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Key Issues in the Cash Balance Debate¹

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A. Abstract

The trend among large companies toward conversion from traditional final-average defined benefit plans to cash balance plans has precipitated one of the most complex pension-related controversies of the late 1990s. Current debate appears to focus on both the effects of these conversions on expected retirement incomes and on the manner and extent to which companies must disclose these effects to participants. This testimony provides background information on issues surrounding cash balance plans, including the controversial “wear-away” provisions utilized by some plans.

B. Introduction

The recent trend among large employers toward conversion of traditional final-average and career-average defined benefit plans to cash balances has raised a controversial and complex set of issues.² A cash balance plan is a “hybrid” type of pension plan³—i.e., one that takes on the characteristics of both a defined benefit plan and a defined contribution plan. Legally, a cash balance plan is a defined benefit plan. A cash balance plan offers some of the popular advantages of a defined benefit plan but is designed to look more like a defined contribution

¹ This testimony is partially based on Jack VanDerhei, “Key Issues in the Cash Balance Debate,” *ACA Journal* (forthcoming), and William Gale, Leslie Papke and Jack VanDerhei, “Understanding the Shift Toward Defined Contribution Plans,” paper presented at the Brookings/TIAA-CREF Institute/SIEPR conference *ERISA After 25 Years: A Framework for Evaluating Pension Reform*, September 17, 1999.

² This testimony purposefully avoids taking a stance on the ongoing debate regarding concerns that cash balance plan conversions may be violating age discrimination laws. The IRS, EEOC and Labor Department share responsibility for enforcing U.S. age discrimination laws and none of the three agencies have provided guidance on the age discrimination question. Moreover, there appears to be a complete lack of any benchmark court decisions that speak to this issue (Martin, 1999b). In addition, the topic is made more complex by the fact that preferences, to the extent they exist, may be related to service as opposed to age. It appears that IRS is now examining whether conversions to cash balance plans involve violation of age discrimination laws and will be expressing its views to this Senate panel (Martin, 1999a and Schultz, 1999).

³ Although this testimony focuses exclusively on cash balance plans, hybrid arrangements that combine traditional defined benefit and defined contribution concepts include pension equity plans, age-weighted profit sharing plans, new comparability plans, floor-offset plans, new comparability profit-sharing plans and target plans (Campbell, 1996).

plan, with an individual “hypothetical” account that appears to accumulate assets for each participant. Cash balance plan accounts are a record-keeping feature only, as these plans are funded on an actuarial basis, in the same way that defined benefit pension plans are funded. Therefore, at any point in time, the benefits promised to a participant are based on the plan formulae and not on the assets in his or her “account”.

In a typical cash balance plan, a participant’s retirement account grows by earning annual credits that may be based on a flat percentage of pay but that might be integrated with Social Security benefits (Quick, 1999). However, it is also possible to provide age or service-weighted pay credits under these plans, even though a cursory examination of Internal Revenue Code (IRC) Sec. 411(b) would suggest that this violates the 133-1/3 percent rule.⁴ Cash balance plans also provide a yield on the hypothetical account that is typically defined as either the 30-year Treasury rate or the one-year T-Bill rate plus a stated percentage (Gebhardtshauer, 1999).⁵

C. Trends

Charts 1 and 2 (below) report numbers of plans and active participants over time to demonstrate the well-known trend from defined benefit to defined contribution plans since the passage of the Employee Retirement Income Security Act of 1974 (ERISA).⁶ Recent research (Wang and VanDerhei, 1999) confirms that these trends are at least as large when measured by financial flows (i.e., benefits accrued and/or employer contributions).

Although these trends are heavily dominated by small plans (Olsen and VanDerhei, 1997), large employers that continue to sponsor defined benefit plans are less frequently utilizing “traditional” benefit formulas, such as “final-average” and “career-average pay” formulas. Final average plans offer automatic preretirement inflation protection⁷ and provide a substantial

⁴The plan design constraints otherwise provided via the anti-backloading provisions appear to be mitigated due to the assumption that early pay credits will earn more interest credits by retirement age.

⁵ One factor that may be a constraint on adoption of these plans in the current financial markets is that many participants in defined contribution plans have come to expect annual returns far in excess of these rates (approximately 6 percent currently). However, for technical reasons enumerated in IRS Notice 96-8, employers providing a rate of return in excess of one of these indices would be subject to the “whipsaw” problem. In brief, this would potentially require the plan sponsor to pay lump-sum distributions (LSDs) that were larger than the hypothetical account balance (significantly so – as a percentage of the account balance – for young employees) because IRC requirements appear to require account balances to be accumulated out to retirement age and then discounted back to the current age at the 417(e) discount rate (Demby, May 1999).

