

## Notes and comments regarding two aspects of reinsurance administration and control

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# Notes and comments regarding two aspects of reinsurance administration and control <sup>1</sup>

*by*  
ERIC A. PEARCE

## 308 1. *Methods used by reinsurers to mitigate the effects of currency fluctuations.*

Practically every country in the world has an insurance industry, large or small, important or unimportant. In most instances, the insurer requires reinsurance protection and with rare exceptions the insurer will prefer to arrange such protection in the same currency as that of the original insurance.

Thus it is that any Reinsurer underwriting in an international market will find that reinsurances are offered to him in many different currencies. He is not, of course, obliged to accept business in all the currencies offered, but unless he decides to restrict very severely his opportunities of accepting a wide spread of risks, he will be operating in many currencies, and must make provision for this in his accounting procedures.

Until comparatively recent times, it was traditional for Reinsurers in London to account for all transactions in three currencies, U.S. Dollars, Canadian Dollars and Pounds. All currencies other than Dollars were converted to Pounds as soon as received, and all payments due in currencies other than Dollars were converted from Pounds, virtually on a case by case basis.

This was not perhaps particularly sophisticated, but it was effective and the net profit or loss on exchange during the year was likely to be small.

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<sup>1</sup> Mr. Eric A. Pearce has kindly accepted to study for *Assurances* two aspects of reinsurance administration; namely methods of dealing with the problems created by currency fluctuations and basic accounting methods.

However, with the weakening of the Pound and the Dollar and the hardening of some other currencies, it became evident that this was the path to certain ruin.

*For example*

Suppose that in 1970, the Reinsurer accepted a reinsurance in German Marks which produced a premium of Marks 100,000.

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During the year a claim occurs, estimated at Marks 80,000. This reserve is maintained until 1978 when the claim is settled for Marks 70,000.

This represents a gross profit on the reinsurance for the year, of Marks 30,000.

However, if the premium had been converted to Dollars at the rate of exchange then ruling of approximately one Mark = \$0.40 the premium entered in the Reinsurer's books would be \$40,000.

At the end of the year, the reserve of Marks 80,000 in respect of the claim would appear in the books as \$32,000. At the end of each subsequent year, it would be necessary for the Reinsurer to revalue the claim in terms of Dollars, and as the value of the Dollar declined, the reserve in Dollars would increase.

When the claim was finally settled in 1978, the rate of exchange would be approximately one Mark = \$0.70, so that it would cost the Reinsurer some \$49,000 to purchase Marks 70,000 with which to reimburse the insurer. A profit of Marks 30,000 becomes a loss of \$9,000.

Thus it was that Reinsurers found it necessary not only to account in various currencies, but to maintain bank accounts in such currencies.

Many Reinsurers make provision in their computer programme for more than 100 currencies, but it quickly became evident that a compromise must be established between old and new methods. The basis of such compromise will vary from one Reinsurer to another, according to the diversity and size of portfolio.

**310** A general guide in this respect is to keep bank accounts for between 10 and 20 currencies, corresponding to the most important sections of the business, and to convert all remaining amounts to the standard currency, which is likely to be Pounds or Dollars.

The choice of the standard currency will probably depend on the source of the major part of the business and the Reinsurer's reading of likely future economic trends. British companies are likely to use the Pound as the standard currency, whereas U.S. companies will probably use Dollars. Other Reinsurers may choose the currency of their own country or some other currency such as French Francs, German Marks, Japanese Yen. A guiding factor may be the exchange control regulations existing in each territory.

There are various ways of deciding which currencies to keep and which to sell. Some Reinsurers for example, fix a percentage of total liabilities and convert any currency which represents less than that percentage. Others fix an amount which will, of course, vary according to the size of the portfolio, and convert all currencies which are individually estimated at the beginning of the year as likely to produce premium income of less than such amount.

There are other considerations, notably the probable appreciation or depreciation of any particular currency.

Another factor which some Reinsurers take into consideration is the question of the rates of interest which are

available in various currencies. For example, at the present time Pounds can be invested at rates of 10% to 12% per annum, whereas the yield on Yen deposits is likely to be no more than 2% per annum.

The endeavour in general terms, as expressed by many Reinsurers is to eliminate the currency risk by keeping assets and liabilities balanced in each currency. This is a simple proposition but fraught with difficulties in practice. The greatest difficulties will arise when poor or disastrous results are experienced in a territory with a firm or appreciating currency.

