



National Association of State Retirement Administrators

Overview of plan types and their use among statewide retirement systems

According to the U.S. Bureau of Labor Statistics, roughly ninety percent of state and local government employees participate in a *defined benefit* (DB) plan as their primary retirement benefit; *defined contribution* (DC) plans serve as the primary retirement benefit for most others. Some workers have a hybrid plan as their primary benefit; for purposes of this discussion, a hybrid is considered to be a form of DB plan. The summary below focuses on DC plans on a statewide level involving major employee groups: teachers, general employees, and public safety personnel.

Many of the 10 percent of state and local government employees with a DC plan as their primary retirement benefit are higher education faculty and staff, of whom many have been given a choice between a DB and a DC plan. Also, a number of states provide a DC plan for selected, usually narrow employee groups, such as elected and appointed officials and unclassified or exempt staff.

This summary does not present a complete inventory of DC plans among state and local government employees. Although exact statistics are unavailable, most public employees participating in a DB plan also have access to a supplemental, voluntary DC plan. Such plans typically are identified by the section number of

the Internal Revenue Code authorizing them, for example, 457, 403(b), 401(a) and 401(k). These plans also are referred to as deferred compensation plans, tax-sheltered annuities (TSA's), and money purchase plans.

Some public employers provide as their workers' primary retirement benefit a hybrid plan, which incorporates elements of both DB and DC plans. Hybrids come in two basic forms: one form combines features of DB and DC plans into a single plan, and resembles what is often recognized as a cash balance plan. This form provides a benefit based partly on the employee's length of service, as in a DB plan; and partly on the plan's investment return, as in a DC plan.

The more common form of hybrid contains two distinct and separate plan types: a traditional DB plan, normally with a lower multiplier; combined with mandatory participation in a traditional DC plan.

A 2003 resolution expresses NASRA's position that a DB plan should serve as an employee's primary benefit, and should be supplemented by a voluntary DC plan. This resolution also expresses NASRA's support for changes in this structure that accommodate many of the objectives supported by advocates of DC plans.

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Following is a summary of DC plans and recent changes in plan types affecting major state employee groups and of state employees with access to a DC plan as their primary retirement benefit:

- Most public employees in **Indiana**, including public school teachers and state employees, participate in a hybrid plan that provides a traditional DB plan with a retirement multiplier of 1.1%, accompanied by a DC benefit based on investment returns.
- The **Texas** County & District Retirement System and the Texas Municipal Retirement System provide hybrid plans that base benefits on a combination of service, contributions, and investment returns.
- In 1987, the **District of Columbia** closed its DB plan to new employees other than teachers and public safety personnel. Employees hired since October 1, 1987 participate in a DC plan plus Social Security.

- In response to severe actuarial underfunding, **West Virginia** in 1991 closed its DB plan to new teachers and created a DC plan in its place. In 2005, the state legislature reopened the DB plan to new hires. After a period of legal challenges, 78 percent of DC plan participants, who are the public school teachers hired from 1991 to 2005, elected in 2008 to switch to the DB plan.
- In 1995, **Washington** state created Plan 3 for new teachers and existing participants who elected to switch from the traditional DB plan. Plan 3 is a hybrid plan in which the employer funds a DB component with a multiplier of 1.0%, and the employee contributes to a DC account. New state and local government employees subsequently have been added to Plan 3.
- In 1997, **Michigan** closed its DB plan to new state employees. Existing plan participants were given the option to remain with the DB plan or to switch to the new plan. Approximately 94% of those eligible to switch stayed with the DB plan. In the new DC plan, the state contributes four percent plus matches the employee's contribution up to another three percent.
- **Ohio** created an optional DC retirement plan in 1998 for new education employees and those not yet vested (five years). Under this plan, new employees may choose from among three alternatives: a DC plan, the traditional DB plan, or a hybrid. These options were extended to teachers in 2001 and to state and local government employees in 2002. More than 95% of active, working state and local employees eligible to choose opted for either the traditional DB plan or the hybrid (combined) plan, with the vast majority of those electing to remain with the traditional DB plan.
- Beginning in 2000, new and current teachers and educational employees in **South Carolina** were given a choice to participate in a DC plan as an alternative to the DB plan; this option was extended to state and local government employees in 2002. Approximately three percent of those eligible elected to switch to the DC plan.
- Also in 2000, **Florida** established an optional retirement plan for all current and future FRS participants. This legislation allowed existing to participants to make one of three choices: remain with the DB plan; switch to the DC plan but keep their existing DB service credit; or switch to the DC plan and transfer the cash value of their DB plan credit to their new DC account. Approximately 95% of existing employees elected to stay with the DB plan. Since the open enrollment period, approximately 17 percent of new hires have elected to participate in the DC plan.
- New and existing employees in the **Montana** PERS were given a choice between the traditional DB plan and a DC alternative during a one-year open enrollment process that ended in June 2003. Approximately three percent of those eligible elected to participate in the DC plan.
- In 2002, in response to concerns that employees were not accumulating enough for retirement in their DC plan, the **Nebraska** Legislature established a hybrid cash balance plan for new state and county employees and existing DC plan participants who elected to switch.
- **Oregon** in 2003 established a hybrid plan for new Oregon PERS participants, in lieu of the traditional DB plan. The hybrid combines a DB component multiplier of 1.5% (1.8% for public safety personnel), funded by the employer, with mandatory participation in a DC plan, funded by the employee (unless the employer elects to make its employees' contributions).
- In 2004, **Colorado** established a defined contribution option for new state employees beginning January 1, 2006. This option was extended to higher education employees in 2008.
- In 2005, the **Alaska** Legislature closed the DB plan for public employees hired after June 2006.
- A list of statewide hybrid plan designs is accessible at <http://www.nasra.org/resources/hybrid%20grid.pdf>



PERISCOPE

Public Employee Retirement Systems

Public plan DB/DC choices

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This article is about choices: When given the choice, do public employees choose a defined benefit (DB) plan or a defined contribution (DC) plan? Do employers give employees the chance to choose a second time? What happens when employees choose their own investments? Can employers choose to offer meaningful death and disability benefits to DC members? What are the implications of an employer choosing to change from a DB to a DC plan? This article looks at the recent experience of statewide retirement systems to provide some answers.

What do public employees choose?

Many people claim that DC plans are more attractive to new employees than DB plans. Is this true? As a test, note that in the last 10 years, the seven statewide systems listed in Table 1 have begun giving new hires the choice between participating in a DB or a DC plan. Their experience indicates that public employees prefer DB plans. The percentage of new employees electing DC plans ranges from 3% in the Ohio Public Employee Retirement System to 26% in Florida.

Table 1 shows that many of the members going into a DB plan never submit an election and are placed in the DB plan by default. However, based on survey data, Florida found that “up to 45% of the defaulters may be using this option as their active election in the belief that by defaulting there could be no mistakes made in their plan choice.” What is more, Table 2 shows that in Washington PERS—the only system where DB is not the default—63% of new members have actively chosen an all-DB plan (Plan 2) over the default of a combined DB and DC plan (Plan 3).

Most of these DB/DC choice plans have had relatively stable election percentages in the short time they have existed. However, we do not know how the choices members make will change in the future. The stock market decline of 2000 to 2002 has certainly influenced many members. No doubt factors such as the future of the stock market and the experiences of people retiring with only DC plans will influence future member choices. The financial market experience of late 2008 may have some influence as well.

TABLE 1

NEW HIRE ELECTIONS IN MOST RECENT COMPLETE YEAR

SYSTEM	DB BY DEFAULT	DB ACTIVE ENROLLMENTS	DC ACTIVE ENROLLMENTS	COMBINED PLAN ACTIVE ENROLLMENTS
COLORADO	39%	43%	18%	NOT OFFERED*
FLORIDA	55%	19%	26%	NOT OFFERED*
MONTANA PERS	90%	NOT SEPARATED*	10%	NOT OFFERED*
NORTH DAKOTA**	88%	NOT SEPARATED*	12%	NOT OFFERED*
OHIO PERS	82%	13%	3%	2%
OHIO TEACHERS	72%	14%	11%	4%
SOUTH CAROLINA	80%	NOT SEPARATED*	20%	NOT OFFERED*

* “NOT SEPARATED” MEANS ACTIVE DB ENROLLMENTS HAVE NOT BEEN SEPARATED FROM DEFAULT DB ENROLLMENTS.

“NOT OFFERED” MEANS THERE IS NOT AN OPTION TO ENROLL IN A COMBINED DB/DC PLAN.

** NORTH DAKOTA STATISTICS ARE FOR JANUARY 2001 THROUGH JUNE 2008.

TABLE 2

CUMULATIVE WASHINGTON PERS NEW HIRE ELECTIONS FROM MARCH 2002 TO SEPTEMBER 2008

PLAN 3 COMBINED DB & DC BY DEFAULT	PLAN 3 COMBINED DB & DC ACTIVE ENROLLMENTS	PLAN 2 ALL DB ACTIVE ENROLLMENTS
19%	18%	63%

Tables 1 and 2 summarize the experience of systems that allow their members to choose between a DB plan and a DC plan. Ohio and Washington state members also have the choice of a “combined” plan, where employer contributions fund a DB plan and employee contributions fund a DC plan. Washington state members do not have the option of an all-DC plan.

What about do-overs?

One plan design choice employers face is whether to give employees a chance to change their mind. This chance for a do-over has been referred to by some as the pension mulligan. Although Montana PERS, North Dakota, Vermont, and Washington state require new hires to make a one-time irrevocable decision, other systems do not. Colorado allows members to change their election one time in years two through five after hire. Ohio Teachers and South Carolina also allow members to change their election once in the first five years, but only from DC to DB. Florida allows members to change once at any time before retirement or termination of employment. Last, Ohio PERS allows members to change up to three times: once in their first five years of employment, once in their second five years, and once more at any time after 10 years of service through retirement.

You might ask, “What do systems do when members change their mind?” Florida allows two choices when members switch from the DB to the DC plan. The members can either (1) freeze their current DB benefits based on service and salary to date and have future contributions accumulate in their DC accounts, or (2) convert their DB benefits into DC accounts based on the value of the normal retirement benefit.

