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

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

### Abstract

Defined benefit plans remain the predominant form of retirement benefit for employees of state and local governments in the United States, which employ more than 10 percent of the nation's workforce. This chapter describes the divergence between pensions in private industry, where the focus has shifted sharply toward defined contribution plans, and in the public sector, where defined benefit plans continue to dominate. One reason is that public employers have the ongoing responsibility of attracting and retaining a large workforce whose diversity is unmatched in private industry. We also offer an economic analysis of public plans, focusing on the value-added to state economies from investment returns which are often superior to those generated by defined contribution plans.

### Disciplines

Economics

### Comments

The published version of this Working Paper may be found in the 2005 publication: *Reinventing the Retirement Paradigm*.

# **Reinventing the Retirement Paradigm**

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## Chapter 12

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

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*Gary W. Anderson and Keith Brainard*

US public sector plans covering employees of state and local governments have grown to comprise a substantial segment of national pension assets and membership. Participants include more than 14 million workers—10 percent of the national workforce—and six million retirees as well as other annuitants; all are members of more than 2,000 retirement systems sponsored by a state or local government (US Census 2002). These systems have combined assets of more than \$2 trillion and they distributed over \$110 billion in pension and other benefits (Board of Governors 2004; US Census 2002); this volume exceeded the entire economic output of twenty-two states and the District of Columbia (US Dept. of Commerce 2003).

In recent years, public sector pensions have diverged from the private sector pension trend, in that the percentage of public employees participating in a defined benefit (DB) plan has held steady at around 90 percent, while the fraction of private sector workers with a DB plan has plummeted to around 20 percent (BLS 2002). Against the backdrop of thirty years of private pension experience with the Employee Retirement Income Security Act (ERISA) of 1974, it is useful to note that US public sector pensions evolved before, and outside the purview of, this federal legislation. This different experience makes it invaluable to not only learn what effects state and local government pensions have on stakeholders—including participants, public sectors employers, and taxpayers—but also to glean lessons that the public pension experience may offer to private industry.

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

Public DB plans have engaged in substantial efforts to reinvent themselves in recent years, adding elements that increase their flexibility and portability. Nevertheless, public plans retain the core attributes of a traditional DB model: that is, the employer bears investment risk and the plan pays lifelong benefits according to a specified formula. Against this backdrop,

it remains the case that each of the over 2,000 public retirement systems has its own unique plan design, benefit structure, and governance arrangement, set forth in a vast assortment of state constitutions, laws, and administrative rules. This mosaic of structures and features reflects each state's rich variety of legal, political, economic, and demographic cultures and history, as well as its political subdivisions. In other words, state and local government plans are creatures of state constitutional, statutory, and case law. As such, public pensions are accountable to each state's legislative and executive branches, independent boards of trustees which often include employee representatives and ex officio publicly elected officials, and ultimately, the taxpayers of that jurisdiction.

Although some US public pensions date to the late Nineteenth century, most public plans were established between the 1920s and 1940s. These were mainly of the DB variety. 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 established at the local level, by cities, towns, and school districts. As Clark et al. (2003) point out, these plans were initially financed from employee contributions, as a form of 'forced saving plans,' although over time, employers gradually took on greater responsibility for plan financing.

Because public employees initially had their own plans, the US Social Security system initially excluded state and local government workers due to uncertainty about whether the federal government could legally tax state and local employers. In 1950, Congress amended the Social Security Act to allow states to voluntarily provide Social Security coverage for their employees, if the state entered into an agreement with the Social Security Administration (Mitchell and Hustead 2001). Today, the majority of state and local government employees participate in Social Security; the remaining nonparticipants are teachers and public safety personnel though most public employees in seven states do not participate (Alaska, Colorado, Maine, Massachusetts, Louisiana, Nevada, and Ohio). Where employees are exempt from social security contributions, the pension benefit and contribution levels are typically higher.

The passage of ERISA and subsequent amendments were watershed events in the evolution of private industry pensions, but these had little impact on public pensions which remained largely untouched by federal regulation. As Metz noted (1988: 4):

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

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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 before ERISA's enactment.

