

Cash Balance Plans: What Do They Mean for Retirement Security?

Abstract - The conversion of traditional defined benefit plans to cash balance plans is among the most controversial aspects of pension policy today. Because the controversy has focused on the treatment of older workers, however, the debate has generally ignored the long-term implications for retirement security. This article examines the potential impact of cash balance plans on workers who spend their entire careers in these plans, and focuses on the implications for mobile workers and for labor supply at older ages. The evidence suggests that cash balance plans can often provide more retirement security than traditional defined benefit plans or defined contribution plans.

INTRODUCTION

The conversion of traditional defined benefit plans to cash balance plans and the rules governing these conversions are among the most controversial aspects of pension policy today. In recent years, several large employers have replaced their traditional defined benefit retirement plans, which typically pay guaranteed benefits that depend on years of service and salary earned near the end of the worker's career, with cash balance plans, which provide benefits that depend on employer contributions to the plan made throughout the worker's career and the amount of interest credited over time to these contributions. The controversy surrounding these conversions has focused on the treatment of older workers. Workers who spent many years in the old plan could fare worse under the transition because many traditional defined benefit plans provide generous benefits to long-tenured employees, especially those who choose to retire early. These concerns have led to age discrimination lawsuits and threats of Congressional action to prevent employers from converting to the cash balance design.

The focus on the impact of conversions on older workers has diverted attention from the long-term implications of cash balance plans for retirement security. Most retirement benefits in traditional defined benefit pension plans go to workers who spend much of their careers with a single employer, whereas those who change jobs frequently receive

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relatively few benefits from traditional plans. By contrast, workers in cash balance plans tend to accrue retirement benefits more evenly over the career and are not penalized much when they change jobs. As a result, cash balance plans may be better suited to the retirement needs of an increasingly mobile workforce than traditional defined benefit plans. Cash balance plans also offer a number of advantages over defined contribution plans, now the most common type of pension plan. Unlike defined contribution plans, cash balance plans provide some protection from investment risk, offer lifetime annuities that insulate retirees from the risk of spending all of their assets before they die, and provide benefits that are insured by the federal government.

The role of employer-sponsored retirement plans in retirement security is a crucial policy issue. As Social Security's financial crisis grows, cutbacks in public retirement benefits are becoming increasingly likely, raising the importance of private sources of retirement savings. In addition, federal and state governments provide generous tax breaks to employer-sponsored retirement plans. These tax advantages will cost the federal government about \$116 billion in lost tax revenue in 2004, according to projections by the Office of Management and Budget (2004). In light of these costs, it is important to understand how different plan designs operate and whether they effectively promote economic security at older ages.

In this article we examine the implications of cash balance plans for retirement security. After describing how different retirement plans work, we discuss the current controversy about cash balance plan conversions. We then examine the potential impact of cash balance plans on retirement security for workers who spend their entire careers in these plans, focusing on the implications for mobile workers, and the effects of payout op-

tions on retirement well-being. We also explore how cash balance plans might promote work at older ages, an increasingly important policy concern as the population ages.

KEY FEATURES OF EMPLOYER-SPONSORED PENSION PLANS

The share of workers with pension coverage on the current job has remained fairly steady over the past 20 years, at about 45 percent (Copeland, 2002). But the type of coverage has changed dramatically. Participation in defined benefit pension plans, long the most common type of retirement plan, has eroded over time, while defined contribution plans have become dominant. From 1980 to 1998, the share of covered private wage and salary workers with a primary defined benefit plan fell from 83 to 44 percent (U.S. Pension and Welfare Benefits Administration, 2001–2002). During the same period, the share of private pension assets in defined benefit plans dropped from 71 to 48 percent.

Traditional defined benefit plans provide workers with lifetime annuities that begin at retirement and promise benefits that are typically expressed as a multiple of years of service and earnings received near the end of the career (e.g., one percent of average salary received during the final three years on the job times the number of years of service). The employer, then, bears all of the risks arising from fluctuations in investment returns and the uncertain longevity of retirees. The Pension Benefit Guaranty Corporation (PBGC), a quasi-independent government agency, insures benefits, making payments to beneficiaries (up to a certain amount) if the firm goes bankrupt. Because most plans do not require employees to contribute, enrollment is generally automatic. By law, married retirees must take benefits as joint and survivor annuities that pay at least 50 percent of the annual benefit

to the spouse if the pensioner dies first, unless the spouse agrees in writing to an alternative payout option. Employers do not pay corporate income taxes on contributions to the pension funds or on the investment earnings of plan assets, and participants do not pay federal or state personal income tax on their pensions until they begin to collect benefits.

