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EQUALISATION RESERVES

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LLANDRINDOD WELLS

Report of the Working Party on

EQUALIZATION RESERVES

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PART I - INTRODUCTION

I-1: The 1990 Credit Insurance Regulations

The Insurance Companies (Credit Insurance) Regulations 1990, SI 1990 No 1181, came into force in July 1990 and require UK insurers carrying on 'credit insurance' to maintain and publish equalization reserves. While continental insurers have held equalization reserves for some time, these regulations introduce the first such requirement in the UK. It was therefore appropriate for a GISG working party to revisit the subject of equalization reserves.

I-2: What are Equalization Reserves?

The collective balancing of risks cannot always be met in any one year, regardless of the fluctuations generated by market forces (ie the insurance cycle). Equalization reserves are amounts retained in years where experience is better than average to offset against those years where experience is worse than average. Such equalization reserves have two functions - to smooth published results and to protect solvency.

These broad objectives of equalization reserves need to be clarified by a closer scrutiny of the underlying insurance process. We will look at what criteria should be used in determining whether and when equalization reserves are necessary and the relationship of equalization reserves to other methods of corporate financial management.

I-3: Previous Studies

Equalization reserves have been discussed at previous GIRO conferences - Cambridge in 1980 and Cheltenham in 1985. The Cambridge paper (on Fluctuation Reserves) contains a general discussion and details of the then Finnish and German systems. The Cheltenham discussion was a workshop session, for which we have no documentation. A book, 'Solvency of Insurers and Equalization Reserves', written by two representatives of a Finnish working party, was published in 1982 and more work has since been done by the same group. A working party of the BIA (which has since become part of the ABI) reported on equalization reserves in 1980. The GISG working party on Europe, reporting to the 1990 convention in Newquay, identified Spain, Belgium, France, the Netherlands, Sweden, Germany, and Finland as countries in which reserves akin to equalization or fluctuation reserves, although often known under other names, were common and/or compulsory.

I-4: Interested Parties

A number of different interested parties have to be considered:

a) Tax authorities
b) Shareholders
c) Policyholders
d) Insurance regulators (eg DTI)
e) Competition authorities (eg OFT, European Commission)
f) Insurance trade associations (eg ABI)
g) Investment analysts.

While not all the above interest groups are represented within our working party, we have attempted to consider what their likely views might be. Any opinions expressed in this paper are, however, the personal views of the authors. They do not necessarily reflect the views

of the authors' employers or of others with whom the authors may be associated, including professional bodies.

I-5: Outline of Paper

This paper is largely a reintroduction to the subject which was last tackled by the General Insurance Study group eleven years ago. We do, however, raise questions here which are topical at the present time. However, we have found it impossible to answer all the questions here. Therefore there are many problems left for future working parties to grapple with. In addition, we have looked at current market practice, and in particular at the impact of the 1990 Credit Insurance Regulations, through a market survey which we carried out in July of this year. We also studied qualitatively some of the effects of different equalization reserve mechanisms by means of a simulation model. We hope that we have brought out the main issues and that the paper and the discussion at Llandrindod Wells will generate ideas of how actuaries who may become involved in setting up equalization reserves may solve the problems posed.

The remainder of the paper is split into three parts:

Part II general issues concerning equalization reserves;
Part III results of the market survey;
Part IV study of some statistical characteristics of various bases of computation.

PART II - GENERAL ISSUES

Objectives

II-1: Objectives of Equalization Reserves

We are not aware of any consultative document which preceded either the UK's 1990 Credit Insurance Regulations or the EC directive from which it stemmed. The objectives of the equalization reserves in the Finnish system, originally introduced as long ago as 1953, are however documented. They were intended to strengthen the Finnish market in order to attract and retain insurance business in preference to foreign insurers and reduce the extent of foreign reinsurance.

In the UK, the DTI's objectives are to promote the financial well-being and proper management of companies, while encouraging enterprise and competition in the insurance market, so that companies remain able to pay claims. To do this companies must receive, retain, and invest prudently, adequate income to cover the costs of the risks they are insuring. Recent results of the major composites have given rise to reductions in solvency margins.

A prudent management of an insurance business should aim for a level of provisions and net assets which have regard to the potential fluctuations of its results. Equalization reserves over and above technical provisions are one way of achieving this objective, and they force companies to recognize that future business could be unprofitable - including unexpired risks already written. The particular feature of equalization reserves is that they can be used to affect the declared results.

II-2: Definition of Results

There are sources of fluctuation other than claims which will determine the results from year to year, for example asset values and exchange rates - indeed at least one UK company explicitly smooths investment gains and losses in its published accounts. However, in this paper we consider only fluctuations affecting the technical revenue account. The 'results' to be smoothed can be based on underwriting profit or insurance profit (ie including investment income) and expenses can be included or excluded. Other items, for example bad debt provisions, could also figure in the calculations of results. The question also arises over what period of time should companies aim to equalize results.

II-3: Calculation of Transfers

What transfers are to be made between the equalization reserve and the profit and loss account and when? First we need to decide when claims are high enough to require a transfer from equalization reserves and when claims are low enough to require a transfer into equalization reserves. A number of options are possible.

One option is to agree that some level of fluctuation in results is normal and is to be accepted. However, very extreme fluctuations occur less often, and can damage the ability of a company to meet claims. Therefore, under this option, transfers from equalization reserves should be required only when the ability to cover claims by other traditional provisions is endangered, and the amounts of the transfers should be limited to what is enough to be able to meet claims. Conversely, under this option, transfers to the

equalization reserve should only be made when the current year's claims can be met and the equalization reserve is below its ideal level. The ideal level of the equalization reserve is that which is judged to be enough, but no more than that, to meet a potential level of shortfall in future years in respect of past business and anticipated future business.

Another option is to use the equalization reserves to try to make sure that as far as possible the reported loss ratio, after transfers to or from the equalization reserve is the same from year to year. Here, the target loss ratio must be identified. This will typically be a fairly long term average of past loss ratios (assuming the company has adequate data and experience). If the mix of business or the conditions under which the business is written (eg expense or commission ratios) have changed, such as may occur with a small fast growing company, the objective may be impossible; but in any case the target loss ratio for the future will not necessarily agree with the average from the past. In years when the loss ratio is above the target, transfers will be made from the equalization reserve to restore the target loss ratio. In years when the loss ratio is below the target, transfers will be made to the equalization reserve to restore the target loss ratio. Transfers to reduce the loss ratio will be subject to the availability of funds in the equalization reserve; transfers to the equalization reserve may be limited if the reserve would otherwise exceed a predetermined maximum amount.

Either system may give rise to exceptional items of profit and loss when the equalization reserve fund has become too large or too small. What constitutes 'too large' and 'too small' is a matter for consideration by the company or whoever else is setting the rules.

Once the equalization reserve fund is at a level considered to be adequate, it is unproductive to make further transfers into it. Conversely, while the equalization reserve is below such an adequate level, further transfers are desirable provided enough profits are available from the current year's results. Projecting possible results forward, over a complete cycle, should give an indication of what is an adequate level for the equalization reserve.

II-4: Constraints

Legal requirements must be met for publicly disclosed financial statements. But for internal financial statements, plans, and objectives the only constraint imposed by legal requirements is the extent to which the necessary public disclosures are required in the planning horizon. Where the legal requirements make little business sense, actuaries could lobby for sensible changes which will still meet the needs of the legislators.

Companies are free to set up equalization reserves by unlimited transfers from after tax profits. But since the status of equalization reserves is currently little different from free reserves, there is little incentive to do so. The taxation rules therefore play an important part in determining what companies disclose to external bodies.

II-5: Equalization Reserves in Lloyd's

There a difference between companies and Lloyd's in that companies are aiming to provide long-term earnings to shareholders while Lloyd's syndicates are essentially involved for only one year's insurance results. It is difficult to how see equalization reserves could be squared with the concept of equity between Names enshrined in the RITC system with each year of account being a separate legal entity. Nevertheless, the Lloyd's three year closing system,

together with the frequent use of 'time and distance' policies, probably means a degree of smoothing anyway. And the Lloyd's Special Reserve Fund acts as a type of Names' equalization reserve.

The increase in the number of open years of account has led many Names to question the way participation in Lloyd's has traditionally operated. The smoothing of results given by equalization reserves could reduce the number of open years of account. But which generation of Names would provide the equalization reserves? And which would benefit? We think it unlikely that Names involved in profitable years would be willing to subsidize Names on unprofitable years.

Since 1925 Lloyd's has not allowed syndicates to write financial guarantee business. But recently there have been moves to relax the ban. Our understanding is that Lloyd's is not specifically exempt from the requirements of the 1990 Credit Insurance Regulations, either on an individual syndicate basis or as a whole. Thus, if business is written in the future, our hypothetical questions will have to be addressed by Lloyd's.

