

REINSURANCES OUTWARDS IN THE LONDON MARKET

(This note has been written for Actuaries making acquaintance with the London reinsurance market and needing to know how the market operates. The note is detailed and the subject is complex. Other actuaries may like to use it to gain an introduction to the subject and as a source of reference. One note of caution is advisable - different terms are often used by different people in the London Market for the same thing; sometimes the same term may be used by different people to mean slightly different things.)

A line written by an Underwriter is often of the nature where the loss that is expected normally to arise is small but can, exceptionally, be very large; far too large for the Syndicate/Company to carry. The expected maximum loss (EML) - also called possible maximum loss (PML) - is expected to be of manageable size but exceptionally there could be a much larger claim approximating to the maximum loss covered under the policy conditions (Sum Assured). Furthermore, the nature of the business is such that it can easily give rise to accumulations of losses, coming in from different cedants but relating to the same cause, particularly in the case of catastrophes of varying origins.

Hence there is the necessity to protect the account by suitably - designed programmes of reinsurance outwards. A desire to smooth out results, through the operation of reinsurance, is of some importance. So also are a number of minor incidental features that are mentioned in the sections that follow. But the over-riding requirement is the need for protection against heavy losses or heavy accumulations of loss and the reinsurance programme must be designed primarily to meet those criteria. The difficulty then lies in identifying fully the possible source of large loss and the extent of its possible size.

Some possible causes are easy to identify:

(a) The single large loss, for example

- An aircraft loss on which the Underwriter may hold both hull and liability cover.
- A substantial fire or explosion in a large factory.
- Loss of an oil rig.
- A satellite loss.

- (b) A large accumulation of small losses arising from a single cause, for example:

Windstorm damage  
An earthquake and resulting fires  
Flood damage from prolonged storms

Difficulties stem, however, from the fact that large losses may arise from causes which are difficult to foresee and hence are not always identified in advance as possible danger areas. Losses from Computer leasing, in its time, presented such a picture. More recently claims resulting from asbestosis have presented an even more critical picture, in which new decisions handed down by the Courts, particularly in the United States, have compounded difficulties to no small extent. Who knows what scenario might present itself next? That is the nightmare of the Underwriter.

These examples stress the need for suitable but acceptable clauses defining the extent of the cover and any specific exclusions but there still remains the danger that the Courts may interpret the cover as being considerably wider than the insurer anticipated when drawing up those clauses and exclusions.

Equally difficult to foresee is the ultimate possible size of a catastrophe. How severe can an earthquake be? How destructive can a windstorm become? In the case of American windstorms the Underwriter can work out the probable destructive effect from a windstorm of given ferocity from property density in the area and the exposure he carries, but how ferocious can the windstorm become? Is 180 mph the ultimate possible wind speed, or 200 mph or perhaps 250 mph?

In the last six or seven years, the volume of reinsurance outwards from London Market offices has increased substantially, not always, however, for purposes of achieving full cover. Some of the underlying reasons may be subject to critical review under certain conditions.

For the sake of clarity and to understand how the different types of reinsurance outwards react within themselves and on the overall portfolio of business, it is easiest to consider them as separate "levels" of reinsurance (a term which is in use but is not common in the market) and with the possibility of several different layers within each level.

In what follows, for sake of clarity and convenience, the different "levels" adopted have been set out as:

Level 1    Reinsurances on individual risks  
            (whether on a proportional or on an excess loss basis)

- Level 2 Pro-rata treaty reinsurances
- Level 3 Excess of Loss protections
- Level 4 Protected pro-rata treaties
- Level 5 Whole account reinsurances
- Level 6 Stop-loss treaties.

There are, however, so many different kinds of reinsurances placed in the market and so many variations are possible, that it is not always easy to state into which "level" they sit most comfortably. There will always be borderline cases and the grouping shown above is used for purposes of explanation rather than for strict definition.

In Lloyd's a difficulty which arises is where there are late signings (very frequent in the Aviation and Marine markets) which results in the year of account differing from the year in which the cover incepts. This is particularly true for business incepting in the fourth quarter, but is not confined to that element.

This applies to both direct and reinsurance business and can result in considerable further complications when we discuss the placing of reinsurance protections in layers (as in the section on Excess of Loss protections).

#### Level 1 Reinsurances on individual Risks

Two distinctly different types may be identified:

- (a) Excess Loss "built-in" protections on individual proportional treaties of reinsurance being accepted, or on Line Slips/Covers normally placed initially by the ceding office or by the Broker. Often the reinsurer has the choice of whether to participate in the reinsurance protection that has been placed.

