Benefits, Compensation and HR Consulting

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF NEVADA

ANALYSIS AND COMPARISON OF DEFINED BENEFIT AND DEFINED CONTRIBUTION RETIREMENT PLANS

SEGAL

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December 14, 2010

Ms. Dana K. Bilyeu
Executive Director
Public Employees' Retirement System of the
State of Nevada
693 West Nye Lane
Carson City, NV 89703-1599

Re: Public Employees' Retirement System of Nevada - Defined Contribution Analysis

Dear Dana:

Per the Board's request, attached is Segal's comparative analysis of Defined Benefit and Defined Contribution plans. This analysis is intended to provide a discussion of the differences between the two types of plans, as well as some of the issues that should be considered in any transition.

The calculations included in this report were made using generally accepted actuarial practices and are based on the July 1, 2010 actuarial valuation results, including the asset information, participant data and actuarial assumptions on which that valuation was based. Calculations were completed under the supervision of Kurt Schneider, ASA, MAAA, Enrolled Actuary.

We look forward to discussing this report with the Board at the December 15, 2010 Board meeting.

Sincerely,

Brad Ramirez, FSA, MAAA, FCA, EA
Consulting Actuary

Kim Nicholl, FSA, MAAA, FCA, EA
National Public Sector Retirement
Practice Leader

cc:

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Introduction

The Public Employees' Retirement System of Nevada (PERS) is a tax-qualified defined benefit plan created in the Nevada Constitution and by the Legislature as an independent public agency. The mission of the PERS is to provide a reasonable base income to qualified employees who have been employed by a public employer and whose earning capacity has been removed or has been substantially reduced by age or disability. It was also created to make government employment attractive to qualified employees and to encourage them to remain in service for such periods of time as to give employers and the people of the State the full benefit of their training and experience while employed in public service. In short, the goal of PERS is to provide retirement and disability income to Nevada's public employees, and in so doing to attract and retain employees to provide services to the public.

Study Purpose

Retirement plans can be categorized into two types: defined benefit (DB) plans such as PERS and defined contribution (DC) plans. The purpose of this study is to analyze the impact of closing the defined benefit pension plan as currently set forth in statute and opening a new defined contribution plan for new hires as of a particular date. The primary focus of the study is to quantify the impact to the costs of the closed defined benefit pension plan in light of the funding mechanisms and cost sharing provisions of the statute. Additionally, the study highlights the human resource goals that can be accomplished using the DB or the DC approach to benefit design, in light of the aforementioned mission of the System as defined in statute.

Definition of Defined Benefit and Defined Contribution Plans

Under a defined benefit plan, the retirement pension is defined, and the contribution necessary to fund that benefit is not defined. For example, under PERS, the benefit is defined as a lifetime pension based on the number of years of service at retirement, the average of the highest 36 consecutive months of compensation, and the age at retirement. Based upon the statutory benefits, the annual required contribution is determined based upon actuarial calculations using assumptions concerning employee demographic experience, salary increases, and asset experience.

Under a defined contribution plan, the contribution into the plan is fixed, but the retirement pension that can be purchased with the accumulated contributions is unknown. DC plans are common in the private sector and are often called 401(k) plans, referring to the section of the Internal Revenue Code permitting certain tax benefits for such plans. Under a 401(k) plan, employees make voluntary pre-tax employee contributions. The employer will typically provide an additional matching contribution. For example, an employer may match employee contributions dollar for dollar up to a certain limit. 401(k) plans are generally not available to public employers, unless they were in effect prior to May 6, 1986. However, other types of public sector defined contribution plans are available. For example, educational employers can offer a voluntary DC plan called a 403(b) plan. Other governmental employers can offer a voluntary DC plan called a 457 plan. The names of these plans refer to the sections of the Internal Revenue Code that govern these plans.

A DB plan provides monthly retirement payments to retired members. The amount of the payments depends on the service, salary, and retirement age of the participant. The benefit formula is designed to provide a retirement income that is adequate to allow a participant who has worked a full career to maintain the standard of living the participant enjoyed during his or her career. The PERS contribution rates, both for the employer and employee, are adjusted every two years to ensure there will be adequate funds set aside to pay the benefits when due. While pension funds use a variety of tools to promote predictability in the annual required contributions, some unpredictability remains. This attribute is often cited as a concern regarding funding of defined benefit pension plans.

A DC plan, by definition, has fixed contribution rates. This allows employers and employees alike to budget for the required contributions. The major unknown in a DC plan is how much money will be available to the participant in retirement and what standard of living this money will afford. This risk is exacerbated when the employee is not covered by Social Security, which was designed as a poverty prevention tool. This matter is described in more detail later in this paper.

Even though the contribution requirements for a DB plan will vary, the cost is generally known. Increases or decreases in costs are due to actuarial losses and/or gains as well as changes in assumptions and plan provisions. Changes in benefit design can be used to control costs within the DB structure. The main difference between DB and DC plans is not the overall cost, since a DC plan could be designed to be approximately the same cost as the current DB plan. The most significant difference between the two types of plans is who bears the risks involved with providing the retirement benefits. There are a number of risks involved in any retirement plan. By the design of the plan, the risks are borne by the employer, the employee, or both. The following are the principal risks in retirement plans:

Investment Risk

In a DB plan such as PERS, the level of investment risk sharing depends on the plan's design. The benefit that is promised through the benefit formula is commonly based upon service, pay, and other factors that are independent of the actual investment return. If the investment return is higher (or lower) than expected, contribution rates will be lower (or higher) than they otherwise would have been. For PERS, this change in the contribution rate is shared equally by the employer and employee, so it could be said the investment risk is shared equally by the employer and employee. However, once an employee retires from PERS, the employee no longer shares in the investment risk.