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Obviously if the balance between assets and liabilities is to be maintained, there must be regular control. It is usual to produce a statement, probably quarterly, of which the following are suggested headings:

1. Currency
2. Rate of exchange
3. Advised losses outstanding
4. General loss loading, i.e., a margin of reserve included by the Reinsurer as a matter of prudence (IBNR)
5. Sub-total of (3) and (4)
6. Unearned premium reserve
7. Total in currency
8. Equivalent in Pounds
9. Percentage of total
  
10. Deposits withheld in the hands of ceding Companies
11. Cash in bank
12. Securities held
13. Balances due by brokers
14. Total in currency
15. Equivalent in Pounds

16. Surplus or deficit for each currency
17. Percentage of coverage

There are, however two factors which make it very difficult to operate complete currency accounting. The first is that brokers frequently submit accounts with all currencies converted, and pay or collect accordingly. The second is that many proportional treaties include business derived from many overseas territories and the various currencies are converted into the standard currency, or at the most two or three main currencies.

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**2. Methods used by reinsurers to deal with the problem of accounts received from ceding companies after the end of the financial year. Reserves and in particular IBNR**

In the field of reinsurance generally, both proportional and non-proportional there is a difficulty which arises because some of the accounts relative to any financial year will not be received by the Reinsurer until after the end of the financial year. The reason is that a ceding Company cannot prepare and send off its accounts until the original accounting material has been received from the various insured, agents, brokers and others.

*1 — Proportional reinsurance*

If the treaty is subject to quarterly accounts, the Reinsurer can expect to receive three such accounts before the end of the financial year; if the accounts are half yearly, only one account can be expected in the year; if the accounts are annual the Reinsurer will not have any figures by the end of the year. In respect of retrocession treaties the rendering of accounts is inevitably subject to even greater delay.

- a) The simplest method of dealing with the problem is for the Reinsurer to prepare the annual accounts on the basis of

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“accounts received during the financial year”. Unfortunately this will distort the Reinsurer’s results, because it will include in one financial year accounts from various underwriting years. Indeed, the results shown may be quite inaccurate, as some ceding Companies provide figures for unearned premium reserve and outstanding loss reserve, only as at the 31st December of each year.

- b) With a view to increasing accuracy many Reinsurers keep open for two years the account for each underwriting year. Thus the items accounted for in the first year are treated on a funded basis and carried forward, for a balance to be struck at the end of the next year, after provision has been made for unearned premiums, outstanding losses and a fund in respect of the closed years of treaties for which complete figures are not available. 313

The following is an example of the headings used for such an account:

*Year 1, as at the 31st December of Year 1.*

Unearned premium reserve b/fwd	5,000,000	
Reserve for outstanding losses b/fwd	8,000,000	
Premiums including portfolio premiums	9,000,000	22,000,000
Losses paid	4,000,000	
Commission and management expenses	2,000,000	6,000,000
Fund carried forward		<u>16,000,000</u>

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*Year 1, as at 31st December of Year 2.*

	Fund brought forward	16,000,000	
	Premiums including portfolio premiums	15,000,000	31,000,000
	Losses paid	9,000,000	
<b>314</b>	Commission and management expenses	4,000,000	
	Unearned premium reserve	7,000,000	
	Reserve for outstanding losses	9,000,000	29,000,000
	Balance, transferred to Profit and Loss account		2,000,000

Although at the end of Year 2 it can be expected that the majority of accounts will have been received from ceding Companies, estimated figures can be included in respect of any still to come. Alternatively, some Reinsurers prefer to carry the fund forward for another 12 months, to 31st December of Year 3. At such time, virtually all accounts will have been received and (bearing in mind that these are proportional reinsurances only) reserves for unearned premiums and for outstanding losses should be accurate.

c) Another method sometimes used is that by which the Reinsurer closes its books as at the 30th June each year, so as to include the underwriting results for the previous calendar year and the financial results for the period from 1st July to 30th June.

This will normally bring on to the books the greater part of the relevant accounts for the underwriting year. It is likely to be more accurate than the "accounts received" basis and although less accurate than the method described in (b)



above, has the advantage of a considerable saving in management costs, avoiding the necessity of keeping open each underwriting year for two or more years.

However, this method calls for a greater degree of flexibility. In the case of some treaties the figures will apply to a period of 12 months, such as for example, Fourth Quarter 1976, and First, Second and Third Quarters 1977, instead of the whole underwriting year.

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In other cases, where Reinsurers had in previous years received all four quarterly accounts, but find in the present year that one quarter is missing, the Reinsurers will probably use estimated figures, although usually such estimates will be fixed so as to provide a nil result for the quarter. The estimates will be adjusted to the true figures in the next year. It seems essential, in any case, to provide uniform figures so as to avoid distortion of amounts of income, outgo and results.

