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EXPENSE STRATEGY AND PRICING CONSIDERATIONS

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Over the past few years, pricing actuaries have increasingly adopted marginal expense assumptions in pricing. This session will discuss expense strategy and pricing considerations.

- Marginal strategies
- Fixed versus variable costs
- Treatment of corporate overhead

MR. EDWARD C. JARRETT: I am a consulting actuary with Actuarial Resources Corporation in Irvine, California. Larry Silkes is a consulting actuary with William M. Mercer in New York. Johan Lötter is a principal and consulting actuary also with Mercer in New York.

I am going to cover the traditional approach in developing expense assumptions, that is, the expense or functional cost study that we have all come to know and love from the exam syllabus, which provides us with a good foundation of knowledge and understanding of our companies' expenses. Larry is going to cover the application of the expense factors in our pricing studies as well as highlight some good examples of the use of marginal expenses. Finally, Johan is going to address third-party administrators (TPAs) and their cost, and whether or not TPAs are appropriate for your company. Johan also will cover some of the aspects of the tremendously high cost of administering today's more complex insurance products, and some ideas on reducing those costs.

IS PRICING WITH MARGINAL EXPENSE NEW?

Over the past several years, use of marginal expenses for pricing has become a "new" issue. In reality, use of marginal expenses has been around for many years and has simply resurfaced over the last few years as an issue. I remember back during the mid-1970s when I was at Transamerica Life, and we were pricing for a new rate book. (Remember when we used to price a whole rate book of products.) At that time, the company profit objective was 25% of premium, before overhead. So, even then we were wrestling with and trying to come to grips with how to deal with costs that could not be directly allocated to particular blocks of business.

What is new, or more accurately what has evolved, is not so much that marginal expenses are something novel that now needs to be considered, but where within the pricing process should they be considered. Do we consider marginal expenses at the management level in that upper management must consider marginal costs in making pricing decisions on products and markets? Or do we now move it down to a lower level within the pricing process; such as the "mathematical exercise" that is performed on our computers? In many companies, that exercise is handled by actuarial students or less experienced staff personnel. The issue is really whether or not to move the recognition of marginal expenses more closely to the mathematical exercise step in the pricing process. This will require that the marginal cost aspects of making a

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particular decision will have to be understood by an actuarial student with only two or three years of experience. Thus, use of marginal expenses is not new, but we are bringing the recognition of marginal expenses into the pricing process at a much lower level.

EXPENSES ASSUMPTIONS: TRADITIONAL APPROACH

I will mainly cover the traditional approach to developing expense assumptions. This is where we gain knowledge of our particular company's expenses and gain a better understanding of how those expenses may vary with our products and markets. The particular pricing decision being addressed will affect which expenses are defined as marginal and which are not. For example, repricing existing products for existing markets will have different marginal expenses than pricing new products for new markets. The traditional approach, as we have learned in our study notes and exam process, is where we get our hands dirty, where we get into the details. Much of the work may be done by the accounting department, but pricing actuaries need to get their hands in there to better understand how expenses vary within the company.

Expense studies are done for a variety of purposes, including financial reporting, budgeting, and profitability analysis. The generated expense factors may be used not only for pricing, but also for financial reporting and budgeting purposes. The analysis and allocation of expenses is a very judgmental and subjective process. Which, again, brings into question how badly we want to move the marginal expense decision to a lower level in the pricing process. Do we want it being handled by, possibly, a young and inexperienced student or do we want it handled by management within the decision-making process?

There are basically six processes, or six steps involved in the traditional approach.

1. Expense Analysis – This is where expense data is gathered, classified, and analyzed in an effort to understand it as much as possible.
2. Functional Cost Study – Expenses are reclassified and reallocated for various different purposes. The expense allocation for financial reporting purposes, for example, is much different than the allocation used for pricing new products. If a company is moving into a new market, looking at past costs may be of little or no help in projecting costs in the future.
3. Projection of Expenses – This is where we try to get a handle on future company expenses over the next several years.
4. Projection of Sales and In-force – How are we going to allocate these expenses to our block of business? How much to the in-force? How much to new business? How much to maintenance costs, acquisition costs, etc? To perform that allocation, we need to get a good understanding of how much business we are expected to write.
5. Calculate Expense Factors – Again, this will be a function of the purpose for which the resulting expense factors are to be used.

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6. **Monitor and Control** – This, many times, is done at the accounting level, but pricing actuaries also need to have a better handle on how expenses are being allocated to products.

Expense Analysis

The primary source of the expense data comes from the accounting system, which will generally separate the expenses by particular types, such as salary, rent, licenses and fees, cost of medical, etc. It will also separate the expenses into particular departments, or cost centers, which will depend on your particular company's organization. The bigger the company, the more complex the breakdown of the general accounts. Finally, the expenses will be broken down by line of business. Every insurance company in the U.S. and Canada is required, statutorily, to allocate expenses by line of business (ordinary life, group life, individual annuities, etc.) for annual statement purposes.