In the private sector, ERISA's impact was to impose a relatively uniform and comprehensive set of regulations and standards to the pension sector; by contrast, public retirement systems' diverse nature would not be possible if they had been governed in a like manner. This is not to say that the federal government has not tried, as noted by the GFOA (1992):

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.

### **Public versus Private Sector Plan Differences**

Since the passage of ERISA, the percentage of private sector workers with a DB plan as their primary retirement benefit has fallen steadily, while coverage has risen by defined contribution (DC) plans (primarily of the 401(k) variety). A recent Bureau of Labor Statistics (BLS 2003) study found that only 58 percent of full-time private sector workers participated in an employer-sponsored retirement plan, and only 10 percent of private sector employers nationwide provided a DB plan. By contrast, virtually all full-time public sector employees participate in a retirement plan, and the vast majority (90 percent) is in a DB plan. Here benefits are usually expressed as a percentage of salary for a designated period just before retirement, multiplied by years of service credit (Findlay 1997).

What accounts for the divergence in pension coverage and type, when comparing private industry and the public sector? Several reasons have been offered for the loss of ground by DB plans in the private sector: increased private-sector government regulation; changes in the private-sector workplace, including growing employee and employer appreciation of DC plans; changes in business awareness regarding risk associated with funding DB plans; falling firm size; greater global competition boosting the

need for more flexibility in plan design; and successful marketing efforts of consultants and DC plan service providers (Rajnes 2002).

Nevertheless, there are also less appealing consequences of relying on DC plans as the primary retirement benefit (CBO 2003). For instance, DC plans are seen as an unreliable vehicle for ensuring financial security in retirement to the extent that investment risk is borne solely by individual participants; this is exacerbated when plan participants are poor investors. A study prepared for the Nebraska Public Employee Retirement System (PERS) found that from 1983–99, that system’s DB plans generated an average of 11 percent annually, but the system’s DC participants paid returns of only 6 percent (Buck Consultants 2000). This occurred despite ongoing efforts by the PERS to educate participants on the importance of proper asset allocation. Nebraska PERS also found that a large percentage of terminating DC participants cashed out their retirement saving rather than retaining them in a retirement account. One explanation for why public DC plan returns lag professionally invested DB portfolios is that the DC asset allocations are often quite conservative. For instance, approximately half of all assets held in 403(b) and 457 plans (primarily and exclusively used by public employees, respectively) were held in the form of annuity reserves at life insurance companies (ICI 2004).

Another concern with DC plans as the primary retirement benefit is termed the ‘leakage’ problem, a term applied to describe a variety of circumstances when retirement assets are spent by plan participants before retirement. For example, leakage occurs if an employee chooses to spend his retirement assets after leaving a job, rather than rolling them over to an Individual Retirement Account or to a new employer’s retirement plan. Leakage also occurs when workers borrow against their retirement plan assets and then fail to repay the loans. A recent study by Brainard (2003:7) addressed the issue of leakage as follows:

A good example of terminating participants spending, rather than saving, their retirement assets are in Nebraska, where state and county government employees historically have participated in a DC plan. A 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.

In what follows, we outline the key advantages of DB plans to public sector employees and employers, seeking to illustrate how this paradigm for retirement provision is well-situated to meet retirement needs of the future.



## **Benefits to Employees**

The ideal mix of retirement income sources has long been described as a 'three-legged stool,' with one leg each representing Social Security, an employer pension, and individual savings. As a rule of thumb, financial planners recommend replacing approximately 70–80 percent of one's working income in retirement. Public sector DB plans help achieve this goal by linking employee salary and retirement income: thus a Social Security–eligible employee retiring with twenty years of service in a typical public pension plan can expect the benefit to replace 35–40 percent of his salary. Combined with Social Security and personal saving, the retiree then finds the 70–80 percent target within reach. Retirees and beneficiaries of public DB plans received annual benefits of over \$18,000 in fiscal year 2002 (Brainard 2004).<sup>1</sup> In addition to the basic DB plan, many public employers today also offer a voluntary, supplemental retirement saving plan which enables workers to save on their own for retirement. The most popular public employer-sponsored supplemental savings plans are 457 plans, also known as deferred compensation plans, and 403(b) plans, commonly referred to as TSA's or tax-sheltered annuities.

