Assurances

Assurances

Excess of Loss and Stop Loss Reinsurance

S. W. Pressman

Volume 28, Number 4, 1961

URI: https://id.erudit.org/iderudit/1103399ar
DOI: https://doi.org/10.7202/1103399ar

See table of contents

Publisher(s)

HEC Montréal

ISSN

0004-6027 (print)
2817-3465 (digital)

Explore this journal

Cite this document

Pressman, S. (1961). Excess of Loss and Stop Loss Reinsurance. *Assurances*, *28*(4), 187–207. https://doi.org/10.7202/1103399ar

Article abstract

Nous reproduisons ici avec plaisir l'excellent travail que monsieur S. W. Pressman a présenté au XVI[e] Congrès International des Actuaires qui a eu lieu à Bruxelles en 1960. Monsieur Pressman y fait une étude de la réassurance, en ce qui a trait particulièrement aux traités d'excédent de sinistre et d'excédent annuel de sinistres. Monsieur Pressman est le directeur général de la maison Eldridge & Company, de Londres, et il fait partie du conseil d'administration de la maison le Blanc Eldridge Parizeau Inc., de Montréal. Nous extrayons ce travail du numéro spécial de décembre 1960, que *The Review* a consacré récemment à la réassurance.

ASSURANCES

Revue trimestrielle consacrée à l'étude théorique et pratique de l'assurance au Canada

Autorisée comme envoi postal de la deuxième classe.
Ministère des Postes, Ottawa.
Les articles signés n'engagent que leurs auteurs.

Prix au Canada :
L'abonnement : $2.50
Le numéro : - $0.75

Directeur : GÉRARD PARIZEAU

Administration :
Ch. 102
410, rue St-Nicolas
Montréal

28e année — Montréal, janvier 1961 — No 4

Excess of Loss and Stop Loss Reinsurance

by

S. W. PRESSMAN, F.I.A.

Nous reproduisons ici avec plaisir l'excellent travail que monsieur S. W. Pressman a présenté au XVIe Congrès International des Actuaires qui a eu lieu à Bruxelles en 1960. Monsieur Pressman y fait une étude de la réassurance, en ce qui a trait particulièrement aux traités d'excédent de sinistre et d'excédent annuel de sinistres. Monsieur Pressman est le directeur général de la maison Eldridge & Company, de Londres, et il fait partie du conseil d'administration de la maison le Blanc Eldridge Parizeau Inc., de Montréal. Nous extrayons ce travail du numéro spécial de décembre 1960, que The Review *a consacré récemment à la réassurance.*

The paper gives an historical survey of reinsurance practice and of the reasons which led to the emergence of the

non-proportional method. The occasions on which this system is employed and the difficulties of rating (empirical or theoretical) are described. The major points referred to in treaties are mentioned and possible future development is examined. The present position is that excess of loss reinsurance is used for protection against infrequent heavy claims and catastrophes, but any increased use on a large scale as underwriting cover can only be by competing with and at the
 expense of the proportional system. Such competition cannot be serious until there is a larger market of reinsurers, and only then will it be possible to see if non-proportional reinsurance represents a real threat to surplus and quota share treaty arrangements.

Preamble

The basis of this paper is practical experience in the London market which has led, sometimes, to attempts to reconcile differences of opinion between ceding company and reinsurer and between theorist and empiricist. In order to function in the London market, some knowledge is required of views and reactions of other markets — the world-wide ramifications of reinsurance are such that an insular approach is untenable.

Excess of loss and stop loss reinsurance are examples of "non-proportional" reinsurance in which the allocation between ceding company and reinsurer of any claim arising is on a basis determined by the amount of the claim and not by reference to their respective share of premium. In this context, "claim" means, in excess of loss, the amount payable as the result of one event or occurrence under policies of the type defined in the relevant treaty. For stop loss, "claim" means the total claims in a year under policies of a defined type.