Defined contribution plans, which include 401(k) plans, deferred profit sharing plans, and employee stock ownership plans, function essentially as tax-advantaged retirement savings accounts. Instead of promising to pay a specific retirement benefit, employers contribute to a retirement account in the participant's name, often specified as a particular share of salary or a given dollar amount, and deduct these contributions from their taxable income. Employees can also generally make contributions to their retirement accounts, giving them at least some control over the level of their pension savings. In some plans, employer contributions depend on how much the participant contributes, and some employers contribute only if the participant contributes. In other plans, employers do not contribute at all even when participants contribute. In salary reduction plans, such as 401(k) plans, participants do not pay current federal or state personal income taxes on their contributions (up to certain limits) or the investment returns they earn, but they pay ordinary income tax on the amounts they withdraw from the plan in the future.

At retirement, workers receive the funds that have accumulated in their accounts, generally as lump-sum distributions (Burman, Johnson, and Kobes, 2004; Hurd, Lillard, and Panis, 1998), although they could use the proceeds to purchase annuities in the marketplace. Some employers also offer annuities to participants in defined contribution plans. Those who elect to receive their account balances as annuities must obtain spousal consent if they wish to forego a joint and survivor

annuity, but spousal consent is not needed to forego annuitization and take benefits as lump-sum distributions.

One drawback to defined contribution plans is that they place all of the investment risk on participating workers. Retirement benefits from defined contribution plans depend not only on the level of contributions to the plan but also on the returns they earn. Downturns in the stock market or prolonged periods of unusually low interest rates can substantially reduce account balances. In addition, participation in 401(k) plans is voluntary, and few eligible workers make the most of their plans. About one-quarter of eligible participants opt out completely (Copeland and VanDerhei, 2000)—forfeiting an opportunity for tax-deferred savings as well as any employer contributions to the plan—and only eight percent of participants contribute the maximum (Munnell and Sundén, 2004). Finally, plan participants are generally left to manage their pension assets on their own, and may not follow the best investment strategies.

Cash balance plans are a type of hybrid retirement plan that combines features of traditional defined benefit plans and defined contribution plans. Virtually all firms offering cash balance plans converted their traditional defined benefit plans, beginning with Bank of America in 1985. These conversions became more widespread in the mid-1990s. Although estimates of the prevalence of cash balance plans are imprecise, because the data are incomplete, they indicate that cash balance plans are now an important part of the pension landscape. By 1999, according to one survey, 19 percent of Fortune 1000 firms sponsored cash balance plans, and more than half of them had been established within the previous five years (U.S. General Accounting Office, 2000). Another study concluded that cash balance plans now hold more than 40 percent of all defined benefit pension assets (Coronado and Copeland, 2003).

Employers offering cash balance plans regularly set aside a given percentage of salary for each employee and credit interest on these contributions. Interest credit rates are usually tied to a specific benchmark, such as the U.S. Treasury bill rate. Benefits are expressed as an account balance, as in defined contribution plans, but these balances are only bookkeeping devices. Plans pay benefits from commingled funds invested in a pension trust on behalf of all participants. For legal and regulatory purposes cash balance plans are a type of defined benefit plan, so the PBGC insures accrued benefits and plans must offer joint and survivor annuities as the default payout option. Anecdotal evidence suggests, however, that most participants choose to receive their benefits in the form of lump-sum distributions (Schieber, 2003).

Like other hybrid pension plans, then, cash balance plans include features characteristic of both traditional defined benefit plans and defined contribution plans. As with traditional defined benefit plans, employees rarely make contributions to cash balance plans, so plan participation is generally automatic, and the federal government insures benefits (up to a certain point). Cash balance plans are similar to defined contribution plans in that both express benefits as account balances, which better communicate the value of retirement benefits to younger workers than estimates of monthly payments that they will not receive until they retire in the distant future. Perhaps most importantly, benefits in most defined contribution plans and cash balance plans accumulate gradually over the career, as we discuss in the next section. Cash balance plans can appeal to an increasingly mobile workforce, because they do not penalize job changers as much as traditional defined benefit plans, and, thus, the benefits are considered to be more portable. Unlike most defined contribution plans, however, cash balance plan participants cannot

choose how much of their compensation to defer until retirement. And although benefits in cash balance plans vary with fluctuations in the interest rate, they are subject to less investment risk than 401(k) balances, which participants sometimes invest in risky employer stock.

