

**REPORT OF REINSURERS SECURITY WORKING PARTY**

**Section 1 - Introduction**

**1.1 Membership**

The Working Party membership was:-

David Hart (Chairman)  
Patrick Carroll  
James Dean  
Peter Downing  
Peter Green  
Julian Leigh  
Glyn MacAulay  
Costas Miranthis  
David Tomlinson

A small number of other actuaries originally intimated their intention to participate, but were, in the event, unable to pursue this to the point of the production of the report.

The membership was a most appropriate mixture of actuaries and accountants for work in this area where both are considered to have a major role to play.

**1.2 Working Practice**

The Working Party carried out its researches through the medium of a relatively small number of plenary meetings to decide on and monitor the basic approach to the subject, backed up by the use of informal meetings of two or three members to pursue activities on individual sections of the work. From these sections, the chairman brought together the final paper, which has been edited in plenary meeting.

The final document is the first on the subject to be considered by a GISG conference and should be viewed as a discussion document rather than the final word on the subject. The Working Party believes it to be a useful contribution in a commercially important and intellectually demanding area of the actuary's involvement in non-life insurance.

### 1.3 Terms of Reference

The Working Party adopted the following as its terms of reference:-

1. To provide material which may be of assistance to reinsurance security committees as follows:
  - a) Documentation of risk factors influencing the security of a reinsurer.
  - b) Documentation of the data available to address these factors.
  - c) Documentation of the causes of failure for some recent insolvencies.
  - d) Possible analyses of available data to obtain a better appreciation of the security involved, including both asset and liability risks.
2. To provide guidance to those responsible for the making of provisions against current and potential future bad debts within the past and current reinsurance programme.
3. To research and document what additional data would be of assistance in an improved analysis.

It became apparent at a fairly late stage that the ideas which were being formulated on reinsurers also had considerable applicability to direct insurers. Accordingly, the questionnaire to which reference is made in 1.4 below was drafted in terms of (re)insurers and, in other parts of the paper, the use of the term reinsurer or reinsurance should be taken to include insurer or insurance where appropriate.

### 1.4 Structure of Paper

In pursuance of the adopted terms of reference, the Working Party, by a process of evolution, decided on a paper which covered the following aspects of the subject:-

- i) The working practices of security committees;
- ii) Data available for security monitoring;
- iii) Case studies of recent failures;
- iv) Security factors, including a critical evaluation of commonly used tests of security ; and
- v) The mechanics of making provision for bad debts.

As a result of the investigations underlying the sections above, it was hoped that it would be possible, by way of conclusion, to recommend improvements which could be made in the way in which monitoring is carried out.

As part of the Working Party's researches, a questionnaire was produced to investigate companies' attitudes to reinsurance security. A copy of this is enclosed as Appendix I. Agreement on the wording and arrangements for this questionnaire was achieved at a relatively late stage, precluding the inclusion of an analysis of the results within the paper as currently produced. It is, however, expected that at least a provisional result from this exercise should be available for submission at the conference.

In this respect, and possibly also in others, there are grounds for considering the current paper as an interim one. The Working Party have found the researches potentially very useful, and believes that further work would be justified in relation to various of the inconclusive aspects of the current paper. Accordingly, the subject of Reinsurers Security may be one for continuation under the aegis of the General Insurance Study Group for the 1990/91 session.

## Section 2 - Working Practices of Security Committees

### 2.1 Background

It was considered, at an early stage, that one of the starting points for our researches should involve an appreciation of how security committees function at the present time, in order to provide a basis for potential improvements, etc, which we might be able to recommend.

We were fortunate in having, on the Working Party, representatives with experience of a considerable number of security committees for both underwriting and broking organisations and we drew on their experience in producing this element of the paper. It is possible that further light will be shed on this aspect when the results of the questionnaire are available, although this was not its primary purpose.

### 2.2 Insurers' and Brokers' Committees

Security committees are operated by both insurers, concerned about their reinsurances, and brokers, who have responsibility for placing insurance and reinsurance on behalf of their clients. Certain large original policy - holders also undertake vetting of security.

Unlike brokers, insurers have the freedom to exclude or accept potential reinsurers without giving any explanation and can, therefore, make subjective decisions; all of them are conscious that the failure of a reinsurer will cause a direct financial loss to themselves.

The major brokers commit significant resources to research and analysis of potential reinsurers and, in at least some cases, are better placed to acquire relevant information.

### 2.3 Terms of Reference

The terms of reference of most security committees are to produce and update regularly a list of approved insurers/ reinsurers.

The internal monitoring of compliance with the rules for approval may be a responsibility of the committee or be delegated to another Department (e.g. Accounts Department).

In all cases known to the Working Party, a list of approved reinsurers is maintained and companies not on the list are unacceptable. Nobody takes the alternative approach of a 'black list' of unacceptable companies, all others being acceptable.

This approach ensures that unsuitable companies are not used as security because they have not yet been through the vetting procedure. It also means that there is no schedule of lowly regarded companies which would give offence or even lead to a defamation suit if it fell into the wrong hands, as most documents do when they are circulated outside the originating organisation, however much they may be marked 'confidential'.

Approved lists may be absolute in that a company which appears on the list may be used as often as is required for any amounts of business of any type. Alternatively, there may be grades of acceptability so that, for example, companies of a certain grade may be used only for short tail business and only for a limited sum insured.

While both methods seem to be adopted among insurers, brokers' lists are more frequently of the absolute kind.

Most reinsureds have a procedure under which underwriters may place reinsurance with an unapproved reinsurer if the circumstances - frequently a flow of reciprocal business - justify it. The use of the reinsurer under this special procedure does not constitute permission for general placing of reinsurance with the same company.

The counterpart for brokers is where specific approval instruction is received from the underwriters.

#### 2.4 Membership

The size of security committees varies, with six perhaps being an average. Typically the membership would consist of a Main Board Director, someone responsible for the security function, perhaps a representative from the Accounts Department, and other senior members of the organisation who bring, inter alia, market knowledge.

If the organisation employs an actuary he will usually be a member of the committee. Brokers' security committees often include an external adviser.

Ultimate responsibility for security matters varies but in all cases is in the hands of a very senior official and many organisations have a specific Appeal Procedure with a designated Appeal Committee which may be the Main Board itself.

## 2.5 Meetings

Some security committees meet only to decide on matters of principle or in the case of disagreements and the meetings may be informal.

Others have structured meetings, monthly or quarterly, which take place at a regular time on a regular day and at which attendance by the members is mandatory.

Within the Working Party there were strongly held differing views about which system worked best. In fact it is probably dependent upon the culture of the organisation and the size and composition of the committee. A three-man committee all working off the same corridor of the same building may find that the procedures which work best for them would be inappropriate in different circumstances.

The critical feature which was agreed, however, was the need, whatever the administrative procedures followed, for clearly documented decisions, and a system which was secure against approvals being 'slipped in through the back door'. In the case of the three-man committee to which reference is made in the previous paragraph, this could be maintained because of the substantial resource backing enjoyed by the company concerned, with detailed papers being prepared for the committee and signed off by them.

## 2.6 Information and Research

In a number of cases security committees will use research undertaken in their own organisation as well as using Best's and ISI publications; these outside sources are often used as an early source of information rather than for the ratings themselves. In such a situation, the in-house resource requirement can be substantial; some of the major firms of brokers have full-time security departments with several staff. In other cases, reinsureds will rely heavily on the security advice of the larger and better brokers, taking the view that this is the most cost effective approach, because the costs of a security vetting operation are not insignificant and a certain size of business is required before it becomes economic.

