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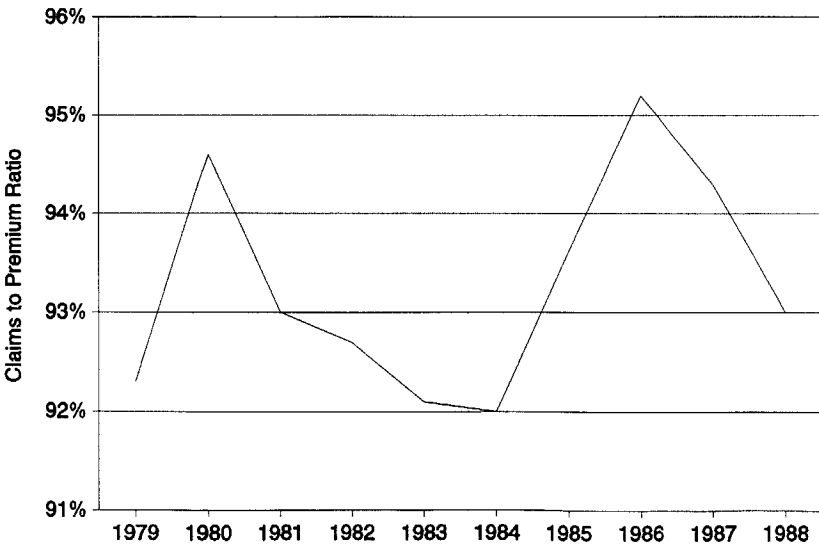
GROUP HEALTH CYCLE

Moderator: MICHAEL S. ABROE
Panelists: TIMOTHY J. ALFORD
CHARLES S. FUHRER
BARBARA NIEHUS
DAVID SANDERS
Recorder: ROBERT MICHAEL DAMLER

- Causes and effects of changes in going from profitable years to less profitable times
- How to manage the cycle
- Different perspectives on causes and reactions to the cycle

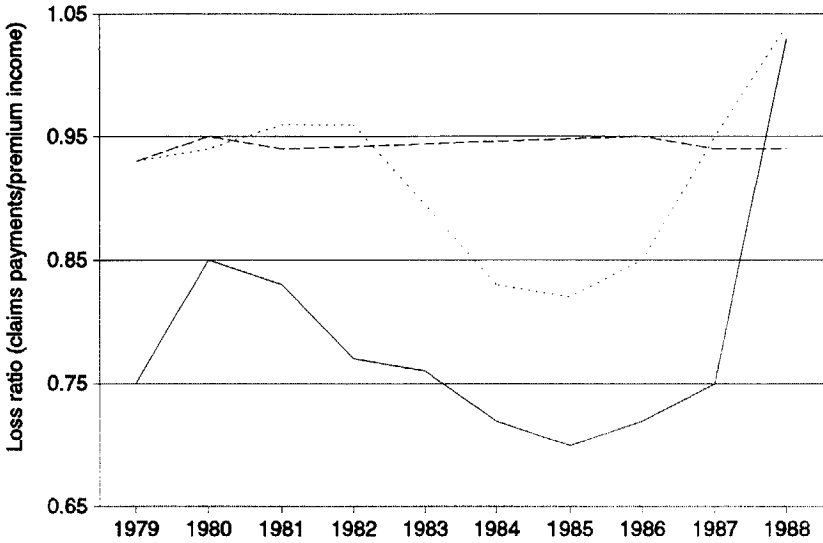
MR. DAVID SANDERS: I'm going to begin my presentation with a little quiz. Is Chart 1 a classical underwriting cycle pattern? Now some of you may be wondering, do I have to answer yes or no or can I hedge? Well, don't worry, just make a mental note.

CHART 1



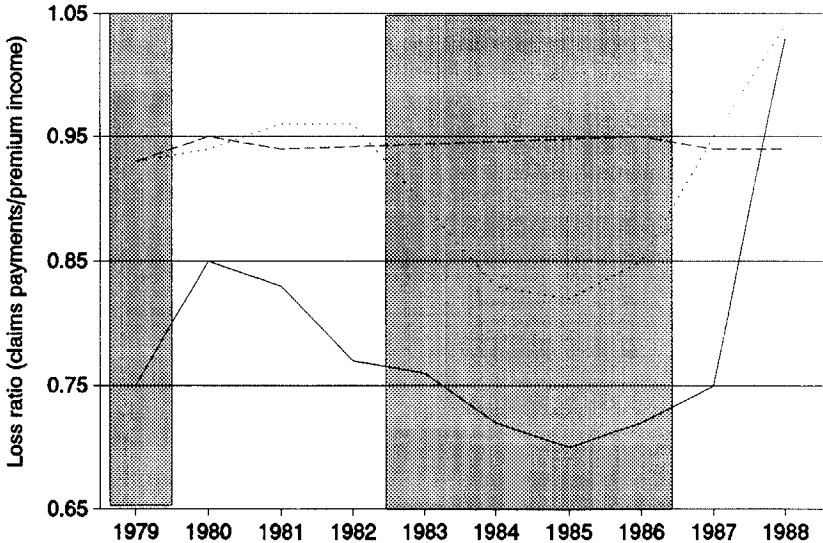
How about Chart 2? Do any of these exhibit a classical cycle pattern? Here's the same data (Chart 3) with shading to show the classical profitable years. Do you want to change your answer?

CHART 2



Source: Reprinted with permission from *Health Affairs*, Winter 1991, "Tracing the Cycle of Health Insurance."

CHART 3

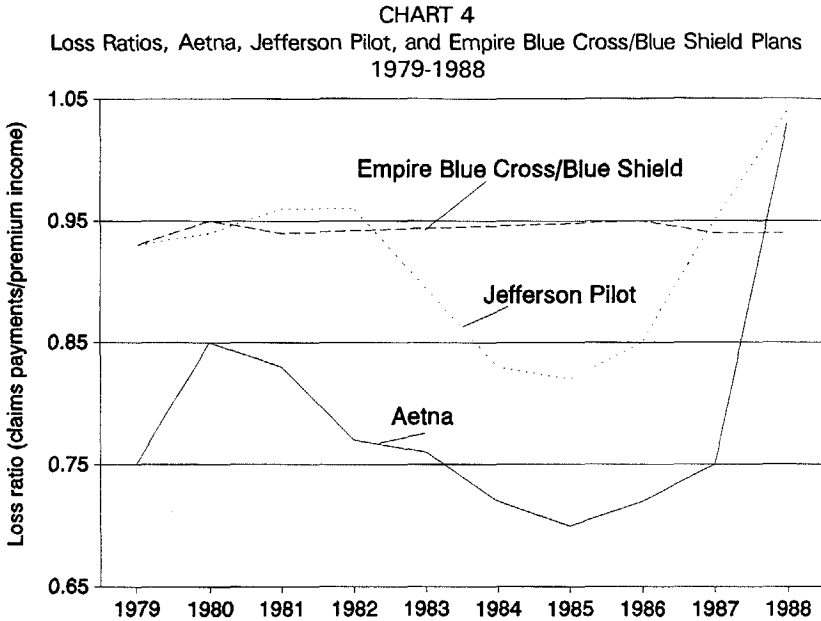


Source: Reprinted with permission from *Health Affairs*, Winter 1991, "Tracing the Cycle of Health Insurance."

Now here's the same chart (Chart 4) once more with the source identified. This came from an article entitled "Tracing the Cycle of Health Insurance" in the

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publication *Health Affairs*, Winter 1991. The accompanying text says Chart 4 "illustrates the loss ratio experience for three selected carriers: Aetna, Jefferson-Pilot, and Empire Blue Cross/Blue Shield. Jefferson-Pilot appears to experience the classical cycle with its profitability peaking in 1984 and 1985. At the opposite position is Empire Blue Cross and Blue Shield, which fails to follow classical patterns. Aetna's loss ratio experience lies somewhere in between."



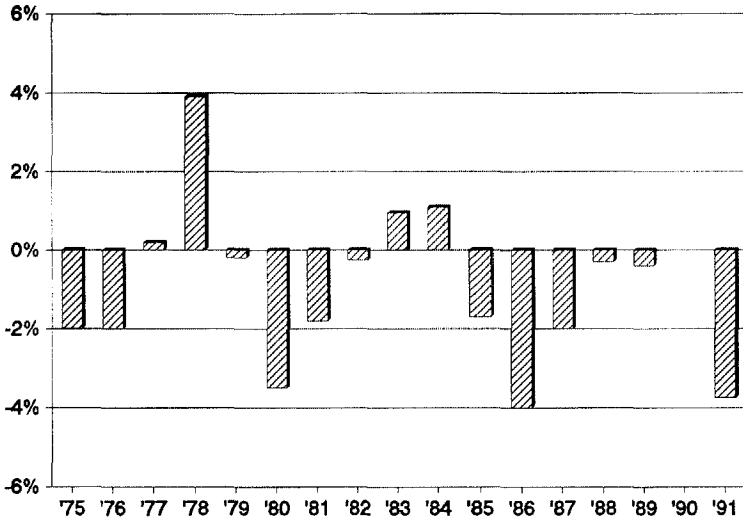
Source: Reprinted with permission from *Health Affairs*, Winter 1991, "Tracing the Cycle of Health Insurance."

