agreement.

UK SORP

In the United Kingdom the most directly relevant piece of guidance is to be found in the Statement of Recommended Practice (SORP), *Accounting for Insurance Business*, issued by the Association of British Insurers (ABI) and franked by the Accounting Standards Committee in May 1990.

The SORP is intended to represent current best practice but adoption of its recommendations is not mandatory. Paragraph 120 of the SORP is as follows:

Reinsurance arrangements, where the amount of risk transferred is not significant should be accounted for having regard to their economic substance. Sufficient disclosure should be made in the financial statements to enable the nature and the financial effect of the arrangements to be understood.

The SORP does not however elaborate on the definition of risk transfer unlike the AICPA proposed draft. However, as mentioned earlier, guidance may well be taken from the attitudes and positions adopted in the USA.

ED 49

The next piece of guidance in the UK can be extracted from ED 49 put forward by the Accounting Standards Committee of the Consultative Committee of the Accountancy Bodies (CCAB) to which we have already referred.

There is the likelihood of this ED becoming a standard later this year and it may well have the effect of promoting closer scrutiny of the treatment of reinsurance transactions although the provenance of the ED is much more directed towards the accounting practices of property companies and banking institutions. However, with the current public scrutiny of accounting treatments being adopted it is essential that we consider those principles. The genesis of the whole proposal is to discourage accounting treatment which obfuscates the true nature of transactions. The proposed standard takes a general approach requiring analysis of the substance of transactions by reference to the essential characteristics of assets and liabilities. Unusually, it also proposes to set up a mechanism whereby specific 'application notes' can be developed in respect of specific situations. It is therefore feasible for the relevant parts of the SORP to become part of the standard by virtue of an application note. There is presently no indication that an application note for reinsurance transactions is planned but it may be possible that the DTI will prompt the Accounting Standards Board (ASB) to take action.

SSAP 2

SSAP 2 deals with four fundamental accounting concepts, two of which are the accruals concept and the prudence concept. The accruals concept requires a matching of revenue and costs as far as their relationship can be established... 'and dealt with in the profit and loss account of the period to which they relate'. The prudence concept requires that ... "provision is made for all known liabilities whether the amount is known with certainty or is a best estimate".

For many accountants the financial reinsurance products which have been promoted recently appear to transgress one or both of these fundamental accounting concepts. The belief is that contracts which give the opportunity to roll losses forward are bad accounting and are likely to be misunderstood.

Lloyd's position

Following increasing incidence of spread loss contracts, Lloyd's initial position was set down in two market bulletins issued in the Autumn of last year. Whilst no legal position was published there were extensive internal consultations which led to the position of Lloyd's itself believing that to enter into spread loss contracts would require prior consent of all the Names on the syndicate.

In addition it was re-emphasised that an underwriter cannot bind Names on future years of account for stamps which do not exist, and that there must be a genuine and material transfer of risk. Lloyd's has not however been prepared to define what constitutes material transfer of risk.

Moreover there is considerable concern being expressed by Lloyd's and the accountants charged with expressing a true and fair view on the syndicate accounts as to whether equity between Names is being maintained. Some accountants hold the view that a spread loss contract existing for only three or four years, whereby a surplus or deficit arising from a year's transaction can be reflected in a syndicate account, is acceptable subject to proper disclosure. However not all accountants share this liberal interpretation.

A letter sent by Lloyd's to several Lloyd's brokers on 29 April this year referred to all the issues just mentioned and stated that it is not proposed to give any further guidance. It does however conclude that "For all these reasons it would appear very unlikely that 'spread loss' contracts would be acceptable to managing agents.

DTI

The DTI sent a letter to all UK insurance companies on 15 April. This letter dealt with two issues. First, the Department do not believe that the relevant information provided in the DTI return is sufficient to assist them to estimate the impact of implicit discounting arising from time and distance contracts. The DTI considers that the financial statements should be more explicit and that a degree of prudence should be shown in the approach adopted. The letter specifically refers to the recommendations in paragraphs 121-131 of the ABI SORP. The DTI is concerned about the potential impact of developments in financial reinsurance and not only repeated paragraph 120 which is previously mentioned but may set up an internal working party to review the subject.