## 2.7 Criteria

The various criteria used by security committees to decide whether security is acceptable are dealt with in more detail in other parts of the paper, but so far as can be ascertained, the factors to which security committees appear to give most weight are:

- Domicile
- Reputation of management
- Shareholders' funds
- Gross and net premium income
- Proportion of business reinsured
- Change in premium income
- Ratio of premium to shareholders' funds
- Ratio of reserves to premium
- Business mix (if available)
- Quality of business accepted now or in the past
- Promptness and willingness to settle claims.

## 2.8 Other Issues

Of the other issues, most committees accept Lloyd's security automatically; some committees have a further feeling that additional investigation should take place, but a combination of lack of data and the view that Lloyd's will survive longer than most individual companies usually results in nothing being done.

Most reinsured's committees also believe that the stability of brokers and the treatment of pools and underwriting agents require detailed consideration, but there is no unanimity as to how this should be done. Nevertheless many committees devote substantial efforts to attempts to carry out such analyses.

In the case of analysing brokers, part of the problem results from the lack of similarity of a broker's accounts to those for an insurance or reinsurance company, the lack of detailed analyses of their business and the failure of insurance brokers to reserve for their liability to handle the run-off of their accounts.

In the case of pools and underwriting agents, detailed comment is deferred until section 5.19 of this report.

Even among those who believe that claims on Lloyd's syndicates will be paid eventually, there is concern that loss making syndicates may be rather slow to meet their obligations, leading to a distraction of management effort as well as a loss of investment earnings. If there were an easy way to assess the finances of individual Lloyd's syndicates some reinsureds would wish to do so. It should be noted, however, that brokers placing business strongly resist any differentiation between syndicates.

## Section 3 - Data Available for Security Monitoring

### 3.1 Introduction

In any consideration of reinsurance security, it is important to appreciate the international nature of the business; this has a major ~~impact~~ on the availability and interpretation of data in relation to the companies active in the reinsurance market.

National differences exist in many relevant respects including:-

- Language
- Currency and its strength
- Accounting and presentation of accounts
- Supervisory - existence or otherwise of returns
- Valuation of assets and liabilities
- Taxation

All this makes availability of and comparisons between the data on different companies from different countries a matter of considerable difficulty. This feature should be borne in mind throughout this section.

### 3.2 Accounting Data

There is, almost universally, a requirement for companies to produce an annual report and statutory accounts. Even this is not quite a global situation, as it is understood that some East European countries where reinsurance companies are state-owned do not have such a requirement.

Putting aside such anomalies, the accounts can generally be relied on to contain balance sheets and revenue accounts, but these can both contain differences in accounting treatment of a variety of items. They do, however, provide a good starting point, but do not usually give any detailed analysis of the company's business. They can, however, generally be relied upon to be audited to the local standard, whatever that may be.

It should be noted that, unlike the situation in the UK, there is no requirement for insurance companies in the United States to produce annual audited accounts corresponding to those required by the Companies Act. This will be done only if the company itself is listed on a Stock Exchange, and therefore does not apply to wholly-owned subsidiaries, for example.

This leads on to the extraneous items in the report and accounts which can be, in some cases, rather more use than the figures themselves. These items include the notes to the accounts, the auditor's report and the chairman's statement. With the increasing benefit of experience, reading through these items can provide clues to the problems with which the company is confronted.



### 3.3 Regulatory Returns

In some countries, there is no requirement for regulatory returns distinct from the annual report and accounts referred to in Section 3.2. Where there is such a requirement, the degree of detail and the reliability of the information vary even more than in the accounts.

Since regulatory returns have the principal aim of monitoring solvency, they are, in theory, the ideal tool to use in security work. At the most sophisticated end of the market, (and this probably involves the United Kingdom principally) they are indeed, by some way, the best source available, but the standard falls away dramatically from this to the situation where many countries (e.g. most EEC countries) with companies active in the reinsurance market have no requirement for the filing of regulatory returns.

For the UK, a great deal of detailed data is provided, and the major problem becomes one of the amount of resource required to analyse it adequately, especially given the large number of UK-registered companies which participate in the reinsurance market.

For the USA, the data are similarly detailed, but in most states there is no requirement for the returns to be annually audited, so there is a tendency, among the less scrupulous companies, for data to be amended to show a more favourable position than actually exists. It should, however, be noted that at longer intervals (generally 3 years) there is a universal requirement for an audit by the Insurance Division of the state of domicile of the company, but this does not result in publicly available audited returns. Further reference is made to this situation in Section 4.

In the rest of the world, where regulatory returns are available, these usually provide helpful data, but great care is needed in interpretation, as it is essential to understand the local rules and legal and taxation framework.

### 3.4 Commercial Analyses

The commercial analysis of companies' published accounts and statutory returns has been something of a growth industry in recent years, not so much from the point of view of the number of firms participating in this market, but more in relation to the breadth and depth of the examinations they perform.

The market leaders are clearly AM Best Co in USA and Insurance Solvency International in London (now part of Standard and Poor). These organisations provide subscribers with a service for analysing and rating insurance and reinsurance companies, based on their published figures and, in some cases, discussions with the company concerned. The major advantage to the subscriber is the provision of a relatively sophisticated analysis of the figures on a far greater number of underwriting organisations than they could themselves investigate without the expenditure of vast resources. This is particularly valuable to organisations, such as those in the London Market, where reinsurance is traditionally ceded to a large number of reinsurers.

One further advantage of the involvement of such a commercial analyst is that they have sufficient 'clout' to be able to obtain data from companies which are sometimes reluctant to release them to individual cedants.

### 3.5 Investment Analyses

These are of limited value in assessing reinsurance security, not so much because of the level of expertise of the analyst, or the degree of detail involved, but more because such analyses tend to be confined to a relatively small number of (mainly) composite insurance companies whose principal business is in the direct market. They could, accordingly, be more useful in assessing the security of direct insurance placements.

### 3.6 Insurance Press

In the insurance press, there is a regular flow of news about insurance and reinsurance companies as well as the occasional 'in-depth' article about a particular company or a national insurance market. Also there are articles about factors affecting profitability and the effect of catastrophe losses.

All of this can give quite an insight into problems likely to be encountered by a particular company, provided the reader has the experience of the market to be able to pinpoint what the articles are likely to mean in 'bottom line' terms.

Insurance press articles have the big advantage of being relatively up-to-date compared with previous sources mentioned, but the disadvantage that, on the whole, material tends to be qualitative rather than quantitative, and is of course unaudited. It can also take a good deal of time to scrutinise; for the reasons explained above, there is little value in delegating the task to staff without the relevant background. Perhaps a computer-based insurance press index gives the best answer, although such ideas do not appear to be widespread.

### 3.7 National Press

Usually, very little of value can be obtained in this area which cannot equally be extracted from the insurance press. The minor advantage of the information in a daily newspaper being more up-to-date than that in a weekly, fortnightly or monthly magazine is usually more than offset by the greater depth of the coverage in the latter. It is, in any case, somewhat unlikely that, for a situation of sufficient impact to hit the national press, there will not already have been warning signs from other sources such as the insurance press.

### 3.8 Word of Mouth

Word of mouth information is also likely to be of a qualitative and subjective nature, but can nonetheless be invaluable. It has the advantages that such information can be extremely up-to-date and that certain matters can be expressed orally, whilst no journalist is likely to be prepared to venture too close to the risk of defamation actions.

There are, accordingly, good examples of cases where companies in the London Market have been identified as likely future problem areas by noting the queues of brokers waiting to place business with them, and the better underwriter often shows great interest in the identity of the participants on business which he is rejecting as totally unacceptable.

## **Section 4 - Case Studies of Recent Failures**

### **4.1 Introduction**

In this section we give a brief historical account of the events leading up to some well publicised insolvencies. The list is not exhaustive, and indeed we do not cover some failures which may ultimately have a much greater financial impact on the insurance market than those in this section. However, our intention is not to provide an encyclopaedic account of recent reinsurer failures but rather to give some concrete background to the discussion in subsequent sections.

