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## Session 134PD Experience Tables

**Track:** Nontraditional Marketing

**Moderator:** STEVEN L. OSTLUND

**Panelists:** ROBERT J. BUTLER  
CHRISTOPHER H. HAUSE  
STEVEN L. OSTLUND

*Summary: Do you ever wonder where tables come from? The need for current experience is ever present for product developers and financial analysts. Regulators are increasing the pressure on actuaries to incorporate recent data and company experience into their work.*

*Using the recently released Credit Disability Table as a case study, the panelists describe the process of developing and adopting a standard table.*

**MR. STEVEN L. OSTLUND:** Our panel discussion today is on experience tables. Very specifically we want to present the experiences the three of us have had since at least 1997 in trying to get a table adopted by the NAIC for use as a valuation standard for credit disability. We will share our struggles from those four or five years and maybe other people will learn not to make some of the mistakes that we made. (It's nice when you can learn from others' mistakes.)

On the panel today we'll start with Bob Butler, and he will describe how we did the work—the technical actuarial type of work that went along with it. Chris Hause will then describe the frustration of collecting and cleaning the data. There are things that one needs to take into account in order to have data from which to work. In most actuarial studies you are working with your own company data with a common format so everybody understands what's going on. When you work with inter-

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company data, however, the complications are significant.

Finally, we'll move the discussion away from actuarial science, because I'll close up by talking about some of the political work that was required to get this table adopted. I will talk about the SOA, AAA, NAIC, and the Consumer Credit Insurance Association (CCIA).

**MR. ROBERT J. BUTLER:** We were trying to figure out when we started this process, and I think it was about five years ago. I'm a member of the actuarial committee of the CCIA. We discussed the need for a morbidity table and a valuation table for credit disability, and in that meeting we agreed to do it. We received the sponsorship of the CCIA and all its member companies.

We looked at whether we would do a traditional data call, which would involve getting separate exposure data and separate claim data. We decided that was not an avenue we could follow. There are four reasons for this.

Probably the most significant reason is the majority of companies on the credit side don't record in their claim system why claims are terminated. Is it because the insured recovered, benefits expired, or because death occurred? Without that information, we can't calculate termination rates.

Keep in mind that at the same time that we were looking at this, most companies were heavily into Y2K, so data processing resources were really at a premium.

There was a study done in 1974 that used exposure data and claim data, but it was limited to only a few companies that maintained the claim information and the results were very surprising. The claim costs that came out of that study were extremely high. I don't know why. As far as our company was concerned, they were more than 50 percent higher than what our actual experience or the industry experience indicated. Finally, there was concern that we wouldn't have the volume to do a true calculation of termination rates.

We decided to use an existing table. We went to the companies and got their breakdown of new business by term, age, and benefit elimination period or plan of insurance. Regarding credit insurance, we annually submit a supplement to the annual statement called a credit insurance experience exhibit (CIEE), and in it, we break out our experience by plan, which is 7-day retro, 14-day retro, 7-day elim, 30-day elim, and 30-day retro. The NAIC collects this data on a diskette from every insurance company, then they consolidate it into a diskette that they make available to the industry. This enabled us to look at the entire industry's experience.

We also re-state premiums to what they would be in each state based on their current prima facie rates, and we break out the experience between single premium and monthly pay. The NAIC collects this data on a diskette from every insurance company, then they consolidate it into a diskette that they make available to the

industry. This way we could go in there and look at the entire industry and get their experience.

Our plan was to develop a morbidity table that could be used for valuation of policy reserves. As a result, we limited our study to single premium business.

We selected the 1985 Commissioners Individual Disability Table A (CIDA) as the table to use to build our own table. Now, this table is really a series of 32 tables. It covers both genders, four separate occupation groups, and four elimination periods. When we did the data call, we looked for gender, but most companies do not record gender. Credit insurance companies almost always uses one rate for all ages and both genders.

Where we had the gender data, we used it. We asked the other companies to sample their new business certificates for a period of time, and record gender using the name of the insured. We found that 70 percent of our business is male. Only one company maintained occupation data, so we had to do default to the occupational distribution of the United States, as is published by the Department of Labor.

Using that distribution, we created four aggregate tables, which we called our credit disability experience tables. We had an aggregate by gender and occupation, but we kept the breakout by elimination period. We pulled all the CIEE data from 1992-1996, and calculated our actual claim costs. We compared actual experience to the experience table claim cost.

Let me explain a little bit about the benefit. We pay the monthly loan payment for people who are disabled, and we pay it until recovery or the termination date of the loan. The coverage is for a decreasing benefit period. A 14-day elimination period means that after the 14<sup>th</sup> day of disability, we will pay for each day a person is disabled. With the 14-day retro, if one is still disabled after 15 days, we will pay back to the first day. So the 14-day retro is a richer plan of insurance. The richest plan of insurance is 7-day retro and we found that it had the lowest claim cost. The 30-day plans have the least-rich benefits and they have the highest claim costs. This is an anomaly we had to deal with.