HOW PENSION BENEFITS ACCUMULATE IN TRADITIONAL DEFINED BENEFIT PLANS AND CASH BALANCE PLANS

The controversy over cash balance plans centers on the possibility that conversions could harm older workers. Traditional defined benefit pensions tend to favor employees with many years of service, because of the way in which they compute benefits. As a result, workers who had already spent many years in traditional defined benefit plans could receive lower benefits than they had expected if their employers convert to the cash balance design.

Pension wealth in traditional defined benefit plans equals the present discounted value of the stream of future expected benefits. It tends to grow quite slowly for young workers, but increases rapidly at older ages once workers approach retirement age (and then typically declines after the retirement age). Pension wealth is minimal at younger ages because junior employees typically earn low wages and have completed only a few years of service. In addition, future benefits are heavily discounted because they are not received until many years into the future. Wealth rises rapidly as workers age and accumulate substantial tenure. Working an additional year raises future benefits by increasing the percentage of pay that goes into the benefit calculations. An additional year of work also generally raises earnings, through a combination of real wage growth and inflation, which in turn increases the value of all previous benefit accruals. The incremental growth in future

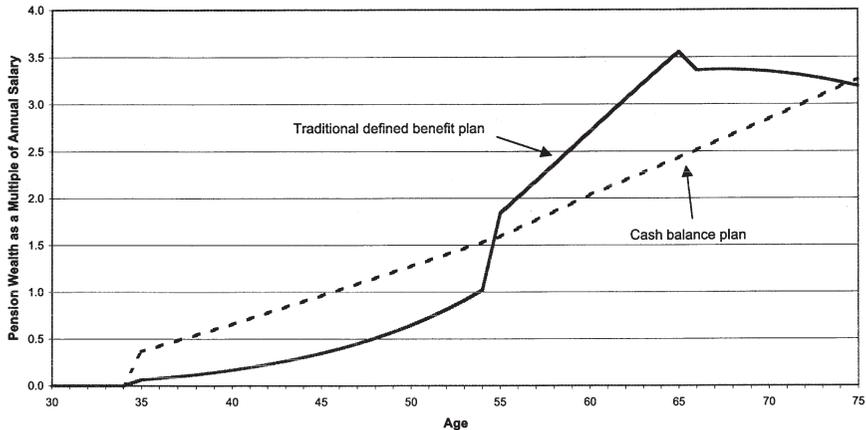
benefits is especially high for more senior employees who have accumulated many years of service. Pension wealth also increases as workers approach retirement age and benefits are no longer heavily discounted. Workers in traditional defined benefit plans can lose pension wealth, however, if they stay on the job beyond a certain age or seniority level. Growth in promised annual retirement benefits slows at older ages as wage growth declines. Some plans also cap the number of years of service that workers can credit toward their pensions, and others cap the share of pre-retirement earnings that the plan will replace in retirement. In addition, for every year that workers remain on the job past the plan's retirement age, they forego a year of retirement benefits. Pension wealth declines when the increase in annual benefits from an additional year of work is insufficient to offset the loss due to a reduction in the number of pension installments.

Many traditional defined benefit plans include early retirement provisions that allow workers to collect reduced benefits

before they qualify for full benefits at later ages. Annual benefits received under these provisions are reduced from those received at the normal retirement age because they are paid earlier and, thus, are not as highly discounted as normal retirement benefits, and because early retirees receive more pension installments than those who retire later. However, many plans subsidize early retirement benefits, so that the benefit reduction for early retirement is insufficient to offset fully the additional pension installments and the diminished effects of discounting. As a result, pension wealth often spikes upward when employees qualify for early retirement benefits.