The US Congressional Sub Committee on Oversight and Investigations issued a report on Insurance Company Insolvencies in February 1990. It provides considerable detail on the problems experienced at Mission and Transit as well as views on how US insurance regulations could be tightened up. This is an extremely readable report and is recommended to the interested student of security matters. Much of what follows is effectively a precis of the contents of this report. At the end of this section, we identify some common trends in the cases studied, in the hope that conclusions can be drawn regarding measurable factors which appear to be correlated with the failure of a company.

### **4.2 Mission Insurance Company**

Mission went into liquidation at the beginning of 1987, although this was widely expected since 1985, when the losses incurred by Mission became apparent, and after various rescue attempts from creditors and reinsurers failed.

Until 1980, Mission, a Californian domiciled company, enjoyed a good reputation as a regional workers' compensation insurer with good Best's ratings.

The company expanded and diversified very rapidly between 1980 and 1985, through business written by two managing agents: Sayre and Toso and Pacific Re. Such expansion and diversification was not unusual in this period; Mission was a part of the significant volume of 'naive capacity' which entered reinsurance business in the early 1980s. The growth was achieved by using Mission's good name to front business which the managing agents would then reinsure.

Mission would keep a small net retention, but mainly benefit from the commissions on reinsured business. Sayre & Toso wrote direct business, mainly commercial multi-peril (CMP) and general liability. Pacific Re wrote reinsurance, with high proportions of working level casualty excesses and facultative business. Both agents undercut rates on what was already a very soft market.

Although the consequences of the rapid expansion were soon obvious, the financial results of Mission did not reflect that as IBNR reserves were grossly understated, not least because Mission's procedures for classifying losses were inadequate. In addition, Mission's results were temporarily 'protected' by commissions from ceding the extensive new business written, which was inadequately reserved, with the result that the run-off losses from earlier years did not become obvious for some time.

Successive audits failed to alert regulators to the situation of Mission, mainly because full credit was taken for all potential reinsurance recoveries and reserves were not independently verified.

Today the liquidator of Mission is faced with high gross losses, and the failure of reinsurers to pay their share.

#### 4.3 Transit Casualty

To a large extent the case of Transit parallels that of Mission, but the scale of failure was bigger.

Transit was, until the late 1970s, operating in most US states, writing mainly commercial transport business. It formed part of a bigger group, the 'Beneficial Standard Corporation', with interests outside property/casualty insurance. During this period, the company enjoyed good Best's ratings.

In the early 1980s, Transit grew aggressively in lines outside commercial motor. The process of expansion involved use of managing agents who employed Transit as a front to write large amounts of business which they then reinsured and was similar to that of Mission. In Transit's case, however, the number of managing agents used was far greater and the degree of sub-delegation of authority was much more extensive.

Transit accepted an enormous amount of gross risk, far in excess of what its free assets justified. The managing agents were given almost complete freedom in underwriting, handling claims and arranging reinsurance. The management systems which existed at Transit simply could not monitor the activities of such a network of managing agents as they were geared towards the needs of the commercial transport insurer.

The activities of two particular managing agents have been well documented. One individual set up his own network of reinsurance companies to reinsure the massive risks he wrote on behalf of Transit. After Transit collapsed, it became evident that these companies were nothing more than 'shell' entities that received premiums, apparently with little intent of ever paying claims. In another case, National Underwriting Agency (NUA) operated as a managing agent on behalf of Transit. NUA offered covers which were not available at the time from other sources, including asbestos, drug and hospital liability covers.

Transit was allowed to operate for four years, despite being 'obviously' insolvent, because:

- the expansion of Transit occurred in the period between triennial regulatory examinations
- Transit was filing misleading annual returns, which were not required to be audited
- the ownership structure of Transit did not require an independent audit opinion on Transit itself.

Shortly before Transit went insolvent, the parent company wrote off the investment in Transit and subsequently dissolved itself.

#### 4.4 Union Indemnity Insurance of New York

This company was a subsidiary of FB Hall, the US insurance brokers. When acquired by FB Hall, the company was dormant.

Union Indemnity started writing business again around 1980. Premium growth was very rapid (in the 1980-1984 period averaging 33.7% pa gross or 47.2% pa net) while the capital base remained relatively stable. Business consisted of mainly liability lines, although property lines were also included. Business was, however, concentrated in US states where jurisdictions tended to favour the policyholders. (New York, New Jersey, Illinois, Florida and Michigan).

The company stopped underwriting in 1984 and was put into liquidation in 1985. The main reason for failure appears to have been rapid expansion of premium income during a very soft market. The loss potential was not recognised at the time with the result that the reserves set were inadequate. Recognition of the problems was further deferred by premium income growth. There was also substantial reliance on reinsurance protection. The reinsurers included several unauthorised companies with whom FB Hall had close relations.

When Union Indemnity became insolvent, FB Hall 'dissolved' the company by writing off its investment from the balance sheet. This action was subsequently challenged by the New York regulatory authorities, and FB Hall contributed a further \$48.5m towards the total cost of the insolvency which was estimated at around \$140m.

#### 4.5 Reinsurance Union Limited

The Reinsurance Union was put into liquidation in June 1989. The company was incorporated in June 1950 under the name Reinsurance Union of South Africa Limited and was authorised in the following classes of business - Fire, Marine, Motor, PA and Miscellaneous.

At the date of liquidation, the shareholders consisted of 16 insurance companies, mainly UK composite insurers as well as two major South African companies, namely the IGI and Santam. This was undoubtedly a considerable source of comfort to reinsureds placing business with the company.

The company traded profitably as a reinsurer from 1950 until approximately 1979, then during the next six years until 1985 the company encountered certain difficulties, including

- Under-capitalisation
- Large losses in the Marine Department
- General deterioration in Reinsurance markets, aggravated by the loss of value in the Rand and to a lesser extent by inflation.

During this period, efforts were made to rectify the position by injection of additional share capital, the cessation of writing new business in 1985 and cancellation of contracts for renewal. The company also attempted to commute its liabilities with certain creditors.

Eventually it was foreseen that insufficient resources were available to meet claims and a winding up of the insurance business would, it was hoped, treat creditors even-handedly and ensure that a sizeable proportion of the claims would be paid by way of a dividend.

The main London Market involvement arose from reinsurance of Professional Indemnity accounts.

#### 4.6 St Helens Insurance

This company was founded in 1952, its largest shareholder being Thomas Stevens Pool, a Lloyd's broker. It experienced heavy losses as a result of claims stemming from Hurricane Betsy in 1965 and the following year a number of Lloyd's brokers came forward to rescue the company. The company ceased writing new business in 1966 and underwriting altogether in 1968, having previously written general Marine and Non-Marine accounts in London. At the time the rescue operation appeared to be successful.

However, the company wrote large lines on (usually) low layers of long-tail business and in recent years very substantial Asbestosis related claims have come to light. As a result, the company was placed into Creditors Voluntary Winding-up in September 1989.

The major problems at the current time are the value at which advised claims should be included in any scheme of arrangement, IBNR claims (particularly bearing in mind the extent of involvement in asbestos and pollution losses) and recoveries from the company's reinsurers.

#### 4.7 Common factors

The above examples point to some similarities, although in almost every case there have been particular circumstances specific to the company:

- Rogue management
- Rapid expansion, particularly during soft markets, has been catastrophic
- General inadequacy of pricing
- The excessive delegation of authority to managing agents
- The practice of writing large gross lines, even though the net retention was small. The quality of reinsurance security was also generally inadequate.
- The practice of reducing gross liabilities on balance sheets by the amount of 'claimed' reinsurance recoveries, when these recoveries proved to be illusory.
- Under-reserving and its impact in deferring recognition of problems
- Inadequacy of real reinsurance protection against catastrophe losses and (more particularly) a large volume of smaller losses
- Lack of professional involvement; this includes both accountants (the level of audit required in some cases was inadequate) and actuaries.



