Global Reinsurance Highlights 1999
Gearing up for 2001
Report by Standard & Poor

In 1999, severe property loses hit the property/ casualty industry, which as much as $ 27 Billion of insured losses globally, resulting in the worst underwriting performance for the reinsurance industry since 1992. Couple with amore Challenging global investment climate than witnessed in the past five years, reinsurers lost capital in 1999. Nevertheless the silver lining for reinsurers is the prospect for reinsurers for rate improvement that could begin the long-sought market turn as early as 2001.

Consolidations within the primary insurance industry and a low rate of inflation have limited demand for reinsurance, worsening the shift in the balance of power among the players. Of course the reinsurers have respond with mergers, and large combinations are inevitable. Another factor contributing to consolidation is the convergence of financial institutions as reinsurers emphasizing providing multiple solutions and centers of excellence to meet the growing needs of the primary insurers. The downside of the industry focus on size is profitability, which generally suffers in the aftermath of an acquisition.

Underwriting which seems to have taken a back seat to the search for growth, is a factor that management can control. in 1999, discipline was notably absent

As competitive pressures to retain clients led to an increased use of proportional covers, causing reinsurers to under perform the primary insurance industry for the first time in a decade. Excess of loss covers demonstrate a superior ability of to align the interests of the primary insurers with that of the reinsurers, and the shift back to the proportional covers is yet an another example of soft market conditions.

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Setting Retentions
Theoretical Considerations
Report by: - Swiss Re

1. Factors and criteria

The entirety of direct insurance and reinsurance business accepted by a risk carrier is referred to as the company gross portfolio. After business is passed on to other risk carriers, such as reinsurers and retrocessionnaires, the remainder is called the net portfolio; in other words, this is business for the company own account or, in rather broad terms, its retention.

The (gross) underwriting policy of a company decides on the type and extent of the gross risks to be accepted, and on the approach to be taken. The companys retention and reinsurance policy determine what remains for its own account. Both criteria are related in the sense that the cover granted by the reinsurer is often subjected to certain basic conditions established for the gross business.

The level and composition of retention is influenced by various elements inside and outside the company. Up to now, the practice of setting retention has often been complex and somewhat (irrational), but rarely a matter of precise actuarial calculation. The most important factors are:

1. Solvency regulations
2. Underwriting capacity
3. Financial strength
4. Corporate willingness to take on risks
5. Reciprocity requirements
6. Large risk and catastrophe protection
7. Balancing the result
8. Tradition
9. Portfolio composition
10. The reinsurance market

2. Retention level for the individual company

Pragmatically speaking, the greater the reinsurance requirement of a given company is, the lower its absolute retention level should be. In general outline, it can be said that
1. The less balanced the gross portfolio is,
2. The weaker the financial position of the company is,
3. The more averse the company is to risk,
The greater the reinsurance requirement is.

Despite ongoing consolidation, concentration at the individual company level has remained static with the largest 25 reinsurers accounting for 60% of global reinsurance premiums.
The largest 10 reinsurers saw a modest 5% decline in net premium written compared with five years ago, and the next 40 Reinsurers added 21% to their NPW in the same period, the growth in the second tier of reinsurers is not unexpected given consolidation among the primary industry and the need to compete with the large first tier reinsurers.

Global Reinsurance Premium Distribution
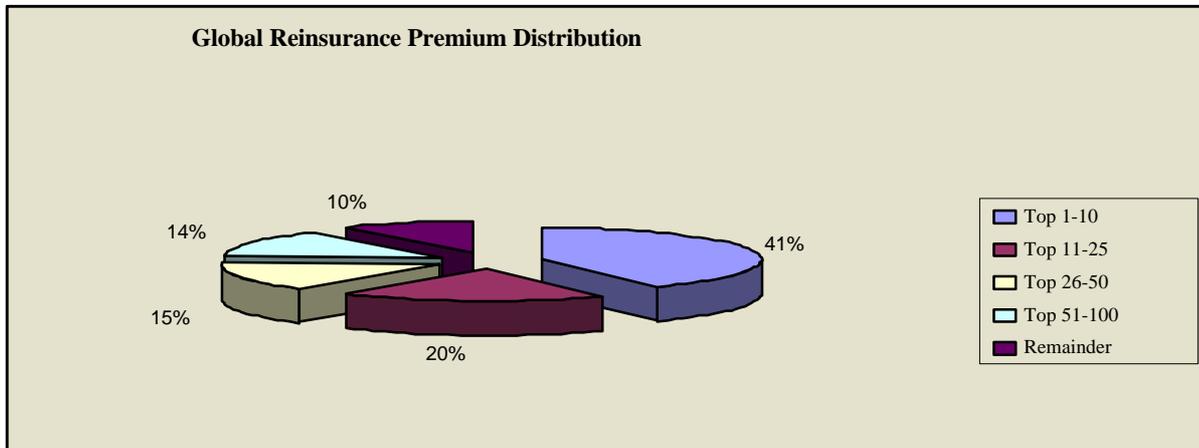
Because market pricing remained soft in 1999.which tends to demonstrate a lack of underwriting discipline, poor operating performance crossed all boundaries affecting old and new, large and small reinsurers.