Return Risk

In a DC plan, the employee assumes all of the investment risk. Once the employer makes its share of the contribution, the employer's obligation to provide a benefit has been met. The amount of benefit available to the employee upon retirement depends heavily on the investment return. The higher the investment return, the more income that will be available to the employee in retirement while the lower the investment return, the less income will be available to the employee in retirement. The investment risk continues after the employee retires, which impacts the level of income that can be provided in retirement.

Diversification Risk

In addition to who bears the investment risk, the two types of plans differ in the amount of investment risk that exists and the ability to diversify that risk. By pooling the assets of the entire plan, a DB plan can, with the help of professional asset managers, diversify the assets over a broader investment universe, including real estate, venture capital, and other investment options that are not typically available to DC participants. This means that a DB plan has an efficient frontier that is beyond that available for DC participants, and as a result, the DB plan can earn a higher return for the same risk or earn the same return for less risk.

Time Horizon Risk

Furthermore, the longer time horizon of DB plan allows the DB plan to diversify along the time axis as well. A retired DC member must choose less and less risky assets as he or she ages in order to be certain the DC member can draw a steady income. This means he or she must accept a lower return[1] as the member ages. Alternatively, an ongoing DB plan can spread the investment risk over a population of both young and old members.

Demographic Risk

Demographic risks are the risks caused by inability to predict changes to the plan's membership exactly. Members being promoted, terminating, retiring, becoming disabled, or dying at rates and ages other than expected cause actuarial gains and losses for a DB plan. For example, retirees who live longer than expected receive greater benefit payments than expected, increasing the costs to the plan. In a DB plan, these risks are diversified over the entire population, and the residual risk is shared between the employer and the employee in the form of fluctuating contribution rates.

In a DC plan, the employee assumes all of the demographic risk. If a participant retires earlier than expected, due to a lay off or disability for example, the participant will have less retirement income than expected. There are two reasons for this. The DC account will not have had time to grow to the expected amount, and the money in the account will have to last a longer period of time. Longevity risk, the risk of outliving the amount of savings, is a significant risk to a DC participant.

In a DB plan, the demographic risk is spread among the entire population. While it could be said that employer and employee share the risk, since they each pay the same contribution rate, it is not true that an individual member shares in his own demographic risk. If a participant's early retirement causes an actuarial loss, the retirement may be offset by a gain caused by another participant's later retirement or paid for by higher contributions made on behalf of or by the active members. An important feature of a DB plan is that a retiree assumes no longevity risk, since the design is for a lifetime benefit, similar to the Social Security benefit design.

Post-Retirement Cost-of-Living Risk

In a DC plan, the employee assumes all of the risk for increases in the cost-of-living after retirement. In order to mitigate this risk the participant may invest in securities with inflation

[1] Technically, a retired member could purchase an annuity from an insurance company, but this is effectively the same issue, since an insurance company will price the annuity assuming a much lower rate of return than a DB plan could earn.

protection. As with any investment allocation decision, a trade off exists: in order to guarantee inflation protection, the participant will have to give up a portion of the return elsewhere. This may impact the income replacement goals of the employee.

A DB plan is able to mitigate this risk through its plan design. In the PERS DB plan, retirement benefits increase after the third full year of retirement up to increases in the Consumer Price Index for the period of retirement, but only to a limit, which never exceeds 5% per year (4% per year for those hired after January 1, 2010). The increases are further limited by the CPI for the period of retirement for the retiree. The cost of the increases up to this limit are prefunded and shared by the employer and the employee. Increases in the cost-of-living beyond these limits are born by the retiree.

Public Sector Trends

Several public sector retirement systems have explored DC plans as a way to shift the risks discussed above away from the employer. A 2008 study of statewide retirement systems by the Center for Retirement Research at Boston College found that from 1990 to 2005, three states introduced mandatory DC plans (although West Virginia has since switched back to a DB plan), two states introduced mandatory combined plans, while nine states have given employees the choice of electing a DC plan as their primary plan. A combined plan has both a DB plan and a DC plan. In that same time period, two states (including West Virginia) have switched from a DC plan to a DB plan.

Currently, the only statewide mandatory DC plans are in Alaska and Michigan. The District of Columbia also has a mandatory DC plan for its general employees, but not public safety employees or teachers. Of those three, only public employees in Alaska are not also covered by Social Security.

Cost Impact to Nevada PERS

If a new tier were added to PERS so that future new hires entered a DC plan rather than the current DB plan, the current funding structure would be altered and the costs of the DB plan would change.

The statutory contribution rates for Nevada PERS that will be in effect from July 1, 2011 through June 30, 2013 for Regular employees are 23.75% of payroll for the Employer-Pay plan and 24.50% of pay for the Employer/Employee plan. For Police/Fire employees the corresponding rates are 39.75% and 40.50% of payroll. These rates are shared equally between the employer and employee, and assume all future new hires will enter the DB plan.