#### 4.8 Specific Conclusions

In addition to the points made in the previous paragraph, there are two warnings which can be drawn from this section by way of conclusion:

- a) Too much faith should not be placed in the ability of supervisors worldwide to provide early warning of problems. The situation in USA, on which this section particularly draws, is not atypical of much of the regulatory environment in other countries. Where data are collected, they may well not be subject to an adequate professional audit, and even if they are, it is not unusual for the regulatory authority itself to be inadequately resourced to be able to carry out an in-depth review. What is more, the United Kingdom is the exception rather than the rule in having 'fit and proper' legislation to restrict the ability of individuals to lead a succession of insurance and reinsurance companies to their untimely demise.
- b) Too much faith should not be placed in the ultimate owners of an insurer or reinsurer to support their subsidiaries. In the last event, it is unlikely that they would severely impair their overall solvency in order to save a single part of their empire, particularly if the parent is not an insurer or reinsurer.

## **Section 5 - Security Factors**

### **5.1 Introduction**

It would be nice to identify a feature that is associated only with insurance companies which will get into financial trouble and not with soundly financed insurers, but unfortunately we live in the real world!

In general, we believe that a security committee would aim to spot those reinsurers having a higher than average probability of failure. This should increase the overall likelihood of the ceding company's actually receiving recoveries when they become due. They would, however, accept that it is not feasible to be certain that every company accepted as a reinsurer will remain solvent. In addition they would expect that a high proportion of rejected companies would turn out to be perfectly sound, especially if no particular stresses occur.

In order to fulfil this function, it would be helpful to know which characteristics are associated with subsequent failure. In theory the only point of interest is whether there exists a positive correlation between a characteristic and subsequent failure, but such characteristics are extremely difficult to spot unless some relationship with failure, either cause and effect or common cause, can be postulated.

This section considers a number of characteristics and examines the logical connection between the factor and a heightened chance of reinsurance failure. Those which we think may be positively associated with less good security we term 'security factors'. It should be stressed that we are not implying a direct cause and effect, nor even that a particular security factor will be an indicator of impending failure in all circumstances. In the light of further information it may be quite possible to decide that there is some cause of the abnormality in the security factor which is not, in the particular case, associated with a greater than normal risk of failure.

We want to know what the early warning signs are that will indicate now that a potential reinsurer is going to fail within, let us say, five years, although a longer warning period would be desirable, especially given the effect of claims arising from such causes as asbestosis and pollution for which five years is likely to be totally inadequate. Reinsurance is a particularly international industry, which adds considerably to the factors which affect the security appraisal process.

It is, apparently, unusual for a reinsurer to fail for only one reason. Nearly all failures involve a combination of two or more factors.

In considering the factors and deciding which are significant in assessing a possible reinsurer, it may be helpful to have in mind the mechanisms by which a company which appears sound today may eventually be unable to fulfil its obligations. The mechanisms which we have identified are as follows:-

1. Losses incurred on present and future risks exceed free assets.
2. Liabilities on past risks exceed the reserves by an amount in excess of free assets.
3. Amounts paid to shareholders exceed what the business can afford, or loans have been made to associated companies.
4. Expenses exceed the net assets available.
5. Failures on ceded reinsurance exceed free assets.
6. Assets may turn out not to be of the value anticipated - this would include currency mismatching.
7. Fraud, which may manifest itself in a whole variety of guises.

The factors tend to be subjective and qualitative and, accordingly, it is necessary to try to look behind them in order to obtain factors which are quantitative and which may give a prior warning.

## 5.2 Management

In all cases the responsibility lies with the management of the company in the sense that actions taken by them would or could have averted the failure. In some cases the management will have been at fault, in others it may be felt that although responsible they are not culpably so. The responsibility may be that of the present management or may be inherited from predecessors.

Manifestly, the first risk factor to be considered when evaluating a company as a potential reinsurer is the management. While the occasions when it can be decided that a reinsurer is acceptable because of confidence in the management alone must be rare, if the management is believed to be dishonest, incompetent or unduly optimistic (i.e. not sufficiently risk-averse) this might be a valid reason for rejection on its own. It is, however, not an easy factor to evaluate, being both subjective and liable to change at short notice (e.g. because of change in ownership).

In its extreme case, poor management becomes fraudulent, and examples of this have been seen in Section 4 of this paper. In all business, the possibility of fraud is present, and the possibility exists that a proprietor will disappear, along with a large amount of assets, leaving creditors with no prospect of reimbursement. However, for several reasons, insurance and reinsurance companies are more vulnerable to this than other entities:

- They collect large amounts of customers' money well in advance of providing the product.
- Assets are generally negotiable and portable.
- The assessment of their liabilities is a skilled task which, improperly carried out, allows a great deal of scope for trading after they are insolvent. In general, the longer term the business (and therefore the less easy to verify the liabilities) the more scope for hiding insolvency.

In addition, the practice of delegating underwriting authority to managing general agents gives the MGAs scope to pass risk to the companies and steal the premiums, if the relationship is not properly controlled.

In fact, it is not necessary for anything so indelicate as actual theft to take place. The case studies in Section 4 do not include anything so vulgar as management taking a flight to South America with suitcases full of negotiable instruments. What caused these companies to become bankrupt are actually the same things as send any other insolvent insurer to the wall. These are poor underwriting leading to losses, and excessive expense ratios. Where these cases differ is that, in its worst manifestation, underwriting was deliberately awful, designed only to generate premium volume. Losses could be suppressed by deliberate under-reserving, and management could take large salaries or profit bonuses, resigning shortly before the tide of losses became too large to hold back. This process takes advantage of the first and the third point above; where MGAs are involved, they can provide extra premium as well as duplicating the process for their own advantage.

Since insolvencies of this kind are caused by the same things as any other insurance insolvency, the difference is really only one of the state of mind of the individuals involved. Also it may be impossible to divide the two clearly. Between managers and underwriters who simply fail in their tasks and those who deliberately set about plundering their customers and employers, there is a complete range of bad luck, carelessness, recklessness, greed, bad faith and actual dishonesty. However, where management is at the far end of this range, the slide into insolvency (if properly measured) is likely to be quicker, and the true position obscured from outsiders for longer.

If the problems are the same as with any other reinsurer which gets into difficulties, the remedies are much the same. While financial information may be fairly freely available, there is no annual report on the integrity of management, any more than there is a report on the competence of management. The only remedy is to restrict reinsurance placements to companies where one knows and trusts the managers and underwriters.

Such an approach is likely to result in a restriction of reinsurers to a small number of companies, probably all within a small geographical area. In addition, it will be necessary for the reinsurance security committee effectively to act as a clearing house for market gossip, and it may prove difficult to assess the importance of straws in the wind produced by other people. The end result may well be sensible, with reinsurers whose management is suspected of being corrupt being excluded from acceptability.

### 5.3 Business Profile

Market knowledge of what has been written or is currently being written or of what it is intended to write may adversely affect the perception of a reinsurer by a potential cedant - is the reinsurer trying to expand too fast and accepting the risks that cannot be placed elsewhere? Is business being accepted at lower rates than the norm? Is the business long-tail or short-tail? What about what has been written in the past?

### 5.4 Ownership

Whether ownership can be a positive factor must depend on circumstances. While no parent company is going to support its subsidiary at the risk of its own financial security (as in the case of the failure of Union Indemnity Ins. Co. of New York), most large insurance groups would take considerable steps to support subsidiaries, particularly those bearing the group's name. This would be done both out of a sense of propriety and to protect the group's reputation and goodwill. The case of Reinsurance Union, which certainly looked better security because of the shareholdings of several major UK insurers, casts some doubt on this principle, or at least on the point at which owners believe that they have a responsibility.