In the last 10 years, the largest Reinsurers showed an ability to better select risk; although the soft market has indicated that risk selection becomes especially difficult if prices are inadequate across board. The largest 10 reinsurers produced a combined ratio of 115.60% in 1999. 10 points worse than their five years average of 10%.
The global reinsurance industry saw return on revenue ROR decline to 1999 and that might provide one explanation for why reinsurance stocks remain depressed. Standard & poor Views ROR, which includes investment income before capital gains, as the best indicator of sustainable profit for property /casualty reinsurers as it is relatively unaffected by financial leverage and short-term capital gains that can distort return on equity. Looking back over the last 12 years, ROR and the combined ratio clearly define the industry cycle. The industry tends to perform above the mean for four years and then below mean performance for five years before repeating the cycle. if this cycle repeats itself in the next few years.

For many property /casualty Reinsurers, is shaping up as a bust despite the absence of significant Y2K or unusual catastrophic losses. The winter storm in Europe, the loss spiral of unicopver workers compensation lines, and soaring prescription drug prices have all contributed to a strengthening of resolve to focus on underwriting and,, in many cases a willingness to exit unprofitable lines. Reserves represent a wild card for the industry with some Reinsurers finding that claims inflation picked u and that the strengthening of reserves for the 1997-1999 books was necessary. As Equitas and a few other Reinsurers have reported, even the older asbestos liabilities are showing some signs of inflation. The smart money is for additional reserve strengthening to occur in 2000 as Reinsurers take advantage of weak year-to-date results and try to set up 2001 for a comeback.

Despite the cycle indicated by operating performance, several factors are arguing for a change. Supply, as indicated by industry capital shrank in 1999 following the shuttering of several operations and the losses incurred by money companies. Although not a sufficient reduction in supply by itself, many of the largest Reinsurers will further reduce capacity by limiting their appetite for risk at current pricing. Employers Re announced its withdrawal from the property facultative market, Swiss Re announced its triple 20% including the reduction in property cat. Writings and others have quietly reduced capacity at current pricing levels.
Property losses and poorly priced risk also led to a complete withdrawal of capacity from ReAC, New cap Re, GIO Insurance Ltd., Sphere Drake, CTR, and Risk Capital Re.

These actions are a necessary precursor for a market turn: but, maintaining this discipline will be difficult as many underwriters are seeing, premium rate increases for the first time. Inflation has begun to filter into the economy. With many primary companies discovering some ability to raise rates, which although at a lag, will eventually filter down to Reinsurers with a more flexible approach to risk will inevitably pick up some of the business, primary companies will be forced to accept reduced financial strength backing those Reinsurers or pay up for access to top tier credit.

Standard & Poor Top 25 Global Reinsurers in 1999
Ranked by Net Reinsurance Premium

In US$ 000,000s

	Company	Rating	N.P.W.	Combined Ratio	Adjusted Shareholders Fund
1.	Munich Re Group	AAA	13,556	118.9	21,367
2.	Swiss Re Group	AAA	12,838	116	11,111
3.	Berkshire Hathaway Group	AAA	9,452	116.3	47,502
4.	Employer Re Group	AAA	6,921	114	5,575
5.	Gerling Global Re	AAA	3,937	112.4	1,429
6.	Lloyds	A+	3,799	N.A.	9,072
7.	Generali Group	AA	3,533	108.7	19,176
8.	Allianz Group	AAA	3,299	107.4	45,727
9.	Scor Group	AA-	2,720	109.7	1,242
10.	Hannover Re Group	AA+	2,564	95.9	1,241
11.	Zurich Group	AA+	1,878	87.3	23,783
12.	Transatlantic Group	AA	1,498	105.2	1,642
13.	AXA Re Group	AA	1,411	121	1,272
14.	Partner Re	AA	1,326	109.8	1,840
15.	CNA Re	A	1,275	116.4	8,679
16.	Everest Re	AA-	1,095	103.5	1,327
17.	St. Paul Re	AA	1,056	100.4	6,448
18.	Xl Capital Re	AA	970	101.6	5,577
19.	Toa Re Group	AA-	965	N.A.	2,570
20.	Korean Re	BBB-	837	98.6	290
21.	Tokyo Marine & Fire	AAA	831	N.A.	28,214
22.	Oversea Partners Ltd.	N.R.	819	108.9	2,547
23.	CCR Group	Api	793	121.2	1,018
24.	Hartford Re	AA	702	108.3	6,897
25.	QBE Insurance Group	A+	587	104.9	382