To analyze the change in the contribution rates due to the adoption of a DC plan for new employees, it is necessary to look at the components of the contribution rate. There are three components: Normal Cost, administrative expenses, and amortization of the Unfunded Actuarial Accrued Liability (UAAL). The first two components would not change significantly as a percent of payroll due to the adoption of a DC plan. However, the amortization of the UAAL as a percentage of payroll would change.

Currently, the amortization component is 7.39% of payroll for Regular employees and 9.90% for Police/Fire employees. This is the rate that will be sufficient to pay off the UAAL for current members over the next 30 years as long as all actuarial assumptions are met (including the payroll growth assumptions) in future years. If the DB plan were closed to new members, then the payroll for the DB plan would ultimately decline rather than grow during the 30-year period. As a result, the amortization component would increase significantly.

Contribution Rates as of July 1, 2010

If the contributions to the DC plan are collected as a percent of the payroll of the DC members and the contributions to the DB plan are collected as a percent of the declining payroll of the DB members, then the contributions to the DB plan will increase as a percent of payroll by approximately 10.40% for Regular employees and 11.44% for Police/Fire employees. These figures assume the UAAL for the closed DB plan will be amortized when the last DB member retires, assuming all actuarial assumptions are met. In particular, we have assumed the assets will earn 8% per annum on an actuarial basis even though there are large unrecognized losses that are expected to lower the actuarial return over the next few years as they are recognized unless these losses are offset by future asset gains.

The table below shows the total actuarially determined contribution rates as of July 1, 2010 under the current funding policy if the plan were closed and the contributions were collected as a percent of payroll of the active DB members.

Actuarially Determined Contribution Requirements
As of July 1, 2010

	Current Plan Contribution Rate	Closed DB Plan Contribution Rate
Regular Employees		
Employer-Pay	23.63%	34.03%
Employee/Employer Pay	24.52%	34.92%
Police/Fire Employees		
Employer-Pay	39.77%	51.21%
Employee/Employer Pay	40.53%	51.97%

The actuarially determined rates are rounded in accordance by statute to the rates that determine contribution requirements. The current plan contribution rates shown in the first column in the chart below are those scheduled to be in effect from July 1, 2011 through June 30, 2013. The second column shows the statutory contribution rates for that same period if the DB plan were closed. The last column shows the resulting change in the total contributions from July 1, 2011 through June 30, 2013.

Statistory Contribution Requirements

for Fiscal Years July 1, 2011 through June 30, 2013

As Determined from the July 1, 2010 Valuation

	Current Plan Statutory Rate	Closed DB Plan Statutory Rate	Change in Total Contributions From July 1, 2011 to June 30, 2013*
Regular Employees			
Employer-Pay	23.75%	34.00%	$832,458,000
Employee/Employer Pay	24.50%	35.00%	155,150,000
Police/Fire Employees			
Employer-Pay	39.75%	51.25%	192,060,000
Employee/Employer Pay	40.50%	52.00%	20,056,000
Total			$1,199,724,000

* *Based on actual salary from July 1, 2009 to June 30, 2010 and assumes no payroll growth through June 30, 2013.*

Note that under the current statute, the increase described above would be shared equally by the employer and the employee. However, it is our understanding that applicable case law defining the contract right in Nevada suggests that it might not be legally allowable to increase the employee rate without a corresponding benefit increase or actuarial loss to cause the increase. Under this interpretation, it is probable that the total increase would be borne by the employers. There would also be a corresponding change to the rates reported on the Plan's financial statements calculated in accordance with Governmental Accounting Standards Board Statement No. 25.

Other Considerations

Benefit Adequacy

If PERS is to accomplish its mission of providing retirement and disability income to public employees, an analysis must be made of the benefit that can be provided by each type of plan. However, DC plans do not provide the same level of benefits per dollar of cost as DB plans. In other words, a DB plan currently costing 25% of payroll cannot be replaced by a DC plan with a 25% contribution rate and provide benefits of equal value. The main reasons for this are as follows:

Investment Return/Expense

For a DC employee who works until retirement age, the amount he or she will have available for retirement will depend heavily on the rate of investment return net of administrative and investment expenses. A recent study by the Arizona State Retirement System concluded that expenses can be expected to be 0.5% per year higher for DC plans than for DB plans. This is mainly due to efficiencies of scale when the assets are combined for the entire plan.

DB plans have also been shown to have higher rates of return on assets than DC plans. The 2008 study by the Center for Retirement Research at Boston College study concluded that from 1988 to 2004 the rate of return for DB plans was a full percentage point higher than it was for DC plans. A 2010 Towers Watson study found the same one percent difference in 2007 and 2008 and concluded that the one percent advantage for DB plans is consistent through both bull and bear markets. This difference in rate of return can be attributable to the fact that DB funds are professionally managed, while DC assets are managed by employees, for whom professional investment advice is often not available, as well as the fact that individuals with finite careers and life spans have different risk profiles than ongoing DB plans.

The differences in expenses and expected return lead to a difference in net return of 1.5% annually which, when compounded, will result in assets at retirement that are approximately 20% lower for DC participants than for DB participants.

