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Session 4

GAAP Earnings Emergence: Impact of Assumptions and Practices

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Emergence of GAAP earnings results from the combination of actual experience and the assumptions and methods underlying the reserves and DAC. The front-end of the earnings process (i.e., setting assumptions and accounting practices) can have a significant impact on the back-end of the earnings process (i.e., actual results, sources of earnings, and the earnings analysis process).

The panelists address:

- *Options available to the actuary for setting assumptions and defining practices for specific product types*
- *The advantages, disadvantages, and practical considerations associated with each approach*
- *Specific examples of the effect of the different approaches on earnings*

MR. WILLIAM M. MURPHY: I'm with Ernst & Young in Los Angeles. We have two excellent speakers. Roger Smith, from PolySystems, who is going to talk about *FAS 97* products, and Vincent Tsang, from Allstate, is going to talk about *FAS 60* products. Roger is going to kick it off.

MR. ROGER W. SMITH: It's good to be talking about *FAS 97* products. *FAS 97* involves using a lot of best estimates and unlocking from time to time. What is my best estimate on where I was going to be today? I would have said Chicago, but as things happen from time to time, I had the opportunity to unlock that assumption, so here I am. Who could pass up a chance to be with 700 actuaries when you could just as easily join them. I'm going to talk about *FAS 97* products (Vincent will be talking about *FAS 60* products) and how assumptions and practices have an affect on results or earnings in particular.

As I organized this, I put together a very quick presentation on how profits under *FAS 97* tend to emerge as a percentage of margins. I wrote one draft of my talk I was going to give, and that was going to be the end of it. I had a little more time, however, and after I reread the description of the session, I decided I should do a little bit more than that. I'm going to present three examples, some policy forms, and some situations that have emerged. I'll talk about how assumptions and practices and choices affect the pattern of earnings. There are a few issues that do come up in *FAS 97* reporting from time to time. We want to look at how practices and assumptions affect that pattern of earnings.

The very first product that I want to look at is a variable annuity. I constructed this to try to find something that would make it just as simple as I can make it, at least from a *FAS 97* standpoint. I constructed an example of a variable annuity with no credited interest and no surrender charges. It is just a very simple, basic product. The mortality and expense (M&E) charge is the only margin coming into the company. I want to have a \$30 deferrable cost. I'll keep it very simple and see what I can do to the pattern of earnings over time. Hopefully, you can extrapolate that to more of the complexities that you find in more real-life products. It really wasn't hard to get some deviations. I focused on a couple of different sets of assumptions that we might use in our deferred acquisition cost (DAC) schedule. Of course, when we look at the pattern of earnings over time, I immediately think of how the DAC amortization balances are calculated, how they're amortized, and how you would adjust that over time. The kinds of assumptions that went into my variable annuity DAC schedule were primarily the growth rate on the variable fund, and what kind of lapse rate or fund withdrawal we wanted to assume. We wanted to know what affect that had. We also want to know what kind of discount rate for the margins and the amortization schedules we should use.

I just picked a couple of sets of assumptions. One set was a 10% annual growth on my variable annuity without any lapses at all. I tried two different sets of discount rates, one that I'm calling a high discount rate, and one I'm calling a low discount rate. I'm not sure what the prevailing practice might be on discount rates. I did call around to a number of friends and clients and asked what they were actually doing. They were using a rate that was somewhere between my low and my high. Some people were generally surprised that I might ask that, and I got the feeling it was an assumption that just kind of more or less happened without a great deal of thought, but it seemed to be appropriate. No one had a 30-page, theoretical description and justification for the choice of the rate.

That product produced the pattern of earnings shown in Chart 1 here. I have my margins, which are my M&E charge and the GAAP profits that would emerge. I find it interesting that the nonlinear or the two graphs don't track very much or they don't track very well together. I tried that again with my low discount rate, and it produced a very different pattern of earnings, especially relative to the gross margin pattern (Chart 2). In Chart 3, I laid the two patterns side by side and found that the profits with the two different interest patterns criss-cross. Now these are all factors and things that are running through everybody's financial statements, DAC schedules and amortization patterns. These things are happening, and the question is, are you aware or anticipating them?

I went back further to talk to some people about what appropriate lapse rates might be. I had an intuitive feel that 0% might be something that everyone is doing. I selected another pattern, which was 4% lapses grading up to 16%. Within this accumulation product, there is the assumption that sooner or later, people are going to want to withdraw the cash, use it, and not have it accumulate forever. I tried it with the same two sets of discount rates. Chart 4 shows that I produced different sets of patterns, and I think these two patterns are consistent with what we saw before I introduced the lapse rates. The patterns are clearly different; they are sloping down instead of continuing to slope up.

That's all fairly cut and dry. In the amortization factor (some people call it a K factor), the present value of your deferral cost is divided by the present value of your margins in your

amortization schedule (Table 1). It is rather remarkable how different all these numbers are and how lapse sensitive the numbers turned out to be. It basically increased the ratio. It added about 25% from 20% to 25%. I would consider that a rather significant increase in that amortization ratio. Anyone analyzing the earnings will be seeing these effects and sometimes will wonder exactly what is going on. Now I wanted to add some complexity here, but this was more than I wanted. As can happen in stock markets and with stock values and so forth, you don't have personal experience with it. I can vouch for the fact that you can occasionally see large drops in the value of your market holdings, and I wanted to see what would happen if we just had a sudden drop of 35%. What would the results be on my DAC schedule now? I'm assuming everything else stays the same and, at this point, I've decided I like the lapse rate assumptions and I'm sticking with my low discount rate.

TABLE 1
Amortization Rates
PV (Expenses)/PV (Margins)

	Discount High	Rates Low
No Lapses	38.7%	30.0%
With Lapses	64.1%	52.7%

The effect of having this drop caused some unlocking to happen (see Chart 5). Instead of having a nice, smooth positive earnings when that drop occurred, it pulled all the future revenues down when the stock market or when the mutual fund behind the variable product dropped. Again, that is because the margins are all based on that M&E charge, which is based on the amount that's in that fund. After that point, it pops back up to a profitable level, but it does show a very large jump, particularly from about this level of just over one to a loss of about two-and-a-half or two-and-three-quarters. I would judge that to be fairly volatile.

Now is this the only thing that might happen at this point, or is there anything that someone like you might do to change this result somewhat through assumptions or practice? Someone might consider the assumption that he has a 35% drop, but he still believes in this 10% average growth over time because I've done some studies, and I feel, over a long range, that 10% can be borne out somehow. What I want to do is change my future growth patterns after the drop, such that, over a ten-year period of time, I have a 10% average growth rate. That means that I need to have

growth of about 17.4% after the drop. We can see these amortization rates in Table 2, you can see what happened that caused the drop there. By revising the future growth rate (that's what I mean by "drop revised"), and assuming 17% after that sudden cataclysmic shift, it does bring down that rate and the corresponding earnings pattern. Chart 6 shows where we would be if we did nothing to change our future assumptions. It does bring that loss back up a little bit closer to zero. So we still would record some unlocking, and we still show some change because of that. We have a fairly large difference in that practice or assumption that we might choose to elect.

TABLE 2
Amortization Rates
PV (Expenses)/PV (Margins)

	Discount High	Rates Low
No Lapses	38.7%	30.0%
With Lapses	64.1%	52.7%
Drop	XX	67.9%
Drop Revised	XX	61.1%

In DAC schedules, we've seen the importance of having margins and costs be very consistent between the actual financial statement—what goes in the trial balance, and what is in the amortization schedule for DAC. Many companies keep those very, very consistent so the changes in the DAC track with actual events. Sometimes I've seen situations in which they do get out of sync and then you do see some unexplained differences. When you're trying to do that, it's possible, occasionally, to get tripped up on this. I want to talk about a potential for reinsurance. We're seeing more and more reinsurance on universal life contracts, but let me set a scenario. It will be a little bit unrealistic, but it will show a point. I'm going to assume that there are no allowances on the reinsurance, and that the reinsurance cost equals the GAAP expected mortality, which I think should give me a situation in which I'm predicting no affect on either the deferred cost component or the margin. So if we go to that amortization ratio, I'm presuming absolutely no affect here. Is there any reason to reflect reinsurance into the DAC schedules? Something that might cause us to ask that is, it will be a lot of work to gather reinsurance information in and reflect it completely accurately for a variety of reasons. Should we do the work, or can we convince ourselves that there's no affect? On the surface, I think you could conclude that we will not have an effect here.