Retiree financial independence relies heavily on the guaranteed income replacement concept provided by a DB plan, and it also relies on the central concept that the retiree will continue to receive benefits until death. Further, most public DB plans provide joint and survivor annuity options, to ensure that spouses and other named beneficiaries will continue to receive a benefit even in the event of the death of the retiree (Mitchell and Husted 2001). By contrast, DC plans do not guarantee access to a life annuity nor joint and survivor benefits.

A factor receiving increasing attention in recent years is the point that public DB assets are held in trust for participants; the assets are normally administered by a governing board whose members are legal fiduciaries. Unlike private industry DB plans, which can be curtailed in the event of the plan sponsor's bankruptcy, public pension benefits generally cannot be reduced. That is, ERISA protects only private sector DB benefits that have already accrued, while it does not protect the right to future benefit accruals. Constitutional provisions governing contract and property rights are generally interpreted as protecting not only accrued benefits but also future benefit accruals. This practice varies from state to state, with some state constitutions explicitly protecting pension benefits, while in other cases, statutes and case law expressly forbid cutting pension benefits. By contrast, state and local laws generally afford participants far greater protections, prohibiting public employers from diminishing the benefit formula, often with respect to future accruals. Another advantage of public plans is that most provide some form of protection against inflation. Since the median life expectancy of a 65-year-old woman is 22 years in the USA,

inflation of just 2 percent will cut purchasing power by more than one-third over the retirement period. Public plans offer several mechanisms for adjusting benefits post-retirement, including with periodic adjustments subject to legislative approval, automatic increases linked to the inflation rate, and annual automatic increases of a flat percentage or dollar amount (Brainard 2003).

### **Benefits to Employers**

Pensions 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 (Eitelberg 1997). It is worth recognizing that governments, in their dual roles as both employers and policymakers, are uniquely situated to promote retirement financial security and serve as models for private industry, in their capacity as employer to more than one in ten working Americans.

The diversity of the public sector workforce has few, if any, peers in private industry, and attracting and retaining such a workforce requires a concerted and ongoing effort. For instance, just a few of the numerous positions maintained by US public employers include game wardens and garbage collectors, school teachers and environmental scientists, elected officials and insurance analysts, psychiatrists and custodians, historians and police officers, prison guards and firefighters, and college professors, among others. 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. As Mitchell and Husted (2001: 15) note:

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.

Similarly, pensions for judges typically are intended to reflect that, as a group, judges are older than most other employees when entering their positions, and they often forgo larger salaries in private industry to serve as judges. Since protecting and educating its citizens is generally considered to be a government's core responsibilities, it should be no surprise that more than half of all public employees work in positions classified by the US Bureau of Labor Statistics (2002) 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 USA.

Not only do public DB plans attract a diverse group; they also promote retention efforts by rewarding length of service. This is because DB plan formulas usually base the retirement benefit on a worker's salary during his final years of service and on his length of service. Since salaries tend to rise over time, DB plans typically calculate pension benefits based on the worker's final three or five years (final average salary or FAS). As the workforce changes, all employers will be challenged to compensate workers who possess required knowledge, skills, and institutional memory (see Chapter 7). DB plans may be key to retaining quality employees.

DB plans also encourage orderly turnover of personnel by allowing employees to depart from the workforce with a clear knowledge of their pension benefits and with the assurance that the benefit payment will continue for life. By contrast, the DC plan provides no assurance that an employee will be financially prepared for retirement at any specific age or level of experience. Unfortunately this uncertainty (or, in some cases, certainty of the inadequacy of one's benefits) causes employees to remain on the job even when their ability to perform job duties is in decline. Clearly this may also complicate the employer's role, forcing decisions with unpleasant consequences for everyone.

