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PUBLIC PENSION RESOURCE GUIDE

# Public Pension Basics

## OVERVIEW

A traditional pension plan, also called a defined benefit (DB) pension plan, is a pooled retirement plan that offers a predictable defined monthly benefit in retirement. A DB pension provides retired workers with a steady income stream that is guaranteed for the remainder of the retiree's life.[1]

In the public sector, the DB pension has been a steady approach for providing retirement benefits for decades, through good times and bad. Although these benefits are quite reasonable—the average pension benefit received in 2006 was just $20,947 per year, or $1,746 per month[2]—they go a long way in providing for the retirement security of older Americans.[3] Additionally, the public sector employs a shared financing model in which both employers and employees contribute to the pension fund over time, which helps to manage the pension's cost to state and local governments.[4]

Benefits are usually a function of an employee's years of service and salary at the end of one's career. These benefits are financed by a combination of employer contributions, employee contributions, and investment earnings. Contributions are pooled among all employees, and investment decisions are made by professional managers, overseen by trustees, who owe a fiduciary duty to act solely in participants' interests. Researchers have found public pension plan management and investment decisions to be quite prudent over time.[5]

## How Are Benefits Earned?

In a traditional DB pension plan, coverage is universal; all eligible employees are automatically enrolled in the pension plan. Typically, after an employee has worked a certain number of years, his or her right to receive a pension benefit becomes "vested," meaning that s/he has a legal right to receive benefits. Years of service before vesting, however, are included in the calculation of the pension benefit in retirement.

The amount of monthly income each employee receives is ordinarily a function of the years of service with the employer, the worker's pay at the end of his/her career, and a fixed multiplier that is determined by the plan.[6] Under this type of "final average pay" design, the plan may provide a benefit multiplier of, for example, 2.0% of pay. If an employee works for 30 years and has a final average salary of $40,000, this employee's annual pension income will be $24,000 (40,000 x 30 x 2.0%), which translates to a pension income of $2,000 per month. Benefits in a DB plan do not necessarily have to be based on final pay. "Career average" plans (like cash balance plans), for example, calculate the benefit as a function of a worker's earnings over his/her entire career; while "flat dollar" plans pay a flat dollar amount for each year of a worker's service.

The level of one's pension benefit is not necessarily related to the design of the benefit. Nevertheless, researchers at the Social Security Administration recently assessed the amount of preretirement income that each of these different benefit formulas achieve in practice. They found that a traditional, three-year final average pay plan tends to yield the highest replacement rate for most workers—38% of preretirement income, as compared with 21% for the flat dollar formula and 21% for the career average formula.[7] The "replacement rate" tells us the percentage of pre-retirement income that is replaced by the pension. Many experts consider a replacement ratio from all income sources (Social Security, pensions, etc.) of at least 80% adequate in order for most middle-class Americans to maintain their pre-retirement standard of living into retirement.[8] However, some experts believe that the replacement ratio should be even higher than 80%. Hewitt Associates, for example, predicts that employees will actually need more money in retirement than during their working years, due to increasing health care and other expenses, and suggests a target replacement ratio of 125%.[9]

Table 1. **Percentage of Aggregate Income of Americans Aged 65 and Older, By Source, 2006**

| | Pensions and Annuities | Railroad Retirement | Social Security | Assets | Earnings | Public Assistance | Other | All Income Sources |
|---|---|---|---|---|---|---|---|---|
| Total | 17.7 | 0.2 | 36.7 | 14.9 | 27.8 | 0.6 | 2.1 | 100.0% |
| Lowest Quintile | 3.5 | 0.3 | 82.5 | 3.3 | 1.6 | 7.5 | 1.3 | 100.0% |
| Second Quintile | 8.4 | 0.5 | 79.4 | 4.9 | 3.4 | 1.7 | 1.5 | 100.0% |
| Middle Quintile | 15.7 | 0.3 | 64.9 | 7.7 | 8.7 | 0.5 | 2.3 | 100.0% |
| Fourth Quintile | 24.0 | 0.2 | 45.0 | 10.0 | 18.1 | 0.2 | 2.5 | 100.0% |
| Highest | 18.1 | 0.2 | 17.6 | 20.8 | 41.3 | 0.1 | 2.0 | 100.0% |

Source: U.S. Social Security Administration. 2008. *Income of the Population 55 and Older, 2006*. Washington, DC: Social Security Administration.

