Protecting Omaha’s Future:
CONFRONTING THE CHALLENGE OF PUBLIC PENSION REFORM

BY Andrew G. Biggs
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## About the Author

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Before joining AEI, Biggs was the principal deputy commissioner of the Social Security Administration (SSA), where he oversaw SSA’s policy research efforts. In 2005, as an associate director of the White House National Economic Council, he worked on Social Security reform. In 2001, he joined the staff of the President’s Commission to Strengthen Social Security. Biggs has been interviewed on radio and television as an expert on retirement issues and on public vs. private sector compensation. He has published widely in academic publications as well as in daily newspapers such as The New York Times, The Wall Street Journal, and The Washington Post. He has also testified before Congress on numerous occasions. In 2013, the Society of Actuaries appointed Biggs co-vice chair of a blue ribbon panel tasked with analyzing the causes of underfunding in public pension plans and how governments can securely fund plans in the future.

Biggs holds a bachelor’s degree from Queen’s University Belfast in Northern Ireland, master’s degrees from Cambridge University and the University of London, and a Ph.D. from the London School of Economics.
Executive Summary

Cities and states around the country are contemplating reforms to their public employee retirement plans. Nebraska's public plans are on average better-funded than in most other states, and its Cash Balance plans for State and County employees address some of the shortfalls of typical “final earnings” Defined Benefit pension plans that most public employees participate in. But other Nebraska pensions, such as the Omaha Police & Fire Retirement System, face challenges, so public pension reform remains an important issue for policymakers.

In this policy study, we look at a number of important questions, including:

- Why would governments wish to reform Defined Benefit public pensions?
- What are the obstacles to transitioning to Defined Contribution (DC), 401(k)-type pension plans?
- Can a DC pension plan work for public employees?
- What might a model DC pension plan look like?

We conclude that a DC pension plan can work for public employees and can provide advantages both for employers and employees, if it is properly-designed and maintained. The reasons for shifting to DC plans can be compelling, while the objections to DC plans are at some times based on faulty reasoning and at others focus on negative aspects of DC pensions that, in a public sector context, could readily be addressed. A model DC plan for public employees is outlined.

Introduction

Public employee pensions have become an increasing budgetary burden on state and local governments, with annual employer contributions from state and local governments more than doubling to $84 billion from 2002 to 2011, according to the Public Plans Database. The same is true in Nebraska. For instance, annual required contributions to the state’s Cash Balance plan rose from $14.2 million in 2003 to $56.7 million in 2013. It is important to note that pension obligations are typically paid before other government services. Thus, as pension costs have risen other government functions suffer (states don’t always pay their full annually required contribution). As larger shares of state and local budgets are allocated to the costs of retired teachers, police and firefighters, these governments have fewer funds available for current teachers, police, and firefighters, along with all the other essential services that governments provide.

Public pension benefits are, for full-career employees, far more generous than most private sector workers can hope to receive. At the same time, due to vesting rules and a back-loaded benefit formula, many public employees leave government service without a right to any future retirement benefit, and many who do earn a benefit receive relatively little. This is a situation ripe for improvements and reform.

Incremental reforms to public plans have been widespread, including increases in employee contributions and in some states reductions to Cost of Living Adjustments (COLAs) paid to benefits after retirement. But some jurisdictions are considering more far-reaching reforms, including shifting public employees to Defined Contribution plans. DC plans, the most common example of which is the 401(k) plan in the private sector, differ considerably from the Defined Benefit (DB) plans that most public employees currently participate in.

A DB plan generally offers a guaranteed benefit based upon the worker’s final earnings. For instance, an employee might receive a DB pension benefit equal to 2 percent of his final salary multiplied by the number of years of service. For this reason, such DB plans are often referred to as “final pay” plans. Another form of DB plan is called a “cash balance” plan, which many Nebraska state and county employees participate in. In a cash balance plan, investments are pooled as in a final pay DB plan. However, in a cash balance plan each worker has a notional account to which he and his employer contribute money, and that account is credited with a guaranteed rate of return each year even if the actual investment pool loses money. Unlike a DC pension, such as a 401(k), in a cash balance plan there is no true account with assets in it; rather, the plan uses a notional account as a way to calculate the benefits accruing to workers. At retirement, the notional cash balance account is turned into a monthly annuity payment.
In both final earnings and cash balance DB plans, the benefit itself is “defined” and not based upon the investment performance of those contributions. While employees contribute to these plans, and those contributions are invested to pay benefits, their benefits are not based upon the investment performance of those contributions.

A DC pension, by contrast, does not offer a guaranteed benefit at retirement. Instead, employers offer a defined contribution to worker’s pension accounts while they are working. According to the Bureau of Labor Statistics, most workers—including management and professional workers who might be considered most comparable to public employees—receive an employer contribution to their DC pension plan of 3 percent of wages. In addition, workers make their own contributions. These combined employer/employee contributions are invested and the benefit payable at retirement reflects contributions and investment earnings over time. There is no guarantee of a given benefit level at retirement, and choices between risk and return are generally borne by employees. In some states, such as Michigan and Alaska, newly-hired public employees are already being enrolled in DC pension plans. Cities such as San Diego, California, have also passed voter referendums to establish DC plans for new hires. Other states, such as Washington and Oregon, offer hybrid plans in which employees participate in both DC and DB pensions.

Why might policymakers wish to change pension plan structures?

Policymakers in Nebraska, as in other states, might wish to alter the structure of their public employee pension plans to reduce benefit costs, lower risk to their budgets, and improve their ability to attract and retain employees. This section reviews the principal reasons motivating fundamental structural reforms to how public employee retirement benefits are generated.

