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CASH BALANCE PLANS

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Recorder: WILLIAM N. KUENDIG II

- Design
- Qualification
- Integration (problems?)
- Receptivity by participants
- Funding
- Transition from conventional defined benefit plans

MR. WILLIAM N. KUENDIG II: In the mid-1980s when cash balance plans became a big, hot issue, our company, like most, said get out there and tell your clients about them because you don't want the other guys telling about them. So I did that and it was probably one of the less enjoyable experiences of my life. At that point in time people didn't want to hear about something that gave lump sums. They didn't want to hear about something that gave more benefits to short-service employees. It was not a great experience.

Surprisingly enough, things have changed and some of those companies have actually implemented cash balance plans more recently and for different reasons. What we've come to find out is there are an awful lot of situations now created by legal requirements and some other things where cash balance ends up being a fairly good solution. Our purpose is to give you some background on cash balance plans, to how they developed, and just to give you a little bit of a working knowledge of cash balance plans as they exist today.

My name is Bill Kuendig and I'm with Towers Perrin. Steve Gould is with Towers Perrin in the Boston office, and John Woyke is an attorney in our Technical Services Unit in Valhalla, also with Towers Perrin. Steve will talk about the background and design of these plans, and John is going to talk about some of the legal issues that have come up and will continue to come up and need to be addressed when you're actually implementing a plan. Then I'm going to finish up with a little bit on the funding of these plans. At this point I'm going to turn it over to Steve Gould.

MR. STEPHEN J. GOULD: For my agenda, I'll talk a little bit about the historical development of cash balance plans just to give you a little bit of background, but we want to move quickly to what we've termed the basic building blocks for these programs and talk a little bit about the attractions both for the employee and the employer and, as Bill mentioned, talk about some of the legal concerns and funding issues from an actuarial standpoint.

The term *cash balance plan* is relatively new, and it really became popular when Bank of America put in a program back in 1985. In fact, cash balance plans have been

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around a lot longer than that. For example, I'm the actuary for MIT, and MIT has had a cash balance for about 25 years. It's just that the company never publicized it in that context. In any event, over the past several years we've seen a lot of growth in this area, I think, partly because designs have become more sophisticated and more responsive to employer needs. Second, I think once it was shown that under the Tax Reform Act these plans could exist and pass the tests, they have become a lot more popular.

I've seen surveys and we've done our own counts, and there are probably between 100 and 200 cash balance plans of relatively significant sponsors across the country. What's interesting is that the plans don't seem to be concentrated in any one particular industry. When we looked, in fact, in our own office, we found that we had examples of many industries represented; so it seems like the attractions, albeit maybe for different reasons, cover a wide gamut of different types of employers.

You're all familiar with defined benefit plans and defined contribution programs. I think the way we like to think about cash balance plans is really as someone stepping back and trying to take the best features of each of the types of programs and combining them into a new type of design. Remember, a cash balance plan is still a defined benefit plan and has to comply with all of the defined benefit (DB) rules. Still, when you think about defined benefit programs for a moment and try to list their advantages -- and clearly both have disadvantages as well -- you'd find the defined benefit plan is cost effective. Most of the dollars get channeled to people who stay to retirement as opposed to being paid out to people who quit early; so it makes good use of an employer's scarce resources.

Because of the flexibility in funding rules, defined benefit plans give a sponsor a great deal of choice, which is not typically afforded in a defined contribution context unless you're working in a complete profit-sharing mode where an employer can actually succeed in lowering contributions in times of need. From an employee security standpoint, I think the combination of guaranteeing benefits, to a large degree, and also the PBGC insurance program does provide a security. Finally, in a defined benefit context, you're able to provide extra benefits. We'll talk about early retirement subsidies, for example, past service benefits, which are, at best, put in defined contribution plans in a very difficult manner.

On the defined contribution side, there are some clear advantages, which I think put cash balance plans on the map in the first place. The visibility for employees and the fact that they can see individual accounts and actually understand the way the plan operates are both key advantages. Another advantage to the employer is that it's more of a career average basis. The traditional cash balance plan bases benefits on employees' career pay, which gives the employer more control than a traditional final pay program where you can have more volatile swings in costs. So if you step back and try to combine all of these advantages, you get many of the elements that now constitute today's cash balance programs.

Initially when Bank of America came out with the program, the first cash balance plans really started off very simply. They provided, if you will, a flat percentage of pay. I'll call it a contribution although, as you know, it's more of a notional type of account to all individuals and there is a lot of technical design to demonstrate that this

really meets all the requirements of a defined benefit program. These early plans looked like a career average pay indexed plan and plan documents included all of these necessary legal details. Fortunately, I came up from a different side that had worked a lot with defined contribution plans, so I considered a cash balance program nothing more than a plan that provided an annual contribution with a guaranteed interest rate and annuities to employees. This fact doesn't necessarily help you analyze all the technical issues, but it certainly helps explain it a lot easier.

In any event, the first plans were this flat contribution, and they really were not that popular for the obvious reason that either you tended to spend a lot more money to maintain the retirement income objectives of career employees or, alternatively, you spent the same amount of money, in which case there were substantial shortfalls for career people. Given those issues, we did not see a lot of adopters of cash balance plans, although there was some activity in terms of going out to organizations and demonstrating all of its merits.

However, if you look at a design of a cash balance program today, you see a lot more. First of all, you see contributions, rather than a flat percentage of pay, that are graded by service or salary. We see plans that are integrated with Social Security much the same way as a defined contribution program, and therefore taking care of the more highly compensated individuals. You find some plans with early retirement subsidies to maintain some of the objectives of the prior defined benefit program, and you find a lot of innovation in the transition formula -- how do we move from a traditional defined benefit program to a cash balance plan? Of course, many of these transition issues are not issues for organizations that are moving from a defined contribution mode to a cash balance program. But if you're moving from a defined benefit plan, particularly one that's a final pay program, you do have a lot of issues that you need to address through the transition side.

As I said, I'd like to turn now and talk about the three basic building blocks: contributions, interest and distributions.

Chart 1 will illustrate three different types of plans. When we talked about an age credit, it implied that the annual contribution or credit for an individual would vary by the individual's age. Age is attractive because, as you know, the value of a defined benefit program is tied to the individual's age. If you're trying to replicate that type of benefit accrual pattern, you need to do something that incorporates age in the formula. In working with a number of organizations that have looked at age, while appreciating the need for it, we found sometimes they have been concerned that they appeared to be rewarding people for getting older. Despite the fact that that's the way their defined benefit plan works, this is much more explicit and I think creates its own set of issues.