If a Florida member wants to switch from DC to DB, the member must pay the full cost based on either the present value or the actuarial accrued value, depending upon where the member has previous DB service prior to joining the DC plan. The DC account is used first. If there is more money than needed in the DC account, the member keeps the extra in the DC account. If there is not enough money in the DC account, then the member must pay the difference or stay in the DC plan.

Ohio PERS, which allows up to three changes, takes a somewhat different approach. Changes are prospective only, but members transferring to the DB or combined plan have the option to purchase service in the new plan using their DC accounts. Frozen DB benefits are based on salary and service during DB membership only.

The do-over could be particularly valuable when a member’s situation changes. As an example, the portability of a DC plan might be attractive to a teacher who does not expect to stay long in a position due to a military spouse who is frequently moved around the country. However, if the couple’s plans change and they decide to settle down, the teacher might want to change to the DB plan.

Can meaningful death and disability benefits be provided in a DC environment?

Yes, meaningful death and disability benefits can be provided in a DC environment, but it will require supplemental contributions. Consider the choices three states have made to respond to the criticism that DC accounts do not provide adequate death and disability benefits.

In Florida, where members choose between a DB and a DC plan, disabled members can choose to surrender their DC account balance and receive the same disability benefits as provided by the DB plan. This raises a question: Where does the money to finance this benefit come from? The answer is that the employer pays a separate charge ranging from 0.25% of pay for general members to 1.33% of pay for special risk members, and a side account is maintained to finance the difference between the cost of the disability benefits and the dollar amount of the DC accounts surrendered by the members. If DC members die in Florida, their death benefit is the DC account balance. Montana PERS has a similar provision where 0.30% of DC member pay is set aside to finance long-term disability benefits.

Alaska has a different approach. Alaska public employees hired after July 1, 2006, all go into a DC plan. Here the occupational death and disability benefit is 40% of salary until normal retirement (50% of salary for the occupational death of police and fire members). The employer continues both the employer and employee contributions into a special occupational death and disability trust account until the member reaches normal retirement, or until the date the member would have reached normal retirement in the case of occupational deaths. At normal retirement age, the 40% (or 50%) of salary benefit stops, and the member, or survivor, receives the DC account as well as the accumulated contributions from the occupational death and disability trust account with actual returns net of expenses. Employers make contributions into a separate fund to finance the extra benefit not provided by the DC account.

What happens when employees choose their own investments?

Experience indicates the average employee directing his or her own investments earns lower investment returns than a statewide DB system. Here is the experience of two states.

Nebraska's state and county employees hired between 1964 and 2003 had only a DC plan. During the same period, Nebraska maintained separate DB plans for its school employees, state judges, and state patrol. Over the 20 years leading up to 2002, the average return in the DB plans was 11% and the average return in the DC plans was between 6% and 7%. Why the significant difference? One reason is that nearly 50% of DC member contributions were invested in the stable value fund. The stable value fund was the default for members not making a specific investment election. Although the stable value fund is very conservative and the investor's balance will not decrease, the investor also has a lower expected rate of return. Partially due to the lower returns, employees were receiving a replacement ratio of their pre-retirement income closer to 30% rather than the projected 50% to 60%. Nebraska has since decided that employees hired on or after Jan. 1, 2003, will go into a hybrid defined benefit plan.

West Virginia had a similar experience. Teachers hired between 1991 and 2005 had only a DC plan. Teachers hired after July 1, 2005, go into a DB plan instead. One of the reasons for this change is that average DC returns lagged DB returns. As an example, during the seven years from 2001 to 2007, the DB plan outperformed the DC plan in both the best and worst markets. The DC return was higher in only one of the seven years. Over the seven year period, the average DB return was 3.15% higher. Specific returns are shown in the appendix.

Do DC members have to choose their own investments?

Employees directing their own investments tend to earn lower investment returns than statewide DB systems for a variety of reasons. DC members are part-time investors, whereas DB plans are managed by full-time highly trained professionals. DB plans have investment options that are generally not available to DC members, such as real estate, private equity, and hedge funds. DC members often lack discipline and chase returns. Does this mean that DC members cannot earn the same investment returns as DB plans? No, DC members can earn exactly the same returns. Members of Washington state Plan 3 have the option to invest in the Total Allocation Portfolio (TAP), which mirrors the investments in the state DB plan and therefore earns the same returns. Washington has made the TAP the default investment option for Plan 3, and approximately 61% of the members' DC assets are in the TAP option.

The employee contributions of members in the Oregon Public Service Retirement Plan go into the Individual Account Program (IAP). Like Washington's TAP, Oregon's IAP money is invested in the

same manner as the DB plan. However, unlike Washington's TAP, which is one of many investment choices, in Oregon's IAP there are no other investment choices, and so all DC money is invested to match the DB plan.

Both Washington and Oregon provide members with a professionally managed portfolio. Washington's approach leaves room for individual risk tolerance. For instance, members near retirement may not want to take as much risk. Oregon's approach ensures that all member funds are invested in a carefully managed portfolio. Either way, it is ironic that DC members may need to give up their ability to choose their own investments in order to earn returns competitive with DB plans.

Both the Washington and Oregon plans are hybrid plans where employer contributions fund a DB plan and employee contributions go into a DC plan. This is significant because the DB plan will provide some level of guaranteed income regardless of DC investment returns.

Does changing to DC solve funding problems?

In 1991, the West Virginia teachers' poorly funded DB plan was closed to new members. All new hires were put into a DC plan. This funding solution overlooked some important considerations:

- New members do not start with any unfunded obligation.
- Projected contributions for new members were worth more than the projected DB costs for those members.
- No unfunded obligations for existing members are reduced when new members go into a DC plan.

As a result, the loss of new members made it more difficult to finance the unfunded obligations of the West Virginia Teachers' Retirement System (TRS).

In 2003, West Virginia studied whether teacher retirement should be returned to a DB plan. Another factor in the decision was that 4,500 members who transferred from the DB to the DC plan in 1991 found it hard to retire after the bear market of 2000–2002. When also considering the lower average returns that were earned on the DC member accounts, the state decided that starting in 2005 all new hires would go into the DB plan to save money. After studying the issue, the state decided that funding a DB plan properly would be less expensive than a DC plan providing equivalent benefits. The state has shown discipline to achieve this proper funding, with extra contributions of \$290.1 million in fiscal year 2006 and \$313.8 million in fiscal year 2007. In addition, West Virginia completed a tobacco bond securitization in fiscal year 2007 and deposited \$807.5 million of those proceeds into TRS as another special appropriation. Most recently, in June of 2008, the teachers in the DC plan were given the choice to switch to the DB plan. Seventy-eight percent chose to switch.

West Virginia projected a \$1.2 billion savings in the first 30 years due to moving new entrants from the DC to the DB plan. This relies on an assumed return of 7.5%. The Legislature asked what return would be needed to break even. The answer was 6.0%. In order for the DB plan to save money, a projected return of more than 6.0% was needed. The employer cannot avoid funding risk with a DB plan, but changing to a DC plan does nothing to take care of unfunded obligations.

Some states require specific contributions to the DB plan as a percent of DC member pay in order to finance preexisting unfunded liabilities and to defray expenses. The systems include Colorado, Montana PERS, Ohio PERS, Ohio Teachers, and South Carolina. Details are in the appendix.

What are the implications of these choices?

The choices discussed in this article have many implications. Public employees have overwhelmingly chosen DB plans over DC plans. This implies that DB plans are more attractive than DC plans to public employees. This is not surprising, as public employees tend to have long service. Some systems have chosen to allow their members a second choice. This do-over could help an employee reverse a bad decision. Some systems have chosen to provide meaningful death and disability benefits in a DC environment; however, supplemental contributions are required. Employees tend to earn less when they choose their own investments. However, this can be countered in a DC plan by using an alternative like Washington state's TAP or Oregon's IAP, where the DC assets are invested in the same manner as the DB assets. Choosing to change from a DB to a DC plan does not solve funding problems.

In the final analysis, it's a question of accumulation and distribution. The accumulation of contributions and investment earnings determines available retirement income. A plan that maximizes investment earnings maximizes the benefits provided by contributions. Public employees are choosing plans that provide lifetime distributions. There is not yet much experience on how many DC members have been able to make their assets last a lifetime. The distribution phase and the loss of longevity risk pooling in retirement is probably the hardest obstacle for DC plans to overcome. The consequences of outliving one's assets are severe. DC plans rarely measure whether assets accumulated will provide adequate retirement income. How many employees can be sufficiently educated and empowered to navigate the risks of pre-retirement accumulation and postretirement distribution?

There often seems to be a choice between the employer bearing all the risk of funding a defined benefit and the member bearing all the risk of accumulating sufficient assets to last a lifetime. However, there are some choices that share risk between employers and employees, such as the combined DB/DC plans in Washington, Oregon, and Ohio, and DB plans where contribution increases are shared by employees. More choices are needed where risk is shared, or better yet reduced, and adequate retirement benefits are provided for a reasonable cost.

Further details are provided in the appendix available on Milliman's Web site.

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Public Employee Retirement Systems

Appendix - Public plan DB/DC choices

This appendix provides further details.

TABLE 3

STATE SYSTEMS REFERRED TO IN THIS ARTICLE

SYSTEM	CURRENT PLAN	EFFECTIVE DATE
ALASKA PERS & TRS	DC	JULY 1, 2006
COLORADO PERA	DB/DC CHOICE	JANUARY 1, 2006
FLORIDA RS	DB/DC CHOICE	JULY 1, 2002
MONTANA PERS	DB/DC CHOICE	JULY 1, 2002
NEBRASKA PERS	HYBRID DB	JANUARY 1, 2003
NORTH DAKOTA PERS	DB/DC CHOICE (LIMITED GROUP)	JANUARY 1, 2000
OHIO PERS	DB/DC/COMBINED CHOICE	JANUARY 1, 2003
OHIO STRS	DB/DC/COMBINED CHOICE	JULY 1, 2001
OREGON PERS	COMBINED	AUGUST 29, 2003
SOUTH CAROLINA RS	DB/DC CHOICE	JULY 1, 2001
VERMONT SRS	DB/DC CHOICE (LIMITED GROUP)	JANUARY 1, 1999
WASHINGTON STATE	DB/COMBINED CHOICE	MARCH 1, 2002
WEST VIRGINIA TRS	DB	JULY 1, 2005

Systems with supplemental contributions

The following systems have contributions paid as a percentage of DC member salaries that are not credited to DC member accounts. Supplemental contributions required to fund DB liabilities show that introducing a DC plan does not reduce the unfunded liabilities of the existing DB plan.

