RECORD OF SOCIETY OF ACTUARIES
1981 VOL. 7 NO. 1

REINSURANCE TRENDS

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MR. WAID J. DAVIDSON: Until recently, we had noted a shift from YRT reinsurance to coinsurance. This shift was triggered by the reluctance of reinsurers to cut their YRT rates. Also, the necessity for competitive rates generated deficiency reserves for the writing company. Coinsurance works very well for the annual renewable term. It provides relief from deficiency and renewability reserves. ART tends to be written for large amounts and a high percentage is reinsured, therefore, reinsurance becomes extremely important. It is not possible to compete in the ART market using traditional YRT reinsurance. Deterioration in the mortality on renewal is a concern. Also, coinsurance reinsures the lapse risk in addition to the mortality risk. There is no problem concerning assets since none are developed.

The introduction of indeterminate premium whole life has caused some reversal of this trend. For these policies, investment income is the key item. Deficiency reserves are not a problem. If coinsurance is utilized, there is the question of control of the gross premium level. The 818(c) tax adjustment generated by these policies can have an important impact on pricing and the use of coinsurance would pass the 818(c) adjustment to the reinsurer.

Let us review briefly the advantages and disadvantages of various forms of reinsurance on a generalized and practical basis.

The most common form is YRT reinsurance. It is simple to handle and the reinsurance is separated from the other policy features and isolated to the

mortality risk. Recapture is simplified. The structure of the YRT rates can be varied to accommodate different situations. For example, there are different slopes by duration, different cession fees and it can be experience rated or non-refund. Pools with retrocessions can also be used. The asset and tax items remain with the ceding company. There is no danger of loss of assets in an insolvency of the reinsurer.

Some of the disadvantages of YRT reinsurance are that the ceding company assumes all risks and liabilities except the mortality risk, including deficiency reserves. The ceding company suffers the first year surplus strain on the entire block of business. On experience rated business, part of the effect of the reinsurance can be lost through the experience rating refund. This occurs where the experience refund is normally quite large and the company has bad experience. The refund will be reduced and the company effectively retains more of the business than they had originally intended. Until recently, published YRT reinsurance rates were available from each reinsurer. They did not vary from these rates. Reinsurance costs were relatively high and the reinsurer appeared to enjoy good profit margins. It was difficult to price competitively where significant reinsurance was involved.

Now, let us look at full coinsurance. Among the advantages of coinsurance is that each coinsurance treaty can be custom designed for the ceding company. It appears that the mortality assumptions used in most coinsurance quotes are lower than those used in setting the YRT rates, at least prior to the recent significant reduction in YRT reinsurance rates. All elements of the risk are ceded, including the investment risk. The reinsurer participates in the first year surplus strain, including the liability for deficiencies or renewability reserves. The reinsurer obtains tax savings which can be passed on to the ceding company in the form of a lower cost. This tax saving may not be available to the ceding company. An example is the tax benefit of 818(c) where the ceding company has not made the 818(c) election. Coinsurance works well for annual renewable term policies.

The disadvantages of coinsurance are that the assets reside with the reinsurer and the sanctity of the assets are of concern to the ceding company. The tax items are lost to the ceding company. Recapture is quite complicated and a problem exists concerning the control of the dividends on participating business and of the premium level on indeterminate premium business. The portion of business which is coinsured is not really a part of the ceding company's business. It is almost as if it were written by the reinsurer.

The final form of reinsurance we will look at is Modified Coinsurance (Mod Co). The advantages of Mod Co are essentially the same as coinsurance except that the investment risk is retained by the ceding company. The assets are retained by the ceding company and it can be structured to allow the ceding company to control the dividends and premium levels on indeterminate premium policies. By the use of Section 820, tax items can be transferred to the reinsurer or, by not electing Section 820, they can be retained by the ceding company. There is a great deal of flexibility as to the items which are transferred and the basis upon which they are transferred.

A disadvantage of Mod Co is that it is complicated compared to YRT. It may

be challenged by Internal Revenue if tax advantages result. Recapture is more complicated than YRT. Mod Co is generally not understood by the public or even some in the insurance industry.

Let us talk for a minute about reinsurance pools. At least one commercial reinsurer offers a pool arrangement. Assuming the experience of the pool is good, the reinsurance cost to the ceding company can be significantly reduced. However, the ceding company is at the mercy of the pool experience. This particular company recently has reduced the rates for the pool and the portion of the business which does not go into the pool. This increased the attractiveness of their pool arrangement.

