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# **Public Pension Plan Design: A Two-Component Approach to Addressing Challenges**

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## **Executive Summary**

Historically, most public sector entities provided retirement benefits to employees through a defined benefit (DB) pension plan, promising a lifetime benefit upon retirement. In recent years, traditional public sector DB pension plans have faced a number of challenges. Certain anti-DB industry groups and think tanks have prepared studies of public plan unfunded liabilities, which amount to millions or billions of dollars and in some cases, are growing as the plans mature. Articles in the press have often decried the legal constraints and funding approaches and claimed public plan decision makers are unaccountable. These same reporters and detractors assert that, since sponsors have not been able or willing to respond as investment and other risks have materialized, the traditional DB pension plan design may, in their opinion, be unsustainable.

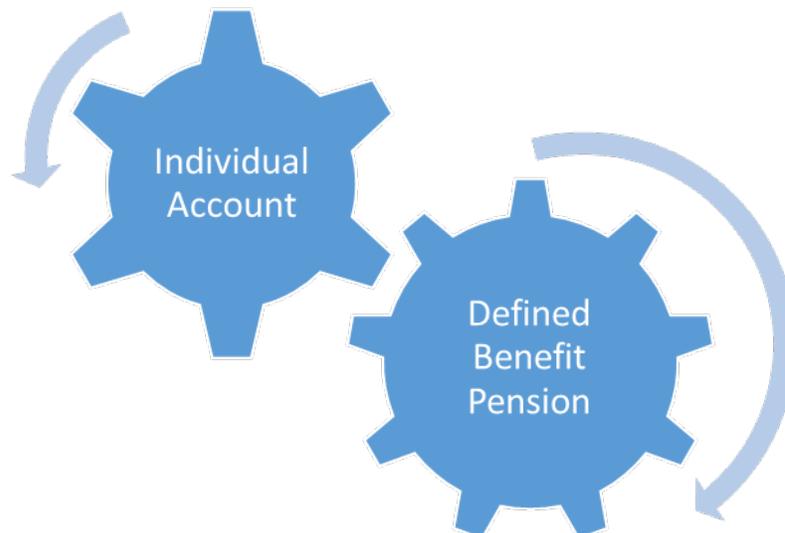
As a result of this scrutiny, some entities have begun to move toward limiting, replacing, or converting their DB pension plans to defined contribution (DC) plans. DC plans accumulate fixed contributions in individual participant accounts and relieve plan sponsors of any direct liability beyond the contributions made. However, as DC plan experience and numerous studies have shown, DC plans do not adequately replace DB pensions in providing a secure, lifetime retirement income. While plan sponsors bear the entirety of the risk in the traditional DB plan, the risks associated with DC plans are born entirely by the participants.

Moving into the future, public plan decision makers are looking for plan designs that evaluate risk and improve risk-sharing between stakeholders. The ideal plan design allows plan sponsors to rely on stable contributions and plan participants to rely on a secure retirement, without leaving future generations to deal with budget deficits. The authors of this paper propose that there is no previously undiscovered “eureka” design that will alleviate all current issues. Rather, the pension plan design of the future is a single plan that prudently and strategically combines DB and DC approaches that can be implemented and administered within the current public plan confines.

In such a two-component plan, the DB pension provides secure lifetime income through an annuity and the individual account (DC component) provides the flexibility to cover larger, single-occurrence expenses. The two retirement components work together to address the eventualities of the retirement years while sharing the risks and rewards of both favorable and unfavorable experience.

For entities that have shown difficulty managing the traditional models, our proposed design, described in detail in the remainder of this paper, relies on a fixed contribution amount (typically a fixed percentage of pay) for which the plan participants receive a defined benefit pension and contributions to an individual account (see Figure 1). The contributions received in each fiscal period will first go to the DB pension plan to meet its funding requirements, and any remaining balance of the total fixed contribution will then go into individual accounts. The basic plan features and participant choices will be limited to keep the plan simple and to reduce unforeseen costs. This simple concept can be adapted to any public sector space—whether or not employees participate in Social Security, regardless of whether contributions are paid by the employer or employee, and within the confines of any relevant statutes—by defining the DB pension level to both to meet the framework of that space and to reflect the acceptable level of contributions and risks.<sup>1</sup>

**Figure 1. Public Plan Design Proposal**



We will be discussing the proposed public plan design by reviewing the following considerations:

- Benefit structure of future accruals
- Plan design features
- Funding and investment strategies
- Security of promised benefits
- Transition steps

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<sup>1</sup> The two-component plan design can also be used in the private sector space.

