

# The Impact of Closing the Defined Benefit Plan at CalPERS

Prepared by the California Public Employees' Retirement System (CalPERS)

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## The Impact of Closing the Defined Benefit Plan at CalPERS Executive Summary

CalPERS administers a defined benefit (DB) plan which guarantees a lifetime pension benefit to retirees. In recent years, questions regarding the impact of closing the DB plan and replacing it with a defined contribution (DC) plan or a hybrid plan have become more widespread.

There are two options to close a DB plan: a hard freeze and a soft freeze. A hard freeze stops future service accruals for all (current and future) employees. A soft freeze closes the DB plan to new hires. In the event of a soft freeze, another retirement plan, such as a DC or hybrid plan, would likely be established and offered to future employees. The DB plan would continue to operate for current employees.

In the public sector in California, there is strong legal protection for benefits, and it is commonly understood that public pension plans are limited to soft freezes. Typical soft freeze plan alternatives are a DC plan, a deferred compensation plan such as a 401(k) or 403(b) plan, or a hybrid plan, a DC component and a more modest DB plan than the existing pension plan. DC proponents prefer DC plans because of their perceived portability, predictable employer costs, employee control over their investments, and the shift of the investment risk from the employer to the employee. Some DC proponents also say that DC plans offer greater transparency because the employee selects their own investments, eliminating potential conflicts of interest in investment decisions by public retirement boards.

The costs and risks of closing a DB plan include:

- The cost of administering two plans for both current and future employees
- Higher DC plan administrative costs
- Asset Allocation and Investment Return advantages of a DB plan
- Liquidity requirements of a DB plan
- Accounting Impact - frozen DB plan expenses must be amortized over a decreasing payroll which will lead to front-loaded expenses
- Social Security - would have to add employees that currently do not participate
- Loss of a recruitment and retention tool
- Disability and survivor benefits not offered in a DC plan
- Longevity risk and leakage in DC plans
- Cost of Living Adjustments are a DB plan benefit, not a DC plan feature

Providing employee benefits through any retirement plan is a complex policy decision. Before making policy decisions regarding the choice of using a DB plan, a DC plan or a hybrid plan to provide retirement benefits, a thorough cost-benefit analysis should be conducted including both potential short and long term cost savings. A comparative analysis should consider the goals the employer is attempting to reach, the level of benefits that are desired, and provide an understanding of the risks inherent in various pension plan designs, and who should bear them. Any analysis should also include the need for a rebalancing of the portfolio to reflect the greater need for liquidity once all active members have retired.

# Issue Brief: The Impact of Closing the Defined Benefit Plan at CalPERS

**Introduction** The California Public Employees' Retirement System (CalPERS) administers a tax-qualified defined benefit (DB) plan created to provide secure retirement income to qualified members employed by a participating public employer, and whose earnings capacity is diminished by age or disability. The DB plan is intended to advance the financial security for all who participate in the System. Benefits of the DB plan for employers include the ability to attract and retain qualified employees for government employment, and reasonably estimate costs from year to year as they develop their annual budgets. In recent years, questions regarding the impact of closing the DB plan and replacing it with a defined contribution (DC) plan or a hybrid plan have become more widespread.

The scope of this Issue Brief does not cover hybrid plans. However, the concepts related to the additional cost of administering two plans and the type of freeze a plan administrator may consider, outlined in this Issue Brief, would likely apply to various hybrid plan designs. A 2004 study by Watson Wyatt, benefit consultants, shows that "retirement plan costs typically rise after a conversion from a traditional pension to a hybrid plan."<sup>1</sup> And, a November 2010 study by Towers Watson, a benefits consulting firm, found that "...hybrids are more volatile than DC plans. Conversely, as there is a natural tradeoff between cost and volatility, hybrid plans are somewhat more cost-efficient than DC plans, although somewhat less so than traditional DB plans."<sup>2</sup>

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**Issue Overview** This Issue Brief examines the impact of closing the DB plan at CalPERS, i.e., eliminating future service accruals in the plan and opening a DC plan as a replacement.