When I saw this I was surprised because I always thought Empire roughly followed the cycle. So the first thing I did was check the data and they are correct. In fact, that was the very first chart with a different vertical scale. I think that chart supports the view that while Empire may not have identically produced a classical pattern, it's no big exception either. The point of all this is that I think it's a good example of the same data leading to different interpretations depending on context. In other words, different appearances can be placed on the same facts. Probably something we all know, but may occasionally lose sight of.

Chart 5 is Empire Blue Cross/Blue Shield data again for a few more years. It shows the cyclicity a little more clearly. This time I plotted underwriting gains and losses as a percentage of revenue and presented it in a bar graph. I prefer looking at the data in terms of bars rather than lines because normally you look at it on a year-by-year basis. Bars reflect this a little better, I think, since the way we collect the data is discrete. And on the same slide, I wanted to indicate the classical up and the down cycle. And you see something interesting. If you start going from the left, you see that some tend to be up and some tend to be down. But then around 1983 and

1984, something funny happens. You've got two ups and then all of a sudden it's down. You see three downs and then three years that weren't exactly positive, but they were a lot less down than the rest of it. Then you see a down series begin again. Empire got one year out of phase there in 1985.

CHART 5
Empire Blue Cross and Blue Shield
Underwriting Gains/Losses as a Percentage of Revenue



I don't want to deal with Empire too much specifically except to comment that 1985 was the year Empire was formed as a merger of the Greater New York Blue Cross/Blue Shield and Albany Blue Cross. And maybe that's the explanation for getting out of phase. The other thing I want to mention is that I only went back to 1975 because that was when Blue Cross and Blue Shield of Greater New York was formed as a merger of United Medical Services and Associated Hospital Services.

Now I'd like to go on and show you aggregate Blue Cross/Blue Shield data (Chart 6). What you see there is the classical cycle. When I first saw this, it didn't have the last couple of bars at the right because it was a couple of years ago. But, I thought, how do you get something this regular out of something that's affected by people? It's three up, three down, three up, three down. And then recently I was shocked because I went to the Blue Cross Association. Chart 7 is the same graph, but it goes back a few more years. The cycle didn't always exist. Everybody saw it from 1965. I don't know what happened in 1963 and 1964. I don't have any explanation. I asked and nobody knew. And you may also ask, "Well, if this is the case, why don't we go back beyond 1960?" The answer is we don't have the data. It's at this point that I would like to publicly acknowledge the help of Mike LaCivita in the Blue Cross/Blue Shield Association. He was very kind and helpful in compiling the aggregate data that you see.

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CHART 6 Blue Cross and Blue Shield Plans Underwriting Gains/Losses as a Percentage of Revenue

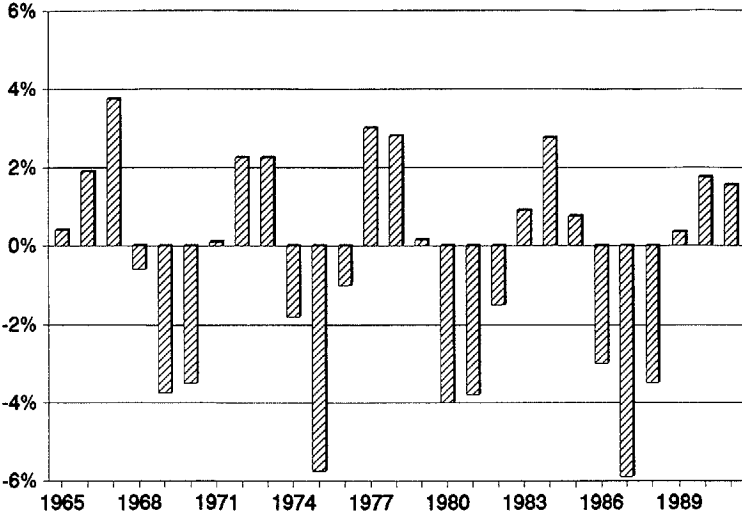
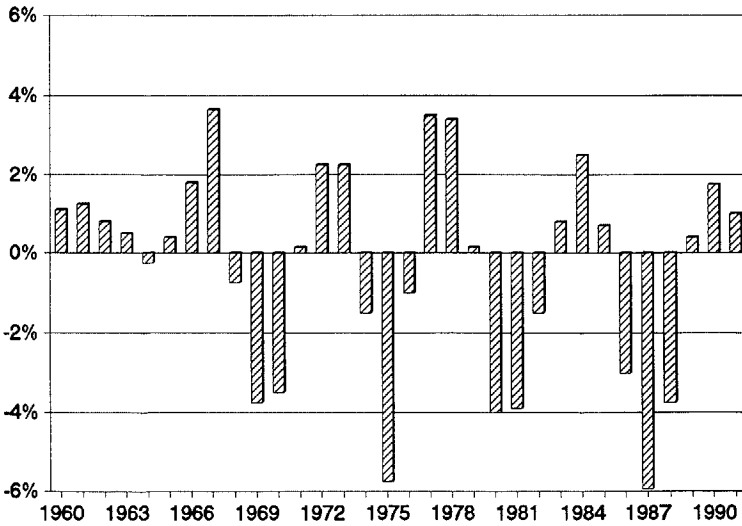


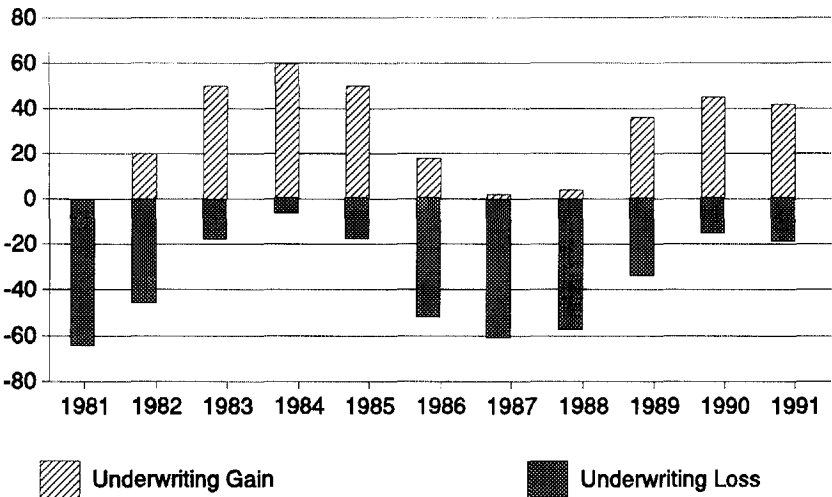
CHART 7 Blue Cross and Blue Shield Plans Underwriting Gains/Losses as a Percentage of Revenue



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The next couple of charts deal with the question, the aggregate data behaved regularly, but how about the individual plans? Are some of them mavericks? Maybe one of them goes up and down opposite to the classical cycle. So I looked at the individual plans and aggregated those data. And what you see in Chart 8 is a uniform 64 plans for each year. The reason a few plans were omitted is that a couple of the plan sponsors requested their data not be available individually. And although nothing's identified here, in fact that's why there are only 64 plans. I don't know which plans are which, but there's nothing personally selective in my choice of them. In 1981, which shows a down cycle, every one of the 64 plans had an underwriting loss. Then the next year, most of them still had a loss; some of them had a gain. Then by 1983 the preponderance of them had a gain. In 1984, it looks like there are about four losers. I think this is a very striking graph also.

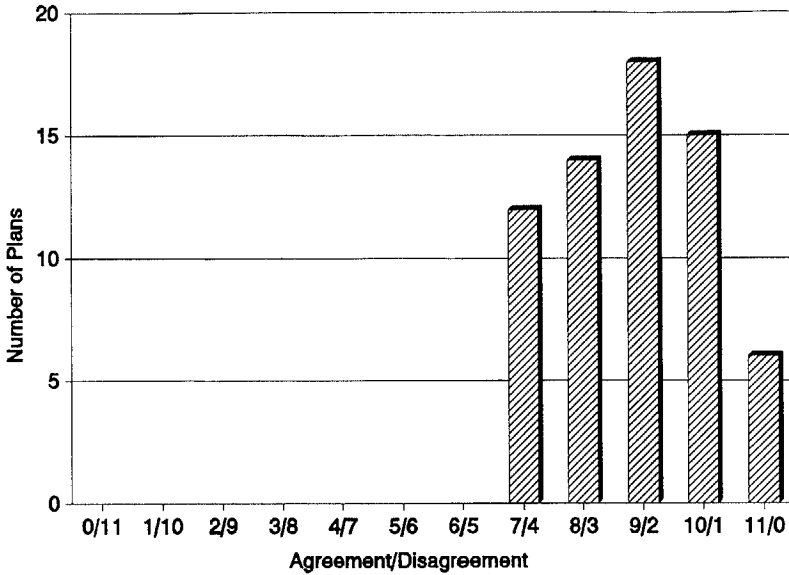
CHART 8
Blue Cross and Blue Shield Plans
Number of Plans with Gain/Loss



Well, what else can be said about the individual plans? I raised the issue of whether there were some mavericks. So I looked at the last eleven years of data to see how many plans are in agreement with the cycle year by year (Chart 9). Agreement with the cycle means, for example, a plan was plus in 1991 and also 1990 and 1989. If it was negative in some of those years, then it was in disagreement for that year. We have six plans that are in agreement every year. Fifteen had only one year of disagreement and so on. The worst that happened was there were a couple of plans that agreed only seven out of eleven years. So this shows again that for the 64 plans, the cycle is real.