Influencing Factors

II-6: The Underlying Business

Not all insurance business is equally volatile, owing to different characteristics of gross business written by different companies (both by type of business and by amount and timing). Also different reinsurance programmes affect the net volatility in different ways.

Past results may give the basis on which to assess the variability in the future results, provided the past is reflected in the future. Current year results determine the need for transfers from the equalization reserve (in bad years) or allow transfers to the equalization reserve (in good years). Potential fluctuations in future results give rise to the need for an equalization reserve on which to draw. However future results may stem from business written in the past as well as from future business.

II-7: Profitability

Higher premiums per unit of exposure give more profit potential, which therefore reduces the need for the equalization of results since adverse fluctuations have to be large in order to prevent a profit arising. Conversely, where profitability is marginal, the problem of smoothing is more acute. In this case the level of reinsurance, the margins in the provisions, and the net assets are under greater pressure.

II-8: The Insurance Cycle

If the insurance cycle were less pronounced, arguably the need for equalization reserves would be reduced. Curiously, equalization reserves seem to be more common in countries with strong premium tariffs. In these countries, the scope for competition is perhaps more focused on expense and service levels; it may indeed be part of the aim of the schemes in force in Finland and Germany to limit competition in this way. However, regulation of rates in some countries may have caused unprofitable rates to be kept longer than in a freer system. In the UK market, competition is intense, not only for the product itself but also in the use of capital, underwriting expertise, and risk carrying. Rightly or wrongly, this entrepreneurial spirit is unlikely to diminish.

II-9: Abnormal Fluctuations

Arguably, equalization reserves should not be available to absorb losses from inadequate premium rates. However, it is difficult to see how variation in insurance results due to the cycle of premium rate adequacy can be excluded entirely from the equalization process. If it were possible, equalization reserves should be concentrated on areas subject to a) long return periods (eg property catastrophe excess of loss), b) economic cycles where results all go wrong at the same time (eg credit risk), or c) all-or-nothing losses (eg hailstorm or aviation).

II-10: Classes of Business

Should equalization reserves be a general reserve applied to the company overall or a specific class-by-class reserve? If the latter, what classes should be covered? The variability of results may benefit from diversification in class of business. But there may be substantial correlations between classes which increases the variability (eg losses from Hurricane Hugo which permeates most classes in a London Market account from Property through to Liability and Marine).

The various classes of business written by a company will determine the variability of results and hence trigger the need for a greater or lesser degree of equalization. In particular there can be vast differences in variability between, for example, domestic property, catastrophe excess of loss, motor, or long-tail products liability business. For property catastrophe business equalization reserves are a mechanism for the company to identify capital specifically for the chance of a very large loss in one year. Similarly, for long tail business equalization reserves can be used against the risk of inadequate reserving, particularly for latent claims.

We believe that classes of business should be considered both separately and in combination, but that equalization reserves only make sense for a company as a whole (or each separate legal entity within a group). However, the company's management may wish to allocate the overall equalization reserve among its various internally defined profit centres in some way, just as it may wish to allocate other forms of capital.

Alternative Options

II-11: Alternatives to Equalization Reserves

Reinsurance, and in particular excess of loss, can give a form of equalization of results over a period of time, achieved by risk transfer and diversification rather than risk retention. Unless substantial equalization reserves are built up, there is unlikely to be a similar guarantee from these compared with the guarantees provided by reinsurance. On the other hand, retaining the liability in-house allows more flexibility in managing the corresponding asset, from the point of view of both investment yield and liquidity requirements. It is not necessary to maintain a formal equalization reserve even when the risk is retained, since margins in provisions and retained profits can act as informal equalization reserves.

II-12: Traditional Reinsurance

Non-proportional reinsurance smooths results over a period, through the concepts of continuity and payback and the burning cost approach to rating. The 'cost' of this equalization consists of the reinsurers' expenses and profit and brokerage. The main

disadvantages of reinsurance are that economic forces of supply and demand can limit the capacity and cover available. The market forces also determine a price, which varies at different stages in the insurance cycle and is unknown in advance, with little to do with the concept of smoothing. Reinsurance can also be subject to reinstatement premiums. The net results of cedents therefore lack the smoothness given by a formal equalization reserve.

II-13: Catastrophe Layers

For catastrophe level exposures, with a long 'return period', even reinsurers cannot balance risks in one year, despite the further capacity provided by the retrocessional/LMX market. Recent catastrophe losses call into question whether enough capacity has ever been available in this type of market. Arguably the use of equalization reserves would allow companies to retain more risk and therefore perhaps would provide greater total capacity.

II-14: Working Layers

Equalization reserves may be more of a substitute for reinsurance at working layers of cover. It would be interesting to see if, for example, the Finnish use of equalization reserves has reduced reinsurance at these levels. In the London Marine market many companies and syndicates are reinsured to low retention levels relative to the size of the risks undertaken. This must give rise to a degree of smoothing of results across that particular market but at the expense of it being difficult to ascertain where losses finally come to rest.

II-15: Financial Reinsurance

The lack of retrocession/reinsurance capacity during 1991 (and probably also for 1992) has led many insurers to consider 'financial reinsurance' contracts which are specifically designed to equalise premiums and claims over a specified period. We doubt whether this can be achieved for catastrophe covers where premiums are low and exposure is high, and we await the Financial Reinsurance Working Party's comments.

II-16: Stop Loss Reinsurance

Stop Loss reinsurance arrangements give the greatest smoothing, but are subject to the underwriting cycle as well as 'normal' claims fluctuations. Therefore reinsurers will be concerned about cedents' premium adequacy and claims/underwriting expertise.

Equalization reserves should generally cover fluctuation in the net results and operate at the level of fluctuation which would ideally suit solvency levels. In this sense equalization reserves are a form of long-term in-house stop loss arrangement in which capital is allocated to the function which would otherwise be carried out by reinsurance. Equalization reserves should therefore reduce the need for reinsurance and vice versa.

II-17: Equalization Reserves and Claims Provisions

Claims provisions can be set with varying degrees of security or 'margins for prudence' within a range of reasonable amounts. They can therefore provide some smoothing of results over the short term. In theory the future investment income on undiscounted reserves should provide some margin in this respect, provided the reserves themselves are adequate, although this margin could only be released by a one-off change to a discounted basis.

There is greater scope for smoothing in long tailed accounts where the relative size of the technical provisions is greatest. In a long-tailed Liability account results are highly uncertain

for many years, so some balancing across underwriting years must occur in order to avoid the excessive margins which could arise if each year is considered separately. Equalization on this type of account is more likely to be needed because of latent disease problems, where many years of underwriting can be hit from the same source (whether in terms of frequency, new heads of damages, or escalation in cost of claims), and where exposures have been written for a considerable period of time. There is therefore less scope for reducing prudence by aggregating underwriting years.

In short tailed accounts, smoothing of results may only be possible over a period of at most two or perhaps three years. The degree of smoothing depends on the margins held in the provisions and the extent to which they arise naturally from the 'normal' development of the run-off, eg savings from previous overestimation by loss adjusters and therefore available to offset abnormal fluctuations in results for the current year.

II-18: Margins for Prudence

The size of potential release from the margins depends on the growth of the portfolio. The particular adverse events which they may have to support may not have been considered in advance. Therefore it may be fortuitous if releases available from earlier years' provisions are adequate to support a particularly bad catastrophe year or the emergence of latent disease claims which were not previously identified. The margins in the provisions may depend on the point in the insurance cycle, as this often determines what is considered optimistic or pessimistic. This in itself tends to give some smoothing of results. Others may care to pursue whether there is evidence of this in the DTI returns.

II-19: Equalization Reserves and the Net Asset Margin

The required solvency margin and free reserves must ultimately absorb adverse fluctuations in the results of the company. However, a company cannot expose the full amount of these net assets in any one year, since it needs to demonstrate adequate security on a continuing basis in order to obtain business. It is not desirable to show large fluctuations in the size of free reserves from year to year. Adequate security means the ability to meet past liabilities and survive to write business at a future date with a similar level of security. This requires a higher level of solvency, to survive the 'shocks'.

The size of equalization reserves should also depend on the nature and quality of the assets. It is appropriate to ask what assets are suitable to match the equalization reserves. While we do not feel it is necessary to earmark assets for specific provisions, the need for an equalization reserve suggests that a corresponding proportion of the assets should be held in a fairly liquid form to meet the possibility of claims beyond the amount which can be handled through normal cash flow. If the intention of allocating capital to an equalization reserve is in order to smooth the earnings from the insurance operation, including investment earnings on the equalization reserves, then the assets representing this capital should be held in the less volatile types of investment. The asset security should also be considered, which is analogous to considering reinsurance security. Asset and reinsurance failure is part of the cost of the low points in the economic and insurance cycles.