Colorado PERA

- Amortization Equalization Disbursement (AED)—The AED has been 0.5% of pay in 2006, 1% in 2007, and 1.4% in 2008. It is scheduled to increase 0.4% each year to a maximum of 3% in 2012.
- Supplemental Amortization Equalization Disbursement (SAED)—The SAED is 0.5% in 2008, and is scheduled to increase 0.5% each year to a maximum of 3% in 2013.
- In Colorado, the AED and SAED are both contributions to the DB

plan to account for adverse selection. Both are applied to both DB and DC payroll. The AED is paid by employers. The SAED, although technically an employer contribution, is considered to be an employee contribution because it comes out of the employee compensation package. Both grade down when trust funds reach 100% funding.

Florida RS

- To fund supplemental disability benefits for DC members, a contribution ranging from 0.25% of DC member pay for general members to 1.33% of DC member pay for special-risk members is paid by employers into a separate side account.
- Employers contribute 0.05% of pay to fund communication and administration.
- In Florida, there is no payment as a percent of DC member salaries to fund DB unfunded liabilities.

Montana PERS

The following contributions are made by Montana PERS employers as a percent of DC member pay:

- A Plan Choice Rate (PCR) contribution equal to 2.505% of pay is made to the DB plan to prevent DB costs from increasing due to financing unfunded liabilities over a smaller payroll and increases in the normal cost rate due to antiselection. The PCR was 2.37% from inception at July 1, 2002, until July 1, 2007, when it increased to 2.505% of pay.
- A payment of 0.30% is made to finance long-term disability benefits.
- A payment of 0.04% is made to the education fund.

Ohio PERS

- A contribution of 0.77% of pay for members in the all DC plan is made to the DB plan by the employer in 2008 as a "mitigation rate." The board reviews the mitigation rate annually, and it can vary between 0% and 6%. The highest level to date is 0.77%.

Ohio STRS

- 3.5% of pay from employer contributions for all DC members is used to pay for the unfunded liabilities of the DB plan.

South Carolina RS

- The South Carolina Retirement System currently collects 4.24% of the employer contribution and may retain an amount as determined by the director to defray any reasonable expenses incurred in performing services regarding the plan. This amount has changed as follows: 3.05% for FYE 6/30/2007, 4.06% for FYE 6/30/2008, and 4.24% for FYE 6/30/2009.

Further system details

The following section provides a brief summary of information relevant to this article for each system.

Alaska

Starting July 1, 2006, Alaska's public employee and teachers defined benefit plans are closed. New hires will go into the defined contribution plan.

The default percent of pay contribution rates are 5% employer and 8% employee in PERS and 7% employer and 8% employee in TRS. Additional employee contributions may be elected once in the first 24 months of hire subject to the IRS maximums in Section 415.

Alaska teachers do not participate in Social Security and many Alaska public employers, like the state of Alaska, have opted out of Social Security participation.

Colorado Public Employee Retirement Administration (PERA)

Starting Jan. 1, 2006, Colorado allowed new employees to choose between the PERA DB plan, the PERA DC plan, and three other state-offered DC plans.

Members have a 60-day election window and can then change their minds once between the PERA DB and PERA DC plans either way in years two through five after retirement. If a member changes to the DC plan, the DB benefit is frozen based on service and salary to the date of the change and the member participates in the DC plan going forward. If the member changes to the DB plan, the member has the option to purchase his or her original time in the DB plan after one year based on actuarial value.

The DB and DC plans require the same employer and employee percentage of pay contributions. The base contribution rates are 10.15% employer and 8% employee for state and school employees, and 12.85% employer and 10% employee for state troopers. For DB members, 1.02% of pay from the base employer contribution is used to fund retiree healthcare instead of pension benefits. For DC members, the 1.02% of pay goes into the members' DC accounts as part of the employer contribution and it is up to the members to pay for healthcare when they retire. The AED and SAED supplemental contributions described earlier are in addition to these base contribution rates.

Table 5 is a historical record of the choices of new hires in Colorado PERA.

Florida Retirement System (FRS)

Starting July 1, 2002, Florida allowed new employees to choose between a DB plan and a DC plan.

Members have a six-month election window and can change their minds once at any time before retirement or termination. Details of how the switch is treated are given in the main body of the article.

There are no employee contributions to either the DB or the DC plan. Employer contributions to members' DC accounts range from 9% of pay for general members to 20% of pay for special risk. Employer contributions to fund additional disability benefits for DC members range from 0.25% of pay for general members to 1.33% of pay for special-risk members. Employers contribute 0.05% of pay to fund communication and administration.

DC accounts vest 100% at one year of service. DB benefits vest 100% at six years of service. Accounts and benefits are 0% vested before these dates.

Table 6 is a historical record of the choices of new hires in Florida. Florida has an active education campaign. DC elections have increased each year and the overall DC election percentage of 26% in the year ending June 30, 2008, is the highest of any system in this study.

Montana Public Employees' Retirement System (PERS)

Starting Jan. 1, 2002, Montana PERS allowed new employees to choose between a DB plan and a DC plan.

Members have 12 months after hire to make a one-time irrevocable decision between the DB plan and the DC plan.

The DB and DC plans require the same employer and employee percentage of pay contributions. Employers contribute 7.035% of pay. Employees contribute 6.90% of pay. Employer DC contributions can be broken down as 4.19% to the DC account, 2.505% plan choice rate (DB funding), 0.30% for long-term disability benefits, and 0.04% for the education fund. The entire employee contribution is credited to the DC account.

Table 7 is a historical record of the choices of new hires in Montana PERS. Members not making a choice are placed in the DB plan by default; however, statistics are not available on what portion of new hires entering the DB plan did so by default.

North Dakota Public Employees Retirement System (NDPERS)

Starting Jan. 1, 2000, North Dakota allowed nonclassified state employees to choose between a DB plan and a DC plan. As only nonclassified state employees are eligible, there were only 291 members in the DC plan as of July 1, 2008.

Members have six months after hire to make a one-time irrevocable decision between the DB plan and the DC plan.

The DB and DC plans require the same employer and employee percentage of pay contributions. Employers contribute 4.12% of pay and employees contribute 4% of pay for a total contribution of 8.12% of pay.

Table 8 shows that about 12% have actively elected the DC plan and 88% have either actively elected the DB plan or have not made a choice and have been placed in the DB plan as the default. Breakouts by year and the portion of DB elections that were active versus default are not available.

Ohio Public Employees Retirement System (OPERS)

Starting Jan. 1, 2003, OPERS allowed new employees to choose between an all-DB plan (the Traditional Pension Plan), an all-DC plan (the Member-Directed Plan), and the Combined Plan.

In the Combined Plan, employer contributions fund DB benefits and all member contributions are credited to DC accounts.

Members have three chances to change their minds about their choice—once in the first five years after hire, once five to 10 years after hire, and once at any time after 10 years from hire and before retirement. Changes are prospective only, but members transferring to the all-DB or combined plan have the option to purchase service in the new plan using their DC accounts. Service purchases are based on service in the plan the member is opting out of; must use the DC account first; and if the DC account is less than the total cost, then the member may still purchase all service with an additional lump sum, rollover, or payroll deduction. Frozen DB benefits are based on salary and service during DB membership only.

The employer contribution is 14% of pay and the employee contribution is 10% of pay for all three plans and for all groups. Members in the all-DC and combined plans have all employee contributions credited to their DC accounts. However, a portion of the employer contribution is used to fund retiree health benefits (4.5% of pay in 2008). Also, the mitigation rate, which is currently 0.77% of pay, comes out of the 14% employer contribution and is not credited to DC accounts.

Table 9 is a historical record of the choices of new hires in OPERS.

State Teachers Retirement System of Ohio (STRS)

Starting July 1, 2001, STRS allowed new employees to choose between an all-DB plan, an all-DC plan, and a combined plan. In the combined plan, employer contributions fund DB benefits and all member contributions are credited to DC accounts.

Members have a six-month election window. After the member is put in the all-DB plan either by default or by active election, he or she cannot elect out. All changes after the first six months are effective at the end of the fiscal year following the fourth anniversary of the hire date. Members must positively elect to stay in the combined or all-DC plan at the end of the fifth fiscal year of participation or they will default into the all-DB plan. If members change into the all-DB plan, they forfeit their DC accounts and are treated as if they had been in the all-DB plan since hire. There are no changes after the end of the fifth fiscal year of participation after hire.

The employer contribution is 14% of pay and the employee contribution is 10% of pay for all three plans. Members in the all-DC and combined plans have all employee contributions credited to their DC accounts. However, a portion of the employer contribution to the all-DC plan is used to fund unfunded liabilities for the all-DB plan (3.5% of pay in 2008).

Table 10 is a historical record of the choices of new hires in STRS of Ohio.

Oregon Public Service Retirement Plan (OPSRP)

Oregon has chosen that starting Aug. 29, 2003, all new hires go into a combined pension plan with two components: the defined benefit pension program and the defined contribution Individual Account Program (IAP).

The pension program provides a defined benefit equal to 1.5% of final average earnings (1.8% for police officers and firefighters) for every year of service and is funded entirely by employer contributions.

The IAP is funded entirely by the employee contributions, which are 6% of pay. All IAP assets are invested in the same portfolio as the DB assets; there is no difference. Employees have no choice in how IAP assets are invested. As a result, the members' DC accounts earn the same return, positive or negative, as the DB assets. Earnings are credited annually to member accounts. Administrative fees are deducted from the fund's earnings as part of the annual crediting process. Members receive an annual statement after interest is credited each year.