As would be expected, non-proportional reinsurance emerged later as a technique than did proportional reinsur-

ance. One can speak of the history of insurance on present lines beginning two hundred and fifty years ago. There was already, at that time, the practice of accepting larger risks than it was desired to retain and facultative reinsurance as a system has a history equally as long with individual examples dating back much earlier. Obligatory reinsurance facilities have a long history, too, and the first known treaty, between two continental companies, was in 1821, the first in England following three years later. By the middle of the 19th century there was greater reinsurance activity in Central Europe than in England and special companies were formed in Germany for the exclusive purpose of transacting reinsurance in the latter part of the century, the first being in 1852 in Cologne. The first British reinsurance company started in 1867. The earliest English reference so far traced to excess of loss cover was in about 1885 and the first English stop loss contracts date back to 1921 though the practice was not well established for a further ten years. Impetus was given to the development of excess of loss reinsurance by the growth of business concerned with indemnity against legal liabilities. This kind of business (in which the indemnity limits were high or even unlimited) produced the infrequent large claim and was thus particularly suited to excess of loss reinsurance.

Catastrophe covers (described later) became more common in the United States after the first world war and stop loss reinsurance was fostered there by a desire on the part of smaller mutual companies to limit the liability of their members to a levy in bad years. Other factors influencing expansion were a desire to reduce the administrative burden imposed by orthodox methods and a fear of accumulation of risks despite the costly but sometimes unreliable checking systems employed.

The operation of reinsurance facilities may best be appreciated by looking at matters from the point of view of an

insurance company — the potential cedent. Such a company will have determined its net retention (which will vary, inter alia, according to the degree of hazard and the class of business), but it must be enabled to accept larger amounts. Facultative methods may be used on occasions (when large risks are beyond treaty capacity or when it appears the interests of reinsurers would thereby be served) but the main examples of proportional reinsurance are the quota share and
190 surplus methods. Under the former, the cedent retains a constant proportion of each risk (and of the corresponding premium) while the balance is automatically placed with its treaty reinsurers. Under the surplus method, the cedent retains up to its net retention while any balance (up to a maximum expressed as a multiple of the cedent's retention) is automatically reinsured. The latter method therefore has the advantage of the company not being left with only part of a risk all (or a larger part) of which it would be willing to retain itself. The quota share method may, however, be forced on a new company or on a company starting a particular branch of insurance — and even then there are compensations as the expense of administering a quota share treaty is lower than that of a surplus treaty and higher commission rates can usually be obtained from reinsurers as less selection is exercised against them.

It is worth emphasizing at this point that surplus reinsurance is proportional only as regards each individual policy but is not so for the class of business as a whole. The cedent's experience of its retained business can be quite different from that of the surplus treaty reinsurers although admittedly there are other reasons (such as the commission rate obtained not reflecting actual rates of agents' commission and management expenses) for this being the case. It is also worth noting that it is conventional to regard the surplus method as breaking down for certain type of accident business

involving unlimited liability. Even if a "maximum possible loss" could be determined for these types (as is done in large fire risks where retentions are based on this figure and not on the virtually unlimited sum insured itself), there are other considerations which make the surplus treaty unattractive as a solution to this reinsurance problem.

Excess of loss reinsurance is another method of a company avoiding the risk of being concerned in claims involving it in amounts greater than it is prepared to pay. If this latter amount is described as the underlying retention, we may say that claims arising from business of the type defined in the relevant treaty and which are in excess of the underlying retention are reinsured to the extent of such excesses. It does not follow, assuming that excess of loss is being examined as an alternative to surplus reinsurance, that the "underlying retention" of the former should be the same figure as the "net retention" of the latter. Allowing for the effect of reciprocal surplus but not excess of loss treaty exchanges, the surplus method involves the company being interested in claims under policies to an extent which depends on its share of the individual premiums whereas the excess of loss method in general involves it in a larger part of certain claims under a smaller number of policies. While payment of the net retention is made only in the event of a total loss, payment of the underlying retention occurs whenever a claim arises for at least this amount.

There is a variant, termed the aggregate excess of loss, on the idea of excess of loss. The former provides for reinsurance of the amount by which the sum of the excesses any one event over the underlying retention any one event exceeds a certain percentage of the relevant premium income.

In one sense, excess of loss is a natural extension of the reasoning which leads the surplus method being preferred to quota share. The latter preference exists because it is un-

necessary, merely to protect the cedent, to reinsure a fixed proportion of all risks — the part requiring reinsurance decreases as the total risk decreases. The extension takes the form of acknowledging that what requires to be reinsured is not (i) the risk in excess of the net retention because a large claim *may* occur but (ii) the excess beyond the underlying retention when a claim *does* occur. It is in this sense that stop loss as a concept is a development of excess of loss.