European Review

In 1999, operating results were down substantially because of a combination of the high frequency of catastrophes, with eight estimated insured losses of $1Billion or greated and very low reinsurers posted an average combined ratio of 131% in 1999 up from 107% in 1999.

Although retrocession premiums began to improve in 1999, standard & poors believes the effect on profits will be deferred. Recovery in reinsurance earnings will be limited because of the following factors:

– Proportional reinsurance rates reflect underlying insurance rates. In some markets, insurers will be able to obtain premium increased as a result of natural catastrophe claims however, continued competition in many markets will temper the level and speed of insurance premium increases.

– The recovery of reinsurance premiums will be hampered by the many multiyear reinsurance contracts with fixed premium terms, which do not expire until the end 2000.

– Reinsurance capacity, including for large property risks and high concentrations, such as energy risks, remain plentiful. Capital remains strong across the industry, although several companies will seek to replenish capital lost in 1999.

– Rates increases at Jan. 1, 2000. Renewal will be tempered by the availability of Alternative risk financing mechanisms.

1999 Top 10 European Reinsurance Companies
Ranked By Net Reinsurance Premium Written

In US$ 000,000s

Rating	Company	NRW	Combined Ratio	Adjusted share holders Fund
AAA	Munich Re	9,677	120.6%	6,809
AAA	Swiss Re	4,598	119.9%	4,426
A+	Lloyds	3,799	N.A.	9,072
AAA	Allianz	3,299	107.4%	45,727
AA+	Hannover Re	2,212	111.4%	1,923
AAA	Kolnische Re	2,157	115.3%	1,615
AA-	Gerling Global	2,126	117.4%	946
AA	Assicurazioni Generali	1,906	N.A.	N.A.
AAA	ERC Frankona	1,655	107.1%	1,319
AAA	Bayerische Re	1,212	106.1%	2,137

U.S. Review

Years of soft market conditions, exacerbated by excess capacity and growing competition, have weakened the profit potential of all Reinsurers. When this accompanied by the increasing loss expectations for more current accidents years. These foreshadow shrinking capital levels and signal partial capacity withdrawal.

The U.S. Reinsurance industry statutory surplus decreased 3.7% in 1999 to $ 54.2 Billion, capitalization remain very strong for Reinsurers

U.S. Reinsurance Market has gross premium of $ 27.5 Billion or 24.4% worldwide premium of which the largest 10 Reinsurers generate 83%.

The combinations of weak pricing in the 1997-1999 period and less rigorous reserve levels will continue to depress earnings at levels that cant be completely offset by the purported price increase for risks written in 2000.

Standard & Poor expects further combined ratio deterioration, and net investment income stagnation could lead to rating downgrade as the level of adequacy declines.

1999 Top 10 U.S. Reinsurance Companies

Ranked By Net Reinsurance Premium Written

In US$ 000,000s

Rating	Company	NRW	Combined Ratio	Adjusted share holders Fund
AAA	American Re	2,821	115%	2,146
AAA	General Re	2,574	117.4%	4,642
AAA	Employer Re	1,888	116.2%	4,269
AA	Transatlantic Re	1,322	106.4%	1,442
AA-	Everest Re	1,108	103.3%	1,147
A+	GE Reinsurance	1,081	116.3%	754
AAA	Swiss Re America	1,046	109.5%	1,243
AA	Zurich Re	967	107.6%	906
AAA	National Indemnity	882	122.9%	27,564
AA-	Gerling Global	878	105.2%	562

The imbalance of the overall gross portfolio is related to the potential fluctuation of the result for the year. The retention of the reinsurance programs in question should be set so that any possible result fluctuations remaining in the net portfolio can be borne by the company. All that concerns us here are the downswings in the result after all, from an underwriting point of view, it is unnecessary for a company to reinsure itself against exceptionally high profits for the year (although for tax reasons a result should be as stable as possible in preference to showing wide profit fluctuations). This raises the question of how to measure potential fluctuations in the result.

