

**Profitable Prudence:  
The Case for Public Employer  
Defined Benefit Plans**

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## **Profitable Prudence: The Case for Public Employer Defined Benefit Plans**

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### Abstract

Since the middle of the nineteenth century, public employers have recognized the important role of retirement benefits in building and retaining an often-unique workforce, securing its loyalty, and managing its evolution. Teachers, fire fighters and police were the earliest public servants to receive income in retirement; over time, these benefits were extended to a broad range of public sector workers, and have continually been reworked to meet the changing needs of state and local governments, their employees, and the American public. While the Employee Retirement Income Security Act (ERISA) has provided the focus for employer-provided pensions in the private sector for the last 30 years, public pension funds have had many more years experience in dealing with coverage, participation, vesting, funding and fiduciary requirements, and have done so in a setting that is both unique in purpose and structure from the private sector, as well as in the demands that these differences can create. This paper focuses on public pension funds' continuing journey, drawing from past developments in order to explore potential future trends and the challenges they present. In order to appreciate the impact of the strategies that have been developed to date, as well as those that will be necessary for public pension funds to utilize in the future, this paper will analyze the following:

- public employees and their employers, and the pertinent characteristics of both that have helped to fashion the nature and purpose of public pension plan design and governance, and the influence these will continue to exert in the years ahead;
- the often unique retirement needs and challenges that the public workforce presents, as well as the modifications in plan features and structure that the demographics of the future may --or may not --require of them;
- the impact of change (in the work as well as the workforce) on both the level and the nature of what constitutes adequate retirement income. with particular reference to healthcare;
- the security of retirement and the differences in meaning that this has for the public employee, retiree, and employer, as well as the manner in which funding and governance requirements respond to these often conflicting definitions in a public setting; and
- the impact of government action at all levels (local, state and Federal) on plan administration and the lessons that these and other factors will continue to teach both public as well as private plans as they devise strategies to manage the challenges of the 21st century.

# **Profitable Prudence: The Case for Public Employer Defined Benefit Plans**

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## **Introduction**

As we review the 30-year history of the Employee Retirement Income Security Act (ERISA), it is valuable to also examine programs that evolved primarily prior to and outside of this federal pension law. Unlike private industry pensions, which are exempt from state and local statutes and subject solely to federal regulation, state and local government plans are creatures of state constitutional, statutory and case law; and are accountable to the legislative and executive branches of the state; independent boards of trustees that most often include employee representatives and ex-officio publicly elected officials; and ultimately, the general public.

Retirement systems for employees of state and local governments comprise a large segment of the U.S. pension structure and of the nation's financial markets. Public pension plan assets and the benefits they provide not only assist state and local employers and employees in meeting important objectives, but they also promote meaningful economic activity.

More than 14 million employees—over ten percent of all full-time workers—are employed by state and local governments.<sup>1</sup> The US Bureau of Labor Statistics reports that 98 percent of these employees participate in a retirement plan. Another six million retired public employees and their beneficiaries receive pension or disability benefits from one of more than 2,000 public retirement systems in the United States, which together hold in trust assets in excess of \$2 trillion for active, inactive, and retired participants and their beneficiaries. In fiscal year 2002, these systems distributed more than \$110 billion in pension and other benefits, exceeding the entire economic output of 22 states and the District of Columbia.<sup>2 3</sup>

This paper seeks to describe the public pension experience and to identify lessons from this experience for policymakers and private industry employers, by focusing on the evolution and status of public retirement plans; the benefits of defined benefit (DB) plans for both public employers and employees; and the positive effects of public DB plans on the nation's economy.

### **A Brief History of Public Pensions**

Each of the nation's more than 2,000 public retirement systems has a unique plan design, benefit structure, and governance arrangement, set forth through a vast assortment of state constitutions, laws, and administrative rules. This mosaic of structures and features reflects the rich variety of legal, political, economic, and demographic cultures and history present in each state and its political subdivisions.

Although the history of public pensions in the U.S. dates to the late 19<sup>th</sup> century, plans for most public employees were established from the 1920's through the 1940's. Municipal governments led states and the federal government in providing pension coverage for their workers, largely because the first groups to be covered—police, firefighters, and teachers—were funded at the local level, by cities, towns, and school districts. “Many of these early plans were funded entirely with worker contributions, making them more like forced savings plans rather than retirement plans in the contemporary sense of that term,” although employers gradually took on greater responsibility for funding.<sup>4</sup>

The federal government lagged the states and municipalities in establishing pension benefits, and social security initially excluded state and local government workers “... due mainly to constitutional issues concerning the federal government's right to tax state and local governments. In 1950, however, Congress amended the Social Security Act to allow states to voluntarily provide social security coverage for their employees, when a state entered into an

agreement with the Social Security Administration.”<sup>5</sup> Today, approximately three-fourths of state and local government employees participate in social security. Although an abundant majority of the non-participants are teachers and public safety personnel, virtually all public employees in seven states—Alaska, Colorado, Maine, Massachusetts, Louisiana, Nevada, and Ohio—do not participate. In public pension plans with employees who are exempt from social security, the pension benefit typically is higher.

While the passage of ERISA in 1974 and subsequent amendments are watershed events in the evolution of private industry pensions, public pensions have evolved largely outside federal regulation, as described by Metz:

Governmental plans are specifically exempt from all of the substantive qualification requirements added to the (Internal Revenue) Code by Title II of ERISA (with the exception of the Section 415 maximum limitation on benefits), including those relating directly to participation, vesting, funding, prohibited transactions, joint and survivor annuities, plan merger and consolidation, alienation and assignment of plan benefits, payment of benefits, certain social security benefit increases, and withdrawal of employee contributions.