The solid line in Figure 1 shows the profile of pension wealth for workers in a typical traditional defined benefit plan, as a multiple of annual salary. This hypothetical plan pays benefits equal to one percent of final average salary for each year of service. The earnings base is defined as average salary over the final three years of employment. Benefits vest at five years of service, so that workers

Figure 1. Pension Wealth by Age, for Hypothetical Traditional Defined Benefit and Cash Balance Plans



Note: The traditional defined benefit plan pays benefits equal to the number of years of service times 1 percent of salary averaged over the final three years. Full benefit payments can begin at age 65, and participants with at least 25 years of service can collect reduced benefits beginning at age 55. The plan reduces annual benefits by 4 percent for each year that beneficiaries collect payments before age 65. For the cash balance plan, the employer contributes 6.5 percent of salary each year and credits interest at the nominal interest rate, which is assumed to be 7 percent per year. Benefits in both plans vest after five years of service. Calculations assume that the worker joins the firm at age 30 and that inflation equals 4 percent per year.

Source: Authors' estimates.

who separate with fewer than five years of tenure forfeit their retirement benefits. All participants with at least five years of service can begin to collect benefits at age 65, and those with at least 25 years of service can collect reduced benefits beginning at age 55. This hypothetical plan reduces annual payments by four percent for every year that the worker collects benefits before age 65. The worker depicted in Figure 1 joins the firm at age 30, and experiences wage growth approximately equal to the average rate in the economy for pension-covered workers (Toder et al., 2002). The estimates of pension wealth discount future benefits at the nominal interest rate, assumed to equal seven percent per year.

The graph shows three kinks in pension wealth. The first spike occurs at age 35, when the worker becomes eligible for future benefits. But pension wealth is low, because the participant has completed only a few years of service and will not receive benefits until far in the future. The second spike occurs at age 55, when the worker becomes eligible for early retirement benefits. Finally, pension wealth drops at age 65, because workers lose a year of benefits for every year they remain on the job past the normal retirement age. Pension wealth would decline even more sharply after age 65 if the plan capped years of service that enter the benefit formula.

The dashed line in Figure 1 shows the profile of pension wealth for participants in a typical cash balance plan. The estimates assume that the employer contributes 6.5 percent of salary to the plan each year and pays interest on the accumulated balance at the nominal interest rate, and that benefits vest after five years of service. Except for the spike that occurs at vesting, pension wealth—which in cash balance plans (and defined contribution plans) is simply equal to the account balance—grows smoothly with years of service. Workers who leave the employer

by age 50 would fare better in this typical cash balance plan than the traditional defined benefit plan, while workers who remain with the employer until age 55 or later would fare better in the typical traditional defined benefit plan.

THE CURRENT CONTROVERSY: HOW PLAN CONVERSIONS CAN HARM OLDER WORKERS

When employers convert to the cash balance design, they typically credit current employees with the value of the benefits they earned under the old plan. For some older workers, such as those older than 55 in the case of the plans depicted in Figure 1, this credit could exceed what they would have accumulated under the new plan if it had been in place when they were hired. In this case, they could end up working for several years without accumulating any additional benefits, until their credits under the new plan catch up with what they would have received under the old plan. The freezing of account balances for older workers, commonly referred to as “wear-away” of earned benefits, is probably what most alarms critics of cash balance plans.

A recent study of 77 actual plan conversions finds that in about half of these plans workers with between 10 and 25 years of service and 54 years old at the time of the conversion would experience some period of wear-away (Schieber, 2003). Workers in the other new plans would not, even though all but three of the old plans included early retirement incentives that were eliminated in the conversion. Many employers reduce or eliminate wear-away by allowing workers nearing retirement to remain in the old plan after conversion, or by offering older workers additional credits in the new plan (PricewaterhouseCoopers, 2000).

Plan conversions can also harm workers who are not subject to wear-away but who had planned to remain on the job for

many years. They may have joined the firm and remained at work to receive the generous benefits that many traditional pension plans provide to long-tenured workers, and, thus, feel cheated when their employers eliminate this opportunity by converting their retirement plans to the cash balance design. Schieber (2003) examines how 50-year-old workers with 20 years of service would fare in 77 actual plan conversions. He finds that in slightly more than one-half of the converting employers, these workers would receive lower benefits at age 60—10 years after the conversion—in the new plan than in the old plan. On average, across all of the converting plans, the value of their benefits at age 60 in the new plans would equal 87 percent of the value of the benefits they would have received in the old plans.

