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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. KEITH GUBBAY: I think expense strategy and pricing considerations are important topics for the life industry today. The central issue that we're going to deal with is marginal pricing, where products are priced to cover less than the full costs that the company is experiencing. In my experience, certainly many companies, if not most, use marginal pricing on some of their mainstream products. This is particularly troubling because it's a situation that has been in place for quite a few years. Companies have expected to grow out of these situations, and it hasn't happened for many of them. So I'm looking forward to hearing what our speakers have to say about the subject.

Andy Cherkas is a guest speaker of the Society. He was born and raised in England. He's a Fellow of the Institute of Actuaries, currently with Towers Perrin Insurance General Management Consulting Group in New York. Prior to that he was with Tillinghast for five years and obtained a life company background at Commercial Union in the U.K. prior to that. John Yanko is vice president and chief actuary of Forethought Group. He's been in that position a couple of years. Forethought is a subsidiary of Hillenbrand Industries. Prior to that, he spent 13 years as chief actuary of Fidelity Union in Dallas.

MR. ANDREW S. CHERKAS: I want to answer three questions in this presentation. First, what is marginal pricing and why do it? Let's define it a bit more closely for the purposes of discussing it. Second, what are the problems that have been caused by marginal pricing? Last, what steps can you take to address it? So, let's start off with trying to define marginal pricing; what is it and why do it?

Marginal pricing is normally a response to a number of conflicting forces. Place yourself as the actuary. There are five forces that could be pushing you towards a marginal pricing approach. Not all of these forces need to be present for you to be pushed towards marginal pricing. First, you want to be able to demonstrate to senior management that a new product satisfies corporate profitability goals. Second, whether distributed through independent or captive agents, the product must be shown to be adequately competitive and marketable. Third, the industry still suffers from severe competitive conditions which are forcing down margins. Fourth,

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companies with a poor fundamental cost position often require that actuaries price without full allowance for expenses. This is probably the major force behind marginal pricing for many companies. Fifth, aggressive pricing is sometimes used to boost sales, especially for new products. So those are the forces that are leading many actuaries to marginal pricing.

And what does it feel like? Well, when I was in a position like this, it felt like pulling a rabbit out of a hat. Presto, suddenly we can produce a competitive product. Seemingly, we can satisfy some or all of the profitability requirements while, at the same time, produce a saleable product. To me, it really does feel like pulling a rabbit out of a hat.

Marginal pricing is simply allocating less than full fixed costs or less than full overhead costs when you're pricing a new product. Effectively what this means is that you're tampering with the profit targets for those products. The effect on profitability is that you're varying the contributions to fixed costs or overhead costs and profits, between different new business products or between new and in-force products. So essentially, profit targets are changed when you perform marginal pricing. There's no getting away from that fact.

Marginal pricing can take a number of forms, ranging from mild to aggressive. The mild form has a number of characteristics. Again, these need not all be present. The mild form uses allocations that are lower than actual fixed and overhead costs. Often, it relies on most likely or sometimes fairly optimistic sales projections. Sometimes there's reliance on some expense improvement. You're hoping for some productivity improvement to make up for the expense shortfall. You would hope to cover all, if not most, expenses if sales achieve targets or exceed targets. Conversely, the more aggressive form might use much lower costs, perhaps only the variable or truly marginal costs. Quite often, there's a reliance on fairly optimistic sales projections to cover most of your costs. Occasionally, there's reliance on significant expense improvement. Realistically, there's little hope of covering most expenses in aggregate. Even if all these things come together, you're going to have an expense overrun that impacts the bottom line.

In trying to perform marginal pricing, the most difficult problem, of course, is defining what is overhead and what are fixed costs? Some elements of fixed costs are fairly straightforward to calculate and define and some are fairly difficult. Part of the problem is that nearly all of the costs that are fixed in the short term become truly variable in the long run. So in defining fixed and variable costs, you have to determine what time schedule you're talking about. We can illustrate this by going through a few examples. First of all, corporate management costs at the highest level are easily defined as overhead. Some top line management could be also, depending on your organization. Probably some element of home office rent and potentially, computer equipment, which has ample capacity for expansion, is overhead. If you really can double your volume without adding to hardware or software costs, you can assume for a certain period that those computer costs -- hardware and software -- are fairly fixed. If computer equipment doesn't have ample excess capacity, then you can't really assume that it is fixed. In addition, computer software costs have a dramatic capability to increase over time. Also, certain elements of field management in the branch structure may be fixed, although there's a big question mark over how much. Perhaps more difficult and more taxing would be the ongoing general maintenance costs that you load into your pricing. How much of that is really fixed and how much is variable? It's not always an easy answer. Line middle management costs are again a grey area. These are just a few examples of the difficulties.

Having said that, the mild form of marginal pricing does provide you with some pricing flexibility provided it's monitored very carefully. Under this method, product line profit is measured as a discounted contribution to overhead. By that I mean the profit arising from a year's new sales is looked at as a contribution to overhead rather than profit after overhead.

With mild marginal pricing, the pricing strategy is to aim for an overall dollar contribution from new business sales to exceed overhead, and you hope to leave a profit. If you're smart, you can vary product contributions according to strategic pricing needs. It may be that some products need much more competitive prices than others, and you can price more keenly for those products, but you must make sure you make up the contributions elsewhere. Sadly, we suspect that when companies very aggressively price a product, or very keenly price a product, they don't always make sure they make up the margins on other products that may not be so sensitive in the marketplace. Again, to use the mild approach, you must be confident of sales projections and targets, to make sure that you will cover your expenses overall.

The aggressive form of marginal pricing requires very careful and close financial management and control. Typically, the approach uses optimistic or deliberately inadequate expense loads. Normally, it will result from significant problems in the company. The biggest problem is a poor expense position. Many companies have significant expense overruns. Very often they forecast the overruns disappearing over a number of years, but, in my experience, rarely do those overruns disappear. Quite often, the projections or forecasts, which show overruns disappearing over a three- or five-year period, are optimistic, and not founded in reality.

Consequently, I would argue that aggressive marginal pricing can only be a temporary measure for most companies. Or it can only be used for truly marginal products. There are a number of cases where companies thought they were developing a marginal product, very aggressively priced that product, and soon found that it accounted for half or two-thirds of their sales. Clearly these companies were making a massive bottom line loss as a result of that strategy. So you need to monitor very carefully what you're doing if you are aggressively doing marginal pricing.