So we turn then and say how about service? Well, service makes perhaps more sense in an organization because you can provide incentives for people to stay with you and come up with an adequate reward. Of course, for any particular individual, for every year they age, they also have one more year of service. You can design a service-related formula to replicate an age-driven formula for a particular individual. The biggest difficulty is that if you take two types of people -- one person coming in at an older age at mid-career or higher -- clearly the age formula is going to do a lot

CHART 1
Example of Formulas

Age	Annual Credit
Up to 39	4% of pay
40 to 54	6% of pay
55 to 65	8% of pay
Service	**Annual Credit**
Up to 9	4% of pay
10 to 19	6% of pay
20+	8% of pay
Age & Service	**Annual Credit**
Up to 34	4% of pay
35 to 39	6% of pay
40+	8% of pay

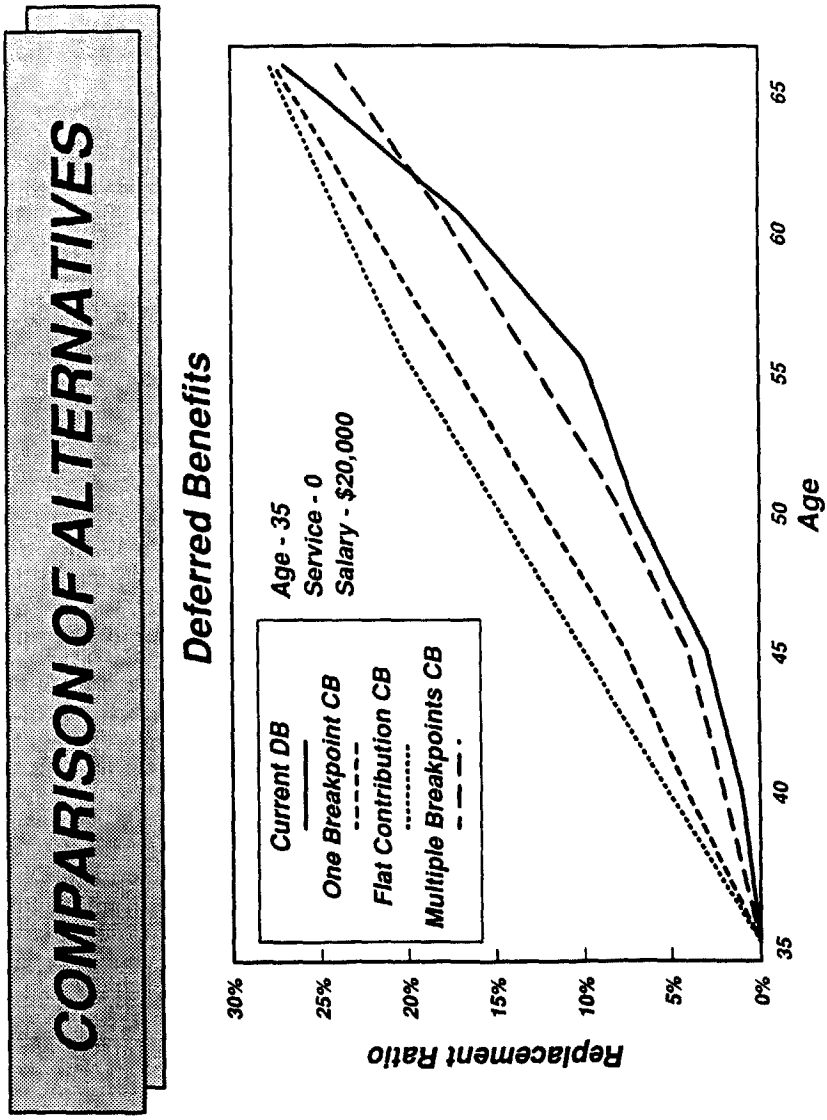
more for that individual than a service-related formula even if it's designed to adequately meet the needs of a sample new entrant coming in at age 35.

Given those two issues, we've worked with ways to deal with them and have sometimes used a combination of age and service. The idea is almost the point system where you may have the sum of age and service together providing certain break points for contributions, and that's illustrated at the bottom of Chart 1. There are a couple of points here. You're not free to make up any percentages you want as you grade between different break points. You have to satisfy the accrual rules for defined benefit programs. We've often found that the 133% rule in terms of changes is what's necessary to be satisfied; so there are limitations in terms of how you can grade. I think if you work with them, you'll also find that the more break points you have, the better job you can do of matching the defined benefit accrual pattern. On the other hand, you add a degree of complexity the more break points you have, and so you wind up with these types of trade-offs.

You have these three types of formulas that may operate. As I mentioned, if you look at Chart 2 the solid line is our honest replication of how a defined benefit plan accrual pattern works. In reality, it's going to be more of a smooth curve. If you look at the dots, those are what I'll call Generation One or primitive cash balance design where there was a single rate of contribution over a whole career. The curves match at age 65, so if you were simply designing the program to meet an individual corporation's objectives at retirement age, you could say that we've designed the cash balance plan that meets your needs and matches the defined benefit plan.

On the other hand, as you can see, the dot curve is always higher than the solid curve, indicating that if an individual terminated employment before normal retirement he would receive a much larger benefit; thus the increase in costs. In the small dashed line you look at a plan that has one break point and will pay you a 5% credit for your first 15 years of service and 7% for your next 15. While we still can get to the same ending point, it's a bit lower than the dot line, but still more than the solid.

CHART 2


COMPARISON OF ALTERNATIVES
Deferred Benefits
Current DB
One Breakpoint CB
Flat Contribution CB
Multiple Breakpoints CB
Age - 35
Service - 0
Salary - $20,000
Replacement Ratio
30%
25%
20%
15%
10%
5%
0%
35
40
45
50
55
60
65
Age

The large dashed line sort of shows, if you have more and more multiple break points, you can match more closely the curve. Of course, there's a trade-off between complexity and the match. As you can imagine, if you had a curve that had a break point at every single age, then under a given set of assumptions you would have the two curves be superimposed. This is what we talked about in terms of the trade-off between plan designs and complexity.

The second building block is interest credit. The way cash balance plans are often communicated to individuals and positioned is they're shown as a defined contribution plan. As a result, the amount of interest that you credit on someone's contribution and account becomes perhaps as important as the credit itself. There are a whole host of choices. You can fix some credit in the plan, let's say 7% of pay, or you can make the credit variable, perhaps tied to an outside index. You can put in a minimum credit, which may work for employee relations or help you in the design of the plan. You may also put in a maximum credit to avoid some short-term windfalls to employees and costs to the plan. For example, if you had said, let's use the prime rate, and you take yourself a number of years ago when the prime was near 20%, you might have argued that that's a lot more than we can achieve in our plan and that's much too much of a short-term credit to give employees and a maximum level would have dealt with that problem.

Finally, there are a number of plans out there that essentially have a low credit built into the plan and have the plan sponsor, as a matter of course, amend the plan each year to increase the credit for that particular year, although it then reverts back to the stated rate in the plan prospectively. These plans have been qualified. They appear to meet the definitely determinable definition, and they're very close to the concept of career average updates, where an organization will update its formula on a regular basis to tie benefits more to final pay than career pay. So there are a whole host of choices that you may choose among to set your interest credit design.