Pools created by an association of non-affiliated companies have enjoyed limited success. They generally operate for a few years and then disintegrate. There is no central authority to keep them active. With the passage of time, members of the pool tend to grow at different rates, develop different marketing strategies and find a need for the commercial reinsurers. They gradually gravitate to these commercial reinsurers. The pools do not provide the variety of services available from commercial reinsurers. They do not provide reinsurance other than the basic YRT reinsurance and are not able to react quickly to new situations such as the current crop of ART policies and their spin-offs, or to new classifications such as smoker/non-smoker. The pools generally do not provide underwriting assistance or aid with competitive sub-standard rates. There is one notable exception to the above comments on pools and that is The Reinsurance Association which has been in operation since the 20's. It has evolved now to very simple administrative procedures and gives members of this pool an effective retention of up to $1,000,000 at virtually no reinsurance cost.

In summary, pools sound good theoretically. They can be made to work in affiliated companies. At least one commercial reinsurer is making use of the pool concept. They also will work in specialized areas such as catastrophic coverage or jumbo joint underwriting. They generally are not an effective substitute for commercial reinsurers among unaffiliated companies.

The next topic for discussion is the effect of reinsurance on the pricing of products. Before the recent reduction in YRT rates, most of the commercial reinsurers had high fixed YRT rates. The smaller companies could not compete for the larger competitive policies using these published YRT rates; therefore, they were forced to seek coinsurance. This was no problem for term policies; however, the companies were reluctant to use coinsurance on permanent insurance. Deficiency reserves were another factor which caused the companies to seek coinsurance. It appeared that the mortality charges used in the coinsurance quotes were lower than those used to develop YRT reinsurance rates. Coinsurance was also customized for each ceding company whereas YRT rates consisted of published rates applicable to all companies. With the advent of competitive annual renewable term policies, traditional YRT reinsurance was not practical. Reinsurers scrambled for coinsurance on ART and they may have actually over-reacted. We find some policies are more profitable after reinsurance than before reinsurance. The deficiency and renewability reserve problem for the ceding company was also solved by coinsurance.

The advent of the indeterminate premium policy eliminated the need for

coinsurance for relief from deficiency reserves and the resulting problems concerning the control of the premium level. Smoker/non-smoker differentials also are very common in these policies. The intense competition on premium rate for these indeterminate premium policies requires that the company negotiate the best possible reinsurance deal. The tax advantage for the writing company is lost if the product was more profitable after tax and coinsurance is used. Current very high yields are an incentive for the ceding company to keep the assets. Mod Co, with or without using Section 820, is a complicated way to achieve the effect of realistic YRT reinsurance rates.

In the past six to twelve months, the reinsurers have been lowering their YRT rates very much the same as direct writers are lowering ART rates. Most reinsurers are now offering three sets of rates - composite, non-smoker and smoker rates. They are also varying the YRT premium quotes by company, by type of business and, apparently, by degree of competitive pressure. The reinsurers are becoming quite aggressive in seeking YRT reinsurance. They are bidding and rebidding on desirable blocks of business. This raises the question as to whether these low margins will cut the service provided by the reinsurers. It is no longer necessary to use coinsurance to get an acceptable reinsurance arrangement. Due to the desire of reinsurers to compete, it is now practical to put all of your reinsurance out for bids. There is a significant cost difference between the reinsurers and it is well to review existing reinsurance contracts in order to improve the rates on new business. One problem that we have noted is that the reinsurers may be creating a problem with their non-smoker and composite YRT rates. For example, let us suppose that the ceding company has a whole life with a non-smoker discount and no other smoker or non-smoker differentials. Assume that the company also coinsures its ART so it is not included in this block reinsured on a YRT basis. The reinsurer charges a composite rate on all of the business except the policy with the non-smoker discount. This "other business" consists of no term which is coinsured and will include few non-smokers since they will be buying the discounted policy. It would appear that if a competitive composite YRT reinsurance rate is used, this rate would tend to be too low. Of course, the reinsurers are merely facing the same problems that the direct writers are facing with the piecemeal shift to the smoker/non-smoker distinction.

MR. WILLIAM K. TYLER: It is evident from our experience at Lincoln that ceding companies are looking much more closely at the role of reinsurance in achieving their companies' unique corporate goals. With a new and broad perspective about the possible uses of reinsurance, clients are asking their reinsurers to sit down with them and talk about the specifics of price, the length of the commitment, return on investment; and the effect of the arrangement on the ceding companies annual statement, tax return, cash flow and bottom line.

I'd like to frame my remarks within a particular perception: reinsurance has grown in significance. It continues to provide risk sharing among companies, but it does much more. Reinsurance programs are increasingly viewed as comprehensive business arrangements which have an integral place among the plans and strategies of ceding companies. Reinsurance and financial planning have formed an effective partnership to the benefit of most of the companies in the industry.

The issues I want to discuss today: the movement toward coinsurance, the interest in simplified administration, experimental underwriting, reinsurance profit margins and reinsurance services - can all be seen as responses to this growing demand on the part of ceding companies that reinsurance fit their comprehensive corporate objectives more squarely.

