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Two Score and Ten Years of Pensions

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Summary: In this session, panelists discuss the evolution of U.S. pension benefits, funding, and payment conditions from 1940 to the present resulting from the following:

- *Pensions becoming subject to collective bargaining*
- *Social Security revisions*
- *ERISA*
- *Non-governmental reporting and corporate reserving requirements*
- *Post-ERISA changes to the Tax Code and Department of Labor law*
- *Introduction of IRA plans*
- *Replacement of defined-benefit plans by defined-contribution plans*
- *Changes in employee/employer relationships, many of which resulted from the above items.*

Ms. Mary Hardiman Adams: We plan to talk about the development of pensions during the past 50 years. We'll start with 1949, and take it from the effects of government, government regulations, accounting, and a general overall view of how things have progressed.

Bob Byrne, Bill Smith, and Ken Steiner are the presenters. As one of the old-timers at this meeting, I would like to talk about the pension world in 1949. I must admit that in 1949, I had completed two years of employment at George B. Buck Consulting Actuaries, which is now Buck Consultants, and my title was actuarial assistant. That meant I was in a consulting actuary's department (there were probably three or four other actuarial assistants), and I reported directly to the consulting actuary. My responsibilities were setting up valuations and developing formulas, which were all commutation column multiplier formulas. When the

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valuation calculations were done, I analyzed the results and the gain/loss analysis for the consulting actuary.

Consider these valuations. The office facilities included computers. Computers were people (not machines), who sat at very big desks, had huge pieces of paper called analysis sheets, and their equipment was a calculating machine, either a Monroe, a Marchant, or a Trident. These machines were very noisy. These people would prepare any kind of calculation that you needed. For example, they would develop rates of mortality or active service decrements. Then they would do commutation columns and multipliers. It was a horrendous task, and I had to do it for six months as part of the Buck training process. Through this training, you learned the problems that were involved, including how mistakes were made. This was very important.

These "computers" also prepared the valuation calculations. The distributions of data were generally prepared by first keypunching IBM cards or Hollerith cards, and then using tabulating machines, which could sort by date of birth and employment years or date of employment. The machines could add items of data, but they couldn't multiply, subtract, or divide data items. The computer (people) did the rest of the job (manipulated data, worked the valuation details, and summarized the results). After the computers were done, the actuarial assistants' work followed. Finally, it was all reported to the actuary.

The interesting thing at Buck was the quality control process. The low man on the totem pole did the basic calculating (handwritten in ink). A slightly more seasoned person did the checking. The senior person, somebody with considerable experience, reviewed it for common sense and general correctness. That quality control, by the way, went not only for the basic computations, but also for the work that was done in the actuary's department. For every number that was worked up in the office, somebody checked it, and a senior person looked at it, and then the actuary reviewed it. After the actuary reviewed it, the material got another review, because we had "front office review" (I think most people call it "peer review,"), which meant that very well-qualified actuaries in the front office read every word that went out of the office. I don't know how a mistake could ever happen, and I really have not heard of any horrendous ones that did occur.

That was the office. Now, I'll discuss the plans. I always worked with noninsured plans. I'm probably one of the few people who never worked for an insurance company or for another consulting actuarial firm. I don't know what happened in other offices. I can only talk about what happened where I was. In 1949 the majority of noninsured plans were public employee systems. These were mostly final average pay plans. They were contributory. Many of the employee contributions were based on sex-differentiated entry-age rates. You just don't hear of that anymore. I haven't heard of that kind of a thing in years. Most plans, by number, were group annuity contracts with a few that were also individual annuity contracts. The group annuity contracts were career-pay plans, and very few were contributory. They were valued on mortality tables with what was usually a 2.5% interest assumption. I saw some that had 2%, and some were maybe up to 2.75%. But generally it was around 2.5%.

The big thrust in employee plans in 1949 came because of the 1948 Supreme Court decision in *Inland Steel v. the National Labor Relations Board* that pensions and other employee benefits were subject to collective bargaining. There was a tremendous amount of new business in negotiated plans. There was also a lot of related business in plans that were established for salaried employees that followed through on the negotiated plans.

The negotiated plans, by and large, for the automotive and the tire industry were nonpay-related benefits. Originally, the automotive plans were \$100 a month minus Social Security. If you had 25 years of service and prorated back for less service, then they went to flat dollars per month, per year of service. For salaried people in those industries, the plans were the same as the hourly plans. These were enhanced by a separate contributory career-pay benefit.

In the steel industry, the major companies established a ten-year final pay plan, with a minimum benefit (flat dollars per month per year of service), and the salaried employees were generally given the same benefits as the hourly.