In terms of criteria, you may look to the plan sponsor and use a concept that has meaning in the sponsor's industry. For example, if you worked for a bank, you might choose to use something like certificate of deposit rates or money market funds because employees understand that. You may have had a prior plan or, for example, suppose you had a comparable defined contribution plan in place and a lot of employees are investing in a guaranteed annuity contract. You might say, let's peg our interest credit to rates in our guaranteed annuity contract, because people would understand that.

Finally, between utilizing minimums and maximums and having annual updates, you can exert some cost control in the process as well. Again, if we looked at our gamut of plans, we would find very different types of interest rate credits for those programs, clearly tied to the sponsor's objectives and their particular situation, but suggesting that there's a great deal of flexibility in establishing them.

The third basic element was what we've called distribution options. Essentially, because it's a defined benefit program, you have to offer an annuity; so that's one of the options in the plan. The other clear option that comes up is offering benefits in a lump sum in lieu of an annuity. Again, I think there is some criteria. First of all is cost. As we'll see in a moment, there is a significant cost to an organization to offer

a lump-sum option to terminated vested employees. It is similar to the issue you have when you're cashing out small lump-sums in a defined benefit plan and the organization is losing use of that money and instead paying out to people based on a relatively low interest rate. There's the same type of issue in a cash balance plan if the interest credit that people are going to earn is going to be, in the long term, lower than the interest credit that the sponsor can earn on its funds. It's not clear that all plan sponsors will want to provide a lump sum under these circumstances. Even where a lump sum is offered, it may be limited in terms of perhaps amount, percentage of the total benefit, or perhaps only available at certain times during a person's career, much the way a defined benefit plan may not permit any distributions until someone reaches early retirement age.

There's a security issue. As you may have experienced when you talked about lump sums in general, employers are clearly split on their feelings about allowing employees to elect lump sums and roll over the money or spend the money and not use it for retirement. So there is no clear consensus there and weighed against that is perhaps employee expectations if the employees have been communicated with about a plan in a lump-sum fashion perhaps tied or compared to their defined contribution plan where lump sums are offered. I think you may have an issue there.

MR. VINCENT AMOROSO: Steve, the early plans had, as their nominal standard form, increasing life annuities. For whatever reasons, do you see that trend continuing in your experience beyond the early plans?

MR. GOULD: I guess the way that some of us have developed cash balance plans is by looking at the program as an accumulation of an account that gets annuitized at market rates. The whole concept of this indexed career pay increasing annuities never arises whatsoever, and therefore, in a lot of plans we've put together, the normal form would be a straight life annuity. All that's really happening is you're taking a certain accumulation and converting it into an annuity. So I think the plans that are focusing on account balance accumulations would never get into the increasing annuity; whereas those that base their whole concept on indexed career pay plans might use the increasing annuity as a normal form just in their whole demonstration of how all the math works. I'm not sure we can get into more of a discussion like this without getting too complicated.

MR. JOHN F. WOYKE: I'll add that when I get into the legal issues I'll be discussing some of it. There are some legal problems also.

MR. GOULD: When we looked at cash balance plans 60% offered lump sums and 40% did not; the point being there's a significant minority of plans that simply don't permit lump sums. I think, depending on how the whole plan is designed and positioned, there is an extremely high cost to the employer to offer it, and in many instances, an employer can provide more benefits to employees if they take the benefit as an annuity rather than as a lump sum. Depending, I think, on how the consultant positions the issue, you can find that there would be two very different results.

Having said all of that, we turn to really what are the primary attractions. From the employee standpoint, I think the two obvious ones are that the employees get an

individual account and they understand how the plan operates. A third by-product is that the employees often get more than they would have gotten from a defined benefit plan. Whether they realize it or not, it may be one of the reasons they find it attractive. Certainly someone who is knowledgeable may like it for that very reason as well.

There are some issues, though, from an employer's side that may not be that obvious. First of all, we'll talk about the issue of investment arbitrage, but the point is that an employer can reduce the overall cost of its plan compared to offering the same program in a defined contribution context. This may be one of the true areas where there's simply more provided to everyone compared to allowing employees to invest their own money. Second of all, the fact that in a defined benefit context you have a range of contributions often permitted from year to year is frequently better than having one stated contribution. Finally, in the special situations where an organization has a defined benefit program that's in a surplus position, this is its one opportunity to convert to what essentially is a defined contribution plan, making use of the surplus assets without going through the time and expense of a plan termination and then, quite frankly, the inability to protect employees once they've moved to a totally defined contribution scheme.

From the employee standpoint, I think it's pretty obvious that you can put together an annual statement in much the same way that you put together one for a defined contribution plan where you can show a beginning balance, additional contribution credits, investment credits, ending balance and, in fact, how that balance could be paid in the form of an annuity. I think it makes that type of communication pretty easy.

From the employer standpoint, I think the idea of the investment arbitrage is an important one to appreciate. If you looked at most of your defined contribution plans, you would find that employees tend to invest in the guaranteed safe funds, and it's probably fairly representative to say that 75-90% of all the money in the typical defined contribution program is going to be in some safe type of fund, be it a guaranteed investment contract, short-term money market fund or something of that nature, and a much smaller amount going into equities. On the other hand, if you look at employers' investment strategies, those that have advisors, you would find that they're frequently more tilted 65%-plus towards equities or even volatile long-term bonds. The point is being willing to take a risk and putting 35% or less in safer types of funds.

There is some rationale for this. The employer has continuity, does not have to worry about timing at all and therefore an employer can legitimately invest in assets that, over the long term, are simply expected and have traditionally produced higher rates of return than an employee. An employee can invest like this at a younger age, but as a practical matter, as he or she starts approaching retirement years, an employee will typically try to move more to safer funds. Employees really do have to worry about market timing. As a result, our feeling is that if you looked at traditional spreads between these types of securities and took this type of weighting, you might find that an employer, in the long run, can get 100-300 basis points higher return on its assets than employees could if they invested the money.

If you take that as true and simply only look at 150 basis points, which might really be conservative, you'd see that $1,000 invested by the employee at say 6.5% produces the same account balance as an employer putting in $700 and earning 8% on that money. As a result, this is one situation where an organization could take a defined contribution plan, convert it to cash balance, and either save money – it might be a 30% savings over the long term – or alternatively increase benefits to people by giving a higher contribution at an equal cost to the organization. We think that this is a very important point to stress, because this is really money to be made and make the economic system simply more efficient.

We talked about funding flexibility. Again, it's just like pension plans with minimum and maximum ranges. As you know, you can have a funding standard account credit which could allow an organization to avoid making a contribution at all, even though it purports to be something that has an annual credit going in each year. I did mention the advantage of being able to use surplus assets to help fund the program. These are all, I think, advantages of a cash balance program.