In terms of expense analysis, generally there will be an initial allocation of expenses done by the accounting department for specific accounting purposes, usually financial reporting. There may also be some initial interpretation of expenses. This information must be further analyzed and reallocated by the actuary to develop expense factors for pricing.

Functional Cost Study

The reallocation of expenses will normally be by function or activity such as underwriting, issue, sales and marketing, claim handling, billing and collection, and policyholder service. Allocation methods vary from company to company and they will also vary by particular expense. The Expense Analysis Study Note lists four possible allocation methods: (1) the direct allocation, (2) activity-based allocation, (3) index-based allocation, and (4) judgmental allocation.

Direct Allocation – Costs that are directly allocated to particular contracts or blocks of business include commissions, underwriting reports, and claim reports. These costs generally will have been allocated already by the accounting department. The costs of a TPAs, which Johan will cover, is another good example of an expense which can be directly allocated.

Activity-Based Allocation – The second allocation method is activity based. This method distributes a particular cost according to some measure such as the time allocation of employees within a certain department or cost center. The valuation department is a good example of a department that provides services for all the company's lines of business. The valuation department's expenses can be allocated by activity or included in one of the nonallocated categories. A time study is of ten used to determine what portion of the total cost should be allocated to particular lines of business, blocks of business, or particular policies. Previously developed allocation tables can also be used, with appropriate caution of course. In many cases, minor changes to the accounting department's allocation is all that is needed.

Index-Based Allocation – The third method is index-based allocation. This method distributes costs among some standard measure such as premiums, commissions, or salaries. For example, agency management expenses can be allocated on a percent of first-year premium or a percent of first-year commission. Another index-based

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expense item is overhead. In some cases, overhead can be defined as being any cost that is marginal to a particular decision. But in most cases, companies will specifically allocate certain nonmarginal expenses to company overhead while other nonmarginal expenses are allocated using an index-based method.

Judgmental Allocation – The fourth method is judgmental allocation. This method is used frequently in pricing. Unit expense factors are set by the actuary's experience and judgment so that the pricing exercise can proceed. Another judgmental type of expense would be where we are moving into a new line of business. Here, reviewing and analyzing past expenses may have no bearing on what the cost will be for the new market or new line of business.

Projection of Expenses

The third item in the traditional approach is the projection of expenses into the future. Our expense analysis is generally going to look at the past year or two of actual expenses. If the expense analysis is done annually, we are going to have a roll-forward of information which, in itself, provides for a better understanding of the dynamics of the company's expenses. I encourage you, as a pricing actuary, to do some sort of expense analysis each year. That is, each year take a look at the costs and reallocate things to see how the company is doing. There may be new information that this process will bring to light that may indicate the need to make new decisions.

For example, suppose a couple of new products that were introduced last year did not do as well as expected and sales are down. You assumed sales would be up by 15%, but actually they are down by 15%. There may be plenty of rational reasons for it. However, implicit in the pricing of the new products was the fact that production was going to increase by 15%. Management needs to be made aware of that. As a result, management may decide to reprice the product, delete the product from the portfolio, change the compensation structure, or even reduce expenses with staff reductions and layoffs.

Projection of Sales and In-force Business

The projection of sales and in-force business will be used to develop our unit expense factors. In doing this projection, we will need to be aware of the plans and objectives of company management. In this projection, we will probably need to project policy count, units, face amount, first-year and renewal premiums, first year and renewal commissions, and various account value information.

Calculate Expense Factors

Number five is the straightforward calculation of unit factors which is a ratio of the expenses by the appropriate unit measure. The resulting expense factors will generally be separated functionally as acquisition expenses, maintenance expenses, and termination expenses. These groupings can be refined further. Acquisition expenses can be separated into underwriting, issue, marketing support, and overhead.

Monitor and Control

Finally, accurate reflection of expenses in pricing requires ongoing monitoring and control of actual expenses. This is, again, where I encourage you to, at a minimum,

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pick off the information from the annual statement and perform a quick expense analysis each year to see how you are doing.

In conclusion, the traditional approach allows the actuary to get his or her hands dirty, and in the process, to better understand the company's expenses, how to control them, and how those costs will change into the future. This will allow the actuary to better help management make wise pricing decisions.

Next will be Larry Silkes. Larry's going to be talking about some particular examples. Larry is a consulting actuary with Mercer. He's been chief actuary at William Penn and senior vice president and product actuary at National Benefit.

MR. LAWRENCE SILKES: I would like to rename my talk or my part of the talk, "I was a victim of the product revolution." Whenever I joined companies that had fantastic sales, all these companies have now downsized. So I wonder if I'm the cause of it, or the result of it. I now realize that I am old. When Ed started saying that the mid-1970s was when companies started using marginal expenses, I remember it back in the mid-1960s. But if we have anybody who is older, then tell us if it was used earlier. Do we have any earlier times of using marginal cost? I never realized, because I was an actuary for small companies, all the functions I did. You were talking about the grind work, and then going back to saying this is part of the management process. I never realized that I only got paid one salary. Is that a part of the management process of keeping costs low?

