



AMERICAN ACADEMY *of* ACTUARIES

The Honorable Tom Harkin
United States Senate
Washington, DC 20510

The Honorable Rob Andrews
United States House of Representatives
Washington, DC 20515

Dear Senator Harkin and Representative Andrews:

I am writing on behalf of the American Academy of Actuaries in response to your request for information concerning possible legislation governing cash balance (CB) pension plan conversions. As the professional organization for actuaries of all specialties in the United States, the Academy provides non-partisan analysis of legislative proposals upon request from Members of Congress.

Your Request

You requested that we compare projected benefits under:

- (1) a traditional Defined Benefit (DB) plan,
- (2) the Harkin A+B proposal, where “A” equals the accrued pension benefit at conversion and “B” equals pension benefits accrued under the new formula, and
- (3) a modified Harkin proposal, where “A” is updated to reflect higher pay levels at quit date or retirement (which we will call a “pay uptick”),¹

for employees at various combinations of age and service. Furthermore, you suggested we “assume annual earnings of \$30,000, a normal retirement age of 65, a pay credit of 5%, an interest credit of 6%, a discount rate of 6% (i.e., no “whipsaw”), mortality according to GATT, [and] for some examples, a typical early retirement subsidy.”

Caveats

As you know, forecasting benefit comparisons depends on the assumptions about the future. If future interest rates are high and salary increases are low, the cash balance plan may be better. On the other hand, if future interest rates are low and salary increases high, the prior traditional pension plan may be better. Comparisons also depend heavily on the benefit formulas in the plans before and after the conversion. If the prior plan was inexpensive, all employees could be better off with the cash balance plan. However, if the prior plan was generous, many employees could be worse off. Employers have always had the ability to improve or cut future benefits. Recent cash balance surveys show that in most conversions some employees will do better, and some will do worse.² We provide examples of both types of conversions in more detail later.

¹ Informally, you suggested we use a salary uptick of 6.9% from the Bureau of Labor Statistics’ (BLS) April 19,2000 news release of median weekly earning. Since this annual increase for the first quarter of 2000 (over the first quarter of 1999) is unusually high due to higher levels of hours worked (and would make your proposal unusually expensive), we suggest using the increase in the Employment Cost Index. It was 4% in the attached BLS release of April 27,2000. It fits in well with the OASDI assumptions, which set the wage assumption at 2% less than the Treasury rate (which you suggested be 6%). Let us know if you would like a different rate.

² This is often the case, because employers want to improve benefits for potential employees, who are likely to be mobile. If an employer does not mind an increase in costs, they can ensure that no employee will have lower benefits. However, many employers do not want pension costs to increase or they may like the philosophy that all employees get the same contribution. In those situations, the future accruals of older employees may decrease. In addition, employers may want to reduce early retirement subsidies, because they do not want employees to leave employment before their retirement age (due to the scarcity of labor). This reduces benefits to those employees who stay until an early retirement date.

Synopsis of Results

The results of our analysis point out some anomalous results when applying the Harkin minimum and the modified Harkin minimum, which were probably not intended:

- The Harkin minimums can force a larger benefit than either the old or new plan, especially if the prior plan was a career average or unit credit plan, or had a service maximum. Limiting the Harkin minimums to the amount of the prior plan benefit would make sense. However, this makes the rule more complicated to administer. Employers will have to calculate the new formula, the Harkin minimum, and the prior plan formula every time someone wants to retire, quit, or know their benefit amount.
- Career average and unit credit plans don't have pay upticks, so it doesn't make sense to modify the Harkin proposal for them.
- Since pay increases for older employees are generally less than the average pay increase, your modification of the original Harkin proposal (to use pay upticks based on national average pay increases) forces employers to pay larger benefits than under the prior plan for older employees. Remedies such as limiting the pay upticks to an employee's actual pay increase or setting it at a lower rate, such as 2%, or the national average minus 2%, or the consumer price index (CPI) also have their problems (discussed later).
- Employees will want pay upticks on the post-conversion accruals, even though that doesn't make sense.
- Employees with high incomes who were in integrated plans that switched to non-integrated cash balance plans will get the most help from the Harkin minimums (especially if they retire early).
- Some employers provide additional transition benefits to workers employed at the conversion date to help avoid benefit reductions. However, adding transition benefits could have the anomalous effect of also increasing the Harkin minimums (under the "B" part of the formula), and thus will not help the CB plan meet the minimum. Specifying that transition benefits (that are payable only to workers at the conversion date) should not get into "A" or "B" would solve this problem.
- Similarly, employees who get "greater or" or "choice" should get a waiver from the Harkin minimums.
- The Modified Harkin proposal would lead to major changes to the pension system. Employers wanting to avoid the pay upticks, could terminate the plan, switch to a DC plan, or freeze the plan. Your staff suggested requiring pay upticks for those situations too, so that employers couldn't avoid the pay upticks. You would then have to require pay upticks in ongoing plans,³ which would cause problems for career average plans and flat dollar plans. This would be difficult on labor (since their plans are typically the flat dollar type) and could really discourage DB plans (which have many advantages over other pension plans). Thus, there may not be any way to get around the problems caused by pay upticks.

Even with the Harkin minimums, some employees will still see a decrease in certain projected benefits (generally those at the subsidized early retirement dates). Only mandating that benefits be the "greater of the old and new formulas" would keep that from happening. However, there are many problems with mandating such "greater of" amounts, which are similar to the last bullet. Some possible alternatives to consider are:

- Provide incentives for employers to give "greater of" (or "choice"⁴) to older employees or long-service employees (or employees whose age + years of service is high).
- Require government agencies to accommodate "greater of," "choice," and modified Harkin (currently, employers can run afoul of the accrual rules and non-discrimination rules, if they do "greater of" or

³ Otherwise, you could get around the freeze rule, by lowering your ongoing accruals to 1 cent per year.

⁴ However, it should be noted that "choice" has problems. Employees may choose a plan that later turns out to provide lower benefits, employers could be sued for bad choices, employers will have to administer two plans for a very long time, it will be difficult for employers to change the plans in the future, even if the law forces a change, etc.

“choice” – in fact, if an employer gave pay upticks on “A” they might have problems with the these rules also).

- Require stronger disclosure rules (employers might be less likely to reduce benefits by large amounts if they have to disclose it better).
- Require that the starting balance be at least equal to the minimum lump sum under the prior plan (unless prior plan benefits continue to be paid from the prior plan formula). This rule would eliminate the initial wear-away, which was your primary objective, and it is much easier to implement in the cash balance context than the Harkin minimums (and the remedies suggested in the prior paragraph).
 - This requirement won’t address a wear away caused by generous early retirement subsidies in the prior plan. The current 411(d)(6) rule protects the subsidy on the accrued benefit, so someone who is many years from early retirement will lose a substantial portion of this subsidy. We could discuss this further to see how important it is that there be mandatory minimums for this situation.

More details are provided below in our comparisons of projected benefits per your request. In our first example, we discuss a career average DB plan with a service maximum of 20 years. Then we discuss a typical final pay plan (with and without an early retirement subsidy).

Career Average DB Pension Plan With Service Maximum

Charts C1 to C6 show the affects of a conversion from an inexpensive “1% times pay” career average DB plan (with a service maximum of 20 years) to your 5% pay credit CB plan. They compare benefits for an employee age 25 at hire. Charts C1 and C2 compare benefits for an employee who was age 35 at conversion. Charts C3 and C4 compare benefits for someone age 45 at conversion, and charts C5 and C6 for someone age 55 at conversion. *In all cases*, benefits under the new CB plan are *larger* than the prior plan.

Per your suggestion, we assume that employees would get a starting account balance equal to their minimum GATT lump sum,⁵ so that there is no initial wear-away or pension plateau. The Harkin bill requires this, and most employers already do it. However, the Harkin bill went further. It would:

- Apply not only to CB conversions, but also to all types of benefit changes (even minor ones – this would create an administrative nightmare, especially for plans with many mergers and amendments required by law).
- Apply at early retirement (this conflicts with employer workforce management goals).
- Require adding mortality credits and appreciation/depreciation credits (complex and unnecessary, as discussed in Appendix I).