The extent to which this would apply to US owned groups is not clear because directors of a US parent might find themselves exposed to suits from stockholders if it advanced money when it was not legally obliged to do so.

It is commonly supposed that Japanese parents would fund their subsidiaries' losses both because Japanese business is heavily oriented towards meeting moral obligations and because to do otherwise would imperil the placing of their own earthquake protections.

However, the situation might appear different immediately after Tokyo had disappeared into Tokyo Bay!! It should be noted that this is exactly when the greatest risk of insolvency of the subsidiary is likely to occur.

It is also, of course, always possible for a loss making subsidiary to be sold cheaply to someone for whom it would be an interesting speculation - chances of a large gain balanced against a small loss - without giving much security to reinsureds.

In the case of ownership by a non-insurance organisation it is generally agreed that no credit should be given for the parentage, since the group's basic business would be unlikely to suffer significantly from the failure of an insurance or reinsurance subsidiary.

Ownership may be a negative factor partly depending on whether the regulatory and accounting framework is such as to permit the owners to take more than they should. A large company with many shareholders, particularly one that is publicly quoted, is less at risk.

#### 5.5 Location of Domicile

The location of domicile of the reinsurer may be a seriously adverse factor because, inter alia:

- 1) The political situation is unstable and little confidence exists in the ability of companies domiciled in the country to act commercially without political interference.
- 2) The local economy is weak and exchange control permission to pay losses may not be obtainable.
- 3) The local currency is weak and losses in stronger overseas currencies may pose an insuperable burden.
- 4) The local judicial system may be such that a reinsured cannot count on enforcing its legal rights in the event of a dispute.
- 5) Local supervision of insurance and reinsurance may not be acceptable, in that they fail to enforce a strong regulatory environment and/or to act when a company starts to run into trouble.
- 6) Local accounting standards may not be acceptable so that the insurer's accounts cannot be interpreted reliably.

## 5.6 Financial Factors

In the absence of indications from the factors in paragraphs 5.1 to 5.5, it will be necessary to turn to the partial and belated information available from accounts and returns. It is appropriate here to reiterate that such data have to be interpreted with care. The accounts for an American company prepared in an environment where hidden reserves are not permitted, contingency reserves are discouraged and there is pressure to produce quarterly earnings will be quite different from those of, say, a Swiss company, where the business environment encourages substantial hidden reserves.

## 5.7 Size

Of the commonly considered financial factors, size after a certain point is probably not a relevant factor - big companies have bigger and more spectacular insolvencies as indicated by the case studies - but smallness probably is an additional risk factor.

Small companies are less likely to have depth in management, and are thus more exposed to the loss of one or a few individuals. It is more difficult for them to get a spread of risk and they are more likely to have an exposure to a single event (be it catastrophe loss or other) which could cause insolvency. Even for a well-run small reinsurer, there is the risk that the company might be sold to new owners who would extract more than is sound.

## 5.8 Changes in Premium Income

In general, a sharp increase in the amounts of premium accepted with no obvious explanation may mean that underwriting results are going to deteriorate. If a company or syndicate wishes to expand, it is likely to have to loosen its underwriting standards, at least while it becomes established; it is also likely to have to pay more for its reinsurances. An insurer entering areas with which it lacks familiarity and in which it is short of expertise is particularly exposed to making expensive misjudgements.

Rather more worryingly, a number of recent cases, some of which are discussed elsewhere in this paper, have shown that when a company is being deliberately mismanaged, those doing the mismanagement will aim to write as much business as they can in order to maximise their own profits.

## 5.9 Strength of Reserves

Adequate provisions for claims payments are obviously a key factor in whether a reinsurer can expect to meet its claims when they fall due. However, most actuaries find it hard enough to decide on the correct level of reserves for a company with which they are familiar, without the difficulties inherent in assessing a company on the basis of the very partial and potentially misleading information available from published sources. In many cases the problems are compounded by the available information's being in a language and against a legal, fiscal and accounting environment with which the analyst is unfamiliar.

In Appendix II, some figures extracted from a recent paper show the wide range of reserves that may be appropriate for different types of business. Since reserves are held in respect of risks that were written in the past (sometimes the distant past!), it is necessary when assessing the adequacy of reserves to know how much premium income, for which classes, at what loss ratios and with what reinsurance protection, has been written for many previous years.

At best, any assessment will have to have large elements of guesstimate in it. As always when dealing with the vetting of potential reinsurance security, the more collateral information about the possible reinsurers that is available the more confident one can feel about whatever conclusions one draws.

It should, perhaps, be pointed out that, in most cases, reinsurers are not companies predominantly writing a stable book of direct domestic personal lines insurance for which it would be easier to form a view of reserve adequacy. Indeed, if such a company suddenly offered itself as a reinsurer, particular caution would be indicated - is the company about to do something stupid in an area in which it has no expertise? There are several examples of basically personal lines insurers suffering severe losses as a result of an expedition into the uncharted waters of the international reinsurance market.

Finally, can anyone be confident about the reserves of any insurer which has exposure to long tail U.S. liability risks?

Unhappily one could conclude that it may be hazardous to reinsure with a company which appears to have weak reserves and equally dangerous to reinsure with a company with high and apparently strong reserves because it clearly has skeletons in perhaps more than one cupboard! Not only that, but also a company with high technical reserves relative to its free assets is more susceptible to any under-reserving which may come to light at some future date, owing to the gearing effect.

Despite the difficulties in assessing reserve strength which have been outlined above, it cannot be too highly stressed how important the strength of reserves is in the evaluation of a reinsurer's security.



One particular point which needs to be considered in relation to the strength of reserves is the introduction of discounting of reserves or the purchase of time and distance reinsurance. This aspect requires careful attention to be paid to the notes to the accounts, and further complicates the overall assessment, especially when comparing companies whose policy on the subject varies from one to another.

#### 5.10 Insurance Debts

The level of insurance debts on the assets side of the company's balance sheet is relevant in two ways. In the first place, having a large proportion of assets in such a form indicates the possibility of mismanagement and inadequacy of credit control systems or the placing of significant elements of reinsurance with poor quality security. In addition, assets held in this form will not be earning interest, and this is likely to affect severely the company's profitability, especially when soft reinsurance markets prevail.

#### 5.11 Solvency Margin or Free Asset Ratio

The Solvency Margin (free assets divided by the latest year's premium income) is a statistic which is widely quoted and which appears to be given considerable weight; minimum levels of solvency margin are established by law in the United Kingdom and the European members of the EC.

Bearing in mind that the free assets will have to meet, inter alia, losses on new business, shortfalls in reserves, and depreciation in asset values, this appears to over-emphasise the value of using solvency margin as a security factor. Whilst it was agreed that the solvency margin had limited value in overall terms, it was considered that where the figure was relatively low, this was generally an adverse sign. Where, however, the figure appeared higher relative to a company's peers, there was some disagreement as to how much should be read into this. At one extreme, it was considered to be of no value, unless the company was writing a stable volume of short-tail business, whilst the alternative view that it provided at least a useful rule of thumb indication of strength was also represented on the Working Party.

If we assume that reserves have been established at a sensible level, so that there is no systematic deficiency, it is nevertheless the case that the eventual out-turn will be better or worse than implied by the amount of reserves. In the cases of a reinsurance company, the deviation from the expected level is likely to be quite substantial. If it happens to be worse a fluctuation margin will be necessary in order to meet the strain.