I was thumbing through the *Record* of the San Francisco meeting, and several topics almost seem appropriate, for this topic: "Fine Tuning the Product Development Process" would be appropriate. And then there was one, "Does the Product Actuary Talk to the Valuation Actuary?" I suppose that title might not be appropriate, but if we were to adapt the title for this talk, we would probably call it "Does the Product Actuary Talk to the Underwriter? To the Administrator? To the Investment Man? To the Agency VP?"

I'm going to be talking about profit studies, and present a case history on how I price products for several aggressive New York brokerage companies. A profit study is a map of future earnings. The question that people ask about maps is, Does it represent the territory? Also, how can I refine my map to be useful so I can help my company meet its goals? When I started in product development, profit studies were called asset shares. Asset share is a calculation that was used to determine if a dividend scale was adequate and equitable. The calculation was done by a Fackler-type accumulation. And the final measure was a surplus per survivor. It was analogous to a reserve calculation, with the exception of the use of lapse factors. Profit studies redirected the emphasis, expressing the profit as a unit of issue. We shifted the emphasis. We went from surplus per survivor at the end of let's say 20 years, to the time of issue. The profit was translated as a percentage of premium, or a return on initial surplus invested.

The first asset share I calculated 30 years ago used unit cost, a single interest rate, and male mortality. The industry has since refined its map, with respect to interest. Now we're worried about matching asset cash flows and liability cash flows. With respect to mortality, we've substantially refined our map to have separate female

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rates, rates for smokers, nonsmokers, pension business, and preferred blood screening. Now I'm going to explain how I groped to refine my map to determine expense factors by providing a case history of pricing for competitive brokerage companies.

When I joined the company, the assumptions, including expenses, were handed down from Mount Olympus by the exalted beings who told us how to run the company. They were derived for the GAAP valuation. The expense factors were a typical percentage of premium, dollar per unit, and dollar per policy. For most products, the factors worked well. I used them to forecast income, liabilities, and expenses. The biggest seller was a combination product, a combination whole life and decreasing term. It was a single product, not a rider. And when we calculated the asset share using expense factors, the product appeared unprofitable. However, if the product was sold as a decreasing term rider and a whole-life policy, the insured would pay the same premium for that benefit; however, because of the makeup of the nonforfeiture law, it offered less cash value. It took me days to explain to the president why, if the customer paid the same premium, the company pays the same commissions, and offers less cash value, I don't want to encourage that sale. I'm still scratching my head, and he probably still thinks I'm an idiot for giving the explanation I did. But because of the expense allocation, we wanted to discourage the sale of the combination product. What was happening was caused by the allocation of the per unit expenses. Because of a high face amount per thousand assumption the per thousand charge resulted in a unit cost that made that product appear more expensive than the product plus rider. When it was a rider, a smaller portion of the overhead was allocated to the policy. So the rider appeared to be more profitable. This all goes to show that if you have the wrong map, you come up with illogical conclusions.

As chief actuary of a small company, each and every quarter I prepared a gain-and-loss analysis. I would compare the components of earnings with the assumptions used in the GAAP valuation, which was the same as pricing. With respect to expense analysis, I determined if the current assumptions were adequate to cover operating expenses, and if the acquisition expenses were being amortized according to schedule. The company was small enough, and we sat down and explained blips such as a miniconvention that wasn't budgeted. One such blip occurred when several employees were terminated; we noticed an extra severance benefit was set up. I would explain these blips at the board meeting; I would explain that the normal operating expenses were covered by the assumptions, and abnormal expenses were not. These were nonrecurring; you didn't have to worry about it.

In the mid-1970s, the company's most successful product sold was a Section 79 whole-life product. This was successful because the employer would buy an ordinary life policy and deduct the premium for tax purposes. In addition, the product had favorable allocation of income tax to the insured, which in most cases would be the employer. This was a total win-win situation. The agent received full whole-life commissions, the employer received a tax deduction and the insured received greater income than taxable income.

On November 4, 1976, the IRS issued a ruling that killed Section 79, by stating that the current allocation method would not continue. Sales plummeted, with the exception of policies sold that were grandfathered prior to the November 4 date. In fact, November 4 then replaced D-Day as being the longest day. We had policies

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being issued in June of the following year with the date of November 4. Anyway, we had a problem. We all sat around and tried to determine what to sell. All you mathematicians can tell me what happens to my unit cost if sales decrease. This allowed me to understand the meaning of the phrase, from Drucker, "The cost of doing nothing is the most expensive cost of all."