Solvency and Taxation

II-20: Solvency

How do equalization reserves fit in with the statutory minimum solvency margin? Should they replace the minimum solvency margin, or should they be in addition, accepting the inadequacy of the statutory minimum, in order to ensure reserving is made prudently?

This raises the more general question of how should solvency in non-life insurance companies be presented in the light of changes in economic conditions? This could be contrasted with the life valuation situation where changes in interest rates have less effect on the disclosed solvency/surplus.

Since equalization reserves form a buffer between the technical funds and free reserves, they should provide additional solvency strength. However, this may just redefine part of the free reserves thereby incorporating a more formal mechanism for making transfers to the revenue account to support results in any one year. External perceptions may require an increase in the capital to run the company. If a company went into run-off, the status of the equalization reserves is unclear (depending on the particular purpose of those reserves). The level of equalization reserves to be maintained to support the run-off of the technical funds may be different from that in a continuing operation. Some element may be identified as being no longer required and therefore available for distribution to shareholders. Alternatively, the equalization reserve may need to be increased to cater for greater expected volatility.

The function of equalization reserve is not the same as that of the UK's statutory minimum solvency margin. The statutory minimum is simply a minimum buffer or safety margin to help companies to meet their claims obligations. It is static and is not intended to be drawn down: if it is depleted, the DTI will intervene. An equalization reserve, on the other hand, is a balance sheet item of stock intended to be used to limit fluctuations in the flow of profits and losses. It is dynamic and is intended to be drawn down if needed.

Many EC countries have what they call fluctuation reserves. These may well in fact be what in the UK we understand by the minimum solvency margin rather than equalization reserves in the sense above. Finland seems to operate only the equalization reserve type of reserve.

II-21: Retained Profits

Ultimately, profits must be retained against which adverse future trading results will be drawn. This will have an impact on dividend levels and tax. The UK tradition is to seek a smooth flow of dividends. And most companies would prefer not to manage their affairs so that results were highly volatile with a high tax charge one year followed by a recovery of tax the next. Ultimately the results of the company fall back to the shareholders. An equalization reserve may considerably ease presentation of results by avoiding large movements in the remaining free reserves or dividends payable. The difference between equalization reserves and free reserves is that equalization reserves give the message to shareholders that the money is not distributable.

II-22: Taxation

Tax authorities in the UK do not generally allow a reserve against future business losses. Transfers to an equalization reserve must therefore be made from after tax profits. Likewise,

transfers from an equalization reserves do not attract tax. However, tax law is continually developing. In 1912 the case of Sun Insurance Office v Clark finally established that an insurer is entitled to have allowed for tax purposes a provision in respect of notified claims which may have to be paid at some future date under contracts entered into in the accounting period. In that case it was held that the company was entitled to deduct what it would cost to perform its service (insurance). It was not until 1977, however, that the Inland Revenue allowed a deduction for claims incurred but not reported (IBNR).

Taking this a step further, there is a case for equalization reserves to be allowable for tax, given that risks cannot always be balanced in one year, contrary to the traditional definition of 'taxable' profits. In the insurance industry, writing profitable business is contingent to some extent on taking business at a loss in future - it is not possible to dip into and out of the market at will. Hence 'excess' profit in some years will be absorbed by excess losses in others, depending on the point at which a company entered the insurance cycle. Equalization reserves are a legitimate financial tool for conducting the business of insurance and are similar to reinsurance premiums, but with the risk carried internally. So why should companies suffer tax penalties by using equalization reserves instead of reinsurance?

When considering the level of technical reserves at a period end, the Inland Revenue wish to establish whether the reserves, taken as a whole, represent a fair estimation of the future payments that will be made to settle claims. Sufficient statistical information must be maintained by companies to demonstrate that the reserves are necessary and a consistent policy, taking one year with another, should be adopted. At present equalization reserves are not regarded as falling within the categories of reserve allowed for tax by law. It is possible, however, that relief may be introduced by legislation, perhaps as part of the move towards the single market. In recent years the Inland Revenue has sought to discount the technical reserves of insurance companies but have also accepted that where discounting is applied it may be necessary to strengthen the reserves. It is possible that tax inspectors may allow an equalization reserve as part of an agreement for strengthening the reserves subjected to discounting, although there is no logical connexion between equalization reserves and discounting.

If equalization reserves are to be allowed for tax, the Inland Revenue is likely to want to see a degree of formalization, or a statement of the specific objectives of the company, to limit the extent to which taxable profits could be manipulated by the management. The Revenue will also want to prevent abuse by avoiding the possibility of tax-sheltering profits by transfers to equalization reserves. Likely limitations are, first, a limit to the amount which can be transferred to reserves each year; second, a limit to the maximum amount of the cumulative equalization reserve fund at any point of time; and third, a limit to the scope for reducing taxable profits or creating or enlarging tax losses.

Accounting Principles

II-23: Accounting for Equalization Reserves

At present few companies show equalization reserves in their DTI returns or shareholder accounts. The more widespread use of equalization reserves will mean that a number of issues will have to be addressed. Equalization reserves mean more disclosure, certainly of transfers to and from equalization reserves. What measure of consistency should there be

in what is disclosed and how? Auditors will need to satisfy themselves that the disclosures are consistent with reporting a 'true and fair view' of the company's balance sheet position and of the year's trading? The Regulations will have a very major effect on companies whose main line of business is credit insurance, since they will have to reserve up to ten times the previous minimum solvency margin.

II-24: DTI Returns

There is a space in the returns (Form 15, box 27) for these reserves. This has now been split into two to show the equalization reserves for credit insurance separately, as required by the 1990 Regulations. The guidelines given in the latest Insurance Companies (Accounts and Statements) Regulations for the inclusion of an equalization reserve are as follows:

> 'claims equalisation' means the amount set aside by a company as at the end of this financial year for the purpose of being used to prevent exceptional fluctuations in he amounts charged to revenue in subsequent financial years in respect of claims arising due to the occurrence of events of an exceptional nature, that is to say, events not normally occurring every year.

Although equalization reserves other than for credit business are a 'voluntary' provision, the DTI returns treat them as any other claim provision. This treatment reduces the net assets on Form 10 available to cover the required solvency margin. It could therefore be misleading to compare the apparent financial strength, using the DTI returns, of companies with different ways of calculating and presenting equalization reserves.

II-25: Published Accounts

The ABI's SORP on accounting does not deal specifically with equalization reserves. Some auditors are reluctant to accept equalization reserves on the grounds that they do not give the required 'true and fair view' of the company, albeit that there are other exemptions given to insurance companies making the 'true and fair view' concept somewhat nebulous. We do not see this difficulty, provided proper disclosure is made of the underlying facts, ie equalization reserves and transfers should be shown explicitly and fully explained in notes to the accounts. Having equalization reserves is simply a recognition that profits can go down as well as up, and retaining net assets for potential future losses.

II-26: EC Draft Accounting Directive

The current proposal for a Council Directive on the Annual Accounts of Insurance Undertakings provide for the layout of insurance accounts to be as set out in Appendix C. These proposals mention equalization reserves in several places. The draft directive states that the amount shown under equalization provisions shall comprise any amounts set aside in compliance with 'legal or administrative requirements' to equalize fluctuations in loss ratios in the coming years or to provide for special risks. It also states that where, in the absence of any such legal or administrative requirements, 'reserves' (ie part of the capital and reserves) have been constituted for the same purpose, this shall be disclosed in the notes to the accounts.

The proposal was approved by the EC Council of Ministers in June 1991 and is to be discussed at the European Parliament in September 1991. After that it will be due for implementation not later than the 1997 business year.

II-27: UK Layout

A suggested UK layout for the 'Companies Act' accounts, based on current accounting practice, and assuming the company is in profit with no tax to be reclaimed, is as follows:

Profit and Loss Account

+	Underwriting Profit
+	Investment Income and Realized Gains
=	**Pre-Tax Profit**
-	Tax
=	**Net Profit**
+/-	Investment Reserve Transfers
+/-	Equalization Reserve Transfers
-	Dividend
=	**Transfer to Retained Profits**

Balance Sheet

+	Investments
+	Fixed Assets
+	Debtors
+	Other Assets
=	**Total Assets**
-	Insurance Funds
-	Creditors
-	Other Liabilities and Provisions
-	Equalization Reserve
=	**Net Assets**

Represented by:

+	Shareholders' Capital
+	Investment Reserve
+	Retained Profits
=	**Capital and Reserves**

Other countries have equalization reserves as standard. The German layout, for example, which would be reasonable for the UK only if the reserve was allowed against tax, is shown below:

Profit and Loss Account

+	Underwriting Profit
+/-	Equalization Reserves Transfers
+	Investment Income
=	**Pre-Tax Profit**

... etc

II-28: Management Accounts

It is hard to give a precise definition of management accounts. At one extreme they could include all internal documents relating to the finances of the company, including both regular reserves analyses and ad hoc investigations involving financial projections. At the other extreme they could be limited to the financial papers regularly presented to and discussed by the board of directors. One of the purposes of the management accounts is to establish how much of any profits should be retained, for what purpose, and how much can be paid as dividend. The amount of any necessary transfers to or from equalization reserves will be one factor in these decisions. Even if no formal policy on equalization reserves has been adopted, similar thought processes will be necessary for the above decisions.