We're going to ignore the reinsurance in the DAC schedules because we don't think it's going to affect us. What happens in one period is we get several large death claims, kind of a clustering of claims, totaling say \$10 million that happened to be 100% reinsured. Think about what kind of distortion this might cause. In the actual income statement, we're presumably going to reflect a recovery of the \$10 million, so I'm going to have income for the \$10 million showing up. The DAC schedule is going to miss this. It's just going to show the death claims, and it can be expected to really lower the margins in that period and go into a little bit of an unlocking. It will produce a much smaller DAC amortization that period.

Consequently, the effect on the earnings is that the \$10 million, which should presumably have been reduced by whatever the average amortization factor would have been, will come through without any effect at all. Earnings will seemingly be out of kilter for some reason. I've seen this happen in a couple of different situations. It caused people to go back and discover what the underlying cause was for that sudden blip in earnings. What is the correction to that? What these companies have put in is some way of at least recording some of the death claim information in the DAC schedule so that the net death claim cost that shows up in the actual financial statements equals what's in the DAC schedules. This keeps the two, once again, back in balance.

Capital gains. After hearing the session about all the regulations by the AICPA and what's happening with the SEC, I feel a little bit sneaky talking about capital gains so soon after that. Perhaps I should have waited for at least one session to elapse before we get into this, but capital gains is something that comes up, and you're not suppose to defer the effect of capital gains. I've talked to a lot of people who would like to be able to defer a capital gain. Even though you can't defer a capital gain, what kinds of practices and assumptions are in use that produce an effect to minimize the full impact of the gain?

I'm going to go back to that first example of the variable annuity, and just pretend that it's now a fixed annuity. So we are reflecting capital gains in the account (Chart 7). We can see the nice, smooth margins and GAAP profits before the gain occurred. My gain increases from \$1.12 to

\$8.32. Even though the gain was \$10, there was some unlocking, and some amortization of DAC caused by that. I have a net increase of \$7.20.

The earnings pattern is shown in Chart 8. In quarter 12, there is a sharp increase. It shows my margin in which I have to show the full effect of the profit. Now again, with some of the arguments and assumption setting, some people will hold the view that the future margins are not going to be the same after this gain. Somehow the capital gain represents some amount of prepaid interest from the market and, through our crediting strategies, we were going to pass that on to policyholders.

Let's consider a case that the future margins would be the same before and after the gain. Let's adjust what that margin would be after the gain to produce a different effect. I did that, and instead of a 75-basis-point spread, I reduced it to a 55-basis-point spread to try to get the amortization rate about the same.

This is what it was prior to the gain. The gain reduced it somewhat, and so I just massaged the numbers until I got it back to the same amortization percentage. Instead of a \$7.20 profit, it is \$4.58 when you do the amortization and the changes. It has a very dramatic affect on just how much the net affect of the gain can be reduced by essentially adjusting the DAC amortization mechanism. What we've ended up doing is amortizing even more DAC during the period when the gain took place. Chart 9 shows where that is. It would have been up there, and we reduced it down to that point. I think it has a fairly dramatic effect that you can employ through selections of assumptions and practices.

MR. MURPHY: Our next speaker is Vincent Tsang from Allstate who will talk to us about *FAS 60* products.

MR. VINCENT Y.Y. TSANG: In my former life, I was an auditor from Ernst & Young. It's very different to look at the financial statement as an auditor rather than someone who works in the company. They are two different things. In the past, when I looked at the GAAP reserve, DAC, and statutory reserve, my first questions were: Is the DAC recoverable? Are the GAAP

reserves calculated according to FASB statements? Are the statutory reserves following the actuarial guidelines? When I am working in the corporate area, I'm no longer dealing with the year-end data or quarter-end data; I'm looking at the income statement. We have one subsidiary, which will remain nameless, that produces unusual monthly profits. One month we will have absolutely no profit, and the next month we will have twice as much as the usual. In another month, we may have negative profit, and the next month, we may have three times as much. So we're kind of wondering what is happening? What is causing these fluctuations? Is there something that I did or that somebody else did, and now I'm just at the receiving end of it? So my discussion will skip the theory and focus on practice. Theory doesn't work in the actual world. In the actual world, we have to worry about the business consideration and the political issue within your organization.

One of the very interesting topics that I talked about with a bunch of actuaries a few days ago is our direct response business section. We have just finished a campaign of sending out a mailing, and now calls are being made to people at home. Actually, I'd say we spent about a quarter million dollars in mailing costs, and we probably will not see an application come in until the year 2000. This quarter million dollars of mailing costs certainly would be considered as an acquisition expense, but we don't have any policy issues in this year. What are you going to do with it? Are we going to defer it by assuming that we will issue some new policies next year? That would be saying that we can capitalize DAC with absolutely no known reserve base for it. This is one of the practical issues that theory does not cover.

In general, the insurance product can be separated into three sets of products: *FAS 60*, *FAS 97* and *FAS 120*. The majority of the business nowadays is *FAS 97* business. *FAS 60* seems to be losing favor, and *FAS 120* is actually a past *FAS 60* product. Because the mutual companies have something called participation policies, you can now go to *FAS 120*. Going from *FAS 60* to a *FAS 120* means your net GAAP and liability can change quite a bit. In the past, you calculate your GAAP reserve based on factors, and all your DAC is based on the previous calculated factors. Once you move from *FAS 60* to *FAS 120*, you will set up the net level premium reserve as your GAAP reserve, and then all your DAC will be amortized using gross margins. Suddenly, you're talking about a completely different landscape of future DAC and GAAP reserves.

I'm only talking about *FAS 60*. *FAS 60* and *FAS 97* products are both insurance products. Profitability of these products really depends on just the cash flows. It has very little to do with how you set up your reserve and your DAC. We have creative accounting that would make it look better, but I would not suggest that to anyone. *FAS 60*, deep down, is different from *FAS 97* because of the definition of GAAP reserve and the future DAC amortization. For *FAS 60* products, we are mostly looking at the long duration contract and the short duration contracts. The name is kind of self explanatory. For long duration contracts, we are mostly talking about non-participating whole life, term, and immediate annuities. For an immediate annuity, the reserve would be based on *FAS 60*. DAC is also based on *FAS 60* so you write it off right away. The unearned revenue would be determined using *FAS 97*. Someone might prefer to mix the two together and use *FAS 91* instead. Either way you do it, it would give you pretty much the same results. The short duration contracts, on the other hand, focus on contracts that are really short duration. Like credit insurance, the coverage lasts four years. The A&H is also considered a short duration contract, even though an A&H policy may last for more than ten years.

FAS 60 talks about the guidance of how you recognize the revenue for short-duration and long-duration contracts. For *FAS 60* products, your premium is your revenue. For *FAS 97*, your gross margin is your revenue. For *FAS 60*, gross premiums are the revenue. It is not gross premium minus reinsurance premiums. Gross premium are the *only* revenue. You cannot net the two and then call the net amount revenue; even though you do net the two together and show the net amount as revenue in the income statement. For GAAP reserve and DAC amortization, the gross premium of the base policy is the revenue stream. Nothing else can be used. The acquisition cost is also something that we need to capitalize and amortize using the gross premium of the base policy.

A few months ago, a gentleman from our international branch told me Allstate is selling *FAS 60* business in Indonesia. His questions focus on the appropriate provision for adverse deviation (PAD) for international business and how it should relate to domestic business PAD. As every business will be consolidated, we need a PAD in order to be consistent. The PAD depends on our underwriting practice. For example, the interest rate in Indonesia is expected to increase

rather than decrease in the next ten years due to a variety of reasons. I shall assume the interest rate increases in Indonesia. We assume the domestic interest rate decreases.