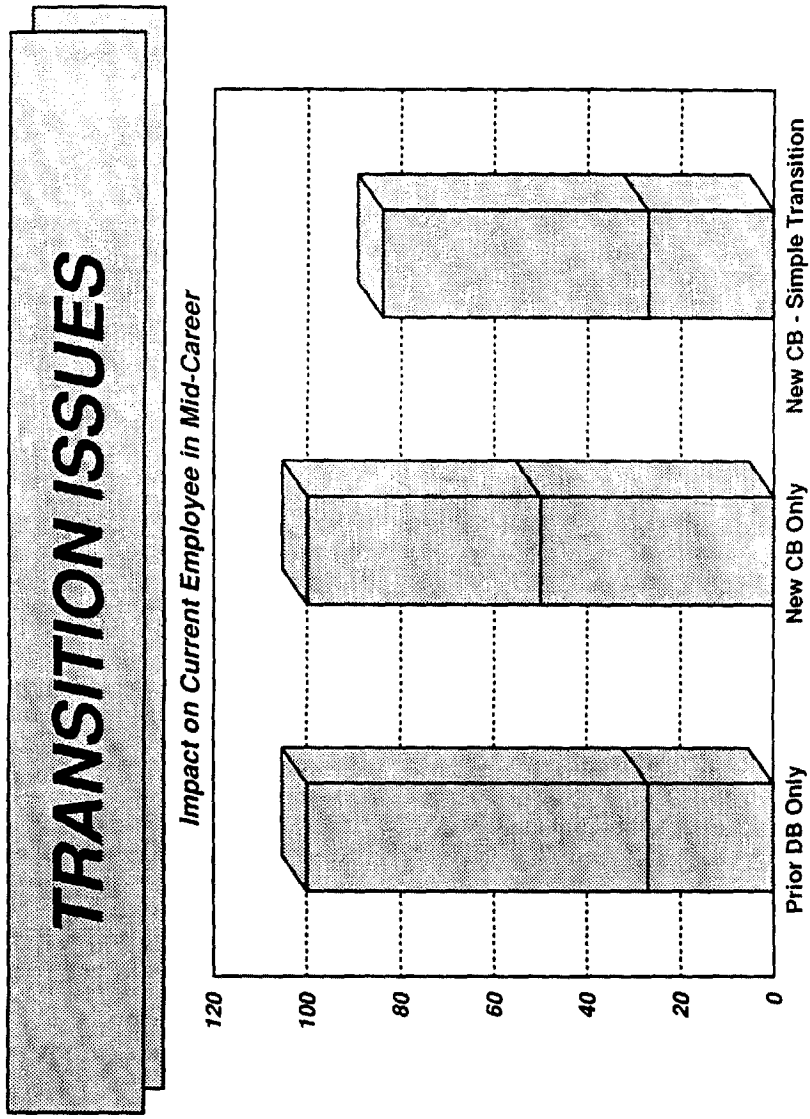
As we talked about, there are some real issues when you move from a defined benefit plan to a defined contribution plan. I'll try to describe these in Chart 3. If you took your defined benefit plan and you took a current employee that's say 15 or 20 years into his or her career with another 10 or 15 to go, you'd see that in the first two cubes we've designed a cash balance plan that has the same retirement objective as the prior defined benefit plan. The heights of the two cubes are the same. As you can imagine, or as shown on the cubes, frequently a cash balance plan has a higher initial accrual rate than the comparable defined benefit plan and the defined benefit plan catches up at the end.

If you took an employee in mid-career, you would find that perhaps he or she had earned 25% of his or her long-term objective by mid-career; whereas in our equivalent cash balance plan, he or she would have earned 50% of his or her credit. If you sat back and designed the plan for equal retirement benefits for a career employee, you'd have these two bars. Unfortunately, for the individuals caught in the change, they will have earned 25% of their benefit under the old plan. With no special transition, they're only going to earn about 50% of their benefit under the new cash balance program, and the sum of the two will be less than 100%. My math is not too good here, but the sum would be a little over 80%. The point is there's a shortfall to that individual through the operation of the transition, and the point was that the defined benefit plan would have had much higher accruals in the future and that the person is going to lose out on these and on the cash balance plan which has a lower or a future accrual rate.

This is an issue when you move from a defined benefit plan to a cash balance plan. The DB plan and the cash balance plan have the same projected retirement benefit for a sample employee coming in as a new entrant. The plan is designed to have equal benefits. The green is, in the future accrual rate for someone who is say age 50 in mid-career under.

MR. GOULD: If you took a new entrant, the first cube would show that the future accrual rate in the defined benefit plan has 70% to go for this person age 50. In the cash balance plan, that person is going to end at the same place.

CHART 3


TRANSITION ISSUES
Impact on Current Employee in Mid-Career
120
100
80
60
40
20
0
Prior DB Only
New CB Only
New CB - Simple Transition

As you get into transitions, you have issues about protecting people's retirement expectations. That's clearly an issue because you're putting in this plan presumably not to be viewed as a detriment to employees. Second of all, as you go through transitions, you don't want to provide any windfalls to people who quit the next day and you have cost constraints as an issue. You can imagine we've seen designs where people get extra credits for a certain period of time. We've seen situations where benefits are grandfathered for certain groups of people. We've seen situations where they get extra investment credits. We've seen enhancements to account balances. There's a whole variety of choices to make. Some work better than others, but an extreme is you could take that shortfall and simply say let's up everyone's account by 25% or 50%. That makes up the shortfall. Well, that is a problem if the person quits the next day and therefore winds up with a big windfall. You could say, why don't we vest that in some manner over a period of time, and that might translate into giving the employee some additional credits for a certain period of time so that employee doesn't get the enhancement all at once and someone who quits immediately doesn't get anything at all.

These are some of the trade-offs that you have to make and you have to weigh that against how you're protecting people through grandfathering and how complex you want to make the program. Finally, as you go through Tax Reform analysis, whether or not a safe harbor does appear for cash balance plans, in many instances, you're going to come up with special credits, grandfather protection, sophisticated designs, etc. Inevitably this means you're going to be doing detailed testing for Tax Reform. You have to watch that the groups that you're protecting are not discriminatory groups, and that's probably the one area that you might get into trouble in terms of testing; whereas the general plans themselves may not provide any real problem at all.

I mentioned some other benefits, one of those being early retirement. In this case, you can imagine that when someone retires before 65, if you think about our plan that says here's an account balance and let's convert it to an annuity, you want to provide some early retirement subsidy and you might provide a better annuity. This is really comparable to what is done in a defined benefit plan where you reduce the benefit by less than true actuarial equivalents. Alternatively, you might choose to somehow increase the account balances to an individual which might particularly work well if you're going to provide a lump sum to that individual, because converting to an annuity is not going to help that person.

On the integration side, I think the point is that these are plans that provide an annual contribution credit each year. The easiest way to integrate with a plan would be to provide an extra credit on pay above a certain amount. Since this whole type of design at this point does not fall into anything under section 401(l), you can do anything you want as long as you can demonstrate on the back end that it meets 401(a)(4) testing. You may also choose to do this in a defined benefit context if you have old plans continuing or through grandfathering. Actually, another alternative for an organization that does not want to integrate might be at least to take a highly paid select group and provide that type of benefit through a supplemental executive retirement plan if you did not want to integrate at all. That might also work if you wanted to follow a safe harbor, if one arose, and you couldn't fall in the safe harbor

with integration. You might decide to try to provide those extra benefits through a nonqualified arrangement outside of the plan.