Table 1 shows the retirement income sources for Americans over age 65 in 2006. It shows that Social Security and DB pension income remain the largest and most significant sources of retirement income for the current elderly population. Among all Americans aged 65 and older, DB pensions make up 17.7% of their current income, while Social Security makes up 36.7%. Especially for middle-income retirees, DB pension income remains an extremely significant source of retirement income. Retirees in the third and fourth quintiles rely on DB pensions to provide 15.7% and 24.0% of their total retirement income, respectively.

Table 1 also shows that Social Security continues to play a large role in ensuring retirement security for most Americans. Workers in the first, second, and third income quintiles still rely on Social Security for well over 50% of their retirement income. Indeed, the Government Accountability Office recently estimated that in 2009, Social Security would replace roughly 54% of a low wage worker's preretirement income, and 33.2% of a high wage earner's income.[10] For higher income earners, then, the combination of a DB plan, Social Security, and supplemental savings—the so-called "three-legged stool"—still offers the best opportunity to maintain a middle class standard of living in retirement.[11]

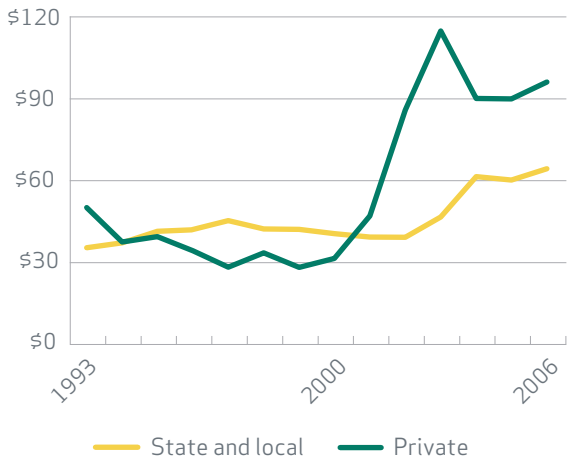
Since Social Security remains such a crucial form of retirement income to so many Americans, it is important to note that as many as 30% of all state and local workers are not covered by the Social Security system.[12] That is, these public sector workers and their employers do not pay Social Security taxes on their income, and therefore do not receive Social Security benefits in retirement.[13] This means that, for those public employees not covered by Social Security, the DB pension is all the more important, as it is the only source of steady, monthly income that these workers will receive in retirement—in other words, the DB pension must do the work of two legs of the three-legged retirement stool. Indeed, researchers have found that benefit multipliers are more generous for those public employees who do not have Social Security coverage than for those state and local workers who have access to Social Security benefits. In 2006, for example, the median benefit for a Social Security eligible worker with a final average salary of $50,000 and 30 years of service would be $27,750. The median benefit for an employee with the same final average salary and years of service, but who was not Social Security eligible, would be $33,000.[14]

## How Are Pensions Funded?

Public pension plans are pre-funded systems, which means that the benefits to be paid during retirement are paid for ("pre-funded") before retirement begins. Regular contributions for each worker are made into a retirement fund during the course of that worker's career, starting with the first paycheck and continuing until the last. State and local DB pension plans are usually funded by employer contributions and contributions from employees themselves, who make regular payments to the fund directly out of their paychecks.[15] In this respect, public plans differ from private sector pensions, which are generally funded by employers.