So what is a reasonable way of establishing PAD? The general rule of thumb is to look at the situation and determine it intelligently. Don't just follow a cookbook. That kind of cookbook approach doesn't always work. Unlike the *FAS 97* product, GAAP assumptions are usually locked in. When I was an auditor at Ernst & Young, it published something that talked about the GAAP assumptions. One of the assumptions that can be unlocked is a lapse assumption. Since I no longer work there, I defer those questions to Bill so that he can advertise it.

The main reason for unlocking the lapse assumption is, by the time we sell this term, we usually are assuming a very high lapse rate like 15% in the first year, or maybe 10% in the second year and later. In reality, it can be very much higher than that. Anyone who sells level premium term knows that. By the time you price a level premium term, you may assume a 12% lapse rate in the first year. In actuality, because we are cutting each other's head off, the lapse rate actually goes up to 20% because there's nothing for the policyholder to lose if he switches from company A to company B. If my premium can be a lot lower, why do I stick with the old policy? It really makes no sense. In this case, some company can justify changing the lapse assumptions.

As Roger pointed out, some of the proceeds from reinsurance transactions, such as the expense allowance, shall be used to reduce the deferrable expenses. In this case, we have to worry about *FAS 113*, which requires you to show the reserve and DAC on a before-and-after reinsurance basis. If you have netted the two against each other, you might not be able to tell what the "before reinsurance" piece is. So some consideration has to take place to make sure that you can report what the "before reinsurance" piece is later.

Some companies take some simplified approach such as scaling. This approach fails because the reinsurance expense allowance can be very different from the deferrable expenses. For realized capital gains, you can use it to amortize your *FAS 97* DAC. We cannot do that for *FAS 60* products. In your income statement, you would show capital gains with no counterpart on your DAC amortization. The entire capital gains fall through to the bottom line. That would be

something that we need to worry about. For the unrealized gains and losses, some companies might use it to offset the DAC by creating shadow DAC and also change the deferred tax liability and shareholder equity. For *FAS 60*, we don't have such an adjustment; the unrealized gains just go straight into the shareholder equity.

Let's talk about the cookbook approach and the premium recognition. According to *FAS 60*, our gross premium can be broken down into three pieces. One piece is used for setting of the GAAP reserve; one piece is used to amortize the DAC, and the remaining becomes profit. Obviously, if your $K1 + K2$ is greater than 100%, then we would have to first take the PAD off. If $K1$ and $K2$ add up to more than 100% after we take the PAD off, then we may have to do loss recognition. Some companies may decide that for the entire life business, it will not do loss recognition until the entire year of deferred acquisition and expenses are not recoverable. In this case, it is possible that some company might have the $K1 + K2$ be greater than 100% and not do loss recognition. The actual profits, on the other hand, are not always equal to the expected. In fact, a lot of times it's due to the release of risk, which reflects the differences between your actual experience and your GAAP assumption.

I would like to address a very important practical issue — the relationship between premium payment mode and profit emergence. If a policy has an annual payment mode, by definition, the profit is equal to $[1 - K1 - K2]$ times gross premiums. You recognize all the profit at the day you receive the premiums. If there are any differences between actual and expected experience during the year, the company recognizes a gradual amount of the difference during the remaining 12 months. Profit goes up a lot in the first policy month and becomes a much smaller amount after that. If all the policies are issued on an annual basis and one is evenly distributed, the entire year should show uniform GAAP profits. If all the January policies are annual premium policies and all February issues are monthly premium policies, then the income will go up and down. For monthly payment mode policies, premiums are earned when due. We should not have deferred premiums. GAAP book profit would be recognized on a monthly basis when monthly premiums are being paid. If your company has a mixed distribution of annual mode and monthly mode, then income will fluctuate.

When I was an auditor, I was only interested in the year-end data and an annual income statement. I'm not interested in month-by-month or year-to-date data. If you are an actuary working for an insurance company, your CEO or your CFO might ask why the company income fluctuates. For in-force business, the factors are mostly the distribution of business issued by month. Most companies would have their fall campaign and like to push as much sale as possible toward the year-end. Thus you might not be having a uniform distribution of business during the year, and that may create some odd profit emergence pattern. The second factor is the distribution of the premium payment mode. If your monthly and annual modes are not distributed uniformly, you may see income fluctuation.

Then the third point is a very interesting one; it's the reinsurance premiums. Reinsurance premium actually is an expense. Most of the reinsurance premium is paid on an annual basis. Issues arise when the base policy is a monthly mode policy but the reinsurance premium is paid on an annual basis. My suggestion is to establish a prepaid reinsurance premium and then amortize it gradually throughout the year. There is also the insurance expense allowance that we get back. We cannot recognize the expense allowance immediately if the underlying policy is a monthly mode policy. You would have to also set up the unearned deferrable expense allowance, and then recognize it gradually throughout the policy year.

The fourth thing is the profit margin. As actual lapse rates are quite different among issue ages, actual profits might vary according to the actual lapse experience.

I want to go over a twelve-month period, month-by-month income statement. One of the important factors is the revenue recognition process. We do it either monthly or annually. Some insurance companies liked to convert all the gross premiums into monthly premiums.

Let's consider overhead expenses. They are not likely expenses. Should I make it part of the monthly expenses and pay for it gradually, or should I recognize it as nonfederal acquisition expense in the first year? The discrepancy between actual and expected experience is also a very important issue. For example, if the actual and expected lapses are materially different. GAAP reserve and DAC factors are no longer approximate.

The degree of conservatism in your PAD is an important factor too. Some companies might have such a conservative PAD that there are no profits. Another thing about the DAC is that you must have a rationale behind that. If we do something that is not really good GAAP practice, and then later recognize that our income statement is no longer explainable, I think we should ask ourselves: “Did we do anything crazy in the past?” The other possibility is we may be talking among ourselves. We never really work together with the accountants.

So make sure that you communicate with your accountant very well and, with a coordinated effort, your income statement will become better and better.

Now the DAC amortization period is also a very important point. If you look at *FAS 60* and follow it closely, you’d see that for most of your product, your DAC can be amortized throughout the lifetime of the contract. Some companies truncate the amortization to only 20 years. If that is the case, GAAP profit may be lower in the first 20 years as a percentage of premium, and then it might be higher in later years. As I said before, the realized investment gain has no effect on DAC amortization. One very important thing is that all this so-called “GAAP profit emerging as a level percentage of premium” is a myth. In reality, your invested asset is not your net GAAP liability. What I mean by net GAAP liability is your GAAP reserve minus DAC. Oftentimes, our real invested asset is the asset supporting statutory reserves. In this case, there is a disconnection between your actual investment income and your hypothetical investment income. Your GAAP profit emergence would be very different from what you expected.

I would like to talk about a practical example that is artificially made and has nothing to do with any reality. Look at a ten-year level premium term product, 70% ceded, with the reinsurance premium paid annually. I’m not going to go into “detail” on this one. You will look at the differences between your GAAP book profit and your GAAP profit. They are two different animals, due to the invested assets. The invested asset actually is asset supporting statutory reserves, rather than GAAP reserve minus DAC. In theory the GAAP book profit appears as a level percentage of your gross premium; in reality, it’s not (Chart 10). There are fluctuations. Let’s look at the book profit under three scenarios (Chart 11). We are demonstrating the effect of PAD on the GAAP book profits. It’s assuming that your actual experience equals expected so

the GAAP book profit appears as a level percentage of premiums. The top line is saying that the actual is more favorable than your GAAP assumption, and you would see the gradual release of risk year after year. If the actual turned out to be worse than your expected, then your GAAP profit decreases.