Again, the key points in cash balance plans are there's been an evolution of designs. I suspect they'll continue, but at this point there really is a great deal of choice and flexibility on how they're made. You've got your basic building blocks to work with and then you have to deal with all the transition issues. From an organizational standpoint, there are a lot of reasons to design them both from a financial perspective for an organization, particularly if they're thinking that they like the defined contribution setting, and clearly from an employer relationship standpoint you can combine cash balance with your other defined contribution programs and other types of retirement programs, to provide more of an individual account plan, at least from a communications side.

Those are the points I wanted to make and I'll turn it over to John, who's going to discuss legal issues, and we can have questions a little later.

MR. WOYKE: Now we have legal issues.

When lawyers have looked at cash balance plans, they have discovered a number of problems. Now, I've broken the issues down into three major areas: tax reform, definitions of accrued benefits, and lump sum cash out. A tax reform problem that has just come to my attention, which is the 401(a)(9) problem, is basically a problem with paying benefits as an escalating annuity.

Let's start now with tax reform. The big problem there is testing for discrimination. The regulations that the IRS has issued to implement tax reform, the 401(a)(4) regulations, have established a whole new way of looking at testing for discrimination. They divide the world into two areas – defined contribution plans and defined benefit plans. Of course, a cash balance plan is a defined benefit plan, so it's going to be tested that way. Now, it looks a lot like a defined contribution plan and the employee is looking at an account balance and contributions to it, but you can't test it that way. You have to test it as a defined benefit plan, and there the regulations have some rules.

First, one thing the regulations make clear is there are no safe harbors, because the safe harbors, if you read them very carefully, apply only to defined contribution plans if it's a defined contribution safe harbor and only to a defined benefit plan if it's a defined benefit safe harbor. Now, you could design a cash balance plan to meet a safe harbor. You'd have a different contribution rate for every age, and you could make it to mimic a 1% of pay plan or something like that, but most of them won't fit. The IRS has informed us that it is working on a safe harbor provision when it comes out with the final 401(a)(4) regulations. When you talk to the IRS about it, everything the IRS says is, "Well, we haven't decided how we're going to handle that issue yet."

At the same time, the IRS is telling us that the 401(a)(4) regulations are just around the corner, just a couple weeks and they'll be out in summer 1991. I find it hard to believe how the IRS is going to include a safe harbor if it hasn't decided on its policy issues yet. If you test under general testing, you cannot just look at the contribution

credits and say, "I'm going to take general testing and this is my contribution; I'll do it on a contributions basis." If you want to test, you convert it to the accrued benefit -- and we'll get into that – go through one of those three formulas and determine what their nondiscrimination testing rate of accrual is and test that. If you want to do it on a contributions basis, you still go through all this and then you convert that into the equivalent contribution. Unless you happen to exactly choose interest credit factors in your plan that fall within that 7.5-8.5% range in the regulations, you can't generally just look at the contribution credits.

However, our experience to date – and I'll have to rely on the actuaries there – suggests that most cash balance plans are fairly front-loaded, and if you have the demographics of the employees where the lower paid employees are generally your shorter service, younger employees, experience suggests that most cash balance plans will pass nondiscrimination.

A tough issue is where you have grandfathering. If your grandfathering group consists chiefly of highly paid employees to whom you want to continue to give the old final average pay formula, you may have problems passing. I'm going to add a point to this, which is the 401(a)(9) issue. A lot of the earlier cash balance plans continued the indexation both pre- and postretirement. That was the Bank of America design. It allowed you to use, as your conversion factor for your cash balance as the divisor, a number that was basically your life expectancy at age 65 under whatever table was used. The problem with that is that the index factor under this plan is usually tied to either a discretionary employer formula as in Bank of America or to an external index such as one point over T-bills or something like that.

The 401(a)(9) proposed regulations basically say – and these are dealing now with benefits after age 70 1/2 but are broad enough to include a benefit that commences at normal retirement age and continues after 70 1/2 – that you can't have an escalating annuity. Then, after having made that rather harsh statement, they said, of course, we don't mean to outlaw the following items. One of the items is a true variable annuity where the annuity fluctuates based on the performance of a pool of assets. Another one is where the annuity fluctuates based upon a generally accepted cost of living index. Well, because the IRS chose to draft the proposed regulation as a harsh rule that nobody can comply with and a series of exceptions for what people actually do, it effectively has frozen out innovation in this area. So here you have an annuity that fluctuates not with a generally accepted cost of living index, but with a rate tied to some sort of interest rate. Now, whether it's a problem or not we don't know. I think an argument could be made that this is equivalent to a generally accepted cost of living index. You could also argue that it's equivalent to the fluctuations in a portfolio of assets, the asset being a T-bill or something like that.

MS. SMITH: It may be a stupid question, but when you're testing for integration, are you, in fact, using the annual accrual or the annuity accrued in each year or do you have to test on both?

MR. WOYKE: Basically, the question is if you're testing for integration, do you use the annual accrual under 401(a)(4) or do you use the equivalent contribution credit in doing that? Without having those extensive regulations in front of me, the first point I want to make is that, under those regulations, integration now is meaningless. You

can have any formula you want. You're not tied to 5.7%, etc. I know that isn't your question, but I'm building some background. Your formula now can go any place you want. Now you have your choice of, are you going to test it as a defined benefit plan or a defined contribution plan? The regulations give you a formula for adding to whatever contribution rate or accrual rate you come up with, an amount for what they call permitted disparity.

Having said that, if you are testing it as a defined benefit rate, you add permitted disparity to the benefit accrual. If you are testing it as a contribution, my memory is that you get the benefit accrual first, convert that to an equivalent contribution rate, and then add permitted disparity at that point; but I'm just going on memory on that one. It is outlined in the regulations and can be done.

FROM THE FLOOR: That says you do not test the annual credit to the balance. You test from the annuity only.

MR. WOYKE: Yes, you always test from the annuity. If you work it right, you might get back to the annual contribution credit if you've got a plan that has 7.5% and 8.5% factors.

MR. GOULD: Some people have pointed out that if you feel comfortable using an interest rate of between 7.5% and 8.5%, you can essentially fall back to the annual contribution for testing, but that's only a result of the mathematics, not something you can simply move to directly.

MR. WOYKE: I think with my experience with most plans, that's a pretty high rate to project to determine the accrued benefit. The first thing about the accrued benefit is the plan must define an accrued benefit, and the regulations say it must be an annuity for life commencing at normal retirement date. It is not the addition to the account, so that's not an acceptable definition under the regulations of accrued benefit. Now, the problem is that wasn't much of a problem back in what I would call the Generation One plans when the plan was written as a career average pay plan and the actuaries went through a lot of gyrations setting the future interest rate equal to the assumed future rate of indexing and the benefit to come back with a lump sum that mimicked a defined contribution plan.

