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## REVISITING THE PRICING OF YOUR IN FORCE

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*Panelists will discuss insurers' methods for monitoring in-force business and provide pricing guidelines.*

MS. RACHEL M. HANCOCK: Let me start by introducing the other two panelists. Martin Snow is an assistant vice president and actuary at Met Life. He is responsible for the managing of individual life in-force business and analyzing the profitability and pricing of new business. Martin has been at Met Life in various capacities for almost ten years. He will be looking at the challenges facing today's in-force pricing actuaries, and in particular will be focusing on his approach to those challenges. Martin was to be speaking first, but due to some technical difficulties, he will now speak after Ronnie Klein.

Ronnie Klein is from Life Re, where he's responsible for traditional life reinsurance opportunities. Ronnie joined Life Re in February 1992 and prior to that, was at the Mutual of New York. Ronnie will be covering product pricing and repricing from the perspective of a reinsurance pricing actuary.

MR. RONALD L. KLEIN: I will speak about revisiting the pricing of your in-force business from a reinsurance actuary's perspective. Mortality risk is the major concern of a reinsurance actuary, simply because most of the reinsurance that we do is yearly renewable term (YRT) reinsurance, and that means that we're covering mortality risk only. So we're not really concerned with the other risks.

The most important thing that we look at as reinsurance actuaries is the mortality study. Now if you're revisiting your in force, I assume that you have some business already on the books, and you'll have a mortality study. The first thing that we do when we get information from a direct company is look at credibility. There are many things to look at with credibility. One, obviously, is the number of deaths. That's what I personally like to look at, and you try to pick a number of deaths that makes it credible. I had this argument with someone at work recently—what if you have a lot of exposure but you have no deaths. Is that credible? And the answer is, well, if you have enough exposure, that would be credible. Your experience is very good.

So we look at the number of deaths to measure credibility, the amount of exposure, the duration of the study, and the age of the study. The duration of the study is important because a couple of times we'll get mortality studies from clients with only one or two durations. Mortality is very good in the first couple of durations, but you don't see a trend in the overall mortality from one or two durations.

Also when measuring credibility, decide if it is credible overall or if you can actually break down certain classes like male, female, certain ages, or certain durations. So we look at

that also. And depending on how long this business has been on the books, you might have some good information in the mortality study.

What are some of the adjustments we make to a credible mortality study? The first thing that we look at is the midpoint of the study. The midpoint of the study may be five or six years ago. Since that midpoint, has there been documented improvement in mortality? We're not talking about projected mortality improvements. We're talking about improvements from 0% to 2% that have occurred over the last couple of years. So if the study midpoint is five years ago, you may have somewhere between 2% and 10% improvement in mortality.

Another thing you want to look at, which is very important, is the product being priced versus what's in the study that you're looking at. Typically a mortality study will be across many types of products. So, for example, if you're pricing a term product, and you have a great deal of permanent business in the study, you have to make adjustments for that and vice versa.

Also you have to look at the current underwriting requirements versus the study. Typically direct company underwriting standards will get tougher over time. If your study is five years old, you have to realize that the current business will have tougher underwriting and therefore better mortality results. So it's very important to look at underwriting standards.

Also, from a reinsurer's point of view, company retention is very important. Medical underwriting limits may be lower, so I may be getting better underwriting information. So just looking at the in-force results is not enough. I think you have to project it a little bit further and say, what are the differences between what I'm doing now and what we did when we first came out with the product? This also applies to the average face amount and the average age in the study. Who am I marketing to? What type of person is my ideal market? Is it an older person? Is it a younger person, or a larger face amount, each of which affects mortality? These are all very important.

And then finally, are there any special programs in the study? Special programs could be conversion programs or an external exchange program. Many direct companies will have an external exchange program. They will try to rewrite business from another company with little or no underwriting if the policyholder bought that policy within a couple of years.

In the case of conversion programs, external exchange programs, and even internal exchange programs, what duration do you assume in the mortality study? Do you treat an exchange as something that was underwritten two years ago? Or is it something that you treat as a newly underwritten product. You could be losing some information here, and your mortality rates may look worse than they really are.