The notion of a company (financial weakness) might suggest the ratio (net premiums: capital funds), along the lines of solvency criteria already applied. However, such a ratio is also dependent on the following variables: on the profit/loss expectation built into the original premium, on the price of the reinsurance cover, and finally on the adequacy of the technical reserves.

Whether a company acts conservatively or is prepared to take risks depends on the confidence of its management or, more precisely, on how willing it is to put its (necessary operating capital) at stake.

Whilst on the one hand the three variables (imbalance in gross business), (financial weakness) and (corporate risk aversion) characterize the reinsurance requirement, on the other the cost-benefit ratio of the relevant reinsurance program must be assessed. In practice, it is only worth discussing a retention if the appropriate reinsurance cover is actually available on the market, and under acceptable conditions.

In other words, the usefulness of a reinsurance arrangement, is to be gauged against the comprehensiveness of the treaty provisions in cushioning any swings in the result as best they can. This places the onus on the cost-benefit ratio of the reinsurance cover. In all realistic cases, the lower the retention set, the smaller the long-term fluctuations in the net result are. This also means that the price of the reinsurance cover is correspondingly higher. At most, treaties with variable premiums could be an exception to this rule.

4. Quantifying the absolute retention level

The question now arises as to how such variables as (fluctuation in result), (reinsurance requirement), (corporate risk aversion),(benefit of reinsurance cover), (cost of reinsurance cover), etc. maybe quantified in one form or another by sound actuarial methods, and in what mutual relationship these variables should realistically stand.
Naturally, there is no universally valid answer to this but only various risk theoretical models providing a number of more or less divergent rules for setting retention. In the following, we keep to a simple (formula) in order to explain one relatively consistent quantification of the above-mentioned concepts.

The reinsurance requirement, which decisively determines the retention, can at first sight be considered the product of financial weakness, potential fluctuation in the gross result and corporate risk aversion.

Financial weakness: It immediately becomes clear that an isolated statement such as (the company possesses capital funds of CHF 100 million) is of very little help, since this amount is very high for a small company and could possibly be too low for a large one. To be able to view such data in a proper context, it is necessary to have a reference figure, such as gross premium. The most neutral reference figure, however, is not produced by commercial (earned, collected or written) premiums but by the gross risk premium, that is to say the average gross loss burden to be expected from a long-term mean. This natural parameter, so to speak, makes it possible to compare companies or portfolios for their size. We shall therefore measure financial weakness by applying the ratio (gross risk premium to capital funds).

But what should we understand by the term (capital funds)? Capital funds shown or as published? Necessary operating capital? Actual capital funds including undisclosed reserves, or assets realizable in an emergency? A simple answer is that capital funds represent (what a company, in accordance with its risk aversion, is prepared or able to commit in the worst scenario accounted for). In other words, a decision must be reached on what is covered under the heading capital funds.

We must next quantify the future potential fluctuation in the gross result, or rather the extent of possible downswings in the result. Yet we must be careful in this case as well: a variance of, shall we say, CHF 20 million times CHF 20 million can present a danger for smaller companies but, in certain circumstances, could be absorbed by large firms. The correct relative figure shall therefore be defined as (gross risk premium times gross risk premium) or, as it can also be put, (gross risk premium squared).

We can picture possible future results by referring back to past statistics (most simply, to those reflecting the loss burden for the year; more subtly, to those on numbers of losses and on single loss amounts). However, it must be made clear that an uncritical examination of past records runs the danger of underestimating the variance, since in a changing environment

future fluctuations could be far higher than those previously observed. On top of this, a company that is new to one or several classes of business has no access to such past statistics, although it is precisely this type of company that would be particularly concerned to determine potential fluctuations. In such cases the variance must be assessed by other means, for instance by employing market statistics; but even these must not be used blindly, but only to the extent that they can be considered representative for the future.

Finally, how are we to put a figure against corporate risk aversion? It has already been indicated that a company which is highly likely to commit its capital funds can be regarded as willing to incur risks and is therefore a company with little risk aversion. It follows that the lower the (probability of ruin) tolerated by management, the greater the corporate risk aversion. Yet the term ruin, which is commonly used by actuaries, is badly chosen since it is applied to a situation where the funds (risk capital plus accumulated profits) allocated to cover a claim on a given portfolio are insufficient to finance that loss. However, this does not necessarily mean that the entire company will be bankrupted as a result.