The modern way of drafting these plans is to set up a nominal account, provide contribution credits and interest credits to that account. Almost invariably the interest credits are going to be flexible. There may be an index. They may actually be discretionary. They may range within an index between a high and a low. Somehow that plan has to come up with an assumed rate of future indexation of that to turn it into a benefit starting at the normal retirement date. The plan is going to have to have an actuarial assumption written in there somehow. That's easy enough and you can do that. The problem, of course, is that once you do that you now have something called the accrued benefit in the plan and a lot of the law is driven off the term *accrued benefit.*

Now I'll discuss the impact on terminating employees. Some plans had a completely flexible interest credit, saying the employer will decide each year and will have a plan amendment effectively. The only thing we're guaranteeing you is zero. So you've

got $2,500 in your account. The plan will guarantee you $2,500. In that plan you might argue that you could draft the accrued benefit to say that I'm guaranteeing $2,500 in the account now, and let's say that's your annual contribution, as of the normal retirement date. I'm going to divide that by a factor applicable at age 65. That's going to get me an annual benefit, and that's my accrued benefit in the plan. Basically, you define an accrued benefit with a zero interest projection.

On the other hand, that's not what an employee who works is going to get. He's going to get his $2,500 plus interest credits. When he retires, even if the plan is frozen and he never accrues another penny, he's going to get more than $2,500 because he has interest credits. But if an employee were to leave, such a plan would give that employee a choice of $2,500 now or an annuity that would be bought with $2,500 at age 65. Well, first you have a disclosure problem if you actually offer the employee that because he'd be a fool not to take the $2,500 now, rush over to the nearest insurance carrier and buy himself a much bigger annuity. He's effectively investing his money at 0% in the plan. There are some of those plans out there, and the IRS has already orally indicated that they don't like that concept.

Actually, most cash balance plans don't, in fact, do that. They may define the accrued benefit that way, but then they have another clause saying, if you terminate an employee, he gets no more contribution credits but does get interest credits. Now, the problem, of course, is that has confused lawyers greatly. They're looking at the accrued benefit saying, Gee, even though you're giving them these interest credits, I'm looking at the accrued benefit and it doesn't meet this rate of accrual and this and that. I think that's more of a problem for explaining to your lawyer. The better way to do that is to define an accrued benefit with an assumed rate of interest and say that's the accrued benefit under the plan; but then you have to be very careful and also define it saying, yes, but if that assumed rate of interest turns out not to be the actual rate of interest, the true accrued benefit is recalculated each year.

This leads to another problem with the ad hoc or updatable interest credits. There is nothing in the world that says you can't amend a plan every year. There's nothing I see in the law that says an employer can't amend the plan. Let's say we set up a cash balance plan that provides for 4% interest accruals. That's our accrued benefit when we do that, but each year we go to the employees and say, "This year we're going to give you an extra 6% or an extra 3%." When you give them the statement, you've got two lines -- interest credit 4%, special interest credit this year, an extra 3%, and then their account balance. Technically, that's no problem, but there are two issues. First, when you go to test the plan, obviously that amendment that you're making each year is not part of the accrued benefit. That's a new accrual. First, you don't obviously meet any form of safe harbor. Once you go into testing, you'll find that that extra accrual is proportional to account balances, which means that the longer service, presumably highly paid employees are getting the bigger accruals from this sort of thing, and there could be a problem in the future, if not in the present, with the plan becoming disqualified.

Another problem, however, is that there's a lot of stuff in the new regulations about continued amendments becoming, in fact, part of the accrued benefit. I think there's stuff in the old regulations on that, too. If, in fact, you are doing this on a regular basis -- and to tell you the truth, I see an awful lot of cash balance plans that do

this – there's some question about whether that has suddenly become part of the accrued benefit. If so, then you have to decide what to do with deferred vesteds. Do you give them the amendment? I've seen plans that give them the 4%. There's nothing in the law that says an amendment has to be given to deferred vested employees. On the other hand, if it's part of the accrued benefit, you must meet certain accrual rates and give it to deferred vesteds, which gets me to the final point, which is the rate of benefit accrual.

The first point is that you must meet the 133% test. Technically, you have three different choices on the rate of benefit accrual. The 133% test is the one that seems to work the easiest. If you pop up from a 4% contribution credit at age 39 to a 6% at age 40, you have to translate those rates into how much accrued benefit you're getting and that may or may not meet the 133% test, but you have to look at those transition rates. Generally you'll find that, as long as you have the same contribution credit, you're front loaded. Your benefit accruals are much higher at the younger ages, and then they go down with each year of service.

The other issue which falls right from this is 411(b)(1)(h). That basically says that the rate of benefit accrual, if it's a defined benefit plan, or the rate of contribution, if it's a defined contribution plan, cannot decrease on account of age. Well, without going into the math, that's exactly what happens in a cash balance plan with level contribution credits. The amount of annuity purchasable at 65, because you have one year less interest, goes down. So one year the employee gets $2,500 and he gets X dollars, whatever that is, of annuity at 65 and the next year he gets slightly less for the same $2,500. That is a technical problem.

Now, it comes not because there's anything evil about cash balance plans. It comes because, when the IRS drafted the law, the IRS referred to the rate of benefit accrual in a defined benefit plan and the rate of contribution in the defined contribution plan. The IRS didn't draft the law in the usual age discrimination language that says equal benefits or equal contributions. Now, I understand the IRS is not really finding anything wrong with this. Unfortunately, it's a technical problem, and it has lawyers quite concerned.

The counterargument is for purposes of this portion of the law, which is not only in the tax code, but it's in the tax code, ERISA, and the Age Discrimination in Employment Act of 1967 (ADEA) identically. The term *rate of benefit accrual*, which is slightly different from rate of increase of accrued benefit, etc., means whatever the plan inherently provides as a benefit accrual. It means the package of rights. In this case it means the contribution credits. Now, basically some lawyers say, Gee, all you're saying is we should ignore the plain language of the statute, and I'm saying no, no, no. I am interpreting the plain language of the statute in light of the public policy which that represents.

Another problem is postnormal-retirement-date accruals. As you know, we can't stop accruals after the normal retirement date. Well, in a cash balance plan what does that mean? Interestingly enough, suppose you did stop accruals at age 65 and the year before you got $2,500 and it bought the employee a little increase in accrued benefit. He now works another year and he's 66. His account goes up solely by the interest credit. How much annuity does he get? Well, you're actuaries. He's a year

older now and he gets a lot more annuity. He gets the actuarial equivalent by definition in a cash balance plan, unless you want to draft it somehow to start having a decreasing cash balance, which I don't think is good benefit design.

Technically, it looks like you could stop contribution accruals at age 65, something that you can't do in any other type of plan. Whether you can or not will be decided on whether, I think, the IRS buys our argument that for ADEA purposes your definition of accrued benefit is something other than the true accrued benefit that we've always been calculating.