Pension Costs

One very basic motivation for reform is cost. According to the Bureau of Labor Statistics, the typical private sector 401(k) plan costs employers around 3 percent of wages, the amount that they typically contribute to employees’ pension accounts. By contrast, the Omaha Police and Firefighters Retirement System has a “normal cost”—which reflects contributions to fund benefits accruing in a given year—of over 23 percent of payroll. Even after subtracting the employee contribution of roughly 17 percent of pay, the Omaha system is more costly than a typical private sector plan. The more modest State Employees Retirement System has a normal cost of around 10.4 percent of payroll, of which employees contribute slightly under 5 percent of pay.

If Nebraska governments paid pension benefits on par with the private sector, costs to the budget and the taxpayer would be reduced significantly. The obvious retort to that idea is that more generous public sector pensions only make up for less generous salaries. In some cases that is true, but not always. For instance, economists at the Bureau of Labor Statistics estimate that state government pays about the same salaries as the private sector for jobs requiring the same levels of skill. Local government, the BLS economists find, actually pays slightly higher salaries than private sector employers. Other studies find that state and local salaries are somewhat lower than private sector pay, although generally not by nearly enough to offset more generous retirement benefits, which include both pensions and retiree health coverage.

Budgetary Risks

A second and more important reason motivating reform is risk: the normal cost figures listed above do not account for the full employer contribution. Normal cost contributions appear low because they are premised upon the plan earning high investment returns on contributions. Omaha Police & Fire assumes 8.0 percent annual returns. The State and County Cash Balance plan assumes 7.75 percent, while the School, Judges and State Patrol plans assume 8 percent returns.

One Nebraska native—famed investor Warren Buffett—argues that pensions should use much more conservative investment return assumptions. Buffett’s Berkshire Hathaway assumes only 6 percent returns for its pension plan, which one could assume has substantial investment expertise backing it. A general rule of thumb is that DB pension’s costs change by roughly one-fifth for each percentage point change in the assumed return on plan investments. Using these lower—but potentially more realistic—return assumptions, costs for the Omaha Police & Fire plan would rise by over 40 percent. The cost of the
State/County Cash Balance plans would rise by around 35 percent.

Moreover, in a time in which short-term guaranteed Treasury securities are yielding essentially zero returns, a 7-8 percent return cannot be generated without taking significant investment risk. Data show that pensions are taking on increasing levels of investment risk, and in most cases all of this risk is borne by the taxpayer. This investment risk translates into pension contributions that can shift rapidly from year to year, destabilizing state and city budgets.

While many pension stakeholders believe that actuarial techniques such as investment return smoothing and long amortization periods for unfunded liabilities can reduce contribution volatility to acceptable levels, plans rarely do modeling of contribution risk. Studies that have modeled this risk show that contributions can vary significantly from year to year based upon investment performance.

Nebraska’s plans bear this out. In addition to the normal cost of accruing benefits, plan sponsors must contribute to pay off unfunded liabilities from previous years. In the case of the Omaha Police and Fire fund, this amortization payment is equal to nearly 39 percent of payroll, far more than the employer’s normal cost contribution. Due to the size of this contribution, the city government is not making its full payment, allowing unfunded liabilities to grow. According to its latest actuarial report, contributions are short by around 11 percent of pay, equal to nearly $13 million on top of the nearly $39 million the City has contributed. For the State plan, the total contribution including amortization of unfunded liabilities equals 11.7 percent of payroll, or over $53 million last year.

Focus on Omaha Police & Fire Retirement System

Accurate accounting of public pension liabilities shows that even seemingly healthy public plans face significant challenges. However, the plan serving Omaha’s public safety employees—police and firefighters—is in particularly poor shape. Despite slight reforms passed in 2010 (police) and 2012 (firefighters) that increased employee contributions and reduced benefits both for current and newly-hired employees, the Omaha Police & Fire Retirement System remains terribly underfunded and the City of Omaha remains unable or unwilling to make the full actuarially required contribution (ARC) to the plan.
Figure 2. Omaha Police and Fire, Actuarially Required Contribution

Figure 3. Omaha Police and Fire, Percent of ARC Paid
Since 1999, the plan’s actuarially required contribution has risen from less than $11 million to nearly $53 million. Most of this increase was due to higher costs to amortize unfunded liabilities, which came about due to poor investment returns and government failing to make full annual required contributions. Even as a percentage of employee payroll, the City’s required contribution has risen three-fold, from 15 percent of payroll in 2011 to over 45 percent of payroll in 2013.

At the same time, however, the City of Omaha has been increasingly unable to meet these contributions. In 1999, for instance, Omaha paid 119 percent of its ARC, over-paying in order to increase the funding strength of the plan. This practice continued through 2002. Beginning in 2003, however, Omaha began underpaying its ARC and since that time has not come close to making its full payment. In 2012, for instance, the City paid only 62 percent of its ARC. While an improvement from 2009 and 2010, years in which only 45 percent of the ARC is paid, any underpayment allows unfunded liabilities to grow and shifts even higher contribution rates onto future taxpayers. Omaha Police & Fire already uses investment smoothing techniques and relatively long amortization periods for unfunded liabilities as a means to reduce the volatility of its contributions. But even these are not enough to make annual contributions affordable to the City.

Moreover, Omaha Police & Fire assumes a relatively high 8 percent annual return on investment. As noted previously, Warren Buffett has argued that a 6 percent return is more reasonable. And many investment analysts contracted by public plans believe the same: a survey of eight pension investment consultants produced estimates of investment returns averaging 6.04 percent, ranging between 5.28 and 6.90 percent. If Omaha Police & Fire were to produce a 6 percent return rather than 8 percent, its Annual Required Contributions would rise by over 8 percent as the costs of both newly-accruing benefits and the amortization of unfunded liabilities increased. Given that current contribution levels are clearly unaffordable to the City, these higher rates could bring about significant negative effects for the City budget or the pension plan itself. Unfunded liabilities for the plan would rise from the current projection of $613 million to around $972 million.