Income Replacement Impact

After retirement, the DC participant still has to manage investment and longevity risk, so a DC plan with a contribution equal to that made to a DB plan is expected to provide substantially less retirement income than a DB plan. If a retiree suffers an investment loss or if the cost-of-living increases dramatically, there is no way for the plan to make up the difference, as there would be for a DB plan.

Leakage

Another reason that it is difficult to provide adequate retirement savings through a DC plan is a phenomenon known as "leakage." Unlike a DB plan where the benefit can generally only be provided as retirement income, a DC plan can be cashed out at any time after termination. There is no requirement that DC participants save the money for retirement. Since participants are allowed to use the money for any purpose (perhaps with a penalty), not all of the money that is contributed to the DC plan will be used for retirement income.

An important element of benefit adequacy is equity. Since new employees hired after a certain date would not be allowed to participate in the current DB plan, a new tier of employee benefits would be created. Two employees working in identical positions but hired on different dates could have radically different benefit structures, and the perception of inequity between the two groups of employees might exist.

Supplemental Benefits

The stated mission of PERS is to provide not only retirement benefits, but also disability benefits. Participants with five years of service in PERS are eligible for a disability benefit based upon salary and service. These benefits are prefunded along with PERS retirement benefits. If a DC member becomes disabled, no disability benefit would exist other than the DC account balance. For members with short service, the account balance could not be expected to provide a meaningful disability benefit.

Because a DC plan by its very nature is not suitable for providing a disability benefit, disability benefits would have to be provided outside of the DC plan. The cost of this disability coverage would be in addition to the cost of the DC plan. To give an idea of the cost of providing disability coverage, the current PERS disability benefit has a Normal Cost for Regular employees of approximately 0.80% of payroll and for Police/Fire employees of approximately 1.76% of payroll. To purchase the same level of coverage through an insurance company the cost would be comparable and likely higher since the insurance company would expect additional payments for assuming the risk of paying the benefits as well as generating profits for the insurance company.

A similar analysis could be made of the current death benefit. The Normal Cost for the current PERS death benefit is 0.77% of payroll for Regular employees and 0.91% for Police/Fire.

Public Safety Issues

As noted above, the current PERS Police/Fire plan is actuarially more expensive than the Regular plan. It is important to note that the benefit formula for the two plans is exactly the same. The difference in cost is mainly due to the younger retirement eligibility for Police/Fire employees. The motivation for this provision is often misunderstood, and can be traced back to the interim study of police and fire between the 1985 and 1987 legislative sessions. This study determined that earlier retirement for public safety positions was necessary to promote a youthful and vigorous frontline public safety force that was capable of protecting the public from physical harm. Thus, it was recognized that the public (taxpayers) received a very important benefit from the additional cost of early retirement—that those who assumed the responsibilities of dangerous duty to protect the public be as capable as possible in the discharge of their duties.

While a DC plan could be generous enough to allow Police/Fire employees to retire at a young age, it could not be structured to encourage them to retire. A generous DC contribution provides additional incentive to work even longer than Regular employees, defeating the purpose of early retirement for Nevada Police/Fire employees. Only a DB plan can be structured to attract and retain employees for a productive career, and to incent employees to retire when it suits the employer.

Social Security

It is important to note that public sector employees in Nevada are not covered by Social Security. The fact that a DC member assumes investment risk, longevity risk, and post-retirement cost-of-living increase risk is true everywhere, but in states where the participant is also a member of the Social Security program, some protection from those risks is provided through Social Security benefits. Social Security was designed as a poverty prevention mechanism. People without the means to save adequately for retirement or people who have exhausted their retirement savings can at least rely on Social Security provided they were covered by Social Security during their careers.

If PERS were to establish a mandatory DC plan, PERS members could still be excluded from Social Security. In order for a public sector DC plan to qualify as a retirement plan and exclude its members from Social Security the contribution rate must be at least 7.5% of compensation. However, this would mean PERS members would not have the protection mentioned above.

The other option is that PERS members who are only covered by a DC plan could be enrolled in Social Security. This would require contributions (Social Security tax) of 12.4% of compensation

(6.2% paid by the employer and 6.2% paid by the employee) up to the Social Security Wage Base ($106,800 in 2010). However, the benefit that a Social Security recipient receives in return for these contributions does not compare well to what the current PERS DB plan pays for comparable contributions.

Someone who works 35 years in Social Security covered employment and retires at Social Security Normal Retirement Age (66 to 67) can typically expect a benefit of 25% to 40% of their highest salary. This percent depends on how high the person's salary was. Social Security replaces a higher percentage of earnings for those earning a lower salary. Someone earning $30,000 annually at retirement in today's dollars can expect a Social Security benefit of approximately 40% of their final salary, while someone earning $90,000 would only receive approximately 25%.

A PERS DB Regular employee, on the other hand, who works in PERS covered employment for about 30 years and retires at full retirement eligibility age (60 or 62) will earn a benefit of 75% of compensation. The Normal Cost contribution requirement for PERS Regular employees along with administrative expenses is 16.24% to 17.13% of compensation. For the same cost as Social Security, PERS could fund a benefit of over 50% of compensation payable five years earlier than Social Security.

Employer Issues

From the point of view of the employer, a DB plan serves two purposes. First, it is an efficient way to compensate employees. According to a survey by the National Institute on Retirement Security, employees perceive the benefits from a well-designed DB plan to be of greater value than the cash contribution that is used to fund the plan. Furthermore, the plan's benefit design may be used to direct employee behavior.