The Move from YRT to Coinsurance

Lincoln National's experience reflects the widespread move from YRT to coinsurance agreements. Between 1975 and 1980, our YRT block of business grew by 75%. In the same period of time our coinsurance block grew by 200%. Coinsurance is clearly our fastest growing block of reinsurance business at Lincoln National. I want to discuss six factors in the current environment which contribute to the movement toward coinsurance.

First, among these is the greater amount of term insurance being written by our clients. Looking at Lincoln National's in force block of coinsurance for 1975 and 1980, we find that the in force grew from 32% term in 1975 to 68% term in 1980. New business went from 63% term in 1975 to 83% term in 1980. Coinsurance has traditionally been used to reinsure term products; the growth of our coinsurance portfolio reflects the increasing importance of term sales in the direct market place.

Second, coinsurance looks more attractive to ceding companies when their own margins of profit are thin. Pressed to take modest profits themselves, they look with particular discomfort upon those discrepancies in age and duration rates scattered through a reinsurer's YRT scale that give a better premium to the reinsurer. Coinsurance removes the possibility; it ensures that the reinsurance premium is affordable at every age, duration and rating.

Third, by their own aggressive coinsurance pricing, reinsurers themselves stimulate direct writers to buy coinsurance in preference to YRT. All reinsurers attempt to make coinsurance accommodations to the plans of their client companies which have lower margins of profit. The move to coinsurance is driven by the supply of coinsurance as well as by the demand for it.

Fourth, coinsurance often looks better to companies as they consider the administrative side of reinsurance. One of the benefits of the YRT administrative system is simplicity; but when reinsurers attempt to customize YRT rates, this feature breaks down. Coinsurance is a customized product to begin with and clients often see it as a more suitable product since the client's own premium rates are used.

Fifth, ceding companies often see coinsurance as desirable because of the role it can play in relieving surplus strain. Clients desire the reinsurer to assume the responsibility for paying commissions, establishing the policy reserve and the deficiency reserve, if one is required.

Sixth, there is a special demand for reinsurance arrangements which will support new products, pricing and underwriting ventures. The allowances and other provisions in a coinsurance arrangement can be individually tailored in just the right way to cover any new wrinkle in the direct writer's program.

While this shift of attention to coinsurance occurs, however some ceding companies have reinsurance needs for which YRT is better suited. So YRT reinsurance will continue as a viable reinsurance product.

Should a Company Use a Bulk or Self Administered System?

About 5 years ago Lincoln National had 23 clients who used some form of bulk, bordereau, or simplified administration. In some cases, it was simply a self-administered, individual policy based system. But the client was doing the administration in his office, rather than in the reinsurers office. As of the end of 1980, we had 61 clients. Last year we had 22 clients develop self-administered programs of one sort or another, obviously, there is a lot of interest among clients in these programs. This interest is stimulated by the desire to control or reduce the expenses of the company and of course, that includes the handling expenses of reinsurance. In addition, many clients are experiencing significant growth in the number of cases that they are ceding. For those companies, it is often absolutely essential that they develop an automated system for processing their reinsurance to avoid staff additions to handle that work load.

On the other hand, simplified administration or self-administration or automation of the reinsurance system in the client company is not always a suitable answer. We look for the following features in evaluating the appropriateness of a simplified administration program for our clients.

Firstly, the client company must be ceding a large number of cases but not necessarily a large amount of business. Normally we would hope that there is a small amount of inforce business because trying to move the administration of an existing book of reinsurance over to an automated approach can often times be more difficult than it's worth. Consequently the client will be continuing to administer their existing book of business under a traditional method and will be looking to automate their new business.

Secondly, we would expect the ceding company to be giving us predominately small size cases. We like to index all cases where there is an amount coming to us of 2 to 3 hundred thousand dollars or more. If the client has a high percentage of cases that exceed that limit we are going to have to go to quite a bit of work to set up the individual records so that we can maintain the index. This sometimes can be self-defeating from the client's point of view if he has to provide this information to us.

Thirdly, we also prefer to have the business being reinsured under a self-administered program be predominately automatic business, business the client has underwritten himself. We make exceptions but we do not like to get facultative business under these programs from the stand point that it simply eliminates the possibility of our obtaining impairment information for studying the results of the experience.

Lastly, we look for a company that is capable of developing the system on a basis which will: provide us with the information we need for our financial reports, provide that information on a timely, consistent basis, and finally a company that we feel comfortable will develop a system that contains the necessary accounting and procedural controls to assure that the reinsurance is administered according to the terms of the treaty.