Inland Revenue

Whilst not strictly a regulator the Inland Revenue will clearly be interested in any method which accelerates profit recognition or defers losses. However, perhaps more seriously there is no obligation to treat surpluses and deficits symmetrically. If there is a contract that has an accumulated fund there has to be a high risk the fund will be taxed but there is no tax certainty that relief would be given if there is a deficit.

The Future

There appears to be a very real likelihood that the option to treat transactions relating to time and distance and spread loss contracts as reinsurance contracts in financial statements may not be available to UK insurers for much longer. The underwriting community should be prepared for the presentational and commercial difficulties that the outlawing of such accounting treatment could cause. They may wish to investigate the avenue of explicit discounting as an alternative method of presenting the cost of longer tail liability business. Although the continuing availability of this option is not assured – the outcome of the European Community debate on the permissibility of discounting will be eagerly awaited.

If you would like to discuss any of the issues raised in this article, please contact your client partner or the author, Paul Mc Namara. (071-931 3524)

DISCOUNTING RESERVES: THE TAXATION ISSUES

Discounting, of reserves, an option currently available to the company market but not to Lloyds syndicates, achieves results similar to time and distance policies as they are presently accounted. Whilst, subject to the principles of prudence and adequate disclosure, discounting is accepted by the DTI, the accounting profession and the draft European Community directive on Insurance Company accounts it is not of course mandatory. One concern facing the industry now is the stance being taken by the Inland Revenue – that of seeking to discount reserves for tax purposes irrespective of the accounting treatment.

A company resident in the United Kingdom writing general insurance business is subject to the normal rules covering corporate taxation. The main source of law relates to the measurement of profits under Schedule D Case I. The fundamental approach is to base the tax computation on the financial statements prepared according to accepted principles and standards.

Discounting appears to be treated as an acceptable adjustment in establishing the adequacy of the reserves of a general insurer. If discounting is adopted in the financial statements then, as the computation is based on them, there seems little option but to discount for tax purposes. However, there is an additional area of concern; the Inland Revenue have sought to discount the reserves for tax purposes irrespective of the accounting treatment arguing that when a delay in settlement is anticipated the reserve should be less than the actual final cost because income will accrue on the funds held to meet the claim. In the case of general insurance this implies making a deduction from the anticipated ultimate cost on the settlement of a claim. The balance of any accounting provision would then be disallowed as a general provision (and accordingly subject to tax) and may become a permanent timing difference for accounting purposes. With no statutory enforcement on discounting differences of opinion can arise as to the interpretation of past tax cases and the bearing they have on assessing the profits of general insurers under Schedule D Case I.

The Inland Revenue first raised the subject of discounting of technical reserves in the early 1980s. This was prompted in part by high rates of inflation and high interest rates in the late 1970s and the consequent growth in claims provisions. Also there has been a general movement in recent years towards a wider tax base with lower rates. In June 1986 the Revenue delivered a paper covering discounting to

which the ABI responded in October 1986. There were no further developments until December 1987 when the Inland Revenue put forward proposals, in what appeared to be a deliberate act by the Revenue to try and co-operate with the industry covering the phased introduction of discounting (i.e discounting will only apply to claims reserves in respect of business written in the year of change and subsequent years).

The ABI could not recommend such an approach to the members because it did not believe that discounting was required by law and indicated its position to the Revenue in March 1988. At the same time, the ABI also agreed to consider any alternative proposals which the Revenue might care to make but it was clear that litigation would be the only way of establishing some broad principles. The problem was however that the Courts could only determine the total quantum of allowable reserves and it would be difficult to identify a case which addressed the specific issues of discounting.