In addition, governmental plans are exempt from ERISA’s other major provisions, including reporting and disclosure requirements (Title I) and plan termination insurance (Title IV). Although government plans are not subject to ERISA’s participation, vesting, funding and fiduciary rules, they are, nonetheless, covered by comparable although not as restrictive rules as stated in the Internal Revenue Code prior to ERISA’s enactment.<sup>6</sup>

Where ERISA imposes a comprehensive and fairly uniform set of regulations and standards on private pensions, public retirement systems' diverse nature would not be possible if they were governed in the same manner. Public plans' collective improvement in governance, administration, and funding condition has given tacit support to this exemption from many of the federal regulations that govern private industry pensions:

Since passage of ERISA, in 1974 ... Congress has deliberated over federal involvement in the setting of conforming standards for state and local government retirement systems. In 1978, the Pension Task Force Report, issued by the House Committee on Education and Labor, recommended federal regulation of PERS. Legislative proposals have been introduced in each successive Congress to establish federal rules for state and local government retirement systems. However, during this period PERS have made great strides in funding future pension obligations, following prudent investment policies, disseminating information and implementing administrative and operational discipline. These advances have been made without the intervention of the federal government.<sup>7</sup>

**Divergence of plan usage among private and public employers.** Since the passage of ERISA, the percentage of workers in private industry with a DB plan as their primary retirement benefit has fallen steadily. Meanwhile, the number and percentage of defined contribution plans—primarily in the form of 401(k) plans—have risen. A 2003 Bureau of Labor Statistics study found that just 58 percent of full-time workers in private industry participate in an employer-sponsored retirement plan, and that only 10 percent of employers nationwide provide a defined benefit plan.<sup>8</sup>

By contrast, virtually all full-time employees in the public sector participate in a retirement plan, and 90 percent are in a DB plan. “The mainstay of public employee retirement income packages has, for decades, been the DB plan. The DB name is derived from the fact that benefits are defined by the plan, usually expressed as a percentage of salary for some designated period just before retirement, multiplied by years of service credit.”<sup>9</sup>

What accounts for the divergence in pension coverage between private industry and the public sector? “Suggested explanations why DB plans have been steadily losing ground as the preferred plan type include: government regulation; changes in the work place, such as increased employee and employer appreciation and demand for DC plans; business environment and risk associated with funding and managing pension plans; firm size; the increase in global competition faced by employers in recent years, which has increased the need for more flexibility in plan design; and the successful marketing efforts of consultants and DC plan service providers.”<sup>10</sup>

A spate of recent studies has described the consequences of relying on a DC plan as a worker’s primary retirement benefit.<sup>11</sup> Although DC plans offer employers and participants some important benefits, one overarching theme stands out among these studies: that DC plans are an unreliable vehicle for ensuring financial security in retirement.

One concern with DC plans is that the investment risk is borne solely by individual participants. Yet studies consistently show that most DC plan participants make poor investors. For example, a benefits adequacy study prepared for the Nebraska Public Employee Retirement System in 2000 found that from 1983 through 1999, while the system’s DB plans generated an average of 11 percent annually, the system’s DC participants were generating returns of 6 percent.<sup>12</sup> Similarly, “since 1994, Boston fund consulting firm Dalbar has released an annual

study that meshes sales figures with fund returns to measure the average investor's actual performance. (The 2001) edition found that the average stock-fund investor eked out a paltry 5% annual gain from 1984 through 2000, compared to 16% for the Standard & Poor's 500-stock index."<sup>13</sup> Dalbar's 2003 update, covering the period from January 1984 through December 2002, had similar findings: "The average equity investor earned 2.57 percent annually; compared to inflation of 3.14 percent and the 12.22 percent the S&P 500 index earned annually for the last 19 years. The average fixed income investor earned 4.24 percent annually; compared to the long-term government bond index of 11.70 percent."<sup>14</sup>

A second concern with DC plans as an employee's primary retirement benefit is referred to as "leakage," a term to describe a variety of practices resulting in retirement assets being spent by plan participants before retirement. For example, leakage occurs when employees, upon terminating their position, choose to spend their retirement assets rather than rolling them to an Individual Retirement Account or to a future employer's retirement plan. Leakage also occurs when workers borrow against their retirement plan assets, then fail to repay the loan.

A 2003 white paper authored by the National Association of State Retirement Administrators (NASRA) addressed the issue of leakage as follows:

A good example of terminating participants spending, rather than saving, their retirement assets is in Nebraska, where state and county government employees historically have participated in a DC plan. A (2000) study of the Nebraska Public Employees Retirement System, conducted by a national actuarial consultant, found that 68% of terminating participants cashed out their assets rather than rolling them over to another retirement plan. This finding is consistent with a Hewitt Associates study which found that more

than two-thirds of participants terminating from DC plans cash out their lump sum distributions rather than rolling them to other retirement accounts.<sup>15</sup>

Although DC plans have many positive attributes, if they are to serve as an employee's primary retirement benefit and provide financial security in retirement, they leave little margin for miscalculation: participants must consistently make sound investment decisions, including allocating assets throughout their working and retired lives; they must remain in the workforce continuously, avoiding lengthy sabbaticals for such purposes as having children, raising a family, completing their education, or for illness; they must have a sufficient amount withheld from their pay; they must avoid spending or borrowing against their retirement assets, especially when changing jobs; and they must make appropriate decisions regarding withdrawal rates during retirement. Even then, if an employee makes all the right decisions, there remains a chance the employee will outlive or exhaust her assets.