So, I've tried to define what we mean by marginal pricing, and we now move on to what are some of the problems and the issues associated with it.

I think it's helpful to divide the issues into two categories. First, we must consider the causes of those forces that we've already discussed, which act on the actuary to marginally price in the first place. Second, we must consider the symptoms: those are all the things you have to live with once you start down the slippery slope of marginally pricing. The challenge that faces you is that you should address the causes in the long run, rather than just struggling with the symptoms. But the essential message is that the challenge facing the actuary is to address all the major causes that are forcing him or her to marginally price in the first place. The danger is that he or she will get run over by forever struggling with the symptoms. In following this theme, I'm merely referring to the more aggressive forms of marginal pricing. Some companies do successfully manage the mild form, and manage to price strategically and still not suffer on their bottom line.

Addressing the causes means facing certain strategic and operational issues. Struggling with the symptoms, to me, feels like eternally managing damage control. Let's just discuss what that damage control is for a minute.

First, we've already talked about the problem of understanding which costs are overhead, fixed, and variable. Second, you have to make sure that underpriced products do not take too high a share of new business before you have to reprice. Third, it's important to avoid excess inequities. I think this is more of a problem for mutuals that have a very strong concept or philosophy of mutuality. You need to try and avoid excess inequities between different generations of policyholders and between products. And by marginally pricing, you do cause some inequities, and this has to be monitored. You must not get too far out of line, compared with your corporate philosophy. Fourth, it's important to limit adverse impact on statutory results and free surplus. Fifth, you want to make sure that you will be able to deliver on your illustrations in the long run. If you're too aggressive in your pricing, you may not be able to deliver.

A sixth problem is communicating the implications of the pricing policy to essentially nonfinancial management. This is especially a problem if your top management is mostly sales-oriented. This can be a significant challenge. Knowing when to believe sales forecasts is a seventh difficulty. Quite often, the marketing department will give you sales forecasts that have rather significant amounts of built-in optimism. And sometimes politically it can be very hard to challenge those estimates. But I want to try to persuade you later, it's worthwhile finding a way to do that. We've already talked about forecasting the disappearance of an overrun. An eighth problem is it's really hard to find a plausible business plan that you believe can get rid of the overrun, unless there are operational and solid plans backing those forecasts. But I want to return to that subject later. The ninth problem -- avoiding strained relations with the marketing department -- is something we must try to do if there are separate departments. And finally, sleeping at night is a major difficulty if you're doing too much of this aggressive marginal pricing. So those elements summarize what might be termed as damage control if you're doing too much marginal pricing.

Addressing the causes requires you to raise some important questions and issues with your senior management colleagues. Such as -- and these are maybe five questions you could raise that related to each of those five forces acting on you -- What is adequate profitability for a product? How competitive does the product need to be? Can we reduce the need to be so competitive? Can we improve our relative productivity levels? And how should we respond to repeated sales disappointments?

So, what steps can you take to really address the fundamental causes that are forcing you to underprice some of your products? To have any success, there are a number of key requirements for the senior actuaries in the company. First, the actuary must play a pivotal and driving role in addressing issues of corporate direction and performance. Second, the actuary must feel more confident in addressing issues outside traditional spheres of influence. You must feel confident, for example, in knowing how to discuss sales forecasts and sales projections, and what goes behind them. The actuary must continually improve and become expert in communication and problem definition. And last, but probably most important, he or she must consider him or herself to be part of the general management team. These are essential requirements if you're going to address some of those key issues. In observation in some of my consulting work, I have found that not all these conditions exist. And it's hard for the actuaries really to get their message home and become the driving force in improving company performance that I know they can be.

So, back to what steps you can take. There are two forums or processes in which you could or should raise some of these big issues. One is the product development process itself. The other is the planning or budgeting process. And here are four things you can do. First, it's really important to communicate the consequences of expenses that aren't covered by pricing. And there are a number of ways to do this which we'll discuss. Second, you must pose some key operational questions. That is, how efficiently are we going about running our business? Third, you must pose some key strategic questions, some examples of which we'll come to. And fourth, you must articulate necessary goals for the company to get back on the track. If all these questions are raised tactfully, politically correctly, and successfully, there's a chance the actuary can make a significant contribution to improving the performance of his company.

So first, let's discuss communicating the consequences of those unrecovered expenses. The purpose of doing this is basically to light a fire under nonactuarial or nonfinancial management. We've seen a number of examples where the chief actuary or some of his junior actuaries have not been able to communicate successfully with nonfinancial management to persuade it there's really a problem. And to persuade it that the problem needs fixing soon, and is not going to right itself in five to ten years. And here are some examples of the things you can draw to management's attention to light a fire under it. First, there's simply the effect on the bottom line. Everyone is concerned about surplus levels these days, and ratings from the various agencies.

Clearly, if you demonstrate effect on the bottom line and it's pretty adverse, that's going to get peoples' attention. There may be a maximum length of time or maximum duration during which you can follow the current pricing strategy before surplus gets to an unfortunate level. In addition, it's worthwhile pointing out what would be the competitiveness of those products to the policyholder if you have to cover your full expenses in pricing. That can be a big shock. For example, if your expenses, including commission, are 20% higher than the average, then, to retain your profit margins, you will have to credit between 100 and 150 basis points less, on a typical universal life product. That really does grab peoples' attention. You can convert expense problems into competitiveness questions. Next, you can raise the question as to whether you will be able to deliver on your illustrations. Inequities can arise, we've already discussed those in relation to mutual companies. That can be a major problem. Last, if you're pricing it too aggressively, there may be a limited amount of new business you can write in a given year before your bottom line really starts to hurt. And it's worthwhile communicating that you can only sell so much of new premium this year on this pricing strategy.

