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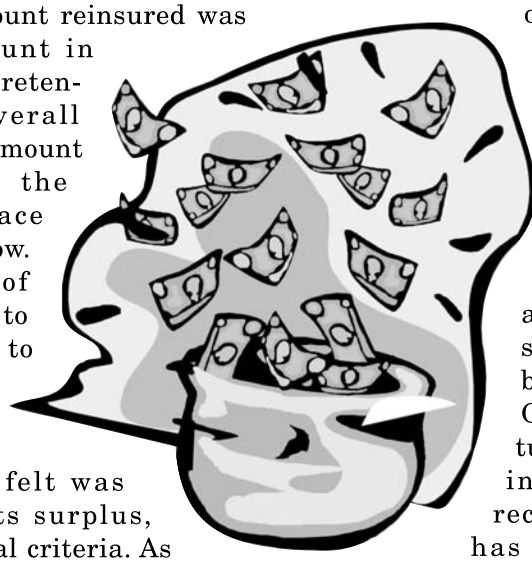
and retrocessionaires have the ability to better manage and control over-retention situations, thereby allowing them to offer more capacity without having to "hold any back." That said, this will only become a factor once the industry has been able to address its data issues and reduced the reporting lag to six to nine months.

I suspect the next few years are going to be very interesting in the mortality risk market. The dynamics are very fluid, with significant opportunities for both improvement in market efficiencies and risk management. That said, I believe the next 12-24 months will also see some interesting per-life capacity developments that could drastically change the insurer/reinsurer/retrocessionaire relationship. While I would not expect a return to the "strictly excess" and significantly limited automatic binding and jumbo limits that characterized the life reinsurance and retrocession markets up to the mid-'90s, I believe that the trend toward loosening these terms will reverse somewhat in the coming months.

THE RECAPTURE PROVISION
IS IT UP TO DATE?

by Larry Warren

The recapture provision is a standard reinsurance provision found in practically every reinsurance treaty. Historically, reinsurance was ceded on an excess basis (i.e. the amount reinsured was equal to the face amount in excess of the company's retention schedule). The overall ratio of the reinsurance amount ceded compared to the company's direct face amount was relatively low. The main purpose of "excess reinsurance" was to enable the direct writer to retain as much face amount as it could justify and merely cede the amounts which it felt was excessive relative to its surplus, earnings or other financial criteria. As experience unfolded, the direct writer was not especially concerned about the relationship between the mortality experience of the reinsured business and the reinsurance premium. (As we will soon discuss this is certainly not the case under the more recently utilized first dollar quota share reinsurance). The recapture provision was a logical, reasonable and benign provision that permitted the ceding company (i.e. gave it the option) to increase its retention limits on its in-force business (i.e. take back or recapture some of the reinsured business) if it increased its retention limits on new business.



If the increased retention limit exceeds the face amount of the policy reinsured, then that policy will be fully recaptured. Otherwise, it will be recaptured only to the extent of the increase in retention. The recapture provision typically has requirements such as a recapture (waiting) period (typically 10 years) as well as advanced notification of intent to recapture. Some recapture provisions require that the ceding company implement a recapture program within a

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limited period after the effective date of a retention scale increase (otherwise, they will forfeit the right to recapture). There are also administrative and other rules that have to be followed. The purpose of the recapture provision is to give the direct writer the opportunity to take back the reinsured risk that is no longer needed as a result of the increased retention that it is now able to accommodate. The recapture period must be long enough to give the reinsurer sufficient time to earn its profit.

In a first dollar quota share arrangement, the reinsurers assume a fixed percentage of the face amount of each policy. For example,

the direct writer may retain 20 percent of each risk and cede 80 percent to one or more reinsurers. First dollar quota share reinsurance (80-90 percent is common) has become quite prevalent in recent years and accounts for a very significant percentage of all reinsurance ceded. Many of these treaties have similar if not identical recapture provisions as the "excess reinsurance" treaties. While the language in these provisions was clear and appropriate for excess reinsurance, it is unclear and inappropriate for quota share reinsurance and poses a very real risk for disputes between the direct writer and reinsurer. There inevitably will be some direct writers that, by the time the recapture period is near completion, will recognize that the reinsurance premiums that they are paying are greatly in excess of mortality claims. As we will later show, it is the combination of a strong and even perhaps compelling desire of the direct writer to recapture, coupled with this inappropriate and unclear language, which will spark major disputes leading to arbitration and/or legal challenges.

In sharp contrast to excess reinsurance, first dollar quota share reinsurance is utilized for reasons basically unrelated to the direct writer's retention scale, such as predictable mortality costs (i.e. paying known reinsurance premiums instead of unknown future mortality claims), stability of earnings, ability to offer more competitive products etc.

