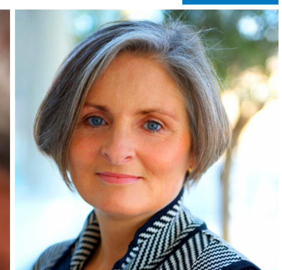
The Evolving Role of Defined Contribution Plans in the Public Sector



A joint research project of the Arthur N. Caple Foundation and the National Association of Government Defined Contribution Administrators conducted by the Center for State and Local Government Excellence.

September 2012

ANC FOUNDATION

NAGDCA

CENTER FOR STATE & LOCAL GOVERNMENT EXCELLENCE

About the Authors[1]

Paula Sanford, Ph.D., is public service and outreach faculty at the Carl Vinson Institute of Government, University of Georgia.

Joshua M. Franzel, Ph.D., is vice president of research at the Center for State and Local Government Excellence.

The Evolving Role of Defined Contribution Plans in the Public Sector

Paula Sanford and Joshua M. Franzel

Introduction

The role of defined contribution plans for state and local government employees is evolving. This change is being driven by several factors including flat government revenues, increased demand for services, economic uncertainties, concern about future benefit costs and risk exposure, and a wide range of related political debates. Traditional defined benefit public sector retirement plans are under pressure to make structural changes with governments making a range of changes that seek to reduce or control employer contributions and address unfunded liabilities. State and local government defined benefit plans have historically offered a reliable and adequate level of retirement income. Defined contribution plans have played a useful role as supplemental saving vehicles, but, with some exceptions, have not focused on becoming the primary income replacement resource.

As public sector employees face greater financial pressures and employers continue to make changes to primary pension plans, it is time to review the role and design of defined contribution plans in the public sector.[2] This report focuses on several central questions about public sector retirement plans including:

- What does the current environment look like?
- What does the future hold for defined contribution plans?
- What are effective defined contribution designs?
- What role can annuities and other guaranteed retirement income features play?
- How are financial literacy and counseling initiatives and defined contribution plans linked?
- How can structural change, if adopted by a government, be implemented to minimize costs, risks, and help employees assume more personal responsibility?
- What should be considered when assessing and potentially altering the role of defined contribution plans?

The purpose of this report is not to suggest that defined contribution plans will or should replace traditional defined benefit plans. Instead, it seeks to focus on the increasing role of defined contribution plans in state and local government and for employee retirement security.

Methodology

To conduct this research, the authors relied on a variety of literary and data sources and extensive interviews. The literary sources include academic journals, books, private sector interests such as company-produced briefs, and federal agencies. The authors interviewed seventeen people with significant defined benefit and defined contribution public sector retirement plan experience using a survey instrument that covered several different aspects of defined contribution plans. Examples of topics included the objective of public sector retirement benefits, the future of defined contribution plans in the public sector, design elements of an "ideal" core defined contribution plan, improving education for retirement savings, and annuities.[3] Ten of those interviewed represented public retirement systems or governments; six represented the retirement/insurance industry; and one represented academia. They are located across the country with eight people from the West, three from the East, four from the South, and two from the Midwest. Except for the academic, all of the seventeen people interviewed are affiliated with organizations that are members of NAGDCA. For the structural change chapter, the authors interviewed two additional individuals[4] and the foci of these discussions were on learning how their governments implemented recent retirement plan reforms.

The Current Environment

For the greater part of the last century through today, employer-provided,[5] employer-provided retirement benefits have been a key element in the economic security of most[6] full-time state and local government employees. Between 1909 and 1976,[7] all 50 states had adopted some form of defined benefit pension plan for their general employees, which often covered local government employees as well. These retirement benefits have undergone unprecedented changes over the past decade; changes which have increased in scope and intensity in the wake of the 2008 stock market downturn and subsequent recession.

Today, for the vast majority of state and local government employees, the bulk of their retirement income comes from a defined benefit plan and Social Security, if eligible. Employees may also have supplemental savings from a defined contribution plan among other sources. But, continued fiscal pressures from the 2008 and 2009 economic downturn, an aging public sector workforce, and strains on state and local government revenues have led governments across the country to consider changes to the retirement benefits they offer to their employees.