Some of the reasons for the anomaly include the fact that credit unions traditionally have higher claim costs, and they write primarily 30-day plans. Auto dealers tend to write the more expensive plans and have high penetration and lower claim costs. Also, we found at our company that as the monthly indemnity increases, so does our loss ratio, and quite dramatically. Thirty-day elimination period plans are used with large loans, because you cannot sell the higher rates of the richer plans, so the result is that the larger loans have a 30-day elim plan.

One other phenomenon that we know exists is when we write credit insurance, we usually write credit life with credit disability. We don't normally write credit disability alone. If a case gets into a situation where it has poor disability experience, with

good life experience, rather than raise rates on disability, the insurer might move the case to a cheaper plan, minimize the impact of disability, and continue writing the business of that lender. That is frequently done in the industry. These explanations do not eliminate the anomaly, but rather provide insight into the situation.

We did some sensitivity testing, because we wanted to see what the impact would be if we changed the mix by gender and if we shifted to a different occupational mix (Table 1). To my surprise, the sensitivity testing results were in a narrow range, so it made us feel better about the approach that we used.

Table 1

<u>Sensitivity Tests</u>	<u>Weighted Net Single Premium</u>
Base case, 70% Male	2.52
100% Male	2.34
50% Male	2.63
Shift 5 full points from classes 1 & 2 to 3 & 4	2.63
Shift 10 full points from classes 1 & 2 to 3 & 4	2.74

When we started this project, we worked on the experience table amongst ourselves. We fully intended to invite outside and hopefully actuaries from the insurance departments when we got to the point of developing a valuation table from the experience table. We wanted their input. We also wanted their buy-in.

In August of 2000 the SOA formed an official task force. The scope of the project was a timely recommendation. It was August and our goal was to have something for the NAIC meeting in November, so we had three months. We recognized that our credit disability volume was only ten percent of the volume used to build the individual disability tables.

We looked at the possibility of including claim reserves, but rejected it. We didn't

have the time or the data to do it, so we focused on policy reserves. We would build the valuation tables from the work that we had done on the experience table and we would mirror the work that was done by a previous disability committee, the Individual Disability Committee.

Remember my comments about claim costs being higher for 30-day plans than for seven-day plans. These anomalies didn't go away and they continued to haunt us. As we got into it deeper, one large company in the credit union business still did not cover its actual claims using the experience tables. That was a problem, so we had to revisit it.

We decided to trim it back to two tables, one for seven-day elims and one for 14-day elims and longer. We found that the number of people disabled for 14 days, remaining disabled through 30 days on the 14-day table was much greater than the number of people anticipated by the 30-day elim table. So by switching to the 14-day table, we actually increased the expected cost for the 30-day plans, and this provided a much better fit. The anomaly didn't go away, but the fit was much better. When we tested it against the credit union business, we found out that we now had margin to cover their actual experience.

The next thing was to select the loading. Steve did some Monte Carlo testing but we discovered that the variance between companies was greater than could be explained statistically. We ended up picking a loading that would cover 85 percent of the companies in our database. We had 17 companies that contributed to our data call. We added four others that had significant experience and the result was that if we added our 12 percent load to the frequency rate, we had adequate margins.

Our recommendations as a committee to the NAIC were two tables, one for seven days and another for 14 days, both with a 12 percent load. We would recommend use of this aggregate table by composite industry distributions of gender and occupation. However, if a company had accurate data on gender or occupation, it should use its own information. We also recommended that an appropriate revision to the health insurance model regulation and Statement of Statutory Accounting Principles No. 59 was in order.

We agreed to set up a continuing experience committee within the Society of Actuaries. We also agreed we needed to make appropriate revisions to the Actuarial Standards of Practice, and we would not make any change in the claim reserving standards.

We had a lot of questions from outside actuaries who were not familiar with our business and from the two actuaries from the insurance departments, Mike Boerner from Texas and Julia Phillips from Minnesota. In SSAP 59, the minimum mortality reserve must be compared to the unearned premium reserve, less recoverable commissions and taxes. If the mortality reserve is smaller, then a net unearned

premium reserve must be established. Our intent was to apply a similar standard to a morbidity reserve, since current practice is to only allow an unearned premium reserve.

The regulators wanted to be assured that recoverable commissions and taxes were not overstated and the table provided enough margin to cover the premium refund liability. They asked us to do some additional studies. We ran a lapse study using the industry's premium refund history and we solved for the monthly lapse rate that will yield this level of refunded premiums (Table 2).