The Wider Context

II-29: Consistency

Can we hope for the same approach for all companies? Should there be a laid-down method of calculation or should companies have more freedom? What is the role of actuaries? Should there be guidelines or standards from the Institute? Should equalization reserves be discounted - ie by taking into account an allowance for future expected investment income? Over what period to you equalize? (The Australian rules for equalization reserves in mortgage guarantee take a period of 10 years.) We think there is much work still needed in this area.

II-30: Rates of Return

The combined effect of the factors mentioned so far determines the return on capital and hence any equalization reserve will to some extent smooth this return (given a suitable definition of capital!). It needs to be considered whether the objective is to provide a level return, or a return which only reflects competitive forces on premium rates, or allows some degree of fluctuation. The determination of the equalization period is closely linked with the question of what and when is an appropriate return on capital. However, the question applied to earthquake cover with a return period of some 50 to 100 years would be somewhat academic.

II-31: Benefits and Drawbacks of Equalization Reserves

Will equalization reserves increase the required capital of insurers (which they may not be able to raise), reduce the return on equity, and result in higher priced insurance products? We think this is possible since at present insurers seem unable to charge adequate premiums. If equalization reserves became widely used and disclosed, they might have to.

Equalization reserves protect consumers by making it more likely that insurers will have adequate reserves and be around to pay claims. A recent study in the USA found that reserve inadequacy was the most common identifiable cause of insurer failure.

Equalization reserves may mean that insurers become more professional, both in terms of pricing and reserving adequacy and in terms of their approach to reinsurance. However, there is a danger that equalization reserves will be used as a cushion to avoid necessary rate increases - that is losses will be paid out of equalization reserves rather than corrective rating action being taken.

Any requirement for equalization reserves is likely to affect the decision on retention levels. At present reinsurance capacity is reducing anyway. But how will reinsurers react in the long term to a possible reduction in the size of their market?

The short-term and long-term effects of the introduction of compulsory equalization reserves on solvency, profits, and return on equity are likely to be minimal for well capitalized and prudently managed companies, since equalization reserves will simply mean a re-allocation of the net asset margin and little change in the policies on retained profits. The effects on less strong companies could be more far-reaching, and may mean the withdrawal of some players from the market.

Another source of funds for the equalization reserve is the stripping out of any prudence within the technical provisions on the basis that unexpected claims would now be met from the equalization reserve. This would make comparison between companies more difficult still. It could also lead to too optimistic or inadequate reserving by the weaker companies.

II-32: External Perceptions

Interestingly, the quoted insurance companies, the volatility of whose share price might seem to be reduced by the disclosures inherent in formal equalization reserves, seem to shun them. Most UK companies we found which currently have equalization reserves are mutuals.

Competition authorities (OFT and EC) and trade associations (ABI, LIRMA, and ILU) will be concerned to see a level playing field. Barriers to entry to the insurance market should not be overly restrictive, existing players should be treated even-handedly, and insurers in one territory should not be disadvantaged compared with those in another.

Investment analysts' and actuaries' appraisal valuations of insurance companies depend on how they treat, among other items, equalization reserves. It is important that comparative valuations are not distorted by whether or not equalization reserves are held, unless they affect the terms of trade or profitability. In addition to the usual items of adequacy of the claim and other technical reserves, a proper analysis must take into account the deferment of recognition of profits, either indicated by the current level of equalization reserves and the company's policy for their calculation, or inferred from past dividends or policy statements. It is then possible to simulate the future experience of the company to see how its financial results and the value emerging from the company are affected.

II-33: Conclusions - Does It All Matter?

We link many of the above considerations together. There is a possible cost in terms of effect on premium levels, additional return on capital, and size of solvency margin. Therefore, what and to whom is the overall benefit in the provision of equalization reserves? How smooth should results be? If variable results imply a greater risk, what is wrong with shareholders looking for a greater return?

If risks are properly assessed and financed, technical funds prudently set, and adverse experience met, does it really matter if losses are bigger in any one year given the prospect of better than average good years? Assuming all companies ultimately meet their liabilities, a competitive market needs new entrants and withdrawals and has to be efficient in its use

of capital in order to attract it from other sectors in the economy. Do equalization reserves help this course? Should this not be the overriding objective?

Equalization reserves can be considered to cover various underlying sources of fluctuation with a variety of alternative effects on overall results. However these should not lessen the need for proper management and assessment of risks undertaken. Therefore, where used, equalization reserves should be set up on a consistent basis and framework, at least for an individual company, which can be tracked over a number of years and seen to work.

PART III - MARKET SURVEY

We prepared a questionnaire on the use of equalization reserves and sent it to 52 UK companies, mostly those regularly represented at the General Insurance Conventions. (A specimen of the questionnaire is included in Appendix B). At the time of writing, 23 replies have been received, and the responses are summarised below.

III-1: Profile of Respondents

The following shows a breakdown of responses by type of organization:

○ Companies no longer transacting general insurance business	1
○ Proprietary companies	19
○ Companies governed by the Industrial & Provident Societies legislation	1
○ Lloyd's underwriting agencies	1
○ Other London Market underwriting agencies	1

Most organizations transacted more than one type of business. The numbers carrying out each type were as follows:

○ Direct personal insurance	17
○ Direct commercial insurance	16
○ Reinsurance	11
○ Lloyd's or other London Market business	10

A few companies who transacted reinsurance business indicated that their involvement was very small relative to their other business.

III-2: Use of Equalization Reserves

Four companies indicated that they used equalization reserves, both currently and in the past. These were in fact the companies who had chosen to establish equalization reserves for classes other than credit insurance. One other company had used equalization reserves in the past but did not use them currently. In addition, one company commented that it did not use equalization reserves in the UK, but did use them where this was a requirement overseas - notably in Germany and Denmark. However, in such cases the reserves only appeared in the subsidiary's domestic accounts; they were not included in the group's consolidated UK accounts.

Six organizations commented that they had not seriously considered the use of equalization reserves.

One response pointed out that the use of equalization reserves was not permitted within Lloyd's.

III-3: Perceived Benefits and Drawbacks

The perceived benefits of using equalization reserves were as follows:

- Smoothing fluctuations in reported profits (seven organizations)
- Smoothing year to year fluctuations in claims experience
- Providing a cushion against exceptionally high loss ratios
- Reserving against catastrophes
- Financing the losses in the bad years
- Means of retaining free reserves segregated by class of business
- Reduces calls for distribution of free reserves
- Prudent to hold specific additional reserves
- Alternative to, or complementing, reinsurance (eg where a company has a percentage retention on layer)
- No tax penalty if carrying unrelieved taxable losses.

The drawbacks mentioned were:

- No tax relief available in the UK (seven organizations)
- Could give distorted or misleading results in published accounts (two organizations)
- Difficulty of assessing appropriate amounts
- Additional work
- Reduced balance sheet flexibility
- Need to educate shareholders
- Need to withhold profit in good years

Those organizations which had considered and rejected the use of equalization reserves gave the following reasons for that decision:

- No tax relief available in the UK (four organizations)
- Distortion of published earnings for the year (unless limited to supervisory returns)
- Difficulty of calculating appropriate amounts
- Other reserving techniques provide the necessary flexibility/prudence
- No apparent benefit in subdividing the free reserves between equalization and solvency, since part of the function of solvency margins is to give protection against fluctuating results
- Drawbacks outweigh benefits
- No perceived need for specific equalization reserves
- Period needed to build up reserve to adequate size
- Inadequacy of amount of equalization reserves

III-4: Operation of Equalization Reserves

The responses of the five companies who have used equalization reserves in published results can be summarised as follows:

All of them showed equalization reserves in their published accounts and in statutory returns. Four indicated that they also used them for internal purposes.

One company held a global equalization reserve covering the whole of its general business account. The other companies all held equalization reserves for credit insurance business or property. In addition, one held a motor equalization reserve and another held a liability equalization reserve.