#### 5.12 Solvency Ratio

In view of the inadequacies of the solvency margin as suggested above, it appears that a new ratio is required, and the following is put forward for consideration:-

$$\text{Solvency Ratio} = \frac{\text{Free Assets} - A \times \text{Prem. Inc.} - B}{\text{Technical Reserves}} \quad \text{where}$$

B is investment based.

A x Premium Income is intended to meet the cost of losses on a couple of years' business if the company is unfortunate, it being assumed that it will take at least two years for the company to appreciate the situation and react. It is considered that A may be of the order of 20%, although this should depend on the type of business being written by the company. No doubt the fraction should also be increased if a company is writing steadily expanding volumes of business.

B is meant to provide a margin in case asset values fall. A formula which springs to mind is 25% of ordinary share values plus one third of properties plus a percentage (to be decided) of below investment grade bonds. The inclusion of such a margin is particularly important where, as in many general insurance organisations, matching is not a major strategy in investment policy, leaving the company exposed to fluctuations in interest rates. This formula is only illustrative and the exact quantities would again be a matter for debate. In view of the interrelationship between these margins and the liquidity and marketability of the assets, the reader is also referred to Section 5.18.

The resulting ratio would give a measure of the assets readily available to meet adverse fluctuations in the run-off experience. To our knowledge, such an exercise has not yet been attempted and it would be interesting to know what the results for a range of companies would be. This could be an interesting line for future research.

A drawback of this formula, or any other using technical reserves in the denominator, is that the company can improve its ratio by reducing the strength of its reserves, and, as already indicated, the strength of reserves is not an easy factor to ascertain. Even if technical reserves are not in the denominator of the ratio, underestimation of technical reserves will lead to overestimation of free assets, and hence paint too favourable a picture. In effect this ratio assumes that the technical reserves have been satisfactorily estimated and the point should be checked first - see paragraph 5.9.

Lest it be suggested that it is being unduly pessimistic because it tacitly assumes that three things go wrong simultaneously - future business unprofitable, falling stock market, and technical reserves inadequate - the answers are ready.

First, actuaries are the people who worry about the downside. Secondly, if things are going well reinsurers are not going to be a major problem because reinsureds will not be claiming! It is when things are going wrong that the reinsurance recoveries will be needed and then that reinsurers must be solvent. Also, we can reiterate that failures amongst reinsurers rarely occur for a single cause, and refer the reader back to the case studies which illustrate this point.

So far as the conventional solvency margin is concerned a company that is putting on premium income of three times its free assets obviously has very little overt protection against adversity (it's different, of course, if it's a Swiss company with large hidden reserves, but if they're hidden how does anyone know that they're actually there?)

On the other hand the management of a company writing at, say, 1 to 1, may be under pressure to justify its capital and get more income which might lead to unwise and expensive expansion. As a rule of thumb, writing business in a new area requires an "entry fee" - at first it is necessary to write the risks that others have rejected; reinsurance costs will be higher. If there is no expertise in the new area the risks are considerable.

#### 5.13 Terms on Which Business is Accepted

This factor is clearly difficult to measure as well as being, in part, subjective. However, if the insurer is known to be undercutting the rest of the market or accepting business which the rest of the market is declining, it stands a higher chance of suffering losses and it would behove any potential reinsured to be sure that there is adequate strength to meet these deficits. In London Market terms, any underwriter who has a queue of brokers when others don't should be the subject of further investigation, and even more so if he is not in the immediate vicinity of Lime Street!

#### 5.14 Proportion of Premium Income Ceded

Several of the case studies indicated the dangers of over-reliance on reinsurance, and one should beware of companies whose net retained income is a low proportion of their gross writings. In such cases, the company is left with a small net premium but is still legally responsible for settlement of the gross claims arising. This obviously becomes a problem if the retrocessionnaires fail, and can lead to a 'domino' effect; it is a sobering thought that your company could be part of that pack of dominoes! The use of a reinsurer is thus particularly ill-advised if it retrocedes a high proportion of its business and you are unable to satisfy yourself as to the strength of the retrocessionnaires.

It is also a fact of life that companies reinsuring much of their business sometimes let their underwriting standards slip because losses have little effect and may be covered by overriding commissions. It is possible that lack of attention to underwriting could lead to significant unexpected losses and/or repudiation of treaties by reinsurers.

It appears to be the custom of some large insurance groups to establish subsidiaries which reinsure much of their business with the parent, or with other companies on the group. No doubt there are legitimate business reasons for such arrangements but a cynical reinsured might wonder if his security is as good as it would be if he reinsured with the parent.

#### 5.15 Profitability

This is another factor where great care in evaluation is required. This is for two distinct reasons. In the first instance, the profitability claimed by the company is critically affected by any changes in the level of reserving used by the company; and we have already seen how difficult this is to evaluate, especially if there is included some element of discounting of reserves.

It is generally accepted that it is preferable from all points of view that reinsurers earn a reasonable return in order preserve continuity and stability in the market, although there is obviously the need to ensure that any premium charged by a reinsurer on your cessions is not excessive from a commercial standpoint.

The second factor which arises is, what measure of profitability should be used, bearing in mind that underwriting profit is less likely to be a critical requirement if the company is writing long-tail business than if its investment earning potential is lower. As a reflection of this situation, one test used by analysts relates the average underwriting profit/loss to the investment income over a two year period. This relationship has obvious merit, but with the cycle in insurance profitability, there tends to be a situation where nearly all companies pass the test at the top of the market, and vice-versa at the bottom; perhaps the relative position is the most revealing.

#### 5.16 Investment Yield

Whilst this factor is unlikely to prove one of the most valuable, a reinsurance company, especially one with a long-tail account, is at risk of being seriously commercially disadvantaged if it significantly and consistently under-performs on investment return by comparison with its peer companies.

#### 5.17 Distribution of Assets

The content of the reinsurer's investment portfolio can have a material bearing on the perspective of its potential cedants. In the United Kingdom there are, in relation to statutory returns, admissibility regulations governing the extent to which a company can take credit for certain categories of investment or, indeed, for individual investment holdings. These have a good deal of logic, and provide some protection to potential cedants in respect of the risk of investment losses. In some countries, such rules may not be necessary, given that there are restrictions on investments permitted, in any case. In the majority of the rest of the world, however, such rules are not applied, but it is instructive to try to import the idea into the evaluation of the 'real' free assets of companies whose investments are in less secure instruments, such as 'junk bonds'.

#### 5.18 Liquidity and Marketability

However secure a company's assets may be, they are of limited value if they are incapable of being realised at a reasonable value when the need arises. That is not to say that all assets should be kept in a totally liquid form, but it is certainly advisable that a reinsurer should keep assets equivalent to a significant proportion of its technical reserves in a medium where they are readily marketable without significant capital loss being incurred.

### 5.19 Pools and Underwriting Agencies

The market has experienced many problems over the last ten years which have arisen from agency operations which have since been discontinued. Nevertheless, well managed underwriting agencies can fulfil a useful role in the market place.

It has been stressed earlier in this paper that quality of management is viewed as extremely important and this applies at least as much to underwriting agencies. Anyone who places business with an agency incorporated in Liechtenstein but actually operating (probably) from a garage in Nicosia is asking for trouble.

Secondly, the underwriting principals are the people responsible for paying claims and each principal should be vetted. If some of the principals appear to be less good security or if the agent seems to be exploiting "naive capacity", doubts about the quality of the agency management are likely.

Thirdly it is important to be sure that the agent is authorised to accept business on behalf of the principals and that the principals accept responsibility for business written by the agent, whatever it may be. There have been too many cases of innocent companies who found that they had been committed to business of types or amounts that they would never knowingly have accepted and, sorry though one may be for them, as a reinsured one wishes to be certain that one will be paid what is due when it is due. In the past, disputes have occurred because agents have written, in the name of their principals, large exposures and have retroceded a proportion to a third party without the principal (who remains legally liable) even being aware of the level of writing carried out in his name. To avoid any doubt and possible disputes about the authority granted to the agent, formal letters should usually be obtained from the principals.