Table 2

## Miscellaneous Studies - Lapses

<b>Monthly Lapse Study - All Plans Combined (In Millions)</b>				
<b>Year</b>	<b>Gross Written</b>	<b>Refunds</b>	<b>Beginning Unearned</b>	<b>Monthly Lapse</b>
1992	1,846	518	2,377	1.9%
1993	1,936	508	2,242	1.9%
1994	2,376	592	2,544	1.9%
1995	2,421	670	2,613	2.1%
1996	2,297	713	2,694	2.2%
<b>Total</b>	<b>10,876</b>	<b>3,001</b>	<b>12,469</b>	<b>2.0%</b>

Note there is minimal variation by plan and calendar year. (Tables 2 and 3). We learned that for every dollar of single premium we collect, we return \$0.31. Our average commission is 34 percent and premium taxes are two percent; and when you factors all that in, the reserve level we were talking about was in excess of this liability.

Table 3

## Miscellaneous Studies - Lapses (Cont.)

<b>Plan</b>	<b>Monthly Lapse</b>	<b>Total Original Prem. Refunded</b>
<b>7 day retro</b>	<b>2.2%</b>	<b>32.0%</b>
<b>14 day retro</b>	<b>2.0%</b>	<b>31.7%</b>
<b>30 day retro</b>	<b>1.7%</b>	<b>28.9%</b>
<b>14 day elimination</b>	<b>2.3%</b>	<b>31.8%</b>
<b>30 day elimination</b>	<b>1.4%</b>	<b>25.6%</b>
<b>All Plans</b>	<b>2.0%</b>	<b>31.4%</b>
<b>Average Commission</b>		<b>34%</b>
<b>Premium Taxes</b>		<b>2%</b>

We also wanted to compare the 1992 to 1996 experience period to previous years covering a wider range of economic cycles. Gary Fagg at Credit Re publishes a report annually that summarizes the experience reported to the NAIC in the CIEE. It is possible to develop claim costs from this report, so we reviewed the experience for the last 12 years (Table 4).

Table 4

## Miscellaneous Studies Claim Cost History

14 Day Retro 12 Month Claim Cost History			
Calendar	Claim	Calendar	Claim
Year	Cost	Year	Cost
1987	1.18	1993	1.22
1988	1.11	1994	1.14
1989	1.11	1995	1.13
1990	1.22	1996	1.11
1991	1.31	1997	1.07
1992	1.22	1998	1.08
Simple average all years			1.16
Simple average 1992 to 1996			1.16

For the 12-year period, which is listed in table 4, a straight-line average of those claim costs is \$1.16, which fits the five-year period that we're using. So on a very simple test, our five-year period was representative of the 12-year period.

In 1999, the claim costs dropped down to \$0.99, so the experience continues to improve. Now that we're going into a recession, it will be interesting to see how it responds. Over the years I've had a lot of questions from clients about what will happen in a recession. I anticipate that higher unemployment will result in increased claim costs. Soon we'll be able to tell them based upon actual data.

**MR. CHRISTOPHER H. HAUSE:** I'm Chris Hause from William M. Buchanan & Associates in Overland Park, Kansas, and I was responsible for the inter-company data collection portion of the credit disability study. The collection of the data started in 1998, took about four months and 400 man-hours; this estimate includes the time preparing the write-up and the reporting that was necessary to communicate the results.

I was recruited because I had just moved from a credit insurance company to a consulting firm, and I decided I'd better contact some of my old friends in the credit insurance industry. So, I sent some of the credit insurers a letter. Steve Ostlund called and said this would be work, but it wouldn't be paid work.

I decided that maybe I would get my name out there this way. I have never been more pleased to be part of a group effort like this. It was really an outstanding experience, working with lead people with the CCIA and with the regulators to get



this accomplished.

The major purpose of the data collection was to get information on the distribution of issues; all of the members of the CCIA actuarial committee worked for companies and felt they would be more comfortable sending it to a consultant. So that's how I got recruited.

I asked myself why you should listen to this part of the presentation, since everybody sitting here has probably done experience studies of some sort, and at least observed inter-company studies. Maybe we can provide you with some insight as to how the inter-company data is gathered and some of the challenges there. Maybe you can use some of these techniques even in your own internal company experience studies.

The process is basically as follows: You send out a data request to a select group of companies. In this case the CCIA already had a fair amount of headway as far as selecting the major writers of credit insurance. There are really only 20 or fewer major writers of credit insurance, and many of those companies are grouped together.

After receiving results, verify that what you asked for is what you got, and start a communication link with the person who is responsible. That's not always the person who got the letter in the first place. Usually that's handed off to somebody and is never done by the CCIA representative or the senior vice president in charge of government relations, which a lot of times is the CCIA contact.