⁶ See Gale, Papke and VanDerhei (1999) for more detail on these trends and a summary of the literature explaining the potential causes of this shift as well as the attendant impact on employers and workers.

⁷ To the extent that inflation and wages are correlated.

amount of their total benefits to career employees during their last few years of service, as demonstrated in Chart 3. Career-average plans pay benefits based on a greater number of years of service (e.g., 30 years rather than five). As a result, a career-average plan tends to provide less protection against the effects of preretirement inflation on the value of benefits payable at retirement than final-average plans.⁸ Table 1 below demonstrates that for respondents to a survey of the large U. S. employers offering a defined benefit plan, the percentage utilizing a final-average formula decreased from 82 percent to 72 percent over the last 5 years. Similarly, the percentage utilizing a career-average pay formula declined from 12 percent to 9 percent. During that same period of time, utilization of cash balance plans increased dramatically, from 6 percent to 16 percent of all large defined benefit plans surveyed.

Questions often arise as to what forces have caused this acceleration over the last few years. Although the Employee Benefit Research Institute (EBRI) surveyed current, future, and potential hybrid retirement plan sponsors in June 1995 (Campbell 1996), it does not appear that similar surveys have been published subsequently. However, it is likely that regulatory clarifications of certain technical aspects of cash balance plans (such as those provided in 1996 when the Internal Revenue Service (IRS) issued Notice 96-8⁹) were important catalysts for many of the more recent conversions from “traditional” defined benefit plans to those of the cash balance variety.

D. Fundamental Economic Distinction Between Final-Average and Cash Balance Plans

Under either the final-average or cash balance plans illustrated in Chart 3, an employee starting at age 25 will obtain the same benefit value at age 65 if he or she remains with the same employer for a full career. Nevertheless, the accrual rates under each plan differ fundamentally. The annual increase in benefit value (viz., how much additional retirement income an employee will earn by working one more year) tends to be much higher for young employees under the cash balance plan and much higher for older employees under the final-average plan. This is

⁸ Cash balance plans actually are a type of career-average plan, in that benefits are based on career-wide earnings. However, for purposes of this testimony, “career-average” only refers to traditional career-average pay formulas.

⁹ IRS Notice 96-8 provided proposed guidance on applying tax code Secs. 411 and 417(e) to cash balance plans. In order to comply with these sections in determining the amount of a single-sum distribution, the balance of an

true even though the cash balance plan illustrated in this chart adopts a service-weighted pay credit schedule.¹⁰

A difference in accrual rates between older and younger workers upon conversion from a final-average to a cash balance plan is likely to exist whether or not a so-called wear-away provision (explained later) is included in the plan. The difference is conceptually similar to the effects of changing a final-average plan to a career-average plan or, more drastically, terminating a defined benefit plan and establishing a defined contribution plan. However, the magnitude of the difference is influenced by plan-specific design parameters.¹¹

Employees faced with the type of graph shown in Chart 3 are likely to wonder why the shapes look different. The difference essentially lies in the different determinants of benefit value under each type of plan. While the present value of the annual accrual of pension wealth expressed as a percentage of compensation under a final-average plan at any point in time depends on age, service, and pay, it depends predominantly on pay and service (and a lesser extent on age) under a cash balance plan. Therefore, even if the overall generosity of a plan remains the same after conversion to a cash-balance formula, higher accruals for young employees means that accruals for older employees will likely decrease unless some type of grandfathering or transition provisions (explained below) are provided to older workers. For example, an employee participating in the hypothetical final-average defined benefit plan in Chart 3 would have a present value from his or her defined benefit plan at age 55 of approximately \$95,000, as opposed to approximately \$135,000 for a similar employee who had participated in the hypothetical cash balance plan for the same period of 30 years. However, if the hypothetical final average plan were then converted to the hypothetical cash balance plan without the provision of any type of transition credit, the employee would not benefit from the rapid escalation in pension wealth from age 55 to 65 that is associated with the final average plan. Instead, during the final 10 years he or she would experience a slope of the accrual path

employee's hypothetical account under a cash balance plan has to be projected to normal retirement age, and then the employee must be paid at least the present value of that projected hypothetical account (White 1999).