In recent years, public DB plans have grown more flexible in their ability to meet a range of new employer (and employee) objectives. Developments include shorter vesting periods; a majority of public employees now participate in plans with a vesting period of five years or fewer, down from ten years a decade ago. In addition, many large statewide public retirement plans now allow participants to purchase service earned at another retirement system or in the military. Also many plans now permit terminating participants to take all or part of the employer contributions, and some allow retired participants to return to active employment while continuing to receive their pension benefits. The number of public sector hybrid plans, having both DB and DC plan characteristics, has risen, as has the number of plans permitting retiring participants to take a portion of their benefit as a lump sum at retirement. Some plans also now permit participants to share in investment earnings during the accumulation period.

Another feature of DB plans particularly valuable to public employers is their ability to help public employers temporarily adjust the criteria used to determine retirement eligibility (typically, age and years of service requirements). Such incentives target employees who qualify already for retirement or who are close to qualifying, many of whom may be older and have more experience and salary than other employees. Once the worker retires, his position can be held vacant temporarily or permanently, or he may be replaced with lower-paid employee. Structured and managed properly,

early retirement incentive plans have been deemed useful to public employers, especially in the short-term.

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

A not-yet-discussed beneficial aspect of public DB plans is that their assets promote economic growth and vitality. Through their size, broad diversification, and focus on long-term investment returns, public pension funds stabilize and add liquidity to US and foreign financial markets. The Board of Governors (2004) reported that the \$2.3 trillion held by public retirement systems equaled over 20 percent of the nation's entire gross domestic product and approximately 20 percent of the nation's total retirement market. Public pension assets are well-diversified: approximately \$1.3 trillion of public pension assets are held as corporate equities; \$800 billion is in US treasury notes and bonds and corporate debt; and another \$90 billion is in real estate and mortgages (Board of Governors 2004). Most of these assets are invested on a long-term basis, while public pension cash and short-term holdings add essential liquidity to financial markets.

The cost of public pension funds to taxpayers, which is generally reported as employer contributions was \$38.8 billion (in FY 2002). Public pensions paid over \$110 billion in benefits in FY 2002, and a substantial majority of these funds derived from sources other than employer (taxpayer) contributions—mainly investment gains and employee contributions. Over the two-decade 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 (US Census Bureau 2003). Through professional asset management and benefiting from favorable investment markets, public funds leveraged contributions from employers and employees into sizable investment earnings during the 1980's and 1990's. The sources of public pension revenue are summarized in Figure 12-1.

It is worth noting that these revenue sources shifted dramatically between 1983 and 2002, with investment earnings rising 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 plans: 13 percent of public pension contributions came from employees during this period, and investment earnings made up the remainder. The time-series change in the distribution of revenue sources is depicted graphically in Figure 12-2.

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.

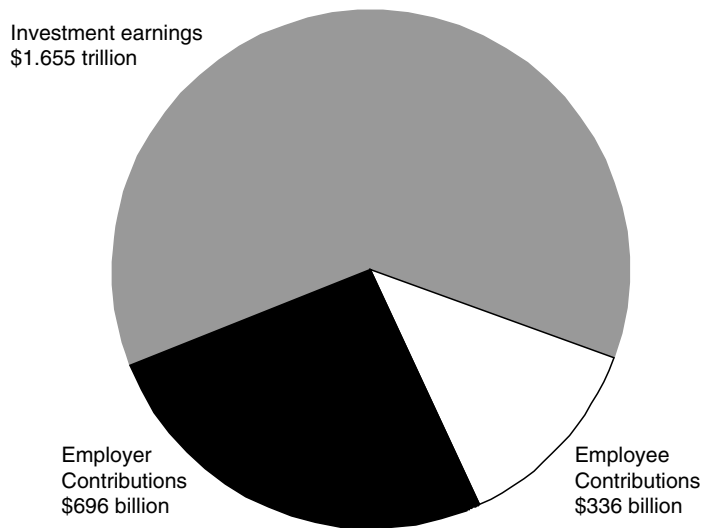


Figure 12-1. Sources of public pension revenue.  
 Source: US Census Bureau (2002).