South Carolina Retirement Systems

South Carolina allows new employees to choose between a DB plan and a DC plan. This arrangement was made effective over the period from July 1, 2001, to July 1, 2003, varying by group.

DC members choose between four authorized investment providers. Members must choose investment options from their chosen investment provider. Members may change investment providers during the annual open-enrollment period subject to the investment provider's contractual limitations.

Members have a 30-day election window after hire to choose between the DB plan and the DC plan. During their first five years, members can change from the DC plan to the DB plan. Members cannot change from the DB plan to the DC plan. If a member changes to the DB plan during this five-year period, the member has the option to purchase his or her original time in the DB plan. The cost is 16% of the member's highest career salary for each year of service. The member has the option, but is not required, to use his or her DC account for these service purchases.

The DB and DC plans require the same employer and employee percentage of pay contributions. Employers contribute 9.24% of pay. Employees contribute 6.50% of pay. Five percent of employer DC contributions are deposited to the DC account; the South Carolina Retirement System currently collects 4.24% of the employer contribution and may retain an amount as determined by the director to defray any reasonable expenses incurred in performing services regarding the plan. The entire employee contribution is credited to the DC account.

Table 11 is a historical record of the choices of new hires in South Carolina. Like most other systems, the DB plan is the default election. It is interesting to note that the percent of new hires electing DC varies widely by group. The percent of higher education employees choosing DC has varied from 32% to 37%, whereas the DC choice for other groups has only varied from 11% to 16%.

Vermont

Starting Jan. 1, 1999, all new exempt state employees were given a choice between a DB plan and a DC plan. In addition, beginning in July of 2000, the governing body of employers in the Vermont Municipal Employees' Retirement System (VMERS) can elect to offer employees a choice between a DB plan and a DC plan. To date, about 77 of the over 400 VMERS employers have chosen to offer this choice to their employees.

Employees make a one-time irrevocable choice at hire.

In the state DC plan, employers contribute 7% of pay and employees contribute 2.85% of pay. In the VMERS DC plan, employers contribute 5% of pay and employees contribute 5% of pay.

Statistics on the percentage of members electing the DC plan or DB plan are not available.

Washington State Department of Retirement Systems

Starting March 1, 2002, Washington state allowed new hires in the Public Employees' Retirement System (PERS) to choose between an all-DB plan (Plan 2), and a combined plan (Plan 3). In the combined plan, employer contributions fund DB benefits equal to 1% of final average earnings for each year of service and all member contributions are credited to DC accounts. Starting July 1, 2007, new hires in the Teachers' Retirement System (TRS) and the School Employees' Retirement System (SERS) were given the same choice between Plan 2 and Plan 3.

Members have 90 days after hire to make a one-time irrevocable decision between the all DB plan and the combined plan.

At the same time the plan election is made in the first 90 days, members in the combined plan (Plan 3) also choose between six employee contribution-rate options. Once the employee contribution-rate option is chosen, it cannot be changed as long as the member remains with the same employer. If members separate from the employer, they may change their contribution rate with the next employer. All employee contributions are credited to the DC account. The six employee contribution options in the combined plan are as follows:

Option A: 5% of pay contribution at all ages

Option B: 5% to age 35, 6% at ages 35 to 44, 7.5% at ages 45 and up

Option C: 6% to age 35, 7.5% at ages 35 to 44, 8.5% at ages 45 and up

Option D: 7% of pay contribution at all ages
 Option E: 10% of pay contribution at all ages
 Option F: 15% of pay contribution at all ages

Employees who do not make an election in the first 90 days after hire are placed in the combined plan (Plan 3) with employee contribution option A. Approximately 58% of combined plan members are in option A, with the remainder spread fairly evenly between the other five contribution options.

One of the DC investment options is the Total Allocation Portfolio (TAP), which mirrors the investments in the state DB plan and therefore earns the same returns. Washington has made the TAP the default investment option for Plan 3 and approximately 61% of the members' DC assets are in the TAP option. Starting in October of 2008, target date funds managed by an outside provider are also available. The target date funds allocate investments without the member's involvement and automatically change the asset mix as the member moves closer to retirement.

Table 12 shows that approximately 63% of the PERS members hired between March 1, 2002, and Sept. 26, 2008, have actively chosen the all DB plan over the combined plan, which is the default. Breakouts of choices by year are not available.

West Virginia Teachers Retirement System

The following chronology of the West Virginia TRS fills in some holes not described in the article.

- 1941—West Virginia TRS was established as a DC plan.
- 1960s and 1970s—DB benefits were added to counter the inadequate DC benefits, but the benefits were never properly funded.
- 1991—The DC plan (TDC) was established for new hires in response to funding problems and 4,500 former DB participants also switched from the DB to DC.
- 2003—Many of the 4,500 who switched felt misled and said they could not afford to retire. Other DC members were also not satisfied.

- 2005—The state decided that a given level of benefits could be funded for a lower cost through a DB plan. Average DC returns had been lower than DB returns in both up and down markets. Changing to a DC plan did not solve the state's funding problems. All members hired after July 1, 2005, go into the DB plan instead of the DC plan. West Virginia projected a \$1.2 billion savings in the first 30 years due to moving new entrants from the DC to the DB plan.
- 2006 and 2007—Special appropriations of \$290.1 million in FY2006 and \$313.8 million in FY2007 were deposited. In addition, West Virginia completed a tobacco bond securitization in FY2007 and deposited \$807.5 million of those proceeds into TRS as another special appropriation. All these amounts were in addition to the regular contribution determined under the ARC, which was converted to a level dollar amortization (from level percentage of payroll). Clearly, West Virginia is demonstrating a new DB contribution discipline.
- 2008—DC members are given the option to switch to the DB plan. Of those DC members, 78.6% (14,925 members) chose to switch to the DB plan. Surprisingly, the switch, which was expected to cost the state up to \$78 million before the elections were made, is now expected to save the state about \$22 million. Fewer older TDC members than expected transferred. More young TDC members than expected transferred. Fifty percent of those over 70 transferred. Sixty-nine percent of those age 65 to 69 transferred. Eighty-one percent of those 45 to 64 transferred. Seventy-six percent of members under age 40 transferred.

Table 4 shows the investment returns for the seven years ended June 30, 2001, through June 30, 2007. The seven-year average DB return was 3.15% higher than the average DC return. DB investments did better in both the best and worst investment years. The average DC return was only higher in 2003 when DC investments averaged 4.84% and DB investments earned 4.75%.

TABLE 4

WEST VIRGINIA TEACHERS' DC RETURNS COMPARED TO DB

YEAR ENDING JUNE 30	DC PLAN	DB PLAN
2001	-2.60%	-0.25%
2002	-3.76%	-2.94%
2003	4.84%	4.75%
2004	8.83%	15.08%
2005	6.33%	10.56%
2006	6.73%	9.55%
2007	11.85%	17.43%
7 YR AVERAGE	4.59%	7.74%

TABLE 5

COLORADO PERA NEW HIRE CHOICES*
(EFFECTIVE DATE: JANUARY 1, 2006)

	DB BY DEFAULT	DB ACTIVE ENROLLMENTS	DC ACTIVE ENROLLMENTS
2006	37%	48%	14%
2007	39%	43%	18%
1/08 – 5/08	35%	43%	21%

*BASED ON 11,200 NEW HIRES.

TABLE 6

FLORIDA RETIREMENT SYSTEM NEW HIRE CHOICES*
(EFFECTIVE DATE: JULY 1, 2002)

	DB BY DEFAULT	DB ACTIVE ENROLLMENTS	DC ACTIVE ENROLLMENTS
9/02 – 6/03	86%	6%	8%
7/03 – 6/04	73%	11%	16%
7/04 – 6/05	61%	18%	21%
7/05 – 6/06	59%	19%	22%
7/06 – 6/07	58%	18%	24%
7/07 – 6/08	55%	19%	26%

* AT JUNE 30, 2008 THERE ARE 609,888 DB MEMBERS AND 95,392 DC MEMBERS.

TABLE 7

MONTANA PERS NEW HIRE CHOICES
(EFFECTIVE DATE: JULY 1, 2002)

DC ACTIVE ENROLLMENTS

7/04 – 6/05	9%
7/05 – 6/06	10%
7/06 – 6/07	10%
7/07 – 6/08	10%

TABLE 8

NORTH DAKOTA PERS NEW HIRE ELECTIONS FROM JANUARY 2001 THROUGH JUNE 2008*
(EFFECTIVE DATE: JANUARY 1, 2000)

DB BY DEFAULT

DC ACTIVE ENROLLMENTS

88%	12%
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* THERE ARE 291 MEMBERS IN THE DC PLAN AS OF JULY 1, 2008.

TABLE 9

OHIO PERS NEW HIRE CHOICES*
(EFFECTIVE DATE: JANUARY 1, 2003)

	DB BY DEFAULT	DB ACTIVE ENROLLMENTS	DC ACTIVE ENROLLMENTS	COMBINED PLAN ACTIVE ENROLLMENTS
2004	84%	11%	3%	2%
2005	84%	10%	3%	3%
2006	83%	12%	3%	2%
2007	82%	13%	3%	2%
1/08 – 6/08	79%	15%	4%	2%

* BASED ON 228,234 NEW HIRES.

TABLE 10

OHIO TEACHERS (STRS) NEW HIRE CHOICES*
(EFFECTIVE DATE: JULY 1, 2001)

	DB BY DEFAULT	DB ACTIVE ENROLLMENTS	DC ACTIVE ENROLLMENTS	COMBINED PLAN ACTIVE ENROLLMENTS
7/01 – 6/04	69%	15%	10%	6%
7/04 – 6/05	70%	15%	11%	4%
7/05 – 6/06	72%	13%	11%	4%
7/06 – 6/07	72%	13%	11%	4%
7/07 – 6/08	71%	14%	11%	4%

* BASED ON 123,781 NEW HIRES.