Automation by the client or the reinsurer, often can provide savings for the reinsurer which can be passed on to the client. However, some of these administrative savings will be offset to a degree by the higher expenses of the reinsurer in terms of the financial reporting and in terms of reviewing and auditing the financial results of the bordereau or self-administered blocks of business. The client, on the other hand, sometimes incurs additional handling expense in their office as it is simply being transferred from the reinsurer to the ceding company. In addition some expenses may occur in developing and maintaining the administrative system they want to use for the reinsurance. Further the existence of an automated system to handle reinsurance can often place some constraints on the type of reinsurance program the client could subsequently negotiate. The point is simply that automation brings many things, and one of the things it generally brings is a degree of inflexibility. These systems can sometimes backfire on you if each new product requires a new reinsurance program. You either have to redesign the system to handle it or you have to take that new product and handle it in a different way. In summary, simplification or automation of reinsurance processing is not appropriate for every client but certainly there are cases where it is very helpful and worthwhile.

Results of Experimental Underwriting

Most reinsurers are doing something that goes by the name of experimental underwriting; it is important that we each define what we mean by it. At Lincoln National, PRO underwriting, of which PROEX is the experimental extension, uses risk factors (variables in individual lifestyles and characteristics which are known to affect cardiac and other medical conditions) to arrive at a more precise risk appraisal. PROEX uses the same risk factor information to distinguish relatively favorable from unfavorable experimental risks. It follows a carefully designed system of underwriting guides and permits, in our view, an identification of the best types of risks to consider for experimentation. We expect that some of our experimental underwriting will be underpriced but we do not expect our overall experimental mortality experience to be unfavorable.

The way opened for experimental underwriting when the diagnosis, treatment, and prognosis for many impairments improved during the last ten years, enabling underwriters to see more impairment categories as deserving. We do not believe that a liberalization in underwriting in some areas should be an occasion to overrun the goal of equitable and credible underwriting. On the basis of a systematic development of coronary profiles derived from risk factor information, our risk appraisals have moved five or six tables lower than they would have been five years ago in the classification of cases involving coronary by-pass, heart valve replacement, and heart murmur. Certain malignancies removed within a year or two before underwriting are presently considered insurable. Other impairment categories, however, continue to be highly rated where data and/or current prognosis does not warrant improved classification. Presently, approximately 3% of our facultative cases are placed on an experimental basis.

The results from Lincoln National's current experimental underwriting program are immature and sketchy. Claims to date are lower than expected for the amount of reinsurance premium collected, but beyond this, we do not know the particular areas in the program which are doing well or those

which are not. We attribute an increase in our facultative business to our experimental program, and we are pleased that our review of claims on experimental underwriting has turned up few results not anticipated in the underwriting process. We are monitoring our underwriting results closely. As results are meaningful, we plan to report to the industry through the SOA, IHOU, HOLUA and the Association of Medical Directors of America.

Coordination of underwriting and pricing functions is increasingly necessary in this environment. Historically, the reinsurer's underwriting philosophy and position changed gradually, if at all, over a lengthy period of time. It was fairly easy to maintain an appropriate pricing position consistent with that stable underwriting position. Currently, the underwriting philosophy is dynamic; it changes frequently and sometimes dramatically. Proper pricing requires pricing to a moving target. It is more difficult and requires effective coordination.

Pricing Assumptions and Profit Margins

The declining profit margins on reinsurance sold are due to market forces at the direct and reinsurance levels. At the direct level, companies are yielding to competitive pressures to give up premium dollars to the consumer. At the reinsurance level, competition is exerting the same narrowing pressure on margins. More reinsurers have moved into the market, creating more reinsurance capacity for the few premium dollars, driving prices down.

Reinsurers are also accepting lower margins in the short term on the assumption that mortality improvement will continue on its favorable course.

Reinsurers are accepting not only thinner profit margins but also a less favorable profit structure as they take on more risk and pay out more money up front and for a longer period of time under their reinsurance programs.

Lower Rates, Less Service?

There may come a time when less service will go with lower rates in the reinsurance business. There is, after all, a cost associated with the services a reinsurer provides. However, there will not be a time when service is not important in reinsurance. In fact, service in the future may be more important that it is now.

If we can speculate that rate competition among reinsurers will bottom out, leaving everybody about even in pricing, then, correspondingly, service may become the leveraging factor against competition. It will be more important.

In addition, I believe that the flow of shared insights and information between reinsurer and client will always be of importance to many clients. Consider the high level of information concerning financial planning, product development, pricing, etc., that passes along the conduits provided by the sale and service of reinsurance. It is a natural exchange stimulated and derived from the shared interest in the success of the reinsurance relationship. As reinsurance becomes more intimately linked with the corporate strategies of client companies, the possibility arises for the development of higher level, more sophisticated services. Reinsurance services wil continue to be important in the future.

MR. DAVID M. HOLLAND:

Should a Company use a Bulk or Self-Administered Reinsurance System?