From the reinsurer's point of view, it's very important for us to find out this information so that we can adjust mortality to better reflect the product you're pricing. And finally, are there any simplified or guaranteed issue programs that were in the mortality study? Many direct companies will come out with a program, for example, that says if you bought a policy within the last two years we will give you  $x$  hundreds of thousands of additional

## REVISITING THE PRICING OF YOUR IN FORCE

insurance without any further underwriting. Again, is this business going to be in the study as duration one, where one or two durations could be making your mortality study appear worse than it really is?

What do you do if there's no credible mortality study? Well, as a reinsurance actuary, sometimes I can call up the direct pricing actuary and say, what are the pricing assumptions you're going to use? From a direct company's point of view, what do you do if you don't have a credible mortality study? You could use industry data, or data from a similar company. From a reinsurance perspective that's what we do. We take your company, if you don't have any credible data, and we say, what's your underwriting philosophy? What type of markets are you going after? We have information on other companies that are very similar to yours. They have mortality information, so we treat your company like theirs.

Next is the lapse study. Again, mortality is the most important, but lapses are important also. And lapses are even more important in my opinion, because of the level-term products that are coming up. With level-term products, for example a 20-year level term, if you assume that there's going to be 15% lapses every year, and the heavy mortality doesn't come in until the last 8–10 years, you're basically pricing it to be lapse-supported. More typically the lapse rates for these 20-year level terms are in the neighborhood of 6–10%.

And that's why we like to get a lapse study that's hopefully credible. Then we will make similar adjustments to the lapse study that we did to the mortality study. We look at what business is being compared to what in the study.

What do you do if there's no credible study? I think it's a little bit easier to get typical lapse information from industry data. It's easier than, say, getting mortality information. Even though the underwriting maybe different, the products are very similar, and they will exhibit similar lapse information.

Other factors that may cause you to look at your in force include expense assumptions. I know that when I was with a direct company, and I was doing pricing, we had a beautiful unit-cost expense study. Every other year, we had a full-blown unit expense study. And, during in-between years, we had interim studies. By looking at these studies, you could see that expenses were growing at a certain rate, and that is what you want to project. And then management says, "Oh no, you can't have expenses growing at that rate." If the expenses continue to grow at that rate we'll go out of business. Sometimes good information on expense data will not be very useful because management will mandate what expense assumptions you have to use. "Here's what we're going to be spending over the next couple of years." But typically they don't come true.

Other things that will cause you to revisit your pricing will be interest rate assumptions, especially on universal-life-type products. They may cause you to reprice the guarantee minimum interest rates. And finally, there are profit goals. Have your profit goals changed? Do you want to reprice because your profit goals changed? Are you going after a different market, which has different profit goals? For example, do you want the older age market, or the larger-sized policies?

And finally, how can reinsurance assist in the decision-making process? Sometimes going to a reinsurer and getting an idea of what type of price they would charge may cause you to reprice your in force. For example, sometimes we price off the direct company's mortality assumption. So we take the pricing mortality and we'll give you a quote as a percentage of that. Sometimes it's a percentage less than 100%, and sometimes it's more if the direct company is very aggressive.

If they use current mortality data, and make use of all the adjustments that I talked about, then the reinsurer has to build in profit and expenses, and you may get a quote at 105% of pricing mortality.

But in other situations, the direct company may not make use of all those adjustments. And maybe we can charge 95% including profit and expenses of your present mortality. And then you can go back to senior management and say, listen we looked at the pricing and I don't feel comfortable lowering the mortality, but we have a reinsurer who says they'll charge us 95% of our pricing mortality. So we can lock in the mortality assumption.

With regard to surplus strain, maybe the reason you don't actually reprice, once you revisit, is because the surplus strain is too high. It could be because of reserving issues like Guideline XXX, or Regulation 147, and a reinsurer could help as the cost of capital is usually a little cheaper.

You also need underwriting support. There may be a market you want to get into, but you don't have good expertise in underwriting. You can get a great deal of support from a reinsurance company, and that may make you change your mind and decide to come out with a new product. You also need underwriting capacity in larger cases with tough underwriting decisions, etc.

Market trends are also important to consider. As reinsurers, we see many different companies and products, and we can tell what trends or what direction companies are following. So you may come to us and say, "Hey, we revisited the pricing of our in force, and we're thinking of coming out with this new product. What do you think?"

We might tell you that lots of other companies are coming out with the same product, or other companies looked into it, but decided not to come back for a certain reason. In that situation, you may want to use the reinsurance assistance to help you in the final decision process.