Figure 1 shows the employer contributions made to public and private sector pension plans between 1993 and 2006. The figure clearly shows that contributions by private sector employers have not only been much more volatile than those of public sector employers, but also that private sector contributions must increase much more dramatically during market downturns than public sector contributions. Employee contributions in the public sector may help to enable employers' contribution rates to remain both lower and less volatile than their private sector counterparts.[16]

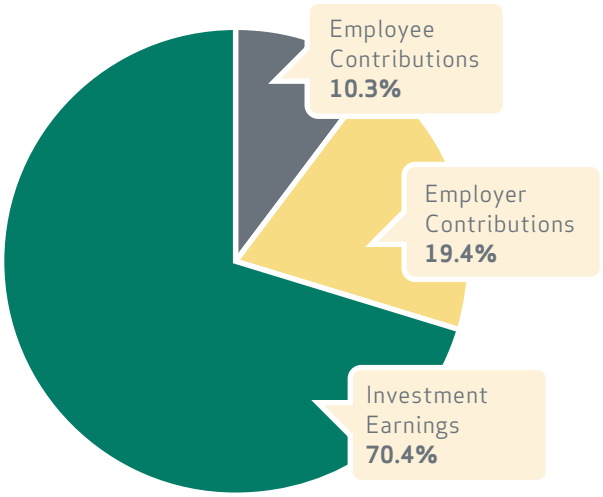
Figure 1. **Employer Contributions to Defined Benefit Plans, by Sector, Billions, 1993-2006**




Source: Reprinted from Munnell, A.H., Haverstick, K., and Soto, M. 2007. *Why Have Defined Benefit Plans Survived in the Public Sector?* State and Local Pension Plans Number 2. Chestnut Hill, MA: Center for Retirement Research at Boston College.

No matter who is making the pension contributions, however, the nature of pre-funding means that all DB pensions have the advantage that investment earnings can do much of the work of paying for benefits. In such a system, the contributions made on behalf of current workers are invested and these investment earnings compound over time. Over a span of decades, accumulation of investment earnings can be substantial.[17] Between 1993 and 2007, for example, 10.3% of total state and local pension fund receipts came from employee contributions, 19.4% from employer contributions, and 70.4% from investment earnings.[18] Earnings on investments—not taxpayer contributions—then, have historically made up the bulk of pension fund receipts.

## Figure 2. **Aggregate State and Local Pension Contributions by Source, 1993-2007**




Source: U.S. Census Bureau. 2009. State and Local Government Employee-Retirement Systems. Washington, DC: U.S. Census Bureau.

The amount that employers and employees need to contribute each year can be determined through an actuarial analysis. The plan actuary determines the cost associated with new benefits earned in that year (normal cost) plus any additional amount that might be required. The normal cost depends on many plan-specific factors, including the demographics of the plan participants (i.e., the current ages and projected longevity of plan participants, as well as disability and termination rates), the rate of inflation, the rate of salary increases, and expected investment earnings.[19] The additional amounts above the normal cost may include payments to make up for short-term investment losses, or for contributions that were previously due but not made.

It is important that the actuarially required contribution (ARC) be contributed to the pension trust each year, for several reasons.[20] Firstly, if a plan does not fully fund the ARC every year, the plan is likely to become underfunded, which means that the plan's assets will not cover all of the plan's current and future liabilities. Postponing payments will only increase the ARC in future years.[21] This is because the ARC will now consist of both the normal cost and a portion of the unpaid liabilities from past years, also called the unfunded actuarial accrued liability (UAAL). For example, if a fund does not make its full ARC one year, and as a result is underfunded at the end of that year, it will need to contribute more in the coming years to make up for that funding gap. The total unfunded liability does not need to be paid in a single year, but can be amortized over a number of years.