There are significant advantages to a self-administered reinsurance system, but there are also administrative commitments which must be made. Whether or not to use a self-administered system depends on the company's evaluation of relative costs and benefits.

A fundamental question is, "Are you willing to do the work necessary to administer your reinsurance portfolio?" A reinsurance portfolio has administrative requirements very similar to ordinary life; you have to deal with new issues, amendments, terminations, premium reports, reserve valuation, and other items. In addition, there are special requirements for reinsurance administration such as net amounts at risk for YRT reinsurance. You may already be doing everything required to self-administer your reinsurance. On the other hand, you may want the reinsurer to provide this administrative service so that you will not have to tie up your own staff.

One advantage of self-administration is simplified reporting. Although a reinsurer needs a certain amount of information to keep up with its management and reporting requirements, the data can be provided in a form most convenient to the ceding company. For example, a ceding company may keep its data in policy number order, but a reinsurer will usually have the data in cession number order for billings, reserve listings, and the like. Although the sequences may be similar, they are not always in the same order. This is just one of the complications of reconciling data jointly administered by the ceding company and the reinsurer.

Often self-administered reinsurance reporting will be based on the in force and transaction summary listings (bulk reporting). This eliminates the need for the ceding company to send individual cessions and notices for either amendment or termination. At Munich American, our self-administered YRT program (SAR) is on a calendar year basis, so that once a year the ceding company reports the reinsurance in force and pays the premium. Because the YRT premium is due for a calendar year, there is no unearned premium as of December 31st, and there is no need to do a YRT reserve valuation. There is no problem with new business on our system, because the first calendar year premium is zero. Other reinsurers have self-administered programs, some of which are similar to ours and others which are on a monthly basis rather than an annual basis. Reports for self-administered reinsurance are frequently prepared by computer, either as a by-product of regular processing or using special programs. Rather than use their main computer, some companies handle their self-administered reinsurance using a mini-computer. Regardless of the exact form, the reporting is generally simplified, which means savings to the ceding company.

One key way to improve employee productivity is through the elimination of redundant tasks. This is one of the major advantages of a self-administered system. The ceding company usually prepares a reinsurance cession, calculates the net amounts at risk, and may even calculate a reinsurance premium; all this is work that the reinsurer does too. Self-administration eliminates this duplication of efforts. Also, it eliminates work for the ceding company such as checking reinsurance

cessions and bills, checking reserve listings, and reconciling differences. It is amazing how much effort is spent by ceding companies and reinsurers in reconciling trivial differences. For example, consider the coinsurance of an annual renewable term policy which is rated Table 6, or 250% total mortality. Some individuals will multiply the mortality rating times the premium rate per thousand and round to two decimal places. Then they will multiply the rounded premium rate times the face amount of the term to set the total premium. Others will multiply the standard premium rate per thousand times the face amount and then adjust the standard premium by multiplying the mortality rating with rounding only at the end. Because of the different rounding rules, the calculated premiums may be different. For a rounding difference of $0.005 per $1,000, there may be a $5.00 difference in total premium for a $1 million policy (Unfortunately, even within a ceding company there may be differences of opinion as to the "right" way to round in such a calculation). Self-administration eliminates the need for reconciling differences due to such methods.

Another problem which causes a great deal of work for both the ceding company and the reinsurer arises because in force records are out of phase due to time lags in processing. Consider the following example. A ceding company mails the reinsurer a lapse notice for a given policy, and on the very same day, the reinsurer's computer is preparing a billing statement which includes the annual premium for the policy which has just lapsed. A week or so later the ceding company gets the reinsurer's premium statement in the mail, and is moderately indignant because the reinsurer has billed them for a lapsed policy. The ceding company may mark the cession off the bill and send the reinsurer a reduced payment. In the meantime, the reinsurer has processed the lapse and generated a credit for the next billing statement. The payment received is credited by the reinsurer, but there is not time to determine why the company did not pay as billed. The bill with the credit is processed and sent to the ceding company who pays as billed this time. This means that the ceding company has received double credit for the lapse. In order to correct the double credit, the reinsurer then bills for the lapsed policy on the next statement. When the ceding company sees another bill for a lapsed policy, they are exasperated and by now, even the auditors are asking questions about what is going on. If instead of just one policy, you consider the new issues, amendments, and terminations for the reinsurance portfolio, it is easy to see why there is a tremendous amount of time being consumed both at the ceding company and at the reinsurer reconciling differences resulting from timing. Of course, not all differences are from timing; some are from legitimate mistakes and that is why the reconciliation process is necessary. With self-administration, the reconciliation process is greatly simplified. The reinsurer will audit the statements prepared by the ceding company, but detailed reconciliations by both the ceding company and the reinsurer are not required.