In this case, the choice of our PAD would have a lot to do with how the future profit emerges. How we choose the PAD is really a subjective issue. The valuation actuary should make sure he or she communicates well with the pricing actuary. Make sure that the left hand knows what the right hand is doing. If not, you will see your GAAP profit come out in a very strange way. Chart 12 talks about reinsurance. When the reinsurance is not being done correctly, you would see actual GAAP profit going up and down. In fact, we have talked to our pricing actuary, and he has done a demonstration for us. Before reinsurance, the profit goes up, but after reinsurance the profit actually goes down. Reinsurance is just a cost. It should not affect the pattern of profit, and it should only affect the magnitude. It could lower it, but it should not affect the pattern of it.

I think that pretty much concludes what I would like to say. I have done an Excel spreadsheet that demonstrates how the reinsurance premiums should be recognized throughout a policy year. If you are interested in getting a copy of it, I'm sure that they are virus free. So if you want it, send me an e-mail so that I know your e-mail return address, and I will send a copy of this. My e-mail address is vtsang@allstate.com. I can also be found in the yearbook. I will attach my spreadsheet and send it back to you. When you get it, please check for a virus so that you would be totally safe.

MR. MURPHY: I would like to clarify something that Vincent said. His former company, E&Y, said you can unlock your lapse assumption, but that's a gray area. Most companies have a dynamic adjustment for their *FAS 60* products. They look at actual-to-expected in-force and they use that ratio and apply it to their scheduled DAC amount during that year. I believe that when that ratio becomes material, meaning that it's deviating from 100% by some significant amount, whether it's 85% or 60%, then it just doesn't make sense that you determine your DAC balance for that year using all these *FAS 60* factors and then multiply the result by 60%. It just doesn't make sense and auditors don't like to see that kind of adjustment. In a situation like that, I would

recommend that you change your lapse assumption going forward. Keep your dynamic adjustment. At least your auditors will feel that you don't have control of the amortization pattern that's inherent in the factors. The ratio of actual-to-expected in-force business is just an immaterial adjustment.

FROM THE FLOOR: I have a question about reinsurance. I guess it relates to how rigorous we want to reflect the pattern of reversements. Are they allowances in the pattern of gross margins for investment contracts or even in the revenue or expense recognition under *FAS 60* where you illustrated a level premium 30% for renewal allowances. Maybe that's not really what the embedded profit on ceded business was, or, in the case of *FAS 97* products, it might not be where you recommended that reinsurance be reflected in the margins. Do you think it always should be reflected under its own terms or under certain conditions? I'm no expert on *FAS 113* where perhaps some alterations on the margin pattern would be done.

MR. TSANG: The first-year expense allowance is 100% of the reinsurance premium so we didn't pay a penny in the first year. We start paying in year two and on. We have a pool of reinsurers who all have their own reinsurance premiums and their own expense allowances. It's really a mess. We have to figure out what the real expense allowance is. I will still say that if I'm doing a *FAS 97* product, I will try to reflect the reinsurance effect into your gross margin because that's really a part of the contract. We should have recognized the reinsurance claim when it is paid back to us, but the reinsurer did not pay us until three months later. It happens all the time. I would report the death benefits recoverable to our reinsurers in my income statement by assuming that I have recovered that.

For *FAS 60*, the reinsurance would affect my death benefit claim cost. I would reflect that in that month. Otherwise, three months later, when there's a death benefit recovery, I might have negative death benefits, and I might prefer not to show that.

MR. SMITH: For *FAS 97* products, I've seen practice for reinsurance vary substantially from one company to the next. Some companies will offset a portion of their deferrable cost, their deferred commissions, by the excess, first-year allowance on reinsurance, and for the ratio of

deferrable cost to margins. They'll be adjusting both the numerator and the denominator bringing in the reinsurance cost and renewal allowances into that calculation. I've seen some companies just do nothing with the expense allowances and essentially book them at their full effect. I don't think I would recommend that. I'm aware of some companies that will say that the reinsurance expense on universal life contracts should be treated as a *FAS 60* amortization, and they will amortize it in a different fashion. My preference would be the very first one—offsetting the direct cost with the excess allowance and modifying all the margins. That is what I would probably be most comfortable with. But again, I approach this more as a systems provider, and I cannot argue with people on their very heartfelt conclusions about what the right accounting treatment would be. I let people like Bill do that.

MR. TSANG: There are companies out there setting up contra DAC, which is basically the expense allowance that they defer. Companies will then show both the DAC before reinsurance and the adjustment after reinsurance.

MR. MURPHY: From an auditor's point of view, we would prefer to see reinsurance reflected in the gross margins. It just makes sense. You don't want to show a \$10 million loss or a benefit payment in a particular year when you know that three months later (which could put you into the next calendar year), you're going to recover that money. We'd like to see reinsurance costs or gains reflected in the gross margins.

FROM THE FLOOR: Let me follow it up then. What are the limits on the ceding company's ability to restructure the pattern of the gross margins by working with the reinsurers to customize the pattern of allowances?

MR. MURPHY: If you have a contract with a reinsurer to do that, that's what your contract is. If that's how your expense allowances flow and you have considered that in your pricing, then that's fair game.

MR. SMITH: Certainly I think the overall volume of reinsurance has been increasing significantly. You're seeing more arrangements in which 90% of an entire block of business will

be reinsured. When I was with a company, you wouldn't do that if it cost you money. There are obviously some benefits, and it has been suggested to me that modifying the pattern of the mortality cost for *FAS 97* GAAP reporting or perhaps even for illustration actuary purposes, might have a lot to do with the increase in reinsurance. There might be better experts in the audience on that.

FROM THE FLOOR: It seems that rather than using a best idea of what your future assumptions are, you are suggesting that changing our assumptions to explain our income might be the appropriate methodology.

MR. SMITH: I would not advocate or suggest that any of these assumption-setting issues be done specifically to smooth earnings. It is clear that whatever you do, you are making a decision about assumptions and what practices you are applying in a two-year financial reporting process. I've frequently seen people end up with unintended consequences for those decisions that they perhaps don't want to see. It might be more a function of them needing a more refined statement of what their best estimates are at any point in time. Rather than looking at an earnings pattern and wondering what you can do to avoid or change, I would suggest it be more of a case of being completely comfortable with all the assumptions that lead me to this result. Is there something in my assumptions that I've not fully anticipated? It's not a matter of "could I" but "should I," in fact, modify an approach or an assumption to really reflect what I believe. If you don't believe it, don't do it. I would not make the change just to get the difference in earnings unless you really felt that was the most appropriate thing to do.

MR. MURPHY: Let me just comment on that for a second. I think Vincent said earlier that he had a subsidiary or an affiliate that was reporting earnings monthly. In one month, earnings went down a considerable amount, and the next month they were doubled. The assumptions that you set in the beginning of your exercise should be set so that you do not have that occurrence of those type of earnings. We're not saying that once you set your assumptions, especially with *FAS 60* products, that you can unlock to get smoother earnings. I guess the name of this session could be: "What can you do on the front end with regard to assumptions and methodology that

will affect your GAAP earnings going forward?” We’re not really looking at the back end and saying, “I have bad earnings, and I have a bad pattern. What can I do now?”

MR. JERRY F. ENOCH: We don’t have variable annuities, but I still like the variable annuity example. I’m wondering if an acceptable approach to that 10% earnings assumption is, if you stated the assumption, you believe that your long-term growth will be 10%. Therefore, if you had a blip in the real world, which of course always happens, then you might ask, “Do I still believe this assumption that the growth will be 10% from issue until termination?” If that happens, then I think you’d be justified in taking the approach that you took. If that’s the approach that you take, it seems like it would be more consistent if you had that little discussion with yourself every year. Perhaps instead of a 10% gain, this year it changed 12%; so do I make an adjustment for that? I don’t know how practical that would be, but would that be an acceptable approach?

MR. TSANG: We look at this particular equity fund and it’s the history. Let’s say that the fund has been consistently earning about 12% a year. One may expect this return continues. Let’s assume that the return for one year suddenly jumps to 25%. We may want to adjust the assumption for future yield rates such that the future earned rates would be different from 12%. For example, at the end of ten years, the combined effect of historical and future growth rate would give us the same fund level as a consistent 12% growth rate. In this case, we would have a one year jump in our equity, but we would have a slow down in future growth rates such that they produce the original estimate.