It is an arguable point as to whether or not this type of cover is reinsurance outwards to the office accepting part of the treaty and to be returned, as such, to the DTI. Some offices (both Companies and Lloyd's Syndicates) treat it as such; others regard the premium paid as "another deduction", from the gross premium before arriving at the net premium, any claim recoveries then being deducted from the claims payable. Lloyd's requires that it be handled as reinsurance if it is such, but does not further specify the criteria. If a Syndicate requires that it be treated as reinsurance, then the Broker must close the R/I premium (and any subsequent claim recovery) separately, which will be done only if the Syndicate concerned is the leading Underwriter.

What is the test? The wording is usually either "for common account" or "for ABC and his reinsurers". The acid test would seem to be who would stand the loss on failure to recover claims falling within the protection as a result of failure of the security. It is doubtful whether there is any legal decision bearing on the matter. Probably a careful examination of the position would indicate that some cases involve reinsurance in the hands of the accepting office; other do not. That would involve considerable administrative problems. However, if the wording implies that each party participates in the reinsurance cover placed, the reinsurer to the extent of his pro-rata reinsurance treaty and the primary carrier to the extent of his net retention, then clearly the built-in protections are reinsurances outwards and must be treated administratively as such.

(b) Facultative reinsurances

These may be either fully proportional as to both premiums and claims (with over-riding commission on the R/I premium) or non-proportional or with premiums proportional but claims on an excess-loss basis. There may well be several layers of reinsurance involved, each with its own excess point and limit.

They may be placed on direct business or on any type of reinsurance business accepted, including both proportional and non-proportional treaties. If on a proportional treaty, calculations will be net of any built-in protections.

There are a number of possible causes for facultative reinsurances being placed:

- (i) A leading Underwriting may be induced by the Broker to take a larger line than he wishes to retain, in order to assist the Broker in inducing other potential Underwriters to take part of the Risk.
- (ii) An Underwriter may take a fairly substantial line on a Risk which he regards as being of doubtful quality in order to obtain, from the same Broker, other preferred business and may then seek to place part or even all of the risk of doubtful quality with another Reinsurer who may be prepared to take it.
- (iii) The Underwriter may take a line to oblige the Broker but then find that he has too large a "book" (in terms of possible accumulations of risk) such as in an area or on a fleet of aircraft or ships, and wish to reduce the amount at risk.

- (iv) The Underwriter may be able to find profit or may find it desirable to accept a Risk with high limits of liability and then reinsure out facultatively one or more layer at the higher levels to limit the liability. Similarly, in Marine insurance he may take a complete cover and reinsure part or all TLO (Total Loss only).
- (v) The Underwriter may find it expedient to accept a composite Risk e.g. Marine covering Hull and Cargo and then to reinsure out part of it, say the Hull part.

The reinsurance may be placed either by the same Broker or by another Broker. Sometimes lines are accepted on particular Risks only on condition that the Broker can reinsure part of it again and the Slip may even be marked accordingly.

- (vi) A very frequent cause of accepting business which is then reinsured out facultatively is that of a "fronting" operation. It may be done for political reasons (e.g. to enable an Israeli reinsurer to cover an Arab Risk) but is more frequently done to pass on reinsurance to a reinsurer who is not acceptable security to the office placing the reinsurance initially.

In some cases of fronting, the Broker may even account direct to the office being fronted and account to the fronting office only for over-riding commission.

In such cases, there must be a measure of risk, to the "fronting" company, of the "fronted" company failing, to an extent that is not negligible, and part at least of the over-riding commission should be used to that end.

In current conditions, which show particularly the development effects of poor underwriting in a weak market, considerable losses are occurring from failure of reinsurance security and much "fronting" is coming to the fore in such failures. At worst, the office being fronted may fail after premiums have been paid and before claims are met, leaving the fronting office with the worst of both worlds.

## Level 2    Pro-rata treaty reinsurances

These take the form of proportional treaties, usually closed quarterly with the provision of full treaty statements to the reinsurers, which may include premium reserves and interest thereon, perhaps also loss reserves. They may also provide for profit commission or the rate of over riding commission may vary by results.

On most pro-rata treaties, only a treaty statement is provided, from which it is impossible to track individual risks or individual claims.

The elements going into the treaty statement will be premiums and claims, which may in turn be derived from direct business, facultative reinsurances accepted and both non-proportional and proportional treaties. To the extent that they are derived from proportional treaties, the make-up of the treaty items will first be split into separate premium and claim elements, portfolio premiums being amalgamated with ordinary premiums. Where premium reserves exist on the incoming business, a premium net of transfers to/from reserves may sometimes be carried to the pro-rata reinsurances even though a further premium reserve may then exceptionally be set up. Alternatively, a transfer gross of reserves may be allocated, new premium reserves then being set up on the outwards treaty.