Another advantage of self-administered reinsurance is cost. Because the reinsurer's administrative effort has been reduced, the reinsurer can reflect this savings in his premium scale. In addition to an adjustment in the premium rate, often there is no policy fee for self-administered reinsurance. Of course the reinsurer still has administration expenses. The reinsurer has to audit the in force and premium report, to reconcile them with previous reports, and to check for risk accumulation within his own portfolio. So there is still some need for expense margin for the reinsurer.

Self-administered reinsurance works best when the ceding company reinsures a large volume of business on an automatic basis. Self-administered reinsurance has primarily been used on a YRT basis, although it has also been used for coinsurance. Self-administered or bulk administered programs have also been used effectively for coinsurance or modified coinsurance of existing blocks of business and for Accidental Death Benefits (ADB) reinsurance. One excellent application of self-administered reinsurance is for the new universal life type contracts. For universal life, the amount at risk can change monthly. It is difficult enough for the ceding company to keep up with the amount in force, let alone to keep the reinsurer informed. In many cases special administrative systems are being developed for universal life type products, and it is a natural by-product to have reinsurance as part of this same system. While self-administered reinsurance works well for automatic reinsurance, there would be problems in adapting it to facultative programs such as large scale facultative shopping.

Although self-administered reinsurance has many advantages, it is not expected that it will completely replace a company's traditional cession based reinsurance system. A company will probably have previous reinsurance in force with other reinsurers or may want to use other reinsurers for facultative services. Thus, the ceding company will have to handle both the self-administered system and the traditional cession based system. In some situations, a ceding company may well want to split its automatic reinsurance between two reinsurers. If only one of the reinsurers has a self-administered program, then it is recommended that the first excess amount of reinsurance be ceded on a self-administered basis, and a second excess automatic arrangement set up on a traditional cession basis for the second reinsurer. This seems more practical than the traditional split based on letters of the alphabet. Because the first excess portfolio will have the larger number of risks reinsured, there should be administrative savings, however, the first excess retention can be set so that the desired volumes (or proportions) can be ceded to the two reinsurers. The ceding company should be aware of the reporting requirements for a self-administered system. The reinsurer will need the data necessary to complete the statutory annual statement and other financial reports. The reinsurer will also need to receive this data in a timely fashion. For large cases, the reinsurer will want a preliminary surplus advice type of notification to prevent becoming overlined on one risk.

In summary, the benefits of self-administered reinsurance are simplified reporting, improved productivity by the elimination of redundancy, and reduced reinsurance costs. Whether or not a self-administered reinsurance program is appropriate is something each company will have to decide, but at least it is something that should be considered.

Pricing Assumption - Where Have All The Margins Gone?

Recent declines in premiums, particularly for term insurance, might make one think that we are either approaching immortality or a squaring off of the mortality curve. One of the most critical elements facing the actuary in the pricing of term type products is the selection of an appropriate mortality basis. A number of companies have adopted the position that future improvements in mortality should be projected in pricing. This gets closer to pricing on the basis of an actuary's single best estimate of

projected experience, but it also eliminates one of the implicit margins which insurance companies have enjoyed.

While the use of projected improvements in mortality for product pricing may be a subject of great debate, long-term mortality improvements are an astounding fact. In a discussion of mortality trends (see Record, Society of Actuaries, Volume 5, No. 4), Ed Lew indicated "Overall death rates have been on a steady decline in the United States and Western Europe since the turn of the century, except for certain temporary interruptions such as wars and influenza epidemics, notably those of 1918-19". Based on data from the TSA, Reports, the aggregate mortality ratio for select medical issues improved at an effective annual rate of 1.1% from 1961 to 1972; for the period 1973 through 1978, the comparable aggregate mortality ratio reduced at an annual rate of 4.2%. In the July 12, 1980, issue of "The National Underwriter", there was a report that "Metropolitan Life's statistical bureau reports that the death rate among policyholders of standard ordinary insurance was 6% lower in 1979 than in 1978 and 8% below the average for 1974-78. The statistics show the trend in decreasing mortality has resumed after being interrupted in 1978 by a severe seasonal influenza epidemic."

Thus the actuary is faced with the problem of whether or not to recognize trends of improvement in mortality in pricing assumptions. While improvements have generally been significant, it should be noted that the select aggregate mortality ratio for the period 1976-77 was 75.5% and for 1977-78 it only reduced to 75.0%. This presumably reflects the effect of the influenza epidemic previously mentioned. Another point to consider is that in the March 21, 1981 issue of "The National Underwriter" there was a report that the overall U.S. population mortality was up approximately 3% in 1980. This is another report from the Metropolitan, and they indicated that "The increase in over-all mortality in 1980 reflects higher death rates from virtually all of the leading causes of death. There was also a significant increase in the number of heat-related deaths which resulted from the severe heat wave during the summer of 1980." It will be interesting to see how these trends for population mortality translate into results for insured lives' mortality.