The surprising thing to note is that Harkin and Modified Harkin do not recognize that the new plan is always better. They force the benefit to be even larger than either the old or new plan. This can happen if the prior plan had a service maximum. It also happens at ages below age 56 where the new pay credits are more valuable than the accruals under the old plan. The benefits could have been about the same if the pay credits were very age weighted (instead of a level 5%). However, an employer might be embarrassed to have a formula that so blatantly favors one group of employees over another group (i.e., older employees over younger employees - especially since older employees are usually higher paid). Appendix I has more on how a CB plan can theoretically match a traditional plan.

⁵ A recent Price Waterhouse/Coopers survey noted that 72% of surveyed plans used an interest rate equal to or lower than the GATT rate. Only 15 % used a rate that was more than 1% higher than the GATT rate. Some of these may have occurred in late 1998 and early 1999, when some employers started out with lower balances than the GATT lump sum. They guessed (correctly) that interest rates were unusually low and would go back up. However, we admit that this has not always been the case.

Typical Final Pay Plan (*without* Early Retirement Subsidy)

In our next example, we switch to a more generous pension plan that bases benefits on a final 5-year pay average (1.25% x service x F5). As discussed in Appendix I, a CB plan could match the benefits of a final pay plan, if it had pay upticks on the pre-conversion account balance (in addition to interest credits).⁶ Your modification to the Harkin bill was created to do precisely that.

As expected, the CB plan benefits are not as good as the *prior plan benefits* for current employees who stay beyond age 55 (see charts F1 to F6), and this is true no matter when they were hired. However, most current employees (the younger ones) will probably leave before age 55, and they will almost always do better under the new CB plan, because the new CB plan has pay credits that are larger than the prior plan's accruals at younger ages.

For employees who quit or retire between 55 and 67, the conversion lowered benefits by up to 34% in the worst case (see chart F4).⁷ The cuts are greater for employees who quit or retire after age 55 because:

- the pay credits that you specified stay fixed at 5% even at older ages,
- the prior plan accrued benefit is frozen at the pay levels in affect at conversion, and
- the typical 5% per year early retirement reduction factors are slightly subsidized.

Employees hired at older ages would also have these larger reductions. (Documentation of these results is available for review.)

To offset these cuts, many employers provide larger age-weighted pay credits at older ages and/or transition credits.⁸ Some employers provide transition benefits to get current employees up to the benefit that new employees will get (the green line), which you can see is almost always larger than the prior formula (except in Chart F7 at the end of the charts). However, the current language of the Harkin bill causes a problem here. Transition benefits would get included in the Harkin minimums (in the "B" part of the formula); so they wouldn't help the CB plan meet the Harkin minimum. For this reason, it would make sense if your proposal provided that transition benefits for those employed on the conversion date do not get included in "A" or "B".

Surveys show more than half of employers give transition benefits. A recent Price Waterhouse/Coopers survey showed that 81% of surveyed employers provided transition benefits and/or grandfathered benefits (i.e., "choice" or "greater of" benefits for all employees or a certain group, such as those over age 45 or within 10 years of retirement).

You will note from Charts F1 and F5 that the 5% pay credit CB plan would satisfy (or almost satisfy) the original **Harkin** proposal no matter when the employee quits or retires. However, because it does not always satisfy the Harkin bill, the plan administrator will always⁹ have to compare the plan benefit with the Harkin minimum, to make sure the larger amount is paid. This dramatically increases administrative costs for managing a pension plan (especially if a plan has frequent changes due to mergers and/or changes due to requirements in the law, even if they are minor). To reduce the administrative burden on CB plans, you could put the rule into a CB context, by requiring the starting account balance be at least equal to the minimum lump sum (or the prior plan's lump sum, if greater). However, this doesn't catch the early retirement subsidy, which is discussed later.

⁶ Providing a higher return on only the pre-conversion balance also means new employees will not get it. Employers may be nervous that all employees will want the higher return on the part of the account balance attributable to new accruals. However, as discussed in Appendix I, this is not appropriate, because it already has the pay upticks in them.

⁷ Note: most of these benefit reductions are smaller than the cuts in Social Security benefits that Congress made in 1983 when they increased the retirement age from 65 to 67 (14% cut for those born after 1959) and started taxing the benefit (10% to 20% cut for people with higher income). In fact, Congress cut benefits immediately without protection. This is not permitted for private pension plans which have to guarantee the accrued benefit (also known as the wear-away or pension plateau).

⁸ Examples of transition benefits are: Higher starting account balances, a retroactive cash balance account (as if the employee had always been in the cash balance plan), A+B, extra pay credits for 5 or 10 years (or possibly permanently for current employees), extra interest credits on the starting balance, subsidized early retirement benefits, etc.

⁹ Actually, only 50 years until the last current employee retires.

You will also note that the 5% pay credit CB plan will never satisfy the **modified Harkin** proposal. In fact, the modified Harkin proposal has a flaw here. It would mandate benefits that are much better than either the new CB plan or the prior plan. It also mandates 4% pay upticks, even though pay increases at older ages are often less than 4%. One way to fix this would be to forbid the Harkin minimum from ever forcing benefits to be larger than the prior plan. In addition, you might want to allow employers to use actual pay increases (instead of the national average pay increase) for determining the pay uptick. However, your staff was concerned that employees with bigger pay increases would also get the bigger upticks. (Actually, that is what happens in a typical DB plan.) Alternatively, your bill could use something lower than 4%, for example, the national average minus 2%, or the CPI increase, or just 2%. However, that still has problems, which will be discussed later.

Typical Final Pay Plan (with Early Retirement Subsidy)

The penalties for early retirement used to be so severe that most employees didn't retire early. A typical reduction at age 55 was 50% of one's benefit. Then, at the request of labor unions, many large employers started subsidizing the early retirement annuity.¹⁰ Some employers reduced the penalty and some eliminated the penalty altogether. This made sense for employers in the 1970s, since it helped them promote (and thus retain) younger employees and helped them hire less expensive labor from the large pool of new workers.

The final example is the same as the last one, except that it adds a very large early retirement subsidy to the prior plan. You will note from charts S1 to S6 that the benefit at age 55 under the old plan easily exceeds the benefits under all the other formulas, even for new workers hired after the conversion. That is because the unreduced early retirement benefit was very valuable at age 55. It could be twice the value of the pension without subsidy.¹¹ In addition, you will note from chart S7 that the contribution to the prior pension plan is negative after someone reaches age 55. It is due to the early retirement subsidy, and the fact that it reduces to zero if you work until your normal retirement age. This is significant and encourages employees to leave their current employer, even if they like the job. If you stay at your company, it is similar to a 10%, 20%, or even 30% pay cut after you reach your initial subsidy age. Financially, these employees should quit and go to another employer (if the new employer can beat the old salary minus the implied pension cut). And, if the new employer has a pension plan, the employees will be even better off.

These two points explain why employers want to eliminate early retirement subsidies. Not only are the subsidies expensive, they encourage employees to retire early. The subsidies made sense in the 1970s when baby boomers and women were entering the workforce in high numbers. However, they don't make sense now for most employers, when unemployment rates are the lowest they've been in over 30 years.¹² Thus, employers are removing early retirement subsidies from their pension plans¹³. Some make just that one change, but do it in the traditional DB plan. Others, however, decided to make both the early retirement fix and the switch to the simpler CB plan format at the same time. Some employers remove their early retirement subsidies by switching to 401(k) plans, which don't have early retirement subsidies. A concern with a 401(k) however, is that many low income people won't get any future accruals (the "B" in the Harkin proposal) under the 401(k) either, because they won't make the contributions necessary to get the match. At least this doesn't happen in CB plans.