An issue that employers must consider is the level at which employees should be compensated for their service. The cost of the DB plan is only a portion of this compensation. It has long been held that public sector employees receive more valuable benefits than employees in the private sector due to the fact that they accept generally lower salaries. This almost certainly was the case many years ago, but recently several articles have been written claiming that salaries in the public sector have caught up to those in the private sector while pensions and other benefits are still far more generous. A 2010 study by the National Institute on Retirement Security concluded that public sector salaries appear to be catching up to the private sector only if you ignore the fact that public sector workers have, on average, more education and training than private sector workers. Once earnings determinants such as education are considered, state employees earn 11 percent less and local workers earn 12 percent less than private sector workers do. It is true that benefits are more generous in the public sector, but when total compensation is taken into account, state employees earn 6.8 percent less and local workers earn 7.4 percent less than private sector workers do. This is not to say that public sector workers are under compensated. It is difficult to place a dollar value on higher perceived job security, job satisfaction, or other reasons people cite for working in the public sector. The point is that the idea that public sector workers receive greater compensation than their private sector counterparts is not supported by the data.

In addition to compensating employees, public sector employers use DB plans to direct employee behavior. A DB plan can be a tool to attract and retain employees during the most productive phase of their career as well as encourage them to retire when their productivity is lower. A generous DC plan can also attract employees but does not have the same power to retain. A DC participant, once vested, will receive all the contributions and earnings in their DC account no matter how long they work. The DC participant will not lose DC plan value by terminating early, other than tax penalties for commencement before age 59 and one-half.

A recent study by the Alaskan Public Pension Coalition found that this issue has been a challenge for Alaska with the State's recent switch to a DC plan. The study concluded that Alaska is investing significant resources in hiring and training young public employees only to have them leave the state with training, experience, and a DC account balance to work for employers with DB plans. The result has been an increase in recruiting and training costs and a less experienced work force. A DB benefit on the other hand is worth relatively little to a young employee with little service and offers no incentive to leave employment at an early age. The value grows more rapidly as the employee earns service, ages, and nears Normal Retirement Age.

Once retained throughout a full productive career, an employee can be encouraged to retire due to the design of the DB plan. When a PERS member is eligible for an unreduced retirement benefit, the incremental value of the DB benefit for continuing to work diminishes. In addition, when a PERS member's benefit reaches the current cap of 75 percent of average compensation (after about 28 years of service if hired after 2000), the growth in the value of the DB benefit slows even more. In contrast, the value of a DC benefit continues to grow due to contributions and investment earnings, which depend on salary and the account balance. Due to the Age Discrimination in Employment Act, there is no legal way to reduce DC contributions based on age.

Employee Issues

As mentioned above, a major difference between a DC and DB plan is the transfer of risk. In a DC plan, the employee assumes all of the investment, inflation, and longevity risk. An employee can manage some of this risk during his or her career by increasing the amount of retirement savings. After a large investment loss or a high period of inflation, an employee could increase contributions to the DC plan or to a savings vehicle outside the DC plan. After retirement (which is the only time longevity risk is a factor), the participant no longer has this option. The participant can only reduce spending.

The risk of insufficient retirement savings is very real and can be measured. A study by the National Institute on Retirement Security has found that the most effective way for an individual to manage this risk is to annuitize their retirement savings. To accomplish this, a DC participant would use their DC account balance to purchase an annuity from an insurance company. This allows the insurance company to pool the investments, professionally manage the assets, and spread the longevity risk among a group of retirees.

While this may seem like a perfect solution, this is exactly what PERS currently does with the DB plan without a portion of the savings going to an insurance company in the form of profits. Furthermore, once an insurance company sells a block of annuities to retirees, they invest very conservatively in mostly fixed income assets (unless the participant chooses an equity based instrument, in which case their benefit payments will vary). Unlike PERS, an insurance company cannot rely on contributions collected from newly hired employees to make up investment losses. This means that the insurance company annuitizes the funds using a lower interest rate, resulting in annuity payments that are less (even after accounting for profits) than a DB plan could have provided with the same contributions.

Administrative Issues

In addition to the costs illustrated previously, moving from a defined benefit plan design to a defined contribution plan for all new employees has significant transition issues. New communication will need to be developed to provide guidance to the DC plan members while, at the same time, the existing defined benefit plan will be maintained. Questions will arise as to why different groups of employees have different plans. Employees are certain to compare and critique the two plans.

The level of retirement benefit will be greatly affected by the investment income earned on the defined contribution allocations. Accordingly, some degree of investment education is likely to be expected by employees.

In addition, there are a number of technical and administrative issues, described as follows:

- Establish administration of the defined contribution plan
    - Determine if plan will be administered internally or externally
    - If the plan is administered internally, determine the staffing and system requirements needed to provide the required level of service
    - If the plan is going to be administered externally, identify qualified administrators and develop request for proposal
- Determine frequency of statements to participants
    - Determine if participants will be able to view account balances and make investment options via the internet
    - Determining and monitoring investment options
    - Establish plan governance
    - Form governing committee
    - Adopt investment policies
    - Determine who will be responsible for the management of the investments
    - Determine investment options to be offered
- Employee education
    - Establish responsibility for the initial education process
    - Determine if on-line tools will be made available

- Determine the type of information that will be provided to the employee and the responsible party
- Determine how often the educational tools will be updated
- Determine the necessary ongoing reports or training is necessary to keep the employee current and informed
- Investment and administration fees, and who pays such fees

- Other administrative issues
  - Loan availability and rules
  - Accounting methodology
  - Frequency of valuations
  - Determine how disability and death benefits will be provided
  - When do employees vest?
  - What are survivor rights?
  - What payment options at retirement and termination?