It will also be interesting to see the effects of the recent interest in non-smoker products. Since the presentation of the State Mutual mortality experience on non-smoker business, there has been a tremendous interest in this type of product. Over the recent years there has been a significant shift in the populations between smokers and non-smokers. One has to wonder if part of the recent significant decline in insured life mortality has not been a result of a decrease in smoking by insured lives. This means there is a question as to whether or not reflecting non-smoker mortality and over-all mortality improvements might not be giving a double discount for the same cause.

Another element in the mortality picture is the development of revertible or reentry term products. These are term products with select and ultimate premium rates. If the insured submits satisfactory evidence of insurability, his previous rates start over at the beginning of the select period based on his attained age. The real problem here does not seem to be in pricing products for those who are able to submit satisfactory evidence, but in determining an appropriate mortality level for those who cannot or do not revert. This is an area where there should be real

concerns about margins. Unfortunately, companies which do not provide for reentry type products may find that they are in a similar situation because of replacements. Thus, there is the dilemma as to whether or not you replace your own business with this type of product.

There should be concern about persistency, especially for products sold in the competitive term market. If the agent can get a lower premium for the policyholder and a first year commission, there is a strong motivation for him to replace the business. For this reason, it is important to have a very short payback period on competitive term type products.

Setting an interest assumption is also a challenge to the actuary's foresight. When the prime rate soared to 20% last year, the demand for policy loans increased directly. Also, the increase in interest rates has caused problems in the application of the federal income tax law to life insurance companies. For example, the 10-for-1 rule is operating to the company's detriment at these high interest rates, and there have been tax problems for companies who cannot take a full deduction for dividends paid.

One result is an increased interest in product innovation which allows the consumer to take more advantage of new money type yield rates, and to ease the federal income tax burden. This will be one of the most significant challenges facing the insurance industry in this decade, but its solution can also be expected to have an effect on the net retained margins by the insurance companies.

The Use Of Telecommunications And Computers To Transfer Risks

A. The Fax of Life

The use of telecopiers or facsimile transmission ("Fax") equipment for insurance processing is really catching on, particularly in the underwriting and issue areas. Many agents now submit applications to the Home Office via fax equipment. Home Offices may receive underwriting information from inspection companies and medical laboratories via fax. Some companies transmit policy specification pages to the agent via fax for field issue. With all of the other uses of fax, it is only natural that companies have expanded its use to facultative reinsurance.

One of the primary goals of fax applications is to reduce the amount of time required to issue a policy. Substitute mail for fax in the cycle from agent to Home Office to inspection company, lab, and reinsurer, and back. Obviously a good deal of time is saved by using fax.

On the other hand, there is a definite cost for using fax. Fax transmissions are typically sent over voice grade telephone lines. First generation fax machines (Group I) operated at about six minutes per page. Group II machines operate at about 2-4 minutes per page and current Group III high speed digital fax machines are under one minute per page.

Two elements in the cost to transmit a document are the long-distance telephone charge and the cost of the person operating the machine. Most companies call station-to-station, and some now call when evening or night phone rates are in effect. It is possible to use a WATS line in conjunction with the fax machine. Based on station-to-station rates, the cost to send a 20 page underwriting case file on a Group III fax machine

would probably be between $6.50 and $8.50 depending on the distance between the cities.

There are things that can be done to reduce transmission time. One thing would be to review all fax forms and eliminate vertical lines. Data compression techniques such as "white skipping" and "run length encoding" will skip blank lines. Because pages are scanned horizontally, the presence of a mark, even only a part of a vertical line, usually means the whole line must be sent rather than compressed. Of course greater reductions in transmission time are expected as a result of further technological advances. A significant reduction in time could be experienced if companies could transmit by satellite rather than voice grade communication lines. I understand that certain insurance companies have already obtained a channel on a satellite for use in EDP and fax transmissions.

Before acquiring a fax machine, you should realize that different models are not always compatible. If you want to communicate with outside service firms, you might check to see what types of machines they are using. The Electronic Industries Association (EIA) is working on standards which should ultimately result in fax compatibility for new machines.

The use of fax for facultative underwriting seems quite popular. Currently, around 30% of our underwriting applications are received via fax. While this is a large number as a percentage of the number of cases received, it may only represent around 10% of the companies submitting cases.

Companies have established rules for determining which cases are eligible for fax submission to reinsurers. There may be a minimum size case. Some companies will use fax only if the number of pages is less than or equal to 25; otherwise they use mail. Generally companies fax only complete cases; if additional underwriting informaton has been requested, the case will be mailed to the reinsurer.

In selected situations, we will allow the ceding company to submit a facultative reinsurance summary rather than full papers. There are limits based on amounts, preliminary rating, residence and age. This has to be based on prior approval of underwriters. In such cases the ceding company may submit a one page summary of the case based on an agreed-upon form. Complete papers would only be sent on request.