Fair market valuation: accounting for cost and risk

Economists account for this combination of cost and risk using a method known as “fair market valuation.” This approach has been endorsed for public pension valuation by organizations such as the Federal Reserve, the Congressional Budget Office, the federal government’s Bureau of Economic Analysis, the bond rating agency Moody’s, as well as the vast majority of professional economists. A recent blue ribbon commission on pensions organized by the Society of Actuaries, of which the author served as a member, endorsed supplementing the accounting figures currently produced by public plans with this economic approach.

Pensions measure their financial health by comparing the value of their assets to that of their liabilities. Assets are relatively easy to measure, since we can calculate their market value on a day-by-day basis. Benefit liabilities, however, stretch years and decades into the future. This requires a process known as “discounting,” which is similar to compound interest in reverse. Public plans discount their future liabilities using the rate of return they project they will receive on their investment, which is usually about 8 percent. Thus, if a plan is “fully funded” and receives 8 percent returns each and every year, it will have enough money to pay all the benefits it owes.

Economists object to this approach, however, because a plan cannot be sure of receiving 8 percent returns each year, or even of receiving such returns on average over very long periods. It is very easy to imagine—and to illustrate quantitatively—that a plan that expects to receive 8 percent returns over the next several decades could in fact receive average returns of 7, 6 or even 5 percent. Because pension financing is extremely sensitive to the return on plan assets, such an outcome could be disastrous for the plan and the plan sponsor. For that reason, economists believe, accounting measures must account for this risk.

Fair market valuation discounts plan liabilities at a “risk adjusted” interest rate. That is, if we assume that the plan intends to guarantee the benefits it has promised, then we should value those benefits using an interest rate derived from guaranteed investments such as U.S. Treasury bonds. Discounting benefits at the riskless rate produces a higher
present value of future benefits, and a lower funding ratio and larger unfunded liabilities. Put in simple terms, fair market valuation tells us how much the plan could afford to pay with certainty, meaning, if it didn’t invest in risky assets. That value represents the degree to which the plan is “truly fully funded” based upon the actual assets it holds.

The difference between the standard actuarial measure calculated using expected return on investments and the fair market value calculated using the riskless return represents the degree to which the plan is counting on realizing a premium on risky investments—that is, the degree to which it is counting upon something it cannot count upon—to pay future benefits.

We will illustrate these concepts using the Omaha Police & Fire plan, but the same logic applies to all Nebraska DB plans, including the State and County cash balance plans. The top section of Table 1 is derived directly from the plan’s actuarial report and shows how the system is valued under standard actuarial valuation. It has assets of roughly $496 million and liabilities—valued using an 8 percent discount rate—of $1,109 million. This produces an unfunded liability of approximately $613 million and a funding ratio of 45 percent. By any standard, these are not healthy figures.

Under fair market valuation, however, things appear substantially worse. The lower section of Table 1 revalues Omaha Police & Fire’s liabilities using a 4 percent discount rate. This rate, which is used for simplicity, is slightly above current Treasury yields. Under fair market valuation, the plan’s liabilities increase to $1,953 million. Since the assets do not change, the unfunded liability rises to $1,457 million and the funding ratio drops to 25 percent.

Public plan trustees and other stakeholders often attempt to cast doubt on the fair market approach. There are many additional sources to which readers wishing to inform themselves may turn. But in this space, it need only be repeated that most independent analysts—such as government agencies and professional economists, including a number of Nobel Prize winners—agree that the fair market approach is a better measure of the total cost of a public plan. While the standard actuarial approach measures the cost of the plan as if it could receive guaranteed 8 percent investment returns, the fair market approach accounts for the fact that no one investor can generate an 8 percent return with certainty. Unless pension officials believe they can produce guaranteed 8 percent returns—in which case they are probably in the wrong line of work—they must account for the fact that such returns cannot be guaranteed.

### Labor Supply Incentives

A third reason to alter the structure of public pensions is to improve employers’ ability to attract and retain employees. So-called “final pay” DB plans present employees with perverse incentives that often work contrary to efforts to attract and retain quality workers. These DB plans are “backloaded,” which means that benefits don’t accrue evenly over the course of a worker’s career. To simplify, imagine that a full-career worker would receive an annual pension benefit of $50,000. Due to backloading, however, an employee who works half her career in public service doesn’t receive a benefit of $25,000; usually, she’ll receive far less than that.

Table 1: Omaha Police and Fire; Financing Under Actuarial Valuation and Fair Market Valuation

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<tr>
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<th>Actuarial valuation</th>
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<tr>
<td>Discount rate</td>
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<tr>
<td>Assets</td>
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<tr>
<td>Unfunded liability</td>
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<td></td>
</tr>
<tr>
<td>Funding ratio</td>
<td>45%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Fair market valuation</th>
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<tbody>
<tr>
<td>r riskless</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Liabilities</td>
<td>$1,953,164,167</td>
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<tr>
<td>Assets</td>
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<tr>
<td>Unfunded liability</td>
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</tr>
<tr>
<td>Funding ratio</td>
<td>25%</td>
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</table>

Figure 4 is based on work by Costrell and Podgursky and shows how benefits accrue under a final earnings DB plan similar to the Omaha Police & Fire system. The figures at any given age represent the total future benefits the worker is entitled to. Costrell and Podgursky illustrate using a Missouri teachers plan, but the basic points apply to almost all traditional final earnings DB plans. Accurals are compared to a cash balance plan similar to the Nebraska State plan. Under a cash balance plan—or a defined
contribution, 401(k)-type pension—benefit accruals are smooth and regular over the course of a worker’s career. In a final earnings DB plan, however, employees accrue practically no net benefits over their first decade of work, and even after two decades benefit accumulations are relatively small. However, in the third decade of work—between ages 45 and 55 for a public employee who began work in their mid-twenties—benefit accruals shoot up. In this example, pension accruals rise from around $80,000 at age 45 to $650,000 at age 55. Those ten years of employment are by far the best paid of the worker’s career. However, at that point pension accruals actually begin to fall. This occurs because public employees begin to become eligible for benefits, and for each year the employee continues to work he loses a year of benefits while continuing to make pension contributions.