Because of these and other factors, many Americans are approaching retirement financially unprepared. Career public employees with a DB plan as their primary retirement benefit, are less likely to face this problem and less likely to rely on public assistance.

### **Benefits to Employers**

Describing the origins of public pensions in the late 19<sup>th</sup> and early 20<sup>th</sup> century, Clark et al. state "... (P)ensions were introduced in the public sector to help public administrators attract and retain quality workers, to provide them with performance incentives, and to retire them in an orderly fashion."<sup>16</sup> The needs of employers today remain much the same: in 1997, Eitelberg identified two key objectives that provide a general framework for an employer's pension benefit:

- Attract and retain a high-quality work force, and

- Allow employees to depart from the work force financially secure and maintain the value of benefits throughout retirement.<sup>17</sup>

The needs of employers intersect with those of employees in ensuring that workers are financially secure upon retirement. Government, in its dual roles as policymaker and employer, is uniquely situated to actually effect public policy, through its own employees, that promotes retirement financial security and that can serve as a model for private industry. This opportunity to implement sound pension policy is not minor or isolated; this policy model of actively promoting retirement financial security is being applied to most of the more than one in ten working Americans employed by a state or local government.

It is one thing for government at any level to promote retirement financial security in the abstract or through various tax incentives and regulations. It is another matter to actually do something about it, and state and local governments are fulfilling their obligation. Virtually all full-time public employees have a retirement plan as part of their compensation, and 90 percent have a DB plan as their primary retirement benefit.

Not only do these public DB plans enable the employer to accomplish the two overarching objectives cited by Eitelberg, but they also promote financial security for public employees and reduce the likelihood these employees will require public assistance during retirement.

**DB Plans Assist Public Sector Employers Maintain a Diverse Workforce.** The diversity of the public sector workforce has few, if any, peers in private industry, and attracting and retaining such a workforce requires a large, ongoing effort. Public pension plan designs have evolved and continue to do so to reflect government's uniquely broad responsibilities and the singular demographics of the public employee workforce. Consider just a sample of the numerous positions maintained by public employers in the U.S.: garbage collectors, game

wardens, environmental scientists, school teachers, elected officials, insurance analysts, psychiatrists, engineers, custodians, historians, police officers, prison guards, architects, food inspectors, bus drivers, geologists, firefighters, judges, mechanics, emergency medical technicians, laborers, computer network managers, file clerks, cafeteria workers, college professors, etc.

Each of these positions requires a different set of skills, knowledge, and abilities; exhibits differing demographic features and career patterns; and has unique requirements for recruitment, retention, salary, and compensation. “One reason why pension plans differ (from those in private industry) is that they cover employees with different employment characteristics. For instance, because police work and fire fighting are physically demanding occupations, retirement benefits for public safety workers typically allow retirement at earlier ages, in part to maintain a younger workforce. Consequently, the retirement benefits available to police and firefighters are usually different from those provided to teachers or to general employees.”<sup>18</sup> Similarly, pensions for judges typically are intended to reflect that, as a group, judges are older than most other employees when entering their position, and often forgo larger salaries in private industry to serve as a judge.

Since protecting and educating its citizens are generally considered to be government’s core responsibilities, it should be no surprise that more than one-half of all public employees work in positions classified by the U.S. Bureau of Labor Statistics as either *Education* or *Protective Service*. More than nine million public employees are classified as educational (including teachers, administrators, and workers in supportive roles), and there are approximately one million law enforcement personnel and firefighters in the U.S.<sup>19</sup>

Defined benefit plans also enable employers to achieve Eitelberg's second objective: *Allow employees to depart from the work force financially secure and maintain the value of benefits throughout retirement.* Because a DB pension is, in fact, defined, it encourages an orderly turnover of personnel by allowing employees to depart from the work force with a clear knowledge of their pension benefit and with the assurance that the benefit they will receive will continue for life. By contrast, a defined contribution plan provides no assurance that an employee will be financially prepared for retirement upon attainment of a certain age or level of experience. Unfortunately, this uncertainty (or, in some cases, certainty of the inadequacy of one's benefits) can result in employees continuing to work solely for financial reasons, when their ability to perform the duties of their position are in decline. Aside from the obvious problem for the worker, this also can complicate the employer's role, forcing a decision with unpleasant consequences for everyone.

**DB Plans Build Loyalty Among Workers.** DB plans promote employer's retention efforts by rewarding longevity of service among employees. DB plans typically base their retirement benefit on the worker's salary during their final years of service and on the employee's length of service. Salaries generally rise over time, and DB plans typically calculate pension benefits on the basis of the final three to five years (often referred to as FAS, or final average salary).

Retaining quality employees is likely to become increasingly difficult in the coming years as the demographics of the American workforce unfold: when members of the Baby Boom generation begin to reach retirement age (starting around 2005), fewer available workers will be there to take their place. Employers in private industry and the public sector alike will be challenged to compensate workers who possess required knowledge, skills, and institutional

memory. One area of compensation available to employers, particularly those in the public sector, is the DB plan.