The prospect of finding an agreeable formula now appears to be very slim and we have returned to the starting point of each company having to negotiate with the relevant Inspector of Taxes to obtain a settlement. It seems doubtful that the Revenue will be able to impose discounting for tax purposes without specific legislation. Also if this approach is adopted then it will be necessary for them to concede on the "fresh start" argument. This argument is based on the fact that, for tax purposes, companies would be allowed to rewrite their opening provision onto a discounted basis. This provides an element of double relief and was indeed advanced as a one-off incentive for the North American insurance industry to accept legislative amendments to impose discounting for tax in the US tax code.

The Revenue are opposed to legislative amendment but have however offered some guidance to the taxpayer. It appears that individual Inspectors are prepared to adopt the following method of practice:

- (a) Discounting is not applicable where more than 90% of the liability is settled within five years
- (b) Discounting of claims reserves may need to be preceded by a strengthening of those reserves
- (c) Discount rate is based on prospective rates of interest and will take account of expected future payment patterns
- (d) An opening adjustment will be necessary, as discussed above.

Confirmation has not yet been obtained from Somerset House on this general approach. However, in a large number of cases where the discounting issue has been raised the adoption of the above principles will probably terminate the need for continued negotiation.

If discounting for tax is imposed on general insurers operating in the United Kingdom then these companies will bear a greater tax burden. However there are additional factors which will probably have a bearing on any decision on the imposition of legislation.

(a) A greater level of taxation would not be helpful for encouraging the increase of insurance business in London and the building of London's position as an international insurance centre;

(b) The DTI is particularly concerned about companies' solvency and under a discounting regime there may be a possibility of companies being under reserved;

(c) Enforced discounting in London would be detrimental to the competitiveness of the London market as opposed to European markets which have arguably a more favourable regime.

If you would like to discuss this issue or others relating to insurance company taxation please contact David Arnold (071-931 3927) or your usual Ernst & Young adviser.

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APPENDIX IV

Non-Traditional (Funded) Reinsurance

Over the last four years a number of Companies and Syndicates have placed part of their main catastrophe protection in a non-traditional form.

Typically, contracts are continuous with a concept of building up a Fund, usually a percentage of premiums less the claims - variously called Reserve Fund, Expected Loss Payment Account etc.

Contract wordings specify how the Fund is calculated, when the contract is terminated, and how the Fund (which may be positive or negative) is dealt with on termination.

At one extreme, a contract may be for a fixed term of, say, three years, with a contractual liability for the reinsured to repay any Fund deficit at the end of the period. If there is a claim in the first year, such a contract probably only helps the reinsured's balance sheet if it fails to hold the repayment liability.

Because of the continuous nature of the contracts, the approach to accounting (i.e. valuation) ought to be similar to that used for life assurance, rather than that used for one year non-life business.

The following is a description of an actual contract - possibly untypical - with a scaling factor applied to all the monetary amounts.

1. Contract Details

The main features are :-

- * Continuous from 1/1/90, subject to 3 months' notice of cancellation (by either side) at anniversary.
- * Limit \$15m.
- * Annual Premium \$3m, payable quarterly in advance. One reinstatement at 100% as to time.
- * "Expected Loss Payment Account " (ELPA) of 90% of premiums paid (including reinstatements) less claims incurred.
- * Investment income is not credited to the ELPA.
- * On cancellation, the amount of the ELPA, if positive, is returned to the reinsured. There is no contractual liability to re-pay the reinsurer if the ELPA is negative.

Other contract details, market loss warranty, innuring reinsurances, dates on which claims are paid, etc, are not relevant for the current purpose.

2. Valuation Methodology

The basic method is to define a strategy about how the contract options will be operated - specifically in what circumstances it will be cancelled. Other contracts may have more complicated options than the above simple cancel/continue.

Assuming that in each year there will be either no loss, or one full loss (i.e. no partial or multiple losses), all possible loss scenarios are listed. The notation used is that "00010" means the contract is run for 5 years, with a single claim in the fourth year.