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CHART 9
Blue Cross and Blue Shield Plans
Agreement with Underwriting Cycle
Number of Years: 1981-1991



Now, of course, I showed this to somebody and the very next question was, "Maybe the agreements were a 0.1% gain in a positive year and the disagreements large like a 7% gain in a negative year." So I looked at magnitudes of agreement (Chart 10).

Those bars are the 64 plans. The bars above the axis represent agreement and the bars below the axis represent disagreement. As you see, there's a lot more agreement than disagreement. The bars for each plan were computed by adding for each year of agreement, the gain or the loss, whichever was appropriate, without the signs. For the years of disagreement, I did the same thing. Looking at the slide again, you can see there's one plan here that's got a huge downward spike, though even here, the upward part is still bigger than the downward. The reason is, in one year when the plan should have been positive, it had a 10% loss. I don't know the circumstances. It doesn't matter, but aside from that anomaly, it's very striking.

This chart also is interesting because it gives some measure of plan volatility. If you go through the bars that are very close to the axis, they are clearly the plans that have less volatility in terms of agreeing with the cycle than the ones that have the big spikes at both ends.

The last couple slides I have deal with forecasting. Only six years of history are shown because the data weren't available for earlier years. The question is, did the plans forecast at the end of 1991 a continuation of the cycle for 1992? Looking first at revenue (Table 1), it's sort of interesting. Remember that the last three years are the up cycle and the first three are the down cycle. The variance is actual minus

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forecast. Here's another verity of human nature. Consistently, up year or down year, revenue was overestimated. But what is surprising is that in the up years, revenue was overestimated more than in the down years; the variances are small in the first three years and then very large.

CHART 10
Blue Cross and Blue Shield
Agreement with Underwriting Cycle
Sum of Percentage Agreement: 1981-1991

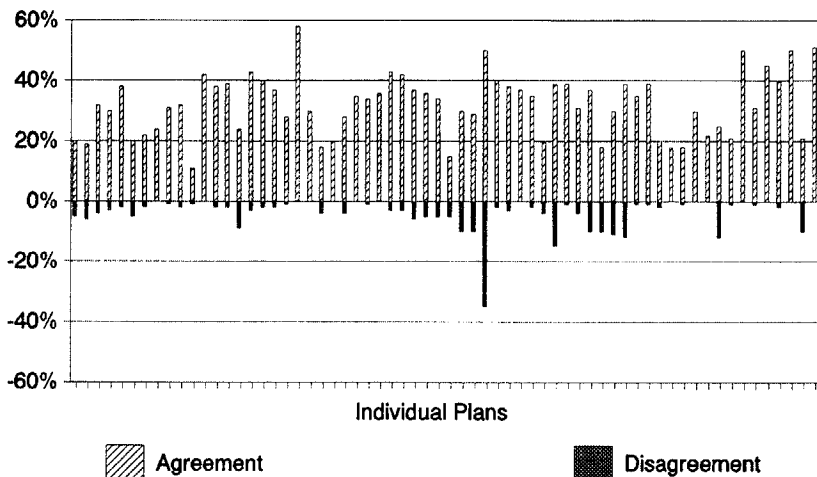


TABLE 1
Blue Cross and Blue Shield Plans

	Net Subscription Revenue (\$ Millions)					
	1986	1987	1988	1989	1990	1991
Forecast	43,957	46,986	51,675	58,620	65,105	69,580
Actual	43,531	46,346	51,252	56,036	62,565	67,068
Variance	(427)	(640)	(423)	(2,584)	(2,540)	(2,512)
Variance as a % of Actual	-1.0%	-1.4%	-0.8%	-4.6%	-4.1%	-3.7%

Looking at claim expense, we see the same thing in Table 2. You notice that in the years of the down cycle, the variances are not too big. There the actual tends to be underestimated a little bit. But when you get to the positive years, you really see a clear pattern that the forecast of the claims was much worse than what actually happened. Maybe some insight into where the cycle is coming from can be found here by just looking at these forecasts versus actual.

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TABLE 2
Blue Cross and Blue Shield Plans

	Claims Expense (\$ Millions)					
	1986	1987	1988	1989	1990	1991
Forecast	40,798	43,630	48,069	53,578	58,819	63,053
Actual	40,588	44,535	48,237	50,690	55,871	59,990
Variance	(211)	905	169	(2,888)	(2,948)	(3,063)
Variance as a % of Actual	-0.5%	2.0%	0.4%	-5.7%	-5.3%	-5.1%

Now we come to administration expense, another variable (Table 3). This time expenses were underestimated every year. It didn't matter if it was an up or a down year; it was fairly uniform.

TABLE 3
Blue Cross and Blue Shield Plans

	Administration Expense (\$ Millions)					
	1986	1987	1988	1989	1990	1991
Forecast	3,994	4,466	4,704	5,056	5,703	6,173
Actual	4,195	4,537	4,769	5,159	5,760	6,356
Variance	201	71	65	103	58	183
Variance as a % of Actual	4.8%	1.6%	1.4%	2.0%	1.0%	2.9%

Now you put it all together, and what was the overall forecast of what the bottom line would be (Table 4)? Well, in the down years the estimates actually were to be down, but not nearly as much as happened. And then in the up years, except for 1989, a gain was predicted. But the gain was bigger than expected. So now the grand finale; 1992. What's going to happen?

TABLE 4
Blue Cross and Blue Shield Plans

	Underwriting Gain or Loss (\$ Millions)					
	1986	1987	1988	1989	1990	1991
Forecast	(835)	(1,110)	(1,097)	(14)	583	355
Actual	(1,252)	(2,726)	(1,755)	187	933	722
Variance	(417)	(1,616)	(658)	201	349	367

The forecast for 1992 (Table 5) is for a gain. The cycle is going to get broker in 1992. Of course, as you look at it, the question is whether you believe the forecast. We'll have to wait and see. On the basis of what we saw before, I wouldn't place any bets on it.

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TABLE 5
Blue Cross and Blue Shield Plans

	Forecast (\$ Millions) 1992
Net Subscription Revenue	75,085
Claims Expense	67,992
Net Administrative Expense	6,799
Underwriting Gain/Loss	294

MR. CHARLES S. FUHRER: The first part of my discussion will be a general introduction to the health insurance cycle, a look at evidence that there is a cycle, and two or three possible causes of it. The second part will deal with an analysis of the two or three time series involved. Perhaps the word "analysis" is a little too strong. I didn't really do a good job of actually analyzing the time series. I just took a very quick look at them.

The subtitle of my talk is "How to Gamble if You Must." It seems to me that this is rather appropriate considering the location of the meeting. This quote is from one of my favorite books for light reading, *Inequalities for Stochastic Process; How to Gamble if You Must*. I have no idea who Louis Bachelier is. I must admit that since I got here, I've been dutifully doing some research on probability theory. This session is a major interference in that research.

Now let's look at the health insurance cycle. Here is some evidence of the cycle (Chart 11). This is a graph of the Blue Cross/Blue Shield (BCBS) underwriting gain, which Mr. Sanders already dealt with. He showed that it looks to be an extremely regular six-year cycle. We have low points in 1969, 1975, 1981, and 1987. It looks extremely regular; there is obviously something periodic going on. Now let's look at other companies other than BCBS. Chart 12 is the gain from operations of the 20 largest writers of group health insurance (not BCBS). This data was provided by the Health Insurance Association of America (HIAA). Again we do see low points in 1969, 1975, 1981, and 1987. The 1991 results are not yet available. There seems to be definite evidence of a cycle.

Why might these cycles occur? The usual explanation given is one that I call the "herding instinct" because the essential idea is that each company copies the others. When some of the companies are charging low rates, we all follow suit. Before long, we're all losing money.

Then we get scared, turn around, and start charging more. When we start making money, we lower our rates, and the cycle starts over again. This explanation doesn't really give us much credit as actuaries. Of course, I could describe it in a way that sounds more reasonable: The employees (underwriters, not actuaries) make rating decisions based on the concept that it is better to sell a group health case with any positive expected return than lose it. Here "positive" means that premiums exceed the claims and marginal expenses. With this goal, fixed expenses and overhead are not covered. As a greater share of the business that doesn't cover fixed expenses is written, the company will start losing money.