**Meeting Employer Objectives through Plan Design Flexibility.** Responding to requests from policymakers, employers, and employees, public DB plans have become more portable and flexible in their ability to meet employer objectives. Such portability and flexibility come in many forms:

- Vesting periods have declined, with a majority of public employees now participating in plans with a vesting period of five years or less, down from ten years a decade ago;
- A majority of large statewide public retirement plans now allow participants to purchase service earned at another retirement system or in the military;
- Many plans allow terminating participants to take all or part of the employer contribution;
- Many plans allow retired participants to return to active employment while continuing to receive their pension benefit;
- The number of hybrid plans, with both DB and DC plan characteristics, has increased;
- Some plans allow participants to share in investment earnings;
- An increasing number of plans allow retiring participants to take a portion of their benefit as a lump sum upon retirement.

Another feature of public DB plans is their ability to assist employers in generating budget savings through the use of retirement incentives. DB plans allow a public employer to temporarily adjust the criteria used to determine a participant's eligibility for retirement

(typically, age and years of service). Such incentives target employees who qualify already for retirement or who are close to qualifying. Workers in this situation generally are older and have more experience than other employees, and have a higher salary. Once the worker retires, their position is held vacant temporarily or permanently, or is replaced with an employee at a lower salary. Structured and managed properly, an early retirement incentive can provide considerable savings to an employer, especially in the short-term.

### **Benefits to Employees**

Financial planners have long referred to the ideal mix of retirement income sources as a “three-legged stool,” with one leg each representing Social Security, an employer pension, and individual savings. Although not every worker attains the objective of a well-balanced three-legged stool, it remains a sensible personal financial strategy and an important component of an employer’s benefits package.

In addition to the employer-sponsored defined benefit plan, most public employers also offer a voluntary, supplemental retirement savings plan that enables workers to save on their own for retirement. The most popular vehicles used for these public employer-sponsored supplemental savings plans are 457 plans, also known as deferred compensation plans; and 403(b) plans, commonly referred to TSA’s, or tax-sheltered annuities. The provision of both a basic defined benefit plan coupled with a voluntary defined contribution program further ensures financial independence in retirement. The guaranteed income replacement provided through a DB plan is a critical component of this equation.

Without an employer pension, there can be no three-legged stool. (For most of the one-fourth of state and local government employees who do not participate in Social Security, pension benefits are higher to compensate for the absence of Social Security benefits.) DB plans

have certain features that promote workers' financial security in retirement. These features include serving as a reliable source of income in retirement through a benefit that reflects the worker's length of service and salary, providing a benefit that is assured for life, and protecting that benefit against inflation.

**DB Plans Provide a Reliable Source of Retirement Income.** It is fundamental to the notion of a pension or a retirement benefit that a plan participant will continue to receive benefits until death. Unfortunately, many Americans retire with no such assurance, because they have participated only in defined contribution plans. By basing the retirement benefit on the worker's salary and length of service, a DB plan establishes a link between the employee's salary and retirement income.

As a rule of thumb, financial planners recommend replacing approximately 70 percent to 80 percent of one's working income in retirement. A social security-eligible employee retiring with 20 years of service in a typical public pension plan can expect to replace 35 to 40 percent of her working income in the form of a retirement benefit. Combined with social security and personal savings, a DB plan places the 70-80 percent threshold within reach. On average, retirees and beneficiaries of public DB plans received annual benefits in fiscal year 2002 of more than \$18,000.<sup>20</sup>

**DB Plans Are Assured For Life.** DB plans promote good pension policy because their benefits are guaranteed to continue for the life of the retired participant. This allows workers to retire with the confidence that they can not exhaust or outlive their assets. Nearly all public DB plans offer various forms of joint and survivor annuity options, which ensure that a spouse or other named beneficiary will continue to receive a benefit even in the event of the death of the

retiree.<sup>21</sup> By contrast, a major concern cited by many financial experts regarding DC plans is that participants can exhaust, or outlive, their assets.

Public DB assets are held in trust and normally are administered by a governing board whose members are fiduciaries. Federal constitutional provisions governing contract and property rights are generally perceived to protect benefits from being reduced or taken away. Also, some state constitutions explicitly protect pension benefits; in other states, statutes or case law specifically forbids diminishing pension benefits. Unlike private industry pensions, which can be diminished in the case of the plan sponsor's bankruptcy, public pension benefits can not be reduced. Even in the absence of a private plan sponsor's bankruptcy, federal law protects only private sector benefits that have already accrued and does not protect the right to future benefit accruals. State and local laws generally afford participants far greater protections, prohibiting public employers from diminishing the benefit formula, even with respect to future accruals. Many state and local laws afford participants far greater protections, prohibiting public employers from diminishing the benefit formula, even with respect to future accruals.<sup>22</sup>

**DB Plans Protect Benefits From Inflation.** The median life expectancy of a woman in the United States aged 65 is 22 years. An inflation rate of just 2.0% over 22 years will reduce a benefit's purchasing power by more than one-third. Substantially all public pensions provide some form of protection against inflation. Mechanisms for adjusting benefits in retirement include periodic adjustments subject to legislative approval, automatic increases linked to the inflation rate, or annual automatic increases of a flat percentage or dollar amount.<sup>23</sup>

By providing a benefit that reflects the worker's salary and length of service, assuring the benefit will last for life, and protecting the benefit from inflation, public DB plans both promote

financial security in retirement and reduce the likelihood of retired public employees relying on public assistance.