## **1. Benefit Structure of Future Accruals**

The proposed public plan design is conceived as one plan, with one pool of assets, and two unique and separate benefit structures. Implicit in the concept of one plan is the recognition that different types of employees will have different retirement needs so that it may be appropriate to have separate benefits for certain types of employees, such as safety workers. One plan in this paper should be read as one plan for a specific group of employees.

### **1.1 Lifetime Annuity**

The first plan benefit is a future accrual under the DB component of the plan. The DB pension formula will target a basic monthly benefit earned after a full career and is payable for the participant's lifetime. The amount of benefit will reflect participation in the OASDI (Social Security), if applicable, the type of employment, and the underlying risk profile and investment policy of the plan sponsor. Further discussion of investment strategies is included later in this paper. For illustrative purposes, we propose that the benefit earned after 30 years of service target 70 percent of the member's annual salary in the year prior to retirement.

This benefit structure will be communicated to participants with an annual benefit statement. As members progress through their careers and begin to prepare for retirement, they can review their current DB benefit and the projected benefit at retirement should they continue working.

Administration is also straightforward, as the total accrued benefit at any point in time is the sum of each prior annual benefit accrual.

### **1.2 Individual Accounts**

The second plan benefit of the plan design is a DC-type individual account. The amount contributed to the individual accounts will vary from year to year, and will equal the balance, if any, of the total contribution less the contribution made toward the DB pension. The individual account assets will be invested with the DB pension assets as a single portfolio. As with current DC plans, at the end of each plan year (or other measurement period), the net investment earnings on the DC accounts will be allocated to the individual accounts.

Individual account balance statements will also be provided to participants to show their current account balance. Projected balances may or may not be shown. In general, projections for the individual accounts would be complicated and could be misleading since the projections will be dependent on both the projected DB pension contribution requirements and the investment return assumptions on the individual accounts.

### **1.3 Supplemental Savings Account**

The two benefits described work together to complete the public plan design. Public entities that want to provide additional retirement saving opportunities for public sector employees are encouraged to review their Section 457 (deferred compensation) offerings and, where necessary, make enhancements to encourage employees to supplement the employer-sponsored plans with personal savings.

## **2. Plan Design Features**

The proposed public plan has limited features and participant choices. We recognize that some features, such as COLAs, are widely used in today's public plans. Nonetheless, each benefit feature and participant choice has the potential to increase plan costs, complicate employee communications and challenge the ease of administration. Accordingly, all variations on the basic plan design will need to be carefully considered by plan sponsors before inclusion in the plan. In this section, we review several features with an eye toward compromise—providing limited options while still preserving the underlying themes of balancing costs and risks between all stakeholders. While the specific plan features desired may be different for each particular public plan design, our discussion focuses primarily on features that are unique in the public sector plan environment.

### **2.1 Cost of Living Adjustments (COLAs)**

Where members of public plans also participate in Social Security, the public plan may limit automatic COLAs. If members do not participate in Social Security, a COLA should be considered to keep public sector retirees on a level footing with other retirees who receive a Social Security pension. The plan COLA could be tied to the Social Security COLA and only apply to a portion of the DB monthly pension.

### **2.2 Employee Contributions**

Public plans typically require employee contributions in addition to employer contributions to fund the retirement benefits. Employee contributions in the proposed plan design will not be treated as individual savings and there will generally be no, or very limited, provision to refund employee contributions. Employees will not be allowed to make withdrawals from individual accounts, though loans may be possible. Plan sponsors may evaluate the pros and cons of transferring employee contributions that were allocated to the DB component to the individual account if a member terminates employment before vesting (thereby forfeiting his or her DB pension).