MR. MARTIN SNOW: In-force pricing has been thoroughly analyzed, but nonetheless, we are reviewing it once again. We will explore why in-force pricing more than any other topic in the program must be revisited. First, however, we will compare the roles of the in-force pricing actuary and the new business pricing actuary, explore the challenges facing today's in-force pricing actuaries, and describe one approach to these challenges.

We may compare the launch of a new product portfolio to an airplane's takeoff. The takeoff is quick, there is some leeway when choosing flight paths, and the action ends once the plane is safely aloft. In this vein, the new business pricing actuary can be viewed as the airplane pilot responsible for takeoff.

## REVISITING THE PRICING OF YOUR IN FORCE

The new business pricing actuary has frequently been required to set prices quickly to facilitate the rapid launch of the new portfolio. Further, the new business pricing actuary has some leeway when setting prices, because he or she may influence the product design and the pricing structures.

Finally, the new business pricing actuary is no longer concerned with the new portfolio once it has been launched. Clearly, the new business pricing actuary's influence on corporate profitability is limited to the pricing action that he or she takes at portfolio inception. These pricing actions may first appear in the corporate financials at a much later date and be only one portion of a much bigger picture.

On the other hand, we may compare an insurer's in-force block of business to a massive and slow moving ship in the middle of the ocean. In-force blocks often include large diversified multigenerational product portfolios with various pricing features that must be well understood before changes can be made. Furthermore, the in-force business environment is not flexible because the product design and pricing structures typically cannot change. Finally, the in force is on a journey that will take many years to complete. Clearly, a significant investment of thought, time, energy and resources is necessary to switch the course of the in force.

The in-force pricing actuary is the captain of the in-force business and directly influences and controls its operations and profitability. The actuary must maintain adequate profitability and persistency, customer satisfaction, and intergenerational and interproduct equity. To keep the in force on track, the actuary must understand current and projected experience trends, their impact on corporate earnings, and their relationship to the in-force product portfolio.

This requires the actuary to reflect and combine the expertise of many different disciplines. Clearly, the actuary needs a substantial body of organized and detailed information and knowledge, reflecting the expertise of many disciplines. The development of this information and knowledge can be tedious, time consuming and costly. How should we proceed?

For massive jobs, we are familiar with the concept of mass production which results in economies of scale. Indeed, many of us have achieved economies of scale. However, we also need a technique for the in-force pricing actuary to perform a multitude of diverse jobs.

To address this issue, it is helpful to review the editorial commentary in the February 13, 1995 issue of *Barron's*. This editorial commentary was entitled, "Tales of Scale and Scope," and subtitled, "Exploring the Fundamentals of Cost Cutting." The commentary's abstract says, "The most exciting manufacturing technique today is 'mass customization.' It works with bicycles and lighting controls, and before long, it may work with cars too." Just like mass production allows companies to cost efficiently produce one particular product, mass customization allows companies to cost efficiently produce many different products. Mass production produces economies of scale, and mass customization produces economies of scope. Furthermore, mass customization enables companies to please all customers.

One of the first examples of the achievement of economies of scope occurred in Germany in the 1880s. Beforehand, chemical companies had made each different dye and drug in its own dedicated production facility. Then, three companies that continued to lead world chemical markets built huge plants that could make hundreds of different dyes and drugs using the same basic chemical stock. Once the plant was in place, making another new dye in it added little to total cost. The cost savings were tremendous. As a result of these economies of scope, the cost of one kilogram of red alizarin, a synthetic dye, fell from 270 deutsche marks in 1869 to 9 deutsche marks in 1886.

We can view an insurer with a large in-force block and numerous ongoing customer relationships as a giant retailer, like Wal-Mart. Therefore, we will explore how Wal-Mart mass customized to achieve economies of scope. This achievement requires well-trained employees and sophisticated systems.