Secondly, if progress is not made toward closing the plans' funding gap over time, the plan sponsor runs the risk of being seen as a greater credit risk; it can be given a lower credit rating, and when this happens, the cost of borrowing increases.[22]

Finally, and perhaps most importantly, if a plan is chronically underfunded for a substantial period of time, it may actually run the risk of not having enough assets to pay out current liabilities—in other words, there may not be enough funds in the pension trust to cover payments that must be made to current retirees. In this scenario, the plan is no longer a pre-funded system and becomes a pay-as-you-go system, in which current payments are made out of current revenues.[23] This means that the plan loses the economic benefits of pre-funding and its associated investment returns. Indeed, two to three decades ago, many public plans, which to that point had operated mostly on a pay-as-you-go basis, came to the conclusion that pre-funding was preferable.[24]

In recent years, public pension plans as a group have been diligent about pre-funding. In 2008, the Center for Retirement Research at Boston College measured the financial health of pension plans based on three factors: the plan's funding ratio, the amount of unfunded liability in the plan, and the ratio of employer contributions to its ARC. It finds that state and local plans in general are on the right track—they have an average funded ratio of 88%, which means that for each $1 the plan owes to participants for future benefits, the plan has 88 cents

on hand today to meet those future obligations. On average, unfunded liabilities represent just 0.7% of payroll, and the majority of plan sponsors make their full ARC every year.[25] Similarly, in that same year the Government Accountability Office found that most state and local pension plans had enough assets to cover at least 80 percent of current and future pension liabilities—a funding ratio that most experts consider to be adequate in the public sector. The reason that plans may not need to be fully funded at a given time is due to the fact that government entities are unlikely to go bankrupt, and therefore have a longer time horizon under which they may pay off any unfunded liabilities.[26] Recent investment losses are presenting challenges but most plans will be able to recover with modest adjustments.[27] A smaller number of plans that have had a weaker track record of consistent funding before the downturn will likely face more difficult choices.

## How Are Investment Decisions Made?

DB pension plans are overseen by trustees who have a fiduciary duty to ensure that the retirement fund is operating in the best interest of workers and retirees.[28] These trustees hire professional asset managers to steer the investment of these funds.

Usually, staff members on the investment team include the chief investment officer and the investment unit, who provide advice to the board of trustees in areas such as developing the asset allocation strategy, assisting in the hiring of investment consultants, and supervising external managers. These individuals are assisted by investment consultants, who help with developing and reviewing investment policies; investment managers, who buy and sell securities and report on investment performance; and custodians, who maintain physical possession of the plan's assets.[29]

As shown in Table 2, both public and private sector pension plans maintain a balanced portfolio of equities (such as stocks and mutual funds), corporate and Treasury bonds, alternative investments (such as hedge funds or real estate), and cash.[30] In doing so, plans are following the general tenets of modern portfolio theory, which holds that an investor can reduce risk and enhance return by diversifying assets across the entire portfolio, rather than focusing on the risk and return of any individual stock or asset.[31] In the aggregate, state and local pension plans' asset allocations look quite similar to those of pension plans in the private sector.

It is important to note that a plan's asset allocation at any one time is not permanent—plans regularly review their portfolio mix, and make revisions when appropriate.[32] But plans do not react in a knee-jerk fashion in response to the ups and downs of the stock market. Indeed, a recent analysis of public pension plan investment behavior found that plans exhibit prudent investment behavior—they rebalance in response to price swings, systematically follow the best practices of performance leaders, and avoid excessive risk-taking, moral hazard, and employer conflicts.[33] In other words, DB pensions tend to invest pragmatically, looking to the long-term and engaging in prudent investment practices.