Most of the time you would modify the data into a standard format if necessary. In this case, I wrote conversion programs in APL to convert the data. This allowed me to work in a space that had the programs and all the global variables together.

I created a separate workspace for each company, so if the data arrived in a different format, I would change my program that collected the data into the internal matrix to reflect the format I got it in. Usually I would suggest writing a conversion program to convert the data to a standard format. It makes it a lot easier if you need to go back later to perform a different set of selections. In this case it worked out fine.

Then it is time to aggregate the data. In this case, we first needed to adjust the results a little more than is normal in an inter-company study. This was due to several considerations.

First, credit disability is a fairly small product line. There are not many writers and it's pretty specialized. Also, it's not a typical study in that we didn't collect exposures, we collected issues. We wanted to know the total face amount, which is the monthly indemnity amount times the term of the loan, so that's what we call

exposure in this case. It's for all the issues during the calendar year 1997, and we did not take into account cancellations.

So it wasn't an exposure study, but a face amount study by issue age and term as it turned out because the gender information was not sufficiently available. We know that there are inaccuracies in issue age. We knew that going in. Everybody who deals in credit insurance knows that there are certain types of businesses that are bulk processed.

There are other companies that, because the amounts of insurance and the premiums are small, want to cut down significantly on the issue times. They will poll their in force and assume if they get an otherwise valid looking credit insurance certificate, they will assign a default age such as 47 or something like that to it.

Gender data is generally not captured. That's unusual in the insurance industry generally, but credit insurers do not tend to capture it, and occupation class is almost never captured. So here we are doing a disability study without termination rates, without gender data and without occupation class data. For that reason, as Bob mentioned, we need to relate data to an existing table. So in this case, we're talking about a very unusual study.

When I came in, the request for data had already been largely drafted. The groundwork was laid by the actuarial committee of the CCIA, which is made up of actuaries who work for credit insurers, as one might imagine.

We sent it to the producers of significant volumes, then other companies that are smaller, but very active and willing to contribute to studies. And, as a matter of fact, they'd be offended if we didn't ask them, because they're so active in their region, even though they may not be the largest national contributors of data.

Another oddity of credit insurance is there aren't very many administrative systems. I can count them on one hand easily. They're pretty standardized, and that should have been an advantage in this case, but in reality, each IT department basically still wrote its own system. You would think that it would be possible to come up with a fairly universal solution for all the people who use CSC logic, or perhaps that would be available. But in practice, the in-house IT department would base its own systems on, say, the CSC Logic system and then make revisions.

All the data that I released was by company. We used a single letter and number to identify our companies once I processed the data, so no company's specific data got passed when I transmitted the information to Bob Butler. This was in case anyone was reluctant about giving out company information, even under the promise of confidentiality.

As it turned out, all the companies were cooperative. It was a very open exchange. That kept me from having to process my requests through a third party, who would know the mailing contact information and make requests for additional data from

the company. I was able to contact them directly.

I'll now describe the data we requested. First we needed the company name or ID. Next, rather than ask for age, we asked for a somewhat unusual age last birthday, low and high. This is for companies that collect issue-age information and put them into ranges, as opposed to actually assigning a number. Then, the term and months elimination period, which is equivalent to plan. We did ask for gender data but generally did not receive it. Instead, when we were done, we polled companies and asked them to sample their data to try and come up with a distribution by gender. Based upon these samplings we ended up using 70/30 percent male to female, which was very consistent among the companies.

The amount of a single premium—the original amount of insurance—was requested. That's again the monthly indemnity times the term. We asked for the monthly indemnity as well, so just in case the amount of insurance wasn't there, we could multiply term times monthly indemnity and create it. That was unnecessary. For the most part, we did receive amount of insurance.

Then the next fields were designed to collect informational data about the make-up of the business. We know there are certain types of coverage that have variations, such as the source of business, and dealer versus credit union versus bank business. The increased amounts available have caused the amount of underwriting in credit insurance to go up significantly.

So we made an effort to find out what percentage of our business is now being underwritten. Some joint disability is actually being written out there. It's a very small amount, but we thought we would like to know if we were getting significant exposure to joint disability. Some credit insurance includes a six-six pre-existing clause; if an insured has been treated for a condition within the six months previous to the certificate being issued, then that condition is not eligible for coverage during the first six months after the effective date of the coverage. There are also a number of companies that use a clause that says a pre-existing condition is always covered.

There is some critical period business being sold, particularly on longer-term loans where the disability payment period, instead of being the entire duration of the loan, will be 24 or 36 months or the termination date of the certificate, whichever occurs first. This again was found to be fairly insignificant.