As you know, the two giant retailers, Wal-Mart and K Mart, have battled each other for the last seven years. On March 21, 1995, Joseph Antonini, the chairperson of K Mart, was forced to resign in what *The Wall Street Journal* termed "an official verdict" that Wal-Mart had won. The *Journal*, in a page-one article on March 24, 1995 enumerates Wal-Mart's successful strategies:

1. Focus on operations—Wal-Mart developed incredibly sophisticated distribution, inventory, and scanner systems so that customers almost never encountered depleted shelves or price check delays at the cash register. They invested tens of millions of dollars in a company-wide computer system linking cash registers to headquarters enabling them to quickly restock goods selling off the shelves. This enhanced management's control and sharply reduced cost. Evidently, K Mart focused instead on marketing and merchandise.
2. Focus on core strengths—When Wal-Mart wished to expand, they built on their strength. Wal-Mart was a discounter of general merchandise, and expanded by building SuperCenters, where both general merchandise and groceries were available in one store at a discount. K Mart, on the other hand, tried to become a combination discount and specialty retailing chain, a shift away from its core strengths, which ultimately failed.
3. Focus on attitude—Wal-Mart's senior executives routinely sought input from subordinates. Those who failed to deliver bad news were scolded. Furthermore, executives spent significant time in the front lines, actively soliciting proposals from subordinates. At K Mart, on the other hand, criticism was ignored and suggestions for change were dismissed.

We can apply Wal-Mart's three successful strategies to mass customize and achieve the economies of scope because we are also giant retailers. For us, mass customization means that we will be able to support a wider variety of products and pricing structures using fewer formulas, systems and data structures.

I discuss the focus on operations and the focus on attitude, because these apply most directly to in-force pricing. Additionally, I focus on another significant in-force pricing strategy—organization. Effective organization is essential for our vast and diverse business and customer base. Our three strategies are (1) focus on organization, (2) focus on operations, and (3) focus on attitude. We start with the focus on organization.

## REVISITING THE PRICING OF YOUR IN FORCE

- I. Focus on Organization—We must effectively organize our business and our business units.
  - A. Business Organization—We have developed a sophisticated organizational structure for our individual life insurance in-force business. We use this organizational structure to maintain a library with relevant product information, including historical rate books and records of decision. These records describe the original product features. Some of the categories we use to organize our business include:
    1. Line of Business—This differentiates the more traditional fixed-premium, guaranteed cash value products and the more recently developed flexible premium and flexible cash value products.
    2. Rate Block—This categorizes policies using their rates and value bases, including those used for premiums, valuation, nonforfeiture and dividends. Our major rate blocks combine policies with broad similarities, and our minor rate blocks reflect more detailed differentiation.
    3. Plan Code Group—This combines plans with similar characteristics. We use finer subdivisions for recently issued business, and fewer subdivisions for older business. Thus, we have one plan code group for essentially all our traditional permanent life plans issued from 1960 to 1979, and five plan code groups for business issued from 1987 onward.
    4. Series—This differentiates policies based on policy size and reflects differentials in expense and mortality experience.
    5. Issue Year/Duration—This differentiates based on policy age and reflects differentials in expense and mortality experience.
  - B. Business Unit Organization
    1. Transition—The transition from portfolio introduction to in-force management must be smooth. Accordingly, the new business pricing unit must also have a financial focus, must alert the in-force pricing actuary early on about proposed new business pricing actions, and must work closely with the in-force pricing unit in portfolio introduction. Indeed, it is helpful for the new business pricing unit to be part of the financial department, not part of the marketing department. In these ways, we can assure that the proposed new business pricing is consistent with the existing in-force pricing, and that the transition from portfolio introduction to in-force management is smooth.
    2. Inclusion—Business units that influence in-force management include those that do new business pricing, in-force pricing, profit testing, marketing, experience studies, financial reporting, earnings projections, valuation and administration. The in-force management process must include all these business units. For example, the marketing department may have had limited involvement in in-force pricing. Now, however, companies are realizing that the marketing department can sometimes help improve in-force customer

relationships. This can be useful in vanishing premium situations, and perhaps, the proper use of the in force to generate new sales. Accordingly, the marketing department should be included in the in-force pricing process.

3. Harmony—Sometimes, the business units that influenced in-force management have been viewed independently of each other. These business units must, however, properly integrate their work to achieve a harmonious poll. For example, experience studies must be completed for the in-force pricing actuary in a timely fashion, so that he or she can incorporate the results of these studies into in-force pricing actions.

The achievement of a smoother transition from portfolio introduction to in-force management, inclusion of all appropriate units in the in-force management process, and harmonious relationship between these units will result in a more cohesive end product.

II. Focus on Operations—We need a substantial body of information for in-force pricing operations. The in-force pricing actuary must be able to access this information in a timely fashion. Information can be thought of as data useful for managerial decision making. Accordingly, we need well-defined data with which it is easy to work. Moreover, our systems, like molecules, must be structured properly. Finally, we must be able to view this information in a format consistent with our business organization.