This Brief intends to:

- define DB and DC plans
- identify key areas that have an impact on the cost of the plan for both the short and long-term upon closure of the plan
- identify who bears the risk; the employer or employee

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<sup>1</sup> Watson Wyatt Insider. *Workforce Realities Not Cost, Drive Hybrid Plan Conversions*. February/ March 2004.

<sup>2</sup> Tomeka Hill, Gaobo Pang and Mark Warshawsky. *Hybrid Pension Plans: A Comprehensive Look at Their History, Economics and Features*. Towers Watson Perspectives. November 2010, page 27.

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**What are DB and DC Plans?**

A defined benefit (DB) retirement plan is a traditional pension plan, such as the CalPERS DB plan. Under a DB plan a retiree receives a retirement benefit that is guaranteed by law. Typically, the amount of the retirement benefit is determined by the benefit formula, a participant's years of service, age at retirement, and the highest salary over a specified number of years.

Public pension benefits are funded by employee and employer contributions, and investment earnings. A plan administrator is responsible for managing the DB plan on behalf of participating employers. Employers ensure adequate funding is available for benefits for their employees.

A defined contribution (DC) retirement plan is a deferred compensation retirement savings account such as a 401(k) or 403(b) plan. DC plans do not have any guaranteed benefits. Retirement benefits are determined by contributions made to an individual account by the participant, employer and investment earnings. The employee is typically responsible for managing their own retirement account and making decisions about where to invest their retirement savings, and how much to contribute and how often. The maximum employer contribution amount is usually set by law or by the employer.

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**DB Plan Freeze Options**

If a DB plan administrator is considering a change in benefits, the plan can offer participating employers two pension plan freeze options. An administrator can terminate future service accruals for all (current and future) employees, known as a "hard freeze", or close the plan to new entrants (new hires) only, known as a "soft freeze." In the public sector in California, there is strong legal protection for benefits, and it is commonly understood that public pension plans are limited to soft freezes. Key areas that have an impact on costs to the plan for both the short and long term are identified below as well as who bears the risk, the employer or the employee. All of the issues outlined below are applicable under both the hard and soft freeze options.

Typical soft freeze plan alternatives are a DC plan (a deferred compensation plan such as a 401(k) or 403(b) plan) or a hybrid plan (a DC component and a more modest DB plan than the pension plan for current employees). DC proponents prefer DC plans because of their perceived portability, predictable employer costs, employee control over their investments, and the shift of the investment risk from the employer to the employee. Some DC proponents also say that DC plans offer greater transparency because the employee selects their own investments, eliminating potential conflicts of interest in investment decisions by public retirement boards.

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**Costs and  
Key Risk  
Areas****Two Plans Cost More Than One: Administrative Costs**

(Employer and Employee) When a plan administrator closes a DB plan, often the administrator opens a fixed-rate DC plan. Closing a DB plan does not eliminate the administrative costs of the DB plan. The DB plan must be administered until the last participant quits working, retires and dies. In the first year of a DC plan, there are significant start-up costs. Individual accounts need to be created for new participants and those accounts must be maintained. Until the final DB plan participant dies, two plans must be maintained and two plans cost more than one.<sup>3</sup>

**DC Plan Administrative Costs Are Higher Than DB Plan Costs**

(Employee) For large pension plans such as CalPERS, the cost of managing a DB plan is lower than the cost of managing a DC plan because administrative costs are driven by scale.<sup>4</sup> The average annual cost of managing the CalPERS DB plan from 1997 to 2004 was 0.25 percent of assets. The annual management cost of a DC plan can be as high as 2 percent of assets. The expense ratio for the average stock mutual fund is 1.1 percent of assets.<sup>5</sup> In general, the employer pays the administrative costs in a DB plan and the employee pays the administrative costs in a DC plan.