What you ask for is rarely what you get in the inter-company data requests. As Bob said, staffs were already stretched because of Y2K. We were creeping up on that. Most of the responses came back with what little data they were able to generate, and most of the time it was not in the format we requested.

First we looked to see if all the key fields were there, if we could use this data, and if the term information was there. If it was not there, we couldn't use it. We had to

ask if the plan of insurance was present. If it wasn't, we couldn't use it.

We worked with one company where we got no term data, and I went back to request it. Unfortunately they were unable to provide it, so we were unable to use that company's data at all

Some of the verifications were informational, and some of them were checks to make sure that they were calculating one field or another correctly, but they had to have certain fields present. As soon as we got it, we backed it up to two separate hard drives and also to a CD. So with each company's data we always had a library. Some of them had two or three versions as we asked for corrections and additional data and for them to convert it to a standard format.

What we did, if you remember, in each APL workspace, I modified the program that pulled data into the matrix to fit the format that we got. APL works much better with files that are not in regular ASCII format, but there's a special format that APL uses that makes the transfer work a whole lot faster. When processing hundreds of thousands of records, especially if it is done several times, that really is an advantage. So rather than leave it in ASCII format, we changed it over to a more APL-friendly format.

Once again, in APL there is a maximum workspace size. We found that as we started pulling in the data, it was just like with single precision and double precision, etc. that use up different sizes, which APL does in this case. The matrix that we were pulling together had more than 140,000 elements to it. We'll get to that in a minute. If one element exceeds the amount of space available for single precision, it turns the whole matrix into a double-precision matrix and the amount of space used goes up significantly. We had to round to thousands in order to get it to fit into the workspace.

So now that I knew where everything was, we could collect it into a matrix. As I mentioned, it's a three-dimensional matrix that's an internal variable in our APL workspace. You might think that credit insurance isn't issued for ages zero to 99. This is right, but we got data that contained ages zero to 99.

As a matter of fact, we got data for a lot of people who were 97 years old. We got a lot of data for zero-year-olds, presumably because ages were not entered. If you don't put it in, it defaults to zero by the system.

The term zero to- 240 months is what we used. Then seven retro, 14 retro, 14 elim, 30 retro, 30 elim, and "other" or "not available" were the benefit types that we used.

Once we collected this data, we summarized it across each cell and we sent the results to the carrier. We said, "Here's what we came up with for your collection of data. Do these data look right? Have you done anything yourself to aggregate your

data?"

One carrier actually sent it back. I believe it was Central States of Omaha. They said, "Yes, we did this, too, and your data matched exactly." That was a good check that the collection systems were working nicely.

I think, by and large, the carriers learned something about their business. Remember the default age situation that we talked about? Some of them didn't know that their administrative systems were using default ages, and we were able to point that out to them.

In a collection by term, you would expect clumps at the six-month intervals. Most loans are written at terms of six- or 12-month intervals; other terms, like 17 months, or 29 months are less common.

We studied these clumps in terms of the underlying distribution. As far as other anomalies, remember, ages 0–14 were eliminated, and ages above 70 were ignored. We ended up not using any terms above 120 months. We knew that they were valid, but for this study we ignored them.

All we're trying to do is get the distribution of issues. In most studies you can't eliminate exposure like we just suggested there, but in this study we could, because we were looking for a distribution by age, sex, and term.

It actually turned out that the deletions account for less than three percent of the data. We collected the central ages, which were 22 to 67 by fives. Then we distributed it into specified terms, which were 6, 12, 18, 24, 30, 36 months, then after that by 12s: 48, 60, 72, etc. Those are the most common terms for which credit insurance is written.

Every term between one and nine was considered to be six. Actually, that hardly distorted the data because so much of it was collected right around those six months.

Then we had to combine them into one matrix. Here we had to make a decision. We knew we were going to collect it into central ages and specific terms. Did we do that at the company level and then combine those into a matrix? Or, did we combine the big matrix? In this case, we developed the big matrix from the detailed data of each company, just in case we needed to collect them in a different fashion later on.

Maybe there would be disagreement about the way that I collected the ages and terms. Perhaps the term really should have been allocated to a different central term or something like that. So in order to preserve the ability to make changes without re-doing everything back to the company level, I decided to develop the big matrix from company data.

What did I do? I set up a master workstation. I set up an APL workspace for each company. I had the matrix center set up a separate master work space with a three-dimensional matrix. This started out at zero, went out to each company individually, copied information into the matrix, added it to the matrix, and erased the old ones to save space, because, remember we were limited on space again. Then we went to the next one, pulled it in and accumulated all the data into the three-dimensional matrix that included all the data for all the companies. We saved it and backed it up three times. Then we were all done.