192 Disregarding practical objections for the moment it could be said that one of the purposes of reinsurance is to provide a levelling out of results (in particular the ratios of claims to premiums) over a period of years, and it could well be insufficient for this purpose merely to reinsure claims in excess of the underlying retention. Stop loss reinsurance provides for the reinsurer meeting that part (if any) of the total of claims for business of a defined type which exceeds a certain proportion of the total premium income for business of that type. It might be thought, therefore, that the provision of stop loss reinsurance from a point corresponding to, say, the ratio of claims to premiums over the last few years would be a useful weapon in the reinsurance armoury, leading as it would to the evening out of (effective) claims ratios.

Except for some special cases, however, stop loss reinsurance on these lines has been slow to develop and even excess of loss has not yet attained the position that some forecasts made years ago predicted for it. The reasons for this are referred to in what follows.

It is apparent that excess of loss and, to a lesser extent, stop loss can be regarded by the cedent in two ways. Firstly, it can be viewed as a hedge against "catastrophe." The cedent, after, perhaps, having arranged a proportional reinsurance system, protects itself against the still present danger of accumulation by effecting excess of loss reinsurance. An example can be taken from the fire branch, where a com-

pany cannot be liable under one policy for more than its net retention. As a result of a conflagration it may, however, be involved in more than one of its own policies and also in its incoming treaty business — particularly as the war led to an "ingrown" circulation of treaties. Alternatively, it can be used as a substitute for a proportional reinsurance system, in which case it is termed an "underwriting cover."

Reinsurers regard these approaches rather differently. The underwriting cover is naturally viewed as a participation in the losses and dependent on the ability of the original underwriter with all the dangers that a non-proportional interest in the claims can involve. The catastrophe cover is called upon in circumstances practically independent of the standard of underwriting provided the usual protective checks are in force. The distinction is not always a clear one particularly when it is argued that two (or may be more) policies have to be involved before a catastrophe cover operates whereas recourse to an underwriting cover can be necessary following a claim under just one policy. There is sometimes reluctance on the part of reinsurers to quote for excess of loss on an underwriting cover basis and among the points they may be considering is the extent to which knowledge of the existence of the excess of loss cover may incline the ceding company to, for instance, relax any use it makes of a street index system to check accumulation of fire risks. The narrowness of the market for some types of business has, in turn, disinclined companies to adopt it as a method as it would lead (though the transition could be done in stages) to the discontinuance of the well-tried proportional system and the fear of some difficulty in returning to it, if a return became necessary, after connections had been severed.

A somewhat similar concern regarding maintenance of underwriting (and claim settlement) standards, has resulted in the relatively slow development of stop loss. Reinsurers

regard this as practicable only if the cedent is not put in the position of being guaranteed a profit. It follows that stop loss is only available from the higher of (100-E)% and C% where E% and C% are respectively a little less and a little more than the average of expense and claims ratios for the last few years. In addition, it is usual to find the cedent is in effect made co-insurer for 10% of the cover provided (a similar feature is, to a decreasing extent, occasionally found
194 in excess of loss reinsurance) and sometimes a monetary limit of liability is required by the reinsurer. The latter restriction protects reinsurers against a large increase in premium income with a consequential increase in their possible liability. The most common use of stop loss is for cases in which once every few years the occurence of a natural hazard disturbs otherwise satisfactory results.

Some words must here be added as regards the degree of applicability of what has been said to life business. In practice, the majority of life reassurance is done on the risk premium basis or on original terms, with an increasing tendency to use surplus or facultative/obligatory treaties to give effect to the latter method. Reassurance arrangements made in this country for companies operating overseas are usually on the risk premium basis as this avoids involvement in investment problems. The question of accumulation can arise in life (*e.g.* in group life schemes) as in other types of business and it is possible in the United States to obtain "catastrophe" reinsurance to cover losses associated with several deaths resulting from one event. However, no significant use is made of excess of loss cover and it is not thought this position will alter.

As regards marine reinsurance, although a certain amount is placed facultatively, the normal basis is surplus (excess of line) for cargo and quota share for hull. Excess of loss reinsurance is probably gaining in popularity, particularly for

cargo as there are greater dangers of accumulation due to shipments under open covers going forward on unnamed vessels, but it is not widely used at the moment.