TABLE 11

SOUTH CAROLINA RETIREMENT SYSTEMS PERCENT OF NEW HIRES ELECTING DEFINED CONTRIBUTION*
(EFFECTIVE DATES: JULY 1, 2001 TO JULY 1, 2003)

	HIGHER ED.	K - 12 SCHOOLS	STATE AGENCIES	OVERALL
7/04 – 6/05	32%	14%	11%	17%
7/05 – 6/06	34%	14%	12%	18%
7/06 – 6/07	37%	15%	13%	19%
7/07 – 6/08	35%	16%	13%	20%

* BASED ON 128,459 NEW HIRES.

TABLE 12

CUMULATIVE WASHINGTON PERS NEW HIRE ELECTIONS FROM MARCH 2002 TO SEPTEMBER 2008

PLAN 3 COMBINED DB & DC BY DEFAULT	PLAN 3 COMBINED DB & DC ACTIVE ENROLLMENTS	PLAN 2 ALL DB ACTIVE ENROLLMENTS
19%	18%	63%

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Comparison of Selected Features of Public Sector Hybrid Retirement Benefit Plans

	Georgia ERS	Indiana PERF	Indiana TRF	Ohio PERS	Ohio STRS	Oregon PERS	Washington DRS
Applicable group(s)	Mandatory for all new members 1/1/09 and after. Current membership may opt-in any time.	Mandatory for all participants	Mandatory for all participants	Optional for new hires and non-vested workers since 2002	Optional for new hires and non-vested workers since 2001	Mandatory for new hires since August 2003	Optional
Normal retirement age/ yrs of service	60/10; any/30; early (reduced) any/25; certain law enforcement 55/10	65/10, 60/15, Rule of 85 at age 55	65/10, 60/15, Rule of 85 at age 55	60/5, 55/25, any/30; 48/25 for law enforcement	60/5	65/any, 58/30; 60/any, 53/25 for public safety	65/5
DB plan multiplier	1.0%	1.1%	1.1%	1.0%; 1.5% for years in excess of 30	1.0%	1.5%; 1.8% for public safety	1.0%
Employer funds DB plan benefit?	Employee contributes 1.25%; employer funds remainder	Yes	Pre-'96 hires, no; new hires since, yes	Yes	Yes	Yes	Yes
Social Security?	Yes	Yes	Yes	No	No	Yes	Yes
Employer contribution to DC plan	100% match on employees' 1st 1% of salary; 50% match on next 4% of salary	Employers may elect to make EE contributions, which vest immediately. The State makes contributions for its employees.	Employers may elect to make employees' contributions, which vest immediately	ER contributions are divided among DB, DC, D&D and retiree health care. Five-year vesting period for ER contributions	ER contributions are divided among DB portion, DB UAAL, and retiree health care. 5-year vesting period for ER contributions	Employers may elect to make employees' contribution	No
Employee DC plan contribution	Minimum 1.0%	3.0%	3.0%	9.5%, including 0.1% for admin fees	10.0%	6.0%	5% to 15%, depending on EE election

Comparison of Selected Features of Public Sector Hybrid Retirement Benefit Plans

	Georgia ERS	Indiana PERF	Indiana TRF	Ohio PERS	Ohio STRS	Oregon PERS	Washington DRS
DC plan investment options	13 options ranging from conservative to aggressive, plus 5 lifecycle funds.	Six options administered by the fund, ranging from conservative to aggressive	Six options administered by the fund, ranging from conservative to aggressive	Nine OPERS-sponsored options ranging from conservative to aggressive.	Eight STRSOH-sponsored options ranging from conservative to aggressive and a guaranteed return option	All DC plan contributions are invested in the DB plan fund	Either the Total Allocation Portfolio, which mirrors DB plan fund, or 10 self-directed funds ranging from conservative to aggressive plus balanced funds
Default DC plan investment option	Lifecycle funds based on age.	The Guaranteed Fund, which earns a rate established annually by the Board. The current rate for the Guaranteed Fund is 6.0%.	The Guaranteed Fund, which earns a rate established annually by the Board. The current rate for the Guaranteed Fund is 6.0%.	Moderate pre-mixed portfolio	Money market fund	DB plan fund	Total Allocation Portfolio, which mirrors the DB plan fund
DC plan withdrawal options	Rollover, annuity, lump-sum, partial lump-sum, installments	Annuity, rollover, partial lump sum and annuity, deferral until age 70 ½	Annuity, rollover, partial lump sum and annuity (limited to after-tax assets), deferral until age 70 ½	Annuity, including PLOP; partial distributions; payments for a guaranteed period; monthly payments of a designated amount; deferral until age 70½	Annuity, including PLOP; lump sum and rollover	Lump-sum payment or in equal installments over a 5, 10, 15, or 20-year period.	DB plan fund: lump sum, direct rollover, scheduled payments and a personalized payment schedule. Self-Directed: same as DB plan fund, plus annuity purchase
Info online	www.ersga.org	www.in.gov/perf	www.in.gov/trf	www.opers.org	www.strsoh.org	oregon.gov/PERS (Click on OPSRP & IAP)	www.drs.wa.gov (Go to “my plan 3 account”)

**Redefining Traditional Plans:
Variations and Developments in Public Employee Retirement Plan Design**

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Redefining Traditional Plans: Variations and Developments in Public Employee Retirement Plan Design

Keith Brainard

Abstract

Retiree benefits for U.S. employees of state and local governments have traditionally been paid via defined benefit (DB) plans, but this arrangement has been neither monolithic nor static. This article provides examples of variants on the traditional DB model and presents recent developments in retirement benefits for public employees, focusing on the incorporation of DC plan elements into or alongside DB plan structures.

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Redefining Traditional Plans:

Variations and Developments in Public Employee Retirement Plan Design

Keith Brainard

One reason an employer may provide its workers with retiree benefits is to attract and retain qualified employees who seek to maximize compensation and establish a reliable source of retirement income. In the case of state and local government employment, other stakeholders may also have retirement benefit objectives. For example, taxpayers seek to ensure that cost-effective and affordable public sector retirement benefits. Likewise, recipients of public services seek public employee compensation packages that facilitate the efficient and effective delivery of the public services on which they rely.

These and other objectives can be achieved through the use of various elements of retirement plan design, including features of both defined benefit (DB) and defined contribution (DC) plans. Ninety percent of employees of state and local government in the U.S. have a DB plan as their primary retirement benefit (U.S. Bureau of Labor Statistics 2000). This fact, however, obscures an array of DC features that exist within or alongside traditional DB plans, incorporated to fulfill one or more objectives of one or more retirement plan stakeholders.

This chapter presents examples of DC plan elements functioning in concert with traditional DB plans sponsored by state governments. Specifically, it details a range of plan features adopted including the cash balance plan for state and county workers in Nebraska; the earnings limitation savings account at the Minnesota Teachers' Retirement Association; the investment earnings-based Permanent Benefit Increase provision at the Arizona State Retirement System; the deferred annuity benefit at the Minnesota Teachers' Retirement Association; and the hybrid retirement plan at the Oregon Public Employees' Retirement System. These are a few

examples of DC plan elements that exist in plans sponsored by state and local governments. Other examples of DC elements incorporated into state-sponsored DB plans not discussed here include options to increase the portability of pension assets by permitting the purchase and transfer of retirement benefit service credits among public retirement systems and in some cases, from service earned in the private sector to public retirement systems; partial lump sum options, which permit retiring public employees to take a portion of their annuity as a lump sum with an actuarial reduction in their annuity; deferred retirement option plans, which permit retiring public workers to continue working and defer their retirement benefit into an individual account, where it is invested by the plan sponsor until the worker ceases employment; automatic enrollment in a supplementary DC plan for workers whose primary retirement benefit is a DB plan; and establishment of cash balance plans in lieu of participating in Social Security.

In each instance, these DC elements were established to meet one or more particular stakeholder objectives. They illustrate that DB plans are flexible enough to meet key objectives for stakeholders, including employers, employees, taxpayers, and recipients of public services, while preserving core elements of retirement plan design.

Implementing a Cash Balance Plan in the Nebraska Public Employee Retirement System

State and county workers in the Nebraska Public Employee Retirement System were among the 10 percent of U.S. state and local government employees whose primary retirement benefit had been a DC plan. Throughout the 1980's and 1990's, the Nebraska PERS conducted seminars for these employees, often accompanied by a professional financial planner, in an effort to educate participants on the importance of making good choices regarding their retirement accounts: diversifying retirement assets, rolling assets upon termination to another retirement

plan, etc. Despite these efforts, a large percentage of participants remained heavily invested in low-risk stable value funds, and many took a distribution when terminating or changing jobs.

In 2000, the Nebraska Legislature launched a retirement benefits adequacy study of Nebraska state and county workers. The study's results affirmed what NPERS staff had believed all along: that on both an absolute basis and relative to comparable workers in neighboring states, Nebraska state and county workers were not accumulating assets sufficient to provide adequate retirement income (Buck Consultants, 2000). In response, the Nebraska Legislature in 2002 established a new cash balance (CB) plan for all newly-hired county and state workers. Existing DC plan participants were given a one-time opportunity to switch, and approximately 30 percent of elected to do so. (In late 2007, remaining DC plan participants were given a second opportunity to switch, and an additional four percent so elected.) Pursuant to the legislation that established the new plan, employee and employer contribution rates for the CB plan were established at the same level as under the legacy DC plan: employees contribute 4.8 percent of pay and employers contribute 156 percent of the employee rate (7.49 percent; the employer match for counties is 150 percent.) Public employees in Nebraska also participate in Social Security.

Rather than going into individual accounts, CB contributions are pooled and invested in a diversified portfolio of stocks, bonds, and real estate, similar to those of other public pension funds. Participants' nominal accounts are credited annually based on the greater of five percent or the federal mid-term rate plus 1.5 percent.¹ In addition, the NE PERS Board may authorize a dividend credit to CB plan accounts. This credit is based on investment performance and is determined in concert with the plan's actuary. Actual credits to member accounts since the program's inception are shown in Table 1.