As a result of the fact that reinsurers commonly build future mortality improvements into their pricing, coupled with the fact that projecting future mortality is an art as well as a science (i.e. determining which mortality table has the appropriate slope for the business being reinsured), it is not exceptional to find reinsurers who will offer a reinsurance premium rate scale lower than the ceding company's pricing mortality assumption. This lower premium would enable the direct writer to develop a more competitive product than it would be able to otherwise justify.

As mentioned earlier in our discussion of excess reinsurance, the "direct writer is not especially concerned about the relationship between the mortality experience of the reinsured business and the reinsurance premium." This is because the direct writer could not prudently have kept a risk greater than its maximum retention scale. It simply had no choice but to reinsure the business. Furthermore, the volume of business reinsured under excess reinsurance is typically low in relation to the total volume of direct business and is usually not of sufficient size to be statistically credible. As mentioned earlier in first dollar quota share arrangements, a very significant percentage of the face amount is typically reinsured (80-90 percent is not exceptional), giving rise to huge blocks of in-force business and often is of sufficient size to be statistically credible. In quota share arrangements, both the ceding company and the reinsurer have a big interest in how the relationship between mortality claims and reinsurance premiums unfolds.

If mortality turns out to be significantly more favorable than the direct writer had contemplated, the direct writer will make every attempt to recapture the reinsured business. In fact, I believe that it will not be uncommon for there to be situations where the direct writers will find themselves paying reinsurance premiums greatly in excess of mortality costs. Let us look at the following examples below.

Example 1

The direct writer, having no credible mortality experience (e.g. for a new product with new risk classes or new underwriting guidelines/requirements), makes an educated guess (based on subjectivity and judgment) at what they think a reasonable mortality assumption is. The reinsurers also have no mortality experience on which to base their premiums. They similarly make an educated guess based on the direct writer's management team, distribution system, specific product, design, underwriting guidelines, market segment, average face amount, etc. The direct writer then reinsures on a 90 percent first dollar quota share basis with a reinsurer or reinsurers whose YRT premiums are lower than their mortality assumptions. They are initially quite pleased that they are locking in higher profit margins through reinsurance. After a few years elapse and credible statistical experience emerges, the reinsurance premiums turn out to be considerably higher than the mortality claims. The in-force business under this treaty (containing several years of new issues) is now huge. The direct writer will be thinking, "if we were only able to recapture this business we will save millions of dollars." That is, they will be highly motivated to recapture the business. What recourse do they have? Exactly what does the recapture provision permit them to do?

... reinsurance premiums begin to significantly exceed the mortality claims. This may be quite a surprise to the "astute" pricing actuary.

Example 2

The direct writer has a reasonably good idea of the mortality experience that they have had and their mortality assumption is based on "accurate" mortality studies recently performed by the company. These mortality studies may even be statistically credible and based on the last three years of experience, which is reflective of their current underwriting guidelines/requirements. Similar to Example 1, the direct writer after strenuous negotiations with several reinsurers, finally implements a first dollar quota share arrangement with one or more reinsurers, whose YRT premium rates are somewhat lower than their mortality assumptions. This sounds too good to be true as they would be locking in higher profit margins through reinsurance, and this is even after sharing the results of their mortality study with the various reinsurers' bidding. As was the case in Example 1, after a few years elapse it becomes quite apparent that the mortality claims are considerably lower than the reinsurance premiums. In this example, this result is from the fact that direct writers are not accustomed to building mortality improvements into pricing their products since various regulatory requirements such as self-support testing and policy illustrations usually prohibit it. Reinsurers, on the other hand, typically do factor mortality improvements into their premium scales. Needless to say, there will be a certain percentage of these quota-share arrangements where the annual mortality improvements will turn out to be significant, giving rise to a greater and greater disparity between reinsurance premiums and mortality claims. That is, the aggressively pricing reinsurers who won the bid guessed correctly. As in Example 1, this creates a situation where the reinsurance premiums eventually become considerably higher than mortality claims for

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a large in-force block of business and the direct writer will be highly motivated to recapture the business. What recourse do they have?

Example 3

In this case, the direct writer's pricing actuary is a little more astute than in Example 2 and takes pride in the mortality studies performed with his company's new sophisticated mortality system. He uses the more "modern" 1990-95 select/ultimate mortality table (as opposed to the 1975-80 select/ultimate mortality table) to develop his pricing mortality assumptions. He furthermore has the reinsurers base their premiums on this table. He is perceptive and does in fact realize that potential future mortality improvements are often recognized by the reinsurers and seeks out reinsurers with the most liberal pricing assumptions, including an implicit aggressive mortality improvement assumption. He therefore expects the reinsurance premiums to be perhaps a few percent lower (e.g. 2.5 percent) than his own pricing mortality assumption. This is even after allowing for the fact that the reinsurer needs to cover its expenses and profit margin.