These accrual patterns have important implications for governments’ ability to attract and retain quality employees. For instance, the slow initial accruals mean that final earnings DB pensions are of little value to workers who don’t plan on spending a full career in government. But these more mobile workers are often highly skilled and sought after by employers. Thus, despite their high costs, DB plans do little to attract this class of employee.

At the same time, pensions are incredibly valuable to mid-career employees. For instance, consider a employee with 20 years of job tenure. This employee might be burned out on his current job, or face physical limitations that—while not disabling—make his job requirements difficult or unpleasant to fulfill. He may wish to leave his government job, and his employer might wish the same. But by leaving public service at 45 rather than 55, that worker could be giving up a half-million dollars in future pension benefits. The difficulty in forcibly removing burned out employees isn’t simply due to job protections, but to the fact that mid-career employees have massive incentives to avoid being terminated even if they don’t want to remain in their jobs.

Finally, consider a public employee in her 50s who is good at her job and wishes to continue working. Under a final earnings DB plan, however, working from 55 to 65 could cost her $100,000 in future retirement benefits. Not surprisingly, such workers generally retire.

Pension administrators sometimes claim that DB plans are necessary to attract and retain quality employees. But the evidence is often to the contrary. In fact, Costrell and McGee show that shifting to a pension with smooth accruals, such as a cash balance or DC plan, could improve employee retention compared to final earnings DB plans. Nebraska’s cash balance plan already has the advantages of smooth benefit accruals, but other plans in the state are still based on final earnings.
These effects are also important for the retirement security of government employees. Researchers at Boston College estimate that “of those who leave state and local pension plans, 47 percent depart without any promise of future benefits.” A report from the Maine Unified Retirement Plan Taskforce also highlighted these problems, pointing out that while a full-career employee would do well under Maine’s DB plan, only around one-in-five employees receives a replacement rate in excess of 50 percent. Employees who fail to work a full career do far less well than full-career workers, and in many cases would have done better under a DC pension plan. DC pensions offer far greater portability than DB plans, allowing workers to shift between jobs as needed with little or no penalty to their savings. Thus, when we consider the generosity of public plans, comparisons should not be made simply between public and private sector workers, but also between public employees who work a full career and those who work shorter periods in government and often receive very little from the government’s retirement plan.

In summary, traditional final earnings DB plans have three problems: cost, risk and labor supply incentives. A cash balance plan, such as the one that Nebraska state employees participate in, solves the labor supply problem because it allows for smooth benefit accruals. However, a cash balance plan is a form of DB plan and follows the same funding and accounting rules as traditional final earnings plans. A DC plan, by contrast, addresses labor supply problems as well as cost and risk. To be effective as a retirement saving vehicle for public employees, however, a DC plan must be well designed. We will cover design issues in following sections. But first we examine a claim that, despite the unfunded liabilities generated by DB plans, shifting to a DC plan could actually increase pension costs.

### Transition Cost Claims

While governments have a number of reasons for considering shifting public employees to DC pensions, a number of objections have been raised. The first is that such a shift entails large “transition costs” that make the change not worthwhile. We examine those claims in this section. In the following section, we analyze claims that, even if implemented, DC pensions cannot provide public employees with adequate retirement income.

### Accounting-based Transition Costs

One essential difference between DB pensions and DC plans is that DC plans cannot generate unfunded liabilities. Under a DB plan, the employer promises employees a fixed retirement benefit regardless of how the plan’s investments fare. In a DC plan, by contrast, employers promise employees a fixed contribution of, say, 3 percent of salary. Once that contribution is made, the employer’s obligation is fulfilled.

While DC plans cannot generate unfunded liabilities, shifting to a DC pension plan does not alter unfunded liabilities from the existing DB plan. It does not eliminate them, as some DC reformers might wish to see. Those unfunded liabilities are effectively debts of the governments and must be honored. Nor, however, does shifting to DC plans increase costs, as some critics of DC plans contend. The idea that there are “transition costs” involved with shifting to DC pensions is widespread, but incorrect.

Reform opponents rely on financial disclosure rules generated by the Government Accounting Standards Board (GASB) regarding how quickly a DB plan must pay down—or “amortize”—its unfunded liabilities. A plan that is open to new employees may amortize its shortfalls using a “level percent of payroll” method. This means that amortization payments start low, but rise with the growth of employee payroll over time. A closed plan, by contrast, has shrinking employee payroll. GASB reasons that amortizing as a level percentage of a shrinking payroll base would excessively backload amortization payments. Thus, closed pension plans should amortize unfunded liabilities more quickly, generally on a “level dollar” method that increases initial payments. This faster payoff means a temporary period of higher pension amortization costs, which is termed the “transition cost.” This creates a seemingly illogical conclusion: the bigger the plan’s unfunded liabilities, the tougher it is to move to a DC plan that won’t create more unfunded liabilities.