### **Public DB plans as Financial Engines**

The management of public DB assets promotes economic growth and vitality. Through their size, broad diversification, and focus on long-term investment returns, public pension funds stabilize and add liquidity to United States and foreign financial markets.

As of FY 2002, the \$2.1 trillion held by public retirement systems was equal to approximately 20% of the nation's entire gross domestic product and of the nation's total retirement assets.<sup>24</sup> Public pension assets are diversified: approximately \$1.2 trillion of public pension assets are held as equities in publicly traded companies; \$720 billion is in US treasury notes and bonds and corporate bonds; and another \$90 billion is in real estate.<sup>25</sup> Most of these assets are invested on a long-term basis, creating a stabilizing effect on these financial markets. Public pensions' cash and short-term holdings add essential liquidity to financial markets.

Public pensions distributed into the U.S. economy more than \$110 billion in benefits in FY 2002, and a substantial majority of these funds derived from sources other than employer (taxpayer) contributions, specifically investment gains and employee contributions. The benefits distributed by public pensions exceed the entire economic output of 22 state and the District of Columbia. The cost of public pension funds to taxpayers—paid in the form of employer contributions—in FY 2002 was \$38.8 billion.

**Public Pension Funds are an Important Source of Venture Capital Funding.** Venture capital provides financing for new and rapidly growing companies. The innovations and efficiencies generated by start-up companies is considered critical to long-term economic growth. Many public retirement systems have established target allocations to venture capital

projects within their own state.<sup>26</sup> Ideally, these investments seek to accomplish at least two key objectives: provide a return to the pension fund commensurate with the investment's level of risk, and promote economic growth and development in the state.

Venture capital typically requires at least ten years to fully mature,<sup>27</sup> making it a natural match for defined benefit assets. This is because of DB funds' focus on long-term investment results and because these funds pool assets for large numbers of participants, accumulating portfolios large enough to commit to venture capital projects. In addition, DB plans also invest in other asset classes, with the same long-term focus they demonstrate with venture capital.

**Public Pensions Increase the Nation's Pool of Retirement Savings.** During the 20-year period from 1983 to 2002, public pensions had total receipts of \$2.7 trillion. Investment earnings represented \$1.65 trillion of all system receipts, dwarfing employer (government) and employee contributions.<sup>28</sup> Through professional asset management and benefiting from favorable investment markets of the 1980's and 1990's, public funds leveraged contributions from employers and employees into sizable investment earnings. The sources of public pension revenue for the 20-year period 1983 to 2002 are summarized in Figure 1.

*Figure 1 here*

The distribution among these revenue sources shifted dramatically from 1983 to 2002, as the contribution of investment earnings rose steadily from 42 percent in 1983 to 62 percent in 2002. Meanwhile, the employer (taxpayer) share of cumulative public pension revenue declined from 42 percent to 26 percent. Unlike DB plans in private industry, most public DB plan participants contribute to their plan. 13 percent of public pension contributions came from employees during this period; investment earnings made up the remainder. The change in the cumulative distribution of revenue sources is depicted graphically in Figure 2.

*Figure 2 here*

**DB Plans are a Better Use of Taxpayer Dollars.** Recent studies have discovered that defined contribution plan participants, as a group, substantially underperform investment returns generated by both market indexes and by professional managers. For the 20-year period ending 12/31/02, public pension funds realized annualized investment returns of 10.03 percent.<sup>29</sup> As noted above, public retirement systems experienced investment earnings during this period of \$1.65 trillion.

Had the same DB plan assets been invested instead by individual DC plan participants, assuming they would have realized returns of 6.5 percent, their cumulative investment earnings would have been lower by more than \$900 billion. (The 6.5 percent figure is based on the findings of the Nebraska and Dalbar reports described previously. In light of these reports, 6.5 percent appears generous.) This difference in investment earnings between actual public pension results and estimated DC plan earnings is equal to more than eight times the value of benefit payments made by all public retirement systems in the United States in FY 2002, and equal to nearly one-half of all assets held by public retirement systems in the United States.

**Public DB Plans Promote Economic Activity.** As Figure 1 shows, the additional investment gains generated through the professional investment functions of public retirement systems exceed by a wide margin the total employer contributions made to public DB plans during this same period. By sponsoring DB plans with professional investment functions, instead of DC plans with assets managed by individual plan participants, public employers increased the value of retirement plan assets by an amount greater than the entire cost of their contributions during this same period.

As consumers, retired pension participants spend their benefits on a range of goods and services. These expenditures increase economic demand and promote employment, generating additional economic activity, which begets additional demand and employment. This is known as the multiplier effect: the effect of a single dollar has an economic impact greater than one dollar as it ripples through the economy.

The multiplier effect is based on the *marginal propensity to consume* (MPC): the proportion of each additional dollar of household income used for consumption. “(People) are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income.”<sup>30</sup> The MPC states that a worker who receives an increase in salary of \$100 per month will spend some, but not all, of the entire \$100; savings and taxes will make up the difference.

The MPC can be expressed as a formula:

$$MPC = \Delta I - MPS - t$$

Expressed verbally, the marginal propensity to consume equals the change in income minus savings minus taxes.