The Bush administration proposed legislation in February 2004 that would require converting firms to protect benefits for older workers (U.S. Department of the Treasury, 2004). It would require a five-year “hold harmless” period, during which the benefits earned by any employee under the cash balance plan would have to be at least as valuable as the benefits that the employee would have earned under the old plan. The proposal would also ban wear-away periods, ensuring that all workers would immediately earn new benefits after the conversion.

POTENTIAL OUTCOMES IN CASH BALANCE PLANS FOR NEW HIRES

The focus on potential losses among older workers in converting plans has diverted attention from the long-term implications of cash balance plans for new hires. Most retirement benefits paid by traditional pension plans go to the relatively few workers who spend almost their entire working lives with a single employer. By contrast, cash balance plans accumulate benefits steadily over the career and do not concentrate accruals at the end of

the work life. As a result, they can improve retirement security for employees who change jobs. But they can also lead to worse outcomes for long-term employees. Outcomes in cash balance plans for new hires depend on the overall generosity of the plan and on how it distributes benefits across the workforce.

The available evidence suggests that most firms are not slashing retirement benefits when they convert their plans from the traditional defined benefit design to the cash balance design. For example, Brown et al. (2000) find that defined benefit pension costs fell after the conversion to hybrid plans (including cash balance plans) for 56 percent of the converting employers that they examined, and costs rose for 23 percent of employers. Pension costs did not change by more than 5 percent for the remaining 21 percent of converters. Overall, the shift to hybrid plans reduced average costs by 10 percent, with most of the savings coming from the elimination of early retirement subsidies. But many employers that converted their traditional defined benefit plans also offered supplemental defined contribution plans, and they often enhanced these plans while they were scaling back their primary plans. After factoring in these enhancements, the authors conclude that total pension costs fell for only 45 percent of plan sponsors and increased for 37 percent of plan sponsors. Average total plans costs across all converting sponsors fell by only 1.4 percent.

If firms are not converting to cash balance plans to cut costs, why are many abandoning the traditional defined benefit design? Coronado and Copeland (2003) find that firms competing for workers in tight labor markets were more likely to convert to the cash balance design than other employers. The authors conclude that firms convert their retirement plans to create compensation packages that appeal to an increasingly mobile workforce. Relatively mobile workers are likely to

prefer participating in cash balance plans over traditional pension plans, which disproportionately reward workers who spend most of their working lives with a single employer.

In fact, Schieber (2003) finds that plan conversions generally increase benefits for short-term employees and reduce them for long-term employees. His study of 77 actual plan conversions shows that workers hired at age 30 who remained with the employer for 10 years would fare worse in only one of the new hybrid plans. Overall, benefits for employees who separated at age 40 with 10 years of service were 150 percent higher in hybrid plans (including cash balance plans) than in traditional defined benefit plans. However, benefits declined in 78 percent of the conversions among workers who separated at age 60 with 30 years of service, and mean benefits for this group fell by 22 percent after the conversion.

Simulation results show that the widespread adoption of cash balance plans would redistribute employer-sponsored pension income toward those with relatively short tenures. In previous work, we simulated how workers in traditional defined benefit plans now completing their working lives would have fared if they had instead participated in cash balance plans (Johnson and Uccello, 2003). We computed the actual level of pension wealth in traditional defined benefit plans for a nationally representative sample of adults ages 51 to 61 (in 1992) who had participated in defined benefit plans for at least five years. We then estimated what their pension wealth would have been if they had instead participated in cash balance plans throughout their years of covered employment. We set the parameters of the hypothetical cash balance plans so that the level of aggregate pension benefits paid by the employer would equal aggregate benefits paid under the existing traditional defined benefit plan.

The results show that median pension wealth from all jobs would be higher under cash balance plans than traditional defined benefit plans among workers with fewer than 25 years of service on their longest jobs (see Table 1). However, median pension wealth among those with 26 to 34 years of service on the longest job would have been higher in traditional defined benefit plans. Fewer than half of adults who spend between 15 and 34 years on their longest jobs would have fared better in cash balance plans than traditional defined benefit plans, compared with nearly two-thirds of adults who devoted fewer than 10 years to their longest jobs.