### 5.20 The Role of the Broker

It can be argued that the solvency of the broker involved in handling a (re)insurance contract is just as important as the solvency of the (re)insurer, so that a vetting procedure is required for brokers.

All kinds of problems, both administrative and financial, can arise on the liquidation of a broker, including the following:-

- who has physical possession of the policy documents?
- how are future recoveries to be made?

- can systems cope with the need to deal with a multitude of reinsurers rather than one broker?
- if another broker takes over the administration, will he require further payment?
- is there a clause in the policy which stipulates that claims payments shall be made to, or via, the liquidated broker?

It remains however very difficult to evaluate the future viability of a broker, as already intimated in Section 2.8 of this paper.

#### 5.21 Summary

In the earlier part of this section we have commented upon some of the factors which are taken into account when assessing reinsurance security.

Unfortunately, none of the factors gives a clear indication of whether or not a reinsurer will get into trouble.

However, some of them definitely indicated that questions should be asked and the absence of satisfactory answers ought to diminish eagerness to use the company.

Things which seem to occur with both unsuccessful and successful companies, but which unsuccessful companies are more likely to have are high levels of reinsurance and sharp and continuing increases in premium income.

Reserving levels are crucial but it is unlikely that there will be sufficient information about the types of business which have been written to allow any certainty about the adequacy or otherwise of reserves. Nevertheless a higher or lower level of reserves than a rough estimation indicates is cause for further enquiry. A company that is getting into trouble inadvertently is likely to take steadily more optimistic views of its reserves, even though the actual reserves are being strengthened. A dishonestly managed company will under-reserve from the beginning.

If the company is writing business that others decline or for which they require more premium, there will be trouble.

Having started with the proposition that assessment of the management is more important than examination of the numbers, we come back full circle. The figures may not tell us anything in an absolute sense, but if they leave us with uneasy doubts about the quality of management, we should have received a firm message.

## **Section 6 - Bad Debt Provisions**

### **6.1 Introduction**

This section arose out of discussions which took place within the Working Party on the mechanics of producing bad debt provisions in respect of noted outstanding claims. The methodology described can also be adapted to cover the bad debt provision in respect of cash balances currently unsettled, and if figures net of provisions for bad debts are used as the basis for IBNR projections, some allowance is automatically made for IBNR bad debts (although this is not necessarily the best way to carry out the exercise). It should be noted that in relation to this Section, bad debts can be defined to include both known and potential problem companies; it merely depends on the allocation of the appropriate security rating to each company, to reflect the level of security to be assumed in the calculations - see Section 6.4.

What the methodology is not intended to do is to produce the full benefits of an integrated reinsurance system for a London Market organisation. This latter can be horrifically complicated and, if no manual intervention is involved, would probably require something similar to an expert system to decide on allocation of claims for collection against particular reinsurance treaties.

The proposed system basically consists of three files linked together, and cross-referenced, the files being

- a) a file of treaty reinsurance details
- b) a file of 'reinsured' claims, and
- c) a file of reinsurer details.

### **6.2 Treaty Reinsurance Details**

This file should contain a record for each layer of each treaty for each underwriting year. The records should show basic details such as broker, layer details, class of business covered and, critically for this particular exercise, the detailed make-up of the reinsurance security underlying the coverage. This latter part would link in to the file of reinsurer details, to which further reference will be made in paragraph 6.4.

### **6.3 'Reinsured' Claims**

This file should contain a record for each claim on which a treaty reinsurance recovery is likely to be made. Whilst the individual records would need to be maintained, one field on the record would need to indicate aggregation possibilities with other claims on the file.



Other fields required on the record are date of loss, paid and outstanding gross amounts, underwriting year, and a listing of the treaties on the previous file against which recoveries are to be made. Also, considerable benefits can be derived by recording the type of claim (long-tail/short-tail and more specifically if it is connected with asbestos or pollution etc).

When these two files are linked together it should be possible to produce an output showing the amounts expected to be recoverable from each layer of each treaty in each year, with the additional analyses possible by type of claim.

#### 6.4 Reinsurer Details

This file should contain a separate record for each reinsurer through each agency or pool connection with which it is involved, since the intermediary can have a critical effect on solvency considerations as already discussed.

Each record should show the name of the reinsurer and the agency(ies), and the security ratings. It is envisaged that these security ratings could take the form of the percentage of the recoveries due from the particular reinsurer which it is anticipated will prove irrecoverable. Thus a liquidated company would show 100, whereas a company considered perfectly sound would probably show 0. The range in between would of course result from subjective assessment of each company, preferably involving the Reinsurance Security Committee and the Credit Control Manager.

An additional sophistication which can be readily introduced is to have different security ratings for different types of claim. This would make some allowance for the time-scale against which recoveries may fall due and also provide a means of reserving against 'recalcitrant' reinsurers who refuse to pay particular categories of claim.

If this file is linked in with the other two, it should be a relatively straightforward matter to obtain the bad debts provisions against noted outstanding claims.

By-products of the basic output would also be available in terms of identifying the involvements of individual companies across the programme and investigating the extent of these, dealing with offers of commutation, and liquidations, and many similar situations. Incidentally, after a reinsurer has negotiated and agreed a commutation on a particular layer on a particular treaty year, it is considered advisable to give that reinsurer an additional record on the reinsurer details file, with a security rating of 100, in order to distinguish between the reinsurer's commuted and non-commuted involvements.

6.5 Inland Revenue Treatment

From the viewpoint of insurance company management, there is a clear likelihood that they will take a more sensible view of the the need for bad debt provisions if they believe that the Inland Revenue will treat them in a "realistic" manner, taking account of the actual risk involved for the company.

Although in the last resort the decision is up to the individual tax inspector, it is believed that specific bad debt reserves derived by a method such as that above, using "reasonable" assumptions as to the security rating, are likely to prove allowable for taxation purposes; it is, further, understood that the Inland Revenue are much more likely to disallow any general provisions made without reference to specific companies.

## **Section 7 - Conclusions and Recommendations**

The principal points to come out in this study to date are as follows:-

- the overriding importance of assessing the strength of reserves, as part of the process of assessing solvency, despite the difficulties in so doing;
- the need for tightening-up of statutory controls on insurance and reinsurance companies in many parts of the world;
- the need for increasing professional scrutiny of companies and their data; both actuaries and accountants have a role to play in this area;
- the desirability of obtaining improved data; there may be a greater chance of success in this area, if reinsurance brokers put an element of pressure on companies to provide the necessary data in order to receive the blessing of the brokers, and hence, probably, the cedants.

Appendix I

STRICTLY PRIVATE & CONFIDENTIAL

REINSURERS SECURITY QUESTIONNAIRE

1. What is the nature of the organisation which you represent?  
[please tick where appropriate]

Insurance Broker	....
Reinsurance Broker	....
Insurance Company	....
Reinsurance Company	....
Lloyd's Managing Agent	....
Other Underwriting Agent	....
Professional Adviser	....
Other (please specify)	....

2. What is your role within that organisation?  
[please tick as many as appropriate]

General Manager/ Director	....
Broker	....
Underwriter	....
Accountant/Financial Controller	....
Actuary	....
Claims adjusting	....
Other (please specify)	....

3. Does your organisation have a Security Committee?  
[please tick where appropriate]

Yes .....  
 No - we use brokers' recommendations .....  
 No - we use outside consultants .....  
 No - we use only Lloyd's and ILU  
       companies .....  
 No - we have an informal approach .....  
 No - other (please specify) .....

4. Are you a member of any such Security Committee?  
[please tick where appropriate]

Not applicable - no Committee .....  
 Yes .....  
 No .....