¹⁰ All assumptions for this chart replicate those in Purcell (1999) with the exception of the benefit accrual rate which was decreased to 0.91 percent to allow for benefit equivalence of the two programs assuming 40 years of participation in the same program. The pay credits varied as follows: years 1-10: 4 percent, 11-20: 5.5 percent, 21-40: 7 percent.

¹¹ For example, age-weighted pay credits under the cash balance plans and early retirement provisions under the final-average plan.

similar¹² to that experienced by the participant who remains under the cash balance plan for the entire 40 years. As a consequence, the participant will not end up with the same financial position at age 65 but, barring any transition provisions, would experience a decrease in pension wealth of approximately 23 percent.

Another significant difference between a traditional defined benefit plan and a cash balance plan concerns the inherent uncertainty involved in estimating the nominal amount of retirement income. Traditional defined benefit plans are not typically thought of in this regard since the amount is specified in a formula and (with the exception of certain integrated plans) can be directly computed once the average compensation and years of participation are known. However, it appears that an increasing percentage of defined benefit participants are now receiving their distributions in the form of lump-sum distributions (LSDs) – a form that can provide great uncertainty to employees with respect to the amount that they will receive due to fluctuations in the relevant discount rates (Bone, 1999). In contrast, cash balance plans provide LSDs that are stabilized, but annuity values under these arrangements may be subject to fluctuations in annuity purchase prices although it appears some employers are willing to hold annuity purchase rates constant in the plan (Gebhartsbauer, 1999).

E. Potential Advantages: Cash Balance vs. Final Average Plans

Before discussing key public policy issues and the possible ramifications of modifying the existing legislative and/or regulatory landscape, it may be helpful to consider why a sponsor of a final-average defined benefit plan may be interested in converting to a cash balance plan:¹³

Ease of communication vs. invisible plan syndrome. Sponsors of traditional defined benefit plans often bemoan the lack of recognition they receive from their employees, even though substantial sums of money are contributed and/or accrued annually. When the quality of workers' information regarding traditional pension offerings was evaluated,¹⁴ about one-third of workers queried were unable to answer any questions about early retirement requirements, and

¹² Note that they will not be exactly equal given that the pay credit differs from the assumed interest credited to the cash balance plan (5.6 percent).

¹³ In addition to these retirement plan-specific reasons, there may also be overall compensation or administrative concerns that are specifically addressed through a conversion. Two of the more common reasons include supporting a total compensation philosophy in the context of a new performance-based arrangement with employees and providing a platform for merging disparate pension plans as a result of merger and acquisitions activity (Towers Perrin, 1999).

¹⁴ Using both administrative records and worker reports of pension provisions.

about two-thirds of those who offered answers about early retirement were wrong (Mitchell, 1988). In contrast to explaining the complex benefit formulas used by traditional defined benefit plans, conveying information through theoretical account balances under cash balance plans facilitates employee appreciation of both current pension wealth and the annual pay and interest credits that increase pension value over time.

No magic numbers of age and service. Final-average defined benefit plans often require employees to satisfy some combination of age and service before they are entitled to retire with an early retirement subsidy, and the magnitude of the dollar loss from leaving prior to that time can be substantial (Ippolito, 1998). In contrast, the accrual pattern under a cash balance plan typically does not have a sudden, rapid increase after attainment of specific age and service criteria. As a result, cash balance plans are more attractive to a mobile work force.

Higher benefits to employees who do not stay with one employer for their entire career. Chart 4 shows the percentage increases in annual retirement benefits at normal retirement age for an employee in a hypothetical cash balance plan versus a hypothetical final-average defined benefit plan. The figures in this chart are tabulated from a CRS report to Congress that includes calculations for two types of employees: (a) one who enters the employer's plan at age 25 and remains in that plan for 40 years and (b) one who changes jobs every 10 years (Purcell, 1999). Comparing the two sets of bar graphs, one can see that for a hypothetical individual staying at the same job for his or her entire life, the cash balance plan provides a larger benefit after the first 10 and 20 years of service. But, by age 55, the final-average plan is slightly more valuable, and by retirement age the benefit derived from the final-average plan would be 30 percent larger than the cash balance benefit. However, this "one-job for life" scenario only applies to small percentage of the work force (Yakoboski, 1999). Employees are more likely to have four, if not more, jobs during their careers. The second set of bar graphs show that in those cases, the series of cash balance plan benefits dominate those accrued under the final-average plans at every age, and the final retirement benefits are approximately 40 percent larger.¹⁵

F. Potential Advantages: Cash Balance vs. Defined Contribution Plans

¹⁵ In the case of the job-changer, it is assumed that the full amount of any cash balance proceeds would be reinvested in a tax-deferred retirement savings account and earn an average annual rate of return of 8.65 percent, while the employee covered by a final-average plan would remain in a terminated vested status and not receive lump-sum distributions.