Many employee advocates charge that employers switched to the CB plan to obscure the loss of the early retirement subsidy. Improved disclosure rules, such as those developed by the Academy last year, should fix this problem. In

¹⁰ Most employers didn't subsidize the lump sum benefit (either because they didn't pay lump sums, or because that would have been much more expensive to subsidize than the annuity due to IRC § 417(e)).

¹¹ The lump sum does not have to include this subsidy. Chart S3 compares lump sums in this situation. You will note that the results are very similar to the plan that didn't have the early retirement subsidies in chart F3. Thus, we only did this chart once.

¹² It also doesn't make sense for national policy either, because we are more likely to waste the talent of our older citizens.

¹³ The anti-cutback rule does not allow employers to take the early retirement subsidy away on the portion of the benefit that is already accrued. If an employee is 1 week away from retirement at age 55, the early retirement benefit is fully protected and can't be cut by an amendment or conversion. The protection phases out gradually the further one is from the subsidized early retirement date. If the employee is 1 year away from completing their 30th year, then approximately 29/30ths of their early retirement benefit is protected and can not be cut. The protected portion is actually about 93% of their benefit (because last year's accrued benefit is based on last year's pay average (assuming 4% pay increases). For someone who is 10 years away from their 30th year, the protected benefit at retirement is only about half of their benefit. This is much less than 20/30ths (again due to the use of pay at the time of conversion).

fact, improved disclosure rules may also push some employers to improve their transition benefits, since the benefit reductions will become clearer to the older, long-service employees.

Most employers are concerned about the effects of a conversion on older employees and provide transition benefits to employees at the conversion (although some employees may still not do as well, even with the transition benefits). The Harkin proposal also ameliorates this concern somewhat, and the modified Harkin proposal even more so. Still, even with these law changes, some employees may not do as well as under the prior plan. Only providing the “greater of both formulas” will keep employees from being hurt.¹⁴ But that’s expensive, and it keeps the old formula with the early retirement subsidies around for a long time (which some employers want to avoid). Thus, many firms “grandfather” the prior plan benefits for employees who are over a certain age (or age + service combination) or provide them choice. They often exclude younger employees because they don’t want to have to administer the old plan for 50 more years, and they figure most young employees aren’t thinking about retirement yet.

Employer Concerns with Pay Upticks

The modified Harkin proposal will keep many employers from doing what they feel they need to do to manage their workforces and operate a successful business. If employers can’t find a way to do what they need to do with their DB plan, they may look for another solution. Some alternatives that employers might consider are:

- Employers could terminate their DB pension plan¹⁵ and switch to a DC plan. A DC plan would avoid the pay upticks in the modified Harkin proposal for DB plans.
- In response to employers avoiding the pay upticks (by switching to DC plans), your staff indicated they could mandate pay upticks upon plan termination, plan freezes, or conversions to DC plans. That would be a major change from current law.
- Required pay upticks would make pension plans more expensive than what the employer initially intended when they set them up.
- Pay upticks would discourage the formation of new DB plans
- Pay upticks would have administrative difficulties.
 - For example, when a plan terminates, it has to offer annuities to all employees. The insurance company will not know what its annuity promise is when the plan terminates, because the promise will depend on when the employee eventually leaves the employer. The insurer will have to provide pay upticks (or reflect actual pay) until then. If an employee left right after the plan termination, the insurer would only have to pay the accrued benefit. If the employee worked for 10 more years at the company, the insurer might have to pay double the accrued benefit (due to 10 years of pay upticks). The insurer wouldn’t know how much to charge for taking over the plan.
 - A partial solution would be to provide pay upticks (or inflationary increases) until a definite date, such as when the employee reaches age 65 (i.e., no matter how long the employee worked at the company), but that would be much more expensive, and insurance companies would still be nervous about guaranteeing future CPI increases or pay upticks.
- Plans that have just a small amount of surplus (and underfunded plans) would not be able to afford these pay upticks if they needed to terminate their plan.
- This could force them into bankruptcy and increase PBGC’s exposure.

¹⁴ Even choice has problems, since employees can choose the wrong plan (due to leaving at a different date than they planned, incorrect economic assumptions as to the future, or a misunderstanding). It also causes administrative problems and makes it difficult to change the plans in the future.

¹⁵ If overfunded they could merge it with an underfunded pension plan first, and then terminate to avoid excise taxes. Creating a follow-on plan would also reduce the excise tax rate from 50% to 20%.

- A remedy would be to mandate the pay upticks to the extent payable from the plan's surplus (or up to the excise tax on the reversion – and use it to pay for the upticks). This idea, however, would discourage good funding, since employers that funded their plans better would have to provide more pay upticks.
- There would also be an incentive to merge with an underfunded plan to avoid the pay upticks.
- This poison pill upon termination (the pay upticks) could make it more expensive to terminate a plan than keep it ongoing (or freezing it).
- A solution for this problem would be to mandate pay upticks at all times (i.e., even for ongoing plans), but that would increase the pension costs and administrative costs of all DB plans. This would greatly discourage DB pension plans. It would make career average plans and flat dollar plans illegal, which would be difficult on labor (since their plans are typically the flat dollar type).

Thus, there may be no good way to get around the problems caused by pay upticks.

Conclusion

By giving employees a more age-neutral contribution than traditional DB plans, the typical CB plan focuses more benefits on young and mobile employees who are more than half the future workforce. However, some employees may have their projected benefits reduced in the conversion to the cash balance plan. Older employees may get smaller accruals in the future. Transition benefits can help, but often employees in final pay plans will not get the pay upticks they would have gotten in the prior plan.

Modifying the Harkin proposal to include pay upticks on the accrued benefit (whether the annuity or the lump sum) would help these employees. However, it has benefit minimums that are even greater than the benefits payable under the prior plan.¹⁶ This would be particularly true if the new CB plan has better pay credits than the accruals under the prior plan, or no service maximum when the old plan did have a maximum. It would also be true for older employees whose pay increases were smaller than the required pay uptick. In addition, the pay uptick modification to Harkin would not make sense when the prior plan was a career average or unit credit (“dollar x service”) pension plan, since these plans don't have pay upticks in them. Some remedies have been suggested above. However, the modifications to Harkin would create some major changes to the current pension system that would cause the many problems discussed in the prior paragraph.

Can anything else be done? Improved disclosure of pension plan changes may push employers to provide better transition rules for their older, long service employees. In addition, Congress could give incentives for employers to provide transition benefits and the “greater of” the old and new plan. Currently, if employers give “greater of” they can run afoul of a strict reading of the accrual regulations.¹⁷ Requiring federal agencies to accommodate “greater of” would fix that problem. In addition, Congress could also ask the agencies to accommodate “choice” (although choice has its problems). I would be happy to discuss incentives in more detail with you at your convenience.

Sincerely yours,

Ron Gebhardtsbauer
Senior Pension Fellow
American Academy of Actuaries

¹⁶ However, even the modified Harkin proposal will not make all employees happy. Under its minimums, some employees with long work histories may still not do as well if the prior plan had very large early retirement subsidies.

¹⁷ Confirmed in a June 7 meeting with the IRS. Each formula must satisfy the same IRC §411 accrual rule, not different accrual rules. They suggested that only Congress could change this. In addition, the fractional rule cannot be easily used by cash balance plans due to the 10-year pay limit.

Appendix I

Assumptions for Calculations

From your memo:

Annual earnings	= \$30,000 ¹⁸
Normal retirement age	= 65
Pay credit	= 5%
Interest credit	= 6%
Discount rate	= 6% GATT rate (i.e., no change in GATT rate means no “whipsaw”)
Mortality according to GATT	

Other assumptions, for consistency:

Pay upticks	= 4%
Pay increases	= (65 – age) / 1000

E.G., a pay increase of 4% at age 25 decreasing linearly to 0% at age 65

Early Retirement Reduction Factors (ERRFs) are a 5% reduction for every year that benefits commence prior to age 65, except for the second Final Pay example, which had Unreduced ERRFs.