All but one of the companies were still using equalization reserves. In two cases the use of equalization reserves had been introduced within the last five years (one being a new company); in the other two cases the use of equalization reserves was long-established. The company which no longer uses equalization reserves last used them over ten years ago.

The numbers of companies which used equalization reserves for the various purposes suggested were as follows:

○ Effects of the underwriting cycle (premium inadequacy)	2
○ Random claims fluctuations	2
○ Exceptional claims:	
- Natural catastrophes (eg property)	4
- Latent claims (eg liability)	1
- Cyclical claims (eg financial loss)	3

In addition, the company holding a motor equalization reserve noted that this was available to meet costs arising from unexpected adverse trends in claim frequency and/or severity.

The four companies still using equalization reserves indicated that they used them to control declared profit levels (rather than dividend levels or solvency margins).

Three companies used the same equalization reserves in all types of accounts. One of the other two commented that the same amount of equalization reserve was included in all accounts, but it was not shown explicitly in the regulatory returns. The fourth company commented that the amounts were normally identical but for 1990 the presentation in the regulatory accounts differed from the others in that part of the equalization reserve had been presented as an additional provision for unexpired risks.

Three of the companies still using equalization reserves took an ad hoc approach to deciding on the level of the reserves. The fourth company used a more formal approach, with the amount of transfer depending on the difference between the actual claim cost and a target value. The target values were based on five-year averages.

Four of the companies said that their reserves had never been tax allowable. The fifth was carrying large tax losses and so was not currently liable to tax on profits.

The general view on the relation of the equalization reserve to solvency requirements was that whilst the claims equalization reserve reduced the declared solvency margin it did not affect the true financial strength of the company. It appeared that none of the companies was in danger of falling below the statutory minimum declared solvency margin.

III-5: Statutory Equalization Reserves for Credit Insurance

Seven companies considered themselves to be subject to the UK Insurance Companies (Credit Insurance) Regulations 1990 or similar legislation in another EC country. Of these, five were subject to UK legislation only, one was subject to other EC legislation only, and one was subject to both UK and other EC legislation. One further company wrote mortgage guarantee business but did not regard it as credit insurance. This company is not included in the analysis below.

The types of credit insurance written by the seven companies were as follows:

○ Mortgage guarantee business (still writing)	5
○ Mortgage guarantee business (recently stopped writing)	1
○ Other contract guarantees and bonds	2
○ Trade credit business	1

One company was exempt from the equalization reserve requirements by virtue of the small amount and proportion of premium income derived from credit insurance business.

One company relied on the exemption built into Methods 3 and 4, that 'no equalization reserve need be maintained if no underwriting loss has been noted during the reference period' (the reference period being at least 15 years).

The other companies used the following methods:

○ Method 1 only	2
○ Method 2 only	1
○ Methods 1 and 2	1
○ Method 3	1

Those companies using Methods 1 or 2 or both had equalization reserves of nil at 31 December 1990, because they did not show a technical surplus on such business in 1990. The company which used Method 3 had already employed an equalization reserve for credit insurance before the introduction of the regulations, and had built up a reserve of around three times the annual premium income.

In response to the question asking for the reasons for selecting particular methods and rejecting others, the following comments were made:

Methods 3 and 4 were generally rejected because of lack of the necessary historical data. Even long-established companies might not have the data readily available, and clearly companies who had been writing the business for only a few years could not provide fifteen years' data.

One company commented that they had recently changed their earned premium basis. As a result, the use of unadjusted historical claim ratios would have resulted in excessive transfers to equalization reserve. It would have been difficult, even if permissible, to calculate retrospective historical figures on the new basis.

Of the companies using Methods 1 or 2, one had only been writing credit insurance business for a short period, and the others were content to show an equalization reserve of nil as a result of the negative technical surplus for 1990. One company gave the following comment on the choice between Methods 1 and 2: 'In Method 1 the maximum amount depends on the highest amount of written premium over the last five years. This maximum amount will change more rapidly than in Method 2 which is based on the average of the written premiums in the last five years. Accordingly Method 2 was chosen'.

III-6: Difficulties with the Regulations

Four companies noted difficulties in interpreting the Regulations or calculating the reserves. The perceived difficulties were as follows:

Two companies noted that the length of the reference period for Methods 3 & 4 meant that either they could not be used, or that the data required was difficult to obtain. In addition, one company noted that no modification for new companies was indicated.

Two companies felt that the terms 'technical surplus' and 'underwriting loss' (which might be the same thing) were not adequately defined in the Regulations. In particular, it was not clear whether 'technical surplus' was intended to be after taking account of investment income.

In Method 1, 'net premiums' were assumed to be net of reinsurance rather than net of commission.

In Method 2 , 'minimum amount' appeared to mean 'the largest amount which would ever be required'.

In Method 3 (f) it was not clear whether transfers of 3.5% of the 'required amount' were required initially even if the experience was very bad.

In Method 4 it was not clear whether the 'minimum required amount' was to be set aside at the outset.

None of the companies envisaged that the need to maintain the statutory equalization reserve would increase their capital requirements in the short term, and only one saw a possible need for a small increase in the longer term.

III-7: Additional Comments

One company commented that although they did not make formal use of equalization reserves, they did use a process of smoothing claim costs over several years when making property rating decisions. This smoothing process was felt to be akin to the use of internal equalization reserves.

Another company commented that as from 1991 it had been obliged to retain 5% of its property catastrophe excess of loss reinsurance programme, whereas the retained percentage

had previously been nil. It was considering the establishment of an equalization reserve to cover possible losses arising from major weather incidents.

One respondent felt that, even though their tax treatment might make the distinction between the solvency margin and equalization reserves appear artificial, the discipline of assessing the volatility of results from whatever class was useful. The solution might lie in a changed investment policy, a new reinsurance strategy or a different mix of business rather than in the use of equalization reserves. Arguably, if an insurer needed an equalization reserve, it was failing to maintain the balance of risk which should offset the imbalanced risks insured.

Another respondent commented that it appeared highly desirable that companies subject to extreme fluctuations (especially reinsurance companies) should be encouraged to make provision for future catastrophes. This would necessitate the provision of a tax regime consistent with that applying in several European countries, hence simultaneously creating something nearer to a 'level playing field'.

PART IV - SIMULATION MODELS

We developed a simple non-stochastic computer spreadsheet model which simulates claims cyclical claim fluctuations, and used this model to look at the effects of different equalization reserve methodologies. The results of these analyses are not yet complete, but will be presented at the convention in Llandrindod Wells.

APPENDIX A - THE UK CREDIT INSURANCE REGULATIONS

The provisions of Insurance Companies (Credit Insurance) Regulations 1990 are reproduced in the following pages.

1990 No. 1181

INSURANCE

The Insurance Companies (Credit Insurance) Regulations 1990

Made - - - -	*4th June 1990*
Laid before Parliament	*6th June 1990*
Coming into force -	*1st July 1990*

The Secretary of State, being a Minister designated for the purposes of section 2(2) of the European Communities Act 1972(a) in relation to the authorisation of the carrying on of insurance business and the regulation of such business and its conduct(b), in exercise of the powers conferred by that section and by sections 17, 18, 20, 21, 32(1), (2) and (3), 33(1), 90(1), 96(1) and 97 of the Insurance Companies Act 1982(c), hereby makes the following Regulations:

Citation and commencement

1. These Regulations may be cited as the Insurance Companies (Credit Insurance) Regulations 1990 and shall come into force on 1st July 1990.

Interpretation

2.—(1) In these Regulations, except in so far as the context otherwise requires,–

"the 1982 Act" means the Insurance Companies Act 1982;

"credit insurance business" means all insurance business classified within general business class 14 of Part I of Schedule 2 to the 1982 Act that is not reinsurance;

"equalisation reserve" has the meaning given in regulation 3(1) below;

"the 1981 Regulations" means the Insurance Companies Regulations 1981(d);

"the 1983 Regulations" means the Insurance Companies (Accounts and Statements) Regulations 1983(e).

(2) For the purposes of these Regulations, except where the context otherwise requires, expressions used in these Regulations have the same meanings as in the 1982 Act and the 1981 and 1983 Regulations.

Equalisation reserve

3.—(1) Subject to regulation 4 below, every company which carries on credit insurance business shall maintain a reserve (in these Regulations referred to as an

(a) 1972 c.68.
(b) S.I. 1976/2141.
(c) 1982 c.50; sections 21 and 96(1) were amended by the Companies Consolidation (Consequential Provisions) Act 1985 (c.9), section 30 and Schedule 2.
(d) S.I. 1981/1654, amended by S.I. 1987/2130 and to which there are other amendments not relevant to these Regulations.
(e) S.I. 1983/1811, amended by S.I. 1987/2130 and 1988/672.