For simplicity, all claims are assumed to be paid in the year of the loss event.

For each loss scenario the year by year cash flows are calculated, and hence the total future cash flows from the start of each year to the date the contract is cancelled. A strategy cannot, therefore, assume that the contract continues for ever. All claims are assumed to be paid in the year of loss.

From an assumption about the probability of a claim in a single year, the probabilities of each loss scenario are calculated. Combining these probabilities with the future cash flows gives the value of the contract any any point in time.

The valuation is done from the point of view of the reinsured; all positive amounts are monies paid to the reinsured, negative ones those paid by him.

3. Strategy A - Cancel at end of first year

This is the simplest strategy.

If there is no loss the cash flow is \$(0.3)m (premium 3.0 and 2.7 return of ELPA), if there is a loss it is \$9.0m (premium 3.0, reinstatement 3.0 and claim 15.0).

If the probability of there being no claim in the year is p , that of a claim q , equal to $1 - p$, the value of the contract at the beginning of the year, before any premium is paid, is :-

$$p \times (0.3) + q \times 9$$

This gives a breakeven position if q is .03226. The contract therefore works exactly like a conventional reinsurance with a rate on line of 3.226%, which, in the market at 1/1/90, was a very good buy.

The contract is a very high layer; a 3.226% loss frequency is reasonable, and is used in the following paragraphs.

4. Strategy B - Cancel immediately after a loss

Assume that the contract is cancelled at the end of the first year in which a loss occurs, or after five years if there are no losses.

The six possible loss scenarios, and their total future cash flows (\$m) from the beginning of each year, are :-

Scenario	Future flows from start of year				
	1	2	3	4	5
1. "1"	9.0				
2. "01"	6.0	9.0			
3. "001"	3.0	6.0	9.0		
4. "0001"	0.0	3.0	6.0	9.0	
5. "00001"	(1.8)	1.2	4.2	7.2	10.2
6. "00000"	(1.5)	1.5	4.5	7.5	10.5

Scenario 5 is the most complex.

In each of the first four years the cash flow is (3.0).

In the fifth year, after the loss and reinstatement are paid, the ELPA is returned. Since there have been five premiums plus the reinstatement, the amount in the ELPA is 90% of 6 premiums of 3, less the claim of 15, or 1.2.

Total cash flow in the last year is (3.0)+(3.0)+15.0+1.2=10.2.

Since the cash flows in the five years are (3.0), (3.0), (3.0), (3.0) & 10.2, the total future flows from the beginnings of the five years are (1.8), 1.2, 4.2, 7.2 & 10.2.

Scenario 6 is similar, and scenarios 1 to 4 far simpler.

Assuming that the probability of a loss in a year is the 3.226% that gives a breakeven position in Strategy A, the probabilities of the six scenarios are calculated. Multiplying these by the total future cash flows in \$k (e.g. for year 2, scenario 6, 84.88% of 1500 is 1273) gives :-

Scenario	Prob	Expected value of future flows				
		1	2	3	4	5
1. "1"	.0323	291				
2. "01"	.0312	187	281			
3. "001"	.0302	91	181	272		
4. "0001"	.0292	0	88	175	263	
5. "00001"	.0283	(51)	34	119	204	289
6. "00000"	.8488	(1273)	1273	3820	6366	8912
Total	1.0000	(755)	1857	4386	6833	9201
Prob of year start	1.0000	.9677	.9365	.9603	.8771	
Asset/(Liability) Value	(755)	1919	4683	7539	10490	
Compare ELPA		0	2700	5400	8100	10800

The 1857 total at start of year 2 arises from scenarios 2 to 6 only; in scenario 1 the contract has already been cancelled. The probability of starting year 2 is the sum of the probabilities of scenarios 2 to 6, or .9677. The asset/(liability) value, given that the contract has not been cancelled, is therefore 1857/.9677, or \$1919k.