Exact Match Cash Balance Plan

While it wouldn't make sense for an employer to implement an exact match cash balance plan, it might be helpful pedagogically to discuss it. The cash balance plan that exactly matches a “1% times pay” career average DB plan would have:

- (1) A heavily age-weighted *pay credit* (see the pay credits on Attachment II),
- (2) *Interest credits* equal to the GATT rate (6% in this example),
- (3) *Mortality credits* (multiply the account balance “A” by the small percentages in Attachment II),
- (4) *Appreciation credits and Depreciation debits* (multiply the account balance “A” by a ratio of present value rates, when the GATT discount rate goes down or up¹⁹), and
- (5) An *annuity conversion factor* of \$10.60 at age 65.

Converting a “1% times pay” *career average plan* to the above CB plan would not reduce (or increase) anyone's benefits. Similarly, to create an exact match CB plan for a “\$30 x service” *unit credit plan*, just multiply the pay credits on Attachment II by \$30 (or any dollar amount in a unit credit plan). Career average plans and unit credit plans are often updated to new pay levels or new dollar amounts. To do that in the exact match age-weighted cash balance plan, the employer would just multiply the account balance by the ratio of the new pay level divided by the old pay level (or new dollar amount divided by the old dollar amount). These pay updates occur automatically in final pay DB plans.²⁰ Some traditional plans provide early retirement subsidies once employees reach age 55 and/or 30 years of service. Cash balance plans could mimic this too, with enhanced annuity factors at these early

¹⁸ The \$30,000 assumption for pay does not affect results, since all numbers and graphs are expressed as a percentage of pay and the hypothetical plans are not integrated. If the prior plan were integrated (and the new cash balance plan wasn't), then employees at higher pay levels would have greater reductions in benefit. This is why more often it is the well-paid employees that have complained about getting reduced benefits in their cash balance conversions. Cash balance plans are less likely to be integrated than the prior traditional DB plan. These benefit reductions would also happen if, for example, Congress were to disallow integration.

¹⁹ For example, if the GATT Treasury rate goes up from 6% to 7%, the lump sum in the traditional DB plan and the account balance in this exact match CB plan (for someone aged 50) would decrease by about 20%. If the rate went from 6% to 5%, they would go up by about 25%. (See Attachment II for present values at 5%, 6%, and 7%). These percentage changes are larger at younger ages and smaller at older ages, which is why some people feel they might be age discriminatory. But note that they already happen in traditional DB plans. It's the law [IRC section 417(e)].

²⁰ Besides automatic pay updates each month on the account balance, the exact match cash balance plan (for a final 5-year average pay plan) would have to determine its pay credits as in the “1% x pay” career average plan, but the current Final 5 average pay would be used instead of the current year's pay for each year's pay credit. Note: these pay upticks could run afoul of the IRC section 411 accrual rules.

retirement ages, but it would be awkward in a CB plan, because the subsidy goes to zero by the Normal Retirement Age, and it is very obvious.

Typical Cash Balance plans: A simple cash balance plan may have a flat pay credit of, for example, 4% of pay (i.e., no age weighting of the annual pay credits). Since the traditional DB plan provides greater contributions at older ages, employees in their 50s and 60s will get smaller future accruals after converting to a simple CB plan. That is why employers often age-weight the cash balance pay credit formula. For reasons of simplicity and good relations with their employees, they generally won't be as age weighted as an exact match CB plan in the Appendix II.²¹ An employer might be embarrassed to have a formula that so blatantly favors one group of employees over another group (i.e., older employees over younger employees - especially since older employees usually are the higher paid ones). Pay credits in a typical age-weighted cash balance plan, from a recent Society of Actuaries study²² are:

- 3% of pay in your 20s
- 4% of pay in your 30s
- 5% of pay in your 40s
- 6% of pay in your 50s
- 7% of pay in your 60s.

Thus, employees over age 56 will get smaller contributions under the "typical" age-weighted cash balance plan²³. This reduction doesn't affect many employees (only those over age 56) and it only affects future contributions. It doesn't affect their accruals under the prior plan, which is most of their benefit. However, employers contend that they need the ability to modify future compensation and benefits to stay competitive. Their reasons might include (1) their competitors cut their prices, (2) their competition for labor starts paying more in pay or less for retirement income, (3) their health plan gets dramatically more expensive, etc.

Flat pay credit CB plans (and even the slightly age-weighted pay credits in the last column of Attachment II) accrue benefits similar to Social Security, which indexes one's pay by the national average wage. Thus these kinds of CB plans don't need pay updating on post-conversion accruals (since they are already updated by the interest credits). You correctly suggested that the pay updating be on the pre-conversion accruals only.

In addition, the typical CB plan doesn't have mortality credits (because CB plans typically pay out the full account balance at death, and therefore don't have any mortality savings to pass on to the other employees). And finally, the typical CB plan won't have appreciation and depreciation credits. That's because one of the primary purposes of implementing a cash balance plan is to provide *stable* lump sums - amounts that don't bounce up and down with the GATT discount rate (like in a traditional DB plan). This shouldn't be a problem for employee-advocates either, since interest rates are just as likely to go up, which would reduce the account balance.²⁴ Thus, post-conversion CB plans and CB plans de novo should not present concerns for employee advocates. Their concerns are with conversions to cash balance plans.

²¹ The exact match pay credits in Attachment II range from 0.7% of pay for an employee age 20 to 10.6% of pay for an employee age 65 (or 15 times better than the pay credits for someone age 20). The age weighting could be even more disparate if an 8-1/2% discount rate was used. In that case, the age 20 pay credit could be 0.23% of pay, and the age 65 rate could be 10% of pay (or 43 times better).

²² This is the average age-weighted CB plan from the Society of Actuaries June 2000 Cash Balance study (Figure B.5).
²³ Age 57 is the first age at which the pay credit on Attachment II exceeds the "typical" pay credits above. Compared to a typical age-weighted CB plan, the largest possible loss at age 65 is 11% of pay for someone who is converted to the cash balance plan at age 56 and stays until age 65 (or later), or less than 1% of pay annually, on average. (See attachment II.)

²⁴ It is legal to avoid the whipsaws per Notice 96-8 for plans with interest credits that are close to the 30-year Treasury rate. Some employers would like to provide larger interest credits (e.g., an S&P index, or the index with a floor of 0% and ceiling of say 20%), but don't because of fears that IRC section 417(e) might require them to pay lump sums larger than the account balance. Some also contend that the whipsaw causes age discrimination. Some practitioners have suggested revisions to 417(e) that would allow this without causing the whip saw to happen. This would also be good for employees, if they thereby got higher interest credits.

