

**RECORD OF SOCIETY OF ACTUARIES
1992 VOL. 18 NO. 1B**

**CASH-BALANCE PLANS AND AGE-WEIGHTED
PROFIT-SHARING PLANS (BASIC)**

Moderator: DAVID M. BENOVIKZ
Panelists: RICHARD JOSS
 MARIA M. SARLI
Recorder: DAVID M. BENOVIKZ

A primer on the hottest ideas in the defined-benefit and defined-contribution arenas, such as:

- Nondiscrimination issues
- IRS issues
- Communication to participants

MR. DAVID M. BENOVIKZ: I'm with Kwasha Lipton. With me on the panel is Maria Sarli, also of Kwasha Lipton, and Dick Joss of the Wyatt Company. The format for this session is a panel discussion. Dick will talk about age-weighted profit-sharing plans, and then Maria and I will share the discussion of cash-balance plans.

I'd like to make one introductory comment. Until recently, within the last year or two, there has been a fair amount of skepticism about these plans. What do we have here? Are they defined-contribution (DC) plans that try to act like defined-benefit (DB) plans, or are they defined-benefit plans that try to act like defined-contribution plans? Perhaps, in the ultimate twist, are they defined-benefit plans that try to act like defined-contribution plans that themselves are trying to act like defined-benefit plans? Who needs all of this? What's wrong with traditional plans?

In addition, some of that skepticism had to do with qualification issues. Do these plans really work? Can they, in fact, be structured to meet all of the qualification requirements? Many people concluded that there were significant problems and tended to shy away from them.

Despite uneasiness on the part of many actuaries and benefit consultants, employers and plan sponsors have really taken to these plans. There is something in them that strikes a chord and has made them intriguing enough to be looked at seriously, and in many cases to actually be adopted. As a result of this level of interest two things have happened.

The actuaries and benefit consultants have come around, if for no other reason, than because their clients have pushed them in that direction. The second thing that's happened is that the IRS and Treasury, which for awhile didn't really want to say very much about these plans, has started to deal with them seriously. And their message seems to be that these plans can work, provided they're properly designed.

With that as background, what we want to do is to look into some of the reasons why these plans are so popular and discuss, at least in overview, how the qualification requirements apply. Now let me turn it over to Dick who will tell us about age-weighted profit-sharing plans.

MR. RICHARD JOSS: I've used the term age-weighted profit-sharing plan in a generic sense because that seems to be the one used in the popular press, but really I'm talking about defined-contribution plans. They are plans that have money that goes into a person's account and is allocated investment income. The difference between these plans and let's say a traditional defined-contribution plan is that the formula can be really goofy. Once you have a really goofy formula, you must use a general test to try and demonstrate that the formula meets antidiscrimination regulations.

If I give this talk to a general group of benefit practitioners and I put this slide up that says "Complicated Formula," everybody laughs. When I give it to a bunch of actuaries, they try to figure out what the formula is saying. What's not so amazing about the formula is the result that we can get.

Complicated Formula

$$\sum_{\text{HCE}} \frac{Cx(1.085)^{R-x}}{\ddot{a}_R x \text{ Pay}} \leq \sum_{\text{NHCE}} \frac{Cx(1.085)^{R-x}}{70\%x \ddot{a}_R x \text{ Pay}}$$

Amazing Result
3 = 10!

Age-weighted profit-sharing plans give you the mathematical ability to demonstrate that three is equal to ten. What do we mean by three equalling ten?

Say I have a 35-year-old employee who's making \$30,000 and, however the formula works for this particular plan, that employee gets a contribution of 3% of pay, which would be \$900. I get to pretend that it earns bogus interest. Interest is somewhere between 7.5-8.5% annually between his current age, 35, and the target retirement age, in this case 65. So for my 35-year-old employee, I get to impute \$9,100 of bogus interest, bringing his bogus account at 65 up to \$10,000.

For a similarly situated 50-year-old, the only difference between these two people is age. If my plan formula called for a 10% contribution, 10% of \$30,000 is a \$3,000 deposit for that individual, but because he's closer to 65, the amount of bogus interest on up to age 65 is \$7,000. Because both have projected accounts of \$10,000 at 65 the 401(a)(4) regulations are satisfied and this plan is nondiscriminatory. These two individuals are treated equally even though one person gets a 3% contribution and another person gets a 10% contribution.

Rather than just looking at the lump-sum deposit at 65, the actual formalities of the test require the plan administrator or the consultant to actually take that lump sum, the \$10,000 in our case, and convert it into a benefit. He must use one of the standard mortality tables given in the 401(a)(4) regulations and an interest rate that's in the reasonable range. In this particular example, we're saying that the \$10,000 lump sum is roughly equivalent to \$1,100 per year. The \$1,100 per year divided by \$30,000 pay says this defined-contribution arrangement we're tinkering with is roughly equivalent to a 3.67% times pay defined-benefit plan. Now all of us are

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

actuaries working in the pension area, and I doubt that any of us think that 3% contributions are equivalent to a 3.67% times service defined-benefit plan.

Let's see how this is being used. Let's take a small five-person law firm headed by Alex Attorney. Alex makes \$200,000 a year and he has four staff employees working at this law firm. Maybe they've had a defined-benefit plan. Maybe they've had a defined-contribution plan, but all of a sudden somebody's coming up with a new formula that Alex Attorney thinks is pretty nifty. It gives Alex 15% of pay and everybody else 3% of pay. I'm not real certain that the formula would be acceptable in some people's eyes if they saw it in the plan document. Alex gets 15% of pay and his staff gets 3% of pay. On the other hand, we could have a formula that says 3% of pay up to the first \$50,000 of pay and 19% for every dollar of pay over \$50,000. You say, well, that violates defined-contribution integration. It is not a safe harbor plan. We've never said it's a safe harbor plan, but it is a formula using 3% of pay up to \$50,000 and 19% of pay over \$50,000 which produces exactly the same result. Although you might not think of it as being stated as 15% of pay for Alex and 3% for everybody else, you can get there by alternative means.

What happens? Table 1 shows that Alex Attorney gets a \$30,000 deposit and everybody else gets nice little deposits. In some cases, this is exactly what the key professional wishes to do – maximize his or her deposit for a minimal staff contribution. Keep in mind that these age-weighted profit-sharing plans are defined-contribution plans. You are subject to the defined-contribution plan limits: 25% of pay and a \$30,000 deposit. In a sense, this particular program has maximized the deposit that the attorney could get. On the surface, it appears to be somewhat discriminatory in favor of the highly compensated person, Alex Attorney. He has a fairly large contribution with fairly small contributions for staff. That's where the fun part begins because it's not uncommon for most organizations to have some highly compensated people who are older than the nonhighly compensated people. That low contribution for the very young, nonhighly compensated person when projected out buys a bigger benefit than the big contribution for the highly compensated person.