Reinsurance Market

It has been claimed that although Switzerland may be the world's centre for professional reinsurance enterprise, London is the world's market for non-proportional reinsurance and that for capacity and experience its resources are unequalled. Naturally that unique institution, Lloyd's, which according to a recent estimate had 60% of American fire excess of loss reinsurance, was interested initially in this type of business and since then professional reinsurers and companies have partaken in the growth that has occurred.

The placing of business follows a certain pattern and to illustrate this we may consider a company which desires, in respect of its motor business, to reinsure each claim (as previously defined on the second page) to the extent to which it exceeds £5,000. It is the practice to place this in "layers." The first layer might be £20,000 excess of £5,000, the second £100,000 excess of £25,000 and the third unlimited excess of £125,000. A particular reinsurer will, in general, only be interested in layers of a certain type (*e.g.* the unlimited) and the determination of the best levels to mark the transition from one layer to the next depends on a knowledge of market conditions in relation to the particular risk concerned. The reasons for the institution of such a practice (rather than, for instance, the acceptance by each reinsurer of a smaller portion of the total risk) are a little obscure but the thought of involvement in unlimited liability may well be unattractive to some reinsurers. Current practice is so well established that, allowing for retrocession arrangements reinsurers have in force — geared, naturally, to their system of operation — and the familiarity they have acquired with the experience

of their layers, there is little likelihood of any marked variation.

A similar layering may be necessary in stop loss. If a cedent requires cover for the range 80% to 160%, two layers might be divided at 110%.

Reinsurance Premium

196 The reinsurance applies to a defined section of the cedent's business and the premium is usually expressed as a percentage of the relative premium income, either as a fixed rate or on an adjustable basis. The latter takes the form of a sliding scale, the rate being, for instance, 100/70ths of the average of certain actual claims ratios (or "burning costs" as they are termed) with a maximum and minimum rate. The reasons for employing an adjustable basis are referred to in the next section.

A typical burning cost quotation is one in which the premium for year "n" is the average of the burning costs for the five years (n-4) to "n," loaded 50%. A maximum and minimum rate of, say, 6.5% and 2% respectively might correspond to a flat rate, not necessarily available as an alternative, of 4%.

An alternative method of allowing for the fact that statistics for the recent past have not fully developed is to quote a rate for year "n" which is to be increased in the ratio that the claims that would have been paid by reinsurers (if they had then been on risk) for year (n-2) when finally established bear to the figure of claims paid and outstanding for year (n-2) available at the time of the year "n" quotation.

In a minority of cases, particularly where the relevant ceding company's income is slight, a fixed premium is charged — a low *rate* would result in a negligible amount of premium.

Occasionally a minimum or fixed premium is quoted. This usually happens where the relative premium income of the cedent is not considerable.

By its nature, the premium is not linked in any way with the question of a commission rate (the term given in proportional systems to the allowance made in respect of reinsurers' share of the original cost of acquiring the business). Further, references to profit commission, which permit of a return to the cedent of part of the profits of a treaty which would otherwise remain in the hands of reinsurers, are less frequent: they could, in any event, not apply to excess of loss treaties rated on an adjustable basis.

Rating

Sometimes there are practical difficulties in relying on data provided by recent past experience, particularly for excess of loss. For some types of accident business the claims history is still incomplete and reinsurers are belatedly advised of claims that might or do affect them two, three or four years after the date of the occurrence giving rise to the claim. It does not follow there has been any withholding of information by the cedent as obviously there are claims which, in course of time, are reserved at or settled for larger amounts than were first envisaged. It is known, too, that some companies which practice a form of internal excess of loss reinsurance are similarly faced with the same position in circumstances where, clearly, there can be no doubt of the existence of the best of good intentions. (The position as regards personal injuries in this country is that a writ may be issued by a plaintiff up to three years from the date of an accident. The writ need not be served on the defendant for twelve months and even this period can be extended by endorsement of the writ.) Nevertheless, there is a natural tendency for a reinsurer to receive with concern the first in-

timation that he is, or may be, affected by an accident which occurred some years ago. With heightened claims consciousness on the part of the public, some claims are taking longer to settle and by the time they are settled, the amounts involved are larger than originally anticipated due to inflation, accumulation of costs and the tendency to higher awards.