The cost of administration of the benefit program will increase substantially. Since the defined benefit plan will continue all of the costs related to the defined benefit program will continue. The defined contribution plan will require another set of administrative costs. The defined contribution plan requires recordkeeping administrative costs, investment costs and potentially an increase in the number of benefits staff.

Miscellaneous Considerations

The current employees of PERS are not covered by Social Security. It is unclear whether employees covered by the proposed DC plan will be required to be covered by Social Security. If the DC plan benefit does not meet the requirements for the DC employees to be exempt from Social Security, the employees and employers will be required to each contribute an additional 6.2% of salary to Social Security. Adding this additional contribution increases the cost of the proposed DC plan by 12.4% of pay.

Currently, PERS administers three DB plans with four distinct DB plans of benefits. Under PERS statutes there are provisions for Regular and Police/Fire members, and PERS also administers the Judicial Retirement System and the Legislators' Retirement System. The provisions of each plan (the accrual rate and the Normal Retirement Date) reflect the different desired work patterns of the different groups. It is difficult for DC plans to be structured to provide a mechanism to accomplish the same tasks as the variations in these provision do for the DB plans.

Summary of Advantages and Disadvantages

The various differences between DB and DC plans can be categorized as pros or cons from either the employer or the employee point of view.

Advantages of DB Plans – Employee Pros

- Secure, predictable benefit payable for life: DB plans provide secure retirement benefits based upon an employee's salary and length of service that are payable for life. The monthly payment is fixed, or increases with inflation, and guaranteed for life. The retiree has no risk of outliving the benefit.

- Disability and survivor benefits: DB plans, including the current PERS plan, typically provide disability and survivor benefits, payable if an employee becomes disabled or dies while working. In addition, DB plans generally offer joint-life forms of annuity benefits that will continue to be paid as long as an employee or his/her spouse is alive.

- Inflation protection: The PERS retirement benefit is protected from inflation in two ways. First, the benefit is based upon an employee’s average of the highest 36 consecutive months of compensation. Therefore, income replacement is based on the final years of earnings before retirement. Second, PERS provides post-retirement benefit increases, based upon inflation but subject to limits which never exceed 5% per year (4% per year for those hired after January 1, 2010). This provides inflation protection during the retirement years.

- Benefits cannot decrease once an employee is vested: Once an employee is vested, the PERS benefit cannot decline.

Advantages of DB Plans – Employer Pros

- Helps attract and retain employees: The current DB plan provides substantial retirement income for career employees, enhancing the ability of the public employers to attract qualified employees and retain them throughout their career.

- DB plans provide employers the ability to manage their labor forces with flexible incentives that encourage employees to work longer or retire earlier: A DB plan benefit formula can be structured to provide incentives for longer employment by increasing the multiplier after a certain period of service. To encourage retirement after a certain period of employment, DB plans can limit benefit accruals to a maximum percentage of average compensation or a maximum years of service. Other options such as early retirement incentives are also available.

- Assets are professionally managed resulting in higher investment returns: DB plans generally earn higher investment returns due to professional asset management and pay lower investment management fees due to economies of scale. In a DB plan, like PERS, investments are selected and monitored by investment professionals who have extensive experience and training.

- DB plan investment earnings reduce employer contributions: The market decline that occurred in 2008 and 2009 had a negative financial impact on PERS. However, historically, PERS has benefited from favorable investment returns and has been able to use the returns to maintain employer and employee contribution rates and provide benefit improvements.

- Pooling investment and mortality risks: DB plans lower overall retirement benefit plan costs by pooling the risks of investment losses and outliving retirement benefits over a large group of employees. When employees die prematurely, the assets that have been accumulated on their behalf are used to provide benefits to the remaining employees. By averaging these risks over a large number of employees, PERS costs are lower than they would be if these risks were not pooled since the plan only needs to fund benefits through the average life expectancy of the group. In addition, by spreading the investment risk over a longer period, the current DB plan can maintain an investment mix that includes a significant portion allocated to equities, increasing the investment returns and lowering contributions.

- DB plans help sustain state and local economies: By providing adequate retirement income to a significant portion of the workforce, the current DB plan bolsters the Nevada economy. Retirees purchase goods and services with their retirement income, which promotes employment and generates additional economic activity.

Disadvantages of DB Plans – Employee Cons

- The current DB plan provides small benefits to young, mobile employees: The DB plan is structured to reward long service employees with sufficient retirement income and employees must wait five years in order to vest in their pension benefit. In addition, DB benefits are not portable in the sense that the accrued benefit can be transferred to a personal retirement account or a subsequent employer's account upon termination of employment. Note that unlike most private sector DB plans, the PERS DB benefit is fully portable among all employers participating in Nevada PERS, giving PERS a measure of portability above a typical DB plan.