These hourly and salaried employee plans were all valued on a multiple decrement active service basis, and oftentimes, they were select and ultimate. In 1949 the interest rates were roughly 2.5%, mainly because companies were investing only in bonds or in insurance company legals in New York State. However, some of the brave sponsors dared to invest 10% in stock, maybe even 20%, and we saw interest rates going to 2.75% and 3%. I think I even had a plan at 3.25%, but that was pretty wild.

I can assure you nobody moved quickly. Because this was so new for the plan sponsors, they were scared. From the actuaries' view, don't forget all of the commutation columns and multipliers that had to be worked and reworked every time you changed an interest rate, which was all done by the poor computer people. The consulting actuaries were certainly aware of the time and costs of valuing assumption changes, and they really tried to minimize that kind of work.

Now that we have talked about the office in 1949, we're going to have Ken Steiner tell us about the changes that came through government laws, i.e., tax and labor laws (along with related regulations) and through Social Security changes. Kenneth A. Steiner is a consulting actuary with Watson Wyatt Worldwide in Boston. His specific responsibilities include consulting on issues relating to the design, administration, and funding of qualified and nonqualified retirement programs. He has a total of 27 years in the actuarial consulting field. He's a Fellow of the Society since 1978, a Member of the American Academy of Actuaries and the Conference of Consulting Actuaries. He's an enrolled actuary under ERISA. He recently completed a two-year term on the board of directors of the American Academy of Actuaries, serving as the vice president responsible for pension and social insurance. That's why he was chosen for this program.

He is a former member of the Pension Committee of the Actuarial Standards Board and a former chairman of the Academy's Committee on Social Insurance. Ken has been a guest speaker for such organizations as Hospital Corporation of America,

New England Employee Benefits Council, and American Society for Hospital Personnel Administration. Ken holds a bachelor of arts degree in mathematics and economics from the University of California at Davis.

Mr. Kenneth A. Steiner: I'm going to talk about two areas, one being federal regulation of U.S. pension plans and the other being changes in Social Security over the last 50 years. Up front, I will apologize to the Canadians because I'm not going to spend any time at all talking about development of pensions or Social Security in Canada.

Many changes have taken place over the last 50 years. By examining what has gone on over the last 50 years, I hope we'll have some clue as to what will occur into the future, and I hope there will be time to discuss how the past might affect the future on a going-forward basis. As Mary indicated, there were not very many corporate plans in 1949. During the past 50 years, corporate sponsorship of defined-benefit (DB) plans skyrocketed and then decreased very rapidly. That's an interesting thing that we need to take a look at in predicting the future.

The SOA began in 1949. In 1949 the federal regulation of pension plans was pretty much governed by the Internal Revenue Code of 1942, various IRS regulations and rulings, and the Labor Management Relations Act of 1947, which addressed employers bargaining for pensions. The IRS focus was primarily to prevent discrimination in favor of shareholders, officers, supervisors, highly compensated employees, and to protect federal revenue. The focus was not necessarily on individuals' rights, vesting, or actuarial soundness of these programs.

As is the case today, there were tax benefits to having qualified plans, and I'm not going to go into these benefits, but to be deductible, the contribution had to be made to a trustee or an insurance company, and you had to have a definitely determinable benefit formula. The maximum deductible contribution rules actually encouraged the use of actuaries. Actuaries benefited by the fact that, to be deductible, a contribution could be no more than the normal cost plus 10% of the past service cost.

As I indicated, the IRS was not generally concerned with actuarial soundness of the program, and there was limited protection of employee rights and limited vesting prior to early retirement or normal retirement. In fact, many plans had no vesting prior to early or normal retirement. There were limited reporting requirements and very limited fiduciary requirements. One of the first IRS rulings that involved actuarial solvency was PS 64, which was a letter that dealt with a specific situation where the employer certified that the contributions to the plan would not be less than a normal cost-plus-interest on the actuarial accrued liability. This was a union plan situation, and the IRS indicated that this plan was definitely determinable and, because of the employer's certification, it satisfied the permanency requirements.

In 1956, when Eisenhower was re-elected, the IRS issued Mimeo 5717, which also affected actuaries. It required a certain amount of funding if you wanted to avoid the top 25 paid restrictions. If you didn't fund the full normal cost over ten years, the top 25 restrictions would apply. In 1958 the Federal Welfare and Pension Plan

Disclosure Act was passed, and this was supposed to provide participants with information about the plan operation so that they could detect wrongdoing. It applied to plans covering more than 25 employees. This particular act didn't have a great deal of impact. In 1962, when the Cuban missile crisis was occurring, Kennedy was president, and John Glenn circled the globe, a presidential committee on corporate pension funds was established. This was the predecessor committee to ERISA. The committee's report was submitted to President Johnson in 1964, after Kennedy's death, and it made recommendations relative to what we now know as ERISA, 10 full years prior to ERISA.