Current Public Retirement Plan Participation

As of March 2011, 90 percent of all state and local government employees had access to a retirement benefit of some kind. Eighty-four percent of these employees had access to a defined benefit[8] retirement plan with 78 percent participating. For state employees, 87 percent had access to a defined benefit plan with 78 percent participating. Eighty-three percent of local government employees had access to a defined benefit plan with 79 percent participating.[9] These levels of participation have decreased some over the past few decades (for example, in the 1990s, the participation rates ranged from 91 to 87 percent).[10] Thirty percent of state and local government workers also had access to a defined contribution plan with 17 percent participating. Defined contribution participation levels have almost doubled for all state and local government workers since the early-to-mid 1990s (when they were 9 percent).[11] While state and local government defined benefit coverage levels are relatively the same across the levels of government, there is more variation in defined contribution offerings. Forty-three percent of state workers have access to a defined contribution plan with 26 percent participation while 26 percent of local workers have access with 14 percent participation.[12]

While the vast majority of states continue to offer defined benefit plans as the primary retirement savings vehicle for employees, a few states have adopted a primary or core defined contribution plan. For example, state employees in Alaska and Michigan hired after a specific date participate in a primary defined contribution plan. Other states, including Georgia, Oregon, Rhode Island, Washington, and Utah have adopted combination defined benefit/defined contribution

Types of Retirement Plans

"A **defined benefit** plan promises a specified monthly benefit at retirement. The plan may state this promised benefit as an exact dollar amount…Or, more commonly, it may calculate a benefit through a plan formula that considers such factors as salary and service."

"A **defined contribution** plan…does not promise a specific amount of benefits at retirement. In these plans, the employee or the employer (or both) contribute to the employee's individual account under the plan…These contributions generally are invested on the employee's behalf. The employee will ultimately receive the balance in his or her account, which is based on contributions plus or minus investment gains or losses."

"A **cash balance** plan is a defined benefit plan that defines the benefit in terms that are more characteristic of a defined contribution plan. In other words, a cash balance plan defines the promised benefit in terms of a stated account balance. In a typical cash balance plan, a participant's account is credited each year with a 'pay credit' (…percent of compensation…) and an 'interest credit' (…fixed rate or a variable rate…linked to an index…). Increases and decreases in the value of the plan's investments do not directly affect the benefit amounts promised to participants…When a participant becomes entitled to receive benefits under a cash balance plan, the benefits that are received are defined in terms of an account balance."

Source: US Department of Labor: Types of Retirement Plans [http://www.dol.gov/dol/topic/retirement/typesofplans.htm]. Also see Center for State and Local Government Excellence: "What Are Hybrid Retirement Plans?" [http://www.slge.org/wp-content/uploads/2011/12/Hybrid-primer.pdf] plans, often referred to as hybrid plans.[13] Utah, Florida, and Ohio offer employees the option of participating in either a defined benefit or defined contribution plan. New York, Vermont, and North Dakota maintain a defined contribution plan for elected officials or other specific categories of shorter-tenured workers. Recently, Kansas and Louisiana adopted a cash balance plan for new hires. Reforms have not taken a "one-size-fits-all" approach. Although the redesign trend has been to keep defined benefit plans as the core benefit, changes made to these plans result in reduced income replacement. In the few instances where government employers have moved to a primary defined contribution arrangement, the focus of these plans should be on income replacement strategies rather than supplemental savings.

About one-third of state and local government employees—mostly public safety and education workers—do not participate in the Social Security system. General employees in Alaska, Colorado, Louisiana, Maine, Massachusetts, Nevada, and Ohio[14] are also not covered by Social Security. Most states and localities that do not participate in the federal system compensate with a retirement benefit structure that replaces Social Security retirement and disability benefits.

An Aging Workforce

Public sector workers are generally older than their private sector counterparts. As of March 2011, 36 percent of state and 36 percent of local government employees were over the age of 50 compared to 26 percent of private sector wage/salary employees. Twenty-six percent of private wage/salary workers were under 30 years of age while only 17 percent and 14 percent of state and local government workers, respectively, were under 30 years of age.[15] The aging public sector workforce is further stressed by the continued use of hiring freezes in many governments along with many eligible employees delaying their retirement. In recent years, some employees have delayed their retirement to make up for investment losses experienced during the 2008–2009 economic downturn and to save more for out-of-pocket retiree health care costs, given increased employer to employee/retiree health care cost shifting.[16]

Given all of these points, between 2005 and 2009, the average number of separations in the U.S. workforce including retirements, transfers to other locations, deaths, and due to disability[17] was 527,000 per year, not going above 540,000 for state and local government employees. In 2010 and 2011, the number of separations was 652,000 and 627,000, respectively.[18]