The terms will normally vary by underwriting year, the allocations to the outgoing treaty being allocated by underwriting year according to the inwards allocations.

The treaty may be "closed" after a period of years (normally 3) by means of a portfolio transfer into the next underwriting year, further transactions thereafter using the terms applicable to the new underwriting year as to reserves, rates of interest, over-riding commission and/or profit commission.

Several reinsuring underwriters may be involved and they may be split, with either different or even the same underwriting Brokers, into groups with different conditions as to over-riding commission, reserves, rates of interest on reserves and profit commission.

The allocation of business to pro-rata outwards treaties may be determined in one of a number of ways:

(a) Quota share treaties.

"Class driven", where the treaty covers reinsurance of a set proportion of one or more classes of business, (exceptionally) with some restrictions as to country or currency or perhaps an individual reinsurer will want Risks from the country where he himself operates excluded from his participation in the treaty.

(b) Surplus line or fac/oblig. treaties.

Where the allocation is "Risk-driven", the underwriter, on accepting Risks, allocating variable percentages thereof to one or more reinsurance treaties, thus using the treaties where he desires to limit his liability on specific Risks presented to him or the size of his net acceptance.

Although there can be disadvantages to this type of reinsurance, it is the type that has grown immensely in popularity over recent years.

In many cases, the programme is used by Underwriters in order to assist them in retaining a valued facility or to provide the capacity to write substantial lines on preferred business. Used in this way, the reinsurance treaties can, and often do, show results to the accepting reinsurer better than normal market results. Such an Underwriter will guard his name jealously and will care for his accepting offices fully as much as for his own net retention.

The Risk-selective basis used can, however, also lead to the hiving off of substandard business in the hands of a ruthless Underwriter and treaties showing results of such a nature have clearly been a phenomenon of the market in recent years where there has been considerable over-capacity.

Hence it has become essential for accepting offices to know the Underwriters they are dealing with and to watch the results critically.

There can always be a possibility that particularly favourable treaties are too heavily placed by Brokers anxious to satisfy their clients and later signed down considerably. The effect, if done extensively, will be to worsen the results of a portfolio of Risk-selective treaties.

(c) In the Marine market it is not uncommon for the reinsurance to be split between TLO cover and cover as against other losses. If so, it is possible that different proportions of the incoming business will be so split and at differing proportions of the total incoming premium.

The allocation of level 2 reinsurances normally will be net of allocations to level 1 (facultative reinsurances).

Where several treaties have been placed, allocations to them may be pari-passu in relation to cessions from any one Risk or may be hierarchical or a mixture of the two.

In the London Market, pro-rata treaties are usually closed in three currencies, UK £, US \$ and Canadian \$, according to the incoming business tracking through to the treaty. Business tracking through from other, miscellaneous, currencies will usually be converted to UK £ or US \$ and it is then important that rate of exchange differences be allocated to premiums and claims correctly. In the case of UK subsidiaries of US companies, the pro-rata treaty may be closed in US \$ only.

The elements of the transactions are all proportional (although the proportions may vary). Hence the calculations can readily be carried out by suitable computer programs at relatively low cost, even as to calculation of reserve, release of reserves, calculation of interest and/or profit commission.

There are differing opinions as to the allocation of overriding commission:

- (i) Setting them against expenses to pay for the cost of handling the reinsurances (there will then usually be a measurable profit).
- (ii) To allocate them directly in the underwriting account by reducing R/I premiums and hence increasing premiums net of reinsurances outwards. This attitude would appear to be correct to the extent that there must always be some risk element involved in that the security offered may fail. Of recent years, indeed, the risk has sometimes been proved to be not inconsiderable.

In a correct financial analysis of the accounts, the overriding commission should be split, probably on a somewhat arbitrary basis, between the two parts.

At first sight, it is difficult to see the justification for pro-rata treaties being set up on a Risk-selective basis where adverse selection can be a marked danger. However, in practice it is not easy for an underwriting office situated away from the London Broker to obtain suitable business. Such an office can rely on Brokers to offer business by telex but it is time-consuming to the Broker and inevitably he may tend to offer business that has proved hard to place in London. Unscrupulous Brokers may use it as a channel, with weak underwriters, to place business at rates that cannot be obtained in London. It is really only when the Broker is seeking reciprocal business from that company or that country that he may guard more carefully the interests of the reinsurer.

Alternatively the overseas reinsurer may accept pro-rata treaties covering business chosen on a Risk-selective basis, even though elements of selection against the reinsurer may possibly be involved. His whole portfolio of business may well consist of only a dozen or so large pro-rata treaties obtained and accepted on such a basis.