Table 1 here

Retirement Benefits. The CB plan vesting period in Nebraska is three years; members may retire at age 55 with three years of service. Generally, the longer a participant waits to retire, the higher will be the benefit since an older participant has a shorter actuarial payout period. An active (working) participant who postpones retirement will increase her retirement benefit not only due to the shorter payout period, but also through a higher account balance resulting from additional contributions and (most years) investment earnings. Retiring participants may elect to annuitize any portion of their account balances, from 0 to 100 percent. Annuities are based on the participant's age and are adjusted based on the member's selection of optional factors, including a 2.5 percent cost-of-living adjustment (COLA), periods certain options, etc. The Nebraska CB plan's assumed investment return is 7.75 percent; this assumption also applies to annuities.

DB and DC Plan Features. The CB plan works like a traditional DB plan in that a) assets are pooled and professionally invested in a diversified portfolio; and b) participants are assured a minimum benefit by virtue of the five percent minimum guaranteed earnings credit. The plan functions like a DC plan in that a) benefits are affected by market returns; and b) participants may take their entire balance, including employer contributions and investment earnings, as a lump sum at retirement.

As with a DC plan, the CB plan shifts some investment risk from the employer to the participant, since the employer guarantees a minimum return of five percent. As with a DB plan, the employer assumes investment risk of five percent for non-retired participants, and the employer retains longevity risk by providing an annuity based on the plan's assumed investment return of 7.75 percent.

In the case of the Nebraska CB plan, the legislature applied the same contribution rates that were used for the DC plan, while lowering investment risk and eliminating longevity risk for plan participants who elect to take an annuity at retirement. One possible concern about the CB plan design is that by permitting retired participants to access to up to 100 percent of their cash balance, the plan leaves assets vulnerable to use for purposes other than for retirement income.

Death and Disability Benefits. The Nebraska plan's death benefit is payable to beneficiaries based on the value of the deceased member's account, and like the retirement benefit, it may be taken either as a lump sum or an annuity. This is consistent with death benefits offered by other state and local government retirement systems, although employers often will provide a supplemental life insurance policy for their workers. Members who meet criteria for disability can qualify for an annuity calculated in the same manner as a retirement benefit: on the basis of the account value and the member's age. The only difference between the manner in which the disability and retirement benefit are calculated is that disability applicants vest immediately. The disability benefit under the new CB plan provides access for participants to a benefit with assets that are professionally invested and that reflect the participant's salary and length of service and salary, characteristics a DC plan often does not exhibit.

Preserving Cost Consistency. The Nebraska Public Employees' Retirement System Board may pay a dividend only if the actuarial required contribution rate is 90 percent or less of the statutory contribution rate. This creates a contribution rate cushion that prohibits the distribution of dividends unless the plan's funding condition is sound. Since inception of the plan in 2003, the combined employer and employee contribution rate has exceeded the plan's normal cost. Combined with excess investment returns that have permitted payment of a dividend credit each

year from 2004 to 2007, the plan has had an actuarial surplus since inception. As of end 2007, the plan's funding level was 103.4 percent.

Earnings Limitation Savings Accounts (ELSAs) for the Minnesota Teachers Retirement Association

In recent years, many states have established or expanded opportunities for retired public employees to return to employment with the same employer who sponsors their retirement benefit, without forcing them to sacrifice the benefit due to IRS limits on in-service distributions. These often are referred to as "return-to-work" provisions. Multiple factors create demand to enable retirees to return to work, including a rising retirement rate as growing numbers of Baby Boomers move closer to retirement age; expanding difficulties among employers in replacing retiring workers creating employee shortages in certain fields (e.g., teachers and engineers) and geographic areas (e.g. rural areas and inner cities); increasing employee interest in phasing out of the workforce, rather than experiencing a sudden cessation of employment followed by an equally abrupt onset of retirement; and a recognition among many retirees that either their retirement income is insufficient or not what they thought or hoped it would be. An additional factor prompting demand for retirees to return to work is health care costs which continue to grow faster than the rate of general inflation and which many retirees fail to fully consider prior to retiring.

Return-to-work provisions in several states illustrate public employers' efforts to strike a balance between allowing retirees to return to work while remaining compliant with tax rules. For instance, participants in the Arizona State Retirement System (ASRS) who reach normal retirement eligibility may return to work for an ASRS employer one year after retirement, as long as there was no agreement with their employer to hire the participant at the time the

participant left. Alternatively, ASRS participants who meet normal retirement eligibility criteria may return to work for an ASRS employer without waiting, as long as two criteria are met: 1) there was no agreement between the participant and the employer for the participant to return to employment; and 2) the participant may work no more than 19 hours per week for any length of time, or 20 or more hours per week for no more than 20 weeks per year. These provisions are intended to either force the employee into retirement for at least one year, or to preclude participants from returning to work in a permanent, full-time capacity. Each of these consequences creates limitations for both the employer and the employee.

Connecticut permits retired public school teachers to receive retirement benefits and to be reemployed by a local board of education, or by any constituent unit of the State system of higher education, in a position designated by the State Commissioner of Education as a “subject shortage area” for the school year in which the former teacher is re-employed. Such employment may be for up to one full school year and may, with prior approval by the board, be extended for an additional school year. Thus, this provision also is limiting for both employers and employees.

In fact, most return-to-work provisions including those in both Arizona and Connecticut are designed to limit the amount of time annuitants may work for their employer/retirement plan sponsor. These limits prove to be a hindrance to public employers’ ability to fill certain positions and ensure the consistent delivery of certain public services. Another challenge with return-to-work provisions is one of public perception, since the idea of a public employee simultaneously receiving a paycheck and an employer-sponsored retirement benefit may provoke controversy and ill will toward public employees and their retirement benefits.

The Minnesota Teachers' Retirement Association administers a program designed to remove barriers to return to teaching after retirement. Prior to 2000, in accordance with the rules then in place, any pension benefits withheld from retirees due to "excess" earnings, reverted to the Minnesota TRA Fund.² Because returning retirees did not wish to forfeit pension benefits, this policy created a disincentive to return to work and limited the ability of school districts to attract retired teachers to return. Motivated by statewide teacher shortages, Minnesota established a method in 2000 that would accommodate the needs of both public school employers and retired public school teachers who sought to return to work, while not limiting the returning employee's earnings or the length of time worked. This was accomplished by incorporating certain defined contribution plan elements into the return-to-work provision, known as earnings limitation savings accounts (ELSAs).

Under Minnesota state law, teachers under age 65 who resume teaching for a TRA-covered employer after retirement are subject to an annual earnings limitation based on the Social Security rules. If a member earns more than the Social Security earnings limitation (\$13,560 in calendar 2008), the annuity payable during the following calendar year is offset by \$1 for each \$2 earned in excess of the limitation.³ Under the ELSA program, rather than confiscating a portion of the member's pension benefit and returning it to the TRA fund, the offset amount is deferred into an individual account that earns six percent annually. Members in the ELSA program do not make a contribution to the TRA pension benefit or earn additional service credit, and TRA employers do not pay pension contributions for their rehired annuitants. On the later of reaching age 65 or one year after termination of the TRA-covered employment that gave rise to the limitation, participants may receive a lump-sum payment of the total offset amount plus six percent interest compounded annually. (As of this writing, the yield on a 10-year

US treasury bill is below 4.0 percent, making a guaranteed rate of six percent appear generous.) Minnesota TRA does not annuitize ELSAs; all or any portion of the payment may be rolled over to a traditional IRA or an eligible employer plan. ELSAs are nominal accounts invested by the same entity—the State Board of Investments—that invests the Minnesota state pension fund assets. ELSA assets are invested in the same manner as other assets in the TRA Fund, so the ELSA accounts are not individually managed by their account holders.

According to the TRA, some ELSA participants have expressed interest in annuitizing these accounts. Also some have complained about the required delay in accessing accounts until age 65 at the earliest: a participant who retires at 58 and returns for two years must then wait at least five years prior to being able to access his ELSA. ELSA members are able to designate a beneficiary for their accounts in the event of their death before distribution of their ELSA account.

As of June 2007, TRA had 1,389 retirees (three percent of all benefit recipients) who had exceeded the earnings limitation since the program's inception and established an ELSA account. The total dollar value of ELSA accounts totaled approximately \$18 million. Minnesota TRA or its actuarial consultant have not studied the possible effects of the ELSA program and whether school districts have chosen to rehire annuitants in lieu of hiring new teachers who would otherwise contribute to TRA. As structured, no actuarial cost is linked to this program since ELSA account holders are eventually paid their promised monthly benefits, albeit delayed until after age 65. This structure enables the ELSA program to avert allegations of so-called "double-dipping."

Investment Earnings-Based Permanent Benefit Increase at the Arizona State Retirement System

Approximately two-thirds of state and local government pension plans provide their annuitants with some form of automatic cost-of-living adjustment (NASRA/NCTR 2007). Known as COLAs, these serve as a hedge against inflation which will erode the value of a retirement benefit. For example, over a 20-year period, an annual inflation rate of three percent will erode the value of a retirement benefit by 44 percent. Thus, the purchasing power of a \$2,500 monthly benefit for a public school teacher retiring at age 65 will decline to \$1,359 by age 85 (which is the median life expectancy of a 65-year-old female.) If she lived to age 95, the real value of her fixed nominal benefit would fall to \$1,033. Most public pension plans that do not provide an automatic COLA periodically will approve either a permanent benefit increase or a one-time increase, sometimes known as a '13th check'. Some public funds such as the Teacher Retirement System and Employee Retirement System of Texas limit the legislature's authority to approve an ad hoc COLA based on the plan's actuarial funding status.

According to the Public Fund Survey, some public pension automatic COLAs are linked to changes in the consumer price index. These COLAs usually are capped, such as not to exceed two percent or three percent in one year. Some are established as a specific rate, such as two percent or three percent of the benefit, regardless of the CPI. Most automatic COLAs are compounded, meaning they are applied to the previous year's COLA-adjusted amount; those that are not compounded are known as simple, meaning that the COLA is applied to the annuitant's original benefit (NASRA/NCTR (2007)). An automatic COLA is a relatively expensive benefit provision. For example, the South Carolina Legislature approved an automatic one percent COLA for current and future retirees of the South Carolina Retirement System. The projected

cost of this benefit enhancement over the plan's 30-year funding period added \$2.2 billion to the plan's \$26 billion liability, resulting in a required increase to the contribution rate of approximately two percent of worker pay.