**Asset Allocation and Investment Return**

(Employer and Employee) The economic efficiencies embedded in DB plans are substantial. The biggest drivers of the cost advantages in DB plans are longevity pooling and enhanced investment returns that derive from reduced expenses and professional management of assets.<sup>6</sup> When mature, a DB plan has a balanced mixture of young, middle-age, and retired members. This balance give DB plans the ability to diversify their portfolio over a broader investment horizon. For example, investments in private equity are rarely an option for DC plans. As DC plan participants approach retirement age, they are advised to shift their assets from higher return/higher risk assets like equities to lower return/lower risk assets such as bonds. While there are good reasons for doing this, to protect against market shocks later in life, the result comes at the price of lower expected investment returns.

DB plans on average return 1 percent more than DC plans. In addition, investment expenses can be expected to be 0.5 percent higher for DC plans than for DB plans. The combined effect of the differences in return and expenses is 1.5 percent which, when compounded over a 25 year career, will result in asset accumulations of 20 percent less for

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<sup>3</sup> National Institute on Retirement Security. *Look Before You Leap, The Unintended Consequences of Pension Freezes*. October 2008.

<sup>4</sup> Council of Institutional Investors. *Protecting the Nest Egg: A Primer on Defined Benefit and Define Contributions Plans*.

<sup>5</sup> CalPERS. *Pension Debate: The Myths and Realities of Defined Benefit and Defined Contribution Plans*. July 2006.

<sup>6</sup> National Institute on Retirement Security. *A Better Bang for the Buck-The Economic Efficiencies of Defined Benefit Pension Plans*. August 2008.

DC plans than for DB plans for the same contribution amount.<sup>7</sup>

A 2009 paper published by Milliman, an independent actuarial consulting firm, cited lower investment returns from DC plans in Nebraska and West Virginia public pension systems. Over a 20 year period, Nebraska's state and county employees earned an average return between 6 and 7 percent in the DC plan. During this same time period, the DB plan for Nebraska's school employees, state judges and state patrol earned an average investment return of 11 percent. Similarly, the average return rate for West Virginia teachers in the DC plan was 3.15 percent lower than that for the DB plan members from 2001 through 2007.<sup>8</sup>

In a DC plan, employees assume all the investment risk while in a DB plan this risk is assumed by the employer. Closing a DB plan to create a DC plan can be viewed as a policy and benefit shift for the employer. In a DC plan, once the employer makes their required share of contributions, they have no other obligations. The benefit provided to the employee at retirement depends heavily on the investment returns of the employee's account. The higher the returns during the employee's career, the higher the benefit will be at retirement. Conversely, lower returns lead to lower benefits at retirement.

Participants in a DC plan also face the risk of experiencing significant market losses just prior to retirement or even after retiring, which could impact their decision to retire, their standard of living after retirement and may force current retirees to seek employment after retirement.

### **Liquidity Requirements**

(Employer and Employee) As a closed DB plan ages, fewer contributions due to fewer active members, relative to retiree benefit payments, increases the need for more liquid assets. This creates a need to shift assets to investments that have a more predictable cash flow such as bonds. This generally has a negative impact on the fund and results in lower investment income. This lost investment income needs to be covered by additional contributions. These contributions may come from the employer, the employee or a combination of both.

The actual amount of investment income lost is affected by how quickly the closed DB plan shifts its asset allocation toward a more conservative allocation involving a higher proportion in fixed income, and how much of the assets are invested in fixed income.

The newly adopted asset allocation of the Public Employees' Retirement Fund (PERF) calls for 15.9 percent of the assets to be invested in fixed income. Once all members are retired, it is

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<sup>7</sup> Alicia H. Munnell, Maurico Soto, Jerilyn Libby and John Prinzivalli. *Investment Returns: Defined Benefit vs. 401(k) Plans*. Issue in Brief 52, Center for Retirement Research at Boston College. September 2006.