In today's environment, the ceding company normally does due diligence in the selection of their reinsurers.

Once again, however, similar to the previous examples, the reinsurance premiums begin to significantly exceed the mortality claims. This may be quite a surprise to the "astute" pricing actuary. However, this can in fact happen when the reinsurance premiums are expressed in terms of the 1990-95 select/ultimate mortality table and yet the company's mortality experience follows the 1975-80 select/ultimate mortality table. This situation is shown in Exhibit 1 where Table 2 (2.5 percent lower than Table 1) represents the reduced reinsurance premium and Table 3 represents actual mortality claims. Recognize the fact that Table 1 and Table 3 (based on the 1990-95 and 1975-80 mortality tables respectively) were developed with scaling factors of 80 percent and 44.5 percent respectively, making them equivalent over a three-year mortality study period. This equivalence can be seen by observing that the sum of the first three years for Table 1 and Table 3 are each $2,320,000. Also in Exhibit 1, it is interesting to observe in the last column "Excess Reinsurance Premium" that in the early years (years two to four) the ceding company recognizes modest gains followed by ever-increasing annual losses in the range of $1-2.9 million over the years 11-20 which may have been subject to recapture depending upon the language in the treaty. The reinsurance premiums are increasing at a faster rate than the mortality claims, because the 1990-95 mortality table is steeper than the 1975-80 mortality table. As mentioned, the reinsurance premiums will begin to significantly exceed mortality claims. First dollar quota share arrangements started to rapidly gain in popularity in the mid to late '90s. Many of these treaties will soon be nearing the end of their "10-year" recapture period. As shown in the above examples, there will very likely be a strong motivation on the part of some of the direct writers to recapture their business.

In Example 1, due to the significant amount of judgment and subjectivity, the outcome could very likely have been reversed. That is, mortality claims could have greatly exceeded the reinsurance premiums as experience unfolded. In Example 2, had the mortality improvement not materialized, the situation also would very likely be reversed with the mortality claims exceeding the reinsurance premiums. In Example 3, there will in fact be cases where the mortality claims will follow the slope of the 1990-95 mortality table and the reinsurance premiums will

EXHIBIT 1
DEMONSTRATION OF THE DISPARITY WHICH MAY ARISE BETWEEN REINSURANCE PREMIUMS AND MORTALITY CLAIMS

Year	TABLE 1 * Reinsurance Premium	TABLE 2** Reduced Reinsurance Premium	TABLE 3 *** Claims	TABLE 4 Excess Reinsurance Premium (= Table 2 - Table 3)
1	$550,000	536,250	$520,000	$16,250
2	780,000	760,500	770,000	$(9,500)
3	990,000	965,250	1,030,000	$(64,750)
4	1,190,000	1,160,250	1,220,000	$(59,750)
5	1,440,000	1,404,000	1,390,000	$14,000
6	1,740,000	1,696,500	1,540,000	$156,500
7	2,120,000	2,067,000	1,690,000	$377,000
8	2,520,000	2,457,000	1,840,000	$617,000
9	2,900,000	2,827,500	2,030,000	$797,500
10	3,340,000	3,256,500	2,260,000	$996,500
11	3,740,000	3,646,500	2,580,000	$1,066,500
12	4,340,000	4,231,500	2,960,000	$1,271,500
13	5,020,000	4,894,500	3,440,000	$1,454,500
14	5,470,000	5,333,250	3,940,000	$1,393,250
15	6,010,000	5,859,750	4,460,000	$1,399,750
16	6,940,000	6,766,500	5,290,000	$1,476,500
17	7,860,000	7,663,500	5,860,000	$1,803,500
18	8,860,000	8,638,500	6,480,000	$2,158,500
19	9,980,000	9,730,500	7,150,000	$2,580,500
20	11,050,000	10,773,750	7,880,000	$2,893,750

* Represents 80% of the 1990-95 select/ultimate table based on mortality experience of the first 3 policy years

** Table 2 is 97.5% of table 1

*** Represents 44.5% of the 1975-80 select/ultimate table based on mortality experience of the first 3 policy years

note: The mortality experience underlying these values was arbitrarily chosen to equal 80% of the 1990-95 select/ultimate table which is equivalent to 44.5% of the 1975-80 select/ultimate table.