### **2.3 Lump Sums**

Since the proposed plan design includes an individual accumulated account balance in addition to the DB pension, theoretically, there should be no lump sum option from the DB part of the plan. In recognition of the fact that post-retirement income needs may not be level over the retiree's lifetime, a partial lump sum might be considered by plan sponsors. In situations where the plan assets do not exceed the accrued benefit liabilities, any lump sum will be adjusted so that only the funded portion is paid to the retiree in a single sum. For example, if a retiree chooses to take 20 percent of the account balance as a lump sum, and the plan is 75 percent funded, then he or she will receive only a 15 percent lump sum. The unfunded portion of the lump sum election, which in the example would be 5 percent of the account balance, will become part of the remaining monthly annuity. Another approach is to automatically adjust the maximum allowable partial lump sum in years when the plan is less than fully funded. For example, the

maximum permissible partial lump sum election could be 25 percent when the plan is fully funded, but 20 percent when the plan is 80 percent funded.

#### **2.4 Deferred Retirement Option Programs (DROPs)**

Deferred retirement programs can be a desirable plan feature in situations where public sector employers want to retain experienced, highly skilled employees who may be tempted to retire when eligible or to encourage other retirement behavior as deemed appropriate. DROPs have any number of variations, but conceptually allow employees to limit their monthly annuity upon retirement in exchange for an accumulated lump sum. Plan sponsors who choose to include a DROP in the plan design should carefully consider the costs and benefits of such a program.<sup>2</sup>

#### **2.5 Participant-Directed Investments**

There have been numerous studies that indicate individuals are not well-equipped to make the best investment decisions. Our proposed public plan calls for all contributions and assets to be managed (including both individual accounts and the DB pension assets) by the plan's investment advisor, with strict limits on investment fees by asset class. However, given that some individual accounts can become quite large, the plan sponsor may wish to consider allowing limited investment choices for account balances above a set dollar amount, such as \$500,000.

#### **2.6 Early Termination of Employment**

Retirement plans are not intended to be short-term savings plans. The target benefit will be set assuming a full career with the public sector employer. However, in today's more mobile workplace, plans need to consider termination benefits and early retirement benefits. Our proposed public plan design does both.

Retirement benefits in both components of the plan vest after 10 years of service. Plan sponsors may consider allowing the individual account to be transferred to another retirement plan or retirement vehicle, making the individual account portable. Although this paper refers to the DC-type component of the plan design as individual accounts, they should not be characterized as employee savings. Communication is key, as the contributions made by both employers and employees fund the overall retirement plan.

The DB pension will be reduced to reflect a longer expected payout period for employees who retire prior to a full career. The employee also shares the risk of early retirement because the savings account will accumulate investment earnings over a shorter period of time. Disability benefits may be treated as a variation of early retirement benefits and provide a reduced DB pension. Additional salary-related disability insurance should be provided through employer or state programs that may be more cost effective.

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<sup>2</sup> There are many publications that discuss DROPs in greater detail. For example, see the Government Finance Officers Association *Deferred Retirement Option Programs Advisory*.

### **3. Funding and Investment Strategies**

#### **3.1 Funding**

A single contribution (for each membership group) is the underlying basis for this proposed public sector plan design. The total plan contribution must be sufficient to cover the cost of benefit accruals and administrative expenses, amortization of any unfunded liabilities and a contribution to individual accounts. It must be emphasized that regardless of plan design or structure, the most important element in long-term funding stability is strict adherence to funding requirements, that is, *make the contributions*.

Funding for the defined benefit pension component of the plan should be based on generally accepted actuarial principles and practices.<sup>3</sup> In most situations, we believe that the annual normal cost should be based on the entry age actuarial cost method. The Government Accounting Standards Board Statement No. 67 *Financial Reporting for Pension Plans* mandates use of the entry age cost method, so using a different actuarial cost method would yield different actuarial measures for funding and accounting, and may result in confusion and less transparency. Plan sponsors should consider the appropriate amortization periods for paying off the initial unfunded liability, experience gains or losses, plan changes, and changes in liability due to assumption changes.

#### **3.2 Investments**

Since plan benefits and expenses are funded through a combination of contributions and investment earnings, the plan's investment strategy is key. The contribution requirements for a DB pension will be lower when investment returns are higher. As such, for the proposed public plan design, the contributions to the individual accounts will be larger when the DB pension needs a smaller portion of the fixed contribution amount. However, to achieve higher investment returns, the investment portfolio will include more diversification in investments (i.e., investments with a higher variability in returns).

Actual allocation of contributions between the DB pension and individual accounts will vary depending on investment returns, with the DB contribution being lower when assets outperform the target, and the individual account contributions being lower or even zero in years when assets underperform.