Employers and employees participating in the Arizona State Retirement System (ASRS) pay matching contribution rates determined by actuarial valuation. Other factors held equal, actuarial investment returns in excess of the plan's eight percent return assumption reduce required contribution rates for both employers and employees. Likewise, returns below the assumption increase required contribution rates. Until 1994, annuitants in the ASRS relied on the legislature to provide periodic ad hoc COLAs. In that year, the state legislature approved an earnings-based permanent benefit increase (PBI) which provides a permanent benefit increase for ASRS annuitants funded with investment earnings above the plan's 8 percent investment return assumption.⁴ If the ASRS fund's actuarial investment return were 10 percent, for example, the portion of the "excess" two percent return (the difference between 10 and eight percent) attributable to annuitants (retirees, beneficiaries, and disabilitants) would be set aside to increase benefits.

To calculate the amount of the increase, the plan's actuary pro-rates the portion of investment earnings that apply to current annuitants. The PBI provision limits the amount of the increase in any one year to four percent of the plan's annual retirement benefit liability; any amount over the four percent is set aside to fund increases in future years. The amount divided among annuitants is not based on the value of each annuitant's benefit, but rather on the basis of the annuitant's years of service credit. Thus annuitants are rewarded for longer service, not higher salary. Annuitants with different final average salaries (which are used to calculate retirement benefits) but the same number of years of service will receive the same benefit

adjustment. For the plan's annuitants, the timing of creating the PBI could not have been better. The period from 1995-2000 was marked by strong investment returns, and the ASRS fund participated in these returns. The PBI provision produced a benefit enhancement every year from 1994 through 2005, despite the fact that the fund experienced poor returns (as did most investors) in fiscal years 2001-03. This is because investment earnings generated during 1995-2000 were in excess of the four percent limit. For an annuitant retired before 1994 with the plan average of 18.6 years of service and an average monthly benefit, the average annual benefit increase from 1994 through 2005 was 3.3 percent, increasing the monthly benefit of an average annuitant by 45 percent, from \$852 to \$1,238.⁵ The average increase in the CPI during this period was 2.5 percent. Because the benefit increase is based not on the base value of the benefit, but on the participant's years of service, the percentage increase varies by annuitant. Annuitants with lower earnings during their working years but who retired with the same number of years of service credit as an average salaried earner, received benefit increases higher than the average. The year 2006 was the first since the program's inception that annuitants did not receive a benefit enhancement.

When the PBI was established in 1994, the ASRS used a five-year smoothing period to calculate its actuarial investment return. In 2003, the ASRS switched to a 10-year smoothing period to calculate the actuarial value of assets. The ASRS also established a new, 10-year timeframe for calculating the PBI, beginning with 2002. Because of the poor investment returns in FY 02 and FY 03, notwithstanding strong returns in FY 04-07, the fund is unlikely to distribute a benefit increase in the foreseeable future.

In the absence of the PBI, an automatic COLA, or ad hoc COLAs, the value of ASRS annuitant benefits would have been diminished by inflation, and the benefits of strong

investment earnings would have been limited to the plan's active members, employers (taxpayers), and future taxpayers. The PBI permits annuitants to participate in the "excess" investment earnings generated by the ASRS fund and reduces their exposure to inflation risk. By creating a mechanism to provide a COLA that is not automatic, the Arizona Legislature avoided creating an unfunded liability, although the PBI does reduce funds that would otherwise have been available to offset investment returns below the assumed rate.

The ASRS actuary acknowledges that without the PBI, the ASRS contribution rate would be lower than it is currently, although he has not calculated precisely how much lower. The actuary also has estimated that an automatic COLA of one percent would require an increased contribution rate of 3.62 percent. In calculating the cost of ASRS liabilities, the actuary assumes an investment return of 8 percent, meaning that no assumption is made for payment of a PBI. Of course, by allocating a portion of "excess" investment earnings, the PBI provision reduces assets that would be available to offset negative actuarial experiences, including periods of actuarial returns that are lower than expected. But if the alternative to the PBI were to be a typical automatic COLA, the PBI would result in an actuarial cost only with assets that already have been accrued, thereby reducing the risk to the plan sponsor (and active annuitants, whose contribution rate also is affected by the plan's actuarial experience) of unfunded liabilities that would accrue automatically.

The value of a defined contribution plan is a function of contributions to the individual account plus investment earnings less expenses. Retirement income produced by a DC plan thus depends on the value of each individual's account and investment earnings. Once a participant stops contributing to his retirement plan (as typically occurs in retirement), the value of his DC account—and the income the account generates—becomes limited by its investment

performance. As with a DC plan, the PBI allows individual account holders to benefit from strong investment returns and to suffer the effects of inflation when returns are poor.

By establishing an earnings-based COLA, the Arizona State Retirement System has created a mechanism to reduce annuitants' inflation risk, paid for with a combination of current and future active members and current and future employers (taxpayers). Also, by recognizing the basis on which the plan will pay a COLA, the plan increases the likelihood that the COLA will be pre-funded rather than imposing the full cost of the COLA on future taxpayers.

Deferred Annuity Benefit at the Minnesota Teachers Retirement Association

Employee turnover is a fact of life for employers in every economic sector, regardless of the type of retirement plan an employer offers. Actuarial assumptions used for public defined benefit plans recognize that many participants will leave the plan before they begin to draw a retirement benefit, or they will withdraw their assets rather than taking a retirement benefit. From the standpoint of the retirement plan, a problem with turnover is that retirement assets may be diminished through forfeiture of employer contributions and, in the case of DB plans, through low interest rates (if any) paid on assets of withdrawing participants. Terminating employees who are vested in their DB plans and who elect to leave their assets with the plan are exposed to inflation risk. The farther away is the terminating participant from drawing his retirement benefit, the greater the inflation risk exposure. Thus, DB plan participants who leave before qualifying for retirement benefits usually face unpleasant choices: either withdraw their contributions with little or no interest, thereby abandoning their employer's contributions, or leave their contributions with the plan until they reach retirement, exposing their future retirement benefit to inflation.

To address the problem of DB plan asset loss, the Minnesota Teachers' Retirement Association (TRA) maintains a so-called deferred retirement annuity benefit, available to vested members (after three years) who terminate prior to reaching the plan's minimum retirement age of 55. To qualify for the benefit, terminating participants must leave their contributions with the TRA. Upon reaching retirement eligibility which occurs as early as age 55 for a reduced retirement benefit and age 66 for a normal (unreduced) retirement benefit, a participant may begin to receive a retirement benefit (Minnesota TRA 2008). The deferred annuity benefit is calculated in the same manner as for other, non-terminating participants, by multiplying the participant's years of service by his final average salary, and by the TRA retirement multiplier of 1.7 percent. The calculation for deferred annuity participants then is increased by 2.5 percent for each year since the participant terminated. This 2.5 percent escalator (which is greater for workers hired prior mid-2006) can partially offset the effects of inflation between the time the participant terminates and when the participant begins taking his retirement benefit.

A comparison of the difference the TRA deferred annuity benefit can make to a terminating participant's retirement benefit is shown in Table 2. Here we compare two plans, A and B. Plan A does not offer a deferred annuity benefit while Plan B does. Normal retirement eligibility in both plans is age 66 with at least three years of service, and the retirement multiplier is 1.7 % of salary. A participant terminating employment at age 46 with 20 years of service and a final average salary of \$50,000 in Plan A will receive an annual pension benefit of \$17,000 on reaching age 66, as long as he leaves his contributions with the plan. An inflation rate of three percent will reduce the real value of that benefit by nearly 46 percent, to \$9,245. The same employee participating in Plan B with the deferred annuity benefit would also qualify for a pension beginning at 66. But because the deferred annuity benefit has increased the value of the

benefit by 2.5 percent each year, at age 66, the Plan B participant will receive an annual benefit of \$27,856, (\$15,378 on an inflation-adjusted basis) a reduction in the real value of the benefit of just 9.5 percent, compared to the \$17,000 that Plan A will provide.

Table 2 here

A terminating participant who elects to refund his contributions plus the six percent interest may invest his withdrawn retirement assets and purchase an annuity comparable to that provided by the TRA. The TRA deferred annuity benefit provides a mechanism for terminating participants to secure a retirement annuity protected (largely) from inflation and one that enables the participant to avoid the task of rolling over his assets and making investment decisions for the remainder of his working and retired life.

The cost to the TRA of the deferred annuity benefit is estimated to be 0.45 percent of payroll. This cost represents the actuarial gain the plan would realize if terminating participants who take advantage of the deferred annuity benefit, instead withdrew their benefits, leaving the employer's contributions with the plan. The Minnesota TRA deferred annuity benefit is like a DC plan in that it permits retirement assets to continue growing despite the plan participant's terminating employment, just as DC plan assets would; and by enabling the withdrawn participant to receive the employer's contributions.

Individual Account Plan sponsored by the Oregon Public Employees Retirement System

In the face of falling DB plan funding and sharply higher, and unsustainable, projected costs, the Oregon governor and legislature revised the plan design of the Oregon Public Employees' Retirement System in 2003. It terminated an old DB plan design whose cost had become unsustainable and established mandatory participation in both a DC and a DB plan.

Since 2004, all mandatory employee contributions to the Oregon PERS have been directed to the DC component of the retirement benefit, known as the Individual Account Plan, or IAP. With these changes, the Oregon governor and legislature were able to contain what had become unsustainable liability growth while preserving desirable features of both DB and DC plans.