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CHART 11
Evidence of Cycles
Blue Cross/Blue Shield Underwriting Gain

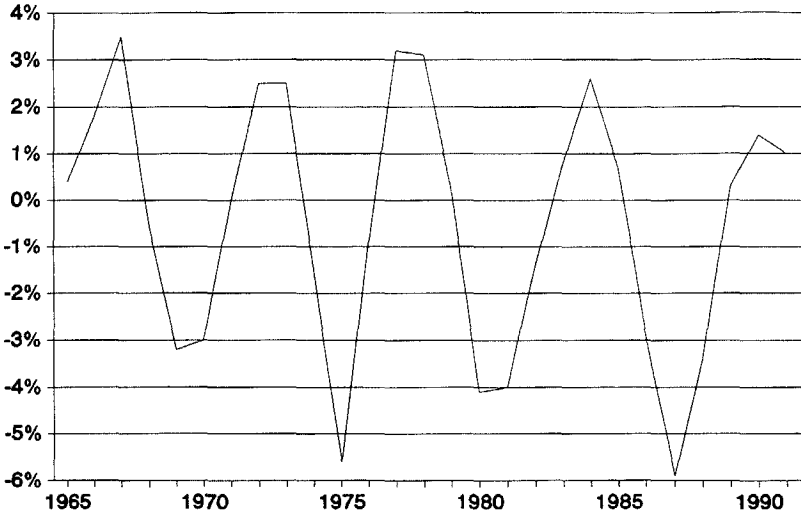
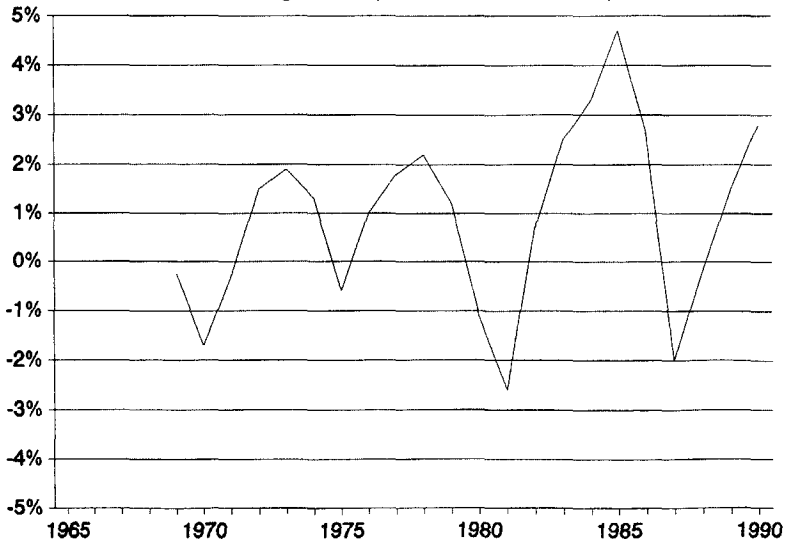


CHART 12
Evidence of Cycles
HIAA: 20 Largest Group Writers Gains from Operations

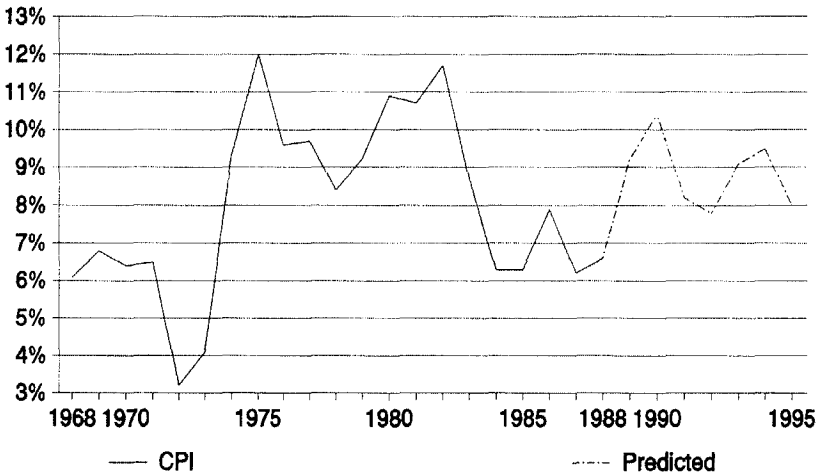


Of course, management then gets upset and puts the word out, "We need stricter underwriting." This process in itself could cause cyclic results. It's sort of a feedback loop. I wonder if we could model this using some of the modern dynamical system

theory. Perhaps the cyclic results are a stable orbit or it may actually be a chaotic system.

Another possibility is that there is an influence outside of the insurance industry that is cyclic. At this point, I suddenly remembered I was an actuary, so I should use some of the tools that we all learned in the ASA exams. So two-and-a-half years ago, for the New York Society meeting, I analyzed the annual percentage increases in the consumer price index (CPI). Using linear time series methods, I found that there was a four-year cycle. Using this same model, I did a quick prediction of the CPI increases. Chart 13 is the actual slide that I used at the meeting.

CHART 13
Prediction of CPI Changes



I used only the results through the end of 1988. I predicted that the change in the CPI during 1989 CPI would be greater than it had been in six years, that the change would still be higher in 1990, and then it would come down during 1991. That was really quite a bold prediction. Now that we have three more years of data, it's only natural that we would take a look and see how well I did. The results are in Chart 14. This is so remarkably accurate that I almost think it was an accident. However, I'm going to take credit for it. Notice that there are patterns in this time series that one can't see with the unaided eye. You have to do the calculation to fit the model and get the prediction.

Of course, predictions don't usually work quite so well, but I thought this year I would look at the actual underwriting cycle. The BCBS data are shown in Chart 15. Remember, everybody just assumes it's a six-year cycle because there are three years down and three years up. The pattern isn't all that regular. The year 1971 wasn't all that high; in fact, it rounds to zero. The 1977-79 and the 1971-73 up years have twin peaks unlike the other up years. In other words, if you look at something else besides the signs, the pattern isn't all that regular. Now let's look at the HIAA data in Chart 16.

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CHART 14 Evaluation of CPI Predictions

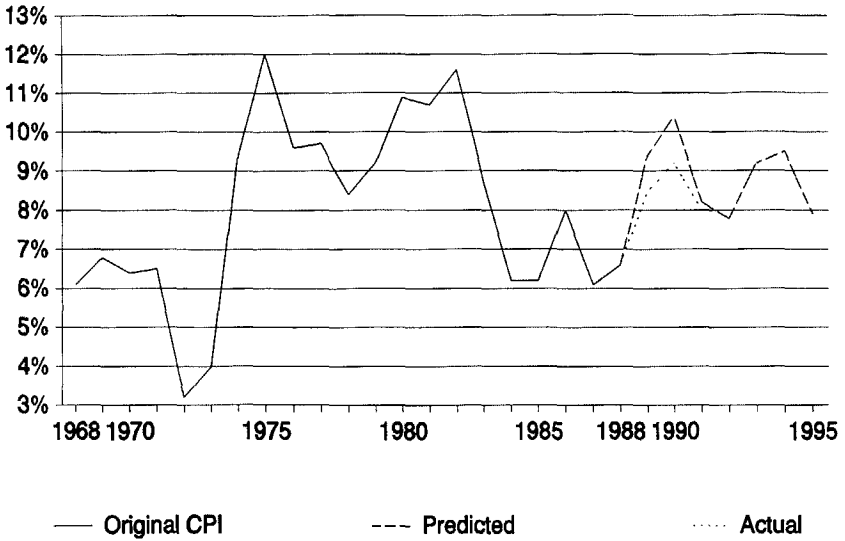
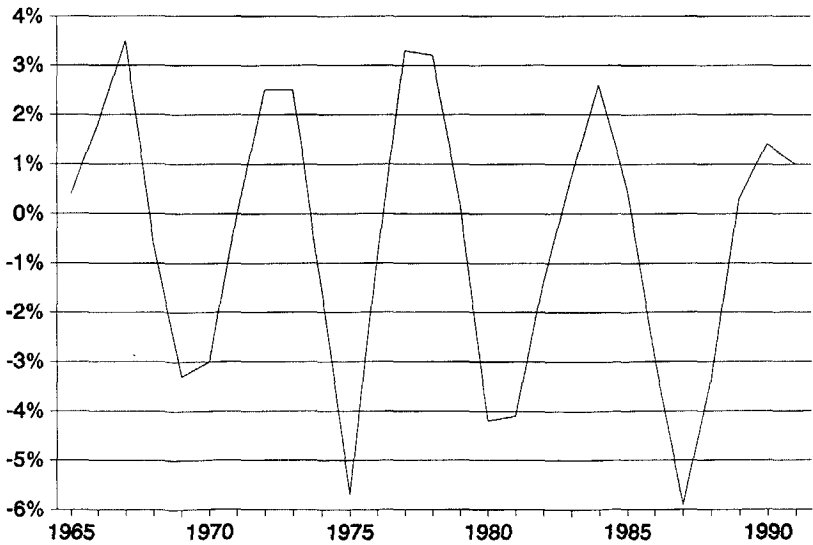


CHART 15 Evidences of Cycles Blue Cross/Blue Shield Underwriting Gain

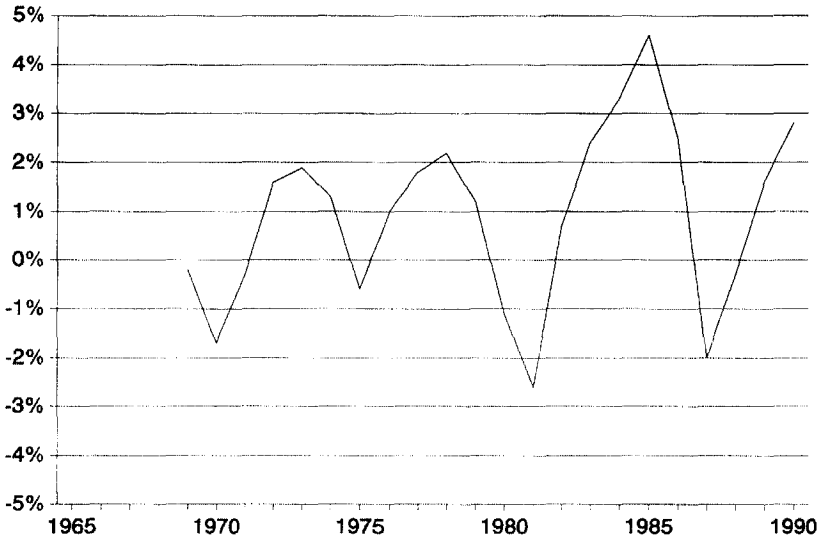


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CHART 16

Evidence of Cycles

HIAA: 20 Largest Group Writers Gains from Operations



They're not anywhere near as regular as the BCBS data. I'm not sure about a regular six-year cycle, but there does seem to be some evidence of cyclical pattern. Therefore, I tried to do a set of sine curves to these series to see how well they fit. I did this very naively. I have not calculated the confidence intervals, although it's a good idea.