In 1974 ERISA was finally passed, and this was big legislation for members of our profession. It established joint jurisdiction of private pension plans with the Department of Labor and Treasury. It established lots of new rules relating to employee rights, and it made lots of amendments to the Internal Revenue Code relative to vesting and participation. It also established a joint board for the enrollment of actuaries, and this, of course, was a big event in the pension actuary's career. It established enrolled actuaries. Many of you in this room became enrolled. It also established the Pension Benefit Guaranty Corporation (PBGC) to protect the benefits of participants.

As I said, ERISA established funding rules. I don't have time to go into these to the fullest extent, but I will say that it was a landmark legislation that impacted us and set the stage for rapid growth in a number of DB plans that we did actuarial consulting for. For the first time, the IRS was charged with enforcing actuarial soundness concepts.

Now, as part of ERISA, a code section was established that defines "DB" plans. Code Section 414(i) defines what a defined-contribution (DC) plan is, and then 414(j), this landmark legislation, defines a DB plan as a plan that's not a DC plan.

Let's move on to 1974-79. I'm going to have to start grouping the years because things happened very fast at this point in history. There was the Tax Reduction Act of 1975, which established employee stock ownership plans (ESOPs) and the Tax Reform Act of 1976, which gave us an investment tax credit for ESOPs. We have a huge piece of legislation in the Revenue Act of 1978, which established 401(k) plans that, as you know, had a huge impact on DB plans and may be the enabling piece of legislation that wipes out DB plans all together. We also had amendments to Age Discrimination and Employment Act and the Norris case dealing with unisex annuity factors. We had the Multiemployer Pension Plan Act of 1980 with PBGC guarantees and withdrawal liabilities. We had the Economic Recovery Act of 1981, which increased IRA limits.

We then started having legislation that was really damaging for DB plans. There was TEFRA, which was, to some extent, damaging for these plans. In TEFRA, DEFRA, and the Retirement Equality Act (REA), we had significant reductions in maximum benefits reductions in compensation limits. While I say they were damaging, they did create an opportunity for DB pension actuaries in that nonqualified plans became more prevalent because of the cutbacks in these benefit limits. REA also gave us an opportunity to consult with our clients on qualified

domestic relations orders (QDROs). These things weren't entirely bad, but many of our plan sponsors reacted negatively to the constant change in legislation that occurred during these years.

We then had the Tax Reform Act of 1986, which provided bright line tests for discrimination and also provided additional further limits on compensation, repeal of income averaging, and a mixed bag of good news and bad news for actuaries. We then had the Single Employer Pension Amendments Act (SEPA), which changed plan termination rules and increased PBGC premiums. The Omnibus Budget Reconciliation Act (OBRA) of 1986 was actually the Tax Reform Act of 1986. OBRA 87 gave us a 150% full-funding limit. There was also the Technical and Miscellaneous Revenue Act of 1987 and 1988. OBRA 89 gave us additional minimum funding charges.

We just keep going year after year. OBRA 90 gave us an increase in the reversion tax. We finally got regulations in 1991 for the Tax Reform Act of 1986. About this time people started getting upset about all the changes that were occurring. During this time, initial application letters or determination letters for DB plans pretty much fell to zero after having averaged nearly 19,000 per year in the preceding ten years. From 1985 to 1991, we had 88,000 applications for DB plan terminations, which, in a fairly brief period, wiped out a lot of the plans. Many were smaller plans sponsored by small employers, but it is clear that the changes in federal regulation led to the termination of many traditional DBs plans. I find this to be somewhat ironic, because in today's environment, Congress is complaining about the reduction in future accruals for cash-balance conversions, yet congressional action over this period strongly contributed to the termination of over 100,000 plans that resulted in full reductions in future benefits accruals.

Also during the 1990-99 period, the Dow Jones Industrial Averages increased about 15.5% per year. Many people think that they can make all kinds of money by investing in DC plans by themselves. This has also led to DBs plans losing favor. In the 1980s actuaries developed hybrid plan designs, and we now have DB plans that no longer stress payment of annuities. They stress payment of lump sums.

What's going to happen during the next 50 years in terms of federal regulation? We have proposals that would prevent us from having wear-aways. We have proposals for significant disclosure if there's a future reduction in benefits. I don't know, but it strikes me we'll have quite a bit of regulation over the next 50 years that will affect DB plans.