### *II — Non-proportional reinsurance*

In theory accounts for non-proportional reinsurances are much less complicated than for proportional. The premium usually takes the form of a deposit premium which may be payable at inception, half-yearly or quarterly and there is then a premium adjustment when the ceding Company has determined its premium income for the year. Thus, in a great many cases the reinsurance premium for a year is declared and paid to the Reinsurer within a few months of the end of the year. Naturally, the position becomes more complicated when the premium is calculated at an adjustable rate.

The main difficulty in accounting for non-proportional reinsurance arises because of the slow development of the claims cost for each underwriting year.

It was at one time quite usual to treat excess of loss accounts in a manner similar to that being used by the Reinsurer for proportional accounts. That is to say that the accounts for each year were closed after a short run-off, on the basis of losses paid and a reserve for losses outstanding as known at the date the account was closed. Usually this produced seemingly profitable results, permitting satisfactory transfers to the Profit & Loss account.

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In the 1960's many Reinsurers became aware of the fact that reserves fixed at the end of any underwriting year, on the basis of known losses, were almost certain to be quite inadequate to meet the ultimate cost of losses for the year.

As soon as this became apparent, many Reinsurers decided to present their non-proportional accounts on a funded basis.

The adequacy of the fund for each separate year is considered at the end of each year, with particular reference to the reserves for outstanding claims. Provisional transfer from Profit & Loss account may be made if it seems necessary to do so. Only premiums actually received or credited are included in the fund.

Thus, although for internal purposes each underwriting year is considered separately, the published accounts show only one group of figures, under the following headings:

1. Fund brought forward from previous year
2. Premiums
3. Sub-total
4. Losses paid
5. Commission and management expenses
6. Sub-total
7. Transfer to or from Profit & Loss Account
8. Fund carried forward.

Some Reinsurers include on the premium side, all interest earnings relative to the fund. Item 7 will usually be in respect of the underwriting year being closed at the end of the year being presented, although transfer from Profit & Loss account can occur at an earlier stage, as mentioned above.

In theory each underwriting year is carried to extinction within the fund, but in practice this is not possible. Each Reinsurer decides how long the underwriting years are to be kept open. Likely periods seem to be five years, seven years or ten years. One factor in fixing the duration of the period of run-off, is the attitude of the taxation authorities.

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At the end of the run-off period the Reinsurer reviews all known outstanding losses to decide on the adequacy of the reserves, and adds IBNR. It is then that a definite transfer to or from Profit & Loss account is made.

The reserve for Incurred But Not Reported (IBNR) including reported but insufficiently reserved, must by its very nature be an educated guess, and Reinsurers recognise it as a major problem.

In many cases development charts are maintained for various classes of business and levels of deductible, in the hope that a pattern will emerge to permit of more accurate forecasting in the subsequent years. However, grave doubts are expressed by some, as to the effectiveness of such records, which at best can never be more than a general guide.

This is because of the constantly changing aspects of the portfolio being charted. There are many factors involved:

Changes in underwriting policy, which result in modification of the basic portfolio.

Changes in the territory from which the business is obtained.

Changes of legislation in such territories.

Changes in the original insurance terms and conditions.

Changes in the rates of inflation and currency value.

Thus, for example, the run-off of year 1955 is not likely to be of any great practical help when considering the probable run-off of year 1975.

318 It seems that each year must be considered as a separate matter and judged in the light of known facts regarding the content of the portfolio and general trends.

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**Dictionnaire Technique Général, anglais-français**, par M. J.-Gérald Belle-Isle. Chez Beauchemin (Montréal) et Dunod (Paris).

Voilà un excellent exemple de ces éditions faites en commun par les éditeurs de Montréal et de Paris.

Ingénieur et directeur de la Société canadienne de technologie, M. Belle-Isle nous apporte un excellent instrument de travail avec son *Dictionnaire Technique*. Parti de l'anglais, l'auteur donne en français les équivalents des termes qu'il étudie. Ils sont nombreux puisque, imprimé en tout petits caractères, son vocabulaire couvre quelque cinq cent cinquante pages. Nous le signalons au lecteur soucieux d'employer le mot juste. Quand on veut écrire dans une langue, il faut d'abord en connaître les ressources, si l'on veut être compris. M. Belle-Isle collabore ainsi avec ceux qui ont le souci du mot précis, dans une langue technique difficile, élaborée, exigeante.

Dans sa préface, l'auteur rend hommage à M. Maurice Lebel qui a été son « conseiller littéraire ». Une fois de plus, on voit la marque de cet humaniste de grande classe qu'est le professeur Lebel.

L'ouvrage a été un succès. L'auteur en est à sa deuxième édition, en effet: la première étant de 1975, et la deuxième de 1977. Nous nous en réjouissons.