So this is the final result: We had one Excel spreadsheet with five pages in it for the five benefit periods, and of course, the "other" or "not available" is not used. We printed it out and imported it to Excel, and Bob took it from there to create the table. .

**MR. OSTLUND:** As I indicated before, we're moving steadily further and further away from actuarial science as we progress through this program. It's important in attempting to move from a simple one-company information study to an inter-company study that you want to turn into a valuation table to recognize that politics are going to be very critical to success.

You can have the best results in the world, but if they're not implemented—and this is something that actuaries learn as they develop through their career as well—it's not only enough to be right. You also have to be able to communicate and somehow convince somebody to use the information that's right.

I'm going to start out by saying that it's good to get a sponsor. Finding the right sponsor will lead to much more success. In terms of a valuation table, we learned that you need more than one sponsor. You need a sponsor within the industry, the Society of Actuaries, and the NAIC.

At this point, the credit disability valuation table is about to be adopted. Apparently it's going to a plenary session of the NAIC. I presume that they will adopt it. I think that we did the right things regarding politics.

This was a credit disability study, which is not a very common type of thing. If talking about a 2001 CSO, the industry sponsor is going to try to round up support on that, but it's going to drive itself. I'm not saying it is easy, but it's so important right now that there's a lot of support in developing the standard.

It is necessary to find a trade organization within the industry, which represents companies writing the business for which you are trying to develop a standard. In our case, it was the CCIA. It must be 90 percent of the business that's written in credit insurance is written by companies that are in the CCIA.

You might want to go to HIAA or ACLI. In any case, you need to find some kind of support within the industry and within the Society of Actuaries.

We learned that, the way that the Society is set up, most members are represented within a section. The sections are gathered together in practice areas. The sections do not have a lot of interaction with the board of governors. The practice area is headed by a member of the board of governors, so sections need to work through the practice area to access the board and then they can get some support from staff.

We initially tried to do our study without support from the Society of Actuaries, and we tried to do it through the CCIA actuarial committee. We learned that once we got support from the Society of Actuaries, the whole process moved through much better. We struggled trying to find a staff person to help us with this early on. Various people were our contacts within the Society of Actuaries at different times. Then we got the Non-Traditional Marketing section to publish the study in a *NewsDirect* article, and when the section approached the Health Benefit Systems Practice Area Committee, we had much better success.

In actuarial studies, the sponsors in the NAIC you want to look for are on the Life and Health Actuarial Task Force. Unless you're on the casualty side, where there's a casualty actuarial task force. What's really good about this is any actuarial material is going to go through that committee. They meet on the Friday preceding the NAIC meeting, so you don't have to pay registration fees to the NAIC and attend the whole meeting. The committee welcomes participation by actuaries and other interested people. It's an excellent group of people, and includes actuaries and state regulators who recognize that there's a political component to things and make it easier for actuaries in the industry to get things done through the NAIC.

In our case, we had an industry sponsor at the CCIA. We started with the actuarial committee, saying that we needed to get something better for credit disability. What we had was inappropriate and it just didn't work right. We talked about that in the actuarial committee, then we had to take it to the board of directors. The board of directors said that they were a trade organization, and that they were really here to lobby for better laws and regulations. They said they were not sure what we wanted to do with these numbers. They were not sure if they wanted to rock the boat, and they're happy with the Rule of 78 or other ways of setting up the active life reserves.

So we figured out what the benefits would be to the companies. The fact is, not only would we have better information, which was one of our primary goals, but we were able to anticipate that the reserves would be lower and that there would be a release of surplus within the industry. The board of directors of the CCIA are all company executives. When we told them we could save money if we engaged in this project, they were more willing to support us and finally gave us their blessing. This allowed companies who may have been on the edge to say that since the CCIA is supporting this, they would participate as well.

The other thing we got out of the industry sponsor was that the lawyers who were

doing the lobbying helped the actuaries move this thing through. When it came time, we had done all of the work that Bob wanted to do and all the work that Chris wanted to do. When we finished the technical work, we asked, "What do we do now?" That's when we talked to the lawyers, who said, "You have to do this, you have to do that." They provided the road map for our next endeavors.

Within the Society of Actuaries I talked about sections within practice areas. There are life, health, and pension practice areas. Once we received support from the practice area, we formed a task force. Then we received staff support from, the experience actuary, Jack Luff, and the health practice area actuary, Kara Clark. What they were able to provide for us was invaluable. It's unlikely that you will get much done without that support.

Within the NAIC, since we were proposing a disability table, we had to go through the A&H Working Group first. Then it went to the full Life and Health Actuarial Task Force. When we set up our task force, we went to the A&H Working Group and asked them to ask the Society of Actuaries to provide them with a recommendation on a credit disability valuation table.