I'd like to talk about the way Social Security was in 1949 when Truman was president., and see what has happened to Social Security over the last 50 years. Again, I apologize to Canadian people. I'm only talking about U.S. Social Security. In 1949 what we had was an old age and survivor benefit only. There was no disability insurance. There was no Medicare. Not everyone was covered, although most people were. The benefit was equal to 40% of an average monthly wage, (wages were counted after 1936), plus 10% of the next \$200, and increased by 1% for each year of coverage. Benefits were paid at age 65. Benefits were not subject to federal income tax. The employee rate was 1% of covered pay. It was initially

scheduled to be 3%, but they cut it back. The maximum taxable wage base was \$3,000. If you do the math, the maximum employee contribution tax on an annual basis was \$30 back in 1949.

In the amendment of 1950, coverage was expanded to most employees and non-farm self-employed workers. The earnings test was increased to \$50 per month, which you could earn and still keep your Social Security benefit. They increased the tax rate to 1.5%, with self-employed at 75% of the worker rate, and they amended the taxable wage base to increase it to \$3,600 in 1951.

In 1956 the eligibility age was reduced to 62 for women only, on a reduced basis. Also, a disability benefit was added for people who became disabled after age 50. The employee tax rate was increased to 2% up to \$4,200, and the maximum benefit payable at that time to someone who had contributed maximum earnings was 35% of the average Social Security wages at that time. In 1960-61, when Kennedy was elected, all disabled workers became covered, not just those over 50. The eligibility age was lowered to 62 for men, but there was still gender discrimination in favor of women in 1961. Employee tax rates for 1961 were 3% up to \$4,800, and the maximum benefit divided by the average national wage in 1961 was still about 35% of average wages. In 1965 when we had the Viet Nam War, they adopted Medicare, and initial employee tax rate for Medicare was 0.35%.

In 1966 they added child school attendance benefits and wife and widow's benefits to divorced wives married at least 20 years, but not for men. The employee tax rate was 3.625% up to \$4,800, and the maximum benefit divided by the average wage was 34%, which is fairly constant, around 35%. In 1972, we had Watergate and Nixon reelected. They increased the widows and dependent widower's benefits and instituted automatic indexing and automatic cost of living adjustments (COLAs) in 1972 so that Congress and President Nixon stopped increasing Social Security benefits on an ad hoc basis. The earnings test was liberalized, and the employee tax rate was up to 4.95%. The employee tax rate was 4.6% up to \$9,000, and the maximum benefit payable divided by the average wage was still around 35-36%.

In 1977, the dependent requirement was eliminated for husbands and widowers. Men started getting equal treatment. There was a frozen minimum benefit, and there were changes made in the earnings test. The employee tax rate was 4.95% up to \$16,500. At this time, we saw a significant increase in the maximum benefit divided by the average worker wage. It was now up to about 51%.

There were major changes in 1983. This is the last year of major changes to the program to bring it into long-range actuarial balance (at that time). Coverage was expanded to include all newly hired federal employees. There was a six-month delay in the cost-of-living increase at that time. The Social Security normal retirement age was increased to 67. All gender-based distinctions were eliminated, and the self-employed paid the full employee-employer rate. There was some general revenue financing introduced in 1983. The tax rates were increased, and benefits were taxed, and the employee tax rate went to 5.4% up to \$35,700. In 1983, the maximum benefit divided by the average national average wage was about 56%.

In 1983, the program was considered to be actuarially sound for the next 75 years, and there was a huge trust fund accumulation anticipated, which was projected to reach a maximum in the year 2025. Subsequent to that time, the program is now out of long-range actuarial balance and has been since 1990. Nothing has really been done about the long-range actuarial balance, since it became out of balance in 1990. This is an indication that actuaries who produce the Trustees' Report or who work on the Trustees' Report basically have made an actuarial call for some kind of action because there is a long-range deficit that has not been answered.

In 1991 the wage base was increased to \$125,000 for Medicare. The tax rate for the OASDI contribution, was 6.2%, which is what it is now, up to \$53,400 of earnings, and the maximum benefit level has remained about 56% of average wages.

In 1994, Congress took off the wage base cap entirely for Medicare, so there is no limit for Medicare wages and the employee OASDI tax rate went up to \$60,600. As of 1999, the program has been out of balance for ten years, but there has been no action. While we heard a lot of discussion about what to do about Social Security, nothing has been done, and proposals for changes in the future are considering general revenue financing and defined-contribution approaches.

From the Floor: How long is that ten-year period compared to the previous period?

Mr. Steiner: That's a good question. Ron, maybe you can help me out with that. It has not always been immediate. There has been some kind of short-range problem that has resulted in action, and since there is no short-range problem here, what will happen?