We also find that about three-quarters of those predicted to spend 35 or more years on the longest pension job would have fared better in cash balance plans than traditional defined benefit plans. As noted earlier, pension wealth in traditional defined benefit plans often declines after participants reach the normal retirement age, whereas cash balance plans do not penalize workers who remain on the job past the retirement age. It is important to note, however, that the simulations predict final years of service based on standard actuarial turnover assumptions that do not account for retirement incentives incorporated into any particular plan. Many workers in traditional pension plans who would lose pension wealth by remaining on the job for more than 35 years would likely separate before the value of their pension benefits declines.

Our simulations show that cash balance plans would distribute pension wealth somewhat more equally across the covered population than traditional defined benefit plans. As shown in Table 2, replacing traditional defined benefit plans with cash balance plans would raise pension wealth among those in the bottom half of the traditional pension wealth distribution, and lower wealth among those in the top half of the distribution. The increase in pension wealth would be especially strong

TABLE 1
PENSION WEALTH IN TRADITIONAL DEFINED BENEFIT PLANS AND SIMULATED WEALTH
IN CASH BALANCE PLANS, BY YEARS OF SERVICE

Final Years of Service on Longest Job	Median Wealth in Cash Balance Plan	Median Wealth in Defined Benefit Plan	Difference in Median Wealth	Percent Who Fare Better in Cash Balance Plans
Less than 10	8,989	6,009	2,980	66.2
10 to 14	23,063	22,021	1,042	52.5
15 to 19	42,336	42,083	253	47.1
20 to 25	85,987	85,803	184	42.5
26 to 34	168,643	171,318	-2,675	45.4
35 or more	233,813	189,426	44,387	75.6

Note: Estimates were based on a sample of 3,228 individuals ages 51 to 61 in the 1992 Health and Retirement Study (HRS) who participated in traditional defined benefit plans. Parameters of the cash balance plans were set so that expected aggregate pension benefits paid by the employer were equal under the cash balance plan and traditional defined benefit plan. Retirement ages were determined by quit rates derived from a Society of Actuaries study. Negative values for the differences indicate that pension wealth was larger for the traditional defined benefit plan than for the cash balance plan. All estimates were weighted to account for the sampling design of the HRS.

Source: Johnson and Uccello (2003).

TABLE 2
PENSION WEALTH IN TRADITIONAL DEFINED BENEFIT PLANS AND CASH BALANCE PLANS,
BY QUARTILE OF WEALTH IN TRADITIONAL DEFINED BENEFIT PLANS

	Median Wealth in Cash Balance Plan	Median Wealth in Defined Benefit Plan	Difference in Median Wealth	Percent Difference in Median Wealth
All	59,405	55,770	3,635	6.5
DB Pension Wealth Quartiles				
Bottom	9,683	5,339	4,344	81.4
Second	33,023	31,835	1,188	3.7
Third	92,052	98,425	-6,373	-6.5
Top	249,329	264,985	-15,656	-5.9

Note: Estimates were based on a sample of 3,228 individuals ages 51 to 61 in the 1992 Health and Retirement Study (HRS) who participated in traditional defined benefit plans. Parameters of the cash balance plans were set so that expected aggregate pension benefits paid by the employer were equal under the cash balance plan and traditional defined benefit plan. Retirement ages were determined by quit rates derived from a Society of Actuaries study. The percent difference in wealth was computed by dividing the difference in median pension wealth by median pension wealth in the traditional defined benefit plan. Negative values for the differences indicate that pension wealth was larger for the traditional defined benefit plan than for the cash balance plan. All estimates were weighted to account for the sampling design of the HRS.

Source: Johnson and Uccello (2003).

among those in the bottom quartile of the pension wealth distribution. Median pension wealth for these individuals would be 81 percent higher in cash balance plans than in traditional defined benefit plans.

CHANGES IN JOB TENURE OVER TIME

One of the most appealing aspects of cash balance plans (as well as defined contribution plans) is that they can generate sizable pension benefits for workers who move frequently from job to job.

There has been much discussion in recent years about the increasing mobility of the workforce and the demise of the 30-year career job. Although job stability among men declined in the 1980s and the first half of the 1990s, especially among those with limited education, a substantial share of men remain in long-term employment relationships (Farber, 1999).