Now we'll discuss the problem of lump-sum cash out. Section 417(e) of the code says that when you are cashing out an employee, you have to use an interest rate that has a rate of interest no higher than the PBGC rates if it's below $25,000 or no higher than 120% of the PBGC rates if it's above $25,000. How does this work in a cash balance plan? Well, once again it's a defined benefit plan, so you have to take this accrued benefit that you've calculated out here for other reasons and you have to value it with some sort of PBGC factors. The regulations have indicated that you use the PBGC deferred rate for that, the blended rate, which has interest rates that go down to 4%.

Suppose you have a simple cash balance plan that says my interest credits are 7% a year. Well, we know what the accrued benefit is. It's the cash balance projected at 7% a year divided by the annuity factor you have at 65. That's your accrual. Now, what's the present value of that if you're using 4% to turn it into a present value? Well, it's going to be greater than the present value at 7%, and of course, 7% brings you right back to your cash balance. Technically, at the younger ages, using PBGC factors, you can end up with the law requiring you, for a technical reason, to give a lump-sum benefit that is greater than the cash balance.

How do you get around it? Well, there are a whole bunch of techniques. One of them simply is to say for calculating the accrued benefit, I'll use PBGC rates. Remember, if you write the plan right, the accrued benefit is calculated with actuarial equivalents; it is just an estimate. The true accrued benefit is going to be whatever the employee will get, whether he's deferred vested or not, at retirement, because you are giving him the interest credit.

The final point is limitations on amount or eligibility. There's another neat way to get around it and that's not to give any lump sums. You don't have to and that issue becomes sort of moot. The question there is at some point a lot of plans do want to give lump sums at the early retirement date or something like that. Now you have a special right or feature that has to be tested for nondiscrimination, which could result in some problems. With that, I will turn it over to funding cash balance plans.

MR. KUENDIG: Looking at actuarial assumptions is very important, we found, because you have a number of new elements and new assumptions to make. It's really important to use explicit, individually realistic assumptions. I know the law says you're supposed to do that, but we all stretch it a little bit. It's really important here to look at that and to do a little modeling to see how some of these things are affected by a change in your assumptions, how the change in your interest credits and so on will affect the numbers. It's especially important because you do have a

lump-sum subsidy in most of these plans, largely because of what John was referring to, where you're rolling up and calculating an accrued benefit, and then you have to come back at PBGC rates, and there will be a lump-sum subsidy if you've designed the plan properly to avoid that problem -- and early retirement subsidies, also.

Just a reminder, current liability calculations cannot recognize the payment of a lump sum, so lump-sum subsidies get left out of the current liability calculations, which sometimes can cause you a little bit of difficulty. If you think about this difficulty in advance, you may be able to overcome it just by changing the interest rate you used for that particular calculation. Then for FASB purposes, if you're into a situation where you are giving annually ad hoc increases in the interest credits, you really need to define your substantive plan, just as we see now in SFAS 106.

Now let's discuss the actuarial methods. Most cash balance plans are front loaded, as you've heard both John and Steve say. I would expect that when you get your iterations out you're going to find that that's the case, or you better find that that's the case under the projected unit credit (PUC). You get into the problem that the sum of the account balances may end up being less than plan assets if you're using PUC. It's something that's totally expected if you've thought about it, although the client may not expect it, and so it's part of your ongoing education with a client with cash balance plans.

Actually, in one plan, to avoid that problem, we found the way around it for funding purposes is to use entry age normal to make sure there's a little bit more in assets in there, because the company wanted to say that there was enough money to cover all of the account balances. Also, by doing that you're able to avoid some of these current liability problems and a PBGC premium problem that I'm going to get to in a minute.

FROM THE FLOOR: You said the assets may not exceed the account balances?

MR. KUENDIG: Yes, the sum of the account balances may be less than the plan assets. If you're going along on a projected unit credit basis, you could easily end up with your assets not covering your account balances.

Steve talked about transition benefits and here's an area where you get just as creative as you can possibly be in being able to bridge the gap from the old plan to the new plan. When you do that, it may create some challenges for you when it comes to valuing the plan. There are times when you'd like to have your normal cost be reflective of your new plan without any confusion created by some of these transition benefits, and yet in many cases you can't do that. So you really have to be careful as you look at the transition benefits and how you're going to value them.

There are a couple of other things that have come up recently in cases that we've been working on. You run into some possible problems on the PBGC premium calculations where basically you're rolling up at one interest rate and then rolling back at the prescribed interest rate for premium calculations, and you could end up being underfunded in a plan that, on the surface, should appear to be overfunded. Also, the fact that account balances differ from your actuarial liability and from your assets does create some concern when you're talking to a client about spinning off assets,

and it may cause problems when the other actuary on the receiving end expects to get more assets than he actually is receiving. It's just something that you have to think about in advance and build into the language of the buy/sell agreement.

The same is true with some of the special considerations you have to think about in a plan termination when you follow the rules explicitly. You have some expectations created that those account balances are there. We're going to have questions, but I just would like to say that what we've tried to do is give you a full picture of cash balance plans that is accurate. This isn't the kind of a plan that you can plug in. So if you're a safe harbor type of consultant, and you like the easy way to just plug them in, this isn't going to work for you.

On the other hand, if you like to use the gray matter up there and get outside of being dictated to by the IRS with specific rules, there's an awful lot you can do with these kinds of plans. There is a lot of challenge, a lot of opportunity to be creative. There's an awful lot of rewards with them. When we first ran training for the meeting leader trainers, we found everybody referring to the old plan, which was your typical final pay offset plan, as the mystery plan. They had no idea what it was. We could have been passing off a plan that was half the value, but they loved it and it was great. In fact, I messed up. I'm not supposed to be on the transcript saying those things, am I? We were, at that time for some other reasons, concerned about giving away the full account balance as a death benefit. It's something we were holding in our back pocket depending on how some of the regulations came out. So we basically put in the same kind of a death benefit that the old plan had. You've got to be married for a year, and you get the benefit when you would have been 55, basically. Well, under the old plan that was no big deal because the meeting leaders didn't understand the mystery plan.

Well, we announced that, and there was a lot of grumbling and we took a break and we came back. After the break, two individuals stood up. They announced that they had decided they were going to get married so that we wouldn't take away their death benefits. Once employees understand what the plans are like, you have to start thinking in a little different terms than you're used to with defined benefit plans.

MR. ETHAN E. KRA: Given all of the legal issues that were raised by the prior speaker and granted that the service hasn't given us any clear guidance on how to address them, do you feel that you have threaded the needle and actually developed a plan for any of your clients that will meet every one of the problem issues head on unambiguously and meet all the rules?

MR. KUENDIG: Yes.

MR. GOULD: Yes. I would just say that the point John raised about decreasing benefit accrual, we believe the analysis that says it's a package of rights, etc., works. It's not an issue in reality. We're complying with all the rules and demonstrating that compliance, so I guess the answer is yes.