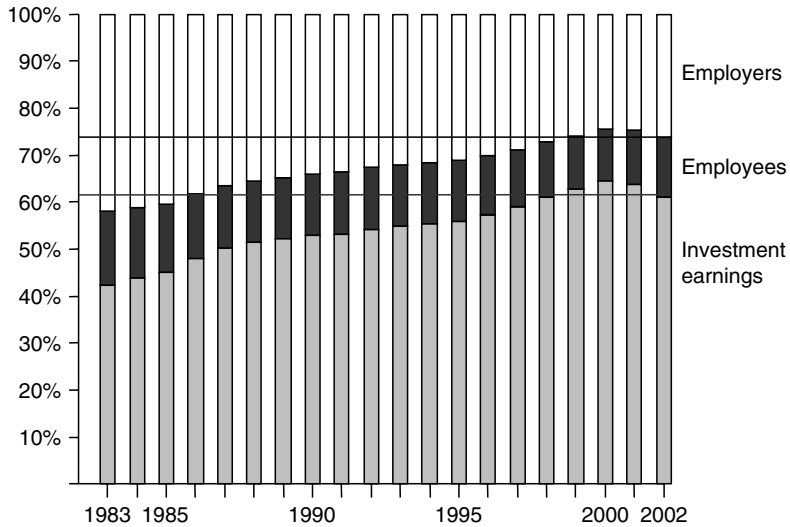


Figure 12-2. Changes over time in public pension fund revenue by source, 1983–2002.  
 Source: US Census Bureau (2002).

Venture capital provides financing for new and rapidly growing companies; the innovations and efficiencies generated by start-up companies are considered critical to long-term economic growth. In the last decade, many public retirement systems have established target allocations to venture capital projects within their own state (PSRS/NTRS 2002). These investments seek to provide a return to the pension fund commensurate with the investment's level of risk, and also to promote economic growth and development in the state. Venture capital typically requires at least ten years to fully mature, making it a natural match for DB assets (McDonald 2002). 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.

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. In an analysis described in more detail in the Appendix, we estimate the impact of the higher earnings from DB plans versus those available from DC plans which take into account lower investment earnings. We evaluate the impact of these higher investment gains 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). In particular, we assume a marginal propensity to consume (MPC) of 0.67, which implies an economic multiplier effect of 3.0. Benefit payments from these five states comprised approximately 44 percent of the \$110 billion in public pension benefit payments in FY 2002. The difference between the actual benefits distributed by DB plans, and the estimated value of available DC benefits in these states 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 (see Table 12-1).

Next we compute for each of the five states the value added to the gross state product (GSP) by the higher payments from DB plans attributed to superior investment returns. The value added, shown on Table 12-1, is determined by multiplying the marginal value-added by public DB plans' higher investment returns by the economic multiplier of 3.0. The table also shows the percentage value added to each state's gross state product, which in these five states totaled a weighted average of 2 percent to states' GSP. If we were to extrapolate these computations to the entire economy, a national 2.0 percent impact would yield a value added from public DB plans of \$203 billion:  $\$10.137 \text{ trillion (GDP)} \times 2.0\% = \$203 \text{ billion}$ . This contribution

TABLE 12-1 Estimated Benefits from DB and DC Plans, Assuming Lower Returns to DC Investments, 2002 (in \$ billions)

<i>State</i>	<i>Actual benefit payments made by public DB plans</i>	<i>Assumed payments from DC plans</i>	<i>Value added by higher DB plan returns</i>	<i>2001 Gross state product</i>	<i>\$ Value Added to Gross state product by higher returns</i>	<i>% Value Added to Gross state product by higher returns</i>
California	14.88	6.20	8.68	1,359.27	26.05	1.9
New York	12.48	5.20	7.28	826.49	21.85	2.6
Texas	5.87	2.45	3.42	763.87	10.28	1.3
Ohio	5.62	2.34	3.28	373.71	9.85	2.6
Illinois	5.36	2.24	3.13	475.54	9.39	2.0
Total	44.21	18.43	25.78	3,798.88	77.42	2.0

*Note:* Columns may not add due to rounding.