Of course, an employer that sponsors a final-average plan also has the alternative of terminating the existing defined benefit plan (assuming it is adequately funded) and setting up a defined contribution plan through which to provide benefits for future service. However, several considerations may make this option problematic:

Ease of conversion vs. new plan establishment. Whereas a conversion from a final-average defined benefit plan to a cash balance plan only requires a plan amendment (Rappaport, Young, Levell, and Blalock, 1997), terminating the same plan and setting up a successor defined contribution plan may trigger a reversion excise tax of either 20 percent or 50 percent (Alderson and VanDerhei 1991). If the defined benefit plan was overfunded, the surplus in a conversion to a cash balance plan would be used to reduce future contributions (as it would under the traditional plan); if it was underfunded, the unfunded liability is amortized in the normal fashion (Warshawsky, 1997).

Guarantee of employee participation. The noncontributory nature of most (if not all) cash balance plans eliminates the need to worry about employees who choose not to participate or make *de minimis* contributions in a 401(k) arrangement (Yakoboski, 1994 and Milne, VanDerhei and Yakoboski, 1995). As a result, employees are guaranteed a benefit under a cash balance plan without needing to actively choose to participate in the plan, and the plan is protected from possible disqualification due insufficient participation among lower-paid workers.

In contrast, Clark, Goodfellow, Schieber, and Warwick (1988) found that less than half of all workers age 20–29 earning less than \$15,000 per year contributed to their 401(k) plan. This has led some to speculate that 401(k) plans are being adopted as a supplemental (as opposed to replacement) plan for a traditional defined benefit plan, and that the additional cost of the supplemental plan is being offset by reductions in the cost of the original plan. One way this could be accomplished is by the substitution of a cash balance plan for a traditional final-average defined benefit plan.

Retirement pattern predictability. Investment risk is typically directly borne by employers under a cash balance plan and by employees under a defined contribution plan (see Auer 1999, however, for one notable exception). As a result, the employer is better able to predict retirement patterns under a cash balance plan, since retirement income will not be susceptible to market fluctuations. Under a defined contribution plan, employers may face

unexpected increases in early retirements during a strong bull market and unexpected delays of retirement during a market correction (especially if it is prolonged).

Retirement benefit predictability. Since employers directly bear investment risk under cash balance plans, they need not worry about overly conservative worker-investors. Chart 5 below shows the 1996 percentage of 401(k) participants with zero exposure to diversified equities by age cohort (VanDerhei, Galer, Quick, and Rea, 1999). Although approximately one-half of these individuals in each age cohort have some equity market exposure through company stock and/or balanced funds, a significant percentage of them may be subjecting themselves to expected rates of return too low to generate sufficient retirement income at normal retirement age.

Funding flexibility. Finally, a cash balance plan may have more funding flexibility than a defined contribution plan, depending on the type of commitment made to employees. Although some profit-sharing plans provide for annual contributions that are entirely discretionary for the plan sponsor (Allen, Melone, Rosenbloom, and VanDerhei, 1997), a defined benefit plan is the only vehicle that will allow employees to continue their normal benefit accruals while employer contributions are reduced or even temporarily curtailed.

G. Potential Limitations of a Conversion From a Defined Benefit to a Cash Balance Plan

Although using a cash balance plan to provide benefits that are easily communicated, typically provide no investment risk to employees, and maintain the funding flexibility inherent in a defined benefit plan may appeal to many employers, cash balance plans also present several tradeoffs:

Smaller accruals for older workers. As mentioned earlier, unless some type of transition benefits are provided, older employees are likely to receive smaller accruals for their remaining years, regardless of whether a “wearaway” provision (described below) exists.

Preretirement income replacement. Although their understanding of current pension wealth and future increments will no doubt improve vis-à-vis the previous final-average plan, employees actually may be more uncertain about how their future benefits will relate to their future earnings after conversion to a cash balance plan. For example, a final-average plan that pays 2 percent of an employee’s average earnings during his or her last three years of service, by

definition, replaces 50 percent of preretirement earnings after 25 years of service.¹⁶ However, to understand the extent to which cash balance benefits will replace preretirement earnings is far more difficult, since cash balance plans are a type of a career-average formula that provides interest credits that are likely tied to some external financial market vehicle and/or index.