MR. WOYKE: Yes. I should point out that those particular rules are not exclusively in the province of IRS to issue regulations. The identical language is in the ADEA also. To the best of my knowledge, the Equal Employment Opportunity Commission, with

whom the IRS must consult, although the IRS has primary regulatory responsibility, does not see this as a real problem.

MR. RIAN M. YAFFE: I'm not so sure that it's so much a question as to just see if you would say a little bit more about the PBGC cash-out issue. I've read quite a few summary plan descriptions of cash balance plans, including some designed by TPF&C, I think, and the summary plan description refers to opening account balances credited with some kind of interest rate and so forth and so on. It just seems that the PBGC cash-out is so counterintuitive to the client and the employee that there are a lot of big surprises in store when the summary plan descriptions are written that way. I would just like to hear a little bit more about the solutions.

MR. WOYKE: First, if the plan is drafted properly, then you're going to try to draft it so that the amount of cash-out is equal to the account balance at all times. At that point, I don't think it's necessary to go into all the legal technicalities in the summary plan description to explain to an employee how you got there. In fact, I think that would violate the law. Summary plan descriptions are supposed to be understandable. In that case, you probably wouldn't have to disclose it. There are some plans where, for younger employees, they take the chance that the PBGC rates may not work out. In that case, you may want to disclose that, in some cases, an employee will get a greater amount than his cash balance, but I don't think you really have to go into the calculations in a summary plan description.

MS. SMITH: When you use the PBGC interest rates for calculating the accrued benefit, I guess that means that you end up with significantly different graded contributions or graded allocations in order to meet the accrual rules.

MR. WOYKE: Yes. Well, there are some times when you get slight bumps in the rate of accrual when you reach one of the breakpoints on the blended rate when you go for it, but generally it smooths out. Steve might answer that better.

MR. GOULD: I'm not sure we're mixing and matching two different questions. When you're projecting benefits to demonstrate compliance with the accrual rules, you will find that the year-to-year accrual for each additional benefit does vary. If you have five-year breakpoints, you have almost a saw tooth, where for five years you get a decline and then it jumps up as you step up and you jump down and you go up like that. I don't think we said that we would use the PBGC interest rate structure to determine the accrued benefit per se in the regular design of the plan. The real issue is when someone leaves, how do you justify that the account balance is what they get. It's basically making an assumption as to the long-term prospective rate of return and stipulating that it at least exceeds the PBGC pattern and you wind up having the cash-out okay. That clearly is one of the questions that is problematic.

MR. HOWARD J. SMALL: In designing the plans, you discussed different breakpoints. Is there anything that prevents you from just using a breakpoint at every age? The reason I'm thinking of this is that a parallel of another kind of a hybrid plan called a target benefit plan, which in the final analysis is a defined contribution plan, does have, in essence, contributions at every age. Is it just so distasteful that you don't want to communicate a different contribution level at every age?

MR. GOULD: I'd say that it is, just from a communications standpoint, more difficult and less appealing to show a contribution that changes every year, but you could do that if you wanted to duplicate it. If you're calling it a target benefit, to a large degree the communication may often be just the target benefit itself or it's for a small plan that just has a schedule and this is what we follow; but it's not as attractive as a communications element. But there's no other reason why you could not match the curve by having a breakpoint at every single age.

MR. KUENDIG: In fact, we have a case where each year the contribution is different. It's just a matter of plan design and communication.

FROM THE FLOOR: So actually you do have a live case where it does change.

MR. KUENDIG: Yes.

MR. DENNIS J. MILLER: Do service caps come into any of these plans? If so, do they produce any special problems or communication issues? Do you have any experience with service caps?

MR. GOULD: Yes. I've actually implemented some with service caps and I don't think it produces any special legal issues in the sense that you're following, really, the way a defined benefit plan is operating, and you're stopping contribution credits after a certain period of service or you're grading them down. This follows the way a defined benefit plan works. I guess a more intriguing question is the case of an age-plus-service formula as opposed to a straight service. I don't know whether you can indeed cap it when age plus service equals something, arguing it's really the service driving this; because you couldn't do it simply if it was age driving it. I'm not sure if this is an open question that has no answer.

MR. WOYKE: A lot of the ADEA stuff is new, and there's a new bill that's going to be effective now, which was passed in fall 1990, that's going to result in even more interpretations on anything that's based on age. Right now, I would be a little nervous about basing anything on age and service if it's going to result in a lower rate of accrual for those above a certain age. There's no problem with anything tied only to service. I think the key is to keep remembering that these are defined benefit plans and that the contribution credit is just the present value of some sort of benefit accrual and that the interest credits are an indexation of the previously accrued benefits. Then you can sort of analyze whether it makes sense or not from a legal standpoint.

MR. MITCHELL CHARLES WIENER: Have any of you worked with contributory cash balance plans? If so, what interest credit are you crediting on the employee contributions?

MR. GOULD: I haven't. I don't touch contributory plans.

MR. WOYKE: I don't know of any either, but the answer is, there you've got 411(c), which definitely states you have to use 120% applicable federal interest rate, and that's going to be much higher than anything that most cash balance plans are giving right now.

FROM THE FLOOR: Yes. They would be much higher than what they're likely to earn, too. In addition, it seems like, if you go with a lesser credit than that, then anyone who terminates nonvested is going to have some kind of a residual benefit left over.

MR. GOULD: I have not myself worked with a contributory plan on purpose.

FROM THE FLOOR: I inherited one.

MR. KUENDIG: I think the IRS is aware of that problem and it is addressing contributory plans. I don't know what the answer will be.

FROM THE FLOOR: I haven't decided what I'm going to do with this yet.

MR. WOYKE: I should add that there was an old type of plan design that really was a contributory cash balance plan where the IRS used to take the sum of the contributions and multiply them by a factor and that was your benefit attributable to employee contributions.

MR. AMOROSO: These plans seem to be like the little engine that could. After the first plan became reasonably well-known, I think a couple of years later at a CAPP meeting session there were about two dozen of the plans, and now three or four years later the number suggested was over 100 and that doesn't surprise me. My question is, was that 100 number principally or exclusively plans that were entirely cash balance as opposed to plans that some of the visible companies have added cash balance features that were add-ons or in addition to as opposed to plans that have completely gone to cash balance?

MR. GOULD: I don't know. It's more from the literature. We looked at our own firm. We've listened to other firms in terms of plans they said they've had. We add them up, but I really can't tell you.

FROM THE FLOOR: So what's your personal sense? Is your experience that most companies that are adopting a cash balance type feature are moving entirely to that kind of deal as opposed to having just some of the benefit be cash balance?

MR. GOULD: I guess they're tending to move more towards full cash balance plans, let's say, for new people with appropriate transitions. In the years before, we inserted minimum lump-sum benefits for people who arguably have cash balance, but really the predominant message is, it's still the traditional defined benefit plan. I think a clear trend now is that if people move, it's to a more full cash balance design, at least for new people coming in.