There are two points of note. On this strategy, the initial value of the contract is \$(755)k, compared with zero on strategy A. Secondly, if there is no loss in the first year, the contract represents an asset of only \$1,919k at the start of the second year, compared with the \$2,700k in the ELPA.

Changing the assumed annual probability of loss changes the asset/(liability) values; for 2%, 3.226% and 5% they are :-

Loss Prob	----- Value at start of year -----				
	1	2	3	4	5
2%	(1033)	1760	4613	7523	10494
3.226%	(755)	1919	4683	7539	10490
5%	(364)	2145	4782	7561	10485

5. Strategy C - Cancel one year after a loss

The rationale behind scenario B is that it is in the reinsured's interest to cancel as soon as the ELPA becomes negative after a loss. In practice the reinsured may not realise that the layer has been hit until several months after the loss event. Coupled with the three months' notice of cancellation, a more reasonable strategy is to assume cancellation at the end of the year following the year of loss.

Assuming cancellation at the end of five years anyway, there are now 10 loss scenarios : "10", "11", "010", "011", "0010", "0011", "00010", "00011", "00001" and "00000".

Valuation is more complicated than scenario B; for example, the values at the starts of year 2, 3, 4 and 5, given that the contract has been renewed, depend on whether or not there was a loss the previous year.

Assuming 3.226% loss probability, and no prior losses, the values, compared with the strategy B ones, are :-

	----- Value at start of year -----				
	1	2	3	4	5
Strategy C	(1044)	1709	4554	7492	10490
Strategy B	(755)	1919	4683	7539	10490

If there has been a loss in year 1, the contract will definitely be cancelled at the end of year 2. If there is also a loss in year 2, the 2nd year cash flow will be 9000k; if no loss (3000k).

The value is thus $.03226 \times 9000 + .96774 \times (3000) = \$ (2613)k$. The situation is very similar to the breakeven strategy A; in that case there was a .96774 chance of getting the 2700 ELPA returned in respect of the premium for the year. In the current case there is no return if year 2 is loss free; the difference is therefore $.96774 \times 2700 = 2613$.

The values at the start of years 3 and 4, if there has been a loss the previous year, are also $\$(2613)k$. The reserve at year 5, given a loss in year 4, is more complicated. A loss free year 5 produces a $\$1200k$ return of ELPA at the end of the year (as in scenario 5 in strategy A). The value at the start of the year is $\$(1452)k$.

The important point is that, after a loss in the first year, the reinsured has enjoyed a cash flow of $\$9000k$. Since the contract was not cancelled, a liability of $\$(2613)k$ must be held on the balance sheet. Even so, the contract has produced a real transfer of risk to the benefit of the reinsured.

6. Strategy D - Cancelling after 5 years

The contract is run for a full five years, irrespective of the loss experience. The total cash flows on the contract depend on the number of losses: 0, 1, 2, 3, 4 or 5.

No of losses	0	1	2	3	4	5
Probability	.8488	.1415	.0094	.0003	.0000	.0000
Cash flow \$k	(1500)	(1800)	9000	21000	33000	44000
Prob x c/fl	(1273)	(255)	85	6	0	0

Compared with zero on strategy A, the initial value of the contract is therefore $(1273) + (255) + 85 + 6 = \$(1437)k$.

7. Comparison of strategies

The initial values of the four strategies are :-

A	B	C	D
0	(755)	(1044)	(1437)

Strategy B involves running the contract longer than strategy A, C longer than B, and D longer than C. It therefore appears that the longer the contract is run, the lower its value.

However, in reality, as the ELPA increases the contract conditions will probably be changed, e.g. increasing the sum insured.

8. Changing Strategy

In strategy B - cancel immediately after a loss - the value at the end of a loss free year 1 is \$1919k, far less than the ELPA of \$2700k.

It is now decided to cancel at the end of year 2, whether or not there is a loss in the year. If there is no further loss, the \$5400k ELPA at the end of year 2 will be returned, making a \$2400k total cash flow for the year; if there is a loss the cash flow will be \$9000k.