Mr. Ronald Gebhardt'sbauer: In approximately 1973, Social Security began to show fairly large actuarial long-range deficits. The 1977 amendments more or less eliminated it, but—

Mr. Steiner: I think they were a little short.

Mr. Joseph A. Applebaum: No. I think that they were certainly in close actuarial balance at that point. They obviously fell out of it by 1983.

Mr. Arthur L. Hallett: I think when you mentioned ERISA, you implied that it was positive for defined-benefit plans, i.e., actuaries, and when you start naming the laws during the 1980s, you implied those were negative. It's debatable whether ERISA really was a positive, particularly when you are talking about funding. What gets into the equation is many employers did not like the funding, and, therefore, that goes back to ERISA.

Mr. Steiner: I think if we looked at the number of determination letter requests, you had much more positive activity in terms of determination letter requests after ERISA than the legislation close to ERISA.

Mr. Hallett: That could be economic.

Mr. Steiner: That's quite possible. I mean I don't have any statistics that would support whether it was positive or negative. Ed?

Mr. Edwin C. Husted: If I understand maximum benefit over average wage, it works as an index, but I think it's a bit misleading. You're taking the maximum benefit anybody can get in the year divided by the average annual wage during the year. The actual percentage return for somebody at the maximum wage probably would be more like 20%, and somebody at the average wage would be more like 30%.

Mr. Steiner: That's a good point. I just included that statistic to give a general idea of about what the level of benefits were. It was a statistic that I had, and you know statistics lie.

Ms. Adams: We're now going to hear from Bob Byrne. He is the global leader for Human Resources Outsourcing for PricewaterhouseCoopers LLP. In his roles, he has worldwide responsibility for all the benefits and strategic human resource outsourcing services delivered by over 2,000 consultants in five offices. Bob received his bachelor's degree with high honors in mathematics from Georgia Institute of Technology. He joined Kwasha Lipton in 1977, became chief executive officer in 1995, which he held until Kwasha Lipton's merger with Coopers & Lybrand, and then they merged with Price Waterhouse.

Bob is a Fellow of the SOA, a Member of the American Academy of Actuaries and of the Conference of Consulting Actuaries. He served on the Pension Committee of the American Academy of Actuaries, on the Actuarial Standards Board, and as a liaison between the SOA and the Conference of Consulting Actuaries. With that background, you can tell he's going to not tell us about outsourcing resources. He is going to talk about the effect of accounting regulations on the design and the funding of pension plans. He'll also talk about all the things that the accountants have done to us over the years, and maybe even tell us something about any changes in benefits that he feels have come because of those.

Mr. Robert S. Byrne Jr.: I'm going to limit my comments to the last 33 years. Before Actuarial Practices Bulletin (APB), Opinion No. 8, accounting laws were governed by Accounting Research Bulletin (ARB) No. 47. The goal of APB No. 47 was that results should not be unduly influenced in any one year by the accounting of pensions. There was a minimum amount to be expensed, which recognized divergent practices. In terms of funding (not an actuarial present value but the present worth), the accrual should equal the present worth of pension commitments to employees that are vested. With regard to the balance sheet, there was the difference between the present value of vested benefits and amounts funded or accrued but not yet funded.

There was no definition of what constituted vesting. Actuarial cost methods were left up to the actuaries. Gains and losses and funding of prior service cost was all over the map. Those are the reasons why APB Opinion No. 8 came into being. The

idea was to narrow the practices that would apply. The APB No. 8 superseded ARB Nos. 43 and 47. No. 43 applied to compensation. There was a paragraph that had to do with pension plans.

The Accounting Principles Board wanted to reinforce the concept that contributions and costs were not necessarily equal. Four prevalent views existed at the time as to the nature of the pension promise. One was that you should take into account all amendments and you should accrue for them over the course of an employee's future service or possibly a little longer. The second view was you take a look at the employee group as a whole, and you say we, as a corporation, are probably never going to have to pay more than normal cost plus interest on the liability or on the unfunded liability. Since that's the only thing we're going to ever have to pay, maybe that's all that should be accrued towards the pension cost.

A third view was very similar to the second view because it recognized that normal cost plus interest might not completely take care of present value of vested benefits. The third group advocated that normal cost plus interest on the unfunded liability had to accrue to at least the present value of vested benefits. The fourth view, which the Accounting Principles Board completely refuted, was to say the legal liability of an employer was the amount funded and that should represent the accounting cost.