In posing some operational questions, you can ask questions such as, "Who's expense position must we match? Who are our real competitors? Who must we shoot for?" And there are ways of assessing your competitors' expense position. What is our relative expense position compared to our competitors? If our sales volumes are much lower than we've consistently forecast, how can we adjust our total expenses to be consistent with those lower sales volumes? How much rationalization of our branch structure is necessary? What areas of operations cause our adverse expense position? Is it in the acquisition of business, or is it in the ongoing maintenance of business? Where is the problem? Where do we think it is? What functions and processes may be causing our expense position? One example of a process that can be a problem few people realize is the product development process. In a number of companies, we've seen a fairly undisciplined and unfocused product development process. And it can be a very large driver of excess expenses. Basically, companies are forced to react to every whim, every suggestion, in some cases coming from the field. That can have an amazing knock-on effect in terms of cost.

You can ask questions about how can we reduce expenses responsibly? Many companies, when they find an expense problem, try to make overall cuts. I've heard the phrase, "Let's make sure the pain is even over the whole company." That rarely is the right strategy for reducing expenses. It may be that in certain areas you even need to increase expenses. The question is, which areas of our operations are not truly necessary? What work drivers are not necessary? There are many techniques to determine how you can responsibly reduce expenses. Very rarely is evenly reducing expenses over the whole company a realistic and correct solution.

You can also raise strategic questions. What ROI is realistic? With interest rates lower than in past years, is a 15% ROI reasonable? How can competitiveness be reduced? For example, could a shift in our target market reduce the need for low margins? Could it be that we're serving less price-sensitive segments with prices that are appropriate for highly sensitive segments? Could we move away from some highly price-sensitive segments and increase the margins on our products, for example? Again, are sales projections realistic? What must be done to increase distribution effectiveness? These are all key questions you can raise. What areas of our strategy cause our adverse expense position? There are very many companies that are not in the megaleague, who are still trying to be all things to all men. And it's fairly easy to demonstrate that if you're trying to serve too wide a market, and you don't have the size, that could put you in a radically adverse expense position. There are a number of companies out there that do really need to focus down on a few key target markets, or segments, in order to significantly reduce their overall expense position. Could redefining of the strategy kill some expense drivers? Is our distribution strategy a problem? Again, any of these questions merit a whole afternoon's discussion by themselves.

Finally, you must be able to articulate necessary goals for getting the company back on track. When it comes to financial projections, the most important thing is to insist that real operational plans, and real strategic plans, back those projections. If projections call for a reduction in your unit costs over a period, there should be some fairly hard, solid operational plans in place to make sure that's going to happen. Too many projections are just that -- projections. They are rarely based on solid operational plans. You must identify what are competitive targets for acquisition costs and maintenance costs. There is a large body of work out there which can tell you what are competitive cost levels, and you need to work out what to aim for, especially amongst your peer companies.

Again, I want to stress that none of these things can happen unless you become, or ally yourselves with, the driving forces for change in your company. And you really must be able to light the fires under nonfinancial, nonactuarial management to make it realize the consequences of underpricing products. I really haven't seen too many great examples of this. My closing hypothesis is that, if more actuaries play this pivotal, general management role, then the profession can make a greater contribution to the performance of our companies, and the insurance industry as a whole.

MR. JOHN B. YANKO: First I'm going to make a few comments on pricing methodology, probably repeating a little bit of what you've heard. Next, I will discuss tools to monitor and reduce fixed and overhead costs. You need a strategy for fixed and overhead cost control, especially if you use other than full costing. I'll talk about experience curves, and I'll emphasize "cycle time reduction," or taking time out of the system, that is, compressing time so that you will be more responsive to your customer.

Full costing, as you've heard, covers fixed cost, overhead cost, variable cost, and the target profit. Marginal pricing covers variable cost, target profit, and less than 100% of your fixed and overhead costs. A slight variation of that is forward pricing, where you are pricing based on what you want, hope, and expect to be, somewhere down the road, say three to five years out. This is often based on very aggressive sales projections. Why do companies do this? There are competitive pressures: to maintain market share, to increase market share, and to serve a current customer in a new way. However, these are all Band-Aid fixes for the real cause. The root cause is a corporate structural problem. What can you do about it? You must have a specific strategy for fixed or overhead cost control or reduction. How can you do this? There are various tools which I will discuss: experience curves, process mapping, process management, managing the white spaces, and cycle time reduction. All this will require removing various barriers, which I'll discuss shortly.

Experience curves show that unit costs reduce as experience of doing a particular function increases. There are two primary factors contributing to this: scale effect, and the experience effect. Economies of scale or size we're all familiar with. The goal is to build mass. We've seen companies go out and buy business to drive down their unit cost. In the short run, this works well if the scale economy comes from fully utilizing fixed cost. The experience effect is a unit cost reduction with cumulative production. Costs of a product or service will decline 10-30% each time you double your cumulative experience. In 1925, the Commander of Wright Patterson Air Force Base observed that the direct labor hours used to assemble aircraft decreased as the number of aircraft assembled increased. In the 1960s, a Boston consulting group did a great deal of work in this area. The result was, if cumulative volume of production doubles, the total cost -- marketing, sales, product development -- falls by a constant and predictable percentage.

Chart 1 displays an experience curve. This particular one is referred to or known as the 85% curve. This shows that each time you double volume or experience, your costs will be 85% of what they were at the beginning of that period. This is true if you go from 1,000 units to 2,000 units, or if you go from one million units to two million units. Every time you double the experience, you can reduce your cost by 15%. Again, the improvement is predictable but it's not automatic. You have to manage it, and if you don't, costs can increase.

If you plot the experience curves on log-log paper, you obviously come up with a straight line (Chart 2).

Table 1 is just displaying six different experience curves and the impact that experience multiples will have on cost reduction. On the left-hand side, the scale goes from 1.1-16; I've highlighted the 85% curve because I'll refer to that several times. But you can see what happens if you double experience, your costs are reduced 15%.