Table 2. **Assets Held in Public and Private Sector Pension Plans, 2007 (in billions of dollars)**

| | Cash and Liquid Assets | Treasury & Agency Debt | Corporate & Foreign Bonds | Stocks | Mutual funds | Other Investments | Total |
|---|---|---|---|---|---|---|---|
| Public Plans | $64 | $534 | $249 | $1,981 | $296 | $16 | $3,139 |
| Private DB | $55 | $254 | $212 | $1,471 | $226 | $116 | $2,334 |
| (as a percent of total) | | | | | | | |
| Public Plans | 2% | 17% | 8% | 63% | 9% | 1% | 100% |
| Private DB | 2% | 11% | 9% | 63% | 10% | 5% | 100% |

Source: Board of Governors, Federal Reserve System. 2007. *Flow of Funds Accounts of the United States*. Washington, DC: Board of Governors. Stocks include both foreign and domestic equities.

# WHO HAS A PENSION?

## DB Pension Income

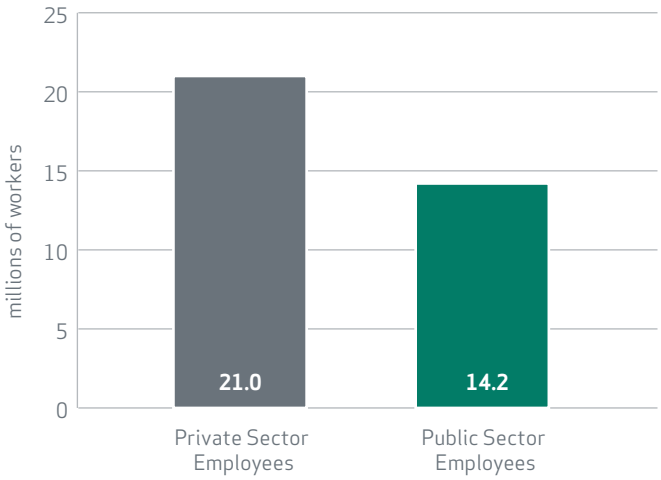
DB pensions provide a critical source of reliable income for many Americans, and go a long way in ensuring that middle-class Americans are able to maintain their middle-class status in retirement. Indeed, DB pension income plays a substantial role in ensuring that Americans remain self-sufficient in retirement. Specifically, one study found that DB pension receipt was associated with 1.72 million fewer poor households and 2.97 million fewer near-poor households in 2006. Additionally, 560,0000 fewer households experienced a food hardship, 380,000 fewer experienced a shelter hardship, and 320,000 fewer experienced a health care hardship due to their DB pension income.[34]

A considerable number of Americans have income from a DB pension. Census Bureau data shows that of the 31.6 million older American households in 2006, about half had income from their own or a spouse's pension. Of these, 9.4 million households had private pension income, 3.9 million had public pension income, and 1.7 million households had both public and private sector pension income.[35] Put differently, about 29.7% of all elder households in 2006 had private DB pension income, 12.3% had public DB pension income, and 5.4% had both public and private DB pension income.

## DB Pension Coverage: Public and Private Workers

Among current workers, the Government Accountability Office finds that by 2007, an estimated 21 million private-sector American workers had access to a workplace DB pension plan,[36] while in the public sector, U.S. Census Bureau data shows that in 2007 state and local pension plans served 14.2 million active employees.[37] See Figure 3.

Figure 3. **Active U.S. Workers with a DB Pension Plan, 2007**




Source: Government Accountability Office. 2009. *Private Pensions: Alternative Approaches Could Address Retirement Risks Faced by Workers but Pose Trade-Offs*. GAO 09-642. Washington, DC: U.S. Government Accountability Office. and U.S. Census Bureau. 2009. State and Local Government Employee-Retirement Systems. Washington, DC: U.S. Census Bureau.