Reflecting diversity way ahead of their time, the accountants came out and said, "You know what? You can determine pension cost in a range." There's a minimum. Most organizations used the normal cost plus 40-year amortization rule. Note the similarities between what Ken talked about, in terms of federal law, versus what the accountants were doing. The maximum was normal cost plus 10% of past service cost. In interest rate environments like Mary was referring to, of 3%, a 10% flat amortization might correspond to a 12-year period. When you get up to a 7% interest rate, it might be something on the order of 18 years, and for those times where people might have been using a valuation interest rate in excess of 10%, I think we all know that you never amortize anything. In terms of the balance sheet liability, the liability as stated under APB Opinion No. 8 was the difference in costs and amounts funded.

I will mention some interesting items. If, in fact, they are considered funding methods, the pay-as-you-go and the terminal methods were not allowed. Other funding methods were okay as long as the assumptions that underlied them were reasonable. I found it interesting to go back and reread APB Opinion No. 8. Compensation levels many times were reflective of only merit increases. Given typically low interest rate assumptions in the 3-5% range, I would classify the mix of interest rate and compensation levels as being fairly implicit.

Gains and losses

If there were separate adjustments, you'd do it over a 10-to-20-year period. However, gains could go and offset prior service costs, but not the prior service cost amortization period. If there was a special occurrence that was somewhat similar to *Federal Accounting Standard (FAS) Statements 74 and 88*, you should account for that separately. In general, you were to try and include all employees, but if

you think your results would be close enough when eliminating younger shorter service employees then that was okay.

Multiple plans

This part was very different. If you had different plans, each of them could use a different actuarial cost method and a different amortization method, pertaining to that plan. Pension disclosure became real but was not overly burdensome. Pension expense in the aggregate was disclosed. There were no two-year comparisons. In very general terms, the contribution policy of the employer was stated. The only liability disclosure was an aggregate one in the event there existed unfunded vested liabilities. APB Opinion No. 8 became effective for fiscal years beginning in 1967.

I'm going to jump to Pension Plan Recommendations A, B, and C, which originally were issued through the Academy. These were really the precursors for *FAS 35 and 36*. They talked about how to calculate the actuarial present value of vested benefits and accrued benefits. Of course, the pension terminology used was always different. Recommendation C is the appropriate use of the accrued benefit method with proration based on compensation.

I will give a brief history on *FAS 35*. What I found amazing about some of the early statements was the closeness of the vote. Here the vote was 4-to-3 affirmative to approve *FAS 35*. What was *FAS 35*? For the first time, individual pension plans had to have their own financial statements. You had to state your beginning and end-of-the-year assets and liabilities. You didn't care about book accruals because this was the pension plan's statement. Benefits accumulated are used as the balancing item that actuaries use in getting from the beginning to the end of the year. I think I might have given a little bit more hint as to what was going on as benefits accumulated, at least as it relates to the normal cost element.

This one did not even have to go for a public hearing, *FAS 35* came into being. This has a 6-to-1 affirmative vote. The first four items were very close to the requirements of APB Opinion No. 8 in terms of what had to be disclosed. The last one was a big change, and you did not have to flow from beginning to the end of the period, but you did, for the first time, have to show the funded status with respect to accumulated and vested benefits. This is an example where accounting policies influenced behaviors (plan terminations, etc.). The interest rate was still defined as a rate of return as it had been in APB Opinion No. 8.

I won't go through *FAS 74* except to say it was another amendment to Opinion No. 8. This statement affected window programs, designs of window programs, and early termination programs for employees. One example that many employers adopted was, rather than having a window for a short period of time, they would put in a permanent window. For example, add five years of age and service to a pension calculation and then continue the old formula. That bad word "wear-away" would occur. However, since the amendment was permanent, *FAS 74* was non-operative. Did accounting policy influence plan design? I leave it to conjecture. This brings me to *FAS 87*. There were discussion memoranda. Then came preliminary views. There were exposure drafts. The vote was 4-to-3 in favor of adoption, which I found amazing. Many people in our office used to say, "If just

one more individual had voted against it, *FAS 87* would not have come into being." Some of the dissenting voices believed that the Statement should have even further reach. It makes me think eventual approval was inevitable. *FAS 87* brought completely new jargon, a completely new way of describing pensions. There was net periodic pension cost, instead of pension expense; service cost, instead of normal cost or a current service cost; vested benefit obligation, rather than the present value of vested benefits; market-related value of assets, instead of average value of assets or actuarial value of assets. The biggest change involves the determination of interest cost and the return on assets. I know a lot of my actuarial brothers and sisters don't agree, but I believe this was a masterful stroke. I think it actually attacked the problem in an appropriate way. Right away, it had a way of equating funded plans with unfunded plans. I had issues with the questions and answers on some issues that should have been left to the actuaries. One example is a career average pay plan that gets amended. Every participant's benefit entitlement increases, but, when you follow through the rationale presented in the answer, you actually get a decrease in cost.