A. Data

1. Unique definitions—Terminology must be precisely and uniquely defined. For example, at Met Life, "branch" refers both to the policyholders underwriting class and to the agency that wrote the policy. Such multiple definitions of a single term should not be allowed. We need sound consistent actuarial and accounting classes.
2. Sound consistent actuarial and accounting classes—Certain items may properly be classified several different ways. This is fine as long as all pieces of information are integrated in an actuarial and accounting whole that assures that each item is captured and used exactly once. For example, we pay interest on claims paid late. In-force pricing participants must all agree to reflect this interest either in the interest or in the mortality component of their formulas.
3. Policy and benefit level—We should be able to access all data at both the policy level and the benefit level. As you might know, benefit level refers to the fact that one policy may have several riders and benefits attached to it.

B. Systems Structure

1. Aggregation—Certain information, such as policy cash value, that is available on our administrative systems at the policy level is not available in aggregate by block of business. Our systems should be structured so that important information on the administrative files can be easily aggregated.

## REVISITING THE PRICING OF YOUR IN FORCE

2. User friendly—It is not appropriate for systems to be used only by a limited population of experts. Rather, systems should be designed for nonexpert users and allow access by focusing on data/information needs, not the systems' underlying structure. We refer to this as single-image or data-driven design.
3. Functional orientation—In-force management systems should be organized by the in-force management function, and not according to the business organization. For example, we need to calculate reserves for all products. Each valuation formula should have its own routine, and all products that use a particular valuation formula should call the same routine. The same holds for other in-force management functions as well. We do not need separate routines for each product.
4. Functional integration—In-force management systems should be well integrated. For example, valuation systems and dividend systems should be able to access information from one another. Accordingly, when we calculate policy dividends, we should be able to access the policy reserves as well.
5. Access by business organization—We must be able to access all information according to our business organization. For example, suppose we are looking at a particular rate block. Our systems must be structured so that we can get all in-force management information, including reserves, dividends, and policy loans, for this rate block simply by viewing the rate block. Capturing data at the policy/benefit level as described above will enable us to organize the data in any format that we deem appropriate, thereby allowing us to access our information consistently with our organization of the business.

III. Focus on Attitude—To achieve the desired focus on organization and focus on operations, input must be sought from numerous disciplines. This requires the in-force pricing actuary to spend significant time in the front lines, actively seeking guidance from the experts in the various disciplines.

To recap, the principles of mass customization and economies of scope require us to effectively organize our business and our business units. Furthermore, our data and systems must be structured appropriately so that we can efficiently access meaningful information using the organizational structure that we have developed for our business. Finally, the focus on attitude will foster more direct and open communications between the key business units, thereby giving the in-force pricing actuary more direct access to the expertise of other units.

The achievement of mass customization and economies of scope will both reduce costs, and greatly enhance functionality and customer responsiveness. We will be able to support a wider variety of product and pricing structures using fewer formula systems and data structures.

Upon reflection, you might find that you presently use some of these techniques for in-force pricing, although your environment might be less formal and less structured than that which I outlined. The preceding discussion is an attempt to more formally structure our approach to in-force pricing and to provide directional guidance for future efforts.

As promised earlier, we will now review why we are revisiting in-force pricing today, and how the more formal and structured approach described above can help us tackle some of the newly emerging issues. Some of these emerging issues are:

1. New regulatory requirements—Risk-based capital (RBC) requirements were introduced for the 1993 Statutory Annual Statements. We must develop an in-force pricing method that equitably charges policyholders for RBC. One such approach using the techniques outlined before will be described later.
2. New complex products—In recent years, many complex products, including second-to-die policies, have been introduced. These products must be fit equitably into our in-force pricing structures. An interactive environment in which all data is captured and easily related helps facilitate this job.
3. Cost efficiencies—In today's more competitive environment, we need to be more cost efficient. Effective mass customization and achievement of economies of scope will help achieve these efficiencies.
4. Enhance policyholder equity—For many years, in-force pricing actions typically did not increase the customers cost. More recently, however, in-force pricing actions have increased the customers cost, clearly a more difficult task. We must ensure that all customers pay for their fair share of these increases.
5. Expense issues—Many companies are struggling with expense allocation issues. Expenses must be allocated fairly between older, smaller policies, and newer larger policies. Furthermore, the determination of certain functional costs and the appropriate benchmarking of these costs can be better addressed in a mass customized environment.
6. Problem identification—In today's more limited earnings environment, we must design structures to allow management to quickly identify problem areas.
7. Business and profits growth—In the past, we tended to focus on sales to expand our business and profits. More recently, as life insurance sales have flattened somewhat, we have started to focus on in-force conservation to expand our business and profits. Successful in-force conservation requires proper in-force pricing that provides adequate insurer profit and good customer value.
8. Generate new sales—Proper in-force pricing helps maintain customer satisfaction, which is essential for the generation of new sales.
9. Review of in-force pricing structure—Periodically, it is helpful to review the in-force pricing structures, in addition to the pricing factors and formulas themselves. At times, the structure that might have been set up ten years ago may be outdated or no longer appropriate. Availability of all necessary data will facilitate such a review.
10. *Financial Accounting Standard (FAS) 120*—The introduction of formal GAAP accounting for mutual insurers will open up a whole new set of issues that must be resolved. Access to all available data in an organized fashion will certainly help to resolve the emerging issues.
11. Proposed new illustration regulation—A closer working relationship between the new business and in-force pricing units will facilitate compliance with the proposed illustration regulation and the development of the disciplined current scale.

## REVISITING THE PRICING OF YOUR IN FORCE

Now, for the promised RBC example. As you might know, we used the dividend fund method to determine policy dividends. The policy's dividend fund can be viewed as the policies' accumulated asset share. Required assets, on the other hand, are equal to the sum of the statutory reserve and the required capital. Then, the policyholder's dividend fund can be less than or more than these required assets, when this fund is greater than the required assets, we can say that the policyholder has fully funded his/her RBC requirements, and we do not need to impose a charge to fund the RBC. On the other hand, when the policyholder's dividend fund is less than the required assets, we need to charge the policyholder to fund the RBC.

One method to charge the policyholder is to treat the excess of the required assets over the dividend fund as a loan from the corporation to the policyholder. Interest is charged to the policyholder at the cost of capital less the earned rate. Then, the dividend formula charge for this policyholder is:  $(\text{Cost of capital} - \text{Earned Rate}) * (\text{Required Assets} - \text{Dividend funds})$

In practice, this should be easy to implement, but recall that we need access to the dividend funds and statutory reserves in one place. Building this functionality may require some work. However, once we have mass customized and achieved economies of scope, this functionality would exist.

Now, let us conclude with a demonstration of the bottom line impact of a mass customized in-force management system that achieved economies of scope. On May 4, 1995, *The Wall Street Journal* wrote, "Once upon a time—say, the year before last—a company making a 20% return on equity was among the elite. A Wal-Mart store, or a Coca-Cola could obtain the market, but precious few others." Without reviewing the *Journal's* discussion about suitable return on equity (ROE) today, note that Wal-Mart, the company that effectively achieved economies of scope to defeat K Mart, was the company cited for an elite ROE. Nobody can promise what ROE you will ultimately achieve, but it is fair to say that your ROE will be significantly higher if you mass customize and achieve economies of scope.

MS. HANCOCK: As I mentioned in my introductions, I will be looking at repricing from the standpoint of a direct company that has recently gone through the repricing process on its universal life portfolio, and hopefully, share with you some practical issues that arose during the process, as well as the results and conclusions.

Before I get into the case study, I do want to spend a little bit of time revisiting *Actuarial Standard of Practice (ASP) I*. As Martin alluded to in his opening, repricing your in-force business is not new, but the environment in which products are priced and repriced has certainly changed over the years.

Today, the actuary has to deal with two very important and sometimes competing issues: increased competition and pressure from agents to be more aggressive in their product pricing, and, at the same time, the fact that we are in an ever-increasing legalistic environment, with market conduct, agent compliance, illustration and disclosure regulations being at the forefront.

With these two, sometimes competing objectives, it has become even more important for the actuaries to be especially diligent in their following of the procedures and documentation required by the various standards of practice.

As you know, *ASP I* is the standard of practice that addresses the determination and the redetermination of nonguaranteed elements. The standard requires the actuary to prepare a report upon initial determination (that is, at the time of the pricing), as well as upon each redetermination.