Defined Benefit Plan Funding Levels

The financial condition of the defined benefit plans that most current public employees will depend on in retirement varies greatly. In the aggregate in 2011, state and local public pension plans were 75 percent funded on an actuarial basis, meaning the plans have 75 percent of the assets needed to cover the liabilities or benefits to be paid to employees and retirees. These current funding levels are below where they were in the late 1990s when most plans were 100 percent funded and for most of the 2000s when they were above 80 percent funded. In 2011, only 6 percent were 100 percent funded and 30 percent were 80 to 99 percent funded.[19] Even with improvements in equity markets since 2010, the aggregate funding ratios are expected to improve at a slower pace because asset gains and losses are smoothed over 3 to 5 years. As a result, losses in 2008 and 2009 are still being phased into asset figures in 2012.

Adding to the financial difficulties, many state and local governments continue to have flat or slow-growing revenues while demand and costs for services continue to increase. Because of these factors, many governments are struggling to make their annual required contributions (ARC) that pay for the retirement benefits earned by employees for the current year and an amortized portion of any unfunded liability associated with the plan. In 2001, state and local governments were paying 100 percent of their ARCs; through the middle part of the decade the percentage dropped to between 83 and 95 percent. In 2011, state and local governments paid an estimated 79 percent of their ARCs.

Current Pension Reforms

Given these demographic, financial, and economic realities, state and local governments have implemented many pension changes over the past decade. Between 2009 and 2011, 43 states implemented substantial pension reform.[20] A 2012 survey of state and local governments conducted in early 2012 (with 82 percent of the respondents from local governments) reported that 37 percent had made changes to retirement benefits in the past year, an increase from 21 percent in late 2009.[21] Most of these changes have been made to achieve financial sustainability and reduce employer risk. Other reasons for recently implemented changes include a workforce preferring the mobility of a defined contribution plan or elected and appointed officials seeking to equalize the types of benefits offered in the public and private sectors.

Plan changes fall into five categories:

- Increasing current and/or new employee contribution levels
- Increasing the age and/or length of tenure required to be eligible for normal retirement
- Reducing or eliminating cost-of-living adjustments (COLA) for new and/or current employees
- Changing the way pension formulas are calculated to reduce pension benefits
- Offering a hybrid and/or defined contribution plan instead of a traditional defined benefit plan.[22]

Many of these changes, individually or in combination, will ultimately lead to lower levels of retirement income through traditional defined benefit plans for eligible public employees. In some cases, for public workers with short tenures, the changes will eliminate the opportunity to receive the benefit. With lower or no pension income, employees may face significant financial challenges, becoming more dependent on Social Security or other government programs and/or relying more on other retirement savings, such as defined contribution plans.

The Future of Defined Contribution Plans in the Public Sector

The current environment within which public sector retirement plans are operating suggests that changes will continue to occur with the responsibility for financing retirement benefits shifting more to employees. Some experts argue that defined benefit plans will replace less income in retirement due to increased employee contributions, higher vesting requirements, more years to calculate the benefit formula, and later retirement ages.[23] Cost-of-living increases and perhaps even benefit multipliers will decrease. These changes will, in many instances, reduce pension benefits, increase employees' risk, and push more of the responsibility to employees to fund their retirement by contributing more money to supplemental defined contribution plans. At a minimum, supplemental defined contribution plans will play an increasingly important role in "filling the gap" created by changes to defined benefit plans. Though still legally supplemental and not mandatory in most cases, increased participation in defined contribution plans will be necessary for employees to maintain the standard of living in retirement they had while working. These additional savings become particularly important when governments reduce or eliminate cost-of-living increases for the defined benefit plan and when retirees need to pay for rising health care costs.

Rise of Hybrid Plans

The research of this report indicates openness toward hybrid pension plan design for state and local government employees.[24] A few respondents further argued that once hybrid plans are adopted, governments may then begin offering core defined contribution plans in order to further reduce liabilities.[25] The vast majority of hybrid plans have what is referred to as a "parallel" structure where employees contribute to both a defined benefit and a defined contribution plan from the first dollar earned.[26] However, some argue that a "stacked" hybrid model is more desirable.[27] The "stacked" plan provides a defined benefit up to a salary cap with a defined contribution portion applying to earnings above the cap. Employees with more modest earnings receive the full benefit of a defined benefit plan and have relatively less need to contribute to a supplemental defined contribution plan.[28] However, like traditional defined benefit plans, the "stacked" hybrid plan would be less portable for lower-earning employees than the "parallel" plan. While hybrid and even core defined contribution plans can provide sufficient retirement income that result depends on plan structure, funding and contribution levels, investment outcomes, and education.