FAS 88 superseded and replaced *FAS 74*. *FAS 132* applies to pensions. It also goes further than that, and it does take a look at health care plans. It supersedes disclosure portions of *FAS 87 and 88*. The biggest change on the pension side—there's big changes on the health care side—is instead of showing the change in funded status from the beginning to the end of the year, we show the reconciliation of PBO. From a pension actuary's perspective, this is the biggest change.

Something else that's out there is the new International Accounting Standard (IAS) No. 19, which replaced what was called the old International Accounting Standard No. 19. That is not something that has to be used in the U.S. It is something that gets used in quite a lot of other countries. Even though it's not on the FASB's agenda right now, at some point, when they're taking a look at Statement 87, they might amend it to be more in line with or almost identical to IAS No. 19.

The amortization period for amendments for people who are already vested is immediate. That's a big change. Old IAS Accounting Standard No. 19 did have that requirement for retirees. Individuals who aren't vested can amortize the amendment over the period until they become vested. This potential accounting standard change could affect future pension plan design.

Ms. Adams: We will now hear from Bill Smith, a retired partner of Milliman & Robertson (M&R). Bill's pension clients were corporate, both negotiated and non-negotiated, and Taft-Hartley. A major part of his career has been spent on public plans. He also provided actuarial expertise when two life insurance companies started. He had quite a bit of court testimony over a period of 40 years, with over 50 assignments, that were roughly evenly divided between representing plaintiffs and defendants.

Bill graduated from Stanford in 1948, with a bachelor of science in mathematics. He did post-graduate work in actuarial science at the University of Manitoba. He's a Fellow of the SOA, a Member of the American Academy of Actuaries, a Fellow of the Conference of Consulting Actuaries, an Associate of the British Institute, a Member

of the International Association of Consulting Actuaries, and the International Congress of Actuaries, and he's an inactive Enrolled Actuary. He was a member, and then a Chairman of the Committee on Guides to Professional Conduct. He was on the Society Board of Governors, a Member of the Board of Discipline for the Academy, and Chairman of the Joint Committee to obtain a new pension textbook. Before joining M&R in San Francisco, he was with the Prudential for eight years and with West Coast Life Insurance Company as a summer student.

Mr. William David Smith: I can't resist telling you about my first Society meeting in 1954 in Chicago. I was working at the Prudential in Newark. I took the train, as few flew in those days. You'll see a difference between that meeting and this one when I tell you that each attendee stood and introduced himself (all males as I recall) and gave his business affiliation. The whole meeting numbered about those on one side of our meeting room. There were many from Prudential, and I remember being amused by one gentleman who introduced himself with a British accent claiming as his employer "THE Prudential." If you don't understand that, you need to know that 125 years ago, John Dryden went to London representing the nearly ruined Widows and Orphans Friendly Society, trying to understand enough of the insurance business to save his company. The Prudential of England was generous with information and on his return, Dryden used not only the information but also the name of his benefactor.

Our first two presenters were very specific. I'm going to be very general, and short. I've chosen to use the period 1950-2000 merely because it's neater than 1949-99. During that period voluntary pensions expanded in the free world; that is, many of the employed segment of our population were covered in 1950, and most were covered in 2000.

Some important demographic changes occurred during that period in the pension area. At the start of the era, most families had a male breadwinner with a female at home. That has changed dramatically. Most women are now in the workforce, and private pensions have not dealt very well with that change because provisions of most pension plans presume the earlier demographics.

I would like to first review the economic circumstances of the period. I have chosen to split the period into three eras, chosen because I think the eras covered times that were somewhat alike and at the end of which was a dramatic change. The statistics quoted are from Statistics for Pension Actuaries.

The first era was 1950-66, a period of 16 years. The CPI increased an average of 1.7%. The Standard and Poor's (S&P) 500, net of CPI, earned about 12%. Long government bonds earned nothing. Corporate bonds were a little better. In other words, there was low inflation, good earnings in equities, with long bonds just matching inflation. At that time, a much higher proportion of pension plan assets were in bond type investments than now, and the results of that period were probably the cause of plans moving rapidly toward equity-type investments.

During the second period, the 16 years from 1966 to 1981, the CPI averaged 7.2%, the Standard & Poor's 500 earned nothing over inflation, and long-term

government bonds lost almost 6%. It was a disastrous period for pension investments.

The third period is from 1981 to 2000. The last statistics I have end in 1994, but I believe the conclusions will be slightly better than I will state when the results are in for the whole period. In this period, inflation has been a moderate 3.6%. The S&P produced 11% over inflation, and long-term governments and corporate bonds produced almost 10%. In general, it was a period of amazing prosperity with moderate inflation and spectacular investment yields.