Lump-sum distributions. Due to the increased likelihood that participants in a cash balance plan will end up with a LSD as opposed to a lifetime annuity, it is more likely that they will face a longevity risk in addition to a post-retirement investment risk. It should be noted, however, that with some exceptions, cash balance plans are required to offer annuities as an option to their participants, and it appears that there is an increasing propensity for traditional final-average defined benefit plans to offer LSDs and for participants to choose them when offered (Watson Wyatt, 1998). Also, even though cash balance plans communicate benefits in terms of a lump-sum account balance, at least some of them limit the ability of employees to cash out their accounts.¹⁷

H. Key Issues

In recent months, there has been a flurry of press accounts, court cases, and legal and regulatory activities with respect to cash balance plans, specifically as they relate to conversions from existing final-average plans. This section of the testimony provides some insight into each of these in an attempt to clarify some of their more complex and controversial concepts.

Do Cash Balance Plans Result in Cost Savings to the Sponsor? It is certainly possible for conversion to a cash balance plan to result in lower *long-term* pension expense, depending on the generosity of the new plan relative to the existing plan. In essence, this is no different than switching from a defined benefit to a defined contribution plan, and similar projections would need to be applied to determine if this were the case (VanDerhei 1985). However, even if such a calculation was performed on two retirement plans, it would not necessarily indicate the extent

¹⁶ The calculation is obviously more complicated in an integrated plan.

¹⁷ For example, at AT&T, employees can receive a cash payment for the entire amount in their accounts if the difference between the account balance and the highest year of eligible pay is \$30,000 or less. Otherwise, employees are limited to a cash payment equal to one year's worth of their highest eligible pay, with the rest paid as a monthly annuity (Burlingame and Gulotta 1998).

of cash balance savings, if any, since any savings due to cash balance plan conversion may be offset by other increases in benefits or compensation.¹⁸

Assuming such a calculation was performed, the cash balance plan may also prove to be more expensive than originally calculated if turnover is higher than assumed. This would result from plan assets being reduced below expected levels, and the spread between the accrual in the plan and the actual fund performance may be a factor in increased costs.¹⁹ Turnover could increase due to future labor patterns that impact all employers, but it might also increase as a direct consequence of providing a more level benefit accrual over time that decreases the “job lock” attributes of the existing plan.

However, there may also be *short-term* abnormalities in the pension cost and/or expense structure resulting from the conversion. In essence, the claims of cost savings from a conversion to a cash balance plan may be at least partially due to a timing issue under the accounting and/or funding rules required for all defined benefit plans (including cash balance plans). Although the calculations are complex, one of the driving forces behind this short-term cost reduction involves the computation of the cost of accruing a benefit based on career-average pay (the cash balance plan) for one based on final-average pay under the previous plan (Demby June 1999).²⁰

Transition/grandfathering. Several transition methods are available to a sponsor that chooses to mitigate the financial impact that may result in a switch from a traditional final-average plan to a cash balance plan (Rappaport, Young, Levell, and Blalock, 1997):

- Pay the greater of the benefit that would have been paid under the old plan and the benefit due under the new formula for a subset of the employees (either for a limited time period or until termination or retirement).
- Provide extra account balances at transition to make up for the greater benefit which would have been available at early retirement.

¹⁸ For example, Eastman Kodak reportedly will introduce a first time match to its 401(k) plan to counterbalance losses from its conversion from a final average plan to a cash balance plan (Morrow, 1999).

¹⁹ In addition to the potential cash flow problems arising from increased LSDs under cash balance plans, the liability durations of cash balance plans appear to be between seven to eight years as opposed to the 12- to 20-year durations typically calculated for traditional final average plans. Although the eventual impact (once the various transition provisions allow more of the liabilities to be generated via the new cash balance component) of the decreasing liability durations on the plan sponsor’s asset allocation is debatable (Williamson, 1999) it would appear that the expected rate of return on cash balance portfolios will remain significantly greater than the expected interest rate credited to the employees.

- Provide extra account balances to make up for the fact that final average earnings will not be directly used in the formula.
- Provide a supplemental additional benefit.

A PricewaterhouseCoopers survey of about 75 cash balance conversions reveals that in almost all cases the employer provided transition provisions beyond the legally required minimums (Sher, 1999).

Wearaway. If a final-average plan is converted to a cash balance plan, the initial value of a participant's cash balance account *may* be set at less than the value of benefits accrued under the previous plan. However, it is important to note that this may not reduce or take away previously earned benefits. It may mean, though, that *initially* some workers won't accrue any new benefits until the pay and interest credits to their hypothetical accounts bring the account balances up to the value of the old protected benefits.