If, furthermore, the reinsurer has been induced to agree to a substantial amount of over-riding commission then it becomes even more unlikely that the treaty will show a profit.

It is fair to say that a not inconsiderable number of underwriting disasters in recent years, particularly where overseas captives are concerned, have stemmed from these causes, where underwriting has not been sufficiently strong to sort out the wheat from the chaff.

### Level 3 Excess of Loss Protections

Reinsurances against large losses, using excess-loss non-proportional treaties for the purpose, are the traditional method by which the London Market has sought to protect itself. Together with facultative reinsurances of individual Risks, they must form the backbone of the protection sought.

The portfolio excess loss protections arranged by an underwriting office will probably include all of the following:

- (a) Protections based on individual classes of business or even sub-classes (e.g. transport of specie) or on combinations of classes and countries (e.g. property damage from earthquakes in Japan).
- (b) Protections based on the major class groups, traditionally Non-Marine, Marine and Aviation, coming into play after the operation of the minor class protections.
- (c) Whole account protection, coming into effect after, and on top of, the major class protections.

Each protection will normally be placed in several layers.

The treaties are likely to be based on premiums calculated as percentages of the premiums booked to date on the underlying business covered (net of reinsurance premiums paid out on levels 1 and 2), the actual percentage agreed decreasing rapidly as the layer advances upwards, and payable as to:

- (i) A minimum and deposit premium, payable in quarterly instalments, calculated on an amount rather less than the net premium anticipated on the book of business being protected for that u/w year.
- (ii) An adjustment premium payable annually to correct for the actual premiums received to date, provided the total amount calculated as due exceeds the minimum premium already paid.

- (iii) Reinstatement premiums due, nil, one, two or more, payable whenever the layer is "burnt through" or pro-rata for a lower loss recovery according to the provisions of the treaty. (There may even be reinsurances to protect reinstatement premiums.)
- (iv) It is possible that a "split rate" may be used, the protection covering two classes of business but with premiums calculated at different rates for the two classes e.g. 7% on the premium income relating to the first class and 4% for the second, the two resulting amounts then being added together.

There are numerous variations in the way and in the extent to which losses are covered by the protections, provided always that the amount of loss concerned to the office is sufficient "ground-up" to move the loss into the treaty layers. The determining factors will be covered by the treaty wording. Examples of the operation of such protections are:

- (i) A single loss occurring at a point in time (for example, an aircraft crash).
- (ii) Losses which arise within a specified period of time, usually 72 hours, from a specific event. The best example is windstorm damage, where the losses accumulated in the books of the office concerned may come in from a large number of different ceding offices, through facultative reinsurances and both proportional and non-proportional treaties, in different "markets", perhaps both Non-Marine and Marine (as happened in the Betsy hurricane in 1965).

The ceding office may itself choose the end-points of the 72 hour period covered but there is normally a provision to the effect that the period chosen may not start before the first claim.

The event involved is designated as a "catastrophe". Lloyd's maintains a list of catastrophes by year, under specified codes. There is also the ISO list maintained in the USA. An office will probably add to the list, giving its own codes, according to its aggregations of business. One code may later, however, be found to cover 2 or even more "catastrophies" as defined under the cover.

- (iii) The period allowed may be longer than 72 hours especially when it is difficult to decide what constitutes one "event". A good example of this was the winter of 1981/2. The claims produced by the cold weather were certainly huge but were they all one event? The reinsurances of most UK offices allow them to aggregate all claims from snow and burst pipes during a one week period into one loss. Hence some were able to collect 3 losses from reinsurers. The periods chosen to include the bulk of the claims being for example 12/12/81 to 18/12/81; 7/1/82 to 13/1/82; 14/1/82 to 20/1/82. The treaty wording requires, however, that the periods chosen should not overlap.
- (iv) The period of aggregation may cover the whole 12 months of the underwriting year concerned but may be separate for each original Assured. For example, protections in respect of asbestosis losses may depend on aggregation by the Assured Company.
- (v) The definition of the losses covered under the wording of the protection treaty may be

On a "Year of attachment" basis where it is reinsurance treaties that are being protected rather than direct policies of assurance.

On a "Risk attaching" basis, i.e. losses arising from policies commencing during the stated period of the treaty. (e.g. a policy commencing on 15th December may attach under a treaty running from 1st January to 31st December in that year.)

On a "losses occurring" basis, depending on the date of the loss.

On a "claims made" basis, depending on the date the claim was made to the ceding office by the person covered (a system brought in recently as a result of influences arising from legal decisions in the United States).