These changes also need to be considered in light of public employees' reliance on Social Security and potential future benefit changes.[29] While it is unlikely that Social Security will end, reduced benefits could have serious ramifications for the importance of individual savings and supplemental defined contribution plans.

Drivers of Benefit Plan Changes

Managing long-term risk and cost are the primary drivers for a shift toward depending more on defined contribution plans. Governments are looking for ways to reduce costs to overcome the short-term impacts of the recession, reduce investment risk,[30] and to provide long-term financial stability. Many public officials are concerned with the long-term costs of their current defined benefit programs and will continue to redesign these plans and consider alternative retirement arrangements. However, most of the changes implemented to date, including switching to hybrid and core defined contribution plans, usually affect new employees.

Therefore, cost savings will occur in the future based on workforce turnover.

Research also shows that moving to defined contribution plans may have strong political impetus. According to Munnell et al.,[31] the most important explanation for when a state introduced some form of defined contribution plan is party affiliation. Research for this report found[32] the reforms reflect the public's current anti-government, anti-tax sentiment. This view is supported by other research[33] which states that political ideology is one of the few consistently, statistically significant variables for an individual's position on retirement plans.

Historically, pension benefits were considered "deferred compensation" and intended to compensate government employees for the salary difference between the public and private sector.[34] With decreasing benefits, will public sector employees' compensation packages begin to resemble the private sector? Many would answer "no." The strong culture within many governments of taking responsibility for their employees' long-term well-being, which is at the foundation of public sector plans, will most likely be continued by providing a defined benefit floor. Research for this report suggests that, in the short term, lower benefits and flat salaries for public employees will likely be the norm.[35] Over the long term, public sector salaries will rise somewhat; however, to what extent depends upon the demand for labor. As a result, pay increases will probably be uneven, reflecting competition for personnel in the private sector (e.g., information technology specialists), the influence of labor unions, and government pay scales. For example, pay may increase for mid-level employees, but senior executives are unlikely to receive compensation similar to counterparts in the private sector. Rather than governments mimicking the private sector, one respondent would like to see the opposite—the private sector offering stronger retirement benefits and lower salaries because of the societal issues that emanate from large segments of the population having insufficient retirement income.

Increased Role for Defined Contribution Plans in the Public Sector

With the trend toward an increasing role for defined contribution plans in the public sector, it is important to consider whether the purpose of a retirement benefit will be met with these reforms. Experts typically cite two goals for a retirement benefit: to attract and retain good employees and to allow employees to retire with adequate income on which to live.[36] The first goal focuses on the needs of the employer and implies a transaction between the employer and employee.

The second goal involves a workforce planning component to ensure an orderly transition of staff out of the workforce as well as a level of concern for employee well-being. This interest in employee welfare after they leave service could be considered beyond the scope of an employer's responsibility. In the transactional model, an employer's primary goal is to provide a compensation package that attracts and retains quality employees at the most efficient price. The quality of an employee's life after he or she leaves the workplace may be beyond the interest or obligation of the employment contract. However, even if employers have no moral responsibility to fund employee retirements under this philosophy, retirement benefits are an important part of the compensation package and are necessary for employee recruitment and retention. One could argue that the traditional design of core defined contribution plans with employees having total control over the assets fit into this general model because responsibility for retirement income is borne by the employee.

So, can a defined contribution plan be successful in meeting the goal of attracting and retaining quality employees? The answer depends on a number of considerations including who the government is trying to attract. Research[37] and anecdotal evidence indicate that core defined contribution and hybrid plans can be very effective in attracting younger professionals known as the Millenials or Gen Ys. This generation expects to take on several different jobs in their careers and is attracted to the portability of a defined contribution plan. For example, Gwinnett County, Georgia found that the young professionals they were seeking to attract preferred a defined contribution plan.[38] This finding was an important consideration in the government's decision to close its defined benefit plan and open a core defined contribution plan for new hires. In order for a defined contribution plan to be effective in attracting and retaining quality personnel, it needs to be competitive with other governments and (in some cases) with the private sector. Key factors include the employer contribution rate, vesting schedule, and investment results on which employees can build a secure retirement.