The above data show that there are currently about 7 million more private sector employees who have pensions as compared with those in the public sector. Indeed, many blue-chip companies still offer traditional pensions, especially large firms in industries such as manufacturing, aerospace, pharmaceuticals, and insurance. Bank of America, General Electric, aerospace company BAE Systems, and pharmaceutical company Schering-Plough are all examples of large private-sector firms who still offer traditional DB plans to their employees.[38] However, when we look at pension coverage as a share of the workforce, the public sector compares very favorably. In 2005, among U.S. workers with a workplace retirement plan, 98% of public sector employees had a DB pension, as compared with just 33% of private sector workers.[39]

In the private sector, unionized workers are much more likely to have DB pension coverage than nonunion workers. Among private-sector workers in 2006, a full 69% of unionized workers, but just 15% of nonunion workers, had access to a DB pension plan. Also, employees of large firms are more likely to have access to DB pensions than are employees of smaller firms; in 2007, 32% of employees of firms with 100 or more workers had a DB pension, as compared to just 9% for employees of firms with less than 100 workers. Finally, full-time workers are more likely to have a traditional pension than part-time workers, with 23% of full-time private-sector workers having a DB plan in 2007, as compared to just 9% of part-time workers.[40]

## DB Income: Demographic Groups

Among demographic groups, white men are still more likely to have DB pension income than women and members of racial and ethnic minority groups. Data from the U.S. Census Bureau's 2006 Survey of Income and Program Participation shows that women aged 60 and older have far less access to DB pensions than men of the same age. Just 23.3% of women have their own DB pension, as compared to 42.0% of men.[41] Among women, the number with pension income varies greatly by race and ethnicity; a 2007 study finds that just 31% of white women, 26% of African American women, 17% of Asian American women, and 13% of Hispanic women have pension income.[42] Among racial and ethnic groups, the Census data show that 32.7% of whites and 32.0% of blacks aged 60 and older had pension income in 2006, but just 22.6% of Hispanics had DB pension income in that year.[43]

However, when racial/ethnic minorities and women do have a pension, it seems that their pension income plays a unique role in shrinking these gender and racial/ethnic gaps in retirement. That is, the percentage of American households classified as poor and near poor drops across gender and race categories when older Americans have pension income. Additionally, the income gaps between whites and racial minorities, as well as between men and women, shrinks when women and members of racial and ethnic minority groups have access to a traditional pension.[44]

## How Much Pension Income do People Usually Receive?

Although pension income goes a long way in ensuring Americans middle-class status in retirement, it tends to be relatively modest. Among Americans aged 60 and older, in 2006, the average pension benefit was $15,784 per year, and the median benefit was $11,467 per year. The median amount of public pension income was $20,947, while the median amount of private pension income was $8,739.[45] This can be attributed at least in part to the fact that public employees, unlike private sector workers, contribute to their pensions,[46] and also to the fact that benefits may be greater to compensate for lack of Social Security coverage.[47]

Women who have a pension tend to receive less pension income than men, but racial and ethnic minority groups have similar pension incomes compared to whites. The median pension amount from one's own former employer was just $8,400 for women aged 60 and older in 2006, as compared with $13,509 for men.[48] Boston College researchers corroborate this finding, with research that has found that the average woman's benefit was much lower than that of her male counterpart.[49] Meanwhile, the median pension amount for whites was $12,908 in 2006, as compared to $11,042 for blacks and $11,976 for members of other racial groups.[50]

## What Have Been the Pension Trends over Time?

Over the past 25 years, traditional pension coverage has been on the decline in the private sector.[51] In 1975, of employees with a retirement plan at work, 88% of private sector workers were covered by a DB pension plan; by 2005, that number dropped to just 33%.[52]

There are several reasons for the decline in private-sector DB participation.[53] Firstly, it seems that many employers may have imperfect knowledge of their employees' preferences for pensions. While several surveys show that employees value DB plans quite highly[54]—even higher than they value DC plans[55]—it seems that many employers may be underestimating this preference. A 2008 MetLife survey, for example, found that a full 72% of employees cited retirement benefits as an important factor in loyalty to the company. However, just

41% of employers agreed with this sentiment.[56] If employers believe that employees do not value DB pensions—however incorrect this notion may be—they may not see a good enough reason, from a human resource perspective, to continue to offer such a plan.