However, if treaty reinsurance is involved, then the reinsurance must follow the fortunes of the original Risks as to its make-up and that might well involve a mixture of the above types.

Where a number of treaties have been placed, some at class level, some at "whole account" level, different definitions of loss may be involved and these differences can result in gaps or duplications within the cover afforded by the programme. If there are gaps they need to be covered by additional special protections.

- (vi) All excess loss protections depend on a clear definition of "ground-up" losses. In the case of second-time-around protections (such as stem from London Market Excess of Loss business - LMX business) it is by no means always clear what the true "ground-up" loss figure stands at.

There are cases where the rules governing the accumulations may be very complicated indeed. As examples, losses covered from one Assured may be on a basis such as:

- (i) The office bears the first 6 losses, but losses over 6 in number are taken cumulatively. Incurred loss amounts are involved; not paid losses. The chronological order then becomes important.
- (ii) Only losses above a specified amount, say £10,000, are aggregated but the amounts then bear a deduction of, say, £2,500 each.
- (iii) Additional to the restrictions above, there may also be a specified maximum per claim to be aggregated.
- (iv) Alternatively, to protect the office from a totally different kind of aggregation, claims only from zero up to a specified limit, perhaps as low as £5,000, may be aggregated for purposes of the protection bought, the aggregation being then protected above a specified excess point.

In fact, a whole host of different methods of aggregation are found in the market.

Different layers of protection may carry different criteria of aggregation, which means that the picture as to where recovery is sought may alter as outstanding claim amounts advised change into settled claims but for different amounts. The dates of the claims then become of importance and can alter the sequence of recovery under the protections.

Furthermore, different currencies may be involved. The treaty will normally specify the exchange rate for US \$ (and Canadian \$) into £ to be used for purposes of these calculations. (Over some years it has tended to remain standard at 2:1.)

A not inconsiderable number of treaties are placed on a "burning cost" basis. The method is best set out as an example:

Estimated net premium income of portfolio of business being protected, say, £12m.

The rate agreed for the minimum and deposit premium is, say, 4%.

Minimum and deposit premium £480,000 (paid in quarterly instalments).

Calculation is to be based on 100/85 of loss ratio, with a minimum of 4% and a maximum of 7% for the resultant ratio.

(The 85% is merely one example found in practice. It may be 75%, 70% or any other ratio roughly in that area.)

(All calculations are net of level 1 and 2 reinsurances)

At a later stage the picture that presents itself may be:

Actual net premium income proves to be £13,682,356.

Actual incurred loss ratio is 4.72%.

Hence premium payable is  $100/85 \times 4.72\% \times £13,682,356$   
= £759,773.

Adjustment premium payable £279,773.

Very often 3 currencies (£, including exchanged sterling, US\$ and Canadian \$) will be involved in the underlying figures. If so, the treaty will specify the rates of exchange to be used (they are liable to be considerably out-dated).

There are also other, slightly different, formulae in use for burning cost premiums.

In recent years Court decisions throughout the world but particularly in the United States have brought a whole new picture into focus, particularly as to which claims are covered by which insurance and, in the case of several different insurers being involved, how the liability is spread. These decisions then have their effect, in turn, on reinsurances, both accepted and placed.

To begin to obtain a clear picture of the effect it is necessary to have some knowledge of the effect on the claims picture by Court decisions in respect of

- Medical malpractice
- Asbestosis
- "Agent orange"
- DES
- Dalkon shield

While such factors, like the effects of inflation, affect primarily the acceptance of inwards business and the results shown by that business, they may in some cases have little effect on outward reinsurances, thus affecting mainly the net account, (which implies a gap in the reinsurance programme) but in others have a powerful and even magnified affect.

#### Level 4 Protected Pro-rata Treaties

There may be one or more class-driven pro-rata treaty, as under level 2, but protected by one or more of the level 3 excess loss protections arranged for that class or those classes of business. If so, they are best described as falling under level 4.

#### Level 5 Whole account reinsurances

Arranged, if at all, with parent companies, associate companies or companies where reciprocal reinsurance arrangements exit.

They operate as pro-rata treaties but are calculated net of all underlying levels of reinsurances.

#### Level 6 Stop Loss treaties

These operate as a cut-off based on the incurred loss ratio of the business being protected. There may, however, be an upper limit to the loss ratio beyond which the treaty no longer applies.

Stop Loss reinsurance is more widely used than may be first thought possible. It is almost a standard method of cover on such classes as Personal Accident and Short-term life cover.

In more general classes it tends to be sought to protect weak underwriting in a very "soft" market, particularly when rates have been lowered on direct covers such as Binders. Such use of stop loss reinsurance tends to ebb and flow with market conditions.