Employers have flexibility in how they credit workers for the value of their benefits, and this result could be obtained by computing the opening balance of a participant's cash balance plan by using a discount rate that is higher than the current 30-year Treasury bond rate.²¹

As pointed out in recent testimony to the ERISA Advisory Council Working Group studying hybrid plans, benefit formulae that end up resulting in periods with no new accruals for some employees have been a practice approved by the Internal Revenue Service for many years (Chambers, 1999). Often plan changes, such as updating plan mortality assumptions, the resultant standardization of disparate pension plans as a result of mergers and acquisitions, or even revising a plan to meet new statutory requirements (such as legislative changes to the Sec. 401(a)(17) limits earlier this decade) can result in periods without new accruals.

²⁰ See Bone (1999) for a more complete description of the calculations required under FASB Statement No. 87.

²¹ Sher (1999, p. 22) reports that more than two-thirds of the plans included in the PricewaterhouseCoopers survey used an interest rate that was approximately equal to or less than 30-year Treasury bond rate at the time of the conversion. However some employers may desire to use a higher discount rate because the current 30-year Treasury bond rates are low relative to historical levels. The wear-away period actually experienced by a participant will be a function of the differential between the opening cash balance account and the present value of the accrued benefits under the previous defined benefit plan, as well as the future changes in discount rates. If the discount rate falls after the conversion, the present value of the previous benefits will increase, and the wear-away period experienced by the participant will increase (especially if the interest rate credited to the cash balance account is pegged to the 30-year Treasury bond rate). However if the discount rate increases, the present value of the previous benefit will decrease, thereby reducing the wear-away period.

Disclosure requirements. Under current law, plans are required to notify participants of any amendment that will result in a significant reduction in the rate of *future* benefit accruals at least 15 days before the amendment takes effect.²² However, present law does not require individual notices for each plan participant and does not require disclosure as to the effect the plan amendments will have on individual participants.

Recently, some have argued for the need to disclose to each employee the differences in his or her accrued benefits under the previous plan formula and his or her initial account balance under the cash balance plan. Moreover, they have argued that the wearaway period (if any) during a conversion should be explained, and a meaningful comparison should be provided to each worker of projected benefits under the amended plan compared with benefits that would have been earned under the previous plan formula. This appears to be based on a belief that it is critical for plan participants to have an appropriate opportunity to (a) voice their concerns regarding plan amendments so that employers are fully aware of them and (b) alert regulators to issues surrounding cash balance conversions that they deem important (White, 1999). However, others in the pension policy community have questioned the logic in providing estimates under a benefit plan that no longer exists and have warned that Congress should proceed very cautiously in adding to the already substantial burdens of administering a cash balance or other defined benefit plan (Metras, 1999). Employers may be unreceptive to projecting future benefits due to the extremely sensitive nature of the estimates.²³

²² Previously accrued benefits are protected by IRC Sec. 411.

²³ See Sher (1999, p. 22) for an illustration of how the increasing or decreasing the current 30-year Treasury bond rate by 1 percent can impact the relative comparisons between an existing traditional defined benefit plan and a new cash balance plan.

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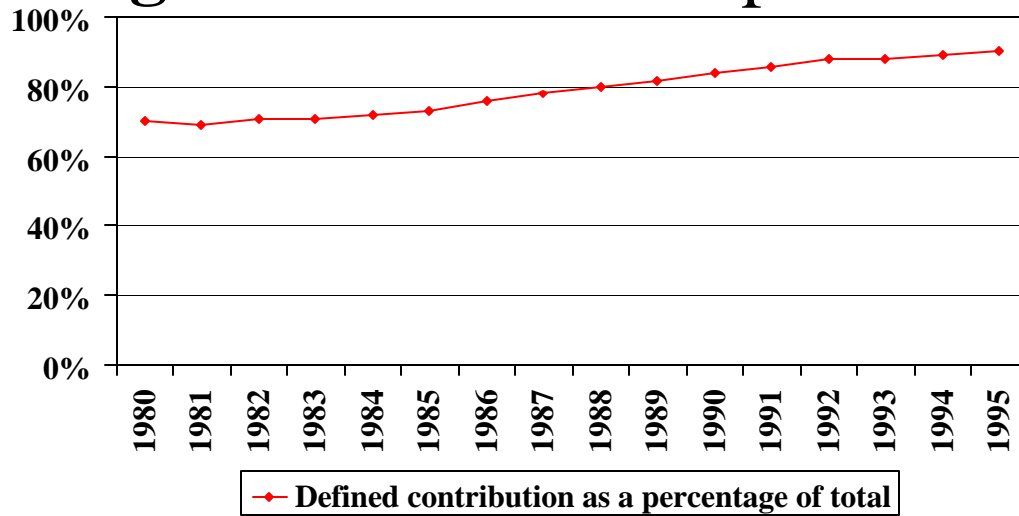
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I. Table 1: Primary Type of Benefit Formula