They made the request, and in addition the chair of the A&H Working Group, Julie Phillips from Minnesota, and another member of the A&H Working Group, Mike Boerner from Texas joined our task force. They gave us advice, such as, "Consider this...consider that...if you do this, the committee is more likely to accept the results." So, if possible, get your audience, your eventual customer, to participate in the development of the recommendation.

Eventually the A&H Working Group, recommended adoption and the Life and Health Actuarial Task Force adopted it. Then it goes to Committee A or B. Committee A is for life, Committee B is for health, and they have to pass it. Then the Executive Committee presents it to the Plenary Session. Once the Plenary Session adopts this as a valuation standard, it still has to be adopted by each state, and again, you will want to talk to the lawyers for help on that.

What now? I just said we have to go to each state. Other considerations came up such as the NAIC said they have Statements of Statutory Accounting Principles. The statement that applied to our table was SSAP 59. Revision to this SSAP is necessary before the new table can be implemented.

There are Actuarial Standards of Practice. In the case of credit disability, the active life reserve is supposed to be set based upon a percentage of the premium. It does not mention a morbidity standard, so the Actuarial Standard of Practice is going to have to be adjusted.

We have to let people know what is going on. There are consulting actuaries who only have one or two small credit companies as clients and don't know what's going on. We have the data processors. We have two or three major ones that pretty



much everybody uses, and they're going to have to know what's going on.

The NAIC staff needs to make revisions to the Health Reserves Guidance Manual once this is adopted by the Plenary Session. The language to adopt a model law or regulation is prepared by the NAIC staff. You move from technician to politician in doing this kind of study. You need to get a sponsor, to talk to the lawyers, and identify corollary issues.

**MR. LARRY M. GORSKI:** My questions fall into two areas. One, you talked about all the data problems you had with analysis and developing the experience tables. It's not too surprising that you're going to have all of those problems in the credit insurance area, but is there any impact from those problems, and how these tables are going to be used? If you don't have the data to construct your experience tables—the sex, age, terms—and yet the tables are made in that fashion, is it going to cause a problem for companies to use the tables in a way that's going to be acceptable to regulators?

Question number two gets back to your comments in terms of trying to sell the idea of the table to the industry. You talked about one of the selling points being the release of reserves, etc. That's true, but was there ever any discussion about some regulator trying to use the information in this table as a way of forcing a reduction in prima facie rates?

I don't know if you ever used the phrase "the lowering of claim costs." I was listening for that, but I didn't hear it. However, I heard release of reserves. That would affect the calculation of earned premiums for reporting purposes and that could have some impact on how people view and interpret the data for analysis of prima facie rates. So I'm not sure if there's an unintended downside to this table, also.

**MR. OSTLUND:** We still encourage using the unearned premium reserve or our GAAP reserve in reporting experience in the CIEE. This way you would get a better measure of loss ratio and you wouldn't see artificial fluctuations in experience .

As far as the quality of data, Chris stressed the problems, but the majority of the data was good. When you look at it, there are small amounts of error in the young ages, but the majority of the data was pretty good. I think we had a good distribution of business by terms. We did sampling on gender and it came back consistent from all the companies, so I feel very confident that we have a good fix on gender.

For occupation, we used Department of Labor statistics, but we did sensitivity testing, and based upon those tests I feel that we have a good distribution (Table 5). The final test was that we took the data, used a proven table, and compared the expected claim costs to actual experience. That is the ultimate test.

Table 5

## Data Shortcomings

- **Gender, samplings plus data where available**
- **Occupation. Used separate Department of Labor Statistics, male and female**

- | Actual Distribution Used |                |                |                |                |  |
|--------------------------|----------------|----------------|----------------|----------------|--|
|                          |                | Male = 70%     | Female = 30%   |                |  |
|                          |                |                |                |                |  |
| <u>Gender</u>            | <u>Class 1</u> | <u>Class 2</u> | <u>Class 3</u> | <u>Class 4</u> |  |
| <b>Male</b>              | 26.8%          | 19.5%          | 29.1%          | 24.7%          |  |
| <b>Female</b>            | 30.7%          | 40.8%          | 19.6%          | 8.8%           |  |

**MR. GORSKI:** I have one other question, maybe for Chris. In the material you handed out and discussed, you had the sample cover form for requesting data.

One of the questions on there asked the percent of direct business for which detailed data was provided. In your analysis of the quality of the data, did you uncover circumstances in which a company only provided a small amount of data, such as 25, 35 or 45 percent? If so, did you ever inquire of the company if they selected data to submit to you that would get you to the results the company wanted?

**MR. HAUSE:** We ran into three companies that reported on less than 100 percent of their data and they were all over 70 percent. The reason they did not submit it to me is because of the summary process that they use in their business. They don't actually keep a record on their master file for each individual certificate. Most of the business that's processed like this is very small face amount types of insurance and we did not feel it biased the study.