*Source:* United States Dept of Commerce (2003).

to the nation's economy dwarfs the employer contributions of \$39 billion to public retirement systems in FY 2002. Indeed, setting aside all the other benefits to employers and employees of DB plans, contributions to public pension plans may be among the best investments a state or local government can make.

## Conclusions

The economic boost of public pension benefits is likely to grow as public employees of the baby boomer cohort begin to retire, and public retirement systems begin to pay out increasingly larger benefit amounts. In our view, public pension plans are in a strong position to handle the coming influx of retirees, since, unlike Social Security (mainly a pay-as-you-go program); public pensions are rather well-funded (approximately 95 percent in 2003). Investing the \$2.3 trillion in public pension assets and the flow of benefit payments to annuitants promises a continuous, predictable, and growing source of economic stimulus. Moreover, through efficient asset management and pooling of resources, public DB pension plans have a significant, positive effect on financial markets and the economy.

In general, public employers recognize that DC plans have many positive attributes, but to make them work well, many factors must fall into place: participants must consistently make sound investment decisions over their working and retired lives; they must remain in the workforce steadily, avoiding lengthy time-off for having children, raising a family, completing an education, or for illness; they must have a sufficient amount withheld from their pay; they must avoid borrowing against and spending their

retirement assets; and they must make appropriate decisions regarding withdrawal rates during retirement. Even then, employees might exhaust their assets after retirement. Hence having a DB plan as the primary retirement benefit protects public sector employees against many of these problems.

Public DB pension plans have also enabled public employers to achieve important objectives related to the recruitment and retention of quality workers. These plans provide financial security in retirement and reduce retiree reliance on public assistance programs. The fact that these plans have evolved relatively independently of the federal regulatory structure governing private pensions has allowed the public plans 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. Public plans are, indeed, a useful component of the new retirement paradigm of the future.

### Technical Appendix

The multiplier effect described in the text is based on the MPC which refers to the proportion of each additional dollar of household income used for consumption. As Keynes (1936) noted, people tend to consume more if their income rises, but this consumption gain tends to be less than the rise in their income. 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. It can be expressed as a formula:  $MPC = \Delta I - MPS - t$ , which simply means that the marginal propensity to consume equals the change in income minus savings minus taxes. The multiplier effect can be derived from the MPC as  $1/(1 - MPC)$ .

To compare actual benefits paid by public DB pensions and the benefits that might have been payable by DC plans earning lower assumed 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. 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 Investment Company Institute report on the asset allocation of 403(b) and 457 plan participants as a guide, we assume a net annualized investment return for DC plans during the same period of 6.5 percent. 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.

While this exercise illustrates how public DB plans can have a positive effect due to their superior investment returns, relative to DC plans, there are other factors that must also be mentioned. For instance, we assumed that DC plans would pay benefits in the same proportion to their investment earnings as DB plans, but in fact we cannot know at what rate DC plan assets will actually be spent. Also we assumed that DC and DB contribution rates would have been the same. In view of the fact that some DB contributions over this period were actually intended to reduce underfunding, it is possible that contributions to DC plans would have been lower than these. In any event, our central finding—that DB contributions 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. Additionally, this analysis assumed a consistent contribution rate relative to investment gains and benefit payments, though actual contribution rates varied across states. Also we did not attempt to determine additional tax revenues generated by higher DB payments; rather we assumed that the DC and DB plans produced similar rates of leakage, though most public DB plans do not permit loans. Finally, we assumed that the administrative cost of the plan types is identical, though public DB plans typically have administrative expenses considerably lower than those of DC plans. Factoring this in would likely strengthen the case for the economic value of DB versus DC plans.

## **Endnote**

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1. For the 25 percent of state and local government employees who do not participate in Social Security, pension benefits are generally higher to compensate for the absence of Social Security benefits.

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