The multiplier effect can be derived from the MPC through the following calculation:

$$\frac{1}{1 - MPC}$$

Measuring the effect of an economic event, such as the onset of pension benefits for an individual participant, is a complicated process, and a complete economic analysis of the effects of public pensions is beyond the scope of this paper. We do know, however, that public pensions contribute to the economy in several ways, such as by

- a) increasing the nation’s savings rate,

- b) adding liquidity to financial markets,
- c) adding stability to financial markets,
- d) increasing the value of employer (taxpayer) contributions through investment gains,
- e) distributing a continuous, steady flow of pension benefits into the economy, to retired participants who usually remain in the same jurisdiction where they worked; and
- f) reducing the likelihood of pension annuitants requiring government assistance.

This analysis will focus on the effect of public pensions resulting from their distribution of investment gains in excess of those that would be available if DC plans, with lower investment earnings, were present in place of DB plans. We measured the impact of the higher investment gains specified above on the gross product of the five states with the largest public pension distributions in fiscal year 2002: California, New York, Texas, Ohio, and Illinois.

To perform this measurement, we assume a marginal propensity to consume (MPC) of 0.67. Retirees pay less in income and payroll taxes; and have a low savings rate, since they are less inclined than the general population to save.<sup>31</sup> Using the formula specified above, a MPC of 0.67 results in an economic multiplier effect of 3.0.

Our measurement focuses on the marginal increase in pension benefits made possible by investment gains that are higher in DB plans than they would have been in DC plans. The benefit payments made by and employer (taxpayer) contributions made to public pensions in these states during fiscal year 2002 are shown in Table 1.

*Table 1 here*

Benefit payments from these five states comprised approximately 44 percent of the \$110 billion in public pension benefit payments distributed in the United States in FY 2002.

**Calculating the Difference.** To make a comparison between actual benefits paid by public DB pensions and the benefits that would have been available from DC plans, based on assumed lower investment returns, we reduced by ten percent the amount paid by public DB pensions to reflect migration of retired participants from the five states. This reduces the DB payments figure to \$44.2 billion.

Again, for the 20-year period ended in 2002, public DB plans experienced annualized investment returns of 10.03 percent. As a base of comparison, using the Nebraska benefits adequacy study and the Dalbar studies as a guide, we assume a net annualized investment return for DC plans during the same period of 6.5 percent (again, based on the evidence, a generous assumption). Based on these rates, the DC plan portfolio would have returned 41.7 percent of the investment gains accrued by the DB plan. Applying this proportion—41.7 percent—of the investment earnings DC plans would have generated, to the benefits actually distributed by public DB plans in the five states, yields \$18.4 billion. This amount is referred to here as the *inferred value of available DC benefits*, and represents a level of assumed DC plan benefits that can be compared with the amount actually distributed by DB plans.

Table 2 depicts the difference between the actual benefits distributed by DB plans and the inferred value of available DC benefits.

*Table 2 here*

The difference of \$25.78 billion represents the marginal value added by public DB plans as a result of their investment returns over the inferred value of available DC benefits.

Table 3 shows the each of the five states' 2001 gross state product (GSP)<sup>32</sup> and the value added to the GSP by the higher payments from DB plans attributed to superior investment returns. The value added is determined by multiplying the marginal value added by public DB

plans' higher investment returns by the economic multiplier of 3.0. Table 3 also shows the percentage value added to each state's gross state product. As shown in the table, public DB funds in these five states contributed a weighted average of 2.0 percent to their states' GSP.

*Table 3 here*

By generating returns higher than DC plan participants would realize, then distributing those earnings to retired participants in the form of monthly benefit payments, public DB plans not only are promoting the financial security of their retired members, but also are stimulating economic demand in local and state economies.

Extrapolating the contribution to the nation's entire economy due to the marginal value added by public retirement systems requires multiplying this percentage by GDP. The nation's GDP in 2001 (the latest available figure) was approximately \$10.137 trillion.<sup>33</sup> Applying the 2.0% value added to this figure yields a value added from public DB plans of \$203 billion:

$$***\$10.137 trillion \times 2.0\% = \$203 billion***$$

This contribution to the nation's economy dwarfs the taxpayer (employer) cost of public retirement systems in FY 2002, made through employer contributions, of \$39 billion. Aside from all the other benefits to employers and employees of DB plans, based on this economic analysis alone, employer contributions to public pension plans may be among the best investments a state or local government can make.

**Limitations of this analysis.** The purpose of this economic analysis is to demonstrate the positive effects of DB plans resulting from their superior investment returns relative to DC plans. As with any economic analysis, assumptions are inevitable because the creation of parallel scenarios is impossible. There are, however, mitigating and aggravating factors to the economic effects of DB plans. For example:

- We must assume that DC plans would pay benefits in the same proportion to their investment earnings as DB plans. Of course, there is no way of knowing at what rate DC plan assets would actually be spent.
- This analysis assumes that contribution rates to DC plans during the measurement period would have been the same as they were to DB plans. Considering that some of the contributions during this period were designated to reduce unfunded liabilities, it is possible that contributions to DC plans would have been lower. (The central finding of this analysis—that contributions to public DB plans yield positive long-term economic results—suggests that higher contribution rates literally have been a good investment, not only for taxpayers, but also for public employers and employees.)
- Contribution rates vary from one state to another, and this analysis assumes a consistent contribution rate relative to investment gains and benefit payments.
- States and political subdivisions undoubtedly have produced varying results in terms of their investment performance; some have performed above the 10.03 percent median and some below.
- This analysis does not attempt to determine the additional tax revenue generated by higher benefit payments.
- This analysis assumes that DC and DB plans would experience the same rates of leakage. Most public DB plans do not permit loans. Also, considering the incentives DB plans provide for participants to not “cash out” their contributions, the rate of leakage among DC plans is assuredly higher.