#### General Notes

##### (a) Interaction of Levels

The Underwriter will always be watching the interaction of the different levels of reinsurance. Acceptance of a Risk with heavy possible loss may well be brought down, by the placing of facultative reinsurances, to the point where it is more in line with other Risks being accepted and hence adequately covered by treaty reinsurance under level 2 or excess loss protections under level 3.

Different layers of reinsurance placed on an excess loss basis may also interact. The most usual method of placement is through a series of levels of excess points and limits but the number of reinstatements allowed may also come into play. For example:

Layer 1	£ 50,000 over £ 50,000 with a maximum of 3	reinstatements
Layer 2	£100,000 over £100,000 with a maximum of 2	reinstatements
Layer 3	£300,000 over £200,000 with a maximum of 1	reinstatements
Layer 4	£450,000 over £ 50,000 with an unlimited	number of reinstatements but coming into play only after layers 1, 2 and 3.

In the above example, Layer 4 is a good example of a more general type of reinsurance known as Top and Drop Reinsurance Policies. They basically sit over the top of the overall programme but can drop down to fill gaps lower down. For example (as in the above instance) if one of the layers is subjected to limited reinstatements which are exhausted the top and drop layer can provide additional reinstatements in this layer in addition to, or instead of, providing an additional layer for claims going through the top of the other layers. It is important, where devising such covers, to know exactly at what point the "top and drop" layer can come into play and hence it is necessary for the reinsurer to have an extremely clear picture of the overall programme when rating this cover.

Such a series of layers may apply either on facultative reinsurances (level 1) placed on an excess of loss basis or excess loss protections placed under level 3. There can even be further complexities in that insurance can be placed protecting the office against the payment of reinstatement premiums.

A complication of the interaction of different layers of reinsurance surfacing at the moment is that the wording of reinsurance contracts is usually such that, if the security fails on a facultative or quota share reinsurance and claim recoveries cannot be obtained, they must still be netted off on excess loss reinsurances placed to protect the whole account.

#### (b) Volatility

The market is highly volatile both as to what types and forms of reinsurance are requested by underwriters and what types are available in the market. Both depend on the structure and profitability of the underlying market being protected. Both reinsured and reinsurer move and change their attitudes according to needs and to the ability to underwrite on terms that are expected to be profitable. Many of the variations described in the sections above arise in this way, particularly in Excess Loss protections. The market moves and switches according to opportunities taken and the capacity of the market to absorb.

Whatever scheme of reinsurance can be devised between an Underwriter seeking to maximise his profit and a Broker seeking to aid his Client and to maximise the amount of business that passes through his hands will be tried. The following notes apply to specific circumstances:

- (i) Some shrewd underwriters will seek to take advantage of opportunities to make profit so as to show a more profitable position net of reinsurance outwards than on the gross account. There are, however, dangers inherent in too rough an attitude. It may be found for example, that by reinsuring out in layers facultatively to cover all or part of a Risk, a position can be realised with nil liability but with a residual part of the premium, sometimes not insubstantial.

If the underwriter has been able to place reinsurance in this way in a strong market then it may indicate that he has been able to obtain very good business in the first instance and the potential profit is there in any case but more usually the very fact that such reinsurances have been accepted in the market would seem to indicate poor underwriting ability in a weak market which is dominated by overcapacity. In such a case the reinsurer is very liable to show substantial losses and the security may fail, leaving the resultant position worse than that position which would have applied had the reinsurance not been written.

- (ii) The market is also by no means static in its understanding of the type of cover involved in reinsurance. For instance, freezing weather conditions were not originally understood as giving rise to catastrophe accumulations of cover under reinsurance treaties but the cover was extended to cover it as the need for such cover became recognised. In recent years, conditions of "freeze" have become an important factor in accumulation underwriting.
- (iii) While there was a strong move some years back towards clean-cut proportional treaties through the use of both premium portfolio transfers (usually after two years) and loss portfolio transfers (usually but not by any means always after, three years) usually with some provision for IBNR, that picture has changed radically more recently due to the effect of unknown factors such as asbestosis claims which may be lurking underneath and do not surface until years later.



Hence a vital factor when examining proportional treaties for residual liability is to ascertain whether there has been a complete cut-off or whether there is a "losses to extinction" clause.