The choice was to come up with a select-and-ultimate term. This is how we did it. It had not been introduced to the New York market. I analyzed the company's expense factors and decided they had to be modified. I determined the actual underwriting cost from the underwriter and approximated issue expenses. I changed the factors so I would not have that inconsistency, or any apparent inconsistency, like I had with my other products. As the initial company in the New York market with the lowest term costs, sales improved. Each quarter I would notice, from doing my gain and loss analysis, that unit costs were decreasing. I would reprice and come out with the next version of the select-and-ultimate term, using the reduced unit costs. Sales improved dramatically. They went from \$2 million a year, \$3 million a year to \$7 million a year. The staff kept getting bigger. The company hired additional underwriters with each increase in new business. But we kept using the same system.

With each quarter's increase in sales, the factors were still adequate to cover expenses. But service deteriorated. This is something I'd like to point out. We had probably the most boring underwriter that ever existed, and we'd all sit around and we'd discuss our problems. And the underwriter would say, "You know what we have? We have 200 cases pending." That was his whole topic of conversation. Then, as business was improving, he says, "We have 300 cases pending." We all ignored it. Then he said, "We have 600 cases pending." And again, when we hit 800 cases pending, we had panic. But we should have been aware – things were changing. It wasn't the usual things that happen. So when we had business increasing and increasing, we had chaos. Then I left the company. I thought I was a hero. The company was incapable of handling the new business.

I left the company to sell my new talents as a product actuary. I went to another company that wanted to make a name for itself in the brokerage market. I sat down with the president, who was an actuary and a comptroller, and everyone was in agreement with my philosophy of pricing: how we have to allocate expenses and what we should consider to be expenses. We sat down and analyzed the expenses. We determined that certain expenses for new systems, plant improvement, bonuses, and hiring bonuses should not be included in the cost. I also warned management what would happen if we were extremely successful. The volume of paperwork and underwriting time would overwhelm the company. The president felt confident that with improved procedures he could solve any back office problem. I should have gotten this quote on tape. Sales went annually from \$3-9 million to \$33 million. I also left that company.

I'll ask you to bear with me one more job experience. I went to a company that did not want term, but wanted to come up with single-premium whole life. And this was before the tax law made the product less competitive than annuities. Prior to TEFRA, single-premium whole life had no limit as to how low the face amount could be. At that time, the single-premium whole life was much more tax efficient than annuities or

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any other investment product. Sales went from \$3 to \$100 million in a year. But the paperwork was not overwhelming. The increase in staff was minimal. There was a strain on the staff, but apparently we all understood the nature of term, which accounts for underwriting time and a tremendous amount of paperwork. There was much less work associated with investment products.

Let's step back for a minute and try and analyze what has happened. Like all case studies, there are principles to be learned. The following are several principles that I have learned. Principle number one, if a company wants its sales to go to the roof, hire me, Larry Silkes.

Principle number two, any system allocating overhead through unit cost can have an inherent bias. As an example, if the overhead is allocated by using higher per policy charges, this would be more favorable to term products, and less favorable to smaller, face amount products. If the overhead was allocated as a percentage of premium, this would allocate more expense to permanent policies and endowments and annuities. Allocating overhead through cost per thousand was illustrated at the beginning of my talk. In a sense one of the things that we're trying to, when we try to come with the select-and-ultimate term, is we keep the same structure of expense factors putting caps on when the face amount would increase the expenses out of line (for example, issue cost would increase as factor over a thousand but remains constant after \$100,000 of face amount). Now, our procedures are more sophisticated. We use price in terms of face amounts – we use the proper selection costs. But again, I didn't have any background. So this was adapting existing procedures.

Before I continue, I'd like to remind you of the old story that everybody knows about – the description of an insurance company. The typical description is it's the president steering the car, the agency vice president with his foot on the accelerator, the controller's foot on the brake, and the actuary looking out the rear view mirror. If only we had it so good. The real problem is, the actuary is taking pictures through the rear view mirror, developing the film getting the pictures back from the developer, and then reading and giving directions. The key to improving the map or monitoring is to have as up-to-date information as possible.

Principle number three, all expenses of the company must be paid. It is management's decision, based on its own goals, who is to pay which expenses. The unit cost in the profit studies are the expenses that the policyholder pays. The management must decide where the additional money will come from, and who will pick up the expenses that will not be allocated to the policyholder. It could come from old policyholders, other lines of business, capital and surplus. Or it could come from future policyholders. The buyer of the product doesn't care what your expenses are. He pays whatever he is going to pay. And this could lead to a company that prices its product marginally, even though it's not going to get additional sales, because it has to be defensive in its position. I'm repeating myself here. In a growing company, future policyholders may pay for current expenses.

Principle number four, expenses are a step function. A plateau occurs when there's an investment in additional people, or an investment in new system or hardware. What has happened is the company has an increased capacity to do additional business. This is the time to take advantage of that in pricing. If possible, that

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position can last a long time, until the next plateau occurs. But when the next plateau occurs, then there's an additional increase in cost, and then we have to reconfigure and see what our new unit costs are.