For simplicity this exhibit is based on a single year of issue ($1 billion face amount) male issue age 45 with zero lapses.

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have been based on the 1975-80 mortality table. In these situations, the mortality claims will increase at a faster rate than the reinsurance premiums and will begin to significantly exceed them.

In all three newly defined "alternate" examples above, in order to avoid significant losses the reinsurers will desperately (due to the large in-force block of quota share business) attempt to raise their rates especially when the premium guarantee provision in the treaty is unclear or ambiguous (as is sometimes the case in YRT reinsurance).

It should now be apparent that both the reinsurer and the direct writer are taking big risks with first dollar quota share reinsurance. Depending upon the outcome, either the direct writer or the reinsurer will have strong motivation to take extreme measures to improve their situation. From the direct writer's perspective, as alluded to earlier, every attempt will be made to recapture their business. From the reinsurers' perspective, every attempt will be made to raise premium rates (on YRT reinsurance).

Reinsurers are nearly unanimous in their opinion that no business under first dollar quota share arrangements be eligible for recapture. They properly recognize that there would simply be too much selection against the reinsurer if recapture were permitted (i.e. if claims are very high, the direct writer will obviously preserve the reinsurance arrangement indefinitely, alternatively if claims are very low, the direct writer will want to recapture). As previously mentioned, the recapture provision in most reinsurance treaties are unclear or ambiguous for first dollar quota share arrangements.

For example, some treaties have no limitation at all regarding the business eligible for recapture. They merely allude to a recapture period (often shown on a separate schedule page). Other treaties refer to the fact that facultative and reduced cessions are not eligible for recapture, but never clearly identify or define quota share arrangements as reduced retention. Rather than define quota share as reduced retention and then let the ceding company deduce that it is not subject to recapture, the treaty language should clearly state that the business ceded under this first dollar quota share treaty is not eligible for recapture. Treaty provisions are often silent as to whether an increase in the ceding company's quota share retention from 10 percent to 100 percent represents a true increase in retention scale or not. (Of course, the ceding company would assert that it is, to strengthen its attempt to justify recapture).

Since it is typically the reinsurers' intent that quota share business not be subject to recapture, the treaty provision language must clearly and unambiguously state this fact.

Until such time that the reinsurers revise and clarify the recapture provisions in their existing treaties, we will find direct writers falling into situations arising from the various examples previously discussed, who will be compelled to focus on any ambiguous, unclear or vague treaty language. This focus will enable them to justify recapturing their business in order to avoid significant losses.

In today's environment, the ceding company normally does due diligence in the selection of their reinsurers. This includes reviewing the reinsurers' rating agency ratings, risk-based capital ratios, financial statements, etc. In order for the ceding company to protect itself in some future time period when the reinsurer's financial condition may have seriously eroded, it is customary to have a treaty provision (often referred to as the "insolvency provision") containing various triggering events for which the ceding company would have the right to recapture. It is not uncommon to find triggering events such as:

(a) The reinsurer becomes insolvent, impaired or unable to pay debts
(b) The reinsurer is about to be liquidated or dissolved
(c) The reinsurer experiences a significant rating downgrade from two or more rating agencies
(d) A significant reduction (50 percent or more) in the reinsurer's surplus or risk based capital ratio
(e) etc.

As was the case in our previous examples, where the direct writer will make every attempt to find loopholes or ambiguities in the recapture provision in order to prevent significant losses, the direct writer will also attempt to find loopholes or ambiguities in this "insolvency provision." For example, the term "impaired" in (a) is not clearly defined or the "rating downgrade" in (c), which a reinsurer may experience could be for benign reasons but the ceding company will jump on their opportunity to recapture.

It should now be apparent that judgment and subjectivity in the process of projecting future claims or reinsurance premiums play a large role for both the direct writer and the reinsurer. This uncertainty inevitably leads to winners and losers in this guessing game of future mortality rates versus appropriate reinsurance premiums. The huge volume of business associated with an in-force block of first dollar quota share reinsurance greatly magnifies the loss to either party, compelling the direct writer to attempt to recapture (or alternatively compelling the reinsurer under YRT reinsurance to raise rates). It should be noted that due to the 10-year recapture provisions common in automatic first dollar quota share pools, and given that the use of quota share reinsurance began escalating in 1995, we will begin to see attempted recapture become more of a reality beginning in 2005.

The concepts addressed in this article should provide a wake-up call to both the direct writer and the reinsurer to very carefully scrutinize the recapture provisions (also the insolvency provision and the premium guarantee provision) in their treaties and assure that it is clear, precise and up to date.

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