I used a series that started in 1965, not because I wanted to but because, as was pointed out earlier, everybody seems to start there and that is when the data become readily available. Understand that when you're fitting curves to data, in this case it's about 22 or 25 years, you want to avoid overfitting. In other words, you don't want to use 20 parameters. If you do that, you'll get almost an exact fit with any model, but you're not really capturing the shape of the data. With frequency (sine) curves, if you use the maximum number of parameters (equal to the number of years), you'll just get a repeat of the values that have occurred since 1965. That isn't a very good way of doing it.

Chart 17 is my prediction of the BCBS cycle, using only a two-parameter curve. It's really remarkable how good the fit is using only two parameters. The fit here is close to a six-year cycle. The fit is good although it missed the deep peak in 1987. This fit predicts 1992 below the line but not too bad; 1993 and 1994 will be back up; and 1995-97 will be bad (but not as severe as prior lows). Of course, long-term predictions are worth even less than short-term predictions.

I also did a three-parameter fit (Chart 18). Note that the fit is better in that the peaks are starting to fill in. This fit doesn't even predict a bad year until 1995. Just to complete things, here is a five-parameter fit (Chart 19).

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CHART 17
Prediction of BCBS -- Underwriting Gain (2-Parameters)

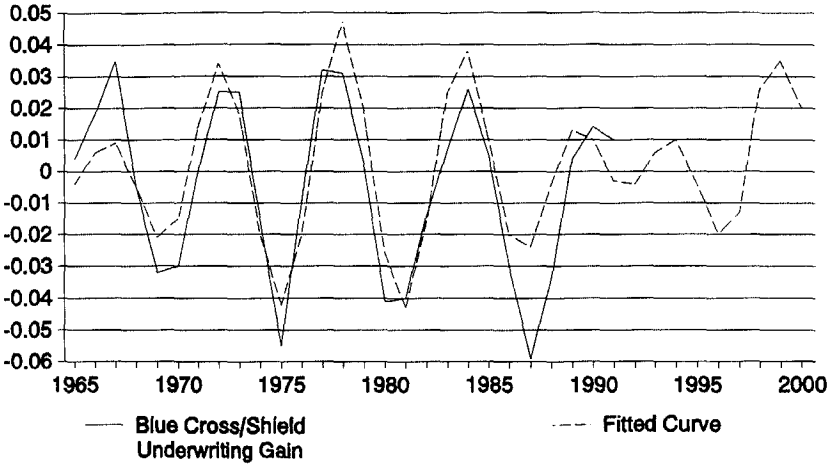
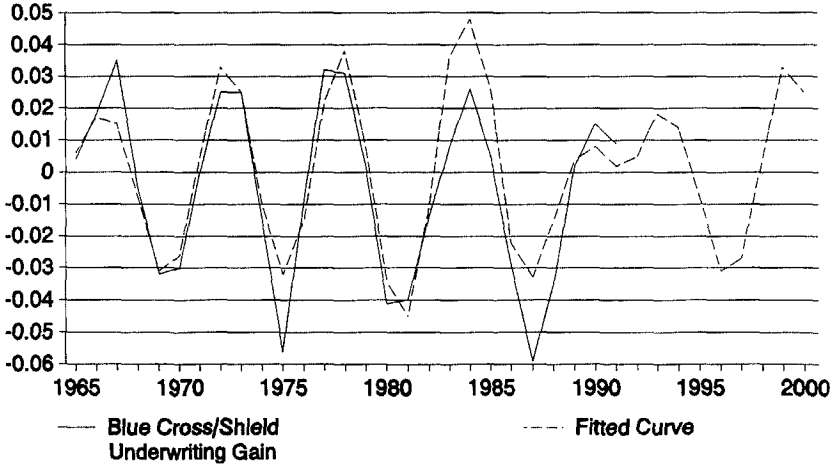
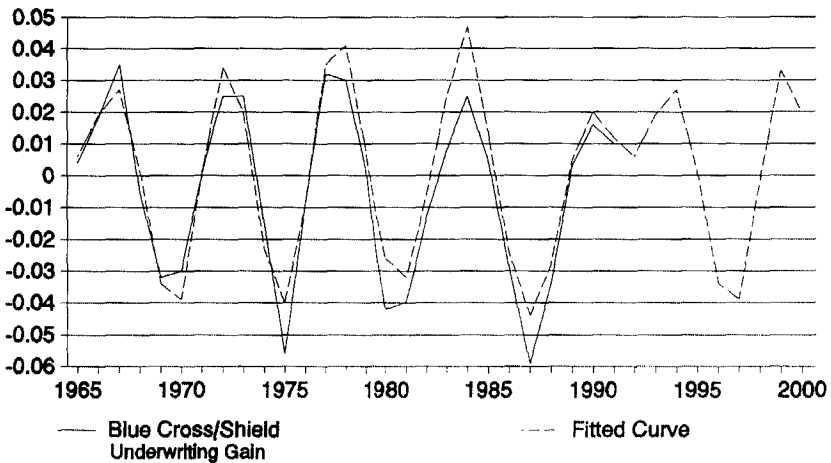


CHART 18
Prediction of BCBS -- Underwriting Gain (3-Parameters)



The reason I skipped four is because the way I did it, the next two parameters were roughly equal. Now we see we're really filling in the peaks, the fit is really quite good. Once again, no losses are predicted from 1992 through 1995.

CHART 19
Prediction of BCBS – Underwriting Gain (5-Parameters)



My model fitting is done blindly; there is no thought process given to explanations at all. Nevertheless, I get a prediction that you might not have made if you had just naively said, "I always get three down and three up, so I'll fit a straight line through the peaks." This is not a very good way of doing time series analysis.

Now for what most of the you have been waiting for: the HIAA data fit and predictions (Chart 20). Here we have a two-parameter curve. It doesn't fit quite as well as the BCBS four-parameter fit. Let's look at the three-parameter fit in Chart 21. This is really starting to fit very nicely, don't you think? The fitted values come close to the 1984-85 peak and the deep trough in 1981. This fit leads to a prediction of a mild downturn in 1992 and 1993. After that, everything looks favorable. Once again, Chart 22 is the five-parameter that now looks very good. Unfortunately, this one does show a little deeper trough in 1992-93. It also predicts mostly favorable years after that.

I found these results remarkable and surprising. There is almost no way you can make these predictions by just looking at the values. Nevertheless, we should be futurists, and decide if maybe the past won't just continue. Maybe there will be basic changes or discontinuities in the group health environment. In my opinion, we're not going to see much of a trough in the 1992-94 era. I think that as insurance decision-makers become more aware of the depth of losses that can occur during the cycles, they're going to be much more cautious about pricing on the marginal cost. Thus, we will prevent the cycle from going down as low. The very fact we're having this meeting and talking about it – I don't remember having these discussions six years ago, do you – will mean that we will prevent big losses in 1992-94. So I think there's a big change from the past. Our awareness is much higher. So this should lead to a break from past. Isn't it remarkable, though, that my fitted curves also predict a shallow cycle even though they're based entirely on the past?

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CHART 20 Prediction of HIAA: Gains from Operations (2-Parameters)

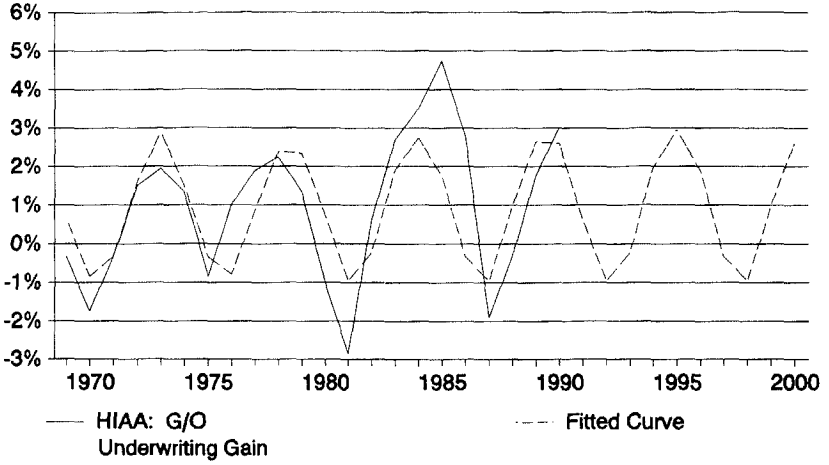


CHART 21 Prediction of HIAA: Gains from Operations (4-Parameters)