However, University of Arkansas economist Robert Costrell has shown that these transition costs are largely a myth. Pension advocates such as the National Institute for Retirement Security claim that “accounting rules can require pension costs to accelerate in the wake of a freeze.” But, as Costrell points out, GASB standards require nothing of the sort. GASB doesn’t determine plan funding; it only dictates accounting figures that pensions must
disclose. GASB has in recent years been increasingly clear on this distinction between accounting disclosures and the practice of funding plans. State and local governments set funding policy and regularly violate GASB rules, sometimes paying more than GASB requires and—too often, as in the case of Omaha’s Police and Fire plan—paying less. If a government wished to follow their current amortization schedule even as they shift to a DC plan, nothing prevents them from doing so. And, as Costrell points out, some states that have moved to DC pensions have done exactly that.

More broadly, there is no strong policy or economic reason that amortization payments should change. Total employee payroll under the existing DB and new DC plans hasn’t changed. Amortization payments are made by plan sponsors, not employees, so it makes little difference under which plan employee payroll is located.

Finally, a pension’s unfunded liability is a debt of the government that legally has to be paid off, regardless of how many or few new employees enter a DB pension plan. Having new employees participate in a new DC pension makes no difference to what the old DB plan owes. Costrell shows that pension plans and their actuaries will acknowledge all this, although it’s often hidden in the footnotes of their reports headlining massive “transition costs.”

Even after a DC reform, governments may continue to amortize unfunded liabilities as they previously have. There is no legal, economic or policy reason to do otherwise, and states that have adopted DC pensions have not had to deal with transition costs.

**Investment-based Transition Costs**

Costrell’s critique of accounting-based transition costs has begun to sink in, with the result that reform opponents make such claims less frequently today than they did several years ago. More recently, however, a second strand of transition costs claims has arisen. This second argument goes as follows: Closing a DB plan to new entrants shortens the average time frame for the DB plan’s benefit liabilities. To match the shorter liability time frame, the plan must invest in more liquid, lower-risk assets. Such assets have lower expected returns, and lower returns would increase the contributions required to fund the plan.

But this investment-based argument for transition costs ignores a number of key facts:

- First, there is no evidence that U.S. public plans currently target their investment portfolios to the age structure of their participant populations. In fact, most public plans have taken more risk as their participant populations have aged. Thus, the investment-based transition costs argument proposes an investment strategy that public employee systems don’t themselves follow.

- Second, under a “fair market valuation” approach to pension accounting, discussed above, the effect of a plan’s closure on its liabilities would be very small. Under market valuation, public plans would value their liabilities using discount rates derived from low-risk investments such as government bonds, to match the low risk of DB pension benefits. Closing a DB plan would have little or no effect on liabilities under this approach.

- Third, a plan that chose to shift to safe investments would enjoy the benefit of lower risk and less volatility of contributions. Moving to a safer investment portfolio isn’t a “cost”; it is a trade between risk and return. Safer investments come with benefits, namely lower risk. Once the “cost of risk” is accounted for, shifting to a more conservative investment portfolio does not raise costs to the taxpayer. Put another way, a higher risk investment portfolio means more volatility in the plan sponsor’s contributions from year to year. Sponsors dislike such volatility. Shifting to a lower-risk portfolio would mean more stable contributions, which are helpful in planning government budgets.

- Fourth, increasing the liquidity of plan investments would have only small effects on expected returns. A closed plan’s investments must be truly liquid only in the final years before true shutdown, which would be decades in the future. Moreover, illiquid alternative investments currently make up only a small portion of most plans’ portfolios, meaning that portfolio changes to increase liquidity would be small. Research also has found that public plan’s investments in alternatives do not increase returns after adjusting for risk.

- Finally, if a closed DB plan and its sponsoring government wished to retain the plan’s current high-risk investment portfolio, the government might offer a line
of credit that the DB plan might call upon if needed. If investments in stocks are indeed low-risk over long time horizons, as many pension stakeholders appear to believe, such a line of credit would be low-risk to the sponsoring government.

All told, there is little in the investment-based transition costs argument that should dissuade plan sponsors from considering fundamental reforms to DB pension plans.

**Administrative Issues for DC Pension Plans**

Even if shifting from DB to DC pension frameworks do not generate transition costs, DC plans raise a number of ongoing administrative issues. Some cite these issues as reason that a DC plan cannot provide a decent retirement income or would present sponsors and employees with unreasonably high costs. We find that design issues are paramount. While a DC plan could prove inadequate in a number of ways, a well-designed plan could work for employees, employers and taxpayers.

**Participation**

Perhaps the largest problem with DC plans in the private sector is participation. Analysts who discuss pensions often focus on differences in risk between DB and DC plans, namely that in DB plans the sponsor bears investment risk while in DC plans the employee does. But the larger and more important difference may be that most DB plans are effectively mandatory while DC pensions are voluntary.

According to the Social Security Administration, around 72 percent of all private employers offer their employees a retirement plan. Larger employers are more likely to offer plans than smaller employers; for instance, 84 percent of employers with 100 or more employees offer a retirement plan. Of those offered a plan, 80 percent choose to participate; this “take-up rate” is roughly constant among employers of different sizes. If you multiply the offer rate and the take-up rate, this equals the percentage of private sector workers participating in a retirement plan: about 58 percent. While this participation rate could be higher, some analysts point out that non-participation is not always irrational. Economic theory says that low-income workers, who receive high replacement rates from Social Security, might rationally choose not to participate in a private pension plan. Similarly, younger workers might choose to focus their resources on repaying student loans, credit card debt or building a down payment for a home purchase. Likewise, businesses who employ large numbers of low-income or younger employees might choose not to offer such plans, figuring that employees would prefer higher wages or other benefits.