For other types (in particular fire excess of loss on an underwriting cover basis) the position is different. Provided statistics of the recent past are sufficiently reliable at the date a quotation is required for the ensuing year there is no doubt a theoretical approach is justified and desirable. A certain amount of misunderstanding (more, perhaps, on one side than the other) has developed between exponents of the two methods. The theorist has been reproached for suggesting a theoretical approach in circumstances which do not warrant it: theory, however, has advantages subject to certain criteria which in this country are not in practice satisfied in the majority of reinsurances now put before underwriters for rating.

For the types of reinsurance involving belated claims advice, it is considered that the niceties of a rigid statistical approach are out of place if pursued with the intention of producing a fixed rate of premium. An example was given earlier of a typical premium rate on a burning cost basis and the wide difference will be noticed between the maximum and minimum rates. It would be an interesting theoretical study to examine the question of reducing this difference, but as things are the would-be user of a mathematical system of rating is in a cleft stick. Paucity and the unreliability of up-to-date statistics render the theoretical fixed rate quotation impossible: a burning cost basis can only be employed if maximum and minimum rates are provided and their calculation is impossible for the same reasons. Secular changes in these types of accident business are such that it seems very

doubtful if an extrapolation from determined results of years ago even if adjusted by some index of inflation is at all helpful. It is safe to say that in only a very small proportion of rate quotations is any attempt made to apply (beyond experience and judgment) anything beyond rule of thumb methods and investigation has shown that even where a statistical or mathematical basis is claimed the claim usually cannot be substantiated. It would be a considerable task of re-education to persuade ceding companies to supply the additional information required for a more rigorous approach now that custom has determined what is regarded as sufficient for underwriting purposes.

The ECOMOR treaty, devised by M. Thépaut, is an exception. The underlying retention is defined as being, say, the twentieth largest claim and the premium is the product of this figure and the position it occupies. (In practice, reinsurers' liability was 95% of the excess of a claim over the underlying retention limited to ten times the latter, and the premium was loaded 20%.) The form of the treaty was justified by confirmation after investigation that the central portion of the distribution of claims arranged in order of magnitude corresponded reasonably well with what might be assumed to result if Gauss' normal distribution applied.

The present approach to rating of non-proportional cases has developed on the accumulated experience which has been built up since the early approaches, which were of necessity empirical. Nevertheless the sensitivity of rates for stop loss covers to changes in monetary values which have occurred with the inflation of the last twenty years has given rise to some difficult situations and a number of theoretical investigations have been, and are being, made to try and minimise the effect of such changes.

The theoretical formulation of the premium for non-proportional cases does not present any serious difficulty,

although the problem lies in the realm of modern mathematical statistics. The difficulties arise when the attempt is made to modify an idealised theoretical model to allow for practical conditions. Fundamentally the basic function is the frequency distribution of claims by amounts. In practice a limited sample only is available so that the uncertainty is high in estimates derived from the sample of parameters defining the hypothetical population distribution, quite apart from the problems
200 arising in those classes of business such as liability where there may be a long delay in settlement of claims and of questions of randomness in claims arising. Attempts to use approximations such as Tchebycheff's inequalities are largely fruitless because the limits provided for "ruin probability" are too wide for practical work. There have been a number of papers in which special distributions have been used for the claim curve although these have not yet led to any significant general application. The pioneering work which has been done in this field largely by those whose common interests have been centralised in ASTIN is already significant and developments in the underlying theory will no doubt help to guide the rate maker in his far from easy estimation problems.

Treaty Wording

The form of treaty now employed makes use of fairly standard wording which can be varied so as to provide for any special features which exist in a particular case. The more important points covered in an excess of loss treaty are mentioned below.

Business

The class of business to which the treaty relates has to be defined. Normally the risks to be included will be determined by specifying the department (*e.g.* Accident or Motor) which accepted them either direct or by way of facultative or treaty reinsurance. It may be that only part of such departmental acceptances are to be included in the

treaty (*e.g.* third party motor rather than all motor business) and geographical limits (*e.g.* world-wide excluding the United States and Canada) may be inserted. It will also be made clear whether the excess of loss reinsurance covers the net retention of the cedent (*i.e.* after allowing for any reinsurances it has effected) or whether the protection is for the gross business, *i.e.* for the benefit also of the cedent's facultative, surplus or quota share reinsurers, in which case they would bear their share of the cost.