Principle number five, we have to pay attention to numbers that are not necessarily in the financials; as I said, listening to the underwriter talking about his pending account, or watching the hours of overtime that are occurring, or people being fired or people walking off the job because of overwork.

I'd like to get back to my case study. I returned to my second company. One of the big sellers of that company was a student life program. Student life is a program to sell \$10,000 of term. A student is anybody between the ages of 14 and 21, and can get \$10,000 of coverage for \$25 a year. I find it difficult to justify the unit cost. The company continued to support the product so as to avoid the loss of the deferred acquisition cost (DAC) on the particular product. The product was still creating marginal income to the company. So they analyzed the operation and they improved the system to where they say they can now administer the policies for \$3 a year.

When I returned to the second company, they wanted me to develop a Universal Life (UL) product. And I worked with sales and marketing to improve the product and the sales started to improve. After a while, the Fortune 500 company that owned us decided that sustaining the company's growth, along with the surplus contributions and surplus relief, was not worth the investment. The first action that the company took was to curtail sales. The company's unit cost started to increase. The infrastructure that was created to get the sales up to the \$40 million of new premium could not be decreased as fast as the decrease in business. The unit costs were starting to increase. Recall the description of how I described my unit cost decreasing; it was a nice mathematical curve. The company's decision caused a rerunning of the tape.

The case study I described is an extreme situation. Going back to my map metaphor, the map should provide a warning where certain roads could lead, and what would happen if we don't pay attention to the proper indicators, whether they be financial or otherwise. One final principle is to understand that specific products do not make a profit, the whole company makes a profit. I would like to repeat what Ed said. Someone must completely understand the interaction of product, marketing, administration, investment, and surplus. If any of the items are not considered properly, any of the items, disasters may occur.

I'd like to close my talk with a quotation from John Ruskin. I think this quote should go along with the current Society motto: "To know anything well involves profound sensation of ignorance."

MR. JARRETT: Our next speaker is Johan Lötter. Johan is a principal and consulting actuary with William Mercer in New York. He is a Fellow of the Institute of Actuaries in London, an Associate of the Society, and a Member of the American Academy. Johan has 28 years of actuarial and insurance management experience, including 16 years in a large mutual insurance company, and 12 years in life, property, and casualty reinsurance. Johan is an expert in individual and group universal life

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insurance, and has worked in every aspect of this business during the past eight years. Prior to joining Mercer, Johan was a senior vice president with Cologne Life Reinsurance Company. And before that he was senior executive with Munich Re. Johan currently does consulting actuarial work for a number of major Mercer insurance clients and is professionally active and serves as a member of the Product Development Committee of the Actuarial Society of Greater New York.

MR. JOHAN L. LÖTTER: The previous speaker made two important points: the first one is that all expenses of the company must be paid, and I found that very illuminating; the second one is that the overhead expenses are a step function.

I think that what the previous speaker was saying is that, for start-up portfolios, the overhead expense changes with time because the functionalities you need for a start-up portfolio change. Functionalities are not picked as things that would be nice to have; they are forced on us by the policy terms, regulations, our market niche, the composition of our portfolios and good business sense.

If you are a new company and you have just sold your first UL policy, you could adopt the simplest administration system available: you could keep all records in a shoe box. This would make your current expense ratio look good.

I actually ran across a company doing UL administration shoe-box style in the Midwest. It asked me what I would charge to migrate the records from the shoe box to a computer after a year-and-a-half of operations. I started to do some calculations but when I mentioned that, apart from all its money, the company president's first-born child would be included in the price, they gave up on me.

After a year or so of keeping your records in a shoe box you will start to feel that this approach to expense saving was, after all, not really a very good idea. This is because you will need to be able to prepare an annual statement for the policyholder, calculate the reserves, give information on the telephone and so on. Finally you will be forced to build up the functionalities to manage your business satisfactorily. Thus your unit costs will suddenly start to look bad. This reversal will have been caused by the secular changes that will have occurred in your head office functionalities.

I think the lesson to be learned is that, for a pricing actuary looking at expenses, there is no substitute for understanding how your company operates. You have to have the same view of the internal workings of your company as an engineer would have of his manufacturing plant.

My experience relates to the cost of administration of UL policies and annuity business. In thinking about allowing and pricing for administrative expenses, my ideas are heavily influenced by eight years in the trenches with various portfolios of UL business. I shall attempt to approach the issue of the expenses to be allowed for in pricing from a somewhat different perspective than that of the previous speakers.

My approach is to focus on three areas. The first area is related to what one would have to pay an outside organization to take care of the administration? What are the problems inherent in this approach? And how are these problems quantified for the pricing exercise? The second part of my presentation will be concerned with whether

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the allowance for expenses can be calibrated against the expense experience of my existing portfolio of business. The third part of my presentation will be to give you some ideas that I have about incorporating special design features in the policies we sell in order to save on expenses.