TABLE 1
Allocation

Name	Pay	Percent	Contribution
Alex Attorney	\$200,000	15.0%	\$30,000
Tom Typist	30,000	3.0	900
Penny Paralegal	35,000	3.0	1,050
Sally Secretary	25,000	3.0	750
Gordon Gofer	20,000	3.0	600
			\$33,300

I have a demonstration of nondiscrimination compliance in Table 2. In Table 2 we take Alex's \$30,000 deposit, punch it out with bogus interest to age 65, and it turns into a \$100,000 target fund at age 65. The bogus account buys an \$11,000 benefit. In his case, that's 5.5% of pay. Now Tom Typist was the oldest of the staff employees. He got a \$900 contribution, but because he was 60, the bogus interest doesn't grow very much. He only gets a \$1,350 account by the time he's 65, and that buys a \$150-per-year benefit, which is a half percent of his pay. The

other three employees all happen to be young so their relatively small deposits earned quite a bit of interest between their current age and age 65. Once again, when converted to annual annuities they represented significant portions of pay. In this particular case, I did not adjust the percentage of pay numbers, which are called accrual rates, for permitted disparity. In Alex's case, the permitted disparity might have taken a 5.5% to a 5.7%. For the rank-and-file employees, we could have added roughly 0.65% for most of them. Tom would have added 0.5% to his. We didn't show the permitted disparity, but it's the same process as is used when doing any sort of general test under 401(a)(4).

TABLE 2
Demonstration

Name	Contribution	Age 65 Total	Age 65 Benefit	% of Pay
Alex Attorney	\$30,000	\$100,000	\$11,000	5.5%
Tom Typist	900	1,350	150	0.5
Penny Paralegal	1,050	17,500	1,925	5.5
Sally Secretary	750	18,600	2,050	8.2
Gordon Gofer	600	14,900	1,640	8.2

Step two of a general test in a defined-benefit setting is that you break the accrual rates into rate groups. We have one highly compensated employee, so 100% of the highly compensated employees have an accrual rate of 5.5% or more. Three-quarters of the staff have accrual rates that are higher than 5.5% and that beats the 70% ratio test. I have looked at some law firms, and they often have an awful lot of young people that they hire to deliver mail and so forth. The partners might start at age 35 and work their way on up to 65. In these types of situations, if you say I'm going to put 15% in for partners, and 3% for everybody else, I'll give you a 95% chance that it would pass for most law firms without even adjusting for permitted disparity or anything else. What that tells you is that you have a lot of freedom in trying to design a formula that works out for the law firm or whatever the group happens to be.

The other point I'd like to talk about here is that although I've illustrated something that meets that 70% ratio percentage test, there's no problem trying to shoot at a lower threshold using the average-benefits percentage test. So, instead of having to come up with 70% of the employees having an accrual rate that's better than Alex Attorney, you could get by with maybe 35% or 40% depending on the demographics of the group. The whole point of this particular part of the discussion is to say that in most groups where your highly compensated employees tend to be older on average than your nonhighly compensated employees, you have a tremendous amount of latitude in trying to define a defined-contribution plan to meet the employer group's needs. Let's look at some examples.

I worked on one client out on the west coast that liked the example in Table 3. This is a brand new defined-contribution plan that provides 5% of pay for everybody less than age 50 and then it trickles on up to people as they get close to age 65. The reason the client liked this plan is that they were getting out of a defined-benefit plan. As most actuaries who work in the defined-benefit field know, when working with clients, you say you can't get rid of your defined plan because you are going to really

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

hurt those people that are close to retirement. They are on the high end of their accrual curve. Now the defined-contribution consultants have an answer to help stop the hurt as people get close to retirement. I call this the defined-benefit conversion version of the age-weighted profit-sharing plan.

TABLE 3
Another Example

Employee Age	Contribution Percentage
50 or less	5.0%
51	5.4
52	5.8
53	6.2
↓	↓
65 or more	11.0

Another point is that I've always shown these as numbers like 5%, 6%, or 7% of pay. There is a profit-sharing analogue where you weigh the percentage of pay numbers so that the amount of contribution is dependent upon profitability. Let's say I have a number that's 5% for one person and 10% for another person, but the plan can afford twice as much. The profit-sharing allocation would then be 10% and 20% respectively. They don't need to be fixed-percentage defined-contribution plans. You can make them into profit-sharing plans.

How about another example? I had one other client out west that thought this was the greatest thing since sliced bread. Table 4 is what I will refer to as a pure service-weighted formula.

TABLE 4
Still Another Example

Employee Service	Contribution Percentage
5 years or less	3.0%
6 years	4.0
7 years	5.0
8 years	6.0
9 years	7.0
10 years or more	8.0

It's 3% of pay for employees with five years of service or less trickling on up to 8% of pay for employees with 10 or more years of service. The client for whom I used this formula was at a hospital. The hospital didn't like giving away money to young employees who wouldn't stay very long. Obviously, a defined-benefit plan solves that problem, but with a defined-benefit plan, you've got Statement of Financial Accounting Standards (SFAS), PBGC premiums, employee communications, and they don't understand it, and they don't like it. Now when you go to a defined-contribution plan, employees get accounts. They see their accounts. What does it do? The people that are short service get small contributions. People with many years of service get relatively large contributions. That will help them achieve a goal

RECORD, VOLUME 18

of having enough money to be able to retire adequately. This is the kind of formula that they like. It is not a safe harbor. It is subject to general testing. But if you consider a normal group where the highly compensated employees might be 10-15 years older on average than your nonhighly compensated employees, the annual test of the general test for this type of formula would be very straightforward. You wouldn't need permitted disparity. You wouldn't even need the average-benefit percentage test for most reasonable groups.

Every now and then you run into somebody that says "I hate testing." They just don't trust that they'll be able to pass this test every year. In that case you can adopt a schedule (Table 5). This particular schedule called for a 3% of pay contribution for the 35 year old and then increased that percentage by 8% each year.

TABLE 5
Worried about Testing?
Adopt a Schedule!

Age	Percentage Contribution	Age	Percentage Contribution
35	3.00%	50	10.00%
36	3.25	51	10.84
37	3.52	52	11.74
38	3.82	53	12.72
↓	↓	↓	↓

Table 6 is the original prototype of the age-weighted plan that had a different contribution percentage for each age. The reason it works is that each person has \$30,000 of pay and therefore the contribution percentage commutes to a bogus account at 65 of \$10,000 for everyone. Everybody comes out with the same equivalent benefit. I haven't seen a lot of interest in this pure, slam-dunk, age-weighted version with its increasing schedule. I see much more interest in either the service-weighted formulas of the ones that are designed to really tilt the money towards certain key people, but these types of plans do exist and if I have to talk about them publicly I'll call them the slam-dunk version of the plan.

TABLE 6
The Test

Age	Pay	Percent	Contribution	Interest to 65	Total
35	\$30,000	3.00%	\$900	\$9,100	\$10,000
36	30,000	3.25	975	9,025	10,000
37	30,000	3.52	1,056	8,944	10,000
38	30,000	3.82	1,146	8,854	10,000
↓	↓	↓	↓	↓	↓
50	30,000	10.00	3,000	7,000	10,000
51	30,000	10.84	3,252	6,748	10,000

FROM THE FLOOR: Is the slam dunk a safe harbor?

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

MR. JOSS: No. The slam dunk is not a safe harbor, but by the very design of the formula the test would be passed each year.

One of the advantages of age-weighted plans is that you can pick a defined-contribution formula that does whatever the client wishes to do and, particularly, you can skew the contribution towards retirement. I think this is the key feature that a lot of clients are getting excited about. They can use a defined-contribution vehicle that somehow tailors the deposit so that it becomes a real retirement plan. There's no PBGC, no SFAS 87, no actuary, no Schedule B, no battling with the IRS over assumptions; these are fairly straightforward types of programs. Finally, another advantage that I hear from clients is that they can convert from a defined-benefit (DB) plan to a defined-contribution (DC) plan without the same types of cutbacks that we normally see for those people that are close to retirement.