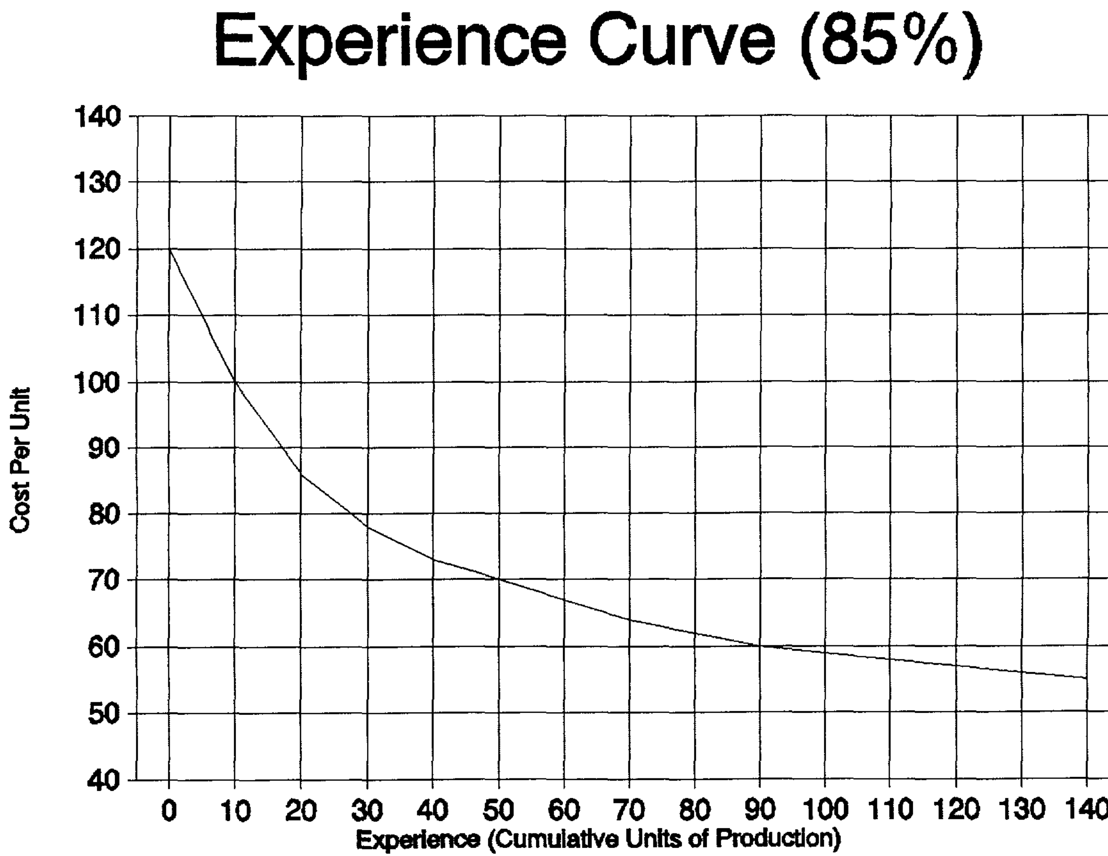
What are sources of the experience effect? I think you're familiar with most of these. They include labor efficiency, the learning curve, cycles of learning, work specialization and method improvements, new production processes and product/service standardization. The auto industry has designed and developed what it calls a "platform"; it consists of an engine, a chassis, and a transmission. Based on the platform, it has many variations of cars with fenders, and bumpers, and hoods, and so on. We can do the same thing in life insurance. Develop a basic product that will fit your system, or develop your system to fit your product. Then make variations from this to serve your various markets. This will provide you with great efficiencies.

There are some practical considerations in developing experience curves. Most of the work and development has been done in the industrial environment, but I think this applies to the service industry, also. Cost should be inflation adjusted. If it's not, you will lose track of what's happening. Be very careful in looking at time and experience. In a period of a year, if you take your units from 1,000-2,000, you're going down the 85% experience curve, you should experience cost reduction in the range of 15%. If the next year you go from 2,000 units to 3,000 units, you have not doubled your experience. Do not expect to go down 15%. The effect is experience-driven and not time-driven.

The experience curve grows faster than production during about the first 10 years of a product's life. You must analyze the company's experience -- we normally would start out analyzing all our expenses in total, which is a good way to start. But in the process, it's probably very appropriate to split these expenses into parts. Look at your Management Information Systems (MIS) costs going down one experience curve. Very likely, you'll find that your administrative costs are going down another, your product development a third. So it would be very appropriate to look at these in pieces.

Chart 3 is a little confusing or fairly busy, so let me explain it. On the right-hand side are six different experience curves. On the left-hand side is the relationship of future costs or expected costs compared to the original. The bottom shows cumulative experience. Suppose your expenses need to be 60% of what they are today. By knowing the experience curve you're trying to drive down, and knowing where you

CHART 1


Experience Curve (85%)
Cost Per Unit
140
130
120
110
100
90
80
70
60
50
40
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
Experience (Cumulative Units of Production)

85% Experience Curve
(Log-Log Scales)