It is usual to specify that certain risks of a specially hazardous character are excluded from the cover afforded by the treaty. Obviously this exclusion list should be as short as possible otherwise the purpose of the protection is not achieved, but reinsurers must guard against the possibility of the character of the cedent's business altering adversely. In theory, at least, and however shortsighted such a practice would be a ceding company could otherwise make use of its excess of loss cover to permit acceptance of risks containing a marked catastrophe element. Similarly, excess of loss insurances and reinsurance are usually excluded — a premium rate related to a particular composition of risks is no longer applicable if there is a marked increase in this type.

Cover provided

The reinsurer undertakes to pay all (or his appropriate percentage of) claims which arise following one event to the extent to which their total exceeds the lower limit of the relevant layer. Reinsurer's maximum liability as the result of one event is the "width" of the layer. There are some treaties in which the maximum liability in any year is also the layer width, or a low multiple of it, which has the effect, not otherwise present, of imposing a monetary limit to reinsurers' liability in a year. Normally such a limitation is employed only in special circumstances.

It is usual to specify that reinsurers are concerned with events which happen during the currency of the treaty, although it is possible for the cedent to reinsure against events occuring during the currency of policies effected or renewed during the currency of the treaty.

There is one type of catastrophe for which "event" may require special definition if the treaty particularly relates to it, and that is the natural type of hazard such as windstorm, lightning or earthquake. As regards windstorm, for instance, it is not always clear whether damage caused can be attributed to one hurricane or whether two or more were involved. To meet this difficulty in the case, for example, of a treaty applicable to windstorm claims in the United States, an event is defined as being either a hurricane designated as such (and the course of which is therefore tracked by their Meteorological Department), or other windstorms damage by which is caused in any non-overlapping periods of, say, seventy-two consecutive hours. The ceding company would be free to choose the starting times of the seventy-two-hour periods so as to place itself in the most advantageous position.

Premium

As previously stated, the premium required is usually a percentage of the premium income of the cedent in respect of the business to which the reinsurance applies. Sometimes a flat rate is quoted but reinsurers' experience of their liability expressed as a percentage of the cedent's premium income is so erratic in some instances that an attempt is made to relate the premium rate to the burning cost. A further reason is that due to the prevalence of belated claim notifications in some types of accident business (to which reference has already been made) it is difficult to ascertain a premium rate on the basis of the last few years as this experience has not fully emerged. (In passing, it is advisable to emphasize

again the distinction between the nature of the statistics available at the time a premium is quoted. At one extreme, there are certain types of accident business where data for the last few years does not represent the full story and where data for earlier years is of little use: at the other extreme, reliable hail figures for the previous twenty years can be and are provided.) Yet another reason, probably, is that there has not yet developed to quite the same extent a spirit of "loyalty" between cedent and reinsurer as usually exists in the classical form of treaty, where one side is more prepared to extend to the other an opportunity of recouping any untoward losses that might have been incurred: excess of loss reinsurers have to consider the possibility of experiencing a brief and unprofitable participation.

Accounts

The treaty usually provides for a deposit premium payable quarterly in advance. If the premium is at a flat rate, the adjustment to allow for the premium at the appropriate rate on the actual premium income is dealt with in an adjustment account midway through the second year and belated premium notifications are similarly dealt with. If the premium is based on a sliding scale, the first adjustment account will be based on the premium rate appropriate to the claim and premium income level then attained, further accounts being necessary as further claims and belated premium income emerge.

Large losses are normally settled on an immediate cash basis and not dealt with in account. Reserves for outstanding claims are usually set up at the end of each year and can thus be brought into the adjustment accounts. It is the practice for the cedent to allow interest on such reserves until such time as the claim is eventually settled. A typical adjustment account will therefore consist of adjustment premium

minus losses paid but not recovered from reinsurers during the year minus reserve for losses outstanding or intimated at end of the year plus loss reserve released in respect of previous year minus interest on the latter reserve.