<sup>8</sup> Mark Olleman. *Public Plan DB/DC Choices*. Milliman. January 2009.

reasonable for a closed DB plan to invest a much higher portion of its assets in fixed income. For example, the pension plan may shift the asset allocation to 60 percent in fixed income once all members have retired. For CalPERS, most of the current active members will likely retire in about 30 years. At that point, more assets would be allocated to fixed income. If the asset allocation were to gradually shift each year over the next 30 years toward more fixed income assets to achieve a 60 percent fixed income goal, the expected investment income for the entire portfolio would be lower. Over the next 60 years, expected investment income would be decreased by about \$150 to \$200 billion for CalPERS as a whole. If the decision were made to invest 40 percent in fixed income, then the lost investment income would be less, and similarly, a shift to 80 percent fixed income would result in a greater reduction in investment income. Any shortfall in investment earnings would need to be made up by higher contributions from the employer or the employee or both. The present value of shifting the asset allocation to 60 percent fixed income is estimated to be between \$30 and \$40 billion.

### **Accounting Impact**

(Employer) For an employer's financial statement to be compliant with accounting standards set by the Governmental Accounting Standards Board (GASB), certain rules must be followed. In particular, GASB Statements 25 and 27 set guidelines for DB plans. GASB defines the "expense" that must be disclosed by public agencies in financial statements for their DB plans. In contrast, the actual employer required contributions are determined on a funding basis which may differ from the accounting basis prescribed by GASB.<sup>9</sup>

Under GASB, the DB plan unfunded liability must be amortized over a period no greater than 30 years. In addition, the unfunded liability must be amortized in level dollar amounts, or as a level percent of the projected payroll. For an open DB plan, projected payroll can be expected to grow as new hires are expected to replace retiring employees, and average pay generally increases each year. As a result, payment schedules can see dollar amounts increase at the same rate as the payroll.

However, once a plan is frozen and closed to new entrants, payroll will decline over time. Therefore, under governmental accounting standards, a frozen plan must be amortized over a decreasing payroll or as a level dollar amount. In practice, the pension expense of a frozen plan will tend to be front-loaded, as compared to an open plan that can spread these costs over a growing payroll base. The accounting costs will rise in the short term due to this front-loaded

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<sup>9</sup> The CalPERS Board would need to review its amortization policy for funding purposes to determine whether or not it should be consistent between accounting and funding. This Brief does not assume any changes to the Board's current amortization policy for *funding* purposes. If the Board were to adopt a funding policy similar to the change mandated by the accounting standards, actual contributions would change in a similar manner to the pension expense shown on the table, Impact on Pension Expense.

nature. Because CalPERS plans are currently subject to an amortization schedule as a level percentage of an increasing payroll, closing the DB plan would result in a change to a level dollar amortization for accounting purposes. By converting to a level dollar amortization, the percentage increase in short term amortization of the unfunded liability will be about 30 to 40 percent, increasing the pension expense in the short term.

As an example of the short term impact on expensing requirements of changing the amortization method, the table below provides a comparison of the portion of the pension expense attributable to the unfunded liability for the next ten years for the State plans. As shown in the table below, if the DB plan is closed to new hires, the State would be required to front load the pension expense to pay off the unfunded liability. Expenses would be greater for the first 10 years and be lower afterward.