There are some disadvantages, one of which is employee relations. You might have two employees situated side-by-side doing the same job, but one is 35 and one is 50. One gets a 3% of pay contribution and the other gets a 10% of pay contribution. You need to cross that bridge. They are defined-contribution plans, and they suffer from all of the normal warts and dents that you'll see with defined-contribution plans. There's an inability to tailor certain features, such as early retirement, death, disability, or to have postretirement increases. Another issue that has to deal with defined-contribution plans is that the client's employees would be seeing lump sum buildups. They see lots of money in an account and that obligates the client to paying that lump-sum when the employee finally leaves or retires. Some clients have a real hard time with paying lump sums and so you need to visit with your client about that.

Finally, there's the issue of employee investment direction. When you have employees running the money, whether it be in a 401(k) plan or otherwise, they generally underperform what a professional money manager would do. If you're showing employees lump sums on a statement, as you do in a 401(k) or other defined-contribution plan, there is often a clamor among the employee population to say, "Let us invest the money."

If you give the employees the right to invest the money, I think they will perform worse than a professional money manager that manages the money as a pool, much the way you have it in the defined-benefit plan.

How can this be communicated? In the service-weighted version, we like to go out and show the employee what we've done for him. We've contributed money to an account. You've earned this stellar investment rate for the year, so we have an end-of-the-year account. By and large, employees like to see account statements. They like to see money with their name attached to it in the fund. If you have a formula that has that particular service-weighted component, you can even say, "Although you only have the 3% contribution this year, if you stay with our company for 10 years, you'll begin to see 8% deposits and, in fact, if you get those 8% deposits, by the time you reach age 65, you could have a fairly big nest egg with our company." We're nice guys and we want to take credit for all this.

There's the other type of plan which I call the maximum use version of the age-weighted profit-sharing plan. Some of you on the west coast may be seeing some

promotional literature for something called new comparability plans. A statement for that one might say, "Look at what I do for you. I get lots of money. You get peanuts. Be thankful you have a job." You have to deal with firms that want to use these for maximum use. This then puts an additional burden on the consultants. And when I was consulting with law firms, I frequently heard that the partners would like to get \$30,000 a year. I don't really have a problem with that. It's their money; they can do it. And it's one thing to say I don't want to pay a 19-year-old file clerk or a 22-year-old file clerk 15% of pay. That I can live with, too. But when you have a 20- or 30-year-old employee who's been with the law firm a long time – a long-term secretary, long-term staff employee – if you still say I'm going to give you peanuts then I have a problem with it.

In this age-weighted profit-sharing scheme, you have the luxury of designing the formula however you wish. You could come up with a formula that provides a full \$30,000 for partners, let's say a base 3% of pay for everybody, plus a bonus 5% of pay or 6% of pay or something like that for people that have more than six or seven years of service. Then you take care of the long-service employees. There is a tremendous amount of consulting opportunity that can go on with these types of programs. You really can tailor them to meet a client's needs exceedingly well for most client situations where the highly compensated employee (HCEs) tend to be older than the nonhighly compensated employee (NHCEs).

I want to emphasize one more time these are not safe-harbor plans of any kind. They are subject to annual 401(a)(4) testing. The bad news is that they're defined-contribution plans that don't need actuaries. The good news is that the testing is complicated enough that some sophisticated clients would want an actuary involved in the testing process. They are affected by demographics. If you have a reverse situation where your HCEs tend to be younger than your NHCEs they don't work very well. But if you look at most situations – hospitals, banks, law firms, construction companies – the HCEs by and large tend to have an older average age. In that case they work fairly well.

Some people ask if a 30-year-old HCE will screw up the whole mess? No, because if you have just one or two young HCEs that are in their 30s they tend to be washed out by the few 19-, 20-, or 21-year-olds that are on the payroll also. It's the 30-year-old NHCEs that balance off the 45-year-old HCEs and the 50-year-old NHCEs balance off the 60-year-old HCEs. If you have a few older nonhighly compensated employees, that's okay. You have this giant 30% fudge factor in here to get rid of those people. If you use the average benefits test, the fudge factor can be even bigger than 30%.

This leads to the next point: if we see a lot of what I've referred to as maximum-use, new-comparability-type plans, the attorneys get \$30,000, the staff gets peanuts. I think at some point someone is going to write to a Congressional Representative and ask if this is really what was intended and there will be some potential legislative changes. If you're visiting with clients or prospects about the concept, I would make them aware that it might be a short-term deal, but for right now the people at the IRS seem to know what's going on and they seem to be living with it.

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

The final concern I also have is that in the defined-benefit world if I wish to cash out somebody from a defined-benefit plan, I'm stuck using 417(e) rates or PBGC rates as a minimum cash-out basis. I can design a defined-contribution plan using this age-weighted concept, which in theory, is comparable to a defined-benefit plan. But because I get to use a 7.5-8.5% rate in my comparison, I give away much less money in the defined-contribution plan than I do in the defined-benefit plan where I have to use PBGC rates on the cash out. I don't like discontinuities like that, and it bothers me that they still exist in the regulations.

MS. MARIA M. SARLI: I'm going to talk about the design and communication of cash-balance plans, and then Dave is going to talk about some of the compliance issues. Before we get into the design though, I just want to point out the reasons that companies are adopting cash-balance plans. Companies that have young and mobile work forces may look at their defined-benefit plan and realize that about 70% of the benefits are going to 20% or 30% of the work force; that type of company might be very interested in a cash-balance plan. If you're trying to recruit a 25-year-old, a defined-benefit plan isn't that much of an inducement, but because the cash-balance plan looks like a defined-contribution plan, and does provide much greater value to that person, it can help in recruitment.

Another reason would be if the company has a lot of acquisitions. Companies that have acquisitions tend to bring in the acquired companies and, in a lot of cases, integrate them into their operation. They may transfer people back and forth, and after a while they may have people working right next to each other who have different levels of benefits. Even if that doesn't happen, there's something that bothers them about this one big happy family having different benefits for different types of people.

Another issue might be cost control. A company may find that it just can't afford the blank check guarantee that a final-average pay plan provides. Or, it might find that it had a final-average pay plan originally, it adopted a savings plan, over the years improving the savings plan match, and then the IRS came in and restricted access to that money. Now the company has two very rich retirement plans and people are projected to retire, or are retiring, with greater than 100% replacement of preretirement income.

If you do change from a final-average pay to a career-average pay plan, which is what a cash-balance plan is, you'll often create excess pension assets, or increase the excess pension assets, which can be used to reduce ongoing contributions. Cash-balance plans, by the way, don't have to be cutbacks if you're changing from a career-average pay plan to a cash-balance plan. It's not necessarily a cutback. Or, if you're changing to a very rich cash-balance plan, it doesn't have to be a cutback. That's not the only motivation. But if you are coming from a final-average pay plan, it is likely to be somewhat of a cutback because it is career-average pay.

There's also the issue of equal pay for equal work. A lot of companies are moving toward -- for example, on the welfare side -- flexible benefit plans, and in those flexible benefit plans they're looking closely at who they're subsidizing. They might be cutting back on the medical benefits; for example, not subsidizing the married employee and the employee with a family to the same extent as they used to. And

this translates that idea over into the retirement area. Some companies don't like the fact that they're spending 10 times as much for a 60-year-old as they are for a 25-year-old in the pension plan.