- The analysis assumes the administrative cost of the plan types is the same. Yet public DB plans typically have administrative expenses that are considerably lower than DC plans. Factoring in the diminution of assets that would occur during the measurement period due to the higher cost of DC plans, would appear to strengthen the case for the economic value of DB plans vis-à-vis DC plans.

## **Conclusion**

The economic boost public pension benefits give to the United States and regional and local economies is likely to expand in the years ahead as Baby Boomers begin to retire and public retirement systems distribute increasingly larger amounts. Public pension plans are in a much better position to handle the coming influx of retirees: unlike social security, which is mostly a pay-as-you-go program, public pension funds are almost entirely pre-funded. The aggregate funding level of public pensions in 2003 was approximately 95 percent.<sup>34</sup>

The \$2.1 trillion in assets held in trust for state and local government employees will continue to be invested and used to distribute benefits to an ever-growing number of retirees. The investment of these assets and the flow of benefit payments to annuitants create a continuous, predictable, and growing source of economic stimulus. Moreover, through efficient asset management and pooling of resources, public defined benefit pension plans have a significant, positive effect on financial markets and the economy.

Public DB pension plans enable public employers to achieve important objectives related to the recruitment and retention of quality workers. These plans also promote participants' ability to attain financial security in retirement and reduce their reliance on public assistance programs. Evolving outside much of the federal regulatory structure has allowed public retirement systems to engage in an ongoing process of creating and modifying plan designs and governance

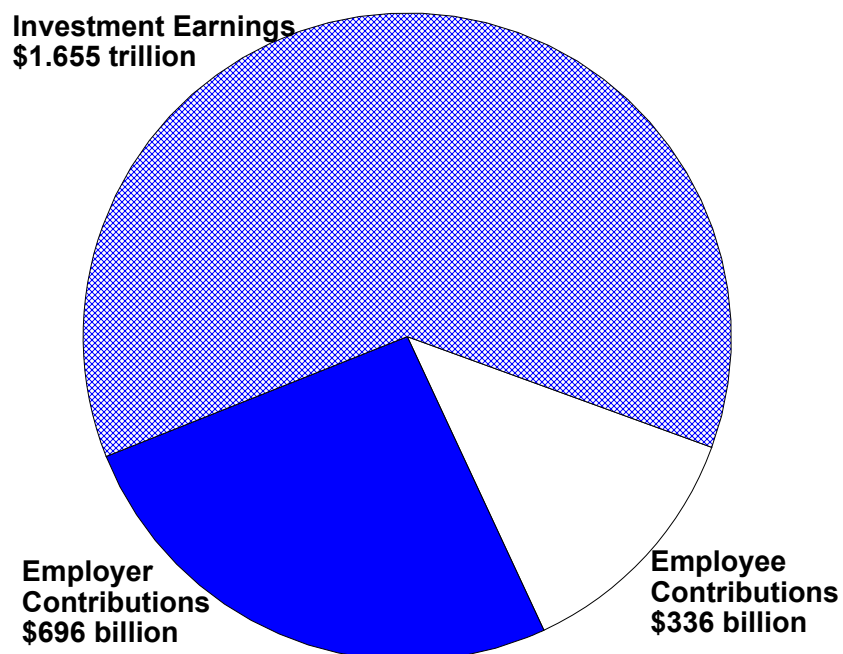
structures to meet the unique needs of public sector employers. The independence, flexibility, and profitable prudence of these plans will continue to support public employers in their ongoing mission to serve taxpayers, while providing financial security to retired public employees and significant economic benefits to their communities.

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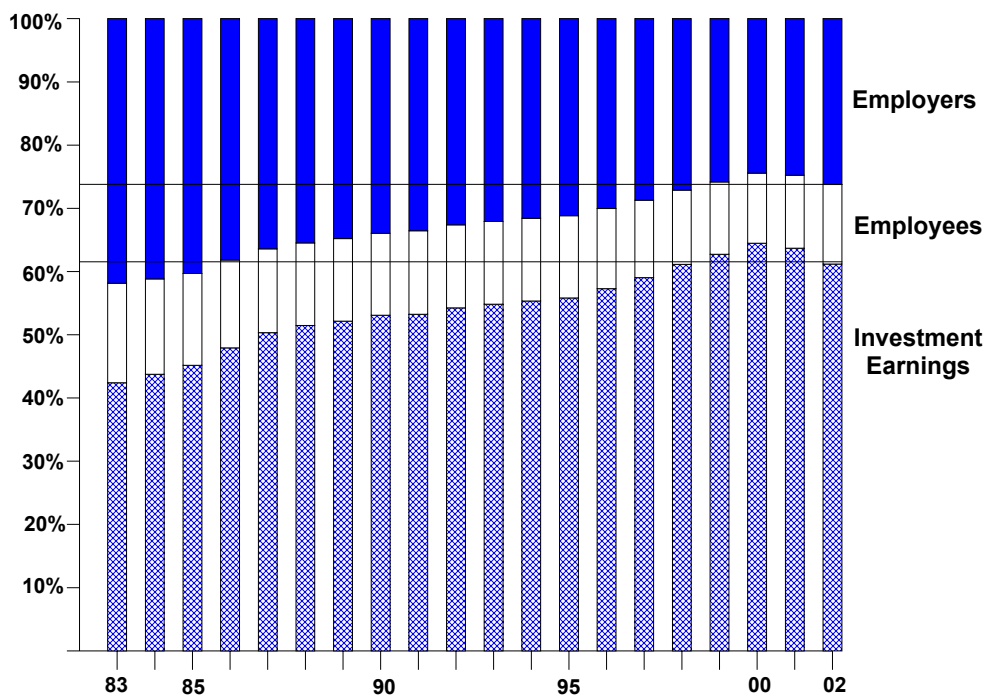
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**Figure 1.** Sources of public pension revenue, 1983 – 2002