4. Grading retentions

Once the absolute retention level is fixed, the question arises as to how this can best be graded according to risk category (class of business, sub-portfolio, or geographic region). The instinctive answer is that the greater the potential fluctuation in the result for the year displayed by a particular risk category, the more should be ceded to the reinsurer. On the other hand, if the reinsurance cover is relatively costly in a given risk category, then it is likely that less will be reinsured.

At this point we would like to mention that we have as yet failed to define precisely what is meant by the term (retention), either in discussing absolute or relative (i.e. those graded according to various sub-portfolios) values. Practice tells us what quota retention is, but the very notion of priority in an excess of loss treaty remains unclear, for instance. Are we referring to a retention per policy, per risk or per event (which presupposes that (risk) and (event) are themselves unambiguously defined)? And what meaning is assigned to the retention within an entire reinsurance program?

 (So far, so good the overall quota retention has been set at 75%;but does this mean that each of the two classes of business should keep to a single quota of 75%, or would it be better to run higher in one class of business and proportionately lower in another in accordance with hitherto unspecified criteria?)

One answer (which accords with our most (primitive) model) would be:
 (The retention should be graded in proportion to the reinsurance price and in inverse proportion to potential fluctuation in the individual class of business).

5.   Retention per what?

As long as we apply one quota to the entire business, we need not trouble ourselves with a precise definition of (retention). The quota retention of 75% not only means that the direct insurer carries 75% of the gross loss burden for the year himself; it also signifies that the insurer retains 75% of the premium, of the amount insured or of the EML (estimated maximum loss) and carries 75% of every loss, irrespective of whether it is a single loss, an accumulation loss or a catastrophe. But even the (primitive) setting of a quota retention per class of business: What share of a hailstorm loss simultaneously incurred by the Fire and Comprehensive Motor classes should a direct insurer carry? The setting of retentions becomes far more involved when surplus reinsurance enters the matrix. Such considerations, would then necessitate retentions in fixed amounts rather than percentages, e.g. a retention of 500,000 for the Fire class. This would mean that the direct insurer loses no more than 500,000 if a claim is incurred. But to what is the amount of 500,000 applied? What gets lost when a claim is incurred? A risk, clearly, but what is that? If the direct insurer retains 500,000 of every amount insured on every policy, then it is possible that the company is risking too much: Consider, for instance, the accumulation of value from buildings, contents and business interruption, which could be covered by three different policies. Although it is relatively easy to discover an accumulation of this sort, accumulation control in the case of insurance on contents would demand a special infrastructure on the part of the direct insurer.

However, the direct insurer might well be risking less than he wishes with a retention per sum insured, since the same fire policy could cover several buildings in various locations; in this case it would be more suitable to apply the 500,000 figure to the EML. A good EML assessment will become obsolete in the face of new hazards and environmental developments.

If the direct insurer also wishes to limit his loss from natural catastrophes (hail, windstorm, flood, etc.), he will no longer be interested in the sum insured on an individual policy. What is important here is the cumulative sum insured within an entire region and an accurately calculated EML based on realistic catastrophe scenarios.

6.   Selecting an optimum reinsurance program

Certain principles need no further explanation, for example:
1.   If there are two reinsurance programs costing exactly the same amount, then preference should be given to the program

which most markedly reduces the fluctuations in result.

2.   If two reinsurance programs reduce the fluctuations in result to the same degree, then the cheapest program must be chosen.

Here again, the two principles are unrealistically simple, since in practice many more criteria have a role to play such as the security of the reinsurer.

As soon as the reinsurance program contains other reinsurance forms as well as quotas, which tends to be the rule, more detailed information is needed than that provided by the annual statistics outlined above. If surplus reinsurance is involved, then data on the distribution of the amounts insured (or rather the EMLs) must be available; for excess of loss reinsurance, insurers must be informed about single loss distribution and possible exposures.

7. Concluding remarks

The above considerations illustrate a fact that has long been known in practice:

that setting retention is more complex than calculating premiums or allocating reserves.

Though there is no universal answer to setting retention, some workable quantitative approaches may be applied, which could at least serve as a crosscheck or to supplement further (retention calculations).

The most important actuarial question that remains unanswered concerns the procedure for a more complicated reinsurance program. One possibility is to employ the trial and error method until the following equation balances:

(Expected net profit to variance of net loss burden equals corporate risk aversion to capital funds).

Finally, we should add that the points mentioned so far were primarily intended for fixed reinsurance premiums. For reinsurance programs with variable premiums dependent on claims experience the procedure is somewhat more complex, although the additional difficulties can be overcome ∥.

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Dear Reader

If you have

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