Another area, of course, is increased employee appreciation. Young employees don't get that much out of defined-benefit plans. They don't appreciate them that much, and an expensive plan that only 30% of your work force appreciates might be something you can't afford. And something Dick alluded to is the idea of providing DC-type benefits at a lower cost. I think we've all seen savings plans where 70-80% of the employee money gets directed to GICs. Now that GICs might not be viewed as safe as they used to be, maybe that money will even be directed to Treasury funds or other funds that are a little safer but provide even lower returns. So for a given level of contribution, the company can almost always provide better retirement benefits in a cash-balance plan because it can invest in equities.

There are four main design elements in a cash-balance plan. The first is the ongoing plan formula. By that I mean the annual credits that go into the account every year. The second is the method of calculating the opening balance when you make a change to a cash-balance plan. The third is the level of interest credits, and the fourth would be grandfather provisions. Another one would be the type of annuity options that you provide and the extent to which you subsidize those annuity options.

In designing the ongoing plan formula, the first thing you want to be sure of is that it's going to provide adequate benefits to a newly hired career employee, and that might be different from company to company. In some companies, an employee with 30 years of service might be considered a career employee. In others an employee might need 25 or 35 years. The adequacy of benefits will differ also. It will depend on whether the company has a savings plan or profit-sharing plan, and it will also depend on the extent to which the company thinks the employee should be contributing toward his own retirement. But once you've defined what that target is, you want to make sure that the ongoing formula is going to hit it, recognizing that this is a career-average pay plan, and if inflation goes way out of control, you'll fall short, just like you will with any career-average pay plan, but you do have the ability to update.

The ongoing plan formula has to reflect the corporate philosophy in terms of the way it distributes benefit dollars to different types of employees. We'll talk about that more later. It also needs to be perceived as fair by employees. Most defined-benefit plans have provisions that treat different types of employees differently, or provide better benefits in certain situations than in others, and to a large extent, those things tend to be invisible to employees. Most employees don't understand all the provisions of their plan and, even if they do, they're not necessarily going to recognize a subsidy when they see it. So, in the typical defined-benefit plan, employees don't know the extent to which you're favoring certain types of employees or certain retirement ages. In a cash-balance plan, it's going to be much more visible. Employees are more likely to know exactly what the plan formula is, and there are fewer subsidies built in. So you want to make sure that the plan formula that you design is something that employees perceive as fair. It shouldn't be overly complex. It takes away from the design of the cash-balance (the simplicity of it) to have a very complex formula.

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

What are the considerations that go into determining the ongoing plan formula? The first question would be whether it should be integrated with Social Security. Whether or not it is may depend on the plan it came from. If it came from a plan that was integrated; employees are probably more readily accepting of integration in the cash-balance plan. And it may also be more necessary to make sure that cutbacks don't occur to preserve the integration. But you'll still see companies that like simplicity and will go to a nonintegrated cash-balance plan from an integrated plan.

Another design issue is whether you want to reward long-service employees or older employees with higher credits. Dick showed us some examples of formulas that were service or age-weighted, and it would be a very similar type of formula in a cash-balance plan. There's also the issue of what the annual credit is going to be. In most cases it's a percentage of pay. But if you're giving a cash-balance plan to an hourly group or converting from a flat-dollar plan (really in any situation where the employees' pay, rates don't vary all that much -- a flat dollar accrual), a flat dollar annual credit to the cash-balance account can work very nicely and cut down on the administration.

Given that you're going to have a certain level of expense in a cash-balance plan, you can do it a number of ways. You can have lower pay credits and higher interest credits, or you can have the reverse and hit the same expense level. If you have lower pay credits and higher interest credits, that's going to tend to reward longer-service employees.

Some companies still don't feel very comfortable paying lump sums to employees, particularly at the younger ages. Some cash-balance plans, although they are probably in the minority, will not allow a lump sum at the youngest ages. In other words, if you leave before age 55, you may have to leave your money in the plan until retirement. That's something that helps a lot of companies get over the hurdle of paying lump sums to young people, but that's probably less common. Most cash-balance plans will let you take the lump sum when you leave at any age.

Another issue is early retirement subsidies. Cash-balance plans can have early retirement subsidies, just like any defined-benefit plan. You could enhance the account on early retirement, or very heavily subsidize the annuity, or even give a Social Security supplement. I would say most companies probably don't do it. Most companies feel that there is a shortage of younger workers. In some cases, they might feel that the younger workers are not quite as high quality as the older workers who are available, and they don't necessarily want to encourage their older workers to retire. They might also be concerned about the cost of postretirement medical benefits for early retirees. So, typically, there aren't early retirement subsidies built in, and companies realize that this is a defined-benefit plan and they can put in an early retirement window if they need it.

One other point is the issue of minimum benefits. Unless it's a pure age-weighted formula, no cash-balance plan is going to do the same job for someone hired at age 50 or 55 as a traditional defined-benefit plan. So, if the company is concerned about that type of employee, there can be a minimum final-average pay benefit or career-average pay benefit that nominally applies to everyone, but it really has an effect for that short-service, older employee only.

The calculation of the opening balance is normally done on a basis that is realistic but not overly subsidized. The reason is you really don't want to give a windfall to the people who leave soon after you've adopted the cash-balance plan. There's usually a realistic mortality basis used. By that I don't mean Unisex Pension 1984 (UP84); it's something more up-to-date that probably has a blend of male and female rates in it. Usually there's no preretirement mortality assumed in calculating the opening lump sum. That's typically because most cash-balance plans will provide the full account balance as a death benefit to both married and single employees. The interest discount usually isn't subsidized. If you subsidize the interest discount, for example, if you use 417(e) rates to calculate the opening balance, you're helping younger employees more than older employees, and it's the younger employees who are most advantaged by the change to a cash-balance plan to begin with. Also, usually the early retirement subsidies aren't put in the opening balance.

Because you're not using 417(e) rates, and because you're not putting the early retirement subsidies into the opening balance, you have to be careful that you're guaranteeing the prior plan accrued benefit as a minimum. If someone takes a lump sum soon after you've gone cash-balance, you have to make sure the lump sum is at least the accrued benefit before you changed to cash-balance, converted at 417(e) rates. Similarly, if somebody takes an annuity, you have to make sure it's at least the benefit he or she had accrued with the early retirement subsidies attached to it.

The next design issue is the level of interest credits. Those are usually based on some outside index like T-bills or the consumer price index (CPI). Often there's an addition of 1% or 2% to that index. The plan document often has minimums or maximums for the interest credit rate. What you really want to do, in most cases, is set the rate so that it compares reasonably with other rates that are available to the employees. Then, the employee doesn't feel that he's being cheated. For example, you might look at rates that are available on CDs or money funds. Or, if you have a savings plan, you might look at the GIC rates. You might pick an index that you expect in the long-term to track something like a GIC return. Let's say you're using the T-bill rate. You'll typically use the T-bill rate on say November 30, 1991, or some other date close to the end of 1991, to determine the interest credit rate for 1992. Those interest credits, by the way, are part of the accrued benefit. They continue whether the person works or not. And you can periodically amend the plan's interest credit rates.