MR. MURPHY: Unlocking of the earnings rate going forward is an auditor’s nightmare. I’ve run into several situations where a company had significant capital gains, realized gains in a year, and it certainly had unlocked going forward. When it has unlocking going forward on its earnings rate, it winds up with the same K factor or amortization ratio that it had before they incurred the realized gains. Some companies keep the same earned rate going forward and some lower it and wind up with the same amortization ratio. When you’re talking about going out another 20 or 30 years and changing the earned rate by 15 or 20 basis points a year, you’re

getting really subjective. We might scold them a little bit, but we basically wind up accepting it as reasonable.

MR. TSANG: I think another possible consideration is that your variable annuity may run out of the surrender charges in a few years. You really don't want to annuitize your DAC indefinitely. Many companies would have some mandates saying that DAC would equal to only 20% of the original deferred expenses at the end of the surrender charge period.

FROM THE FLOOR: Vincent, you were talking about the distribution of your business by month and how that tends to affect the pattern of earnings in the course of a year. Our company is in that situation, and we have a lot of business that is sold in the fourth quarter. Do you have any tools at your disposal that would help moderate that impact or at least help explain to management why we see that pattern?

MR. TSANG: In this case, it was suggested that you separate the new business from the in-force business so you can explain that the in-force business seemed to be humming along fine. The reason why we have this fluctuation is because of the new business explosion in the fourth quarter. Let me congratulate you for having that. Many companies wish that they could have that kind of sales explosion, and I think that probably is the only way to explain it. I don't have any tool to smooth it out because that would not be correct.

FROM THE FLOOR: We've been talking about smoothing earnings or GAAP earnings. I would like you to comment on what our responsibility is with respect to GAAP in that we're trying to show the true financial condition of what the organization looks like at that point.

MR. MURPHY: We've been talking about smoothing earnings. What is the responsibility of actuaries to deal with that issue? The original topic for this session was to look at how you recognize GAAP earnings after they emerge. I said, "Why don't we take a big step backwards and talk about how assumptions and methodology affect GAAP earnings." A few people said to me, "We don't want to get into smoothing earnings and talk about how we can control that type

of thing.” I said, “Fine.” If you have the impression that we’re trying to come up with ways that companies can smooth earnings, that’s not really what we wanted to get across.

What we really want to get across is, if your pricing actuary is pricing a product and coming up with a nice, smooth pattern of earnings which you would all like, we don’t then want the valuation actuary or the financial reporting area to come up with other approaches that differ from the pricing person’s who will now have those earnings going up and down. You have some subjectivity here as far as how you’re recognizing modal premiums or annual premiums and things like that. You have a lot of subjectivity within *FAS 97* products. We’re saying, or at least I’m saying, that you set those assumptions in the beginning and then you let experience flow. If you’re allowed to unlock, that’s good. If you’re not, you’re stuck with what you have. So in the beginning, it’s very important to try to take into account everything that will affect the pattern of earnings. Once you’ve done that, try and stick with it and see how actual experience compares to that.

MR. TSANG: I want to second what Bill just said. We are not in the profession of creative accounting, so I think we should try to report the actual emergence of GAAP profit according to the book. There is another practical issue. When the valuation actuary sets up the GAAP reserve or DAC, he may be assuming \$400 per policy expense. This noncommission expense might be based on a prior year’s average. If you have a higher-than-experience or a lower-than-expected sale this year, your \$400 per policy might be inapplicable. In this case, if you set up a DAC assuming a \$400 per policy expense, you may have a disconnection between your deferred expenses and DAC balance at the end of the year. In your fourth quarter, you may come to a rude awakening that adjustments need to be done.

There are many companies that do not set up DAC factors during the first year of issue. Let’s assume that in January, you defer \$12 million of deferrable expenses. After 12 months, only 94% of those expenses will be the amortized amounts. Then, you do not set up a factor. Instead you roll the deferred expenses for and in January and subsequent months until the end of the year. Then, you would not have a disconnection between your deferred expenses and your DAC balance. I hope I explained it well. Last year, my company used \$360 per policy in

noncommission deferrable expenses. We have an expansion. We have great sales during the first three quarters of the year. After three quarters of the year, we multiply the number of policies sold times \$360, and it is more than our entire company's expense. For the last quarter of the year, we have no deferred noncommission expense. So after that, we decided to revise the process by rolling along actual expenses and then catch up with the factors at the very end.

MR. SMITH: I hope no one got the idea I would be advocating or suggesting smoothing earnings. I wanted to point out how some of the differences in assumptions, methodologies or practice can have large effects on what the results are. I'd like to urge you to do sensitivity testing. Study these so that, as you develop your method for amortizing DAC and changing assumptions and setting assumptions, all of those dynamics will be anticipated just so that you'll end up with a better statement of your technique. That's what I would like to leave you with.

MR. DANIEL E. O'SULLIVAN: You have a group deferred annuity contract with a market-value adjustment factor in the general account. Then you set the market-value adjustment. Do you defer that, recognizing it when assessed, or do you do a partial offset the way you described for capital gains? Let's say you have a market-value adjustment, in the general account portion of a group annuity contract, and you assess the customer the market value adjustment plus or minus what you have. Let's say it's an assessment against the contractholder. In theory, that's to protect the other middle account DAC holders from selling assets. At the same time, you're offsetting a capital loss with that assessment against a contractholder, but it's not a capital gain or capital loss per se. Is that current period revenue? If so, you've offset the capital loss and have to sell assets to make that pay out. You are affecting your future margins that you have available for the other. In terms of recognizing the level, in the economic period, you recognize the level of profits. Do you want to defer that over time?

MR. TSANG: I would prefer to recognize the market-value adjustment as a revenue. Your capital losses are also reflected in your investment income so they should be offsetting each other from the income statement standpoint. If there's any difference, let's say your market value assessment is \$10 million but your capital loss is only \$9 million, I would say that that \$1 million would flow to your income.

FROM THE FLOOR: Let's just say that instead of selling assets, you just didn't invest. You took other money to pay off the contractholders. The current interest rates were higher, so you didn't invest at the higher rates and you don't have assets to support the income that you need for that money you were getting in from the assets. Do you have a capital loss or do you just take the current cash flow instead?

MR. TSANG: I will still say that I would recognize the market-value adjustment assessment as my revenue. Let's say I have a huge cash account, and I can actually pay the policyholder in cash. I do not really incur any capital loss. I still have to borrow money from somewhere else to cover my cash. That would affect my future gross margins. I would suggest you not capitalize and amortize the difference. In GAAP, you cannot set up a reserve unless you really have reasons to do that. You make economic sense, but I don't think it's allowed in the GAAP, unless I misread the whole thing completely.