In any event, a public employee DC pension plan need not be voluntary. It might have automatic enrollment, meaning that employees are automatically signed up for the plan but may withdraw if they choose. Alternately, the plan might be compulsory, as most DB plans are. This latter approach would ensure 100 percent participation and avoid the major perceived failing of private sector 401(k) plans. In short, changing the pension structure from DB to DC does not mean that current public plan participation rules must be changed.

**Administrative Costs**

Both DB and DC plans incur costs in managing their investments and other activities. These costs reduce the net rate of return on those investments and thus lower the amounts eventually available to pay benefits. Administrative costs are often expressed as a percentage of assets; this percentage can then be deducted from the plan’s gross investment return to find the net return available to pay benefits.

Nebraska’s plans do not make detailed information on investments easily available. Ordinarily these are printed in the Investment Section of the plan’s Comprehensive Annual Financial Report, but neither the State plans nor the Omaha regular or public safety plans publish such reports. It appears that Nebraska’s Cash Balance plan for state employees pays administrative costs of roughly 0.12 percent of assets under management, while for county employees expenses are somewhat higher at 0.23 percent of assets. As public plans go, these figures are relatively low, presumably because the Cash Balance plan does not pursue some of the more aggressive and exotic investments that other public plans have turned to.
Comparisons to DC plans often stress their higher fees, noting correctly that higher administrative costs directly reduce the returns that participants receive on their accounts. However, in many cases the administrative costs for DC pensions are exaggerated. For instance, one study commissioned by a Texas public plan assumes that public employees participating in a DC plan would pay an annual management fee of 89 basis points, meaning 0.89 percent of assets under management.\(^\text{27}\) Put another way, management fees would reduce gross investment returns by 0.89 percentage points. Compounded over a full working career, this difference in net investment returns significantly lower benefits under a DC plan relative to a DB system.

The question, however, is whether such assumptions are warranted. Eighty-nine basis points is not an unreasonable administrative cost assumption for the broad universe of 401(k) or other private sector DC plans. The median administrative cost appears to be about 72 basis points, according to a survey conducted by the Investment Company Institute.

However, 89 basis points is an entirely unreasonable assumption for a large public DC plan, which can take advantage of economies of scale to lower administrative costs to participants. It is misleading to compare administrative cost for a large DB plan to the *average* for 401(k) plans, about 90 percent of which have fewer than 100 participants and about two-thirds of which have less than $1 million in plan assets.\(^\text{28}\) The Investment Company Institute, for example, calculates that large DC pension plans, meaning those with assets in excess of $500 million, have an “all in” administrative cost equal to around 0.41 percent of assets under management, with a range from 0.14 percent to 0.61 percent.\(^\text{29}\) For a plan with a large number of employees and relatively high contribution rates, as a public DC is likely to have, the typical administrative cost in for private sector 401(k) plans is around 0.25 percent. A public plan with even larger asset holdings and more participants presumably could offer DC accounts with costs toward the low end of this range, meaning that a DC plan could conceivably offer lower administrative costs than Nebraska’s current DB plans.

Moreover, should a DC plan base its investments on relatively simple index funds, as does the defined contribution Thrift Savings Plan offered to federal government employees, fees to investment managers would drop from roughly $25 million per year to approximately zero.
The TSP, for instance, pays an investment management fee of around 0.0016 percent of assets managed. Total administrative costs charged to participants under the TSP last year were around 0.027 percent of assets managed. Similarly, in Alaska, their state-based DC plan has shown it can be run with relatively low costs. Alaska’s DC plan charges public employees a management fee of 0.11 percent of assets, plus an annual fee of $35 for active employees.

If plan designers wanted a low-cost DC pension, it would not be difficult to produce one. High management fees can be a problem with a DC pension plan, but they need not be if plan designers make low costs a priority. Private 401(k) plans often have high costs because many are small, meaning that fixed costs are relatively high, and because insufficient attention is paid to the fees attached to investment choices. However, large plans, such as for public employees, can provide either DB or DC pensions at relatively low costs.

**Investment Performance**

It is often assumed that participants in DC pension plans cannot invest appropriately, that they either trade too much or they trade too little. There is certainly some evidence to back this point. But these investment issues are overstated, and through appropriate plan design can be minimized or even eliminated.

There are two main reasons cited why public DB plans can earn higher returns than individual investors in DC pensions. The first is that the DB program has access to “alternative investments” such as hedge funds and private equity that allow for higher investment returns without increasing investment risk. If so, this would be a true efficiency of the current DB plan over a potential DC alternative.

But alternative investments could be made available to DC plan participants through a centralized investment option, in which DC accounts effectively hold shares in the total DB portfolio. Moreover, a 2008 study published by the federal Office of the Comptroller of the Currency showed that pension fund holdings of alternative investments such as hedge funds and private equity did not increase pension’s risk-adjusted returns. That is, any increase in returns was not the result of a more efficient portfolio, but of simply taking more risk. If DC plan participants wanted a higher-risk, higher-return portfolio they could choose one. Moreover, as cited above, there is good reason to believe the U.S. public plans invest in higher risk portfolios not because they are optimal—U.S. private plans and public plans abroad are currently reducing their risk exposure—but because GASB accounting rules reward public plans in the U.S. for taking on investment risk.

Second, it is often assumed that individual investors make bad choices—either by failing to adjust their investment portfolios over time, or by adjusting too much and attempting to “day trade” their accounts. There is no doubt some truth to these claims. The question is, how much?