Say you want to give a higher interest credit rate for a year or two because the company's been doing very well and you want to share the wealth, or maybe you've set up your index to track the GIC rate, and it did pretty well for a while. Some years it was a little higher, some years it was a little lower. Then you get into a period where, for some reason, it's much lower than the GIC is paying. You might want to increase the interest credit rate for a particular year. You have to be very careful the way you increase those interest credit rates on an ad hoc basis, because you don't want a higher rate basis to be considered part of the accrued benefit. You don't want to do it consistently and communicate it in such a way that employees expect a certain higher rate, rather than the rate that's actually in the plan.

The reason that you need grandfathering is that cash-balance plans generally provide more value to younger employees and less value to older employees than a traditional

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

defined-benefit plan does. The mid-career employee often needs grandfathering when you convert a traditional defined-benefit plan to a cash-balance plan. That employee wasn't in a cash-balance plan in the early years when he would have gotten the higher value of accruals under a cash-balance plan than he would have under a traditional plan. He's not going to be in the traditional plan in the later years when he would have gotten the higher value accruals under that type of plan. So that employee typically needs grandfathering.

Another reason for grandfathering is early retirement subsidies. If your cash-balance plan doesn't have them and someone's approaching retirement and was planning on retiring early, they're going to suffer some cutbacks if you don't have a grandfather provision of some sort. Other types of employees needing grandfathering might be fast track employees whose pay goes up very quickly relative to other employees. Obviously, changing from a final-average pay plan to a career-average pay plan for that type of employee could represent a significant cutback.

There are a number of different types of grandfathering. One of the overriding considerations in choosing a grandfathering formula is to choose something that protects the accruals that the employees would have had, but doesn't give a windfall to employees who leave soon after you went to the cash-balance plan. Probably the most common type of grandfathering is to just preserve the old plan formula for some period for some group of employees.

I'll give a couple of examples that I recently worked with. In one case, the company looked at the old plan and the new plan and decided that anyone under age 45 was doing better under the new plan, so they put in a permanent dynamic grandfather for anyone who was 45 with five years of service at the date of the change to guarantee they'd never get less than the prior plan benefit.

Another case was a company that had a number of acquisitions during the 1980s, and now they had six or seven different subsidiary plans. They were in a situation where they'd been transferring people around. Not only was it impossible to administer all this, but they also had people working next to each other with different benefit levels. They put them all into a cash-balance plan. In some cases it was an improvement; in some it was a cutback. At the same time, they put them into the companywide savings plan that had a 50% match, which was an improvement for most of these subsidiaries. They put in a 10-year dynamic grandfather for everyone so that, whatever plan they came from, they would get no less than what they would have under that plan for the next 10 years. They put in an offset to that guarantee for the value of the additional match they could get in the new savings plan compared to their prior plan. So you can see, you can have all kinds of grandfathers, but preserving the old formula for a period is probably the most common.

Another approach is to give higher interest credits on the opening balance – that's sometimes referred to as double indexing. Now that clearly helps the older, longer service employees more because those are the people with the bigger opening balances. You can set that up in such a way that, if you're coming from a final-average pay plan, those extra interest credits can mimic a final-average pay formula and help preserve the final-average pay benefit. The higher interest credits are not part of the accrued benefits, so if someone leaves, they don't continue. If they leave

and keep the money in the plan, the higher interest credit rate doesn't continue; it continues only while the person is working.

Another approach is giving higher pay credits to grandfathered employees, and these could even be individually designed by projecting what shortfall a person might receive, and giving him higher pay credits to compensate for that expected shortfall.

Another approach is simply to put the extra value you think the person might need to be protected into the opening balance. If that's done, because you don't want to give a windfall to a person who leaves soon afterward, that additional amount will often be earned out over a period. So if they leave after five years, they might only get half of it; they may have to stay 10 years to earn the whole amount.

I mentioned before that the reason mid-career employees need grandfathering is because they weren't in a cash-balance plan in the early employment years, when it would have provided them greater value than the plan they were in. Another approach is to simply calculate a minimum opening balance for them hypothetically as though they'd been in a cash-balance plan all along.

How much you need grandfathering will probably depend in part on what your ongoing formula is. Some ongoing formulas are going to reduce the need for grandfathering. For example, we talked before about the idea of having higher interest credits and lower pay credits for the same cost, and how that helps longer service employees; that type of ongoing formula will tend to reduce the need for grandfathering. Also, service-weighted pay credits will do that. You might have older employees who are short service and the service-weighted pay credits might not do anything for them, but you can have age-weighted credits in the formula that will help reduce the need for a grandfather for those people. Also, if you're moving from an integrated plan, obviously, having integration in your cash-balance plan will reduce the need for a grandfather. You probably still will need a grandfather of some sort, but you won't need as much grandfathering.

The last design issue is annuities. Most cash-balance plans will provide a number of annuity options. As you know, if you're going to give a lump sum to someone at age 35, you also have to offer them an annuity. They almost never take it. If you're offering six or seven different types of annuity options, you really don't want to go through the hassle of calculating six or seven annuities for a 35-year old who's not going to take any of them. So a lot of plans will give, for example, only the life annuity and the qualified joint and survivor annuity at a young retirement age.

Usually, the annuity options are subsidized. You want to make sure you're giving the employee at least as good a deal as he could get from his local insurance company. Subsidizing annuities is good for both the employer and the employee; annuities help the employee to not outlive his money, and they also help the employer because they allow the employer to hold on to the money for a longer period of time and invest in equities. Subsidizing annuities also helps to make sure the qualified joint-and-survivor annuity is the most valuable benefit. If you subsidize the annuities, you can make sure that it's worth more than the lump sum. What typically happens is, no matter how much you subsidize the annuities, it turns out not to be that expensive because you'll still have a lot of employees who are going to pick the lump sum.

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

The communication campaign tends to be very important for cash-balance plans. Some employees are always going to be suspicious of any changes, especially a change that looks like a radical change, and they're going to perceive it as a cutback unless it's communicated effectively. Most communication campaigns will start out with a brief announcement from management explaining in very general, simple terms the change that's being made, and giving some of the reasons for the change. That will usually be followed within a couple of weeks by a more detailed communication piece that's similar to a summary-plan description (SPD) but not quite as legalistic. That may have account growth illustrations in it.

An individualized opening cash-balance statement is usually given out at the same time as that more detailed communication piece. In a lot of cases, those two pieces will be given out at employee meetings where a video or a slide show will be shown. Companies that have a lot of employees in a lot of different locations want to make sure that employees all get consistent and accurate information about the new plan, so they often produce, for example, a video. They'll bring employees together in groups, show them the video, and those groups will be run by human resources representatives who have been brought ahead of time to a central location and trained in the provisions of the plan.

The human resources representatives are often given scripts in which very common employee questions will be listed and the correct answer is given. Then the human resources representatives can answer all the questions after the slide show and later on, and everyone gets a consistent and accurate message. If there is a cutback occurring with the change to a cash-balance plan, that communication material will satisfy the ERISA notice requirement. You have to be careful about the timing of those meetings so as to make sure you do satisfy the 15-day requirement.

The opening cash-balance statement, of course, is going to show the opening cash-balance, but it often shows a lot of additional information. It often shows the accrued current plan benefit that was converted to the opening balance, and the data that was used to calculate it. I've heard a lot of people say that you can't go to cash-balance until you have perfect data, because once you create an opening account balance based on incorrect data, it's going to be preserved there for posterity. If you wait until you have perfect data, you'll probably never go to a cash-balance plan. What many companies will do is simply show the information and have caveats in the statement saying that this is the information we used and if something turns out to be incorrect, we will adjust your cash-balance.