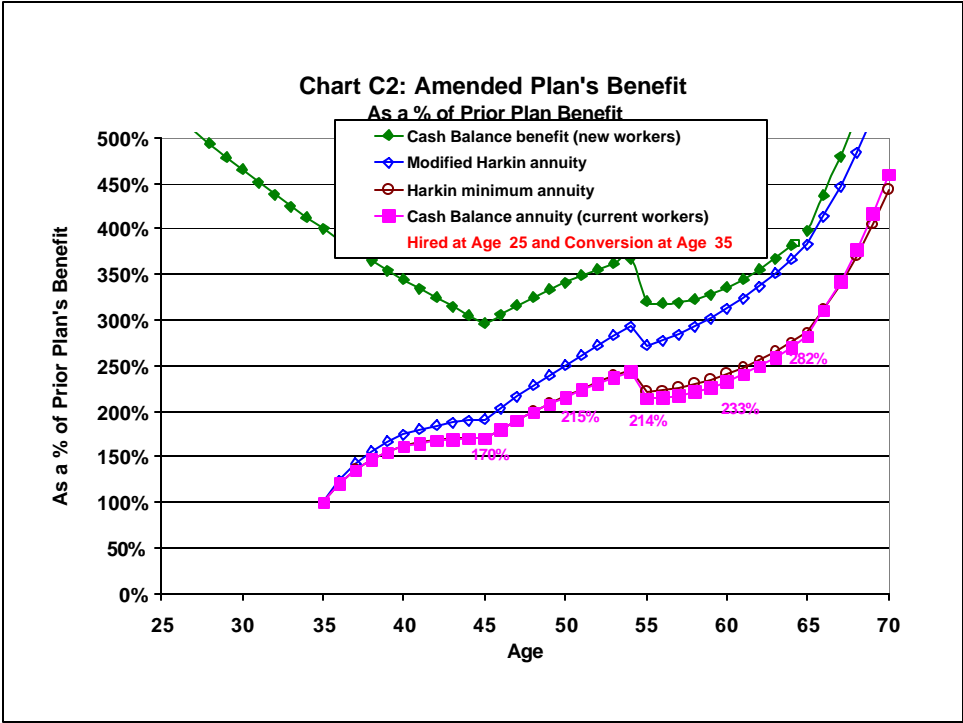
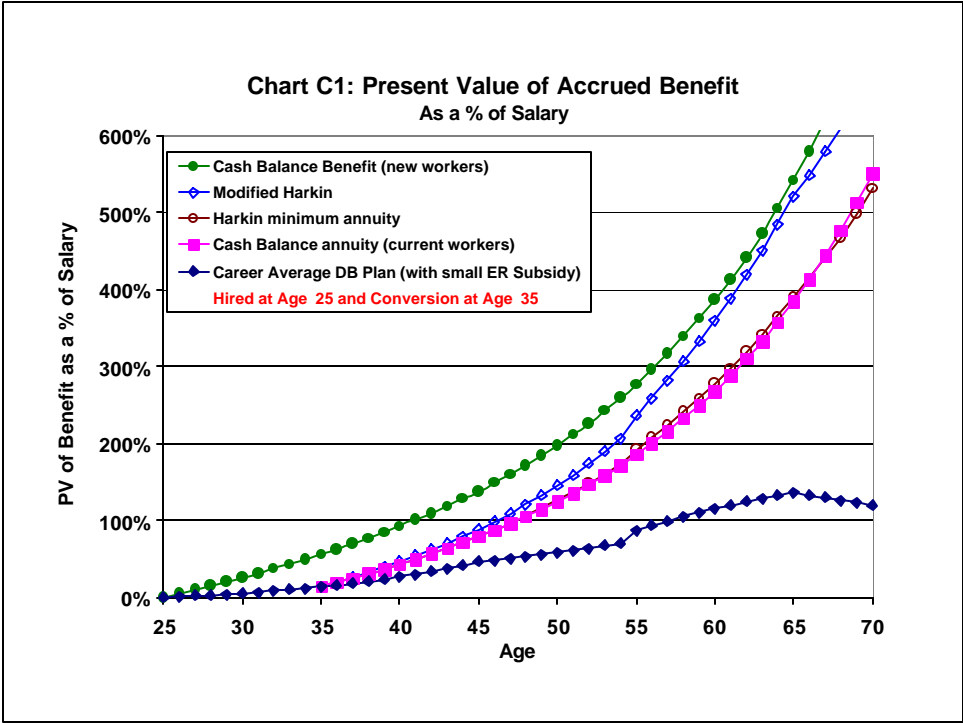
Appendix II : Age-Weighted Factors for a Cash Balance Plan

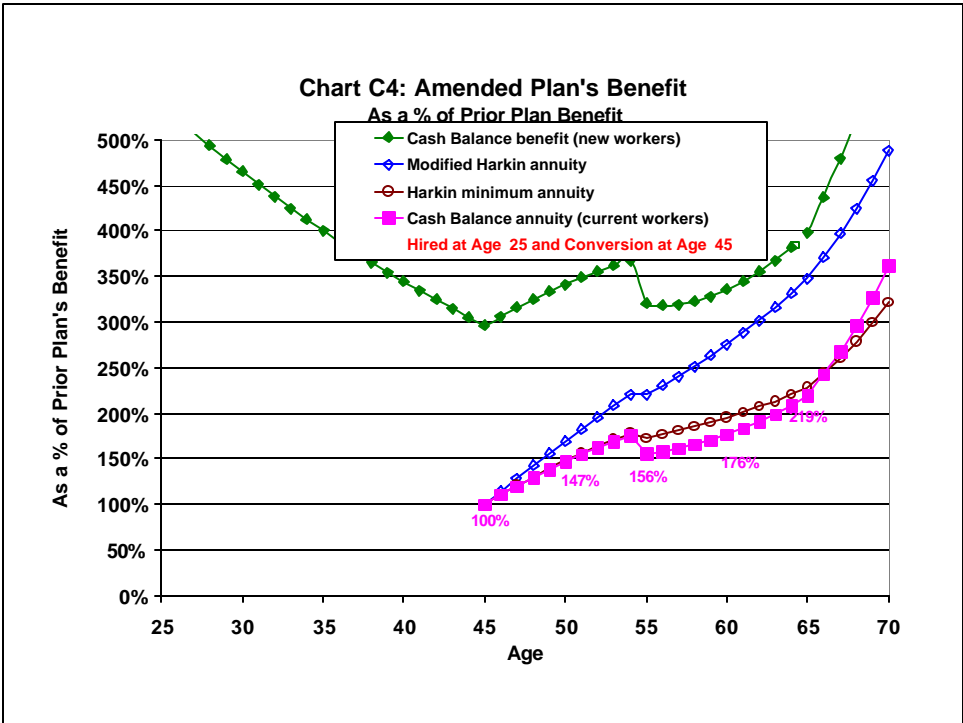
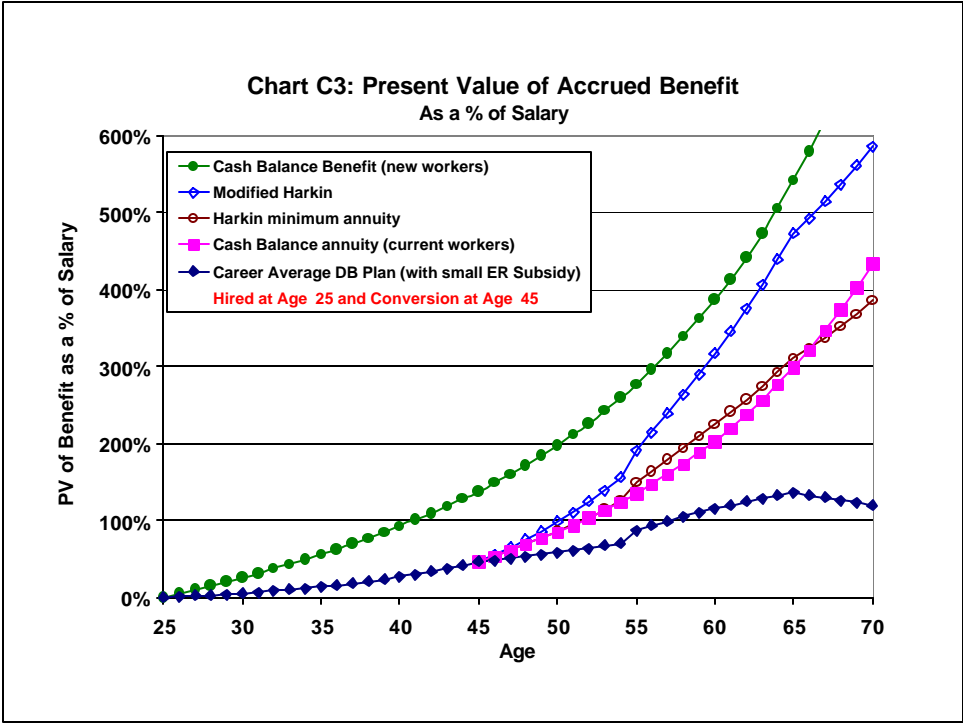
(that would exactly match a 1% of pay Career Average DB Plan)