*Source: US Census Bureau*

**Figure 2.** Change in cumulative distribution of public pension fund revenue sources, 1983-2002



*Source: US Census Bureau*

**Table 1.** FY 2002 Benefit Payments Made by Public Pensions and Total Contributions Made to Public Pensions by Employers from five states with largest benefit payments, in billions

<b>State</b>	<b>FY02 Public Pension Benefit Payments</b>	<b>FY02 Employer Contributions</b>
California	\$16.53	\$4.94
New York	13.86	1.94
Texas	6.52	2.64
Ohio	6.25	2.89
Illinois	5.96	2.66
Total	\$49.12	\$15.07

*Source: US Census Bureau*

**Table 2.** Comparison of actual benefit payments from DB plans and assumed benefit payments available from DC plans based on lower investment returns (in billions)

<b>State</b>	<b>Actual Benefit Payments Made by Public DB Plans</b>	<b>Assumed Payments from DC Plans</b>	<b>Value Added by Higher DB Plan Returns</b>
California	\$14.88	\$6.20	\$8.68
New York	\$12.48	\$5.20	\$7.28
Texas	\$5.87	\$2.45	\$3.42
Ohio	\$5.62	\$2.34	\$3.28
Illinois	\$5.36	\$2.24	\$3.13
Total	\$44.21	\$18.43	\$25.78

*(figures may not add due to rounding)*

*Source: US Census Bureau*

**Table 3.** 2002 Gross state product and value added by public defined benefit plan higher investment returns (\$'s in billions)

<b>State</b>	<b>2001 Gross State Product</b>	<b>\$ Value Added to Gross State Product by Higher Returns</b>	<b>% Value Added to Gross State Product by Higher Returns</b>
California	\$1,359.27	\$26.05	1.9%
New York	826.49	21.85	2.6%
Texas	763.87	10.28	1.3%
Ohio	373.71	9.85	2.6%
Illinois	475.54	9.39	2.0%
Total	\$3,798.88	\$77.42	2.0%

*(figures may not add due to rounding)*

**Endnotes**

<sup>1</sup> US Census Bureau, 2002 State and Local Government Employee-Retirement Systems, (hereinafter “US Census”)

<sup>2</sup> US Census

<sup>3</sup> U.S. Department of Commerce Bureau of Economic Analysis, Regional Economic Accounts Gross State Product

<sup>4</sup> Clark, Craig, and Wilson, “A History of Public Sector Pensions in the United States” University of Pennsylvania Press, 2003 (hereinafter “Clark et al.”)

<sup>5</sup> Ibid.

<sup>6</sup> Metz, Joseph G, “The Federal Taxation of Public Employee Retirement Systems, August 1988

<sup>7</sup> Government Finance Officers Association, “Federal Regulation of Public Employee Retirement Systems,” Adopted June 23, 1992

<sup>8</sup> BLS, 2003 National Compensation Survey - Benefits

<sup>9</sup> Findlay, Gary, “In Defense of the Defined Benefit Plan,” Government Finance Officers Association, 1997

<sup>10</sup> Rajnes, David, “An Evolving Pension System: Trends in Defined Benefit and Defined Contribution Plans,” Employee Benefits Research Institute, September 2002

<sup>11</sup> Congressional Budget Office, “Baby Boomers’ Retirement Prospects: An Overview,” 2003 summarizes results of 17 studies of retirement income adequacy among pre-retirees

<sup>12</sup> Buck Consultants, “Benefit Review Study of the Nebraska Retirement Systems,” 2000

<sup>13</sup> McDonald, Ian, “Fundholder’s Lament: All Bear, No Bull,” Wall Street Journal, 4/25/02

<sup>14</sup> Dalbar, Quantitative Analysis of Investor Behavior, 2003

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- <sup>16</sup> Clark et al.
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- <sup>18</sup> Mitchell et al.
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- <sup>24</sup> Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States*, January 15, 2004, Table L.225 “Pension Fund Reserves”
- <sup>25</sup> US Census and Public Fund Survey *Asset Allocation Summary*
- <sup>26</sup> PSRS/NTRS of Missouri, Missouri Venture Capital Research Initiative, August 2002
- <sup>27</sup> Wall Street Journal, August, 11, 2003, “Flow from pension funds likely to slow”
- <sup>28</sup> US Census
- <sup>29</sup> Callan Associates, “Median Public Fund Returns, 2004
- <sup>30</sup> Keynes, John Maynard, “The General Theory of Employment, Interest, and Money” McMillan  
Cambridge University Press, 1936
- <sup>31</sup> BLS, Consumer Expenditure Survey, 2001-2002

<sup>32</sup> Gross state product (GSP) is the total market value of goods and services produced in a state in a given year. The sum of all GSP values is the nation's Gross Domestic Product.

<sup>33</sup> US Commerce Department, Bureau of Economic Analysis

<sup>34</sup> Public Fund Survey, 2004