5. In the assessment of the security of an insurer or  
 reinsurer, how do you rank the importance of the following  
 data sources?  
 [please tick where appropriate]

	<u>Utmost</u> <u>Importance</u>	<u>Great</u> <u>Importance</u>	<u>Some</u> <u>Importance</u>	<u>Little</u> <u>Importance</u>	<u>No</u> <u>Importance</u>
1. Shareholders' Report & Accounts	[ ]	[ ]	[ ]	[ ]	[ ]
2. Statutory returns	[ ]	[ ]	[ ]	[ ]	[ ]
3. Best's publications	[ ]	[ ]	[ ]	[ ]	[ ]
4. ISI Analyses	[ ]	[ ]	[ ]	[ ]	[ ]
5. Insurance or Reinsurance Brokers' Analyses	[ ]	[ ]	[ ]	[ ]	[ ]
6. National press	[ ]	[ ]	[ ]	[ ]	[ ]
7. Insurance press	[ ]	[ ]	[ ]	[ ]	[ ]
8. Market Intelligence	[ ]	[ ]	[ ]	[ ]	[ ]
9. Other (please specify)	[ ]	[ ]	[ ]	[ ]	[ ]

.....

.....

.....

.....

6. In the assessment of the security of an insurer or reinsurer, weight is commonly placed on factors such as those listed below.

Please indicate how important you consider these factors should be; by ticking where appropriate.

FACTOR

	Utmost <u>Importance</u>	Great <u>Importance</u>	Some <u>Importance</u>	Little <u>Importance</u>	No <u>Importance</u>
<u>General Factors</u>					
1. Nationality of (re)insurer	[ ]	[ ]	[ ]	[ ]	[ ]
2. Ownership of (re)insurer	[ ]	[ ]	[ ]	[ ]	[ ]
3. Quality of management	[ ]	[ ]	[ ]	[ ]	[ ]
4. Quality of Underwriters	[ ]	[ ]	[ ]	[ ]	[ ]
5. Traditional links with reinsurer	[ ]	[ ]	[ ]	[ ]	[ ]
6. Claims Service	[ ]	[ ]	[ ]	[ ]	[ ]
7. Involvement of actuaries	[ ]	[ ]	[ ]	[ ]	[ ]
8. Personal acquaintance with underwriter	[ ]	[ ]	[ ]	[ ]	[ ]
9. Information in Chairman's statements	[ ]	[ ]	[ ]	[ ]	[ ]
10. Notes to accounts	[ ]	[ ]	[ ]	[ ]	[ ]
<u>Financial Factors</u>					
11. Strength of currency in territory of domicile	[ ]	[ ]	[ ]	[ ]	[ ]
12. Size of (re)insurer: premium income	[ ]	[ ]	[ ]	[ ]	[ ]
13. Size of (re)insurer: capital and free reserves	[ ]	[ ]	[ ]	[ ]	[ ]
14. Solvency margin of (re)insurer	[ ]	[ ]	[ ]	[ ]	[ ]
15. Profitability of (re)insurer	[ ]	[ ]	[ ]	[ ]	[ ]

	<u>Utmost</u> <u>Importance</u>	<u>Great</u> <u>Importance</u>	<u>Some</u> <u>Importance</u>	<u>Little</u> <u>Importance</u>	<u>No</u> <u>Importance</u>
<u>Financial Factors cont...</u>					
16. Perceived strength of claims reserves	[ ]	[ ]	[ ]	[ ]	[ ]
17. Dividends paid	[ ]	[ ]	[ ]	[ ]	[ ]
18. Liquidity of (re)insurer's assets	[ ]	[ ]	[ ]	[ ]	[ ]
<u>Business Factors</u>					
19. Level of debts	[ ]	[ ]	[ ]	[ ]	[ ]
20. Basis of valuation of assets	[ ]	[ ]	[ ]	[ ]	[ ]
21. <u>Business portfolio</u>					
a) Nature	[ ]	[ ]	[ ]	[ ]	[ ]
b) Spread by class	[ ]	[ ]	[ ]	[ ]	[ ]
c) Geographical spread	[ ]	[ ]	[ ]	[ ]	[ ]
22. Expense Ratio	[ ]	[ ]	[ ]	[ ]	[ ]
23. <u>Reinsurer's retrocessions</u>					
a) Nature	[ ]	[ ]	[ ]	[ ]	[ ]
b) Amount	[ ]	[ ]	[ ]	[ ]	[ ]
c) Identity of retrocessionnaires	[ ]	[ ]	[ ]	[ ]	[ ]
24. Availability of reciprocity	[ ]	[ ]	[ ]	[ ]	[ ]
<u>External Ratings</u>					
25. Best's Rating	[ ]	[ ]	[ ]	[ ]	[ ]
26. ISI Rating	[ ]	[ ]	[ ]	[ ]	[ ]
27. Broker's assessment	[ ]	[ ]	[ ]	[ ]	[ ]
28. Clean Audit Report	[ ]	[ ]	[ ]	[ ]	[ ]

PLEASE RETURN THIS FORM TO PENSION & POPULATION RESEARCH INSTITUTE IN ONE OF THE ENVELOPES PROVIDED

RSWPQ.DMH/ejr  
17.07.90

## Appendix II

In a paper entitled Outstanding Claims Reserves presented to the Institute of Actuaries Students' Society on 17th April 1984, G.E. Lyons, the author, quotes sample premium and claim payment patterns for various classes of business.

Defining the reserve to be the amount of claims yet to be paid less the amount of premium yet to be received, it is possible to express the reserve implied by these figures in terms of the premium income. For simplicity we have assumed that all premiums are net of commission; adjustments might be required for gross premiums.

Some selected results based on these figures of the eventual relationship of reserves to net premiums on the assumption of the same amount of business each year when the steady state has been achieved are as follows:

Type of Business	Loss Ratio	Reserves (as proportion (of Net Premiums)	
Fire Non-Proportional	80%	50%	
	100%	73%	
Marine	80%	69%	
	100%	112%	
	120%	155%	
Aviation	80%	101%	
	100%	157%	
	120%	213%	
Accident Non-Proportional	100%	641%	452%) if
	150%	995%	709%) discounted
	200%	1349%	

If the loss ratios look high for Non-Proportional Accident business, it should be realised that a break even ratio allowing for interest, at 7%, but not expenses, would be about 165%.

If accident non-proportional had been written at a constant level for five years followed by twice that level for each of the next five years, the reserves at the end of the tenth year from outset would be

<u>Loss Ratio</u>	<u>Reserves</u>
100%	412%
150%	651%
200%	890%

cont./



**Appendix II (cont)**

Extract from:- G. E. Lyons - Outstanding Claims Reserves - paper presented to Institute of Actuaries Students Society 17/4/84.

The flow of reinsurance premiums and claims for a typical underwriting year:-

Develop- ment Year	Fire Non-		Accident Non-		Marine		Aviation	
	Proportional NPI %	Claims %	Proportional NPI %	Claims %	NPI %	Claims %	NPI %	Claims %
1	51	19	53	1	20	6	13	6
2	43	52	34	5	59	36	59	26
3	6	18	9	8	17	30	20	21
4		6	2	10	4	14	7	18
5		3	1	11		7	1	5*
6		2	1	12		3		16
7				11		2		3
8				9		1		2
9				6		1		1
10				4		1		1
11				3				1
12 and over				20**				
TOTAL	100	100	100	100	100	100	100	100

**Notes on Table:-**

\* The development for each account has been smoothed, except for the low figure for Aviation in development year 5 which is due to underlying portfolio movements.

\*\* Accident non-proportional could take up to 25 years (or more) to fully develop: the 20% for development years 12 and over is an approximate estimate only.