"equalisation reserve") determined (at the option of the company) in accordance with one of the four methods set out in Schedule 1 to these Regulations.

(2) In applying section 32(5) of the 1982 Act (margins of solvency), the value of the company's liabilities shall be treated as being increased by the amount of the equalisation reserve.

Exemption from equalisation reserve requirement

4.—(1) Regulation 3 above shall not apply to a company carrying on credit insurance business where the premiums or contributions receivable in any financial year in respect of its credit insurance business in the United Kingdom are less than 4 per cent of the total premiums or contributions receivable by it in the United Kingdom in that financial year and less than 2,500,000 units of account.

(2) For the purposes of paragraph (1) above "premiums or contributions receivable" means the premiums or contributions recorded in the company's books in respect of a financial year as due to it in respect of contracts relating to credit insurance business commencing in that year or commencing in earlier financial years but not accounted for in the company's revenue account prior to that financial year, whether or not received by the company during that financial year, after deducting discounts, refunds and rebates of premiums as recorded in respect of the same period and after deducting premiums for reinsurance ceded in respect of that period; and for the purpose of determining whether a premium is due no account shall be taken of any credit arrangements made in respect thereof.

Amendments to the 1981 Regulations

5. The 1981 Regulations shall be amended as follows–

(a) in regulation 2 after the definition of "cede" and "cession" there shall be inserted the following definition–

> ""credit insurance business" has the meaning given in the Insurance Companies (Credit Insurance) Regulations 1990;"

(b) in paragraph 1(b) of Schedule 2 for the words "and frost (as included in general business class 9)" there shall be substituted the words ", frost (as included in general business class 9) and credit (as included in general business class 14)";

(c) in paragraph 6 of Schedule 3 for the words "subject to paragraphs 7, 8 and 9 below" there shall be substituted the words "subject to paragraphs 6A and B, 7, 8 and 9 below";

(d) after paragraph 6 of Schedule 3 there shall be inserted the following paragraphs–

> "6A In the case where the risks covered fall within class 14 of Part I of Schedule 2 to the 1982 Act and where the annual amount of premiums or contributions of the company due in respect of that class for each of the preceding three financial years exceeded 2,500,000 units of account or 4 per cent of the total amount of premiums or contributions receivable by the company, for the amount of units of account given in the table in paragraph 6 above there shall be substituted the amount of 1,400,000 units of account."
>
> "6B Where a company carrying on credit insurance business is required to increase the amount of units of account pursuant to paragraph 6A above, the company shall have:–
>
> —a period of three years in which to bring the fund up to 1,000,000 units of account;
>
> —a period of five years to bring the fund up to 1,200,000 units of account;
>
> —a period of seven years to bring the fund up to 1,400,000 units of account;
>
> such periods to run from the date on which the criteria set out in paragraph 6A are fulfilled."

(e) in paragraph 8 of Schedule 3 for the words "6 and 7 above" there shall be substituted the words "6, 6A, 6B and 7 above".

Amendments to the 1983 Regulations

6. The 1983 Regulations shall be amended as follows–

(a) in paragraph (1) of regulation 3,

(i) after the definition of "contract of insurance" there shall be inserted the following definition–

""credit insurance business" has the meaning given in the Insurance Companies (Credit Insurance) Regulations 1990;";

(ii) after the definition of "direct and facultative" there shall be inserted the following definition–

""equalisation reserve" has the meaning given in the Insurance Companies (Credit Insurance) Regulations 1990;";

(iii) in paragraph (b) of the definition of "premiums receivable", for the words "in any other case, the premiums recorded" there shall be substituted the words "except as provided for in paragraph (c) below, in any other case the premiums recorded";

(iv) after paragraph (b) of the definition of "premiums receivable" there shall be inserted the following paragraph–

" (c) for the purposes of preparing Form 29A or 29B as required by regulation 22A, the premiums recorded in the company's books in respect of a financial year as due to it in respect of contracts relating to credit insurance business commencing in that year or commencing in earlier financial years but not accounted for in the company's revenue account prior to that financial year, whether or not received by the company during that financial year, after deducting discounts, refunds and rebates of premiums as recorded in respect of the same period and after deducting premiums for reinsurance ceded in respect of that period; and for the purpose of determining whether a premium is due no account shall be taken of any credit arrangements made in respect thereof;";

(b) after regulation 22 there shall be inserted the following:–

"*Additional information on direct credit insurance business accepted*

22A. Without prejudice to regulation 9 above, every company which carries on credit insurance business shall, in accordance with the requirements of Schedule 2 below, prepare Form 29A or, where it elects to account for any business on a three-year basis, 29B, in respect of each financial year commencing on or after 1 July 1990 and where a financial year commenced before and ends after 1 July 1990 in respect of that part of the financial year falling after that date.";

(c) in Schedule 1, for Form 15 there shall be substituted the Form 15 set out in Schedule 2 to these Regulations;

(d) in Schedule 2:–

(i) in the rubric after "22" there shall be inserted ",22A";

(ii) after Form 29 there shall be inserted Forms 29A and 29B as set out in Schedule 3 to these Regulations.

John Redwood
Parliamentary Under-Secretary of State,
Department of Trade and Industry

4th June 1990

SCHEDULE 1

Regulation 3(1)

Methods of calculating the equalisation reserve for credit insurance business

Method No 1

1. In respect of credit insurance business the company shall maintain an equalisation reserve to which shall be charged any technical deficit arising in that business for a financial year.

2. Such reserve shall in each financial year receive 75% of any technical surplus arising on credit insurance business, subject to a limit of 12% of the net premiums or contributions until the reserve has reached 150% of the highest annual amount of net premiums or contributions received during the previous five financial years.

Method No 2

1. In respect of credit insurance business the company shall set up an equalisation reserve to which shall be charged any technical deficit arising in that business for a financial year.

2. The minimum amount of the equalisation reserve shall be 134% of the average of the premiums or contributions received annually during the previous five financial years after subtraction of the cessions and addition of the reinsurance acceptances.

3. Such reserve shall in each of the successive financial years receive 75% of any technical surplus arising in that class until the reserve is at least equal to the minimum amount calculated in accordance with paragraph 2.

Method No 3

1. Subject to paragraph 2(g) below, an equalisation reserve shall be maintained for credit insurance business for the purpose of offsetting any above-average claims ratio for a financial year in that business.

2. The equalisation reserve shall be calculated on the basis of the method set out below.
   (a) All calculations shall relate to income and expenditure for the insurer's own account.
   (b) An amount in respect of any claims shortfall for each financial year shall be placed to the equalisation reserve until it has reached, or is restored to, the required amount.
   (c) There shall be deemed to be a claims shortfall if the claims ratio for a financial year is lower than the average claims ratio for the reference period. The amount in respect of the claims shortfall shall be arrived at by multiplying the difference between the two ratios by the earned premiums for the financial year.
   (d) The required amount shall be equal to six times the standard deviation of the claims ratios in the reference period from the average claims ratio, multiplied by the earned premiums for the financial year.
   (e) Where claims for any financial year are in excess, an amount in respect thereof shall be taken from the equalisation reserve. Claims shall be deemed to be in excess if the claims ratio for the financial year is higher than the average claims ratio. The amount in respect of the excess claims shall be arrived at by multiplying the difference between the two ratios by the earned premiums for the financial year.
   (f) Irrespective of claims experience, 3.5% of the required amount of the equalisation reserve shall be first placed to that reserve each financial year until its required amount has been reached or restored.
   (g) The length of the reference period shall be not less than 15 years and not more than 30 years. No equalisation reserve need be maintained if no underwriting loss has been noted during the reference period.
   (h) The required amount of the equalisation reserve and the amount to be taken from it may be reduced if the average claims ratio for the reference period in conjunction with the expenses ratio show that the premiums include a safety margin.

Method No 4

1. Subject to paragraph 2(g) below, an equalisation reserve shall be maintained for credit insurance business for the purpose of offsetting any above-average claims ratio for a financial year in that business.

2. The equalisation reserve shall be calculated on the basis of the method set out below.
   (a) All calculations shall relate to income and expenditure for the insurer's own account.

(b) An amount in respect of any claims shortfall for each financial year shall be placed to the equalisation reserve until it has reached the maximum required amount.

(c) There shall be deemed to be a claims shortfall if the claims ratio for a financial year is lower than the average claims ratio for the reference period. The amount in respect of the claims shortfall shall be arrived at by multiplying the difference between the two ratios by the earned premiums for the financial year.

(d) The maximum required amount shall be equal to six times the standard deviation of the claims ratio in the reference period from the average claims ratio, multiplied by the earned premiums for the financial year.