For the initial determination, this report has to document all the original pricing assumptions and procedures; for redetermination, the report would document which assumptions have been revised and why (the “why” would need to be in the context of the company's redetermination policy).

This would seem to suggest that several actions should be taken upon the release of a new product—first, the initial pricing and the corresponding report needs to be in line with the company's redetermination policy. For example, and I'll choose the obvious one, if your initial report states that cost of insurance charges (COIs) have been developed to cover anticipated mortality, and the company's redetermination policy is to adjust for experience factors relative to anticipated, then, in theory, you've limited your future COI increases to increases in mortality.

While this may sound obvious, in the past, the actuarial report, required at the time of initial determination, was probably considered a routine exercise and quite possibly was not revised, or revisited, as products evolved to include COI scales that contained significant expense and interest components, as well as mortality.

The second action that is suggested by the requirements of *ASP I*, is the setting up of the necessary procedures for capturing the experience data needed for the redetermination process. This is something that is also more important in today's environment of increased competition, than in the past.

Early universal life (UL) products were developed in a much lower competitive environment, and as a result, margins were much more padded. At that time, the monitoring of experience against pricing tended to be done on a more aggregate basis and was probably used more to update new product assumptions than to reprice the in-force business.

Finally, a third action that is implied by the standard is the communication that is required between those involved in the pricing process, and those responsible for the in-force management of the business. One needs to make sure that the folks doing the experience studies are aware of the detail and breakdowns required by the repricing process.

The people responsible for building the in-force models, need to be aware of the original pricing assumptions and methodology. The administrative guys need to be kept in the loop so as to avoid design changes that become too difficult or expensive to implement, and so on.

## REVISITING THE PRICING OF YOUR IN FORCE

A company's redetermination policy is the framework within which the actuary performs its repricing. *ASP 1* states that a company's redetermination policy and its corresponding marketing, profit and solvency objectives are company management decisions. In other words, the standard does not stipulate or prescribe any particular type of redetermination policy.

It does, however, provide some examples of redetermination policies. One example, and probably one of the most common, is to adjust for differences in experience anticipated at the time of redetermination and anticipated at the time of the original pricing. It does say, that for this policy, anticipated experience is the key and that explicit adjustments to profit margins would not normally be made.

Another type of redetermination policy that the standard gives as an example is a market-based policy where nonguaranteed elements are set so as to achieve a certain competitive position. The particular case study that I'll be looking at shortly was based on this type of strategy; the purpose of the repricing process was to bring products more in line with the competition.

*ASP 1* does provide significant guidance or "recommended practices" in the areas of past gains and losses, special operating practices, defining contract classes, modeling issues and so on. Since we can all read *ASP 1* for ourselves, I don't want to get into any of these in detail.

I would like to point out one issue that I know many companies grapple with and that the standard does not really provide any strict guidance on. And that is, how do you develop repricing adjustments such that they are fair and equitable to all policyholders. For example, when is the mortality experience credible enough to say that smokers require an increase in COIs, while the nonsmokers do not; or when is a particular age group credible enough to be distinguished separately?

What about conversion programs? I give you a quick example of something that came up recently with a client. This particular company had a rollover program, where it offered the policyholders of Product A, the opportunity to roll their account values into Product B, which is its main new business product. Well, a few years later, the mortality experience on Product B is coming in at around 150% of pricing. The company knows that the mortality experience is primarily bad due to the converters, but there is only one policy form covering the converters and the other policyholders.

If they raise the COIs of Product B, it will obviously be unfair to the other policyholders of Product B, and could result in additional lapses and antiselection. And what about those who chose not to convert. In theory, they are part of the same contract class as the converters, or the ones who went to Product B. Should they all be pooled together for redetermination purposes? I think these are just some of the many equity issues that the actuary has to face in the repricing process.

Enough on *ASP 1*; let's go on to the case study. Let me start with a bit of background. This is a fairly large company with assets in excess of \$2 billion. A substantial amount of

## RECORD, VOLUME 21

its business is universal life, which it has been selling since 1984. Over the years, the products have changed, but only for new business. No changes have been made to the in-force products since issue.

As I mentioned earlier, this case study is quite interesting in that the impetus for the repricing process was not that experience was coming in worse than anticipated and changes needed to be made in order to maintain future profits. Rather, the impetus was coming from the field force who were complaining that the in-force UL plans were out of date and not competitive, particularly at the older ages and at the later durations.