	1995	1996	1997	1998	1999
<i>Number of employers</i>	836	825	805	791	773
Highest average pay	82%	81%	78%	77%	72%
5-year average	62%	61%	60%	58%	55%
3-year average	17%	17%	16%	16%	15%
Other (e.g., 10-year average)	3%	3%	2%	3%	2%
Career average pay	12%	12%	11%	10%	9%
Cash balance	6%	7%	9%	11%	16%
Pension equity	—	—	1%	2%	3%
Other (e.g., fixed dollar only)	<u><1%</u>	<u><1%</u>	<u>1%</u>	<u><1%</u>	<u><1%</u>
	100%	100%	100%	100%	100%

Source: Hewitt Associates SpecBook™

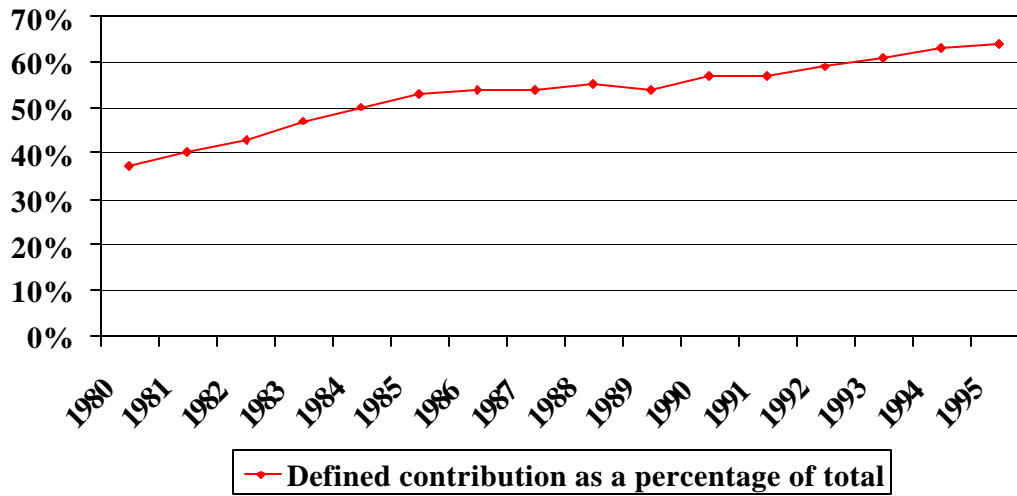
Chart 1. Defined contribution growth: number of plans



Source: tabulations based on U.S. Department of Labor, Pension and Welfare Benefits Administration, *Private Pension Plan Bulletin* (Spring 1999).

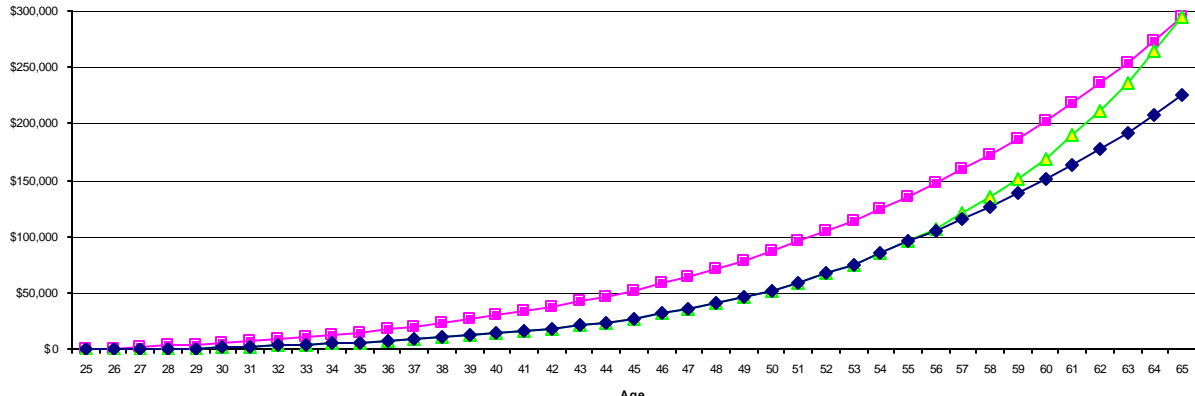
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Chart 2. Defined contribution growth: active participants