For instance, opponents of pension reform sometimes point to a study by CEM Benchmarking which concluded that, over an 8-year period ending in 2005, DB pension plans outperformed DC investors by 1.8 percentage points per year. But, as with the OCC research cited above, the CEM study concluded that this result was largely driven by differences in investment portfolios, with DC investors choosing lower risk, lower returning investments. But if these are the portfolios individuals find optimal then such comparisons are misleading. Moreover, to the degree the CEM study found DC investments that don’t make much sense—say, heavy investments in company stock or money market funds—these can be reduced by setting a default investment portfolio.

Other reform critics point to research by the financial consulting firm DalBar, which purports to show that individual investors receive returns that are much lower than the individual asset classes in which they invest. This indicates to skeptics that individual investors shift their asset allocations at precisely the wrong times. Now, it should be noted that DalBar markets its reports to financial advisors as evidence that, to be blunt, individual investors need financial advisors. Nevertheless, such a result should be taken seriously. In a study critical of DC plans, the Teacher Retirement System of Texas states, “These demonstrated behavioral tendencies often severely impact individual investor performance and often reflect ineffective risk management, sub-optimal asset allocation, performance chasing, and loss aversion.”

While an intuitively plausible claim, the Dalbar figures actually rely upon statistical sleight-of-hand. For instance,
Dalbar’s report shows that over the past 20 years, actual investors in equity funds received annual returns of only 3.49 percent, while the mean annual return for the S&P 500 as a whole was 7.81 percent. But the returns presented by Dalbar are measured in different ways. The 7.81 percent return for the S&P 500 is a “time weighted return,” based upon the growth of a single dollar invested in the first year and held until the final year. The 3.49 percent investor return, by contrast, is a “dollar weighted return” which accounts for the contributions and withdrawals that investors make over time. These figures simply don’t measure the same thing.

In its report, however, Dalbar does calculate the return for an equity investor practicing dollar cost averaging, in which a similar amount was invested each year and no active trades were made. That investor, Dalbar finds, would have earned an average annual return of 3.17 percent, 0.32 percentage points lower than actual investors did. Similarly, Morningstar data show that for the ten years ending in 2012 the typical investor in Vanguard’s S&P 500 index fund earned an average annual return of 7.87 percent, versus 6.79 percent for the fund itself.

Do these figures mean that individual investors are actually good at timing the market? No. Behavioral effects do exist and good pension policies can be designed to counteract them. But these data do show that the statistics cited to make individual investors appear particularly incompetent don’t hold up very well.

These claims are further undermined if a DC plan for public employees were set up with a strong default investment option, such as a “life cycle” portfolio built upon index funds. Index funds of stocks and bonds have very low administrative costs, and a life cycle portfolio automatically shifts from stocks to bonds as the employee approaches retirement age. A default life cycle portfolio would help individuals who fail to monitor and rebalance their investments over time.

Likewise, evidence suggests that the vast majority of DC pension participants would not do the kind of “day trading” that leads to investment underperformance. For instance, in the federal government’s DC plan, the Thrift Savings Plan, only around 3,000 of the plan’s roughly 4.5 million participants took part in active trading, meaning rapidly shifting portfolios in attempts to time the market. To prevent this small cohort of active traders from increasing fund management fees for others, the TSP restricted interfund transfers to two per month.

### Annuitization

DC and DB pensions differ in how benefits are paid out. DB plans generally pay benefits as a monthly payment for life, while DC plans generally pay out as lump sums. Now, this is a generalization—many private DB plans increasingly allow for lump sum withdrawals, and some DC plans let participants purchase an annuity, which is an insurance product that pays a given amount each month for as long as the purchaser lives; survivor benefits are often available as well. Annuities are very valuable in helping retirees protect against the risk of outliving their resources.

However, some comparisons of DC to DB plans assume that annuities are not available and that individuals must take low withdrawals in order to avoid running out of money later in life. Other studies assume that annuities are available only with significant “loads,” which are administrative costs that reduce that payout provided by the annuity. In fact, several options exist to provide annuity payout options to retiring public employees with a DC plan.

First, the public plan could provide these annuities itself. Public plans already effectively provide annuities through their DB pensions, since public DB plans almost always pay benefits as an annuity payment rather than a lump sum. Moreover, many public plans—including some in Nebraska—allow employees to purchase service credits (sometimes referred to as “air time”) which increase their retirement benefits. These service credits are nothing other than the purchase of an annuity: the employee pays the retirement system a lump sum, in exchange for which the system provides a higher monthly benefit for life. If annuitization were made mandatory, even up to some minimum level, this might be an option the system could pursue.

Alternately, the retirement system could contract with a private insurance company to provide annuities to retiring employees. The federal government’s Thrift Savings Plan contracts with a private insurer (currently MetLife) through competitive bidding, using the plan’s large size.
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and purchasing power to keep administrative costs low. The TSP provides no-load annuities, including annuities with inflation protection and survivors’ benefits. Employees can purchase annuities using their TSP account balances from the TSP’s website.

A Model DC Pension Plan for Public Employees

This section outlines what a model DC plan for public employees might look like. Many parameters, such as contribution rates or the number of investment options, are flexible. But the basic framework is designed to get workers saving in diversified, low-cost funds and, where desirable, to convert at least part of their savings to an annuity at retirement. The core goals of a DC plan for public employees include:

**Automatic enrollment:** Each employee would automatically be enrolled in the pension plan. If desired, enrollment could be compulsory; that is, employees would have no choice but to participate. Alternately, enrollment could be automatic but employees might have the option to withdraw if they chose. In cases where public employees do not participate in Social Security, compulsory enrollment may be preferable from a policy standpoint and may in fact be legally required by the federal government as part of the agreement by which state and local government employees are not forced to participate in Social Security. When individuals enroll and contribute each year, DC pensions can provide a very satisfactory income in retirement.

