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The Stability Clause in Excess of Loss Automobile and Liability Reinsurance

by

CHRISTOPHER J. ROBEY

The Reason Why

Of the various factors which go into establishing a rate for excess of loss reinsurance, the most important involve areas where the reinsurer must endeavour to foresee the future. Given the experience of prior years, the reinsurer must try to predict the experience of the coming year and, if he wishes to give continuity, at least two additional years. All but one of these unknown factors are directly related to his profession as reinsurer — evaluation of the cedant's loss reserving policy, applying a rate of claim inflation to bring the claims of prior years up to present-day values, the impact of changes in the cedant's policy limit distribution etc. One unknown area, however, is in the domain of the economist and not of the reinsurer and is one on which economists themselves do not agree — the rate of claim inflation to be anticipated until all claims under the contract have been settled.

Claim inflation

It is best to state at the outset what we mean by claim inflation. We normally consider inflation to be the increase in the consumer price index and factors which go into this index do indeed affect the cost of claims. However, a more important factor, particularly in those claims which reach the excess level, is the increase in earnings, which tend to rise more rapidly than consumer prices. Superimposed on this is a "social" inflation, which causes the cost of claims to rise more rapidly than either the earnings index or the consumer price index.

The following table was published in the Spring 1973 issue of "Contact", the house magazine of the Mercantile and General of Canada. The claim index is based on awards for the death of a husband in a car accident and, while not as accurate as the two indices with which it is compared, does illustrate the effect of this "social" inflation.

	3 Year Average Award per Widow	% Index (1964 = 100)	Consumer Price Index (1964 = 100)	Avg. Hourly Earnings Index (1964 = 100)
1964	$20,193	100	100	100
1965	21,192	104.95	102.5	104.9
1966	24,547	121.56	106.3	111.4
1967	26,525	131.36	110.1	118.8
1968	28,528	141.28	114.6	127.7
1969	29,219	144.70	119.8	138.0
1970	32,736	162.12	123.8	149.2
1971	34,734	172.01	127.3	162.5
1972	40,906	202.58	132.8	(Est) 174.5

Effect of claim inflation

Of course, the reinsurer is not alone with this problem, since the cedant must itself live with the effects of inflation on losses within its retention, representing a far larger total number of dollars. However, as the following example illustrates, the two parties do not suffer from inflation in the same proportion:

— Suppose a treaty with a deductible of $50,000 and a claim of $60,000. If inflation of 10% causes this claim to increase in value to $66,000, the cost to the cedant remains $50,000 and the cost to the reinsurer increases from $10,000 to $16,000.

The respective rates of inflation are therefore the following:

- Total claim: 10%
- Cedant: 0%
- Reinsurer: 60%

It is true that the cedant bears the full impact of inflation on losses within its retention, however in no circumstances can the rate of inflation the cedant must suffer exceed the rate of total claim inflation and, so long as there is a loss which exceeds the deductible, in no circumstances can the rate of inflation which the reinsurer suffers be less than the rate of total claim inflation.

The reinsurer also suffers from a second effect of claim inflation, as the following example indicates.

- Supposing a retention of $50,000 and a claim of $45,000. With gross inflation at 20%, the claim will become $54,000, the cedant's share increasing from $45,000 to $50,000 and the reinsurer's share increasing from 0 to $4,000. The relative rates of inflation are as follows:
  - Total claim: 20%
  - Cedant: 11.11%
  - Reinsurer: unlimited.

The Stability Clause

In an effort to produce a more scientifically accurate rate by limiting the effects of inflation on the reinsurer's share of losses, the reinsurance market has developed the stability or index clause. This clause is in common use in Western Europe and in increasing use in North America, to the point that in their report on "Excess of Loss Methods of Reinsurance", the advance study group number 201 of the Insurance Institute

of London states that "It is standard practice to include the clause as part of the treaty terms". The stability clause does not remove the burden of inflation from the reinsurer, but rather is designed to share the effects of inflation between the cedant and the reinsurer in the same proportion as the claim would have been shared if there had been no inflation. An example of a stability clause follows this article.

If the clause were applied to the first example above, a 10% inflation rate would increase the deductible from $50,000 to $55,000, while the reinsurer's loss would increase from $10,000 to $11,000. The relevant rates of inflation would therefore be as follows:

- Total claim: 10%
- Cedant: 10%
- Reinsurer: 10%

In the second example, the retention would increase by 20%, to $60,000, the cedant therefore paying the full claim of $54,000. The relevant rates of inflation are therefore as follows:

- Total claim: 20%
- Cedant: 20%
- Reinsurer: —

Operation of the clause

Once understood, the calculation for indexing the deductible is simple. If the claim is settled in a single payment, the difference between the index at inception and the index at the time of paying the claim is expressed as a percentage

and the deductible is then increased by this percentage and deducted from the total claim to arrive at the recovery from the reinsurer. For example:

- Index at inception: 100
- Deductible: $50,000
- Gross loss: $75,000
- Index at settlement of loss: 120

Increase in index: 20 over 100, or 20%.
Deductible therefore increases by 20%.
20% of $50,000 equals $10,000.
Indexed deductible is $50,000 plus $10,000 equals $60,000.
Recovery from the reinsurer: $75,000 minus $60,000 equals $15,000.

Where a claim is settled in several payments at different times, the average increase in the index must be calculated and applied to the retention, the recovery from the reinsurer being the difference between the gross loss and the adjusted retention. For example:

- Index at inception: 100
- Deductible: $50,000
- Gross loss: $75,000, paid as follows:

	Amount of payment	Index at time of payment
A.	$ 5,000	105
B.	$ 8,000	115
C.	$62,000	125

1. Claims are indexed to find average index at settlement.

A. $\frac{100}{105} \times 5{,}000 = 4{,}762$

B. $\frac{100}{115} \times 8{,}000 = 6{,}957$

C. $\frac{100}{125} \times 62{,}000 = 49{,}600$

Adjusted claim = \$4,762 + \$6,957 + \$49,600 = \$61,319.