Using the proposed plan design, the investment strategy and total contribution level are selected in tandem to achieve the desired benefit outcome. A plan sponsor that is more risk-averse may select a conservative investment strategy that will fund the DB pension with a high level of security in exchange for higher contributions to the DB component and lower remaining contributions to be allocated to individual accounts. Another plan sponsor may feel comfortable

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<sup>3</sup> A thorough discussion of funding methods, including the rationale for setting amortization periods, is provided by the Conference of Consulting Actuaries Public Plans Community (CCA PPC) *Actuarial Funding Policies and Practices for Public Pension Plans* and the California Actuarial Advisory Panel *Actuarial Funding Policies and Practices for Public Pension and OPEB Plans and Level Cost Allocation Model*.

with a return-seeking investment strategy designed to reduce contribution requirements of the DB pension, leaving a greater contribution to individual accounts but also greater variability in the account balances at retirement. See Figure 2.

The following plan designs illustrate how the combination of DB pension and individual accounts could vary dependent on the investment strategy and the total plan contribution budget (see Figure 2 illustrations). Illustrations 1 and 2 target the same DB level but employ different investment strategies to fund the plan.

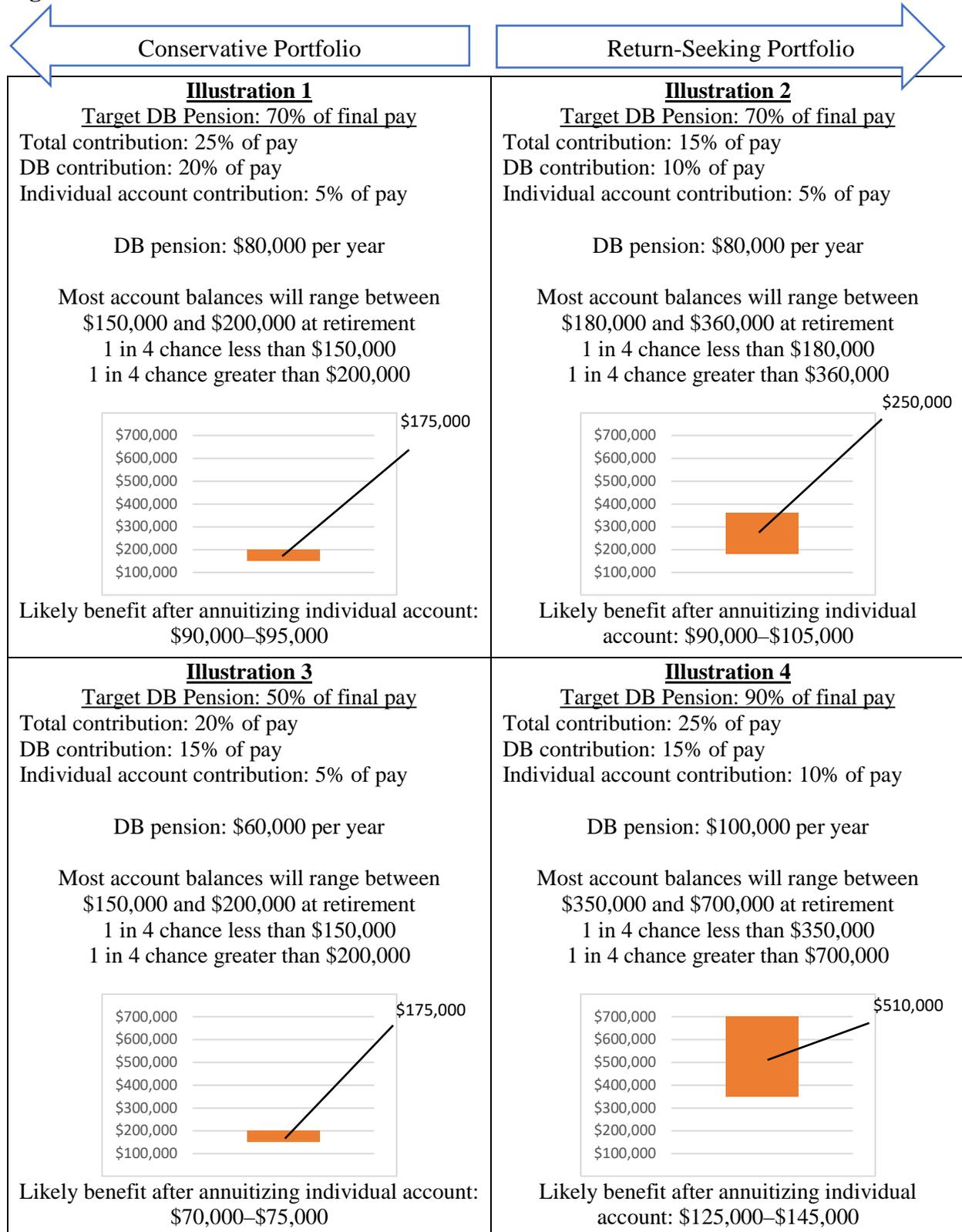
The sponsor of the plan in **Illustration 1** has decided on a conservative investment portfolio, which requires contributions equal to 20 percent of pay to fund the target DB benefit (70 percent of final pay). The plan sponsor has budgeted total contributions of 25 percent of pay, leaving 5 percent of pay to be contributed to the individual accounts—as long as the DB contribution doesn't vary. Of course, as experience develops, the DB contribution requirement will vary, and so will the individual account contribution.