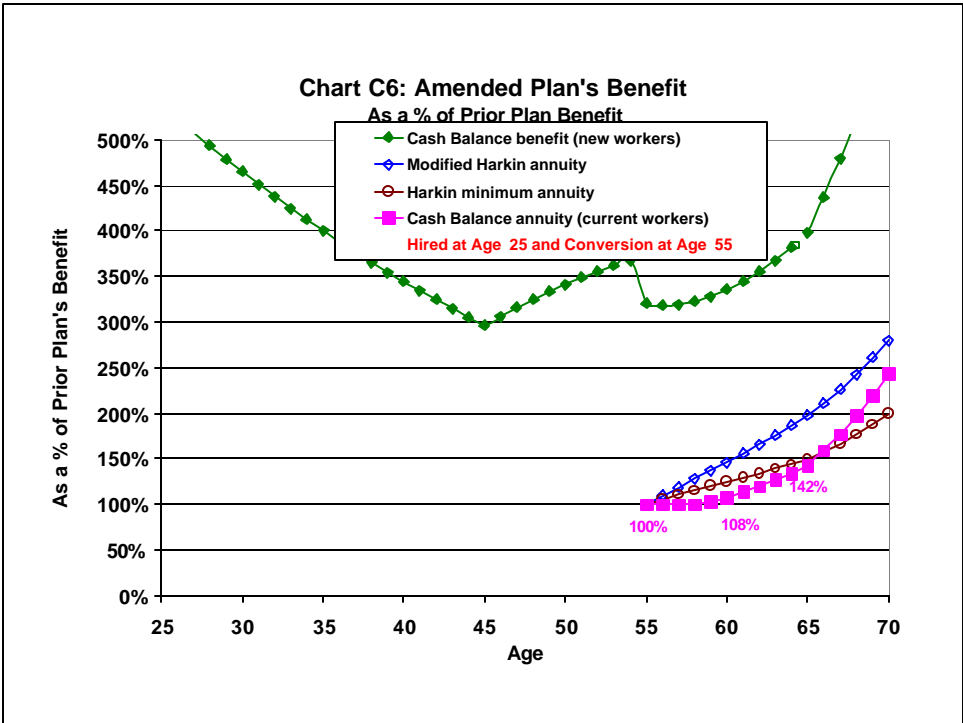
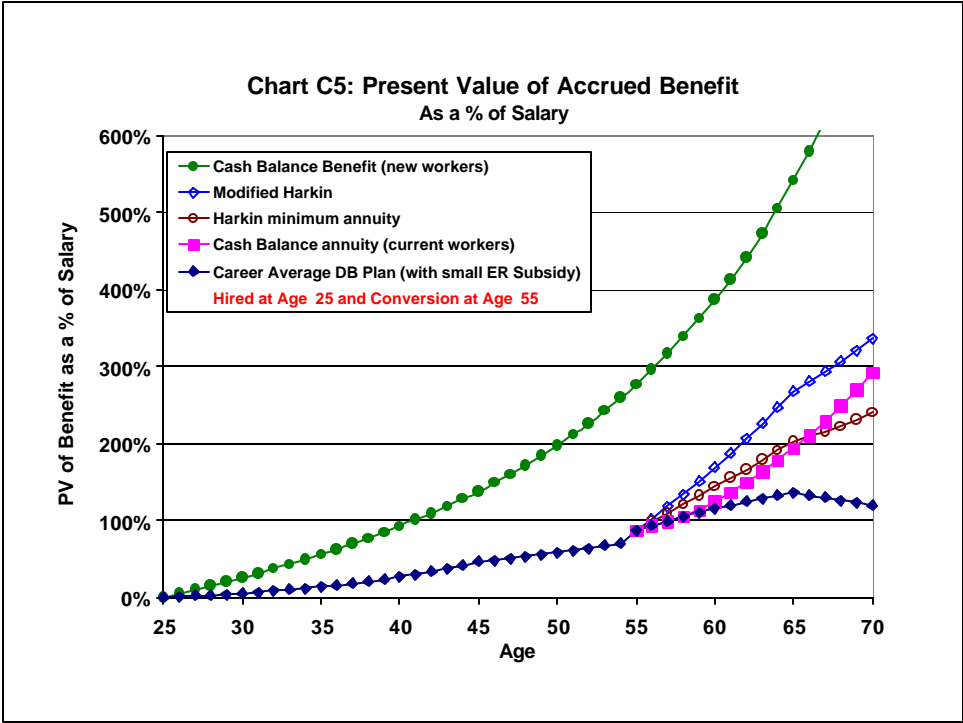
(assuming GATT minimum lump sums using a 6% interest rate & the 1983 GAM table)