Index Clause

In certain treaties notice has to be taken of the effect of inflation on future claims. Neither the claims experience arising from past court awards nor the present system of rating allows for this feature and recourse is had to an index clause. If a particular salary level index or, in some cases, an official cost of living index varies by more than a particular percentage before a claim is settled, the clause provides for the amount of claim or, in some cases, the rate of premium being recalculated in a manner which recognizes the degree of variation in the index.

Some underwriters are occasionally prepared to quote an alternative (higher) rate instead of a rate "with index clause."

Claims

The cedent undertakes to advise its reinsurers as soon as it has reason to believe there might be a claim under the treaty. If the treaty claim arises from several individual claims occasioned by one event there is no necessity for reinsurers only to meet their obligations when all such claims have been settled by the cedent: reinsurers can be called upon to commence payment as soon as the appropriate layer level has been passed.

The Future

An attempt will be made to forecast the future development of non-proportional reinsurance. As regards excess of loss, it has virtually achieved the position here generally admitted to be appropriate to it. In the accident field it is widely employed in those classes where claims are usually

for amounts that do not disturb the ceding company but where there is the infrequent heavy (not necessarily catastrophic) claim. For other types of accident business, such as burglary and personal accident, excess of loss reinsurance is sometimes arranged to supplement a surplus treaty system while occasionally it forms the cedent's only reinsurance system. In the fire branch the normal pattern is a surplus treaty arrangement with a protective excess of loss to meet the danger of accumulation, including that resulting from a natural catastrophe. In the marine field, too, excess of loss reinsurance is normally only brought into the picture after an excess of line treaty has been arranged and even then mainly for cargo business.

It will be seen from the foregoing that apart from increasing its position in fields where it is already employed, non-proportional reinsurance in this country must look at fields traditionally regarded as appropriate to proportional systems for any further expansion. In particular, the question arises as to the use of excess of loss reinsurance as the sole form of reinsurance in the fire branch. It is useful to summarise the advantages and disadvantages of such a change.

Advantages

Economy in administration costs. Efforts have been made to reduce the volume of detail involved in handling a surplus treaty by, for instance, adopting the "average coefficient" method, but the volume remaining is still formidable. The little army of capable staff required to handle reinsurance arrangements under the present systems (and whose work, no doubt, is so considerable that its performance by an electronic computer may be one of the arguments in favour of installing one) would be free to engage in more directly profitable activities.

Increase in net retained premium income and, assuming a normal pattern of reciprocity, increase in net premium income.

Concern to a greater extent with the result of its own underwriting and less effect from the results of others.

Disadvantages

Reduction is spread and experience otherwise gained by indulgence in surplus treaty exchanges. (This disadvantage must be qualified in countries where for one reason or another there is an "in-grown" exchange of treaties.)

Loss of reciprocity.

The market is too narrow and not sufficiently stable to permit a ceding company to rely on it with confidence. It is felt that if events led to a desire to return to the surplus method it would be difficult to do so if the skilled staff had been disbanded and connections severed.

Lack of flexibility in fixing limits.

A fall in gross premium income would be felt directly by the company rather than being absorbed by the surplus treaty reinsurers.

Disadvantages are referred to more with the intention of repeating points made elsewhere than with the thought they are all valid — and those that are are not incapable of being remedied. A system of reciprocity, for instance, could in time be built up for excess of loss business providing spread just as the present system does. It is also possible to provide for an underlying retention which is not constant irrespective of the degree of hazard but which depends, for instance, on the premium rates of individual risks affected. The main problem which does remain is that it is reasonable to expect any extension to the field referred to so long as market capacity remains restricted. The present narrowness must give potential cedents the feeling that they would be too much

subject to the control of reinsurers who would be in a position to dictate terms. (These remarks, and some that follow, do not apply in the United States where "working excesses" — the essential feature of which is that cover is provided in an area in which losses are expected — are rapidly replacing first surplus fire treaties.) Excess of loss reinsurance has had a chequered history since the war: it was particularly exposed to the economic ills that followed and the increase in the market that was taking place was soon inhibited. This type of reinsurance has the reputation of being difficult and one requiring special skills. The first requirement before any advance can be made is a willingness by leading companies to acquire first-hand knowledge by participating in a modest way as reinsurers. Given that, and the accumulation of experience over some years, one can envisage non-proportional reinsurance taking over a gradually increasing part of a ceding company's proportional reinsurance system with ceding company itself building up reciprocal exchanges to provide spread and preserve premium income.