Source: tabulations based on U.S. Department of Labor, Pension and Welfare Benefits Administration, *Private Pension Plan Bulletin* (Spring 1999)

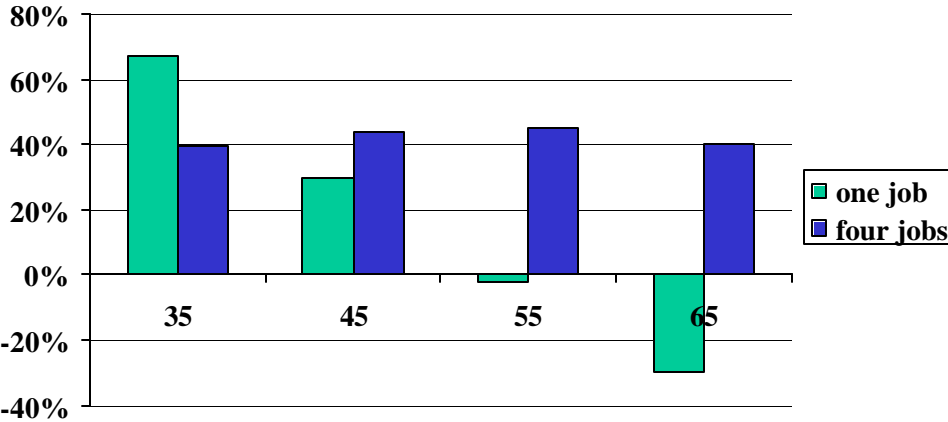
Chart 3: Illustration of a conversion from a hypothetical traditional final average defined benefit plan to a hypothetical service weighted cash balance plan (without transition credits) at age 55



Source: Author's tabulations based on assumptions in Purcell (1999) with the following modification: the benefit accrual rate was decreased to 0.91 percent to allow for benefit equivalence of the two programs assuming 40 years of participation in the same program.

—■— cash balance (service weighted) —▲— traditional final average defined benefit plan —◆— conversion at age 55 (without transition credit)

Chart 4. HYPOTHETICAL percentage increases in annual benefits at NRA Cash Balance vs Final Average Plan: impact of job tenure

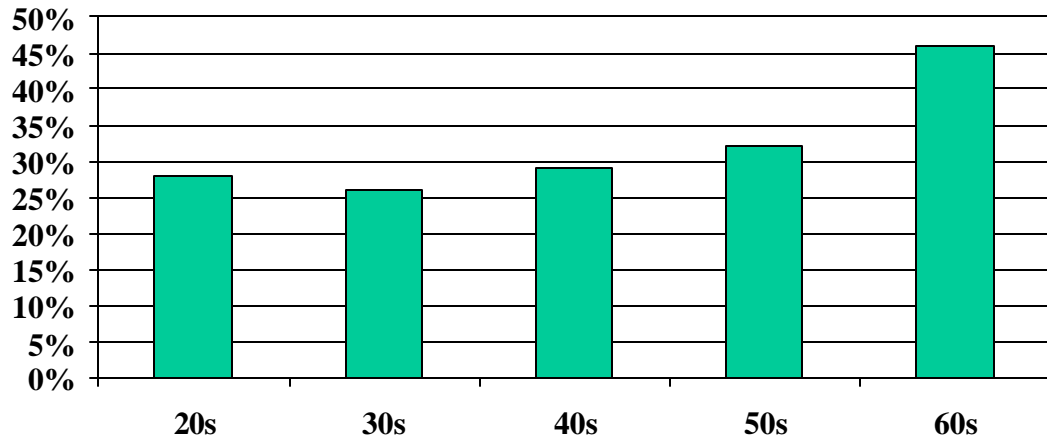


Attained age (entry age = 25)

Source: EBRI tabulations based on tables from Patrick Purcell, Pension Issues: Cash-Balance Plans, CRS Report for Congress, May 24, 1999

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Chart 5. Percentage of 401(k) participants with zero exposure to diversified equities: 1996



N.B.: approximately 1/2 of these participants have exposure to company stock and/or balanced funds

Source: *401(k) Plan Asset Allocation, Account Balances, and Loan Activity* by Jack VanDerhei, Russell Galer, Carol Quick, and John Rea, Joint EBRI/ICI publication, January 1999