They may also need caveats for other reasons. In a plan that we recently converted, the plan it came from had a lot of people who were transferred from the union, and the plan provided an all-service benefit with an offset of the union benefit. We couldn't tell what the union benefit was because people continued to get the negotiated increases in the benefit unit until they terminated employment. We weren't even sure we knew who all the union transfers were. So we had a caveat in there that this is your gross cash-balance and, to the extent you have a union offset because you've transferred from union employment, it will be reduced by the value of that union benefit. You may need other types of caveats, but it's fairly important to get caveats like that into an opening statement in case you do need to adjust a cash-balance later on.

Now for young employees, because they're coming from a traditional defined-benefit plan, the opening balance might be pretty small. And what tends to happen is that it reflects badly on the cash-balance plan, because the employee doesn't recognize that the reason he's got a small balance is because he came out of a plan that didn't provide him much in the way of benefits. He's never seen this lump sum before. He's only seeing it in connection with the cash-balance plan. So he might attribute that to the cash-balance plan and not think the cash-balance is a good plan. One way around that is to have a minimum opening balance – maybe a minimum of \$100 or \$300, or something based on the person's service.

Another approach that works really well is to show them not only their opening balance, but also a projected account at the end of the first year. A person who's 28 years old and has eight years of service will say, "I've been working here for eight years and my opening balance is only \$1,000?" But then you show him the projection to the end of the year and he sees he's going to earn \$750 in one year, whereas he earned \$1,000 in eight years; that type of demonstration tends to get the program off to a good start.

For ongoing communication, most cash-balance plans will provide statements similar to defined-contribution-type statements that show the lump sum. They may not show the annuities. They may have language talking about the annuities available. The frequency of the statement is probably going to depend on how often the cash-balance account is credited with the pay credit. Some cash-balance plans will only do that once a year, so they might only give out annual statements. Others will do it with every paycheck; they'll put in a credit to the cash-balance plan. And the frequency might also depend on the frequency of the savings plan statements, because the cash-balance account is often added to the savings plan statement.

A lot of companies that have savings plans have "voice response" type programs in effect. If you're not familiar with that, that's a program where participants can call over the phone line and get information about their savings plan account. They can find out what the balances are, what they're invested in, and they can find out how much is available for a loan or a withdrawal. Sometimes they can also initiate loans and withdrawals, changes in investment direction and things like that through the system. If you have that type of system, adding the cash-balance to it works very well. Other companies have a similar system, but instead of over the phone lines, they have automatic teller-type machines.

And now Dave's going to take us through the compliance issues.

MR. BENOVTZ: Actually, I'm going to limit myself to qualification issues relating to plan design. This is an interesting area because it involves rules that were established for defined-benefit plans generally, and not cash-balance in particular. As a result, trying to apply the rules to cash-balance plans raises all sorts of questions and sometimes goes to the heart of what the rules are really intended to accomplish.

One of the things that turned up in the 401(a)(4) final regulations was a cash-balance safe harbor which, if nothing else, indicated that the IRS believes there is validity to the basic cash-balance concept. It should also be pointed out that pre-TRA 86, there were many cash-balance plans that got favorable determination letters, and it was not

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

particularly TRA-86 provisions that raised issues with cash-balance. That's not to say that there aren't lingering questions on the issue of compliance, and the IRS has some ongoing projects that look specifically at the application of defined-benefit rules to cash-balance plans.

I'd like to turn first to the safe harbor, but not because it's particularly useful. I don't know of a single existing cash-balance plan that meets the safe harbor, and I don't believe there are very many plan sponsors who would be likely to design a plan today that meets the safe harbor. However, it's worth dwelling on the safe harbor for a bit just so that we can see where the IRS is coming from and why it doesn't work.

The safe harbor is contained in 1.401(a)(4)-8(c) of the final regulations and there are transition rules in 1.401(a)(4)-13(f) that apply specifically to cash-balance. At first it's a little strange that the safe harbor is found in 1.401(a)(4)-8 which deals with cross testing; but this is not like the other defined-benefit safe harbors. In particular, if you meet the requirements of the safe harbor, you can now test this plan as if it really were a defined-contribution plan.

That means that you either get to use the safe harbor for defined-contribution plans or the DC general test, depending on how you define the annual allocations under the plan. If you have uniform pay credits (for example, 5% of pay irrespective of age and service) then no testing is required. If you have nonuniform pay credits (where the credits vary by age and/or service), that throws you into the defined-contribution general test, much along the lines of what Dick was describing for age-related profit-sharing plans. For this second kind of safe harbor there are some additional restrictions that make it not terribly useful. You can't have any transition benefits from a prior plan, and you can't subsidize any of the annuity forms. However, with uniform credits you don't have these restrictions.

Under either approach, you can determine annual credits using the defined-contribution integration rules, which allow disparity of up to 5.7% on the Social Security wage base. For example, you can have a plan that provides 5% of pay up to the wage base and 10% over the wage base -- really quite generous relative to what we actually see in most existing cash-balance plans.

There also are requirements relating to safe harbor interest credits. You have a fair amount of flexibility. You can have a fixed rate in a plan that is within the range of the standard rates, now 7.5-8.5%; or there are a variety of variable bases that range from three-month Treasury bills to 30-year Treasury bonds. There is also a variable base that relates to PBGC rates. Although we have all of this flexibility in defining the interest credits, we still don't have what many plans are actually doing. For example, as Maria described, many plans use CPI as the basis for interest credits; many use a Treasury bill rate plus a fixed percentage; and many plans credit the lesser of two rates or the greater of two rates. None of these are permitted under a safe harbor. However, I think this is a relatively minor issue -- the fact is that you do have a fair amount of flexibility.

In setting up the opening accounts except, as I mentioned earlier, where you don't have variable accruals, you can determine a phantom account either by using what the actual interest credits would have been, or by using the current interest credit

value. Alternatively, you can set up an initial account based on the lump sum value of the accrued benefit under the old plan formula. In doing the latter, it appears to be possible to change (or create) the basis for lump sums before you switch to cash-balance, in order to build whatever subsidies you think appropriate into the initial accounts.

So what's so bad about this safe harbor? The problem is that the safe harbor requires a very restrictive definition of accrued benefit. And I stress that this required definition relates only to the safe harbor. I think it is wrong to presume, as some have, that this definition of accrued benefit limits the design of cash-balance plans generally, just as it would be wrong to say that because the other defined-benefit safe harbors have certain forms, those forms limit the way you can design final-average pay plans even if you want to use the general test.

But, getting back to the safe harbor, what you do is take the existing account, use the current value of the interest rate credits (with some leeway to use a recent average) to project the account to normal retirement age, and convert the projected account to the annuity. That's the accrued benefit.

Now at first that might seem worse than it is. You might think that you have to guarantee that dollar amount of benefit, in the sense that, if interest rates on the variable basis come down in a subsequent year, you would violate the anti-cutback rules if the dollar amount of the accrued benefit is lower. But the IRS has said that this is not what they intended. The dollar amount of benefit can decrease from one year to the next, and you don't have problems with 411(d)(6) or 411(b)(1)(G), as long as you don't change the variable basis itself.