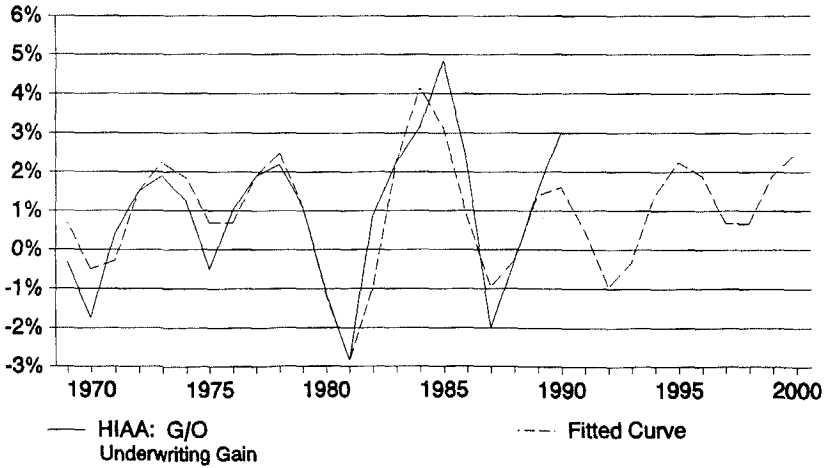
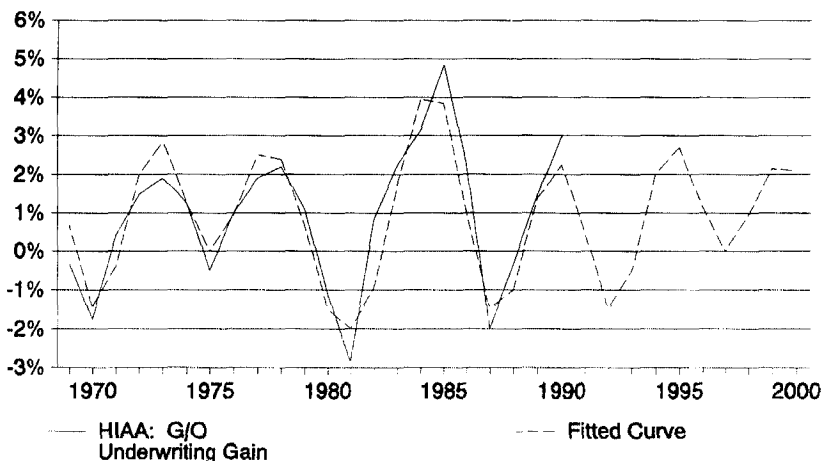


CHART 22

Prediction of HIAA: Gains from Operations (5-Parameters)



Finally, I've got just one more argument that maybe things have changed. It seems to me that six years ago and twelve years ago, we all had lowered our pricing trends. Most of us lowered them into the low teens. I don't know where everybody is now, but from what I've seen on some surveys, most of the companies have kept their trends up in the twenties. Well if that's true, then what's going to cause the cycle to occur? Therefore, I'm not convinced that we're going to take very bad losses in 1992-94.

MS. BARBARA NIEHUS: I will discuss the underwriting cycle as it affects health insurance offered to groups with 25 or fewer employees. I'll talk about some of the causes and effects of the last down cycle, the aging curve and it's effect on the cycle, small group legislative trends, and my speculations regarding what to expect with the next cycle.

First, statistics are not generally available on the small group market relating to profitability. So most of my impressions are based on my company's experience and information that's generally observable in the market. Small group health insurance experienced results comparable to other health insurers, with the down cycle in 1986, 1987, 1988. Results varied by carrier, reflecting, in part, varying ability to predict the cycle, analyze the situation, and react properly. Variations also result from the aging curve and the growth rate of a specific block of business.

I agree with Chuck Fuhrer's analysis of the causes underlying the cycle. You may call it the "hunting instinct" or "following the market." Our predictions are based on what we recently saw in the past. Even what we think we've observed recently we don't know very well because it takes a long time for health insurance results to develop, and sometimes our reserve run-outs surprise us. Misinterpretation of past data, together with no reliable way of predicting the future, leads to trying to correct things we've seen and then probably overcorrecting and swinging back the other way.

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Reviewing the last down cycle, medical care cost rates of increase had been observed to be very low. That was true both in the small group market and in the general market. The small group market benefitted from what large employers were doing, from what Medicare was doing in getting providers to be more efficient, in building some expectations with respect to precertification, and from reviewing hospital costs. In addition, small group carriers had started to implement cost-saving programs already available to large groups: precertification programs, catastrophic case management, and other cost containment measures. Then the rate of increase turned and wasn't predicted well. The savings from the various cost-saving programs did not measure up to expectations. The end result was losses for most participants in the group health market.

So with the down cycle, what happened? Carriers took large and frequent increases, reflecting a very pessimistic estimate of cost increase trends. Many carriers exited the market, and some large blocks of business were terminated, leaving many people without insurance. Consumers reacted very vocally. In the small group market, there's not the same buffer between the costs and the consumer as in the large group market, with large employers picking up a significant portion of cost. As a result, state insurance departments found their phones ringing off the hooks with people who had experienced what they thought were outrageous increases or who were left without coverage; legislators started to hear from their constituents. All this was happening at the same time as government cutbacks in funding were occurring. Some of the safety nets that had existed for individuals without health insurance were no longer available. Medicaid was continuing to cut back on benefits; Medicare was tightening up. So the cost shifting into the public sector was getting much stronger. To put all this together, you have a very volatile situation, and health insurance issues have been at the forefront of public debate ever since.

I'm going to talk a little bit about the aging curve and its effect on the cycle and in the small group market. Small group health insurance is medically underwritten. As a result, first-year costs are low. First-year costs would be low to some extent even without underwriting. People changing plans tend to be healthier people because they don't want to lose benefits in the transition. Preexisting condition limitations will also keep first-year costs very low. Even ignoring medical cost trends, third-year costs run about 175% of what average first-year costs run. Carriers have developed tiered and durational rating strategies, where renewal rates are higher than first-year rates. Even with these rating strategies, profits are front loaded; the first year is a profitable year. Trends in a particular block of business are going to reflect the growth phase of that block. Carriers that are in an aggressive growth mode or a new carrier who is just getting into the market and just starting to build a block of business will be isolated from a downturn for a period of time. And an aggressive sales strategy can be something to help a small group carrier manage a down cycle.

There have been legislative regulatory responses affecting our market. These responses have been in the form of two areas: rating laws and access laws. With respect to rate regulation, the NAIC model law affects groups with under 25 employees and limits the spread between the lowest new business rates and highest renewal rates. It limits some types of rating loads such as industry loads. It restricts annual renewal increases to no more than 15 points more than the increase in the lowest new business rates over the same period of time. There are over 20 states that have

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passed either the NAIC or their own variation of a rating law. In addition to restricting rating practices, these laws also limit the carrier's right to terminate blocks of business. These rating laws tend to make the first-year even more profitable and management of a renewal block of business more challenging.

Access legislation, as defined in the NAIC model, addresses groups of 3-25 employees and provides two variations. One is a reinsurance pool approach where participating carriers cede risks to a reinsurance pool that is run and financed by the insurance companies. It provides for assessments on the insurance companies and other levels of assessments, including perhaps public funding, to help cover people that would normally be unacceptable risks. The other approach is an assigned risk similar to what's used in some states for auto insurance where all carriers selling in the market will be required to accept a certain number of substandard or uninsurable risks based on their proportionate representation in the market.

With these approaches, only two protections are left against antiselection. One is limitation of benefits for preexisting conditions, which is still permitted for people who did not have insurance prior to being accepted. Second, participation requirements permit an insurer to require a representative portion of the group, hopefully with healthy as well as unhealthy lives. Even under the reinsurance facility approach, carriers are left with substantial liability. Under the NAIC model, carriers retain the first \$5,000 of claim in a year, plus a portion over that. The first \$5,000 represents a very high proportion of expected claims. Under the assigned risk approach, the carrier takes the whole risk, and it will be up to carriers to figure out how to work that out with their reinsurers as far as any excess reinsurance that they maintain.

There are about five states that have passed access laws and a few are waiting for signature right now. But access legislation carries a cost with it. The healthiest groups are going to end up paying more. The concern for the market is that most of the people who are uninsured today are uninsured because insurance is not affordable. Access laws make a lot of sense if you figure that the reason that people don't have insurance is because insurance companies won't sell it to them. In fact, in the vast majority of cases, cost -- not availability -- is the issue. So access legislation may actually increase the number of uninsured.

So what does this mean for the future, and what's going to happen with the cycles? I don't think the next down cycle is going to be as deep. Evidence of that is the fact that during the favorable portion of this cycle, the market has had few new entrants. It's the first time that the up cycle hasn't started a rush into the market. And the players that are in the market are much more cautious. Responding to legislation takes a lot of attention. We're not seeing the same level of rate competition that had preceded the prior downturn.

The down cycle will be impacted by regulation. In some cases, in some states, the access regulation may start the down cycle; it may cause carriers to lose money. Connecticut was the first state to implement an access law. The reinsurance assessment in Connecticut is likely to equal or exceed 5% of premium. The rating laws are going to limit carriers' flexibility in taking rate increases so the recovery will be a little more difficult and will take a little longer. That's another reason for caution.

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I think the future of our business in general is in question. My preference is to see state laws enacted and to see carriers participate in the design and implementation of those laws and truly try to make some of these experiments work. I think to do it at the federal level is going to cause more problems and probably lengthen the time that it's going to take to solve problems. I think there are a number of good state initiatives that are underway. Celtic Life, as a company, has participated in legislative and regulatory debates. I think participation in the debate is important for everyone who wants to continue in this market or health insurance in general. The nature of the management challenge is changing. I think my concern, even more than managing through the cycle, is just being quick on our feet, able to respond and work with legislators and with insurance departments, so we'll see a few more cycles come and go.