The value at the start of the year is therefore $.03226 \times 9000 + .96774 \times 2400 = \$2613k$, which is not far short of opening ELPA.

Therefore the reinsured can improve his balance sheet by 2613 - 1919 = \$694k, simply by arguing that he has changed strategy.

In particular different values may be needed in different sets of accounts; the \$2613k is appropriate for break-up basis (DTI), the \$1919k for going concern (CA, Taxation etc).

9. Investment Income

The reinsurer keeps all investment income on the ELPA as it builds up, representing a large loss to the reinsured.

For the most probable 5 year scenario - "00000" - the undiscounted value is \$(1500)k, but discounting at 8%, and allowing for quarterly premiums, the value is \$(3141)k.

The difference, basically representing lost investment income, is far larger than most of the other effects.

If accounts are undiscounted, this is irrelevant. However it has a major bearing on the contract's true profitability.

10. Allocation of results to contract year

Allocation of contract profits/(losses) to individual contract years is complicated.

Even if no allocation is made until the contract terminates, there are problems. For example, scenario "01" produces a total profit of \$6m over the 2 years. At the end of the first year the value of the contract on strategy A was \$1919k. The following \$k splits of the \$6m are all reasonable

Year 1	Year 2
0	6000
1919	4081
(2700)	8700
(3000)	9000

If allocations are made before the contract terminates, and once made are never revised, the problems may reduce. In the above

example, the allocation of \$1919k to year 1 at the end of the year automatically forces the allocation of \$4081k to year 2.

11. Summary

- * Non-traditional reinsurance contracts contain options.
- * The value of a contract depends on the strategy for exercising the options..
- * For the contract considered, a strategy involving early cancellation has a higher value to the reinsured than one involving continuing renewal.
- * For the contract considered, the value of investment income lost by the reinsured is very high compared with other effects.
- * Once a contract has been valued, there are very different ways of allocating profits/losses to individual contract years.

Peter Smith
13th March 1991

EXAMPLE - SPREAD LOSS

Before spread loss policy.

- * Ultra short tail business - results fairly certain by end of each year.
- * Insurer's annual premium £10m.
- * Expected/target loss ratio 90% (£9m).
- * Ignore Insurer's non-claim expenses.

Features of spread loss policy.

- * Committed to renew years 2 and 3, option to renew thereafter.
- * Policy pays up to £Ym excess £8.5m on whole account results for one year.
- * Claims paid soon after end of each year, based on results estimated at end of each year, taking into account O/S, IBNR, UPR assessments, etc.
- * $Y = £1.5m$ in year 1, thereafter $\max(0.5m, 2.0m \text{ minus negative balance in experience fund})$.
- * Premiums year 2 onwards £0.5m plus $1/5$ (any negative balance in experience fund).
- * Experience fund = (92% of premiums minus 100% of claims) plus/minus interest (base - 1%/+ 2%)
- * Cancellation/non-renewal

	experience fund balance	
	positive	negative
Reinsurer's decision	100% returned to reinsured	95% paid by reinsured
Reinsured's decision	95% returned to reinsured	100% paid by reinsured

EXAMPLE - SPREAD LOSS (continued)

Purpose of spread loss policy

- * To stabilise the loss ratio around the 90% level

Cashflow projections - assumptions.

- * Interest - base rate 10%.
- * Insurer's premiums £10m each year.
- * Loss scenarios.

A	Year 1	losses 11m	claim £1.5m
	2	losses 9m	claim £0.5m
	3	losses 10m	claim to be calculated
B	Year 1	losses 8.5m	no claim
	2	losses 8.0m	no claim
	3	losses 8.5m	no claim

- * Policy not renewed at 36 months - reinsured wants out.