First, let me discuss the idea of paying an outside organization to do your administration. This idea usually first surfaces in one's mind when one becomes frustrated with one's own company's internal expense experience or, simply, with one's own company's EDP Department. If expense experience runs ahead of the types of expenses that you need to anticipate in order to be able to compete in the marketplace, look at the possibility of hiring a TPA to do the administration. One could argue that you can unbundle the product and have third parties take care of all of the profit sources: a reinsurer could take care of mortality, a professional investment management firm could take care of the investment of the funds. So why not have a TPA handle the administration?

Each of these parties, and specifically the TPA, would be bound by a contract to deliver services for its part of the arrangement. In this way, you would be able to isolate the product you are pricing from some of the things inside your own company that you may feel are substandard and holding you back from competing.

The TPA idea is certainly a viable one. I have had some experience working with TPAs doing UL and annuity administration. Your typical TPA might offer you a contract to administer your brand new UL product with roughly the following terms (see Chart 1): It's obvious that if you start to charge for premium credits, the expenses become prohibitive.

CHART 1
Third Party Administration Terms

- | | |
|----|---|
| 1. | Set-up Charge: \$12,000. |
| 2. | Monthly Charge: \$3 per policy in force. |
| 3. | Extra charge for new issues: \$12 |
| 4. | Ledger transactions other than premium credits: \$7.50 |
| 5. | Monthly charge for maintaining record of lapsed policy: \$0.50. |
| 6. | Minimum charge: \$2,000 per month. |

A monthly charge for maintaining records of lapsed policies of 50 cents per month would encourage the user to move the lapsed policies off the system just as soon as possible. These terms would normally be guaranteed by the TPA for two years and there would be a 90-day cancellation notice period in there. Also, somewhere in the contract you will find that you still have to pay out-of-pocket expenses for postage, printing, and travel, if any.

It is tempting to take these charges straight into your pricing exercise. There are, however, a number of reasons to be circumspect. Your company may, as a matter of principle, be completely against having a TPA take over the administrative functions. The reason is that your company is usually unwilling to let an outsider deal with such sensitive areas as customer service and your agents. In this case a pricing

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exercise using TPA numbers will be futile except in the sense that it could be the start of a movement towards better expense management within your company.

The two-year guarantee period is very short. The renewal pricing of the TPA contract after two years will be unknown, yet the numbers will be critical to your pricing horizon as far as it extends beyond the first two years.

The TPA will not do everything you need to administer the business. Chart 2 has two columns: the first column shows the functions generally covered by the typical TPA contract. The second column displays the functions your TPA will probably not be able to perform.

In your pricing exercise you will still have to find an internal cost for the functions the TPA will not perform. The length of the list of functions many TPAs will not be able to perform is actually longer than the list of the functions they will be able to perform. At first glance, the TPA solution appears to be no solution at all. Fortunately, a good number of the functions that many TPAs will not perform have to do with work needed at infrequent intervals.

Once you have a handle on the cost of medical underwriting (the first item on the right hand side of Chart 2) and reference the medical information bureau (MIB), and once you have found a way to get the suspense management and reinsurance administration to work, the list starts to look manageable.

CHART 2

What many TPAs will do	What many TPAs will not do
Bill premiums	Underwrite medical cases
Receive and apply premiums	Look up the MIB
Calculate and pay commissions	Write coherent letters
Underwrite "standard" policies	Audit computer output
Issue and mail new policies	Answer difficult questions
Do nightly processing	Reconcile monthly transactions
Print annual statements	Perform actuarial work
Answer routine questions	Field questions from state insurance departments
Maintain routine policyholder service	Discover bugs in their systems
Pay out policyholder loans	Have coherent year-end reporting
Make out claim checks	Make special efforts to improve customer relations
Mail annual statements	Project anything
Send routine correspondence	Manager suspense properly
	Administer reinsurance without tears

If you think about writing coherent letters, auditing computer output, answering difficult questions that don't necessarily arise everyday, calculating your reserves (which you might be doing once a quarter), reconciling monthly transactions which you would do once a month, doing some actuarial work, fielding questions from the state insurance departments, finding and curing the occasional bug in the TPA system, doing the year-end reporting, and projecting occasional numbers for clients

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who want to know what will happen to their policy if they make special payments, you will recognize that these are not day-to-day activities and they can probably be taken care of by your own company with the services of someone who I might call a product manager.

My experience is that such a person can be hired for a certain cost, and could take care of a UL portfolio of, say, 12,000 policies, if the TPA performs all of its usual functions well, including of course, the reinsurance settlement calculations and the suspense management.

Thus you may want to budget in your macro pricing model for a new product, for expenses, for salaries and benefits above and beyond those of the TPA of \$50,000 per year. Naturally you would have to pay someone to do the underwriting and MIB research. My experience is that TPAs don't do that. You can see that the cost of your company's internal control and support of the TPA can easily increase your monthly administration costs by a substantial amount.