MR. TIMOTHY J. ALFORD: My presentation is from a reinsurance perspective. The previous speakers have talked about the cycle from a direct perspective, and I'd like to take a look at it from a different angle. However, there are similarities. Direct and reinsurance carriers both sell a product where they really don't know what the true cost of it is when they sell it. We also are subject to the pricing behavior of our competitors and what they do. Once we get the information, we don't really know if it's true or not because of statistical fluctuation. It would be nice if I had a graph that showed the cycle from a reinsurance perspective, but unfortunately there's just not that type of information available. There is limited information in terms of what the reinsurance results are. But I think if we did have such a display, what we'd see is that it looked different from the material we've seen already in the session. One of the primary reasons for this is the lags in reinsurance claim reporting are quite a bit longer than on the direct side. As much as 20% or 30% of the claims are still to be paid six months after the end of the year from a reinsurance perspective, and that amount still is in a 5-10% range after about a year from the end of the plan year. So there are quite a few claims out there for long periods of time, and because of that, it exacerbates trying to figure out what's going on from an experience perspective.

The impact of the different factors varies on the reinsurance side when compared with the direct side. The hospital component is much more important on the reinsurance side, and it could amount to as much as 60-80% of reinsurance claims. Medical technology also has a different impact, and we'll see that as we go through some of the charts later. But, for example, on premature births, it can have a significant impact. Also, from a positive standpoint, in terms of expenses, reinsurers are not typically involved in some of the things that there are on the direct side in terms of setting up managed care such as PPO networks, which can be very expensive. There also are different competitors on the reinsurance side. There's much more of a foreign influence and, in turn, those companies sometimes react differently than how the domestic carriers might. And lastly, the smaller number of claims on the reinsurance side just makes it that much more difficult to determine if there's a statistical fluctuation or if it's really the true numbers we're looking at.

What I'd like to do now is go through some trends and percentages and types of large claims. We're going to look at three different sets of information. One is percentage of claims paid above given amounts. Another is annual increase in claims. And a third is diagnosis of large claims.

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As we look at percentage of claims above a given amount in Table 6, it's about what we'd expect. As we look at a given deductible level and come forward in time, the percentage increases.

TABLE 6
Percentage of Claims Paid Above Given Amounts

Amount	1989	1990	1991
\$10,000	26.6%	28.6%	30.7%
25,000	13.6	15.3	16.9
50,000	7.0	7.9	9.0
75,000	4.3	5.0	5.7
100,000	2.9	3.4	4.0
150,000	1.5	1.6	2.2
250,000	0.4	0.5	0.8
500,000	0.04	0.06	0.14

If we do that more on an annual increase basis (Table 7), the numbers also are pretty much what we might expect. As you look at the larger deductibles, particularly as you get up into the \$150,000, \$250,000, and \$500,000 amounts, the annual increase in claims above those amounts is increasing much more rapidly at the higher deductibles.

TABLE 7
Annual Increase in Claims Above Given Amounts

Amount	1989-90	1990-91	1989-91
\$10,000	7.4%	7.6%	7.5%
25,000	12.4	10.6	11.5
50,000	13.9	13.7	13.8
75,000	16.3	13.6	15.0
100,000	15.6	18.8	17.2
150,000	9.2	35.0	21.4
250,000	29.7	62.5	45.2
500,000	77.1	127.4	100.7

Looking at diagnosis in Table 8, the circulatory and tumors diagnoses account for almost half of the claims above \$25,000. As we go through the charts and look at some higher deductible amounts, note where premature births and leukemia fall. You'll see they have an increasing impact. So as we look at claims above \$75,000 in Table 9, the circulatory diagnosis is still number one, and tumors are number two. But we see fairly large movement in premature births and leukemia. Likewise, above \$150,000 (Table 10), premature births now have jumped up to second with leukemia third. As we look above \$250,000 (Table 11), there's been another fairly substantial increase in premature births, and now accidents have jumped.

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TABLE 8
Analysis of Diagnoses for Claims Above \$25,000
(Claims Paid in 1989 or 1990)

Diagnosis	Amount
Circulatory	29.1%
Tumors	16.5
Accidents	8.9
Digestive	7.8
Premature Births	6.1
Leukemia	4.2
Respiratory	3.5
Other	23.9

TABLE 9
Analysis of Diagnoses for Claims Above \$75,000
(Claims Paid in 1989 or 1990)

Diagnosis	Amount
Circulatory	23.9%
Tumors	14.6
Accidents	11.6
Premature Births	10.5
Leukemia	7.5
Digestive	6.7
Respiratory	3.2
Other	22.0

TABLE 10
Analysis of Diagnoses for Claims Above \$150,000
(Claims Paid in 1989 or 1990)

Diagnosis	Amount
Circulatory	22.4%
Premature Births	12.1
Leukemia	11.6
Tumors	10.4
Accidents	9.6
Digestive	4.9
Respiratory	4.0
Other	25.0

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TABLE 11
 Analysis of Diagnosis for Claims Above \$250,000
 (Claims Paid in 1989 or 1990)

Diagnosis	Amount
Circulatory	22.7%
Premature Births	15.2
Accidents	13.7
Leukemia	11.8
Respiratory	5.6
Digestive	3.6
Tumors	2.9
Other	24.5

As a final point, reinsurers, along with a lot of other groups such as regulators, policyholders, and so forth, are interested and have an increasing concern about what's happening from a solvency standpoint. Certainly the group health cycle is another cause for concern because, as underwriting results get negative, those individual companies that are exposed to large health exposures will have more of a tendency to be threatened by insolvency. So how carriers react to the cycle is important. In looking at this from a reinsurer's viewpoint, the importance of the solvency issue depends upon the type of reinsurance arrangement. If we're looking at a typical nonrefunding, one-year policy, then essentially the risk that the reinsurer has is just from a delinquent premium perspective. That's fairly easy to monitor. As you get into more complicated arrangements such as those that are retrospective or refunding, then the need to recover deficits that are taken into account in pricing make it more important to look at a company's solvency. It also is important as to whether the company is going to stay in the group business, because if they're continuing to experience what are maybe viewed as adverse results, they may decide to get out of the group business altogether. And, of course, Lincoln National has made that decision relative to part of its direct group business. So we're well aware of that.

In conclusion, I'd just like to second Barbara's comment about hoping that the carriers are around to continue to experience and talk about the group cycle because, if they're not, then we're not going to be around as reinsurers to provide them excess protection.

MR. MICHAEL S. ABROE: We're now going to open the session up to questions and comments from the audience.

MR. ANTHONY T. BATORY: Mr. Fuhrer, a couple of questions on your presentation. Which CPI were you talking about?

MR. FUHRER: First of all, it's the medical component of the CPI. Second, it's the urban as opposed to the total. Actually, when I did the work three years ago, I blindly picked it up from a secondary source, and the time series that I projected was a mixed one. For a few years, it was the average of the months' results, and then after that, it was the December-to-December. When I compared actual to projected, I

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used December-to-December for the actual. So even though I used faulty data, I still got relatively good projections.

MR. BATORY: Do you feel that there are other CPIs that we should be looking at? Should we be focusing more on the hospital components and the physician components rather than medical? Medical includes things like dental coverage and vision care and other miscellaneous items?

MR. FUHRER: Yes, in fact, at our company we have looked at the CPI by those subcomponents and do an average that more accurately represents our medical coverage. I just didn't do a projection on those items.

MR. BATORY: Question for Mr. Alford. Are the diagnosis distributions that you showed us active? Retired under 65? Retired over 65? Does it exclude the retirees? Or is it a mix or primarily active?

MR. ALFORD: That would be primarily active. It would only include somebody over 65 if they happened to be actively employed.

MR. BATORY: And the percentages shown there. When you talk about an excess amount, like \$50,000, you're talking about the percentage, just the excess amount or the claim? The \$50,000 plus the excess amount as a percentage of total? Or just the excess?

MR. ALFORD: On the first couple of tables, it was the percentage of total claims above that amount. In the other tables, which looked at it by diagnosis, it would just be claims that were above the particular deductible.

MR. FUHRER: I didn't completely answer that question on the CPI. I used the nonseasonally averaged numbers.

MR. LARRY D. MORRIS: It appeared that the year 1990 was kind of an anomaly -- a huge increase in large claims, and then 1991 large claim increases seemed to come back in line. Your figures on large claims didn't support that particularly. Maybe it happened in 1991 instead of 1990 in your figures. Do you have any insight on that issue?

MR. ALFORD: This is the percentage of claims paid above a given amount? Yes, this data was primarily taken from our direct operation as opposed to our reinsurance data. We would have seen on the reinsurance side, I think, 1990 as probably a little worse. But again, the data is not as complete on the reinsurance side; I can't speak as to exactly why there might be that anomaly from your viewpoint.

MR. JAMES E. CARTER: Question for Barbara. She mentioned that in the third year in their small group, they see 175% of first-year claims. I just wondered if there are any procedures being considered or put in place to take account of it in accounting, such as an active life reserve or balancing reserves, so in the pricing, the rates reflect that. That way, you don't give a low rate when you're setting your rates with your views.

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MS. NIEHUS: Active life reserves make sense, although they are not required. They certainly can assist in leveling the profits over time.