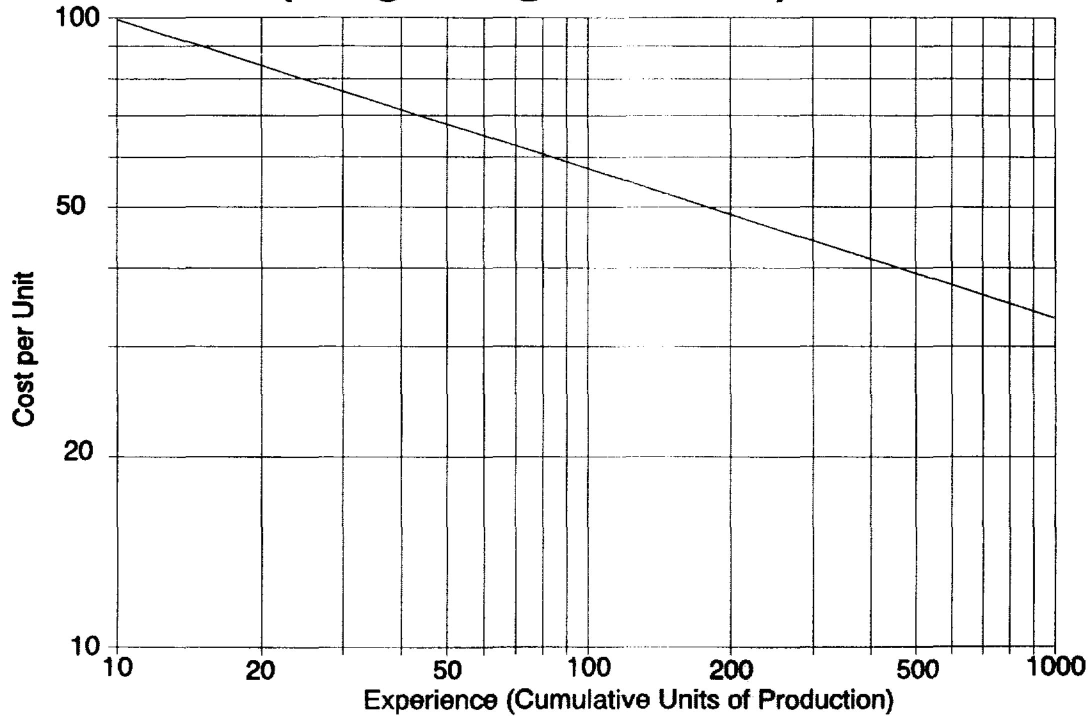
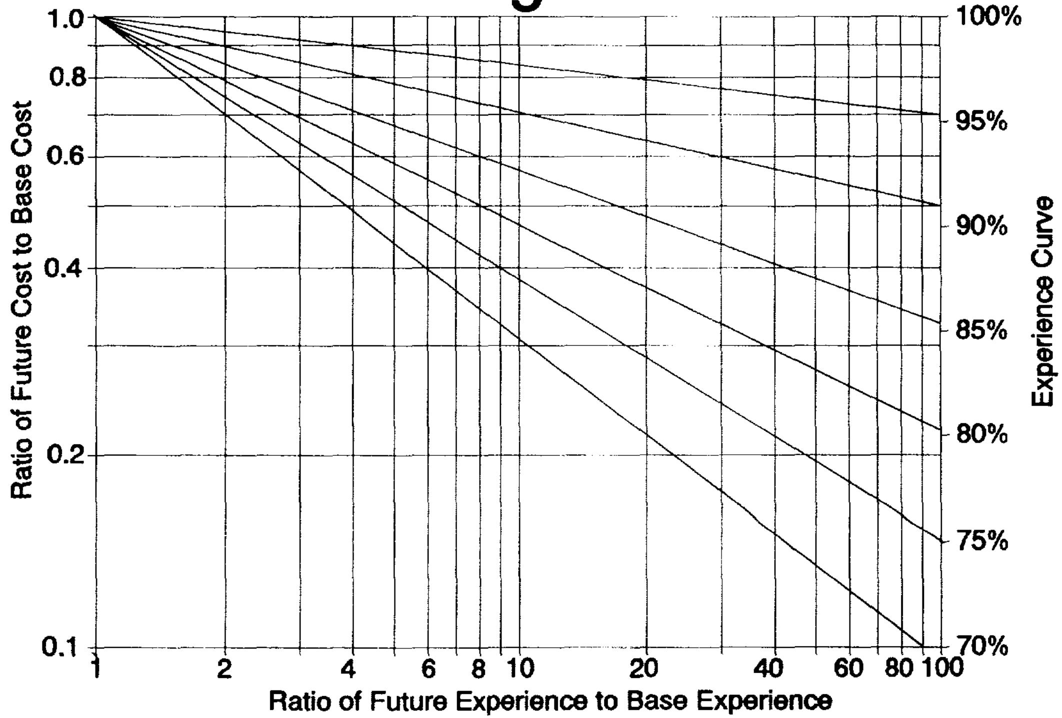


TABLE 1

Cost Reductions Due to Increased Experience

Experience	Experience Curve					
	70%	75%	80%	85%	90%	95%
1.1	5%	4%	3%	2%	1%	1%
1.25	11	9	7	5	4	2
1.5	19	15	12	9	6	3
1.75	25	21	16	12	8	4
2.0	30	25	20	15	10	5
2.5	38	32	26	19	13	7
3.0	43	37	30	23	15	8
4.0	51	44	36	28	19	10
6.0	60	52	44	34	24	12
8.0	66	58	49	39	27	14
16.0	76	68	59	48	34	19

Graph for Projecting Costs At Various Learning Rates



want the expenses to be in the future, you can then look at the chart to see the volume or experience you have to develop. Then you can figure out the time frame it will take to get there.

An important concept in managing expenses down the experience curve is called total cycle time, but it's really cycle time reduction. The real thing here is to take time out of the system so you can be more responsive to your customer. Cycle time is the time it takes to complete a product, or service, or task. Now I'm going to go into a few definitions. They should be straightforward, but I feel I need to do this. The first is static cycle time. It's just historically what has happened, what has been going on. It's after the fact. If you're going through and looking at the number of policies issued per day, you can look at them over a period of a month, add them up and divide by the number of days, and derive an average and a frequency distribution.

Dynamic cycle time is more of what's happening today, what's in process. It's the actions in process divided by actions processed.

Cycles of learning is another very important concept. It's the number of working days in a calendar year divided by cycle time. As you reduce cycle time, the number of cycles of learning increase. This provides opportunities for feedback, to experiment and learn. And this is what you're really after -- taking time out of the system and learning in the process. Cycle time reduction is not working harder, longer, or with less quality.

Time is critical in what we're doing. Competition has become time-based. Lead times are reducing. Time to market is critical. Quality is demanded. Competition is increasing and change is accelerating. You must give customers what they want, when they want it, or your competition will. Time is critical. And time is equivalent to money. Make time a critical measure, in order to focus on reducing cycle time, you must remove barriers in your system. Barriers are unnecessary roadblocks to your various processes. There's a very good film out, and if you've not seen it, I highly recommend it. It's moderated by Joel Barker, who's a futurist. The name of the film is "Discovering the Future Paradigms: The Business of Paradigms." There are a number of good examples in it I would like to share. First is the Swiss watch-making industry. It dominated the marketplace for years. Around 1968, it developed quartz watch technology. It could not see a use for the technology, because of all the individual watchmakers and the implications that quartz would have for them. The Swiss did not even patent the technology. It was put on display, where it was observed by two companies -- Texas Instruments and Seiko. And I think you know what's happened since then. As a result of that, 50,000 of the 60,000 watch-makers are no longer employed in that line of business. The Swiss went from a market share of over 80% to less than 10%. There's a paradigm which they did not break through. Another example I'd like to share is the Japanese and what they've done. Shortly after World War II, an American went to Japan and introduced zero defect production. What the Japanese have done since then is amazing. In this film, Joel Barker asks a group of businessmen, "I am going to give you a phrase, and I want you to just come up with words or phrases back at me describing what it means to you." The phrase he used was "Made in Japan." Comments coming back in the 1960s were, "Copy, cheap, low-tech, poor quality, and toys." Now you're in the 1990s. The responses were, "Innovative, expensive, high-tech, high quality," --

the complete opposite. This was a paradigm breakthrough or change, which again was very advantageous. The main theme throughout the whole film is what Barker calls "paradigm paralysis." Be very careful of it.