Since the company's marketing approach was one of accumulation and 20-year cash values, it was felt that the in-force products were out of line with too much being paid out in the early years and not enough in the later years.

The repricing effort was to focus on revisiting these products, and seeing what changes could be made to enhance the product, while still maintaining the company's desired profit margin.

The approach this particular company took was to go back to their original pricing cells or new business models and first, "age" them to match up with the demographics of the existing business. At first glance, you may be wondering why not just build an in-force model or use the cash-flow testing models.

This company's new business and pricing area was very much separated from the cash-flow testing and valuation area; I think this probably applies to other companies as well. As a result, the pricing people had little comfort in the degree of refinement used in these in-force models. I'm sure that is a reasonable statement for many companies throughout the U.S.

The number of ages used, and the degree of accuracy required in the modeling of account values, and the exact timing of all the charges, etc., isn't necessarily the same for cash-flow testing as for pricing. And since the exercise in this case was to focus on design changes at specific ages and durations, the company decided to go back to the original pricing models.

The first step was to update the original pricing assumptions to reflect the company's latest experience studies. The company's mortality studies showed that experience was at around 85-90% of pricing. However, there were expense overruns of around \$1 million a year. These were determined to be offsetting, and as a result, the original pricing assumptions were used for both mortality and expenses.

A premium persistency study was performed prior to the repricing, and premiums and commissions were adjusted accordingly. Renewal commissions were also updated to reflect agent retention.

The earned rate was set equal to the current credited rate plus the pricing spread, which had generally been achieved over the years. Lapse rates were left unchanged. Age grouping was used to reduce the number of pricing cells used.

## REVISITING THE PRICING OF YOUR IN FORCE

The macro pricing models were then run with various changes to COI scales and loads, to determine what changes could be made that would increase competitiveness, but at the same time, maintain adequate profits going forward. The positive aspect of this exercise was that, since the company was aiming more at increasing later values, the impact on their near-term financials were relatively minor.

The result of the repricing was that they were able to lower COIs on some of their products, although not all of them. As I mentioned earlier, the administration of any changes needs to be considered. For this company, they were able to put the changes through as multipliers, which required minimal system changes.

Before I finish, I want to mention one other issue that I think is very important when repricing, and that is the communication of the results. Of course, it's a lot easier to tell the agents good news than bad news. But even for good news, you will want to get the most bang for your buck. If it's bad news, the way it is communicated and explained to both the agents and the policyholders can have a significant effect on your retention.

As Martin said in his presentation, with life insurance sales flattening, and even declining, the conservation of what you have is certainly a key driver in maintaining future profits.

MR. NATHAN F. JONES: I imagine that Ms. Hancock reviewed the write up of the previous session on this held at the Washington meeting not very long ago. There was a good deal of discussion at that meeting. The factors were appropriate to consider and their relevance was of importance. When I went to the meeting I didn't know what repricing the in force meant, but I found out. I'd like to illustrate it with a very short story.

An actuary, now retired, told me that when he was given his first postfellowship assignment by his superior, who is still an active and well-known actuary in this business. He was asked to look at the dividend structure for the paid-up policies of this company. It was a large company but not what I would call one of the giants. He came back to his boss, and said, "This is terrible. These people ought to have greatly increased dividends." And his boss smiled gently, closed the report and said, "What is your next project?"

MR. JAMES D. ATKINS: I have a question either for the panel or for the audience as a whole. How many of you who have products that need to be repriced, are actually going back and repricing them? How many of you have found that paid-up policies that need dividend scale increases are giving those increases?

I'd just like to get a feel from the audience—is this something that's really going on in most companies? Or is it maybe done in just a few places? Why don't we get a show of hands. If you are actively repricing your in-force block of business on a periodic basis, raise your hands. And I can assume everybody else the answer is no. It looks like about one-fifth of the audience.

One final question for those who raised their hands: how many actually went through with the process of making changes? Or did you just do the exercise and decide not to do anything? How many decided to go through with making changes? A much smaller percentage, maybe 10% of those who raised their hand are actually doing something.

RECORD, VOLUME 21

I think it's an issue and we shouldn't wait for the sales agents to say, "We've got to get the policies up to date." We need to go back and make sure our company managements are aware of this issue. We either need to adjust the policies upward or downward in order to maintain the profit margins that we provided to various insurance departments earlier in the year.