MR. SCHUYLER W. TOMPSON: I don't pretend to have any answers to explain the underwriting cycle, but I have some thoughts that I'd like the panel to consider. I was really interested in the fact that Blue Cross/Blue Shield plans seem to have a more generalized cycle than the commercials, and I wonder if maybe part of that might be due to more community rating. I think community rating has a bearing on the whole thing and, of course, Blue Cross/Blue Shield plans do that more than commercials. Further, I was wondering about the time lag. It seems you start from the experience period, which might be one, two, or three years, whatever your case may be, and you probably want to wait for some kind of a run-out. Then you've got an analysis period. Here again, this may be a difference with Blue Cross, since Blue Cross plans submit the rates and wait for approval. There you've got what I would call a Department of Insurance lag. And depending upon what kind of numbers you assign to those various periods, you might be able to come up with some kind of a justification for some of the cycling. I know it's very complicated, and I don't want to simplify the problem, but it seems like that might have a lot to do with it.

We're trying to determine trend from the experience we are looking at, and we're making trends. It seems maybe it's too obvious to even mention, but when we're overstating trends obviously we're going to get some gains. When we understate trends, it's going to go the other way around. Do any of these thoughts have some validity? What are your opinions?

MR. SANDERS: I think the observations you made certainly have some validity. Something like trends for the most part are going to affect the Blues and the commercials fairly equally, with the exception of what you mentioned in terms of insurance department lag. But I think that probably varies a great deal from state to state, both in terms of the requirements and the amount of lag. I don't pretend to have any extensive knowledge of Blue Cross/Blue Shield plans, but my impression is once you've seen one plan, you've seen one plan. And that, I think, suggests that there's probably more similarity between the commercials and the Blues in this regard than one would normally expect since they both operate in the same arena.

MR. FUHRER: I'd also like to comment on that. There's no doubt about the fact that the regulatory climate and some of the community rating that's practiced by the Blue Cross/Blue Shield plans create different climates. But I'm not sure that I understand why that would necessarily make their cycles more regular. I just don't quite see why that would be. In any case, it is something to keep in mind. I think the point that was just made about each plan being much different is probably very true.

MR. DONALD T. WEBER: My question would be directed mostly to Barbara and Tim. And it relates to the small group access. Isn't the development of the reinsurance pool and the delayed assessment a potential contributor to a future down cycle? Isn't this something that we, as actuaries, might be wanting to look at? Should we look at alternatives to the reinsurance pool like assigned risk, that might be better because of reducing this delay?

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MS. NIEHUS: I agree that it will be a contributor. I hadn't really thought about that advantage of the assigned risk approach. I guess the assigned risk approach has its own problems as it has with auto insurers. But I think that certainly as far as *reinsurance assessments go, the carriers need to make sure that they've properly accounted for assessments and properly tried to take it into account in their rating.*

MR. LEONARD KOLOMS: First, a comment. The valuation law that was passed by the NAIC, I believe it was two years ago, does require active life reserves on any contract that does show any kind of aging. Aging is defined by what you have described. In fact, I believe Wisconsin is the only state that has approved that law now. I know there are companies that are in Wisconsin that are actually contemplating setting up these reserves. I understand Illinois is actually using the process. At least, Larry Gorski of the Illinois Insurance Department feels that the valuation law that was passed should be adopted in Illinois because of the valuation actuary concerns.

MR. EARL L. HOFFMAN: I'd like to know if any of the panelists would vary their cycle predictions based upon a different type of plan such as indemnity with weak managed care, PPO, exclusive provider organization (EPO), or HMO?

MR. FUHRER: The answer to that question is clearly, yes. I think that if I had had some data that were split, the results would have been remarkably different. On the other hand, they might not be as different as some people think they would be.

MR. EDWARD W. O'NEIL: I was wondering if the panelists would comment on what their thoughts are in trend considering the worker's compensation crisis in many of the states and what impact that's going to have on transferring those costs over to group medical plans?

MR. ABROE: I don't think anybody wants to comment on that question.

MR. SANDERS: Nobody here knows much about it. But I will say that I think that just in general, there are two ways to sort of look at this cycle business in terms of prediction. One is to take the kind of approach that Chuck did, which is to just look at it mathematically, which is fascinating. The other is to look at the causes and effects and think of all the things that are happening out there that might have some impact. *There's probably no limit to the number of things that you could think of. It's probably like any decision; you line up the ones that you think are going to have a negative impact and the ones you think are going to have a positive impact, and then you make some kind of very subjective judgment. And that's the way you make your guess as to what's going to happen.*

MR. ABROE: I'd like to throw out one question to the panel and also ask the audience if they could give their comments. I have a general question pertaining to whether companies can afford to have a clean cycle going forward given the risk-based capital and surplus requirements, the state solvency considerations, and what the rating bureaus are doing. I'd like to get comments on that. Anybody from the audience?

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MR. SANDERS: I think everybody would like to eliminate the cycle and just have nothing but positive years.

MR. STEVEN W. PATRICK*: I don't have a comment on what you said, but I have a question. In one of Mr. Sanders' graphs, the beginning of the cycles seemed to be between 1960 and 1965. I wondered if any of the panelists or you, Mr. Sanders, have considered that that roughly corresponds to the introduction of Medicare and Medicaid? Am I right about that?

MR. SANDERS: Well, as I indicated, I haven't given it a lot of thought. The data that were used were based on their availability. People first started looking at the data in 1965. I don't know whether they picked 1965 for some particular reason. When I asked for data, Mike LaCavitas sent me data that went back to 1965. And I said, "Well, how far back does it go? The Blue Cross/Blue Shield plans have been around for a while." He said, "We actually have it compiled back to 1960." I said, "What does it look like?" He said, "Well, it's a little different." And I thought that was fascinating. I said, "Well, can you go back beyond 1960?" He said, "Well, we've got a lot of numbers, but to reconcile them and make any sense out of it would be a tremendous task." Maybe if somebody really cares and thinks it's important, there's a subject that would make sense to investigate. But I didn't base what I presented on anything except availability of the data.

MR. FUHRER: Let me comment on that also. I think you have it a little in reverse. It's not that the cycle started in 1965 and we noticed that that's when Medicare started. In fact, the reason the data go back only to 1965 is because of Medicare. Practically everybody I know has assumed that Medicare made such a drastic difference that they would not bother using data before that time. I haven't seen very much to indicate that the cycle suddenly started in 1965. I saw one graph that was up there, but I don't really know if that's the case. I wouldn't jump to conclusions about it either. I think that there is a little bit of the data matching our expectations, because we select data that matches.

MR. PATRICK: I was just wondering if it deserved a look, or if any of you had looked.

MR. CHARLES C. DEWEESE: I'm an independent consulting actuary. With regard to the question you brought up earlier about whether companies can afford the underwriting cycle, I think the underwriting cycle scares people. And my impression is that, during the last upturn in the cycle, companies have been a lot more cautious and have been a lot less willing to cut their margins. I think that's a way of protecting themselves against the underwriting cycle's downturn.

MR. JOSHUA JACOBS: I have observed in some of the company reports of management that, when there's a bad year, if they possibly can, they mention cycles as a cause of it. When they have a good year, they don't mention the cycle. They mention all the great things that they did in the nature of underwriting and pricing.

* Mr. Patrick, not a member of the sponsoring organizations, is Manager of Corporate Reporting and Analysis of Gem Insurance Company in Salt Lake City, Utah.

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Now I want to ask the panelists if there might not be a danger in too much reliance on cyclical theory of management and getting away from the obligation to manage the company in such a manner as to achieve the optimum results rather than being more or less victims or beneficiaries of whatever this cyclical theory might produce.

MR. ABROE: Does anyone want to touch that?

MS. NIEHUS: I certainly agree that we ought to do a better job of managing. Since we don't fully understand what all the causes are behind the cycle, I think we need to continue to look at it. We've all tried to address in our own business what we think are causes, and even so, we've had the cycle. So I think it deserves attention, but it certainly should not be used as an excuse.

MR. SANDERS: I think that your comments are quite appropriate. On the other hand, managing means managing within the context of the environment and to the extent that the cycle seems to have been a fact, at least a pattern, one has to take that into consideration. I don't think it's an excuse and it shouldn't be. And the only question is now that there seems to be much more awareness of the cycle, is that going to have an impact on its existence?

MR. FUHRER: Having been a beneficiary of the praise for good management following the good part of the cycle, I would ask the last speaker to be a little more quiet about this.

FROM THE FLOOR: It's been my observation that there are different causes for the cycle that maybe the panel can talk about. I believe the last time we had a down cycle, we just shot ourselves. Management knew the way trend was going and people were starting to espouse what the cost of managed care was going to be and of savings on it. We guessed wrong on the pricing of managed care because that was the only thing that we could get through management. The previous cycle, I believe, is where we completely guessed wrong on what trends were. I guess I would like comments on whether or not the panel goes along with that. I guess, Chuck, I have a question for you. What do you think will cause the next downward cycle?

MR. FUHRER: Well, I think that I remember those things very well. There is quite a possibility here that, even though that cycle looks very regular, there more or less happen to be some things that occurred at various times in the past that make it look like it's a very regular sort of cycle. I guess that I really don't know exactly what's happening out there now, but at least I don't see some of those same things that preceded the downturn the last two times. So that's why I'm pretty happy with the prediction that maybe it won't be quite as bad.

MR. SANDERS: But if there is another downturn, I'm sure we will all be able to look back and point to the reasons for it.