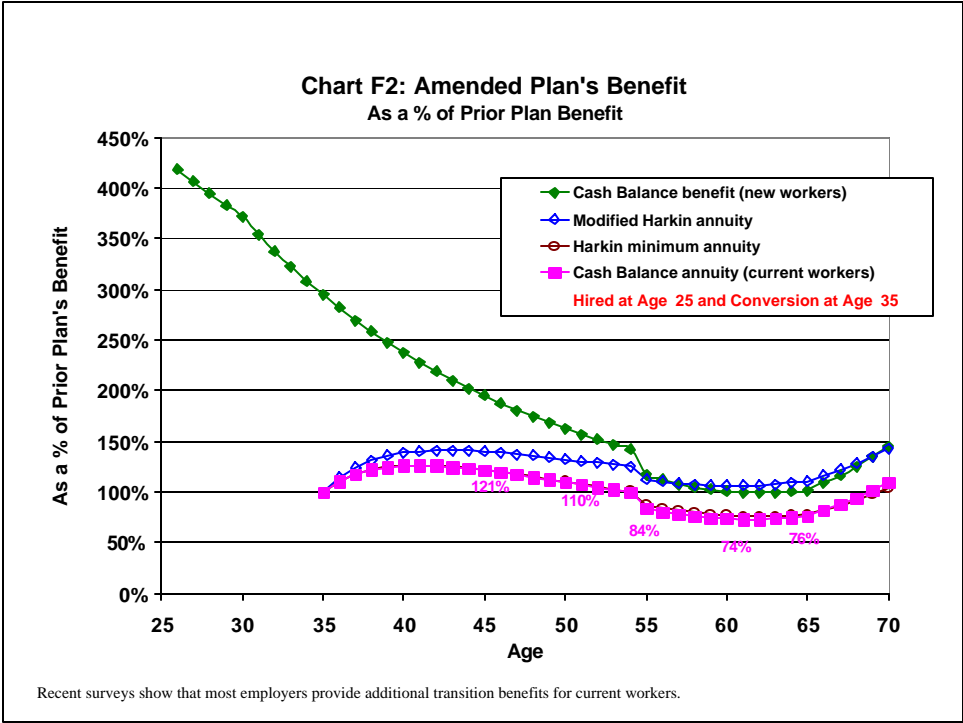
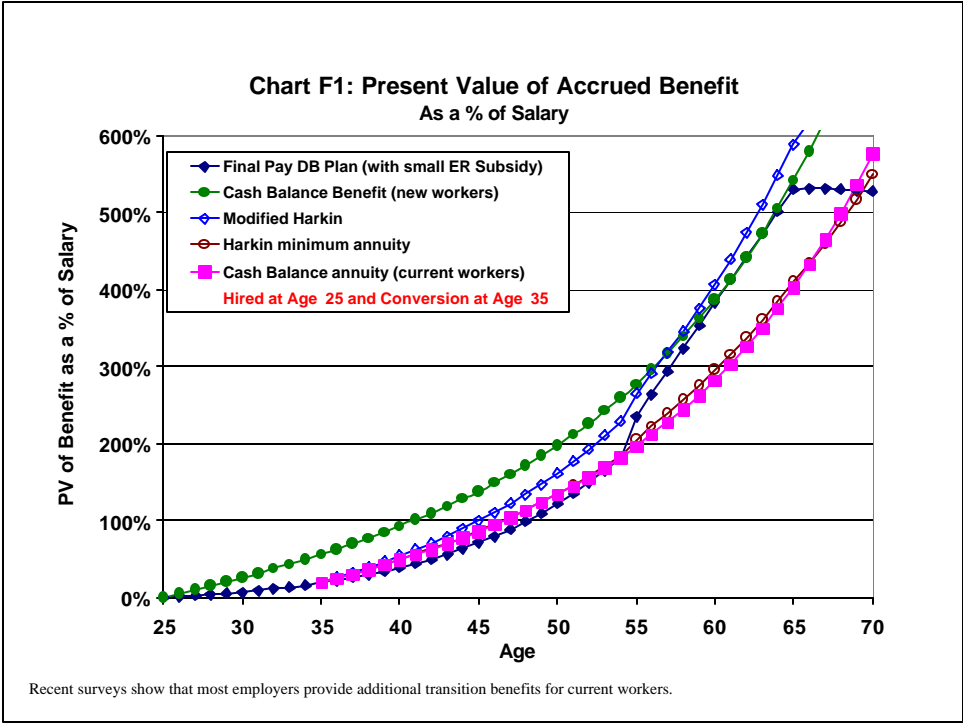
Age	Pay Credits for			Dropped Mortality Credit	Deferred Annuity at age 65 Present Values using a GATT rate of			
	Exact Match	Typical	Loss		7%	6%	5%	2%(3% post65)
	CB plan	CB plan						
20	0.7 %	3.0 %	0.0 %	0.0 %	0.4	0.7	1.1	5.1
21	0.7	3.0	0.0	0.0	0.5	0.7	1.2	5.2
22	0.8	3.0	0.0	0.0	0.5	0.8	1.3	5.3
23	0.8	3.0	0.0	0.0	0.5	0.8	1.3	5.4
24	0.9	3.0	0.0	0.0	0.6	0.9	1.4	5.5
25	0.9	3.0	0.0	0.0	0.6	0.9	1.5	5.7
26	1.0	3.0	0.0	0.0	0.6	1.0	1.5	5.8
27	1.0	3.0	0.0	0.0	0.7	1.0	1.6	5.8
28	1.1	3.0	0.0	0.0	0.7	1.1	1.7	5.9
29	1.2	3.0	0.0	0.0	0.8	1.2	1.8	6.1
30	1.2	4.0	0.0	0.0	0.8	1.2	1.9	6.2
31	1.3	4.0	0.0	0.1	0.9	1.3	2.0	6.3
32	1.4	4.0	0.0	0.1	1.0	1.4	2.1	6.5
33	1.5	4.0	0.0	0.1	1.0	1.5	2.2	6.6
34	1.6	4.0	0.0	0.1	1.1	1.6	2.3	6.8
35	1.7	4.0	0.0	0.1	1.2	1.7	2.4	6.9
36	1.8	4.0	0.0	0.1	1.3	1.8	2.5	7.0
37	1.9	4.0	0.0	0.1	1.3	1.9	2.7	7.1
38	2.0	4.0	0.0	0.1	1.4	2.0	2.8	7.3
39	2.1	4.0	0.0	0.1	1.5	2.1	2.9	7.5
40	2.2	5.0	0.0	0.1	1.6	2.2	3.1	7.6
41	2.4	5.0	0.0	0.1	1.8	2.4	3.2	7.8
42	2.5	5.0	0.0	0.1	1.9	2.5	3.4	8.0
43	2.7	5.0	0.0	0.1	2.0	2.7	3.6	8.1
44	2.8	5.0	0.0	0.1	2.2	2.8	3.8	8.3
45	3.0	5.0	0.0	0.2	2.3	3.0	4.0	8.5
46	3.2	5.0	0.0	0.2	2.5	3.2	4.2	8.7
47	3.4	5.0	0.0	0.2	2.7	3.4	4.4	8.9
48	3.6	5.0	0.0	0.2	2.9	3.6	4.6	9.0
49	3.8	5.0	0.0	0.3	3.1	3.8	4.8	9.2
50	4.1	6.0	0.0	0.3	3.3	4.1	5.1	9.4
51	4.3	6.0	0.0	0.3	3.5	4.3	5.4	9.7
52	4.6	6.0	0.0	0.3	3.8	4.6	5.7	9.9
53	4.9	6.0	0.0	0.4	4.1	4.9	6.0	10.1
54	5.2	6.0	0.0	0.4	4.4	5.2	6.3	10.3
55	5.6	6.0	0.0	0.4	4.7	5.6	6.6	10.6
56	5.9	6.0	0.0	0.5	5.0	5.9	7.0	10.9
57	6.3	6.0	0.3	0.5	5.4	6.3	7.4	11.1
58	6.7	6.0	0.7	0.6	5.8	6.7	7.8	11.4
59	7.2	6.0	1.2	0.6	6.3	7.2	8.2	11.7
60	7.6	7.0	0.6	0.7	6.8	7.6	8.7	12.1
61	8.1	7.0	1.1	0.7	7.3	8.1	9.2	12.3
62	8.7	7.0	1.7	0.8	7.8	8.7	9.7	12.7
63	9.3	7.0	2.3	0.9	8.5	9.3	10.3	13.1
64	9.9	7.0	2.9	1.0	9.1	9.9	10.9	13.4
65	10.6				9.9	10.6	11.5	13.8

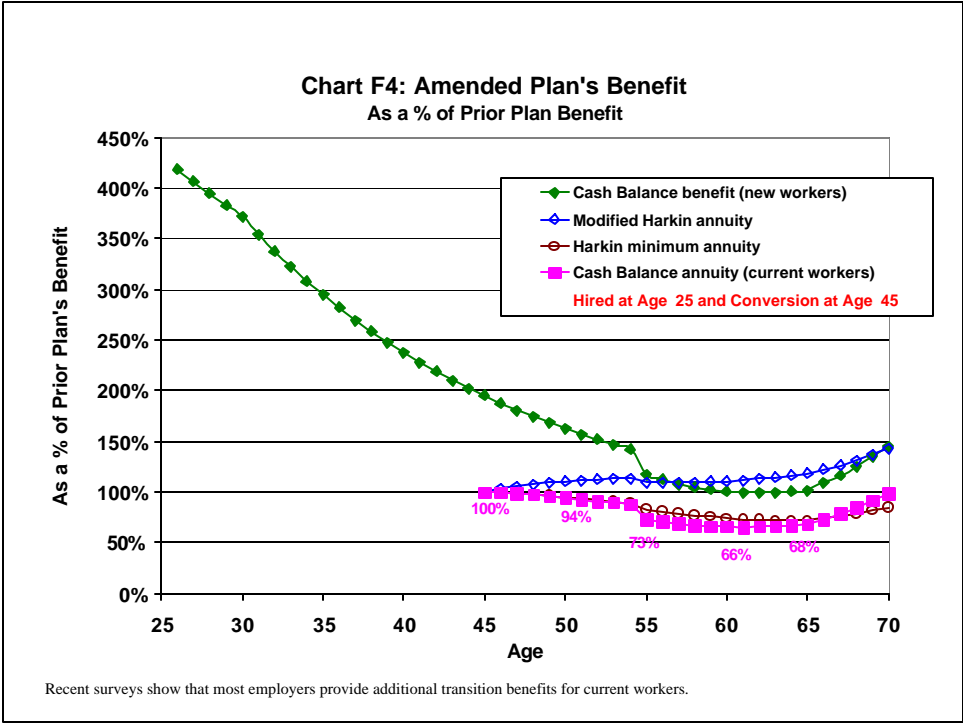
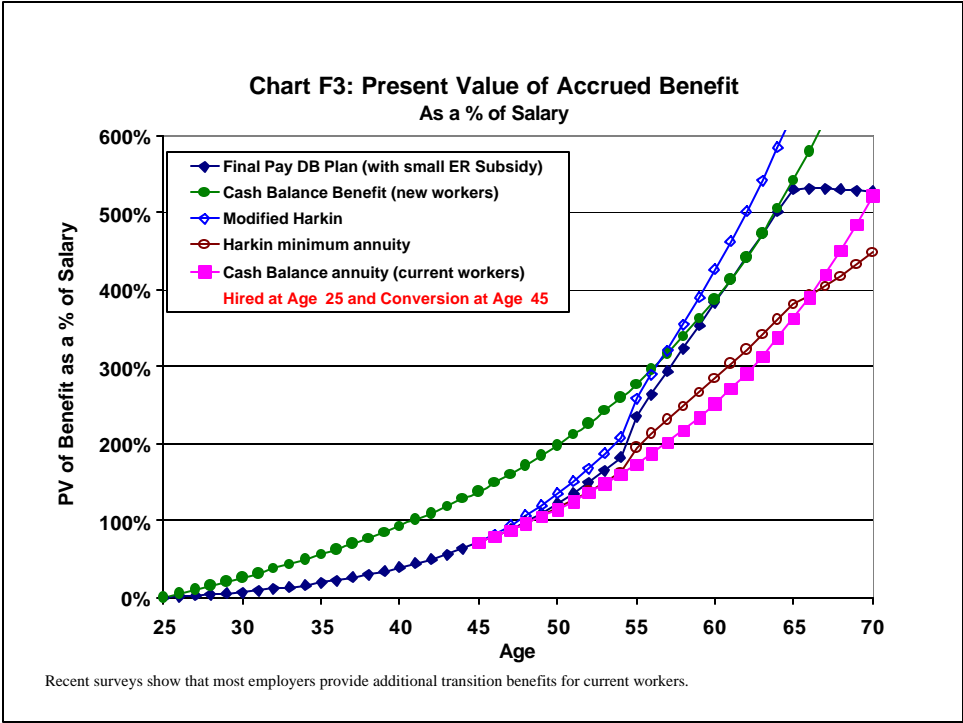
Total loss = 11 % (as a % of pay) 9.5 % of balance (post age 45)