Business should be a seamless process. It should not be a disjointed process, which is often what happens in a functionally driven organization. There's a process flow in the organization for each activity.

Chart 4 is a process map, which is a graphical representation of a process that's going on in the company. This map shows the flows as they are happening today. The objective, then, is to come up with a map as it should be. What you're looking for are places where things do not fit together. Why are there time delays? How can you improve this?

What's displayed in section A on Chart 5 is a typical functional organization. The problem is that we highlight the functional areas, but we forget the process in the middle. What can we do about this? Section B shows a slightly different version of Chart 4. Here are the processes. Very few services or products go to marketplace without crossing the different functional areas. If you optimize the functional areas, you will suboptimize the organization. You must manage the organization as a system. Strategically, do the right thing. On a process basis, do things right. Be effective and efficient.

In regard to performance quantification, we need a few definitions. But I think they should be straightforward. Cycle time reduction is removing barriers by using cross-functional teams in your organization. Baseline is just how you do it today. What's going on? What does it take? Baseline is typically a time, a day, a week, a month. Entitlement is what you want to strive for. It's optimum performance, using existing resources. How can you come up with this measure? Consider that it may take you 10 days to issue applications. Your president comes down and says he wants it done in two days; normally you'll get it done. Why? Because you're giving it priority. There's no waiting. You process and walk it through. This is entitlement. This is what you want to strive for.

Another way to measure entitlement is to benchmark the competition. You know what it is doing, or you have a good guess, or approximation. Use that as your measure.

Strategic best is another measure. It would typically require increased investment. And theoretical measure is based on a lot size of one. Here there's no waiting, no set up, no delays. If the theoretical time frame is "X," in most cases entitlement in a service industry would be five to ten "X." And the base case for most of us would be 10 to 20 "X," which suggests there's a fair amount of time that can be taken out of the system compared to how we're doing today.

I mentioned before the importance of removing barriers. Again, I'm just putting some labels on things, but these are areas that need to be addressed. The subject matter barrier is unique to your own industry or business, for example: accounting, pricing, federal income tax rules. Or if you decide to go into the health business, you need to hire a health actuary or use a consultant. Business process is a more difficult barrier

CHART 4

PRODUCT DEVELOPMENT PROCESS
(A CROSS-FUNCTIONAL PROCESS MAP)

CROSS FUNCTIONAL PROCESS FLOW
(NEW PRODUCT DEVELOPMENT)

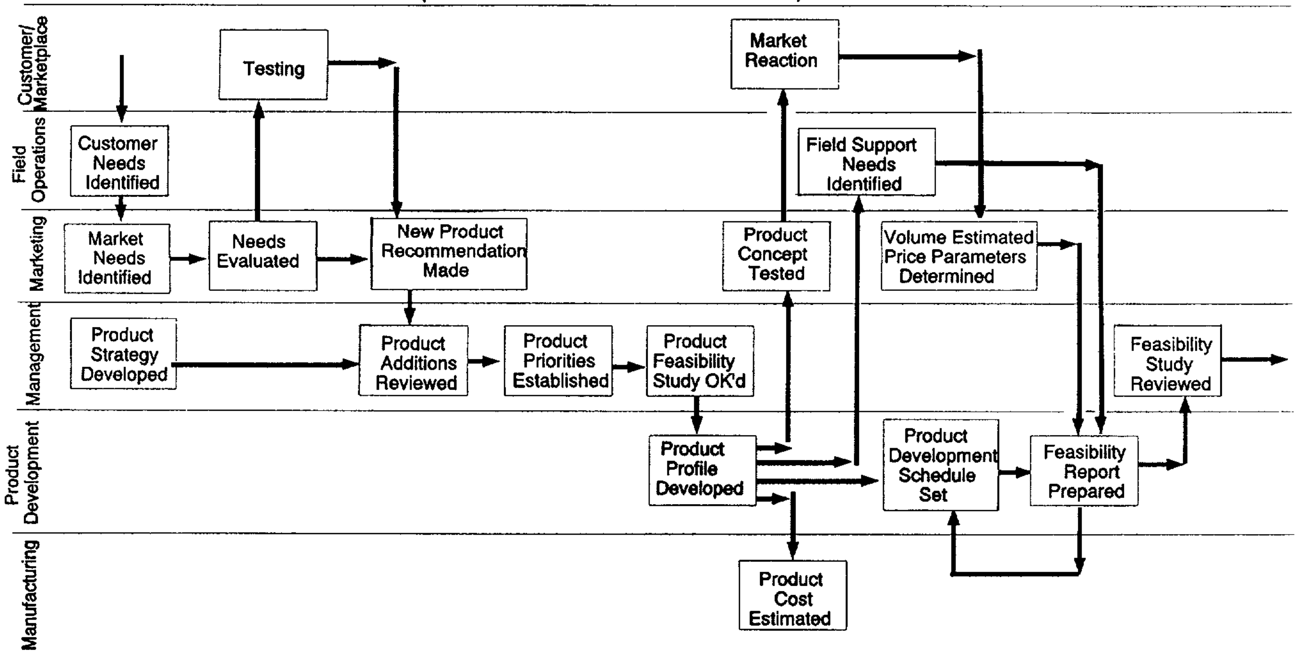
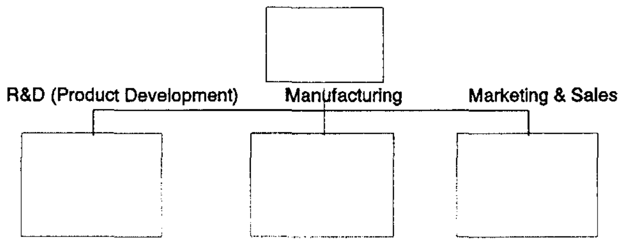