Your biggest problem with the TPA will be that you will lose control of your business to a greater or lesser extent. In the typical TPA situation, your records will be on someone else's computer. Not the least of your problems will be those of obtaining custom management reporting in the same style as you produce internally for your in-house business. Some other serious potential problems should also be acknowledged:

- o The TPA's computer software and hardware may not have the horsepower to process large volumes of business speedily. If you are really successful with your business, you may run into the situation where the TPA is unable to process 24 hours' worth of work in 24 hours. If, instead, it takes 36 hours, everything slows down. Your service slows down, and you can get into serious problems.
- o The TPA may not be responsive enough to your distribution organization. If your commissions are not reported or paid on time, you could suffer irreparable losses.
- o Poor service to policyholders and agents can lead to poor persistency and invalidate your lapse assumptions used in the pricing.
- o Your TPA may go insolvent and may be unable to fulfill its obligations. TPAs run on very thin profit margins. Your TPA is unlikely to inform you way ahead of time that they are experiencing financial difficulties. Its first steps in trying to avoid Chapter 11 will ordinarily be to cut payroll and eschew modernization of its systems. This could turn out to be very bad for the servicing of your business.

When your TPA's two-year contract terms guarantee expires, you may be unwilling to agree to the renewal terms. If you are unable to negotiate a satisfactory renewal of your TPA contract, you will want to have your records returned to you. It is critical to your ongoing expense management that you get your records back in a form that will enable you to change seamlessly to another system and another TPA. For this you not only need policy balance records; you also need the journal entries to enable you to explain to policyholders how you calculated their balances. Once you have taken your records from the TPA you have just fired, you should expect to have

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some difficulties in retracing the transactions that occurred when it was doing your processing.

You should consider whether your project costs used in pricing your new product should allow for a one-time cost in changing from the existing TPA's system to a new system. This change can be an expensive one.

My parting shot on the subject of TPA pricing and choice is: do not pick the TPA for your new product on price alone. Pick your TPA only after you have done considerable research. Perhaps the material contained in Chart 2 could be added to your agenda when you interview a TPA. Beware of blank stares when you ask about functionalities such as suspense management and reinsurance administration. If you get those blank stares, they probably don't know what they are doing, and they probably won't be able to manage your business satisfactorily.

When I started out I suggested that one might want to try to relate the pricing for expenses to the expense experience of existing dissimilar products. I think there is no better or more realistic guide than one's own expense experience. The important question is "how dissimilar?" If you have accurate records of products with related administrative expenses and these products are similar to the ones you are pricing, you will be in luck. If not, you will have to do some hard thinking.

The point I am trying to make is that you really have to exercise your mind in making the pricing assumptions for the modern insurance products such as UL, variable universal life (VUL) and annuities. They are not just linear descendants of the products of the 1970s. They represent a new way of doing things, and this new way is a quantum leap away from the old products.

You could (and long ago we did) administer the traditional life products without the help of computers. With the new products, however, good software and fast hardware are essential ingredients for success. With the new products, if your computer systems are derailed, your administration will be wrecked. You cannot administer the new products without good computer systems. So you had better allow for them in your pricing.

I think there is a lack of awareness everywhere except in the trenches. In bringing UL to the market in the early 1980s, we opened a black box and made a drastic change to the way life insurance companies handle their administration: before UL all life insurance products were table-driven. Before UL, in order to know what benefits the policyholder is entitled to, all you had to know was the table code, the entry age, the face amount and the paid-to-date. You could then look up the policy values in a simple table.

UL brought a total change to administration. In order to determine and prove what benefits the UL policyholder is entitled to, you may have to reconstruct UL policy transactions from the day the policy was issued. You may have to be able to explain to the policyholder what happened. In order to explain, you have to be able to read and interpret your own computer output, or worse, your TPA's computer output.

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I hold in my left hand the policy record, printed by a computer, for a nonpar whole life policy issued in 1985. It is printed on a piece of paper 8.5" by 11." I hold in my right hand the policy record of a UL policy also of 1985 vintage. It is also printed on 8.5" by 11" windows of continuous stationery.

Clearly when you consider the expenses involved in the administration of a UL policy, it would be unwise to view the UL policy simply as a whole life policy with frills. In bringing UL to the marketplace, we changed the nuts and bolts of our business forever. In fact, it would be wise to consider whether the cost of administering a UL policy is, in any way, comparable to that of a whole-life policy. The following remarks point to some of the difficulties. The computer system producing the whole-life policy record is much simpler than the system that produced the UL record. The system that produced the UL record cost a great deal more to produce and will cost more to maintain. The staff members who service the whole-life policy need to know only a few things to give your policyholder a coherent answer. They have to know face amount, age at entry and paid to date. They have to be able to look up a number in a table, or the computer could do that for them.