Table 3 compares completed years of service on the longest job in 1992 and 2002, for men and women ages 55 to 60. Between 1992 and 2002, the share of men

TABLE 3
COMPLETED YEARS OF SERVICE ON THE LONGEST JOB AT AGES 55 TO 60, BY SEX AND COHORT

	Men		Women	
	All	With Pensions	All	With Pensions
1992				
Median Years of Service	22	23	12	15
Distribution of Years of Service				
Less than 10	15.8%	10.6%	38.6%	23.2%
10 to 19	26.8	26.6	38.2	45.7
20 to 24	16.6	18.0	10.5	14.5
25 to 29	15.0	17.1	5.2	6.7
30 to 34	13.9	16.0	3.8	5.3
35 or more	11.9	11.6	3.7	4.5
N	2380	1701	2281	1229
2002				
Median Years of Service	20	22	13	17
Distribution of Years of Service				
Less than 10	18.0%	11.2%	33.5%	21.7%
10 to 19	30.4	29.9	34.8	37.8
20 to 24	15.6	16.9	12.3	15.0
25 to 29	12.1	12.2	8.4	10.9
30 to 34	16.1	18.3	7.6	9.9
35 or more	7.8	11.5	3.3	4.8
N	848	500	697	351

Note: The sample is restricted to men and women who worked for pay at some point in their lives.

Source: Authors' estimates from the Health and Retirement Study.

nearing retirement who had spent at least 25 years with a single employer fell from 41 to 36 percent, while the share among men with accumulated pension benefits declined somewhat less, from 45 to 42 percent. Although turnover rates may increase more dramatically among younger cohorts, the decline so far in job stability among workers near retirement has been modest. The prevalence of long-term employment relationships has increased over time among women, because they are now spending more time in the labor force than they did in the past. Among women with pension benefits, for example, the share with 25 or more years of service with a single employer increased from 17 percent in 1992 to 26 percent in 2002. Even though workers with long job histories still represent a sizeable share of the workforce, it is not necessarily efficient or equitable for employers to reward them with generous retirement benefits at the expense of more mobile workers.

LUMP-SUM DISTRIBUTIONS AND RETIREMENT SECURITY

Although cash balance plans can improve retirement security for job changers, they will be effective only if participants save their account balances when they separate. By law, cash balance plans must offer annuities to separating workers, but most participants appear to take their benefits as lump-sum distributions (Schieber, 2003). Workers who spend their distributions instead of rolling them over into Individual Retirement Accounts (IRAs) or other tax-qualified accounts will not accumulate much pension wealth at retirement.

Studies find that most people who take lump-sum distributions do not roll them over into qualified accounts (Burman, Coe, and Gale, 1999; Poterba, Venti, and Wise, 1998; Sabelhaus and Weiner, 1999; and Yakoboski, 1997). However, the likelihood of rolling over a distribution

increases with the size of the distribution. In 1996, for example, two-fifths of job changers rolled their plan distributions over into other tax qualified plans, but job changers rolled over four-fifths of all dollars distributed (Yakoboski, 1997).

Nevertheless, workers who do not roll over or otherwise save their lump sum distributions will have lower pension wealth at retirement. Burman, Coe, and Gale (1999) estimate that workers who did not roll over their distributions reduced their pension wealth by about \$20,000 on average and annual retirement income by about \$1,000 to \$3,000 (in 1993 dollars). These losses could represent a significant share of resources for low-income households.

The wide availability of lump-sum distributions at retirement in cash balance plans can undermine retirement security. Unlike defined contribution plans, all defined benefit plans must offer annuities as the default payout option, and until recently few defined benefit plan participants could receive their benefits as lump-sum distributions. In 1995, only about 15 percent of active defined benefit participants in the private sector had the option of taking lump-sum pension distributions at retirement (U.S. Bureau of Labor Statistics, 1998). Cash balance plans, however, typically provide lump-sum distribution options at retirement, and could thereby reduce the share of retirees with employer-sponsored annuities. Nonetheless, participants do retain the option to annuitize in cash balance plans, unlike most participants in defined contribution plans, who typically have to purchase annuities from insurance companies (where rates are generally less favorable) if they wish to annuitize their plan assets.

Individuals who choose not to annuitize face two competing risks as they spend their retirement wealth. Retirees who consume aggressively risk depleting their resources before they die. On the other hand, those who consume conservatively

risk dying with substantial assets that they could have used to increase consumption while alive, although their heirs could benefit from the bequest (Munnell et al., 2002). Annuities solve the consumption problem in retirement by insuring individuals against the risk of outliving their assets while also setting a consumption level that their savings can support.