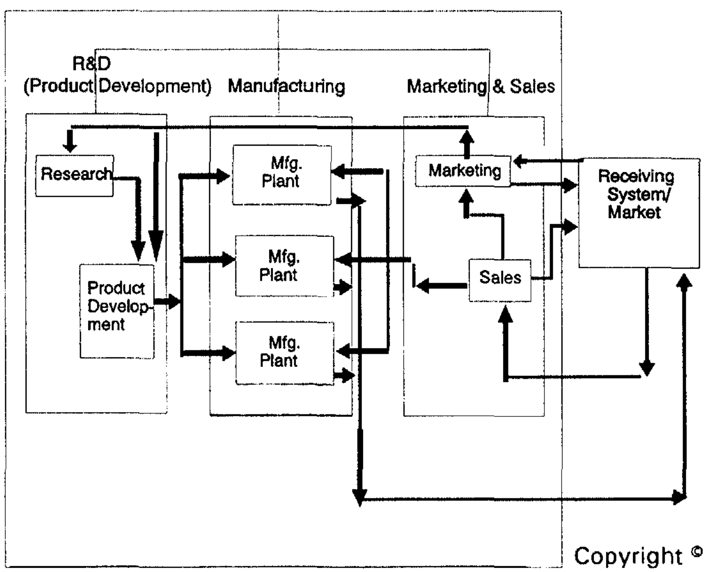
CHART 5

TWO VIEWS OF AN ORGANIZATION

A. TRADITIONAL (VERTICAL) VIEW OF ORGANIZATIONS



B. SYSTEMS (HORIZONTAL) VIEW OF ORGANIZATIONS



When the manager of functions A,B, and C goes to the manager of subfunction B to determine why B failed to produce on time, the response tends to be: It's those dimwits in A." A couple of examples illustrate this phenomenon:

From *Business Week*, "On the Fritz?", December 7, 1987, p. 104.

"But all of this may not be enough for Lippert to keep NovAtel on its fast track. 'We've got these little islands called R&D and marketing, and they're just not working effectively together,' complains an insider, who blames current problems on an ad hoc management style."

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to deal with. These barriers prevent activities from fitting into a seamless process. You must remove nonvalue-added steps. Even more difficult is removing culture barriers. A substitute process is a process resulting from applying the existing resources and mind-set, rather than a cycle time reduction mind-set. If last year I added three people to do a specific project, and the project is now completed, more than likely I will budget with those three people in for next year.

We all want to be responsive to our customers, but it's difficult. The root cause of unresponsiveness is long cycle time. Many generic barriers result from this, for example, poor forecasting.

The concept of cycle time reduction and the experience curve is not difficult. Simplifying business processes and taking out unnecessary steps increases customer response rates and accelerates results with minimum resources. Cycle time reduction is not working harder, faster, longer, or at reduced quality. It does mean working more effectively and efficiently.

Marginal pricing must be monitored. Cost reduction should be part of the strategy. Cost reduction, reducing cycle time, and improving quality are critical for success.

MR. GUBBAY: Both our speakers were saying that one of the solutions to the marginal pricing problem is to address the causes and not the symptoms. And to address the causes, one has to look at strategy and corporate direction, as well as operating performance and performance improvement using, for example, the total cycle time concept. I'd like to ask the speakers, in their experience, how much impact these approaches can have for a company, and in what areas are the opportunities most evident?

MR. CHERKAS: You can divide cost reduction efforts into two categories. Firstly, companies can simply try to become more operationally efficient. This can save some costs. Second, companies can refine their strategy and remove key work steps that are no longer required. This can often save much more in unit costs. A company might be able to save 10-15% of noncommission expenses, purely by becoming more operationally efficient, using a number of techniques. But it's possible to get up to something like 25%, if the company redefines the markets it is attacking, and perhaps gets rid of one or two product lines that are fairly marginal. These are rough and ready estimates but they have been achieved, and there are a number of companies out there now that are shooting for those sorts of targets.

MR. YANKO: I just have to agree. I've been fortunate to observe at least two companies in the process of significant staff reduction, without impacting service quality.

MR. CHERKAS: I think that not only might you be able to save anything between 10 to 25%, depending on how you go about cost reduction, but also when you finish that process, you might be doing things at a better quality level. You'll be satisfying customer needs better, you'll be doing things faster, despite having cut those costs out. Anyway, that's the goal, and in many cases, it's also the experience of companies who have been through this process.

MR. SHRIRAM MULGUND: I am going to be making some comments from the point of view of an actuary responsible for valuation. The marketing actuary gives birth to a child, but the valuation actuary has to look after it for the rest of its lifetime. When I was hearing about marginal pricing, I was reminded of a story of a tourist who went to a resort town with his wife and three children. There was a horse-driven carriage which gave tours around the city. He asked the driver how much he would charge. The driver said, "It's $25 per person, and the children are free." So he said, "Okay, take the children, we will walk."

My personal feeling is that the whole concept of marginal pricing is full of inconsistencies. The assumption is that existing business is going to look after the fixed costs, and the new business which is going to come in should only look after the extra costs which are incurred. Consider a company at the end of 1990, which has certain business in force. During 1991, some new business is written on the basis of marginal cost. The valuation actuary performs the valuation at the end of 1991. Part of the business which was in force at the end of 1990 would have gone off the books, so the fixed cost really should be spread over a smaller volume of business. That means the expense assumption for the in-force business should be increased. The expense assumption for the business that was written during 1991, of course, can be valued under the marginal assumption. However, that's not going to happen in practice. What's going to happen is that the total business that was in force at the end of 1991 will end up being charged with the higher expense. Eventually there's going to be an effect on the bottom line.

An alternative approach might be to assume that, if the company has to stay in business, it has to incur certain overhead costs. You can assume that those overhead costs, or maybe a portion of the overhead costs, should be charged against the company's surplus or earnings on surplus; then the remaining expenses can be charged to the business. The approach might be more realistic, because then at least you are recognizing that a portion of the expense is going to be a drain on surplus, or it is going to be funded through the earnings on surplus.