| <b>Impact on Pension Expense (Accounting Impact)</b><br><b>Fiscal Years 2010-2011 through 2019-2020</b> |   |  |                                 |
|---|---|--|---------------------------------|
| <b>Fiscal Year</b>  | <b>Current Amortization of the Unfunded Liability (in millions)</b> | <b>Amortization of the Unfunded Liability if DB Plan is Closed (in millions)</b> | <b>Difference (in millions)</b> |
| <b>2010-2011</b>  | \$1,663.8   | \$2,192.8  | \$529.0                         |
| <b>2011-2012</b>  | \$1,712.6   | \$2,192.8  | \$480.2                         |
| <b>2012-2013</b>  | \$1,763.0   | \$2,192.8  | \$429.8                         |
| <b>2013-2014</b>  | \$1,814.9   | \$2,192.8  | \$377.9                         |
| <b>2014-2015</b>  | \$1,868.4   | \$2,192.8  | \$324.4                         |
| <b>2015-2016</b>  | \$1,923.6   | \$2,192.8  | \$269.2                         |
| <b>2016-2017</b>  | \$1,980.5   | \$2,192.8  | \$212.3                         |
| <b>2017-2018</b>  | \$2,039.1   | \$2,192.8  | \$153.7                         |
| <b>2018-2019</b>  | \$2,099.6   | \$2,192.8  | \$93.2                          |
| <b>2019-2020</b>  | \$2,161.9   | \$2,192.8  | \$30.9                          |

Note that the amortizations of the unfunded liability in the table above are based on the unfunded liability from the June 30, 2009 actuarial valuation of the State plans. It assumes all actuarial assumptions will be met including the assumption that the investment return earned by CalPERS will be 7.75 percent each year into the future. To the extent the actual experience of the plan is different than expected, these amounts will differ.

### **Social Security**

(Employer and Employee) Employers are required to participate in Social Security unless they provide an alternate minimum level of retirement benefits. Many public employees, most notably safety



members, do not participate in Social Security. Closing the DB plan for employees who do not participate in Social Security would force their employers into Social Security unless a mandatory DC plan was established to provide a minimum allocation of 7.5 percent of salary. The cost of Social Security is 12.4 percent shared equally by the employee and employer. As a result, freezing the DB plan could increase costs by 6.2 percent for many employers in addition to their current obligations.

Another important consideration is that members in a DC plan face investment risk, longevity risk, and post-retirement cost-of-living adjustment risk. DB plans are able to address these risks in their plan design. Social Security provides some protection against these risks. For employers who do not participate in Social Security, a switch to a DC plan provides no protection from these kinds of risk. Therefore, if these risks are an issue for an employer, then participation in Social Security should be considered if their employees are currently not covered.

### **Recruitment and Retention**

(Employer and Employee) The retirement security offered by DB plans is highly valued by public employees and employers as a recruitment and retention tool. A recent study by the Alaskan Public Pension Coalition found that Alaska is investing significant resources in hiring and training young public employees only to have them leave the state with their training and experience, and DC account balances to work for employers with DB plans.<sup>10</sup>

The National Institute on Retirement Security (NIRS) published the issue brief *Look Before You Leap: The Unintended Consequences of Pension Freezes* in October 2008. One key finding was a DB to DC switch can worsen retirement insecurity, potentially damaging recruitment and retention efforts.<sup>11</sup> The effects are more severe under a DB to DC switch than if benefits in the existing DB plan are reduced. Some state retirement systems, such as West Virginia, who made the DB to DC switch, have gone back to the DB plan. This action was largely because the DC plan did not provide adequate retirement security for its members.

### **Disability and Survivor Benefits**

(Employee) DB pension plans generally provide income and benefit security in the event of regular service retirement, but also in the unforeseen event that a member becomes disabled or dies prior to retirement. Disability and death benefits are pre-funded within the pension plan. If the DB plan is closed, disability and death benefits need to be provided by a third-party in addition to the DC plan. DC

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<sup>10</sup> Alaskan Public Pension Coalition. *Returning Alaska to a Defined Benefit System: A Benefit for Alaskans and a Savings for the State*. February 2010.

<sup>11</sup> National Institute on Retirement Security. *Look Before You Leap: The Unintended Consequences of Pension Freezes*. October 2008.

plans are not designed to provide adequate benefits in the event of disability or death prior to retirement, especially when these events occur early in an individual's career. Members with short service tenure do not have time to accumulate sufficient assets in their DC account to provide for an adequate benefit for themselves or their survivors.