(e) Where claims for any financial year are in excess, an amount in respect thereof shall be taken from the equalisation reserve until it has reached the minimum required amount. Claims shall be deemed to be in excess if the claims ratio for the financial year is higher than the average claims ratio. The amount in respect of the excess claims shall be arrived at by multiplying the difference between the two ratios by the earned premiums for the financial year.

(f) The minimum required amount shall be equal to three times the standard deviation of the claims ratio in the reference period from the average claims ratio multiplied by the earned premiums for the financial year.

(g) The length of the reference period shall be not less than 15 years and not more than 30 years. No equalisation reserve need be maintained if no underwriting loss has been noted during the reference period.

(h) Both required amounts of the equalisation reserve and the amount to be placed to it or the amount to be taken from it may be reduced if the average claims ratio for the reference period in conjunction with the expenses ratio show that the premiums include a safety margin and that safety margin is more than one-and-a-half times the standard deviation of the claims ratio in the reference period. In such a case the amounts in question shall be multiplied by the quotient of one-and-a-half times the standard deviation and the safety margin.

SCHEDULE 2

Regulation 6(c)
Form 15

Returns under Insurance Companies Legislation

Liabilities (other than Long Term business)

Name of Company

Global Business/UK branch business/Community branch business

Financial year ended		Company registration number	Global UK/CM	Period ended day	month	year	Units	For official use
	F15					19	£000	

				As at the end of the financial year 1	As at the end of the previous year 2	Source Form	Line	Column
General business technical reserves	Unearned premiums		21			See Note below		
	Additional amount for unexpired risks		22					
	Claims outstanding (less amounts recoverable from reinsurers)	Reported claims	23					
		Claims incurred but not reported	24					
	Expenses for settling claims outstanding		25					
	Funds		26					
	Claims equalisation: other than credit business		27					
	Equalisation reserve: credit business		27(a)					
	Other		28					
	Total (21 to 28)		29					
Other insurance liabilities	Amounts due in respect of direct insurance and facultative reinsurance contracts accepted except amounts which must be included in line 29		31					
	Amounts due to ceding insurers and intermediaries under reinsurance treaties accepted except amounts which must be included in line 29		32					
	Amounts due to reinsurers and intermediaries under reinsurance contracts ceded		33					
Other liabilities	Loans secured		41					
	Loans unsecured		42					
	Subordinated loan stock		43					
	Taxation		44					
	Recommended dividend		45					
	Cumulative preference share dividend accrued		46					
	Other creditors		47					
Total (29 to 47)			59					
Amounts included in line 59 attributable to liabilities to related companies, other than those under contracts of insurance or reinsurance			61					

Note:
The sources are as follows:
Line 21 All forms 21.29.6 + 21.31.6 − (22.23.3 + 22.24.3 − 22.25.3)
Line 22 Summary form 20.23
Line 23 All forms 22.31.3 + 22.41.3
Line 24 All forms 22.32.3 + 22.42.3
Line 25 All forms 22.21.3 + 22.22.3
Line 26 All forms 24.42.5 + 27.46.3

SCHEDULE 3

Regulation 6(d)(ii)
Form 29A

Returns under Insurance Companies Legislation

Credit insurance: analysis of direct business

Name of Company

Global Business/UK branch business/Community branch business

Financial year ended

Items to be shown net of outwards reinsurance			The financial year	Previous year
			£000	£000
Underwriting income	Premiums receivable	1		
	Unearned premiums brought forward	2		
	Unearned premiums carried forward	3		
	Earned premiums (1+2−3)	4		
	Additional amount for unexpired risks brought forward	5		
	Total (4+5)	6		
Underwriting expenditure	Claims paid	7		
	Claims outstanding carried forward	8		
	Claims outstanding brought forward	9		
	Claims incurred (7+8−9)	10		
	Expenses incurred	11		
	Additional amount for unexpired risks carried forward	12		
	Total (10+11+12)	13		
Investment income receivable before deduction of tax [see *Instruction*]		14		
Balance of financial year (6+14−13)		15		
Transfer to (from) equalisation reserve		16		

Instruction for Completion of Form 29A

Completion of line 14 is optional. Where companies do not take account of investment income in determining their underwriting result, it should be left blank.

Regulation 6(d)(ii)
Form 29B

Returns under Insurance Companies Legislation

Credit insurance (three year accounting): analysis of direct business

Name of Company

Global Business/UK branch business/Community branch business

Financial year ended

Items to be shown net of outwards reinsurance		Insurance business incepted in:				
		All years prior to the second year preceding the financial year	Second year preceding the financial year	First year preceding the financial year	The financial year	Total (1+2+3+4)
		1 £000	2 £000	3 £000	4 £000	5 £000
Premiums receivable	1					
Claims paid	2					
Expenses incurred	3					
Funds: —brought forward	4				xxxxxxxxxxx xxxxxxxxxxx xxxxxxxxxxx	
—carried forward	5					
—increase (decrease) (4–5)	6					
Investment income receivable before deduction of tax [see Instruction]	7					
Balance on each under-writing year (1+7−2−3−6)	8					
Transfer to (from) equalisation reserve	9					

Instruction for Completion of Form 29B

Completion of line 7 is optional. Where companies do not take account of investment income in determining their underwriting result, it should be left blank.

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations implement Council Directive 87/343/EEC (OJ No. L185, 4.7.87, p. 72), which amends, as regards credit insurance and suretyship insurance, Directive 73/239/EEC (OJ No. L228, 16.8.73, p. 3) relating to non-life insurance. They do so by the introduction of new provisions and by amending the Insurance Companies Regulations 1981 and the Insurance Companies (Accounts and Statements) Regulations 1983 with the following effect:

(a) a general obligation is imposed upon insurers carrying on credit insurance business to establish an equalisation reserve for the purpose of providing against above-average fluctuations in claims, in accordance with one of four specified methods which they may select (regulation 3 and Schedule 1);

(b) an exemption from this obligation is conferred upon companies whose credit insurance business falls under a specified threshold (less than 4% of receivable premiums or contributions and less than 2,500,000 units of account) (regulation 4);

(c) where a credit insurer exceeds the above threshold for 3 consecutive financial years, it will be required to increase the level of the minimum guarantee fund which it is required to maintain under regulation 9 of the 1981 Regulations (400,000 units of account) to 1,400,000 units of account over a seven-year period (regulation 5);

(d) an insurer carrying on credit insurance business will be required to make additional returns to the Secretary of State showing both the technical results and the technical reserves relating to its credit insurance business (regulation 6 and Schedules 2 and 3).

APPENDIX B - EQUALIZATION RESERVES QUESTIONNAIRE

The questionnaire which we sent out is reproduced in the following pages.

EQUALISATION RESERVES WORKING PARTY 1990/91

CONFIDENTIAL SURVEY

The Institute of Actuaries' General Insurance Study Group has set up a working party on Equalisation Reserves. We are asking insurance organisations about their past and present use of claims equalisation or fluctuation reserves, particularly in the light of the UK's Insurance Companies (Credit Insurance) Regulations 1990.

The information provided will be treated in strict confidence. We intend to publish the results of the survey in a paper to be presented to the Institute of Actuaries' General Insurance Convention in the Autumn of this year. The results published will be in summary form only, and individual responses will not be available outside the working party.

Your help in carrying out this survey will be greatly appreciated, and you will receive a copy of the survey results and of the paper itself when it has been prepared.

PLEASE COMPLETE AND RETURN THE SURVEY FORM BY WEDNESDAY 31 JULY 1991 IF AT ALL POSSIBLE.

Name of Organisation

1) *Please give your name, your organisation's name, and a telephone number where we can contact you for further information or clarification if necessary.*

Your name:

_____

Your organisation's name:

_____

_____

Telephone number:

_____

Any information you provide will be treated in strict confidence.