- (iv) There are also other changes that have manifested themselves in proportional treaties as a result of market experience. The Darwin windstorm claims in Australia shocked the market, not in the size of the claims, but in that they arose in an area where windstorms were known to exist but where no one quite expected the degree of accumulation of risk that had grown up over the years. As a result primary carriers are often requested by reinsurers to protect a treaty by first placing catastrophe excess of loss cover for common account. On the other side some measure of demand has grown up for surplus treaties outwards to be protected by catastrophe excess loss cover, so effectively moving them from level 2 to level 4 in the groupings shown above.

Finally, level 3 excess loss covers outwards have themselves been examined for sufficiency in terms of catastrophe cover in respect of losses emanating from various points of the world.

- (v) At the time when market conditions were particularly "soft" and underwriters accepting business were unable to obtain what they considered would have been profitable rates, layers on non-proportional treaty were sometimes accepted on low rates but accompanied by a clause specifying an increase in rate in the next year if the losses were above a stated minimum. It went some way towards a stop loss situation but never worked very well as losses were never fully recovered.
- (iv) This year (1985) the market has hardened to a considerable extent and excess loss protections have become much more difficult to place at reasonable rates.

(c) Acceptance of LMX business

The acceptance by offices of reinsurance business placed in the London Market, or from markets outside the UK which have themselves accepted reinsurance business placed through the London Market, involves considerable complications. There is a large volume of business involved and it is placed extensively, both in London and abroad. It has a number of effects:

- (i) It renders amounts of liability accumulation much more difficult to estimate by Underwriters.

- (ii) There is a considerably increased delay in accounting, particularly in regard to losses under specified catastrophes. The tail gets longer and longer as a result of additional delays caused by the reporting chain.
- (iii) After cycling through two or more hands, there can be an incestuous effect. In such cases, does the accounting ever stop going around and around?
- (iv) The further down the reporting chain the more difficult it becomes to define accurately the reinsurance covered. The reporting tends to be in summary form only. Precisely which Risks attach? How can one obtain an idea of the amount of total exposure involved? Where is the original source of the business? Can the office be certain it is not covering the same Risks twice?

How is a "catastrophe" defined, when the bits and pieces going to make up the total are themselves derived from primary carriers who have decided on different dates to delineate the catastrophe? And what about a "freeze" which is chopped up into 2 or 3 different periods by each primary carrier contributing to the total, particularly when the weather conditions concerned hit different countries on different days.

- (v) Where LMX reinsurances are derived from Lloyd's Syndicates the reinsurances themselves would have been covered on a "year of account" basis as defined by Lloyd's, where the effect of late signings is to switch the underlying transactions from one underwriting year to the next.

(d) London Market practice

Offices operating in the London Market, whether Lloyd's Syndicates or Companies, are in competition one with another yet also act as a market with common outlook and practice.

It is important to the operation of the market that any outside office accepting reinsurance shall conform to the normal practice of the market. If for example, that office should ask for details of all claims, however small, submitted under a treaty return then an additional burden is caused which the London Market is not suitably equipped to handle.

When unusual claims or special circumstances arise outside normal occurrence then the members in the London Market who are affected tend to set up ad hoc committees to deal with the matters, thus arriving at a reasonable settlement, avoiding costly legal processes and deciding the matter on normal London Market practice. It is a procedure that has worked well over many years. It finds its most direct expression in arbitration clauses that direct, for example, that the arbitrators will settle any dispute arising from the reinsurance "according to an equitable rather than a strictly legal interpretation" of the terms, but has wider uses. A good current example is the "facility" set up in the United States, largely under leadership from the London Market, for the equitable settling of asbestosis claims, in order to cut through and avoid all the many legal arguments that will otherwise arise.

However, where strongly conflicting individual interests are involved there may well be powerful influences at work deflecting individual offices from following London Market practice in particular cases, provided they are legally free to do so and such a decision is not likely to harm their standing in the market. It can be a difficult and painful decision for an individual office to make. In recent years there has been, if anything, a tendency towards market practice being less predominant than previously, possibly as a result of influences brought to bear by reinsurers outside the U.K.

It is important to the London Market that outside reinsurers will have the same basic attitude towards the settlement of disputes, will join in the discussions and will accept the decisions reached at those discussions.

#### Examination of a Reinsurance Programme

An actuary may be called on to express an opinion as to the adequacy of a reinsurance programme. The problem faced may be formidable. Guidelines may be expressed as:

- (a) Can any gaps be seen? Examine examples of loss.
- (b) What will be the effect of continued inflation?
- (c) Can the Underwriter explain the programme fully? Does it sound logical? Are the outwards treaties all really of use?
- (d) Is it possible to model the programme?
- (e) Try putting a number of Risks and claims through the programme to see the effect, particularly large losses of unusual type.