Conversely, the sponsor of the plan in **Illustration 2** has budgeted 15 percent of pay and is targeting higher investment returns to fund the same 70 percent of final pay DB pension. The DB pension requires a contribution of only 10 percent of pay, again leaving 5 percent of pay to be contributed to the individual accounts. In this example, the projected \$180,000–\$360,000 range of the individual account at retirement is over three times the projected \$150,000–\$200,000 range of the individual account in Illustration 1.

**Illustration 3** demonstrates how a modest benefit may be achieved through investing in a conservative portfolio.

**Illustration 4** demonstrates that a higher benefit may be achieved through a combination of a return-seeking portfolio and higher contributions.

**Figure 2. Variations in Combinations of DB Pension and Individual Accounts**



All investment decisions are essentially choices about risks, rewards and time frames. The aggressive investor is willing to take greater risks to generate greater rewards, but is also accepting the risk of smaller rewards. The conservative investor wants to protect the account value, and is willing to accept smaller rewards in exchange for a lower risk of loss. Sponsors of pension plans face the same choices. In designing any plan, the plan sponsor must evaluate the contributions required for the targeted benefit in light of the investment strategy. Stochastic modeling can be used to understand the risks and likelihood of a successful program from both the employer and employee perspectives.

### **3.3 Extreme Market Events**

Despite the best attempts at modeling, history has proven that black swan events that are rarely, if ever, projected to occur, can and do occur. Insurance markets were created to protect against unexpected losses for individuals and businesses. There are also current markets that provide stop-loss insurance for health and welfare benefit plans. Similar markets for extreme events could be created for pension plans so that risks can be pooled. By designing public plans to meet specific objectives, and clearly identifying risks inherent in the investment strategies, we believe it is possible to build a model for risk sharing. This market requires further development but would set “premiums” for coverage based on the risks inherent in a plan’s investment strategy.

## **4. Security of Promised Benefits**

The authors strongly believe that the sole purpose of a pension plan is to provide a secure income so that workers can retire from employment. There are no good outcomes in the absence of a secure retirement income. While the variety of outcomes is endless, at the two extremes, either:

- Employees will continue to work, often beyond the duration of their physical or mental abilities, creating a dangerous work environment for employees and their coworkers, limiting opportunities for younger employees and diminishing organizational effectiveness.
- Employees will retire without adequate income and be forced to rely on social safety networks, in particular, potentially having a huge impact on state Medicaid expenditures.

### **4.1 Basic Retirement Income**

The proposed public plan design can provide a comfortable retirement income, but we suggest that generally retirement income should not exceed an employee’s final salary. As discussed in previous sections, the plan sponsor’s target retirement income level will vary based on a number of factors including personnel objectives, budgetary constraints and risk tolerances.

### **4.2 Annuitizing Individual Accounts**

Upon retirement, all or a portion of the individual account may be converted to an annuity through the DB side of the plan. The pensioner may be allowed to take a set fraction, or dollar amount, as a single sum payment, but the remainder of the account balance will be paid out in the same annuity form as selected by the participant for his or her DB pension.