If I understand the point of your first question right, obviously we're going to need to construct a modified 85 CIDA table and the table we're constructing does not have issue age zero or issue age 97. We're hopeful that the people will be encouraged to correct errors like this. You will get, as in any valuation report, error listings. Hopefully they'll go back and clean up their data files. More consistently, perhaps, they will once again assign a default age when the age falls outside of the normal range based on sampling of their information.

Most companies update their use of default age every year or two. They'll look through their actual input and decide what default age to use, so perhaps there could be a method to assign an age when an invalid age was encountered.

With regard to the term and plan data, ours was all very reliable. I have a very high level of confidence that with the term and plan data that we got, the elimination period was very reliable, but clearly the age situation was suspect by having those high and low ages.

In order for there to be a distortion in what we're doing, you have to remember we're looking for distribution of issues in this case. In order for there to be a distortion of the overall results, you have to assume that with those people who had clearly erroneous or default ages applied to them, the distribution of those ages would be significantly different from the balance that was presumably reported correctly. I think we looked at that and we're willing to live with that level of error. One thing we also ought to mention is that 70 percent of the business was reported under the 14-day retro plan, so there's an anchor in this whole thing. Something to really focus on is the fit at the 14-day retro, and just like anything else, theoretical relationships have to be respected and clearly the 14-day retro was by far the biggest focus of our study.

**MR. KERRY A. KRANTZ:** I want to echo what Steve said about cooperation with regulators. It works when you file with the forms and rates actuary in the department, and it works with the valuation actuary of the department. A lot of the problems we encounter involve bad communication (let's not say who is at fault), but it is best to come to us early on in the development process and say, "Here's what we're planning to do." This is, for example, what the actuary for a company in Miami, Florida did, and everything worked out very well.

The second point is that because of the problems with the table, definitely do gross premium valuations from time to time. Your gross premium valuation may indicate whether or not your active life reserves and claim reserves are adequate.

A third point is this process seems like it's almost done, but one thing to consider, and you mentioned it in the slide, is Actuarial Standards of Practice. Keep in mind that maybe the end of this process involves the same group of people working to develop an Actuarial Standard of Practice. Therefore, you have done all the work and now you know what needs to be done to get it codified in the Actuarial Standards of Practice.

**MS. FAYE ALBERT:** I'm really delighted to see this work and I'm glad to see this good interaction with the regulators. I have a general question about credit insurance, because I've been away from the business for quite a while. I saw that you used the 1997 experience and I wonder if you noticed a difference in total volume of what was available to you by year of experience. Is this business increasing? Is that the reason that we're focusing on it, or has it been decreasing?

The second question is, if it is increasing in a really important sector of business, has there been interaction with the Society so that they'll continue to study this for you and you don't have to do it yourself next time?

**MR. OSTLUND:** I'll respond to the second question first. I'll let Bob answer the first part of the question. The Society of Actuaries, through the Health Benefit Systems Practice Advancement Committee, now has an active Credit Insurance Experience Committee that will do a continual review of emerging experience. The Society had a committee some years ago, then it was disbanded.

We now have another one. I'm currently chair, so I have personal interest in maintaining it. The industry will still be there, but in any case, we do have continuing support from the Society.

**MR. BUTLER:** Regarding the first part of your question, we actually used five years worth of earned premium and incurred loss experience from 1992–96. That was the most recent data available. During that period the business was flat. Take the 14-day retro—in 1992 we had earned premiums of \$967 million and it had risen to only \$1,000,000,036 by 1996. It was pretty flat, so it was uniform. What we did as far as a data call was get a profile of our business, and I don't think the profile changed. There's no reason to believe it was any different.

**MR. HAUSE:** One thing we need to remember as we do these studies, where the amount of credit disability is flat and the amount of credit life insurance has been fairly flat in recent years, is that we're entering a new era of credit insurance, which involves debt cancellation.

We're certainly hopeful that the work we do here and in the credit mortality study that is being produced, will be useful to the OCC and other people when they attempt to regulate the amount of reserves. Right now, debt cancellation is almost strictly on revolving lines of credit, credit cards, and home equity lines of credit. However, a lot of effort is being put into allowing debt cancellation in installment situations, and what will be the proper reserve for a bank or a financial institution to establish as an active life reserve for a disability benefit. We're hopeful that this can be useful even if the amount of credit insurance decreases in favor of debt cancellation or debt deferment insurance.

**MR. OSTLUND:** The panel hopes you gained something from our experience and the panel itself is also learning from this. We are now engaged in the next step, which is a credit life mortality study, and we hope to apply what we have learned as we proceed.