CHART 1
No Lapse — High Discount

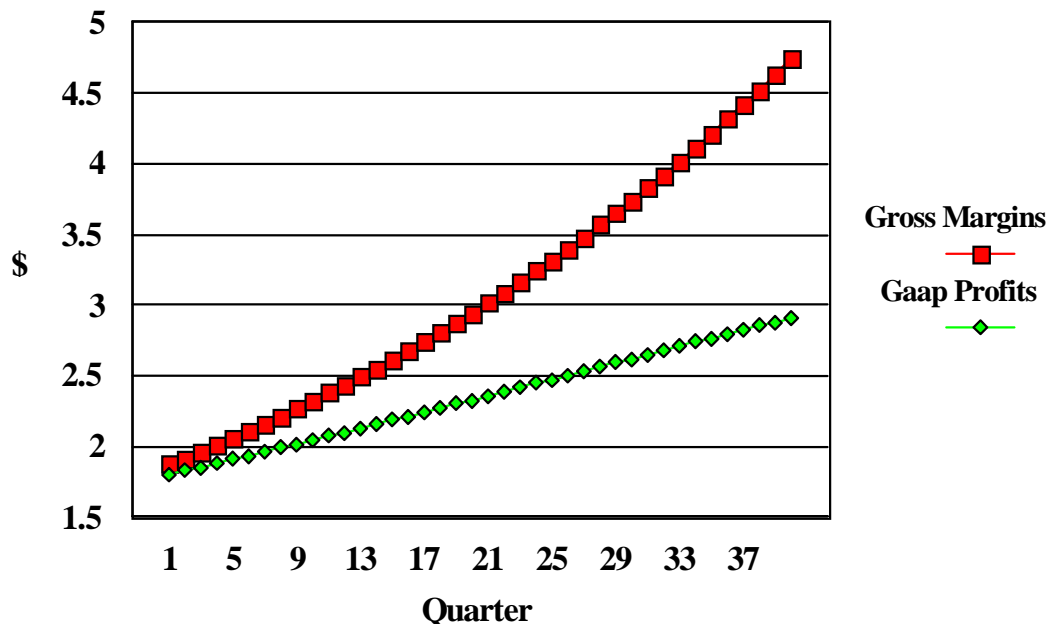


CHART 2
No Lapse — Low Discount

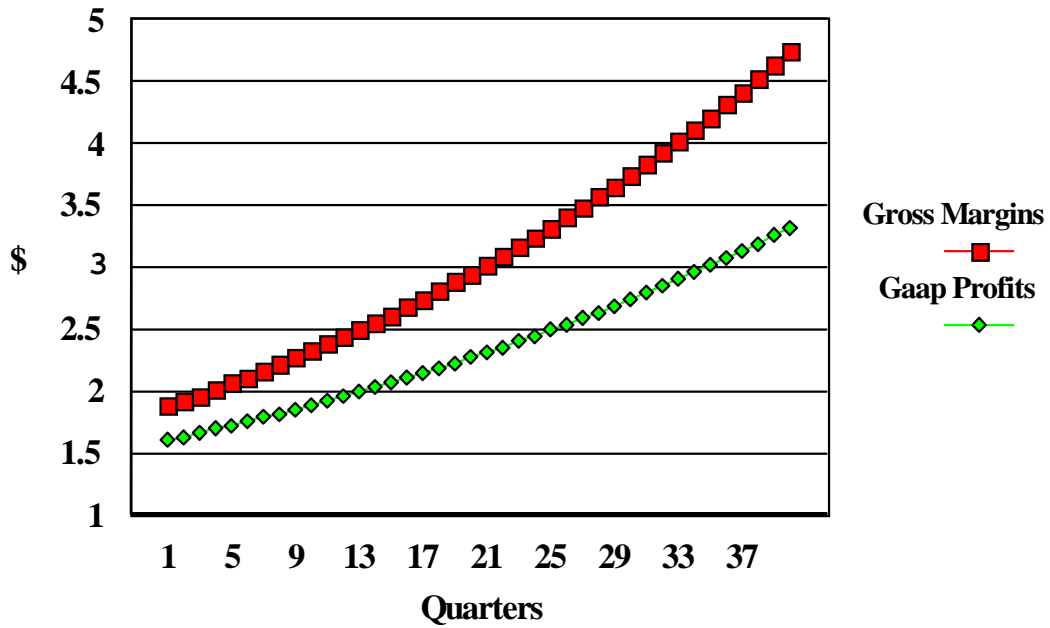


CHART 3
No Lapses

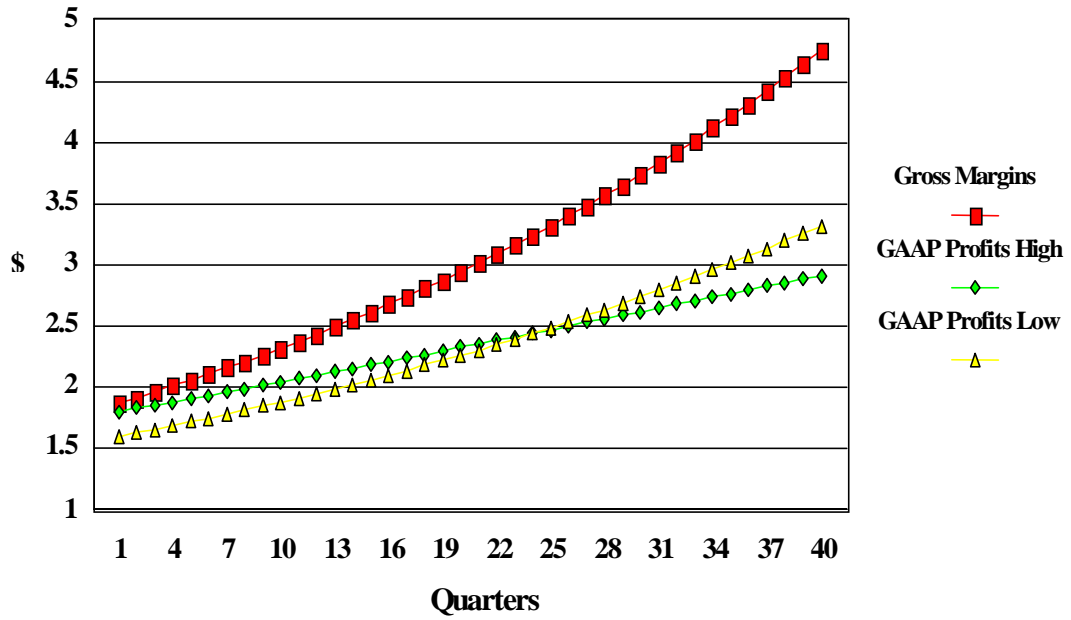


CHART 4
With Lapses

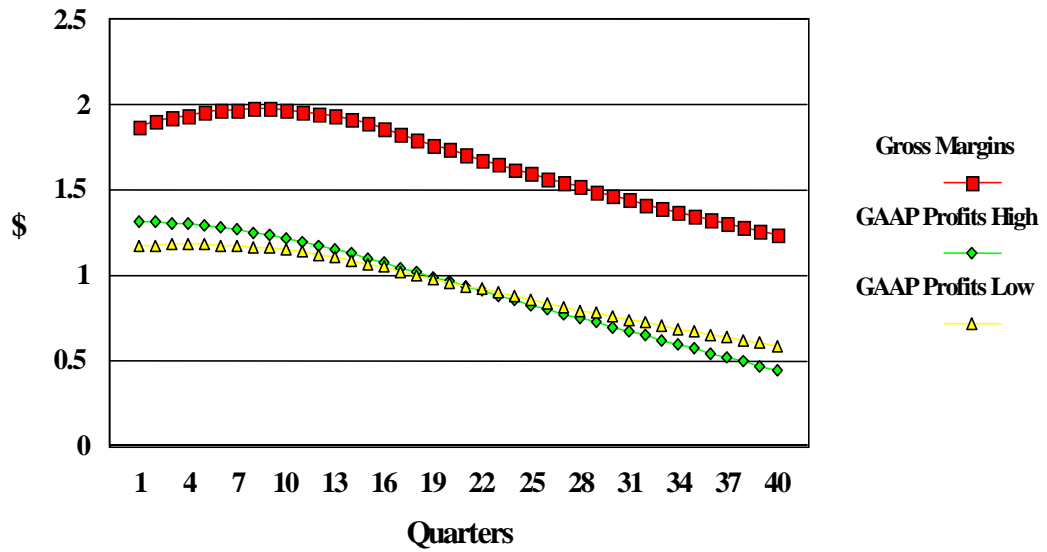


CHART 5
Drop vs. Prior