MR. CHERKAS: I'd like to comment on the point that a lot of people price into maintenance costs or into existing business a lot of the overhead. On calculations we've performed on a large number of companies, roughly two-thirds of the total expense bill for most companies, if you include commission in the base, which you ought to for this purpose, relates to acquisition expenses. And a significant amount of senior management time, a significant amount of the fixed branch structure all goes towards acquisition of a new business. I think people generally price much too much overhead into maintenance costs, and much too little overhead into acquisition expenses. And that's, as you've pointed out, quite unrealistic. If you stop writing new business tomorrow, a huge amount of your corporate overhead costs will go away. And that is a good test as to what should be treated as acquisition and what should be included in maintenance. In regard to the point about historical expenses not having reduced, part of the reason why they haven't reduced, I think, is products are more complex, and people are trying to offer more and more services. And it's really hard to know whether there's been a true increase in efficiency. We suspect there has been, but more work is being done in terms of policyholder service, with more complex products than was the case in the past.

MR. GUBBAY: I would add the comment that the charging of certain expenses against surplus is, in effect, changing the required profit margins. I think Andy referred to this in his talk. If you're using a mild form of marginal pricing, you may show a profit margin on your products, but you have a loss elsewhere, charged against surplus. This is equivalent to showing less profit margin on your products, and having a full return on surplus. It's just that income has been categorized differently. Frequently, this is done for presentational purposes. I think it would be helpful if actuaries showed bottom line profits after all expenses, so that the real profitability is developed as well as profitability on a marginal basis.

I'd like to pose another question to our panel members. Marginal pricing has been around for quite a long time. Companies used the approach throughout the 1980s. Why hasn't it worked? And does it mean that we, as actuaries, should not be doing it in the future?

MR. CHERKAS: I think personally it's coming home to roost now. People should be somewhat more vigorous in understanding the true profitability of their products, after full expense allocation. Surplus levels are coming under strain, and ultimately the bottom line is going to hurt. The practice of marginal pricing is going to come to an end, out of natural economic forces. And I think actuaries should be at the forefront of the charge to make sure that the company is more realistic in its pricing.

MR. YANKO: I would agree with that. I think some companies have adopted marginal pricing thinking that it would apply to only one product, or a small part of the marketplace which they're trying to capture or maintain. As Andy mentioned before, care needs to be taken because the product line may grow in importance. In many companies marginal products have become a fairly large part of their overall business, and companies have not been able to get out of the dilemma or the cycle they're in. And it has created some problems.

MR. GUBBAY: I'd like to address the question that I asked a minute ago. One of the reasons companies have not been successful using the marginal pricing approach over the past 10 years, is that they have been dealing with symptoms. Actuaries have not gotten involved in corporate management and explained to management what the implications of marginal pricing are in a business sense. For example, how much do you have to reduce expenses in the future? Or how much does production have to grow? Research that we've done shows that growth is very, very difficult. In a recent study, we looked at the total market and split it up by company and looked at market shares; we tried to identify which companies grew over a 10-year period in various segments, such as single premium, term, and regular premium business. In each category, there were fewer than five companies that changed market share by more than 0.5 of 1% over the 1980-89 period. And I think that many companies, when they use marginal pricing, rely on greater expense improvements (based on sales increases) than can realistically be assumed if you consider those numbers that I've just given you. The point made earlier about being very realistic on sales estimates is very important.

MR. DAVID LEVENE: I'd like to get the panel's reaction to a thought I have. One of the problems with marginal pricing is that it takes quite a bit of time for the problems to develop. It's not like you throw the ball down the alley, and all of a sudden you see how many pins you knocked down. This is a long and a slow process. Would you think that's part of the problem? And then, how does the actuary condense time to show the problems that might emerge down the road?

MR. CHERKAS: I fully understand your point. I think the reason why it takes such a long time for problems to be recognized is the way that most companies account for their business. The management accounting techniques used to plot companies' progress do not show whether expenses are in excess of those built into product prices. GAAP measures are not that sensitive, and if you're doing marginal pricing, GAAP results are not going to show the effect for some time. However, if you use the value added approach to monitoring your progress, the excess of actual expenses over priced expenses impacts the value added bottom line on day one.

MR. RICHARD E. OSTUW: I was comparing notes with a colleague of mine just now from another New York mutual company. Both of us have a strong interest in expense analysis, management control, etc. We thought a lot of what we have heard was wonderful and can be broken down into three areas: understanding the real world functional expense drivers, then reviewing and revising your strategy or operations to improve either acquisition or maintenance functions, and then monitoring everything in sight. Don't you think that in analyzing and monitoring expenses, an awful lot of judgment is needed to decide what's fixed, what's variable, and how expenses will move? I also have a second question, very briefly. I loved your two-thirds rule of thumb. Do you have a rule of thumb for allocating corporate overhead for multiline companies?

MR. CHERKAS: To answer the last point first, I don't think there are any standard techniques throughout the industry for allocating corporate overhead. Perhaps a convenient way of dealing with corporate overhead is to look at the contribution of each line of business to covering that corporate overhead, rather than trying to allocate it. That way, you can avoid many political arguments between lines of business as to which should take how much of the corporate overhead. Effectively, you change the way you look at profitability. Regarding your first point, yes there's an enormous amount of judgment as to what's fixed and variable. Partly, it depends on the planning horizon -- ultimately virtually everything is variable. And I have a bias, that much more is variable than most companies imagine. I agree that you can analyze expenses to death. But ultimately, the challenge is to address the causes.

MR. YANKO: Even if you decide something is variable, then you still have the problem, variable with what?

MR. GUBBAY: I think that's why you have to place the question in a business context. If you ask yourself, "Should we be in this line of business?" then, of course, everything is variable. If you ask, "What agency costs are fixed or variable?" you have to know the business context. If growth comes from increasing numbers of agents, most costs are variable; if growth comes from increasing production per agent, many more costs can be regarded as fixed. I have a question for John. You talked a lot about total cycle time, and using that concept as a way of analyzing and helping to improve productivity and customer satisfaction. Is there experience with this in the life industry, or is it a concept that's just being imported from manufacturing industries?

MR. YANKO: Primarily it's being imported from the industrial background. The parent of the life company I'm with currently is an industrial firm. We are instituting this approach in six operating companies and have been for probably about eight months now. But we've observed several other companies that have been using the approach. It has been very effective. It's an effective way of freezing your resources and improving your processes as opposed to cutting staff by some dollar amount.