The staff members who service the UL contract have to understand much more. They have to understand the inside of the black box. They have to understand how to apply an annual effective rate to calculate a monthly interest addition to the account value. So they must be familiar with exponents and compound interest. They have to be familiar with the way cost-of-insurance charges are applied to the sum at risk in order to calculate the insurance deduction. They may have to explain to someone that the cost of insurance is based on the sum at risk which is in turn based on the account value which depends on the cost-of-insurance charge which is the thing we are trying to calculate anyway! They have to understand the algebra behind the idea of "grossing up," something that, in my experience, comes naturally only to actuaries. They have to understand the corridor coverage and guideline limits mandated by the Internal Revenue Code.

From what one reads in the popular press regarding educational standards, I would think that anyone who understands algebra at the level needed to do a UL fund-value calculation independently of a computer is destined to become a college professor, not a policyholder service clerk. Such a person is unlikely to be working far long in your TPA, managing your UL business, or even in your own company's policyholder service department for long.

A realistic allowance for UL expenses is expected to be higher than that for a whole-life policy. Experience has borne out the validity of this expectation. One hears horror stories about actual per policy UL administration expenses exceeding those allowed for in pricing by 100%, 200%, 300% and worse! Similar considerations apply to annuity business and variable life business.

The third issue of interest to me is the possibility of designing the administration expenses out of our policies.

How can we design our products for the modern market without getting trapped in a spiral of increasing technicality that brings increasing expenses? There are a few design ideas I can suggest that may be worth thinking about:

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1. Return to products with premium discipline. The complete freedom of the premium schedule that one often sees in variable products is something many agents and consumers do not appreciate as a benefit.
2. Why not take your cost-of-insurance (COI) charges annually instead of monthly. This will reduce your monthly processing time by a multiple, because you would be processing your in-force business annually for cost-of-insurance charges instead of monthly, and you would only be processing your withdrawals monthly for cost of insurance.
3. Do not credit daily interest. Calculate your interest once a month (or once a year). I think this will reduce your processing work?
4. Do not allow payments more frequently than quarterly. I've seen UL policies with weekly payments. I've seen computer systems choke on these.
5. Avoid any complicated policy loan provisions. If it has Moody's Index in it, it shouldn't be in your policy.
6. Ask yourself if you can design the product to facilitate automatic reconciliations. Simplified design features can help you to reconcile, on a bulk basis, the transactions you posted against individual policies. You should be able to check that premiums paid by policyholders and premiums credited to the portfolio are identical. You should be able to check that interest credits made to individual policies add up to the total obtained by applying interest factors to the portfolio total account value. Cost-of-insurance deductions should be controllable against the portfolio when policies are grouped by attained age. Some companies do not do this type of accounting reconciliation regularly on their nontraditional portfolios. I suspect that these omissions flow from system design features that make grouping of the policies in the portfolio difficult.

I would end these remarks by asking, Are we copying too slavishly the policy forms designed by our predecessors? I think too many actuaries and insurance company lawyers, when given the task of designing a new policy form, simply find someone else's policy form and copy it – the good as well as the bad parts. Are we thinking hard enough about eliminating policy conditions calling for expensive procedures in the administration of our products? Consider again the six design ideas I talked about a little earlier. (You can probably think of many other design ideas to add to these.) Are we doing our best to make matters simple for those who actually have to work with our products? (As just one example, I invite you to consider again the complexity of some of your policy loan provisions.) Finally, are our policies written to be understandable and unambiguous or are we only writing them to pass the Flesch Test?

MR. JEFFREY D. MILLER: I have a question for Johan. Have you ever seen a successful TPA relationship? And, if so, could you describe the key characteristics of it?

MR. LÖTTER: I have never seen a successful TPA relationship, except where the TPA is a reinsurance company with an interest in the business. And then you will

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invariably find that the product manager is situated at the reinsurance company in a position where he is guiding the TPA personnel. Or a successful arrangement may be one where the product manager works for the ceding company, performing essentially the same guiding function. You always need a product manager, one who understands the "new math" of the new products, and as mentioned earlier, this person would command above average clerical semi-professional salaries.

FROM THE FLOOR: Your talk gives a view of a somewhat polarized picture: either have a TPA or do the work yourself. Is there some way to have it divided; have a TPA rated to your own production, so as to eventually be weaned away from the TPA. Are there any TPAs allowing you to do that?

MR. LÖTTER: The TPAs will generally give your records back, and they will cooperate with you, because they want to keep their good, or, reasonably good names intact. They will let you take your records away and often will help you to do this.

One way to get started quickly is with a TPA. The TPA already has its systems up and running. One acceptable way would be to go to a TPA with the understanding that you will take your business away once you have a system functioning in house. That is one way of going to a TPA and then weaning your business away from it. You can expect to pay a larger set-up fee for a contract allowing early recapture. Of course, if the business is not successful, you are stuck with the same problem you would have had if you had developed the systems internally; you have a block of orphan business that is not growing and is drawing heavily on your overhead.