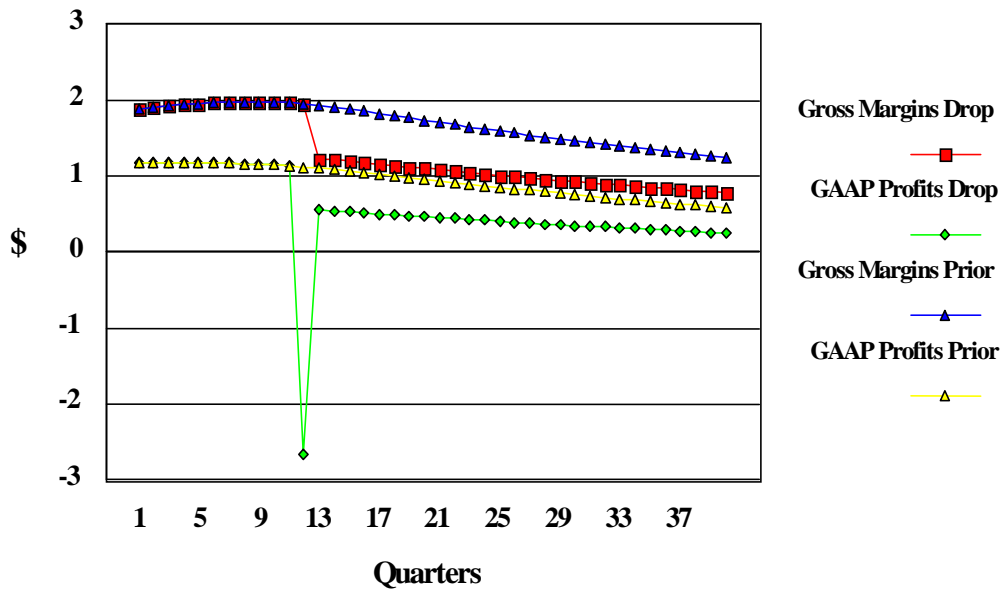


CHART 6
Effect of Market Drop — Revised Future Growth

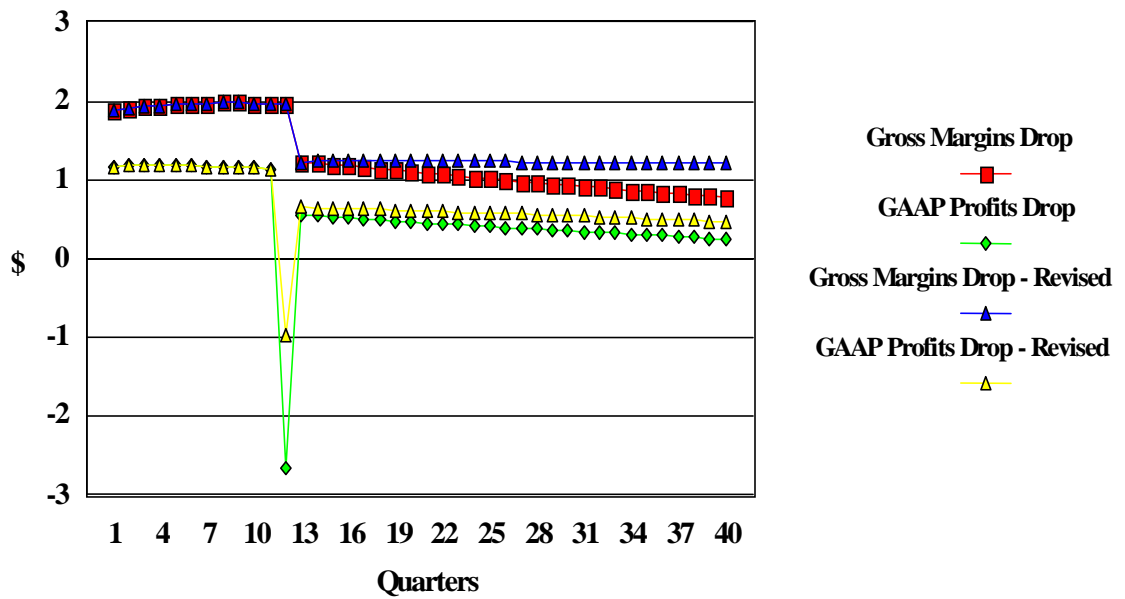


CHART 7
Capital Gain Example

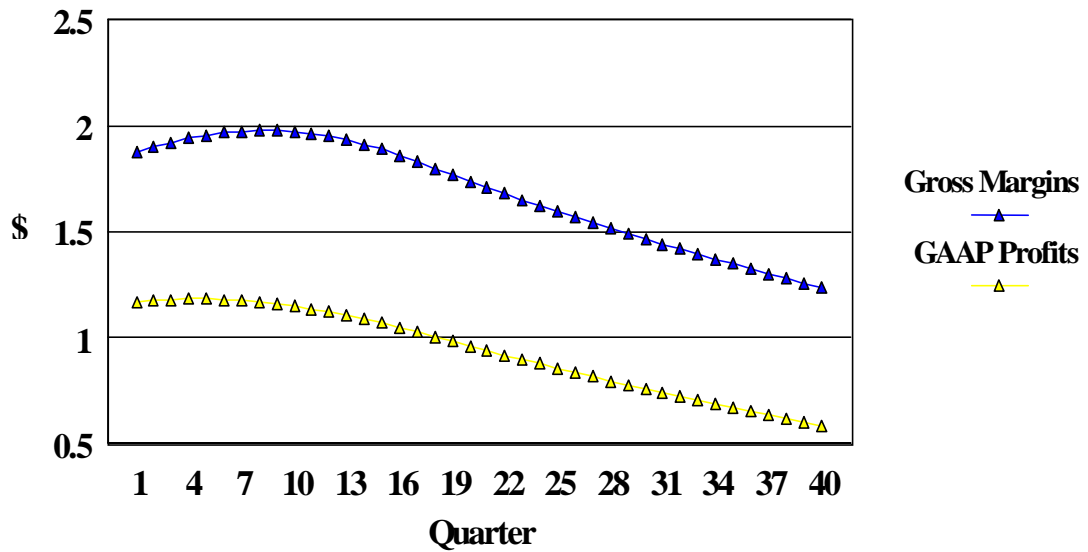


CHART 8
Capital Gain With Full Effect

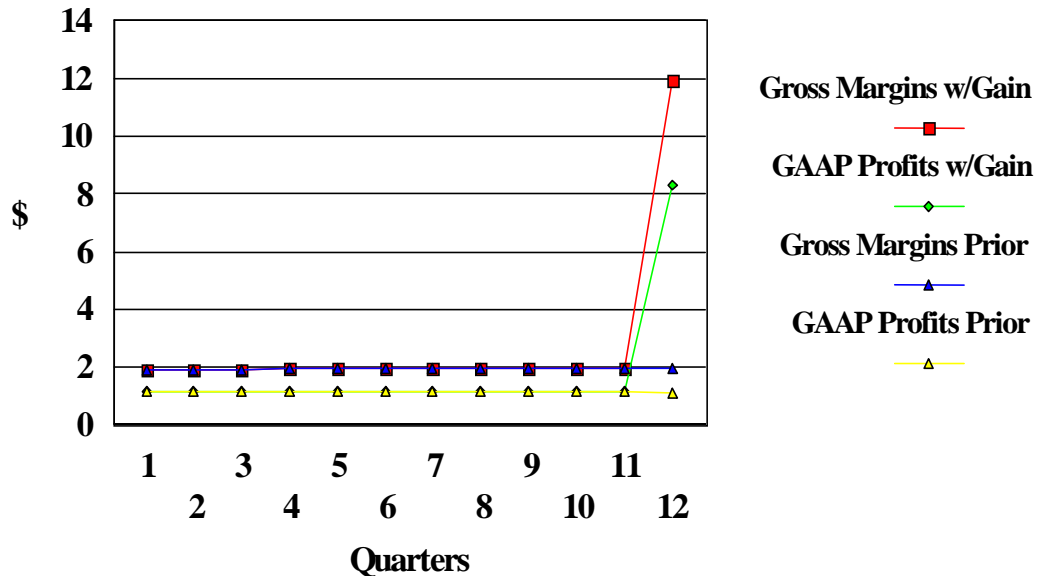


CHART 9