Average index at settlement $= \frac{75{,}000}{61{,}319} \times 100 = 122$

2. The deductible is indexed.

$\frac{100}{122} \times \$50{,}000 = \$61{,}000$

3. The recovery from reinsurers is calculated.

\$75,000 — \$61,000 = \$14,000.

Layering of excess of loss treaties complicates the application of the stability clause to a program, because of the necessity for all layers to lock in together. The following possibilities exist — as undoubtedly do others. In each case, reference is made only to the bottom layer, the next layer being left unindexed, or indexed in accordance with any of the possibilities, to follow the underlying layer.

1. The limit and deductible are indexed in the same proportion.

For example:

— Layer: \$60,000 excess of \$40,000
— Index at inception: 100
— Index at settlement: 120
— Layer becomes: \$72,000 excess of \$48,000

2. The deductible is indexed and the limit remains constant.

   For example:

   - Layer: $60,000 excess of $40,000
   - Index at inception: 100
   - Index at settlement: 120
   - Layer becomes: $60,000 excess of $48,000

3. The deductible is indexed, but the deductible of the overlying layer remains constant.

   For example:

   - Layer: $60,000 excess of $40,000
   - Index at inception: 100
   - Index at settlement: 120
   - Layer becomes: $52,000 excess of $48,000

Choice of index

The choice of index to be used is important; any index which relates reasonably closely to the factors involved in liability claims can be used, the most common being one based on earnings in the manufacturing industries. The hourly index rises more rapidly than the weekly index, because of a tendency for the number of hours worked per week to reduce, however the weekly index is a more accurate measure of the actual rise in earnings. It must be remembered, however, that neither hourly nor weekly earnings rise as sharply as the cost of claims.

Practical considerations

Theoretically, by reducing the impact of an unknown factor in the calculation of the reinsurance rate, the total cost to the cedant (retained claims plus reinsurance premium) should be less with a stability clause than without, since the

reduction of the unknown factor should cause the reinsurer to reduce its safety margin. However, the evaluation of treaties varies so much from one reinsurer to another, whether or not the stability clause is applied, that it is only in obtaining a choice of quotations that a cedant can judge if it is advantageous to include the clause or not.

Nonetheless, at equivalent rate, there are some advantages and disadvantages inherent in the clause.

Advantages

1. The reduction in the reinsurance premium paid leaves the cedant with additional funds to invest until claims are paid — at the excess of loss level in Canada, probably an average of three years.
2. If the treaty is subject to an adjustable rate, the loading factor is applied to a lower cost to the layer.
3. The cedant will tend to have a retention more relevant to its premium income in the year of settlement of the loss rather than in the year of its occurrence.
4. The reinsurer should be able to provide greater continuity.

Disadvantages

1. There is a considerable amount of extra clerical work involved in the application of the clause.
2. The increased retention may reduce the amount of reinsurance at a greater rate than is advisable for maintaining the cedant's financial strength, particularly in periods of high inflation. However, the same inflation should increase the cedant's premium base, so that this should not cause a problem for most cedants.
3. The least tangible, but perhaps most important, disadvantage is the acceptance of an additional unknown factor by the cedant, in the form of an increasing deductible. For analysis purposes, this unknown factor can be quantified, using market

averages for claims and estimated rates for inflation, however if such quantification were reliable, reinsurers would use it with confidence in establishing the rate and there would be no need for a stability clause. It should be noted however that the effects of an error in this quantification would fall more severely on the reinsurer if there were no stability clause than on the cedant if there were one.

Conclusion

In summary, for the cedant, the introduction of the stability clause represents an additional factor to be weighed in the balance when choosing between various quotations for its excess of loss program. The use of the stability clause should enable a reinsurer to quote a rate closer to the true rate for the cover under consideration, however it does not eliminate the difference in evaluation of the cover from one reinsurer to another, even amongst reinsurers quoting with a stability clause and particularly amongst those quoting with such a clause and those quoting without, and it is this difference in evaluation which provides the competition in the reinsurance market.

Example of a Stability Clause

1. It is the intention of this Agreement that the deductible as set out herein shall retain its relative value existing at the inception of this Agreement.

2. (a) The deductible set at inception shall be deemed to correspond to a level of 100, based on the index of (identify index used) published by (insert identity of publisher) for the month ending immediately before the inception of this Agreement.

(b) If the base of the index specified in paragraph (a) above shall be so changed that its application distorts the in-

tention expressed in paragraph 1 above, the necessary adjustments shall be made to re-establish the index to its base before such change. If such adjustments are not possible, the parties shall use such other index as they may mutually agree upon.

3. Whenever the Reinsurer is called upon to reimburse the Cedant in respect of a claim, either by reason of final settlement or partial payment, the deductible shall be adjusted according to the following formula:

$$\frac{TP}{P} \times D = \text{adjusted deductible}$$

where:

TP is the total amount of actual payments for the claim.

P is the total of all payments for the claim where each payment is expressed as the product of the actual payment multiplied by the ratio of:

$$\frac{100}{\text{value of index at the time payment is made}}$$

D is the deductible.

4. The Reinsurer's share of the payments made by the Cedant shall be equal to the payments made by the Cedant less the adjusted deductible provided always that the Reinsurer's share shall in no event exceed the limit of liability specified herein.