Oregon PERS is the predominant public retirement system in the state, providing retirement and other benefits for employees of the state, public schools, and most political subdivisions. It includes over 160,000 active members and more than 100,000 annuitants. Combined assets held in the OR DB fund exceed \$60 billion. The Oregon PERS has long featured a retirement plan design containing both a DB and a DC plan, an atypical combination among state and local governments. Until 2003, the DB plan retirement multiplier had been 1.67 percent (the median public fund multiplier is 1.85 percent; NASRA/NCTR 2007). The accompanying DC component permitted participants to benefit from market gains with no exposure to downside risk. For example, if the fund containing DC plan accounts earned 15 percent in a year, participants got nearly all of that credited to their accounts. If the fund return was negative, participants still received a guaranteed eight percent earnings credit.

Consecutive years of negative returns in 2001 and 2002 eroded the plan's funding level, which then declined precipitously, and projected plan costs were rising to unsustainable levels requiring projected employer contribution rates well above 20 percent. The Oregon governor and legislature responded by devising a new plan that reduced the DB plan retirement factor to 1.5 percent and also eliminated the guaranteed earnings feature in individual accounts. The new IAP features individual accounts invested in the same portfolio as the \$60+ billion PERS DB plan, so DC plan assets are now managed by the same professional investors who manage the big DB fund, relieving participants of the responsibility for managing their retirement assets. Moreover,

investing in the DB fund costs less than most DC plans, and gives participants exposure to asset classes such as real estate and private equity, that they are unlikely to otherwise have access to in other DC plan accounts. Participants contribute six percent of pay to the IAP, and employers may (and most do) make the contribution on participants' behalf. Employer contributions finance the DB portion of the benefit. Upon retirement, in addition to their DB plan benefit, participants may elect to take their IAP assets either as a lump sum, in equal installments over a 5, 10, 15, or 20-year period, or as an annuity based on the account balance and participant's age.

IAP management costs have declined each year since the plan was established in 2004: 39 basis points in FY 07, down from 53 bp in FY 06 and 86 bp in FY 05. Plan costs may continue to decline if growth in asset values outpaces growth in expenses, many of which are fixed. Low costs are an important factor contributing to participants' ability to accumulate retirement assets. Due to robust investment returns and low costs, the combined value of its individual accounts has grown to \$1.9 billion in 2007 since plan inception. The IAP's low costs are enabled by annual, rather than daily, updating of account values and by investing IAP assets solely in the PERS fund, in which investment costs are less than 50 basis points. Although this is higher than other public pension funds of similar size, the Oregon Investment Council which invests the PERS assets has a long and successful investment track record, consistently outperforming most of its peers. This outperformance is attributable partly to higher-than-average allocations to alternative assets, including private equities.

Retiring participants who elect to annuitize or to withdraw their assets over a certain period (rather than withdraw them as a lump sum) continue to benefit from pooling, professional asset management, and alternative asset classes. Table 3 shows earnings credited to individual

accounts since their inception in 2004. The earnings credit reflects the amount available for distribution and takes into account the fund's investment return and all expenses.

Table 3 here

Employer response to the new plan design has been positive since the reforms stabilized liability growth and reduced both costs and cost volatility. Controlling plan liabilities and costs was particularly important to Oregon public employers and taxpayers, considering how high those costs had been projected to rise. In concert with other plan design changes, the establishment of mandatory individual accounts and investing them with professionals in a common fund is a central feature of the new plan design that has restored the sustainability of retirement benefits for public employees while leveraging key features of both traditional DB and DC plans.

Other states, including Washington, Ohio, and Indiana maintain retirement plan designs similar to that in Oregon, in which a DC plan accompanies mandatory participation in a DB plan. Table 4 presents and compares key features of these retirement plan designs.

Table 4 here

Conclusions

This chapter focuses on instances where defined contribution plan elements have been incorporated into or alongside defined benefit plan structures sponsored by U.S. state and local governments. The cases described include the cash balance plan administered by the Nebraska Public Employees' Retirement System; the Earnings Limitation Savings Accounts and Deferred Annuity Benefit sponsored by the Minnesota Teachers' Retirement Association; the Permanent Benefit Increase sponsored by the Arizona State Retirement System; and the hybrid retirement

plan sponsored by the Oregon Public Employees' Retirement System. Each of these and similar mixed plan designs were implemented to accomplish one or more particular stakeholder objectives. These plan designs may offer lessons to employers and others seeking opportunities to rebalance various and sometimes competing stakeholder objectives, such as redistributing risks or costs, enhancing benefits, and promoting longer employment.

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Table 1 Earnings and dividend credit rates applied to accounts in the Nebraska Public Employee Retirement System cash balance plan, 2003-2007

Year	Earnings Credit	Dividend Credit	Total Credit Applied
2003	5.04%	NA	5.04%
2004	5.19	3.08%	8.27
2005	5.45	2.80	8.25
2006	6.27	13.05	19.32
2007	6.12	2.73	8.85

Source: Buck Consultants (2007).

Table 2 Comparison of inflation-adjusted benefit with and without the Minnesota TRA deferred annuity benefit

Year	Plan A	Plan B
	\$17,000	\$17,000
1	16,490	16,915
2	15,995	16,830
3	15,515	16,746
4	15,050	16,663
5	14,598	16,579
6	14,161	16,496
7	13,736	16,414
8	13,324	16,332
9	12,924	16,250
10	12,536	16,169
11	12,160	16,088
12	11,795	16,008
13	11,441	15,928
14	11,098	15,848
15	10,765	15,769
16	10,442	15,690
17	10,129	15,611
18	9,825	15,533
19	9,530	15,456
20	9,245	15,378

Source: Author's calculation as described in text, drawing on information from Minnesota TRA (2008).

Table 3 Earnings credit applied to individual accounts in the Oregon Public Employee Retirement System, 2004 – 2007

Year	Earnings Credit
2004	12.77%
2005	12.80
2006	14.98
2007	9.46

Source: Oregon PERS (2008).

Table 4 Defined benefit plans with mandatory defined contribution components sponsored by state governments

	Indiana PERF	Indiana TRF	Washington DRS	Ohio PERS	Ohio STRS	Oregon PERS
Applicable group(s)	Mandatory for all participants	Mandatory for all participants	Optional	Optional for new hires and non-vested workers since 2002	Optional for new hires & non-vested workers from 2001	Mandatory for new hires since August 2003
Normal retirement age/yrs of service	65/10, 60/15, Rule of 85 at age 55	65/10, 60/15, Rule of 85 at age 55	65/5	60/5, 55/25, any/30; 48/25 law enforcement	60/5	65/any, 58/30; 60/any, 53/25 public safety
DB plan multiplier	1.1%	1.1%	1.0%	1%; 1.5% for years > 30	1.0%	1.5%, 1.8% for fire and police
Employer funds DB plan benefit?	Yes	No pre '96 hires,; yes since	Yes	Yes	Yes	Yes
Social Security?	Yes	Yes	Yes	No	No	Yes
Employer contribution to DC plan	Employers (ER) may make employee (EE) contributions which vest immediately. State makes contributions for its EEs.	ERs may elect to make EE contributions, which vest immediately	No	ER contributions divided among DB, DC, D&D & retiree health care. Five-year vesting period for ER contributions	ER contributions divided among DB portion, DB UAAL, and retiree health care. 5-year vesting period for ER contributions	ERs may elect to make EE contributions
Employee DC plan contribution	3.0%	3.0%	5% to 15%, depending on EE election	9.5%, including 0.1% for admin fees	10.0%	6.0%

	Indiana PERF	Indiana TRF	Washington DRS	Ohio PERS	Ohio STRS	Oregon PERS
DC plan investment options	Six investment options administered by the fund, ranging from conservative to aggressive	Six investment options administered by the fund, ranging from conservative to aggressive	Either the Total Allocation Portfolio, which mirrors DB plan fund, or 10 self-directed funds ranging from conservative to aggressive plus balanced funds	Nine sponsored options ranging from conservative to aggressive.	Eight options ranging from conservative to aggressive and a guaranteed return option	All DC plan contributions are invested in the DB plan fund
Default DC plan investment option	Guaranteed Fund earns a rate established annually by the Board. Current rate is 6%.	Guaranteed Fund earns a rate established annually by Board. Current rate is 6%.	Total Allocation Portfolio, which mirrors the DB plan fund	Moderate pre-mixed portfolio	Money market fund	DB plan fund
DC plan withdrawal options	Annuity, rollover, partial lump sum (LS) and annuity, deferral until age 70 1/2	Annuity, rollover, partial LS and annuity (limited to after-tax assets), deferral until age 70 1/2	DB plan fund: LS, direct rollover, scheduled payments & personalized payment schedule. Self-Directed: same as DB plan fund, plus annuity purchase	Annuity; partial distributions; payments for guaranteed term; monthly payments of designated amount; deferral until age 70 1/2	Annuity; LS and rollover	LS payment or equal installments over 5, 10, 15, or 20-year period.
Info online	www.in.gov/perf	www.in.gov/trf	www.drs.wa.gov (Go to "my plan 3 account")	www.opers.org	www.strsoh.org	oregon.gov/PERS (Click on OPSRP & IAP)

Source: Author's compilation based on data provided by plan sponsors; see "Info Online".

Endnotes

¹ The federal mid-term rate is based on the average market yield of outstanding market obligations of the U.S. with maturities of at least three but not longer than nine years.

² Prior to 2000, there was an annual earnings limit for retirees under age 65 and a higher earnings limit for retirees age 65-69. For ages under 65, the penalty was \$1 for every \$2 over the earnings limit. For retirees ages 65 to 69, the penalty was \$1 for every \$3 over the higher earnings limit. Retirees age 70 and older had no earnings limitation.

³ Members who reach normal retirement age (65, 10 months for those born in 1942) can earn \$36,120 between January 1, 2008 through the month prior to turning age 65 and 10 months. Members reaching the full retirement age by January 1, 2008 are not subject to the earnings limitation.

⁴ This statute has been modified since its inception to pay a COLA up to the full increase in the CPI, rather than one-half; to lower the threshold of investment return from nine percent to eight percent; and to increase the maximum annual adjustment from three percent to four percent. See Arizona Revised Statutes Section 38-767 *Benefit Increases*.

⁵ Based on data provided to the author by the Arizona State Retirement System.