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EXAMPLE - SPREAD LOSS (continued)

Experience fund calculation (€m)

	Scenario A		Scenario B	
t = 0 (premium)	0.5 x .92	= 0.46	0.5 x .92	= 0.46
t = 1 (int,claim)	0.46 x 1.09 - 1.5 (renewal premium = 0.5 + 0.1997 = 0.6997)	= (0.9986)	0.46 x 1.09 (renewal premium = 0.5)	= 0.5014
t = 1+ (premium)	(.9986) + .6997 x .92	= (0.3549)	0.5014 + 0.5 x .92	= 0.9614
t = 2 (int,claim)	(.3549) x 1.12 - 05 (renewal premium = 0.5 + 1795 = 0.6795)	= (0.8975)	0.9614 x 1.09 (renewal premium = 0.5)	= 1.0479
t = 2+ (premium)	(.8975) + .6795 x .92	= (0.2724)	1.0479 + 0.5 x .92	= 1.5079
t = 3 (int.only to calculate claim payable min (1.5, 2-(.3051)) = 1.5)	(2.724) x 1.12 = (.3051)		N/A	
t = 3 (int,claim)	(0.2724) x 1.12 - 1.5	= (1.8051)	1.5079 x 1.09	= 1.6436
t = 3+ (non-renewal)	Pay to reinsurer	1.8051	Receive 95% from reinsurer	1.5614

EXAMPLE - SPREAD LOSS (continued)

Simple accounting - Insurer's results before and after spread loss policy.

	<u>Senario A</u>		<u>Senario B</u>	
First year	Before: After: Premiums: Claims: <u>11 - 1.5</u> Net loss nil	10 - 11 = net loss 1	Before: After: Premiums: Claims: <u>8.5 - 0</u> Net profit 1.0	10 - 8.5 = net profit 1.5
Second year	Before: After: Premiums: Claims: <u>9 - 0.5</u> net profit 0.8	10 - 9 = net profit 1	Before: After: Premiums: Claims: <u>8 - 0.0</u> Net Profit 1.5	10 - 8.0 = net profit 2.0
Third year	Before: After: Premiums: Claims: <u>10 - 1.5</u> Net profit 0.82	10 - 10 = net profit 0	Before: After: Premiums: Claims: <u>8.5 - 0</u> Net Profit 1.0	10 - 8.5 = net profit 1.5
Total years 1 - 3	Before: After: net profit 0 net profit 1.62		Before: After: net profit 5.0 net profit 3.5	
Cancellation at end year 3		surprise loss 1.8051		surprise profit 1.5614

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EXAMPLE - SPREAD LOSS (continued)

* Analysis - simplified assessment of the cost of spread loss policies.

- No option of non-renewal until after year 3, so must allow for commitments to third year.
- Value future commitments at 10% i e v = 1/1.1
- Ignore differences between valuation rate of interest and interest on experience fund.
- Assume no more claims on policy after valuation date
- Assume reinsured chooses to renew after third year.

* Senario B analysis

-	End of year 1	PV future outgo PV future return	0.5+ v x 0.5 =0.95 (0.5014 + .92 (0.5 +v x 0.5))	=0.9545 =1.3106 <u>0.3561</u>
			Net asset	
		Cost of asset	0.5 x 1.1	=0.5500
		Net cost of policy	0.55 - 0.3561	=0.1939
		Total profit of insurer	=1.5 - cost of policy in year 0.1939 = 1.306	
	End of year 2	PV future outgo PV future return	0.5 0.95 (1.0479 + .92 x 0.5)	=0.5 =1.4325 <u>0.9325</u>
			Net asset	
		Cost of asset	0.55 x 1.1 + 0.5 x 1.1	=1.1550
		Net cost of policy	1.1550 - 0.9325	=0.2225
		Net cost in year (assuming last year's cost not funded)	0.2225 - 0.1939	=0.0286

NB: net cost in year is more than 10% growth because of differences between 10% valuation basis and 9% credits given. This effect is exaggerated by the subtraction of two large numbers from each other.