Type of Organisation

2) (a) *What is the type of organisation to which this response relates? (Please give the most appropriate description.)*

- *proprietary insurance/reinsurance company* *yes/no*
- *underwriting agency (Lloyd's)* *yes/no*
- *underwriting agency (other London Market)* *yes/no*
- *other (please specify)*

(b) *What insurance business is conducted by your organisation? (Please give all main categories.)*

- *direct personal insurance* *yes/no*
- *direct commercial insurance* *yes/no*
- *reinsurance* *yes/no*
- *Lloyd's or other London Market business* *yes/no*
- *other (please give details)*

Use of Equalisation Reserves

3) (a) *Does your organisation make use of equalisation or fluctuation reserves in any way?*

- *currently* *yes/no*
- *in the past* *yes/no*

(b) *Whether or not your organisation has actually used them, if it has considered the use of equalisation reserves:*

- *what were considered the main benefits?*
- *what were considered the main drawbacks?*

(c) *If your organisation has rejected the use of equalisation reserves, what were the main reasons for this decision?*

Question 4 applies only to organisations which now use or have in the past used equalisation reserves. Question 5 applies only to organisations which write credit insurance business in the UK, or in another European Community country which is subject to legislation similar to the UK's Insurance Companies (Credit Insurance) Regulations 1990. If neither of these questions apply to your organisation please answer the final question only.

equaliza.doc d: October 22, 1991

EQUALIZATION RESERVES (=ER)

Reader's comments by T Pentikäinen

General: There are several ways to equalize, eg:

1. Resilience in provisions (incl. technical reserves)
2. Resilience in asset valuation and in other items
3. Resilience in premium rating
4. Resilience in investments
5. Reinsurance
6. Equalization reserves

No-one is sufficient alone, the problem is to find an optimal or at least acceptable combination. Possibly whole-company models, deterministic or rather stochastic, would be a useful tool?! (Daykin & Hey, JIA 1991, Pentikäinen et al ASTIN 1989, ...)

Comments on the comments concerning the Finnish system:

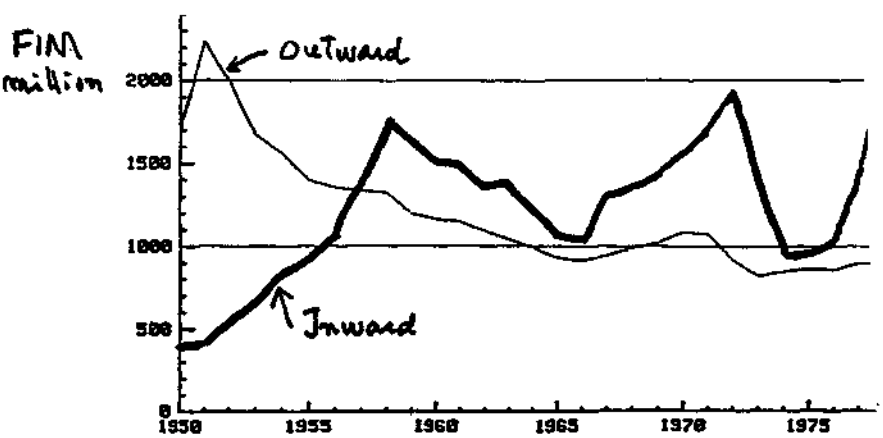
II-1: Improvement of reinsurance balance was one objective, but also creation of sound working conditions for insurers and, in particular, the need to solve the conflict situation between taxation and insurance regulation.

It was agreed that ER transfers can be made from pretax profit with proviso:

1. Reasonable upper limit;
2. A transfer rule which determines the transfer uniquely, preventing the manipulation of the taxable profit.

II-8. The aim to limit competition was not a purpose, rather the need to enhance solvency in order to protect insurance consumers.

II-14: The Working Party asks whether the Finnish ER reduced the level of reinsurance. This was the case, quite considerably, as the following diagram shows:



Outward and inward reinsurance premiums of the Finnish non-life insurers, deflated into 1985 money.

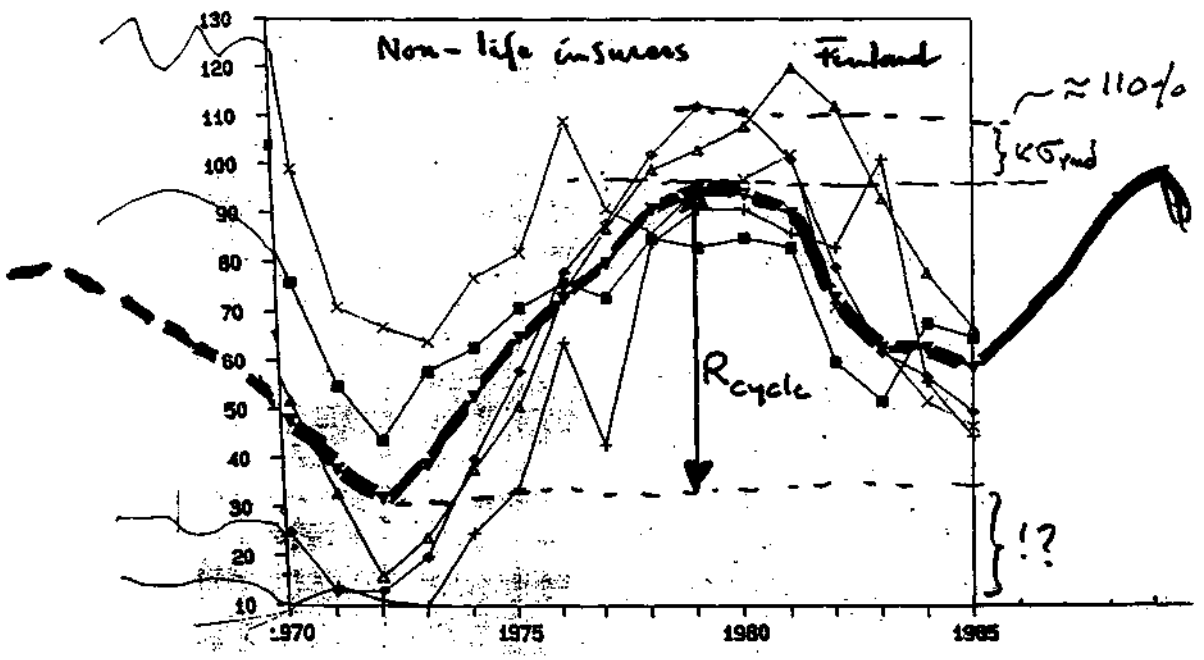
The crucial reduction of the outward reinsurance was partly due the enhanced possibility to make use of the companies' resources thanks to ER and partly due to fact the Finnish actuaries learnt to evaluate the net retention by using risk theory!

The Working Party asks the reaction of reinsurers (II-31, par 4). They were not pleased, but our aim was to promote the rationality of the insurance industry *as a whole* assuming that it will eventually turn to the benefit of the insured and of the whole society where the role of insurance is to be a service performance working with high efficiency, but with minimum costs.

II-21, last par.; ER is not included to the statutory minimum solvency margin, but it is taken into account in the solvency test which the insurers have to make annually (corresponding to the 'expert analysis' that was outlined by the British Solvency Working Party, Daykin et al).

Experience

1. The flow of leading Finnish non-life insurers is exhibited below.



ER has become, in fact, the main pillar of the financial strength.

Note the cycles!! The character and even the amplitude of the cycles is very much similar to those which are reported from various other countries, eg USA. However, there are countries where

no noticeable cycles are seen in disclosed statistics. Probably this is due to the fact that they are hidden inside of the 'resilience' mentioned above as alternative equalization methods.

2. Companies may construct individually the parameters of the transfer rules and of the limits so that the system fits to their environment: keep ER from being unduly exhausting or excessively increasing, etc.

3. The accounts of the companies are based on the equalized profit, but the unequalized profit - we all it 'random result' - is to be disclosed in the notes of the annual reports.

Companies have also to evaluate the technical upper limit E_{max} of the ER according to the bases confirmed by the supervising authority. The ratio E/E_{max} also is disclosed. It is one of the good indicators of the solvency situation.

4. When the ER was introduced (accounts of year 1952), the 'irregular resilience' in technical reserves where cleaned out, the reserves should be calculated according to good actuarial practice consistently from year to year. Because the requirements of the reserve bases are fairly well standardized, it makes it possibly to get a relatively reliable account of the actual flow of the underwriting business of each company.

5. ER concerns the underwriting business (claims, premiums) but not the asset risks or the fluctuation of the return on investments. These are equalized by permitting undervaluation in assets. Uniting of the liability and asset sides for one and the same ER might be worthwhile consideration!

Discussion

Working Party concludes this very interesting and meritorious report by some few open questions (II-31...33):
1. Will ER increase the capital need? My view: Hardly on the long-run. In fact it improves the possibilities of efficient utilization of the existing resources, but of course with the proviso that it is well planned and inappropriate regulation can be avoided.

2. Will ER reduce the return on equity? Possibly at its building phase it absorbs profits but later on the improved working conditions likely will enhance the possibilities to pay dividends.

3. Will it result in higher priced insurance products? As item 2.

4. The doubting that at the adverse phase of a cycle ER may cause delay in corrective rating may be justified and even dangerous for insurers whose ER is weaker than that of competitors. Whether this is a positive or negative feature can be discussed as in paragraph II-33 of the report. It makes the competition sharper and might remove from the market insurers who have no competent long-term planning and no sufficient understanding of the market and cycle effects.