Secondly, the private sector has seen significant regulatory changes to single-employer DB plans in the past few decades, which have had the unintended effect of making the DB plan less attractive to many employers.[57] For example, Hustead finds that DB regulations enacted since the 1970s—from several legislative acts in the 1980s[58] to the Pension Protection Act of 2006[59]—were both increasingly complicated and increased the regulatory burden of plan sponsors. Such regulations caused complex funding rules, accounting rules, and even operational requirements,[60] which have been onerous to employers who would prefer to have steady, easily estimable costs from year to year.[61] The Government Accountability has reported that some 26% of plan sponsors would consider forming a new DB plan if the plan funding requirements had less unpredictability and volatility. In other words, the reason companies may be freezing their pensions, or hesitant to start new DB plans, is not due to the inherent cost of administering the plan. Rather, the issue is tied to very specific accounting regulations and funding requirements.[62] Indeed, 2003 Hewitt survey found that employers perceive cost volatility as the single greatest threat to the DB pension system.[63] Further, a 2009 survey of plan sponsors found that, of those employers who remain committed to their DB plans, a full 70% would reconsider this commitment should accounting rules or other regulations become more burdensome than they already are.[64]

Related to these private sector regulatory changes is the question of cost. Ghilarducci and Wei have found that as private-sector firms have frozen or eliminated their DB plan and opened a DC plan for employees, the average retirement plan contribution per employee has dropped at the same time—from $2,140 in 1981 to $1,404 in 1998.[65] This may imply that one of the reasons private-sector employers have been trending away from DB plans is due to their cost. And, as mentioned previously, as opposed to public sector pension plans, in which employees assist with the plan's financing by contributing to the pension fund out of their own paychecks, private sector plans are entirely funded by the employer. Because of this, some researchers believe that the cost to the employer is much more manageable in the public sector.[66] Thus, should a similar shared financing model be adopted in the private sector, the cost of the funding plan may become easier for the employer to manage.

Finally, industry shifts and technological changes that the private sector has seen in the past several decades may have contributed to the decline in DB coverage as well. The domestic manufacturing sector, for example, has traditionally been highly unionized and kept employees for long tenures—two characteristics which lend themselves to DB pension participation.[67] As this industry has declined, sectors such as information technology—with notably nonunionized and shorter-tenured employees—have emerged. Such new industries have not taken up DB pension plans as much as the older industries once did.[68] Additionally, Friedberg and Owyang have further found that those industries which have experienced more technological progress in recent years have experienced more of a decline in average job tenure among their workers than have industries that have not experienced as much technological change. In these industries in particular, the relationship between firms and their employees has been weakened somewhat,[69] which furthers the decline of traditional DB pensions.

The public sector, by contrast, has been able to maintain DB coverage for the vast majority of its employees because each of the reasons for the private sector decline has little relevance to the public sector. Public sector employees are known to value their DB pension plans quite highly,[70] and some research has found that workers are even willing to give up higher wages in order to maintain pension coverage.[71] Also, the public sector has not been subject to the regulations which so drastically changed funding and accounting rules in the private sector.[72] Finally, whatever industry changes occur in the private sector have limited bearing on public sector employment, as public sector jobs such as teaching, public safety, and judging will be necessary no matter what changes are brought to bear in the greater economy.

# CONCLUSION

DB pensions offer secure, regular income in retirement to those who receive them. Although the average monthly benefit is somewhat modest—just under $21,000 per year for public sector beneficiaries in 2006—these benefits go a long way in ensuring the financial security of many millions of retired Americans. Professional asset managers and pension trustees with fiduciary obligations to the fund ensure that DB pension plans and the investments within them are prudently managed. In the public sector, DB pensions are financed by both the employer and employees, which serves to make the funding stream more secure and more manageable over long periods of time. Such safeguards only help to ensure the long-term stability and sustainability of these plans, to the benefit of both employers and employees in the public sector.

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