### **4.3 Transparency and Moral Hazards**

Annual participant notices should include the current DB pension amount, the projected DB pension amount and the current individual account balance. In addition, the notice should describe the plan's investments, investment earnings, total plan contributions, contributions allocated to the DB pension and the remaining contribution allocated to the plan's individual accounts in the statement period. Communications should avoid stating that a certain dollar amount was contributed to an individual account, and should encourage employees to view the individual accounts as a part of the overall retirement plan that provides benefits to all employees.

Employees should also be notified of any considerations of plan changes and be provided the opportunity to ask questions and express concerns. Our proposed public plan envisions shared responsibility and shared risks, and as such, requires greater opportunities for employee involvement in plan changes. As members are better informed about the retirement plan and how it works, the moral hazards of plan sponsors making decisions that are personally motivated will be greatly diminished.

## **5. Transition Steps**

Unlike private sector pension plans that are primarily governed by federal law, public pension plans fall under the purview of state and local rule. We do not believe there are any serious conflicts between current statutes and implementation of the proposed public pension plan design for new employees. There are a number of situations where statutes applicable to public pension plans, and implied or literal employer/employee contracts, are being challenged through the courts. For purposes of considering a transition to the proposed plan design, we will focus on the major constraint where many existing public plan statutes prohibit any reduction to the pension benefit promised to current employees.

While not all current public DB pension plans are underfunded, some plans do have large funding deficits that must be addressed. One approach is to require contributions to pay off the unfunded liabilities over a period of time that is no longer than the future working lifetimes of current employees. If separate and supplemental contributions to the current ("legacy") plan are required, the benefits that a new plan design may wish to target could be difficult to budget.

A compromise may be to design a new plan that recognizes the legacy plan benefits and provides a modified benefit target for current employees than for new employees. To make this compromise work, new employees must be defined as those who are not active or former participants of any public sector plan, regardless of whether their current employer is different than the employer that participates in the legacy plan. This compromise needs to be clearly communicated and explained to current employees, and projected benefits from the legacy plan need to be included in benefit statements, so that equity between current and new employees is understood. The additional communication requirements are consistent with the desire to be transparent as new plans are designed and implemented.

Other alternatives may include preserving any accrued benefit under the legacy plan that is protected under current law.<sup>4</sup> The new public plan would then be structured to only provide additional benefits when the legacy plan is fully funded or when the value of new plan benefits exceeds the value of the current legacy plan benefit. On its face, it seems unlikely that this approach would comply with the current law in many jurisdictions. In addition, employees who do not anticipate additional accruals may simply choose to retire, creating staffing and organizational concerns. It may be possible to discourage a rush to retirement through the use of a deferred retirement program (DROP).

It is possible, and likely for legacy plans with large funding deficits, that in the short term, the sum of contributions required to fund both the legacy plan and the new pension plan will be higher than the cost of maintaining the legacy plan. Nonetheless, transition costs may be unavoidable in transitioning to a new plan designed to include the best features of current DB and DC plans, with stable contributions and sharing of risks.

## **Conclusion**

A strong retirement system for employees of public sector (and private sector) employers is essential. The current approaches to public pension plans have all the key elements but are not coordinated with a single plan design. Our proposed public plan design lays out one way to combine the best features of defined benefit pensions and defined contribution savings accounts.

We do not doubt there are alternate approaches. However, the proposed plan design is simple, practical and transparent. A single plan with a set contribution rate provides both a secure DB pension and an individual account to supplement the basic pension amount. Society is not burdened due to workers who cannot afford to retire or retirees who need to rely on public aid programs such as Medicare. Employers and employees can budget for predictable, stable contributions. Investment risks, and other risks such as retirement risk and longevity risk, are shared between employers and employees. Administrative expenses are reduced by establishing one approach with few options. Investment expenses for individuals are limited by pooling assets and setting limits on investment fees. The design is flexible—it is adaptable to public employers that participate in the OASDI (Social Security) program and those that do not, by setting a basic DB pension target that recognizes that participation or lack thereof. The pension target and the allocation of contributions between the DB pension and individual accounts can reflect a conservative, balanced or aggressive investment strategy, thereby continuing to support financial markets and economic growth with plan assets.

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<sup>4</sup> Some jurisdictions may protect the legacy plan's regular retirement benefit at normal retirement age, but do not prohibit changes to ancillary benefits.

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