To provide similar disability and survivor benefits, these benefits would have to be purchased from an insurance company. The cost to purchase similar benefits from an insurance company is greater than the cost of providing these benefits within the DB plan because an insurance company uses a lower discount rate because it is required to invest in less risky assets, will add a premium due to accepting the risk, and will generally add a profit margin.

### **Longevity Risk and Leakage**

(Employee) Longevity risk describes the uncertainty an individual faces with respect to their exact lifespan. Actuaries can predict the life expectancy of an individual retiring at age 62 to be age 85. Some members will live a relatively short period of time after retirement and others will live beyond age 100. In a DB plan, actuarial gains resulting from individuals dying earlier than their life expectancy may offset actuarial losses from individuals living longer than their life expectancy. As a result, only enough assets to pay for the *average* life expectancy are required in a DB plan. Comparatively, an individual in a DC plan may need to accumulate more assets to last the maximum life expectancy.

The need to accumulate more assets is even more evident when considering that individuals participating in a DC plan are generally advised to shift their assets from higher return/ higher risk assets like equities to lower return/ lower risk assets such as bonds. This shift means that the assets in the DC plan will grow at a lower rate in a DC than in a DB plan after retirement therefore increasing the longevity risk.

DC plans also generally allow participants to borrow or withdraw from their retirement accounts. The outflow of money from the account is often referred to as "leakage". Some DC plan participants may seek to take advantage of being able to tap their account to meet short-term needs. Any amount of cashing out or drawing down account balances is a major concern because it can greatly impact retirement savings.<sup>12</sup> If these funds are not replenished by the member, there is little or no retirement savings when it is needed.

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<sup>12</sup> Fidelity Investments. *Plugging the Leaks in the DC System: Bridging the Gap to a More Secure Retirement*. Employee Benefits Research Institute. Summer 2010.

### **Cost of Living Adjustments – COLA**

(Employee) DB plans generally have COLAs included in their design and are able to mitigate the impact of inflation. Most CalPERS members receive a 2 percent COLA after retirement, and are protected from some of the effects of inflation by the Purchasing Power Protection Allowance (PPPA) benefit. The PPPA benefit maintains a 75 percent or 80 percent purchasing power benefit level after retirement.

DC plans do not have COLAs. The effect of inflation is likely to erode the value of the account balance over time, especially in the event of a high inflation period. To mitigate this risk, in some cases members of a DC plan may be able to invest in securities with inflation protection. However, as with any investment decision, there is a trade off. Generally, in order to guarantee inflation protection, the participant will have to give up a portion of the investment return elsewhere leading to lower benefits in retirement.

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### **Conclusion**

Providing employee benefits through any retirement plan is a complex policy decision. Before making policy decisions regarding the choice of using a DB plan, a DC plan or a hybrid plan to provide retirement benefits, a thorough analysis should be made of the benefits provided by each plan and the effects of these plans on employer costs, on recruitment and retention goals of the employer, and the ability of the employer to predict and anticipate costs over time.

For the reasons listed in this Brief, a DB plan that currently costs an employer 15 percent of payroll cannot be replaced by a DC plan that also costs the employer 15 percent of payroll and provide the same level of benefits. A DC plan that costs 15 percent of payroll will offer lower benefits than a DB plan that costs 15 percent of payroll.

Therefore, if an employer desires to reduce the cost of providing a retirement benefit, it is recommended that all avenues to reduce costs be analyzed, and a thorough cost-benefit analysis be conducted. A comparative analysis should consider the goals the employer is attempting to reach, the level of benefits that are desired, and provide an understanding of the risks inherent in various pension plan designs, and who should bear them. Any analysis of the impact of closing a DB plan should also consider the short term costs, and weigh them against the long term cost savings of the proposed replacement plan. Finally, any analysis should also consider the need for a rebalancing of the portfolio to reflect the greater need for liquidity once all active members have retired.

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