PARTICIPATION IN RETIREMENT PLANS

Retirement plans play an important role in retirement security, but they can be effective only if workers participate in them when they are offered. A key advantage of both cash balance plans and traditional defined benefit plans is that they generally do not require contributions from employees. As a result, most of these plans automatically enroll eligible workers.

Participation in defined contribution plans, by contrast, is typically voluntary. Eligible workers actually face two decisions—whether to participate at all, and if so how much to contribute. Although a majority of eligible workers elect to participate in defined contribution plans, participation is by no means universal. As noted above, data from the 1998 Survey of Consumer Finances reveal that 23 percent of eligible family heads declined to participate, and participation rates were substantially lower among those with limited earnings (Copeland and VanDerhei, 2000). And fewer than one in ten who participate contribute the maximum amount to their plans (Munnell and Sundén, 2004).

Lower-income workers may prefer current income to deferred retirement savings, explaining their low rates of participation in defined contribution plans. Social Security replacement rates are relatively high for those with low incomes, perhaps reducing the need for other retirement resources. Nevertheless, pensions and retirement accounts play an important role in the retirement security of lower-income workers. Indeed, 401(k)

plans are more likely to represent additions to net savings for low earners than for high earners (Engen and Gale, 2000).

Because cash balance plans tend to automatically enroll all eligible workers, they could provide more retirement security to low-income workers than defined contribution plans. (Employers could, of course, contribute to 401(k) plans even when workers do not, but few plans are currently structured this way.) On the other hand, high-income workers who prefer to defer substantial shares of their earnings to retirement may accumulate less wealth in cash balance plans than in 401(k) plans, because employers set common parameters for all participants (or groups of participants) in cash balance plans. Individual participants in 401(k) plans have more discretion about how much to save for retirement in tax-advantaged accounts.

PROMOTING WORK AT OLDER AGES

As noted earlier, most of the benefit cutbacks associated with plan conversions result from the elimination of early retirement subsidies. The loss of early retirement benefits can harm workers who were planning to withdraw from the labor force at relatively young ages. But perhaps more importantly, by eliminating these benefits cash balance plans generally provide stronger incentives for older workers to remain on the job than traditional defined benefit plans, which often penalize workers who delay retirement.

The aging of the population and the growth in the number of retired Americans has raised concerns about the continued ability of employers to fill job openings and of workers to pay enough taxes to support future retirees and other government functions. If current employment patterns persist, fewer workers producing fewer goods and services can threaten standards of living for Americans of all ages, or at least the rate at which

these standards rise. Labor supply projections based on the assumption that current labor force participation rates will persist into the future indicate that by 2050 people between the ages of 55 and 74 will make up more than one-third of adults outside the labor force (Johnson and Steuerle, 2003). Improvements in health and declines in the physical demands of work now permit many workers to remain gainfully employed until advanced ages (Johnson, forthcoming). Traditional pension plans that penalize older workers for remaining on the job may no longer make economic sense.

CONCLUSIONS

For decades, traditional defined benefit coverage was the most reliable path to a secure retirement. More recently, defined contribution plans have become the dominant type of employer-sponsored retirement plan. Today, however, cash balance plans—hybrid plans that combine elements of both traditional defined benefit plans and defined contribution plans—have emerged as a viable alternative. Although the growing popularity of cash balance plans among employers has been controversial, the available evidence suggests that these plans can often provide more retirement security than traditional defined benefit plans or defined contribution plans.

Like defined contribution plans, benefits in cash balance plans accumulate gradually over the career, enabling workers who change jobs frequently to accumulate substantial retirement wealth. Cash balance plans also avoid many of the shortcomings of defined contribution plans. Although benefits can vary with the interest rate, they are subject to less investment risk than 401(k) balances, which participants sometimes invest in risky employer stock.

In addition, cash balance plans contain many of the advantages of traditional

defined benefit coverage. For instance, participation in cash balance plans is generally automatic, the federal government insures benefits, and plan sponsors must offer an annuity option when workers separate. Unlike traditional defined benefit plans which typically penalize workers who delay retirement past the plan's normal retirement age, however, workers with cash balance plans can continue to accrue pension wealth beyond the normal retirement age. As the population ages and the burden of supporting older adults rises, compensation schemes should reward workers who remain on the job into later life.

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