I spent a good part of my business life, during the second and probably worst period, saying to clients, "Things can't be this bad in the long run," and I'm now saying, "Things can't be this good in the long run." I think the investment and the inflation results of the last two decades can't continue forever. I believe they are unprecedented in history. It's anybody's guess when it will end. Will it be one month, one year, or one decade? How far into the new century will it go? One has to wonder about the cause of such an unprecedented two-decade boom. I believe the start of it goes back to a single event that occurred at Stanford University. In 1947 a group of physicists led by William Shockley discovered that they could control current in a small piece of specially prepared silicon through the application of a small voltage. It operated like a vacuum tube, but it was done without a vacuum and at room temperature. At that moment the solid-state electronic age was born. I believe I was attending school at Stanford the day that happened, and wish I could say that I knew it happened and had something to do with it, but neither is true. I was clueless, as usual. Not only that, I suspect that Shockley himself would be dumbfounded at what has developed from that initial small device.

The progeny of that device has required many millions of hours of development and has certainly required intellectual leaps at least as great as that initial device, so I don't mean to imply that this was a purely Stanford invention. The time was right for that discovery, and it would have been discovered somewhere else if Shockley had not done it. It took decades to develop the hardware and software required to enter the information age, and I suspect 1980 was about the time it all came together. The U.S. was in the perfect position to take full advantage of the situation. Recognizing that nothing so big can be simple, I suspect that the information age and transistor technology is what has driven this unprecedented long boom period.

The information market is huge, but there must be a saturation point. Software is very time-intensive, and since I think the rest of the world has a pool of talented, educated people who either now are or can become software experts, we might see a lot of software development move out of the U.S. These facts and the fact that economics has always been cyclical (why should it stop being so?) lead me to wonder when a peak will be reached.

The three eras mentioned above affected pensions considerably. I'd like to speak briefly about what happened during the 50 years to private plans, then about public plans, and finally about Social Security.

Private Plans

The number covered by private plans grew rapidly, first with career average and then final compensation plans. Private plans have always been careful about cost of living adjustments (COLAs), so they used them sparingly. Most of these plans were properly funded. Most of them were wounded in the 1966-91 period, which then resulted in management fears about risk and cost that continue to this day. During that bad period there was some cutback in benefits, and the current trend toward cash balance and DC plans may be largely a reaction to that really bad period. Finally, in the later period we found some overfunding, and some plans found ways to actually withdraw money from their pension funds.

Over this 50-year period, government regulation of private plans became bizarrely complicated in attempts to prevent use of cash-protected accumulations for the select few. We can't just blame the government for this as I believe we share the blame. We have management still concerned about risk and both benefit and administrative cost, resulting in a trend toward defined contribution. That trend is being helped by a government that seems burned by the complexity of its regulations. I fear that DC plans are founded on an assumption that the investment results of 1981-2000 are permanent. They are likely not, and since the retired years are the time we are least capable of handling investment fluctuations, the trend to DC may be ill-considered. I think we actuaries should be making more noise about this situation.

One final thought is that private DB plans have not handled the loss of benefits well when the workers change jobs, something done far more often now than in 1950.

Public Plans

By 1950, most public employees were covered by some kind of a plan. They started with modest benefits, but they were largely underfunded. They moved to final compensation plans and then to generous COLAs, which, in many cases got out of control. One bad example is the California State Constitutional Officers who had a CPI COLA, to which the salary increase rates were added for a brief period. It did not take long for such a double COLA to cause irrational benefits requiring court attention. Many police/fire plans and even the federal civil service employees' plans got into COLAs that could not be continued.

By the 1970s, the underfunding and COLA problems were being dealt with through sharply increased contributions. Nonfederal public plans can't reduce benefits for employees already employed, so cost was limited by creating second tiers. That has created some politically explosive discontinuities. There are numerous plans that have members who are hired one day apart who have quite different COLAs. Members may retire at similar benefits, but 10 or 20 years later there will be large differences, and that's a political time bomb. I'm not sure how we're going to get out of that.

Benefits for public employees have been almost exclusively DB. Why? One reason is that public employees seem more security conscious. They also don't seem to change jobs as often, so the defined benefit loss of benefit problem isn't as great,

and plans often have transfer protection if the move is within the same state. Public employers are not as concerned about cost or risk as the private sector. Thus, the trend to defined contribution has been slow. Other than the COLA discontinuities, that might cause grave political problems in the future, public plans seem in pretty good shape. In fact, some of them have seen overfunding in the recent past.