- Communication of the DB plan can be difficult: Younger employees may not understand the value of the current DB plan. The value of a monthly annuity benefit is difficult to judge in the early stages of a career when the amount of retirement income needed is unknown or not understood.

Disadvantages of DB Plans – Employer Cons

- Cost not completely predictable: Employer and employee contribution rates for the current PERS DB plan contribution change biannually based on gains/losses experienced and the overall funded status of the plan. However, a large portion of the cost volatility is due to asset gains and losses. Due to the five-year smoothing of asset returns, the future changes in cost due to asset gains and losses in the past can be predicted for the next four years.

- Benefit abuses: DB plan benefits can be abused by employees and employers due to salary spiking at the end of an employee's career or by allowing a disability benefit to be paid when an employee is not truly disabled.

- Employers bear half the investment risk: Under a typical DB plan, the employer bears the entire investment risk. Investment returns have no impact on the employees' benefits, only on the contributions required to fund the plan. Because the PERS contribution is shared equally by employers and employees, the investment risk is shared by employers and active employees. However, once an employee retires, the former employee no longer bears the investment risk. Although PERS expects to earn 8% over the long-term, in some years the return will be less than 8% and in other years, the return will be greater than 8%. When markets decline, as they did from 2008 to 2009, DB plan costs must rise.

- Employers bear half the longevity risk: Under a typical DB plan, the employer must bear the entire longevity risk. Employees in a DB plan cannot outlive their retirement benefit. Since the PERS contribution is shared equally by employers and employees, the longevity risk is shared by employers and active employees. Once an employee retires, however, the employee no longer shares the longevity risk. Note that a DB plan by its nature mitigates this risk by spreading the risk over the entire plan population. While some retirees will live longer than expected, others will not. In addition, the PERS DB plan offers joint annuity options that provide employees with the ability to ensure retirement income for as long as either they or their survivors are alive.

- Long term funding goals may be poorly understood: The goal of a responsible funding methodology for a DB plan is to achieve a 100% funded status (assets divided by liabilities) and amortize any shortfall over a reasonable number of years, typically 30. However, this goal may not be understood by all stakeholders. When investment returns are good and the funded status increases, there is pressure to increase benefits. When investment returns are used to finance benefit improvements and the improvements are followed by investment losses the contributions must increase at a level greater than they would have had the benefits not been improved.

Advantages of DC Plans ─ Employee Pros

- Annual contributions are fixed or selected by the employee.

- Account balances are easy to understand: The concept of money accumulating in an employee's account balance is easy for employees to understand.

- Benefits are portable: When an employee terminates or retires from service, the employee can take the account balance and roll it over into an IRA, or possibly into a new employer's DC plan. In addition, the value of a DC plan in the first few years of employment is typically greater than the value of a DB plan, so when employees terminate after a short period of service the value they take from the DC plan is usually greater than the value they would receive under a DB plan. Finally, the vesting period in a DC plan is generally shorter than a DB plan.

- Employees have control over investments: In a DC plan, the employees choose how to invest the funds in their account balances usually selecting from several funds that reflect the various asset categories. While it is true that some employees do value the opportunity to manage their own retirement account, the fact remains that DC participants earn about 1% less annually than large DB plans. Whether this choice is worth the 1% reduction in annual return is debatable.

- Employees get all investment gains: In a DC plan the employee bears the entire investment risk. For a savvy employee who has the knowledge to generate positive investment returns, the investment gains will result in a higher account balance and greater retirement income. Similar to the previous point, an employee might be attracted to a DC plan for this reason, but studies consistently show that, on average, investment returns are greater in a DB plan.

- Assets belong to the employee: Ownership of the DC account may incent employees to take on personal responsibility, since the employee's standard of living in retirement will depend upon the amounts contributed to the DC plan and on investments selected.

Advantages of DC Plans ─ Employer Pros

- Employer costs are fixed and not dependent upon investment returns: The greatest advantage to employers of DC plans is that the employer contributions are stable each year. Whether investment returns are favorable or unfavorable, the employer contribution is not impacted. Related to this feature, is that once the employer makes the contribution to the DC plan, the employer will have no additional financial liability for employees after they retire.

- No actuarial valuation is required: Employers who provide DC plans do not have to hire an actuary to calculate the accrued liability, normal cost, and annual contributions. Employers who provide DC plans do not have to report an actuarial accrued liability or annual required contribution on their financial statements.

- Employees manage retirement decisions and benefits: Under a DC plan, once an employer makes the specified contribution, the account balance and all the decisions concerning the distribution of those funds during retirement are in the hands of the employees. Employees manage the investment and distribution of the DC account balances.

- Employer is not subject to the longevity, disability, or investment risk: Under a DC plan, employees will be responsible for managing the risks of outliving their account balances (longevity risk), maintaining a standard of living in the event of disability (disability risk), and investing the account balances (investment risk). Employers will have no financial responsibility to the employees who do not effectively manage these risks.

Disadvantages of DC Plans ─ Employee Cons

- Lack of access to professional investment advice: Studies have shown that investment returns in individual DC accounts are on average approximately 1% less per year than professionally managed DB assets. Knowledge of investing is essential in a DC plan.