**Default contribution rates at reasonable levels:** For employees who participate in Social Security, pension income is not expected to cover all their needs in retirement. However, a strong DC pension contribution level helps assure adequate savings. While preferences may vary, a standard policy where both employers and employees contribute 6 percent of employee wages to the DC plan would be likely to provide sufficient retirement income for most employees. Moreover, an employer contribution of 6 percent of payroll is quite generous by private sector standards: it is twice the median contribution, and fully 90 percent of private sector employees receive an employer match of less than 6 percent.

For a public safety plan such as Omaha’s Police & Fire, where retirement at younger ages is contemplated, contribution rates would likely need to be higher. For instance, Utah’s reformed public pension system offers newly-hired employees the choice of a DC plan or a DB plan. For public safety employees, Utah would contribute 12 percent of pay to DC pension accounts. This higher contribution rate would enable earlier retirement than for regular public employees.

**Life-cycle portfolio:** While individuals would be given the option to choose their own investments, the default investment would be a so-called “life cycle” fund that automatically shifts from stocks to bonds over time. The federal TSP’s life cycle funds might serve as a model. For individuals retiring in 2020, the TSP currently allocates 47 percent of the portfolio to government or corporate bonds and 53 percent to stocks, which are made up of large cap, small cap and overseas equities. For someone retiring in 2050, by contrast, the TSP life cycle fund allocates only 14 percent to bonds and 86 percent to stocks. Changes are made automatically each year to keep assets allocations on target.

**Based on low-cost index funds:** One problem with many private sector 401(k) plans is high investment management costs. The federal TSP gets around this problem by offering only index funds, which keep costs low by tracking market indices but not using active management to attempt (usually without success) to beat them. The TSP offers five funds that participants may choose from:

- G Fund: Government Securities Investment Fund
- F Fund: Fixed Income Index Investment Fund
- C Fund: Common Stock Index Investment Fund
- S Fund: Small Cap Stock Index Investment Fund
- I Fund: International Stock Index Investment Fund

Management costs for these funds average less than 3 basis points, meaning less than 3 cents for each $1,000 in the employee’s account. Moreover, the life cycle fund discussed above would be composed of these index funds, so individuals using the life cycle fund would be charged the same fees.
**Trading limitations:** While the life cycle portfolio is designed to help employees who pay insufficient attention to their savings, a limitation on trading is designed to protect against employees who pay too much attention—that is, those who attempt to day trade their accounts by shifting their asset allocations often. Rapid trading can raise administrative costs for everyone, as well as putting the employee’s own savings at risk. Similar to the federal TSP, a DC plan for state and local employees might limit portfolio changes to one per month.

**Automatic/subsidized partial or full annuitization:** Annuitization is a difficult question. Economists find that, in theory at least, individuals should rationally choose to annuitize practically all of their retirement savings, as doing so provides the best insurance against running out of money late in life. At the same time, however, most individuals choose not to annuitize, perhaps because they demand greater liquidity in the case of a large cost such as for health care. At the least, the plan should offer annuities in the same way as the federal TSP does. In addition, it might create the default annuitization of employees’ savings accounts up to a certain level; say, such that the sum of the annuity and the employee’s Social Security benefit reached the poverty line or some greater threshold. Alternately, plan sponsors might choose to actively subsidize annuities, such as by making annuitized retirement savings tax-free or by offering a percentage bonus to employees who choose to annuitize their pension accounts.

**Conclusions**

Public plans in many cities and states around the country are in significant financial trouble. And, using the accounting approach the most nonpartisan government agencies and professional economists believe is most accurate, almost no public plan—including those in Nebraska—could be considered well-funded. Add to that the fact that final earnings DB pensions present perverse labor supply incentives that may actually make it more difficult for governments to attract and retain quality employees, and it should not be surprising that cities and states are considering fundamental pension reforms.

Yet a number of obstacles have been presented, and these arguments have in some cases prevented reforms from occurring. Skeptics cite so-called “transition costs” that arise either from pension accounting standards or from changes to pension investment portfolios. But, once properly understood, these transition costs are largely illusory and should pose no impediment to reform.

Others question whether a DC plan for public employees can provide decent retirement security or be run at a reasonable cost. Such claims are often backed by comparisons to private 401(k) plans. But the shortcomings of some 401(k) plans can be easily overcome, both through better plan design and through the economies of scale that large public plans enjoy. The federal government’s Thrift Savings Plan is an example of a DC pension that is simple for employees and runs at extremely low cost. There is no reason that the successful federal pension model could not work for public employees at the state and city level. A DC pension plan, if properly run, could enhance the retirement security of many public employees, particularly shorter-career workers who can be severely short-changed by final earnings DB plans. Just as importantly, the finances of DC plans are fully transparent to elected officials, public employees and taxpayers. Unlike DB plans, where sponsors may use a variety of actuarial tricks to avoid making required payments, under a DC plan it is very clear whether a plan sponsor has paid what it is owed. This provides a very useful automatic check, as employees will have the incentive to monitor the sponsor’s contributions and public employee unions would surely protest if required contributions are not made.

DC pensions, such as 401(k)s, are not perfect. But, through continued research on how to make a savings plan work better, they have been improved over the years through automatic enrollment, default investment in life cycle funds, and increased attention paid to fees. These improvements, plus others, could be applied to a DC pension plan for public employees that could be a model for the nation.
Endnotes

1 For more information, see Biggs, Andrew. “Not so modest: Pension benefits for full-career state government employees.” American Enterprise Institute Economic Perspectives. March, 2014.


14 For details see http://www.igmchicago.org/igm-economic-experts-panel/poll-results?SurveyID=SV_87dltXQvZkFB1r


28 Source: Investment Company Institute, based on Department of Labor data.


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