Capital Gain — Revised Future Margins

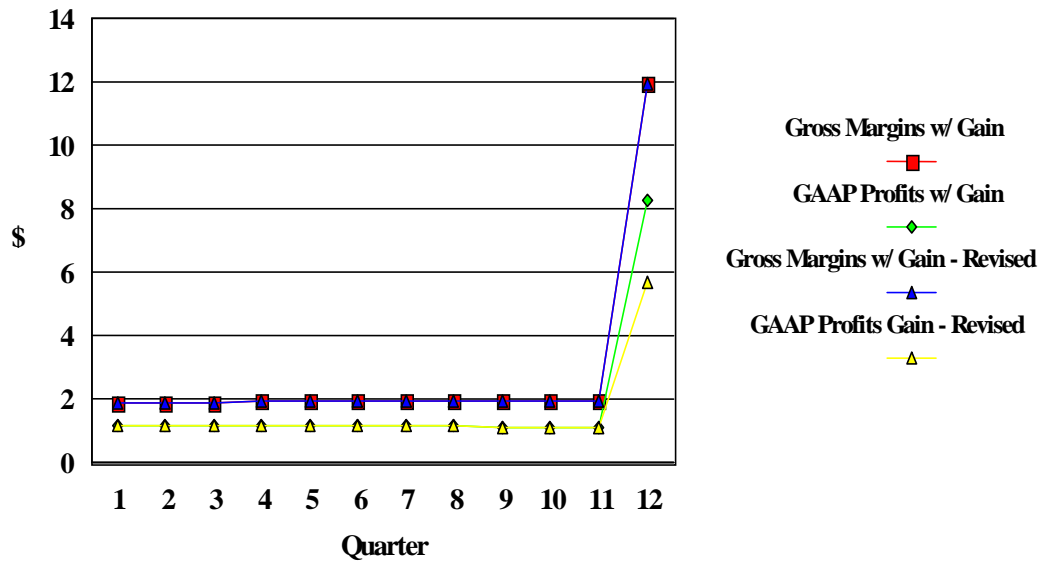


CHART 10
GAAP Book Profits vs. GAAP Profits

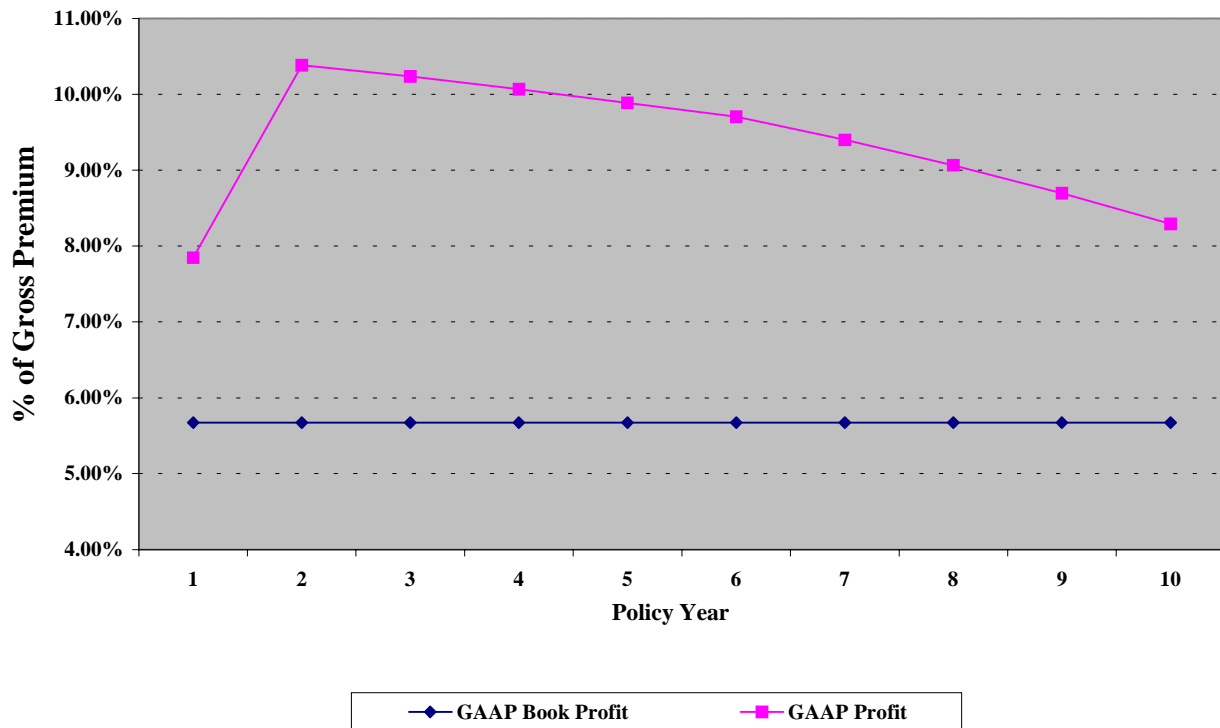


CHART 11
GAAP Book Profits as Ratios of Gross Premiums

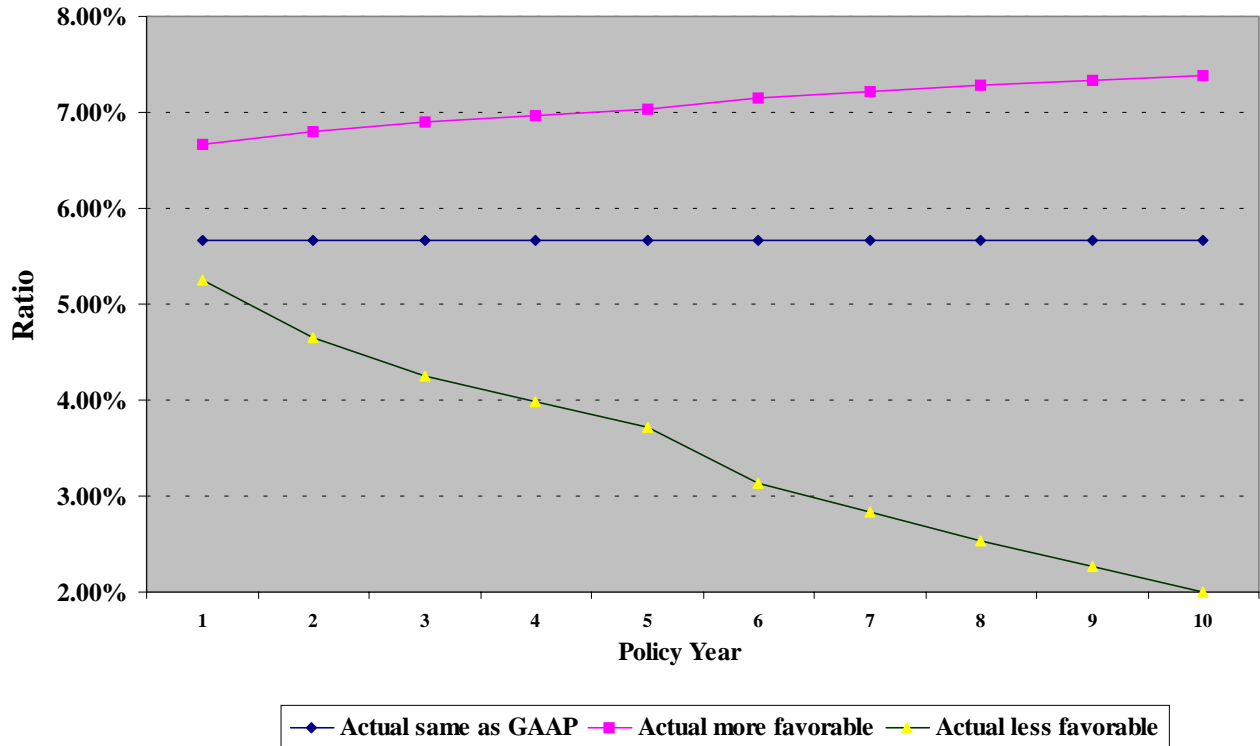


CHART 12
Effect of Reinsurance on GAAP Book Profits