- Amount needed for retirement poorly understood: The average employee in a DC plan does not have a clear understanding of the amount of funds that will need to be accumulated in order to provide adequate retirement income. The amount of annual income that can be drawn from a DC account balance during retirement will depend upon how long the retiree will live, the investment returns, and whether the retiree needs to provide a spouse with income after the retiree's death.

- No post-retirement benefit increases - inflation risk: DC plans typically do not provide inflation protection for two reasons. First, the contributions that are made to a DC plan are based on salary during the employee's entire career. Therefore, as salary increases, the contributions to the DC plan increase, but prior contributions to the DC plan are not adjusted for salary increases. Second, a DC plan has no post-retirement benefit increase mechanism during retirement. As a result, retirees with a DC plan must budget their draw upon the DC account balance to maintain an adequate retirement income in the event of inflation, a task that may be difficult to achieve. This inflation risk is most extreme for employees not covered by Social Security, which provides inflation-adjusted benefits.

- Little death or disability protection: DC plans do not provide for a death or disability benefit beyond the value of the DC account balance. In order to provide an adequate income in the event of death or disability, employees will need to purchase life insurance and disability insurance from an outside insurance company.

- Benefits can decrease: Since the benefits paid from a DC account are dependent upon investment returns, the benefits can decrease if the investment returns are poor. If poor investment returns occur while the DC employee is still working, the employee will need to increase the amount of contribution made to the DC account. If the investment return is poor while the employee is retired, the amount of retirement income drawn from the DC account will need to be adjusted downward.

- Employees can outlive the account balance - longevity risk: As described earlier in this report, employees covered by a DC plan bear all of the longevity risk. In order to ensure that the DC employee does not outlive the account balance, the DC plan employee must plan to live to his maximum life expectancy, which means that about half the time the DC plan employee will leave money to heirs. This longevity risk is most extreme for employees not covered by Social Security.

<u>Disadvantage of DC Plans ─ Employer Cons</u>

- DC plans are portable and provide a greater benefit to employees who leave the system before retirement age. Therefore, requiring new employees to be covered by a DC plan would reduce retention, possibly resulting in shortages of workers. Higher turnover rates result in increased training costs and lower levels of productivity. In addition, employees covered by the DC plan may seek employment with employers who provide a DB plan. Providing greater benefits to employees who terminate before retirement may not be the best use of retirement funding.

- Under a DC plan, investment returns could not be used to reduce contributions to the DC plan as these investment returns would be allocated to the employees' DC accounts.

- Risk if benefits are not adequate: Employers of DC plan face the risk that employees are unable to retire if the benefits provided by the DC plan are inadequate. In addition, there may be pressure on employers to increase the DC contributions if benefits are not sufficient for employees to retire.

- Early retirement benefits cannot be subsidized: There is no mechanism for a DC plan to provide subsidized early retirement benefits.

- Increased administrative costs: DC plans are more costly to establish and maintain than DB plans. The administrative complexities introducing a DC plan are described above. The PERS Staff will spend additional time on DC plan issues and PERS will need to pay additional legal and consulting fees. If an outside vendor is not hired to administer the DC plan, PERS will need to build an administration system and hire additional staff to administer the DC plan, at a potentially high cost. If an outside vendor is hired to administer the DC plan, PERS will still have significant operating costs relating to the DC plan

- Need to educate employees on investment decisions: Under a DC plan, employees will be responsible for choosing the investment of the account balance, selecting from among several funds that reflect major investment categories. In general, employees have limited investment experience or training. PERS will need to provide investment education to the employees in the proposed DC plan

Conclusion

Over the years, the PERS DB plan has undergone many changes, including modifications to the benefit formula and the full retirement eligibility age. Before any changes there has always been consideration of the costs, benefits and other implications of the change. Implementing a DC plan to eventually replace the DB plan would introduced a number of issues that would need careful consideration. In this report we have outlined what the major issues could be depending on the specific details of any proposed DC plan. All of these issues would need further analysis.

An unmistakable feature of DC plans is that many risks are shifted to the employee. This could result in workforce recruitment and retention issues that would not be felt for several years. While many employers find the stable cost structure of a DC plan attractive, the closure of the DB plan to new members would make the cost of the DB plan increase significantly as a percent of DB member payroll. A DC plan may seem ideal for a sponsor that desires a retirement plan with a stable cost, however, the retirement benefits for a DC member are unknown. As a result, a DC plan may not provide employees with adequate retirement benefits. Although the idea of a DC plan seems straightforward, the administration of a mandatory, statewide, multiple employer DC plan that will grow to over one hundred thousand participants creates a number of administrative challenges. A number of other issues, including the possible impact of a DC on public safety would also need to be considered.

If these issues are no fully resolved prior to the implementation of a DC plan, they will surely arise later. These are the issues that have presented challenges to other public sector retirement systems that sponsor DC plans. If it is not agreed upon in advance that the characteristics of a DC plan are in the best interest of taxpayers, public employees and employers, and the State of Nevada, the State will face pressure soon after adopting a DC plan to revert to a DB plan.

Providing benefits through any type of retirement plan is a complicated policy decision. We hope that this report has been useful in explaining the differences between defined benefit and defined contribution plans, as well as describing the financial impact of implementing a DC plan and identifying the issues involved in transitioning from a DB plan to a DC plan. We look forward to discussing the details of this report with you in person.

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