- (f) How high should the protections go? What is the loss ratio on the protections, taken by themselves? How costly are they? How high should the limits go to "sleep easy".
- (g) How do limitations on the number of reinstatements affect the protection? Is there additional "top and drop" reinsurance?
- (h) Are the aggregations sufficiently protected? PML figures are a useful concept for ordinary underwriting but the protection limits must be geared towards figures of maximum loss, particularly in the case of catastrophes such as "wind aggregates".
- (i) Alternatively, is the reinsurance pitched at a low level which is difficult to justify, resulting in many of the normal run of claims being caught up in the reinsurance?
- (j) What is the effect on capacity?
- (k) Taking a year in which there have been heavy catastrophe losses in the market, to what extent have the various layers of protection been "burnt through".
- (l) How high is the solvency ratio and to what extent can it be called on to cover unusual or unusually high losses, in lieu of expensive reinsurance cover?
- (m) Does the reinsurance have the effect of smoothing the results and, if so, how far should the smoothing effect go, if expensive?
- (n) Has the security of the reinsurers been examined?
- (o) Does an examination of the documentation reveal any aberrations?

#### Other Types of Reinsurance Contract

The following list, whilst not necessarily complete, indicates the range of more specialised reinsurance protections that are currently available in the London Market or other world reinsurance markets, or have been available in periods when the market was "soft".

##### 1. Run-off protections

Such covers are basically reinsurance contracts to limit the deterioration possible on old years of account as a result of adverse claims development. They were readily available three or four years ago, being written, usually, as a form of stop-loss reinsurance on the whole account, subject to an aggregate deductible approximately equal to the known outstanding losses or the known outstandings plus an element of IBNR.

Some such contracts were written on an unlimited basis; others had finite limits. Many are proving to be seriously underrated mainly on account of the impact of latent disease and environmental impairment claims which are now estimated to cost greatly in excess of the amount reserved when the contract was placed. Consequently, the underwriters prepared to issue such contracts in the current market usually exclude some or all of such claims. The reasons for purchasing such contracts vary, but the more common include:-

- (a) The wish to "sleep easy" in the knowledge that there is limited scope for old years to ruin the current profitability - this often is tied in with a change in underwriter or a take-over, and the new man's wish to ensure that his reputation is not prejudiced by something written by his predecessor.
- (b) The wish to introduce a form of discounting without specifically saying so, - the reinsurer will usually discount the amount he expects to pay on account of future investment income, so the cedant could often improve his balance sheet by buying such a reinsurance, without the politically sensitive issue of discounting being mentioned.

## 2. Reinsurances of outstanding losses

These are somewhat similar to those described above except that the attachment point of the contract is much lower. Alternatively, there may be a loss portfolio transfer. Both methods involve the reinsurer in meeting claims almost immediately.

However, on a long-tail account there is still considerable scope for discounting by the reinsurer, which enables him to provide a limit (probably similar to the total known outstanding losses) for a premium considerably below this amount. The main purpose in this case is the improvement of the balance sheet without specifically admitting to the use of discounting.

In US, such contracts can be backed by the use of tax-free bonds which results in greater profitability for the reinsurer and can even make it possible for him to provide such cover without premium. This system appears to have been abused by certain large American insurers, who have "swopped" outstanding claims and gained substantial profits by doing so. It is understood that a new regulation, No. 108, has been introduced in New York State to stamp out the use of this type of transaction and it may soon be followed by other States. The type of transaction may still, however, remain as a perfectly valid tool to handle problems arising from capacity.

### 3. Rollovers

It is questionable whether reference to rollovers is relevant in a paper on reinsurance, but in view of the fact that there is a substantial body of opinion which maintains that they are reinsurances, some comment appears necessary.

Rollovers are contracts under which the premium is paid to a "reinsurer" to provide for "claims" when the reinsured needs them, but without reference to the reimbursement of specific claims payable by the reinsured on his original account. In this respect they are more akin to investments but, by masquerading as reinsurance contracts, tax relief is obtained on the transaction. The precise nature of the return available to the reinsurer varies from one to another, but in general the amount available is something along the lines of the premium plus interest, possibly with a penalty clause for an early claim.

### 4. Stop-loss on individual Lloyd's names

Many Lloyd's names are members of several syndicates, and in order to protect them from an accumulation of losses from each of their involvements, it is possible for them to purchase, as individuals, a stop-loss policy to limit their ultimate loss. This is a facility used by many names who see it is a wise precaution, given the unlimited nature of Lloyd's membership liability and the fact that a bad year for one syndicate is often a bad year for the market as a whole.

Whilst the amounts involved are small by reinsurance standards, they are an important class of reinsurance contract when seen against the background that it is individuals that are concerned rather than large corporations.

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