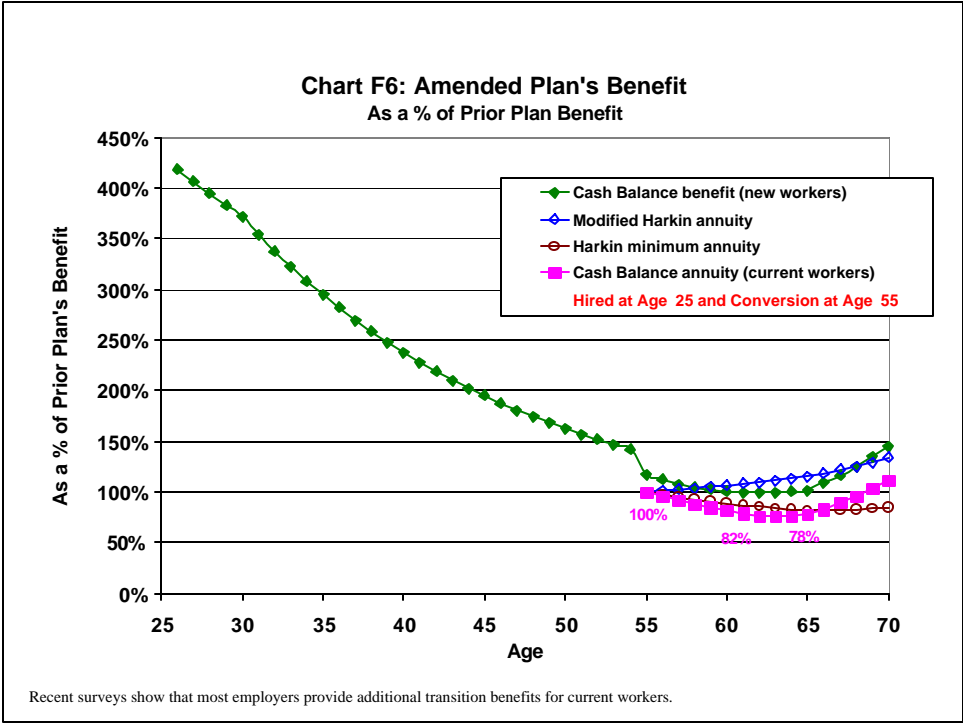
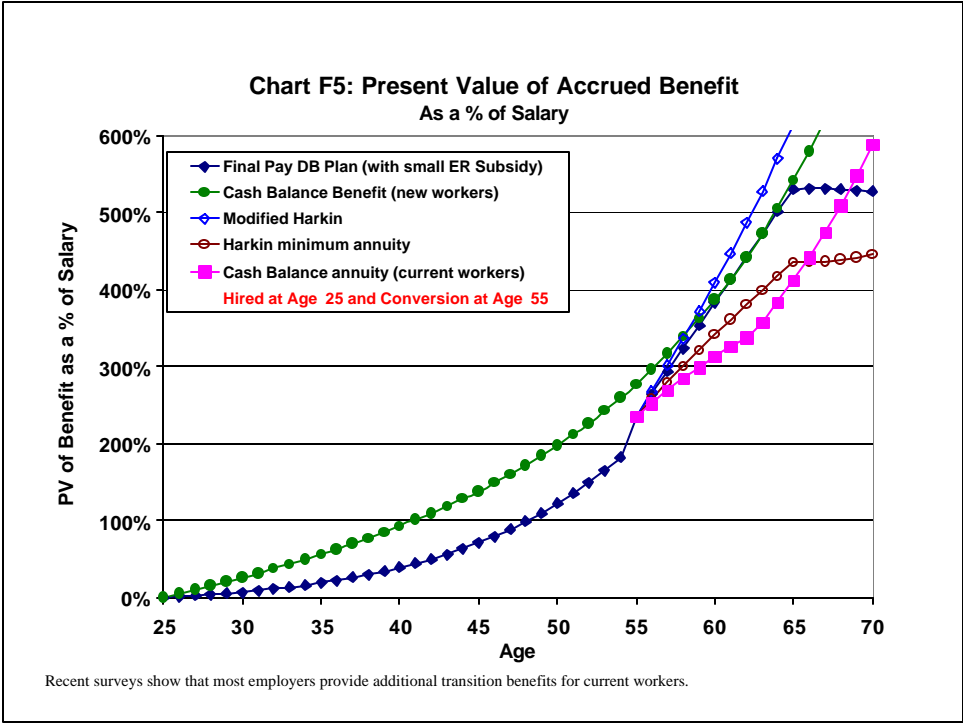




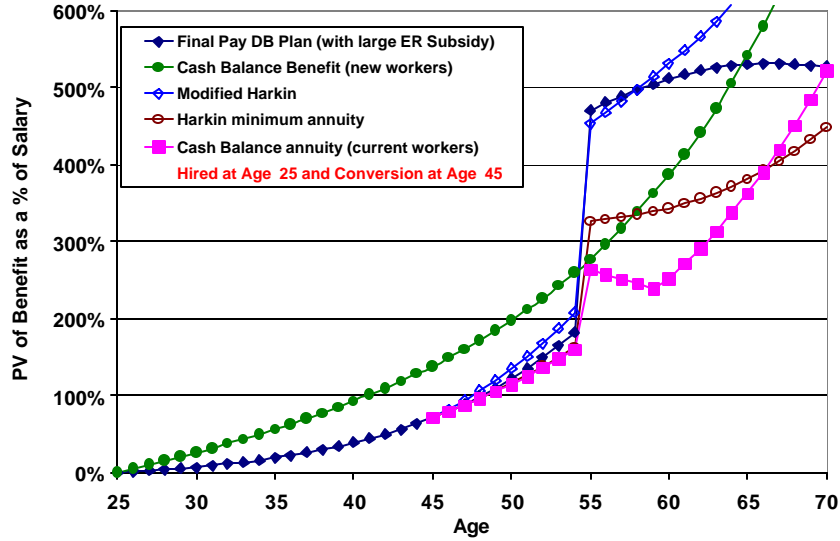








**Chart S1: Present Value of Accrued Benefit
As a % of Salary**



**Chart S2: Amended Plan's Benefit
As a % of Prior Plan Benefit**