One small but important point is that control numbers and identifying information are needed on each page. This is primarily to insure that the complete underwriting file has been received, and that none has been lost in transmission. Also, when transmitting EKG's, you should be sure that they are turned right side up.

B. The Use of Computers

The use of computers to transfer reinsurance risks is a logical extension of modern technology. Sometime ago Munich Re published a book entitled Exchange of Insurance Data with the Aid of EDP Data Media. This was intended to be a general systems suggestion for EDP interchange of data. This sort of technique has probably been used more for property and casualty reinsurance than for life. For some time now, property and

casualty insurers have exchanged risks and data on a "bordereaux" basis. The French term "bordereau" is also used in banking and it simply means the compilation of individual items to facilitate business transactions.

Basically, the bordereaux is a listing, and for life insurance, it would be similar to the self-administered listings described previously. A company which handles its business on a computerized self-administered basis is in an ideal situation to provide for computerized risk exchange. One approach currently being discussed is for the ceding company to provide the standard self-administered report on magnetic tape rather than computer listing. The tape would simply consist of print images as if the self-administered report had been spooled to a tape unit rather than written to a printer. The reinsurer would make a copy of the tape and return the original to the ceding company. The reinsurer could then list the tape to paper or microfiche. The report image tape could also be processed by the reinsurer through a conversion program to put it into a standard format. Then self-administered data would be available for computer use by the reinsurer for accumulation control, mortality studies, reconciling prior years' reports, etc.

Thus, with self-administered reinsurance, we really seem to be on the threshold of exchange of insurance data by computers. However, it is anticipated that this will only take place in isolated instances, and traditional reinsurance will be around for a long time yet.

What's In The Future? Lower Rates and Less Service

Reinsurance is primarily a service, as is insurance. The amount of service provided is going to be directly related to what the ceding company wants and needs. Perhaps, reinsurance service has been thought of as providing rate books and policy forms to companies just getting started. As companies grow, they need this type of service less and less, but they often get into more sophisticated types of reinsurance. For example, competitive faculative underwriting is a very important service provided by reinsurers. Coinsurance, where the reinsurer helps to fund the acquisition of new business and deficiency reserve strain is another type of service. There has been a tremendous amount of interest in the past couple of years in tax planning and reinsurance, such as modified coinsurance with a Section 820 election. Also some companies need surplus relief reinsurance. These are types of services provided by the modern reinsurer. As companies competing in an open market, reinsurers are going to try to provide the types of services that are needed at the optimum terms available.

Some companies will only want the best facultative underwriting quote available at the lowest price. Other companies will be involved in innovative design of insurance products, and will want the reinsurer to help figure out how they should be reinsured. Although reinsurance rates may continue downward, our service is going to get better and better.

How Have Changes In Reinsurance Pricing Affected Ceding Company Pricing?

Reinsurance pricing has recently become extremely competitive, and a number of direct companies have indicated that they feel the aggressive development of the Annual Renewable Term and other low cost direct markets is a result of support by the reinsurers. Reinsurance terms are so

favorable that some companies feel they can reinsure all of the business they write and have a guaranteed profit. Further, reinsurers are helping to finance the development of this market by providing production bonuses and high first year allowances. Other actuaries have observed that for new products, asset shares which are not acceptable before reinsurance become acceptable after reinsuance is considered.

Although margins have certainly been reduced for the reinsurers, they are still pricing to make a profit. However, if the net retained profit by the reinsurer is lower than that desired by the ceding company, there is a reinsurance leverage effect which is similar to traditional financial leverage. For example, consider a product which is priced to produce a hypothetical direct profit of $4.00 per $1,000 over a period of time. If a reinsurer is willing to take this product at a profit of $3.00 per $1,000 (based on the ceding company's analysis), the direct company can take advantage of reinsurance leverage. If 50% of the block is reinsured, the company can expect a profit of $4.00 per $1,000 on the block retained, and a profit of $1.00 per $1,000 on the block reinsured. Based on the amount of retained risk by the ceding company, this means that the profit would be $5.00 per $1,000 on retained risks which is a leverage increase of 25%.

The net effect of this is for companies to price direct products more aggressively and to rely on the profits from reinsurance to help their results. Some companies which probably could justify a higher retention limit have not considered increasing their retention simply because it would reduce the amount reinsured. Other companies have actually reduced their retention on certain products to increase the amount reinsured.

Reinsurers are often able to price products more competitively than direct companies because of the difference in expense characteristics. Reinsurers do not have many of the expenses of acquisition and maintenance of the business that direct companies have. Before a company becomes too involved with the use of reinsurance leverage, they should carefully analyze the effect of reinsurance on direct expenses.