End of year 3	PV of asset	1.5614
	Cost of asset	0.5 (1.1 ³ + 1.1 ² + 1.1)
	Net cost of policy	1.8205 - 1.5614
	Net cost in year	0.2591 - 0.2225
		=0.0366

EXAMPLE - SPREAD LOSS (continued)

* Scenario A analysis

-	End of year 1	PV future premium	0.6997 (1 + v)	=1.3356
		PV return from future premium	100% x 0.92 x 1.3358	=1.2289
		PV settlement end year 3 on current deficit		=0.9986
		Net current liability	1.3358 - 1.2289 + 0.9986	=1.1055
		Net proceeds to date	1.5 - 0.5 x 1.1	=0.9500
		Net cost of policy	1.1055 - 0.9500	=0.1555
-	End of year 2	PV future premium	0.6795	=0.6795
		PV return from future premium	100% x 0.92 x .6795	=0.6251
		PV settlement at end year on current deficit		=0.8975
		Net current liability	0.6795 - 0.6251 + 0.8975	=0.9519
		Net proceeds to date	1.5 x 1.1 - 0.5 x 1.1 ² - 0.6997 x 1.1 + 0.5	=0.7753
		Net cost of policy	0.9519 - 0.7753	=0.1766
		Net cost in year	0.1766 - 0.1555	=0.0211
-	End of year 3	PV of liability		=1.8051
-		Net proceeds to date	0.7753 x 1.1 + 1.5 - 0.6795 x 1.1	=1.6054
		Net cost of policy	1.8051 - 1.6054	=0.1997
		Net cost in year	0.1997 - 0.1766	=0.0353

EXAMPLE SPREAD LOSS (continued)

* Summary: Insurer's results compared.

- (a) before policy
- (b) after policy, simple accounting
- (c) after policy, all assets and liabilities allowed for.

<u>Scenario A</u>	(a) before policy £m profit	(b) after policy simple accounting £m profit	(c) after policy accounting for substance £m profit
First year	(1.0)	0.0	(1.1555)
Second year	1.0	0.8	0.9789
Third year	0.0	0.82	(0.0353)
Surprise after third year	N/A -----	(1.8051) -----	0.0 -----
Total	0.0 -----	(0.1851) -----	(0.2119) -----
<u>Scenario B</u>	£m profit	£m profit	£m profit
First year	1.5	1.0	1.3061
Second year	2.0	1.5	1.9714
Third year	1.5	1.0	1.4634
Surprise after third year	N/A -----	1.5614 -----	0.0 -----
Total	5.0 -----	5.0614 -----	4.7409 -----

- Note: 1) The totals of column (c) are not directly comparable with those of column (b) because (c) allows for interest when accounting for the substance of the policy.
- 2) As a consequence of 1), scenario (b), which involves considerable funds being lent to the reinsurer, shows the greater divergence between totals of columns (b) and (c).

EXAMPLE - TIME & DISTANCE (1 of 2)

[Undiscounted Reserves]

* Before T & D

-	Liabilities (OS, IBNR, etc)	100
-	Assets (cash)	100

* Buy T & D

-	Pay 10 now
-	Get 20 in seven years
-	Surrender value 9.5 now.

* Effect of T & D

-	Liabilities	$100 - 20 = 80$ net of T & D
-	Assets	$100 - 10 = 90$ cash remaining

Extra profit to distribute	10
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EXAMPLE - TIME & DISTANCE (2 of 2)

* Economic substance changes when

- asset worth 9.5 is acquired at price of 10

- Profit is paid out

* After distribution, real balance sheet is 10.5 weaker

* Therefore:

T & D is an expensive way to discount liabilities implicitly for time value of money

EXAMPLE SPREAD LOSS

[Refer to handout] ~~for example of calculations~~

- * Three year policy
- * Year one commits subsequent years
- * Scenario A - policy spreads losses forwards
- * Scenario B - the same policy rolls funds forwards
- * Accounting "properly" crystallises true costs at outset. Any subsequent adjustments are second order effects.
- * Importance of compound interest to analyse contracts