The only significant purpose in calculating the dollar value of the accrued benefit is to determine a cash out. If you pay lump sums, it is that dollar amount of accrued benefit that you cash out. Cash-balance plans are subject to 417(e), which means that you have to use the prescribed cash-out interest rates. It's easy to see that if you have to project using the current value of the interest basis, even if it's a fairly low basis like one-year Treasury bills and the 417(e) rate is 120% of PBGC rates, for a younger employee, you can end up with a lump-sum value that exceeds the account. Nobody I know who designs or adopts these plans has in mind paying out a lump sum that exceeds the account.

However, I stress that the problem here is not with cash-balance plans in general. The problem is with the way that the accrued benefit has to be defined in the safe harbor. We'll come back to this soon.

Another problem with the safe harbor is that it does not accommodate a lot of the transition approaches that Maria described earlier that are very common and very useful. For example, if the cash-balance formula meets a safe harbor and you want to provide the greater of that benefit and an existing final-average pay formula, even if that formula meets a safe harbor on its own, you're out of the safe harbor.

Well, if the safe harbor doesn't work then we're thrown into the general test, and there the news is significantly better. It is overly optimistic to say that cash-balance plans are inherently less discriminatory. In a typical plan population where most of

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

the HCEs tend to be older and most of the non-HCEs tend to be younger, then a cash-balance plan is, in fact, highly nondiscriminatory.

This presumes – and I'll come back to this point in more detail in a moment – that the interest credits are part of the accrued benefit. That is, when I am credited with 5% of pay this year, I have also earned the right to all future interest credits. Given that, in order to perform the general test using, for example, the accrued to date method, take the current account, project it with interest credits to normal retirement age (if you're testing normal accrual rates), convert to an annuity using the plan's conversion factors, and that's the annuity that you test. The result is that the younger employees have the highest rates and, therefore, very often these plans pass with flying colors.

One minor (and in some cases not so minor) catch is that there is a provision in the general test that requires that plans that index benefits (such as the interest credits in a cash-balance plan) must determine the accrued benefit using the current value of the index. If passing the test depends on a certain level of interest credits that you expect to see on average, but in a given year the credits happen to be low, you may have trouble. This can be especially problematic if you have a healthy grandfather provision. Generally, because cash-balance plans favor younger employees, it is possible to have grandfathers that significantly help the older employees without failing the general test. If you take this too far, being required to use a relatively low current value of the interest credit basis can hurt you.

Now I'd like to go back to the issue of what defines the accrued benefit in a nonsafe harbor plan. When two people first come across the notion of cash-balance, they typically have one of two very different reactions. One will say these plans are clearly front loaded. The other one will say they're terribly back loaded. The difference is in how you look at the interest credits. Compare a 30-year-old with a 64-year-old, both hired at 30, in a 5% cash-balance plan. On the one hand, you might say that the 30-year-old earns 5% of pay while the 64-year-old earns 5% of pay plus all the interest credits on his accumulated balance. Obviously, the 64-year-old has a much higher accrual, but you're in big trouble when you look at the back-loading rules. Alternatively, you can say that the 30-year-old is earning 5% of pay, plus all the future interest credits on that 5% of pay. The 64-year-old is earning 5% of pay and the interest only on that one-year's accrual.

Deciding which view is correct depends on how you structure the plan. All of the cash-balance plans with which I've been involved are structured so that the interest rates are explicitly considered to be part of the accrued benefit, which means that you get them whether or not you remain in employment. As a result, these plans are clearly front-loaded.

The question then becomes: how can you take advantage of this feature? For example, let's say you have a plan that provides 5% pay credits for the first 10 years, 6% for the next 10, and 8% after 20 years. Comparing the 5% with the 6% is okay. Comparing the 6% to the 8% is okay. As you know, in applying the 133-1/3% accrual test you have to look at accruals in every combination of years. Therefore, you might think you have a problem when you compare the 5% to the 8%. Let's say this plan has a minimum interest credit of 3%. If you look at the

worst case situation (the last year you accrued a 5% credit and the first year you accrue an 8% credit) you'll observe that the 5% credit gets interest of at least 3% for 10 years before you start comparing it to the 8% credit. If you include that 10 years worth of 3% interest credits in the accrual, you find that you pass easily under the 133-1/3% rule. An interesting question is whether you have to explicitly provide the 3% minimum rate or whether you can assume for example, that if you're using one-year T-bills, that rate is not going to drop below 3%.

An issue that has been given a great deal of attention in nonsafe harbor plans, is compliance with 417(e). There are different ways that plans can define the accrued benefit, and that definition may affect the approach to 417(e). For purposes of this discussion, let me focus on a fairly typical definition. In order to determine my accrued benefit, I look at my current account. That account will grow with interest credits specified in the plan (let's assume that I'm using a variable basis). Whatever that account grows to at normal retirement age, is converted to an annuity and that's the accrued benefit. Take someone who is age 30. I don't know the dollar value of the projected account because I don't know what the variable basis rates are going to be over the next 35 years. But I have defined the accrued benefit. It's no different from a traditional plan that provides automatic CPI-related increases where I also can't say what the dollar amount of benefit will be when it's actually paid. All I can say is that it's subject to the specified indexing.

That's the way my plan defines the accrued benefit. Now the question is how do I pay a lump-sum to this 30-year-old? Well, I always have to make assumptions in order to pay a lump-sum. I need one extra assumption here that I don't usually need, namely, what will the interest credits be in the future? Now, the only assumption that is specifically dealt with in 417(e) is the discount rate. All other assumptions -- mortality and the rate that I'm going to use to project the account -- are subject to the general requirement that assumptions have to be reasonable. What is a reasonable basis to use for these interest projections?

Since I have to convert my accrued benefit to a lump sum using 417(e) rates, and let's say for argument sake that I'm using actual PBGC rates (as opposed to 120% of PBGC rates), the question becomes, when is it reasonable to assume that my plan specified interest credit basis will not exceed PBGC rates? PBGC rates mirror annuity purchase rates which, in turn, mirror expected returns on longer-term fixed-income investments. It should be reasonable to assume that many typical variable interest bases -- Treasury bills, Treasury bills plus 1%, maybe even Treasury bills plus 2% -- should, in the long-term, be no more than the PBGC rates. Therefore, if you pay the account as a lump sum, you are not understating the value of the accrued benefit.

Of course, if your plan happens to guarantee some very high interest credits, this argument fails. In my opinion, this is where the real issue lies. How far can you go in making this assumption about what PBGC rates represent? What are the limits on the interest credits that will allow you to pay no more than the account?

I might just add parenthetically that if you think about where 417(e) came from, it was meant to deal with an abuse that simply does not exist in a typical cash-balance plan. That is, because you're starting with a lump sum in a cash-balance plan, the

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

only issue should be whether the annuity conversion is reasonable. You should not be whipsawed by having to come back with a higher lump sum than the account.

There are some other approaches that have been used in this issue. An interesting one is the analogy to employee contributions, where even though you have to credit employee contributions with 120% of the federal mid-term rate (which is typically fairly high), once you reach the determination date, you can start projecting interest using PBGC rates. If that were applicable to cash-balance plans, of course, we'd be in great shape. Some of the other suggestions that people have thought of really take us into untested water.

Finally, there are a host of miscellaneous qualification issues.

Cash-balance plans have to meet all qualified joint-and-survivor annuity (QJSA) requirements. In particular, the joint-and-survivor benefit has to be at least as valuable as any other benefit in the plan. If it turns out that there is some subsidy in the lump sum, then you'd better be converting to the QJSA benefit directly from the lump sum so that the subsidy gets carried through to the annuities.

The plan also has to meet the qualified preretirement surviving annuity rules which means that you can't just provide the account as a death benefit. You have to give the surviving spouse the ability to take an annuity and determine that it is sufficient.

If you're going to offer a lump sum, you also have to offer an immediate annuity option, no matter how young the employee. As Maria pointed out, people don't generally take that form, but it has to be available.

Section 415 does not create any real problems. Conceptually, IRS Notice 83-10 deals with the issue of paying lump sums and how you determine the 415(b) limit in plans of that kind. One thing I would point out though, is that when you're dealing with the combined limits, you have to be very careful. You would need an extreme situation (very high pay and a very rich plan) to have a 30-year-old employee run into a 415(b) problem. Since younger employees have such high accruals in cash-balance plans and often have high defined-contribution fractions as well, it's much more likely that you're going to run into problems with the combined limit.

Finally, 401(a)(17) of course applies to these plans. The basic idea is that you have to limit the pay credits going into the plan to \$200,000 of pay or whatever that's indexed to. There are some subtleties that relate to the way that this limit applies at transition and to the benefits included in the opening balance. It may be significant whether the plan was cash-balance at the time that the 401(a)(17) rules became effective or whether it became cash-balance after that date.

MR. MAX ROSENBERG: On the age-weighted profit-sharing plans, could you give us some of your experience and ideas in terms of how to handle top-heavy minimum benefits?

MR. JOSS: I'm in a real luxurious position. I don't have any clients. I work at the central resource facility at The Wyatt Company. In terms of top-heavy minimum benefits, I've been recommending a nice 3% floor. You need to deal with top-heavy

RECORD, VOLUME 18

minimum benefits, but usually it's a design feature to try to come up with some sort of 3% floor for contributions.

MR. ROSENBERG: Would you suggest, as I've done with some of my clients, setting up a separate 3% plan to take care of the minimum top heavy and then just do it strictly age-weighted for the rest?

MR. JOSS: That's an approach that works. I guess I'd like to visit with the client and see if they want two plans and discuss a few other things but, certainly, that's an approach that works.

MR. DONALD J. SEGAL: I have a question for Dave Benovitz. With your description of the accruals in the cash-balance plan, don't you still have an age discrimination problem in that the rate of accrual decreases as age increases?

MR. BENOVTZ: Although I think that the cash-balance safe harbor gives you some comfort, the IRS doesn't seem worried about it there, and presumably that's an indication that it's not a problem. Also, I think it's a gray area as to how that requirement is to be understood in the first place; there are some ambiguities in the regulations.

MR. SEGAL: Except isn't it fair to say that the actuarial community is not very happy with the safe harbor and is seeking to redesign it to make it much more practical and useful?

MR. BENOVTZ: Sure, but what I'm saying is that in terms of this specific issue, I think it's been addressed in a positive way by the safe harbor.

MS. SARLI: The issue is also addressed in the preamble to the 401(a)(4) regulations. They say that interest adjustments through normal retirement age are that accrued in the year of the related hypothetical allocation will not cause a cash-balance plan to fail to satisfy the requirements of 411(b)(1)(H). I think they've come out and said that this is not going to be a problem.

MR. JUAN N. KELLY: I have a comment and two questions. Regarding reasons for converting to a cash-balance plan, if you look at the huge layoffs that Bank of America has had and will continue to have, you really wonder long-term whether converting to the cash-balance plan was the right thing to do.

A question for Maria. You talked about lump sums being offered only at age 55 to avoid the 417(e) issues. How do you defend that practice in light of the availability regulations and age discrimination?

A question for the whole panel. If we can agree that the PBGC's role has little value in the eyes of employees, why would any informed plan sponsor convert to a cash-balance plan as opposed to an age-weighted profit-sharing plan?

MS. SARLI: In terms of paying the lump sum but not paying it before age 55, I don't see that as an age discrimination issue, because when the person hits 55, they're

CASH-BALANCE PLANS AND AGE-WEIGHTED PROFIT-SHARING PLANS

going to be eligible for the lump sum. All we're saying is you're not going to be able to get a specific option until a certain age, and that applies to everyone.

The reasons why you would adopt the cash-balance plan instead of the profit-sharing plan are the same reasons you would adopt a defined-benefit plan instead of defined-contribution plan: You have the ability to get greater return by investing the money yourself, providing higher benefits for a given level of contribution; and you have the ability to update benefits. There are a whole host of reasons why defined-benefit plans are adopted.

FROM THE FLOOR: *What if you had excess assets at the time?*

MS. SARLI: Yes. If you had excess assets, you wouldn't be able to easily convert to a defined-contribution plan and use those excess assets.

MR. LLOYD A. KATZ: My question on cash-balance plans is that two of the key differences appear to be the accrual pattern and the communication of the plan to employees. I'm wondering what would prevent you from communicating a conventional defined-benefit plan somewhat differently, either providing an additional statement, showing the growth of the lump sum, or that sort of communication. And, perhaps, instead of using the additional communication to introduce a cash-balance plan, use it to better explain the plan that you already have. Are there any rules that would prevent you from providing that kind of information to employees?

MS. SARLI: I don't think there's anything that prevents you from providing it. To the extent someone requests an accrued benefit, you would have to show the accrued benefit under the plan, which would be the life annuity. I think the problem is that you're going to show a 21- and 22-year-old that they're earning nothing and you're going to show a 64-year old in that final pay plan that he's earning some huge amount. There's nothing preventing you from doing that, but I think it would cause employee relations problems.

MR. JOSS: You can sometimes even mix a defined-benefit plan and have 3% pay credits as a floor with a traditional defined-benefit formula. Also, I've had some traditional defined-benefit plans on the west coast that paid lump sums and, yes, on the annual statement it was communicated what the lump sum was each and every time. Yes, at young ages it grew up very slowly, but when you go from 50-55, you can see a pretty big jump in your lump sum.

MS. SARLI: One other thing. If you're converting from an annuity to a lump sum, you have the problem of the lump sum jumping around a lot as your conversion rate changes. So you have to be careful with that on the statement. The lump sum might be going down, which doesn't happen when you show it on a cash-balance statement.

FROM THE FLOOR: In most pension plans, participants may not be aware that their benefits are fully funded or that the plan is in a surplus position. I would expect in a cash-balance plan, where they're told what their account balance is on an ongoing basis, that they would be more interested in the simple fact that the benefits may not be fully funded at any point in time or if, in fact, there was a surplus of the plan, that

RECORD, VOLUME 18

they may attach more of a right to it on their own behalf than they would in a traditional defined-benefit plan.

MR. BENOVITZ: I have not seen this as an issue. The communication has to be done very carefully -- both the initial and the ongoing communication about what these balances represent. I haven't seen plans with adverse employee reaction to funded status.

MS. SARLI: I think employees tend to look at it as an individual account and you have to be very careful, as Dave said, in the communication material to let them know that it isn't. They don't really retain that fact, and I think that they probably presume it's fully funded and never ask the question.

FROM THE FLOOR: Right, and it's that potential misunderstanding that I'd be concerned about, that they think that it is fully funded because ordinarily such an account balance would be.

MS. SARLI: I guess there is a potential problem there but the way to handle it is to be careful in the communication material.