How have defined contribution plans fared in providing for an adequate retirement income? Many believe that defined contribution plans can support employees in reaching their retirement goals *if* they contribute early and diligently and are invested appropriately. Furthermore, plan structure can contribute to a positive outcome. Because of the importance of defined contribution plan structure to retirement income sufficiency, a substantial section of this report is dedicated to this topic.

An argument can be made that governments should be concerned with their employees achieving an adequate retirement income because of the community-wide consequences of residents with inadequate retirement resources. Retirees without sufficient income are unable to spend money which results in fewer sales tax dollars to state and local governments.[39] Given that many individuals retire in their home communities, having employees with sufficient retirement income can result in financially positive effects for the government. Furthermore, a large low-income elderly population leads to greater demands for social services such as food stamps and Medicaid.[40] To paraphrase one respondent, the government pays for its employees in retirement, either through a strong retirement benefit or through social services. Obviously, the former is a more desirable approach for both economic and moral reasons.

The Definition of Income Adequacy in Retirement

Income adequacy is a very general term which does not provide much direction to employees or governments about how to save for retirement. Human resources and retirement professionals have relied on rules of thumb to guide governments in establishing retirement benefit plans and employees in making savings decisions. The most frequently cited estimate is 80 to 85 percent of working salary in retirement income is needed to maintain a similar standard of living during retirement. The research of this report suggests this benchmark may not continue to be accurate. Research by Georgia State University[41] shows that the replacement income needed depends upon the actual income level because of the impact of federal and state taxes and work-related expenses. Those with the lowest earnings, such as $20,000, are generally expected to need a higher replacement ratio (88 percent to 94 percent based on marital status); however, relatively more of their income will come from Social Security because the program is progressively redistributive. Those with the lowest replacement ratios are married, single-earner households making $80,000 or more annually. This group is expected to need 76 percent of working salary to provide adequate retirement income.

This report's interviewees offered a wide range of optimal replacement ratios that considered the financial condition of the employee and the larger economic and political environment. The majority agreed that an 85 percent replacement goal was still reasonable; however, several added that this figure was predicated on the retiree having no debt and having relatively low health care costs. A few others believed a 70 percent ratio could be appropriate if the individual did not have any debt, was Medicare eligible, in good health, did not have children living in the household, and wanted a simple lifestyle with limited travel and low-cost hobbies. Finally, some respondents stated that to have a standard of living in retirement similar to during work years, employees should plan on a 90 to 100 percent income replacement ratio. The higher figure may be needed because retirees are often not in a strong financial position in regard to debt, have older children or grandchildren living with them, and are facing rising health care costs.

What these different responses indicate is that a single income replacement percentage to determine an adequate retirement for all is not appropriate. While replacement income benchmarks may be helpful in the early years of retirement savings, retirement planning and income requirements must be individualized for those within 15 years of retirement because of the many lifestyle considerations that retirees face. In addition, retirement goals vary greatly and help drive the appropriate replacement ratio. The lack of a "one-size-fits-all" method for retirement planning also means that employees must become more actively engaged in this process. Individuals nearing retirement must now also plan for increasing health care costs and increasing longevity. Fortunately, many are starting to think about these issues, if not act on them.[42] For example, a survey of higher education employees aged 50 to 70 found that 73 percent of the participants were either very or somewhat concerned about being unable to afford good health care in retirement.[43] These concerns also demonstrate the growing role for defined contribution plans. With flat pension benefits and rising income needs caused by socio-economic and demographic changes, individuals will have to fill this gap through personal savings such as a supplemental defined contribution plan. As a result, employees should be increasingly focused on determining what an appropriate replacement goal is for them and develop a savings plan that considers both desired goals, such as travel, and harsh realities, such as rising health care costs.

What can and should governments as employers do to assist their employees in reaching their retirement goals? Answers to this question[44] reflect both personal values and the economic realities facing governments. Many of the respondents interviewed for this report stated that governments have been culturally paternalistic toward employees, including helping to provide a secure retirement for employees through financial contributions. However, there was a lack of consensus about the level of contributions a government should provide. Some supported an equal split of contributions between the employer and employee while others suggested a tiered approach in which the government contributes more for lower-paid positions. Others stated that a government's contribution should be predicated on what it can afford, with employees making up the difference. As stated earlier, state and local governments have a vested interest in assisting employees in achieving income security both from a transactional-employer perspective and to prevent larger, more damaging societal costs as well. However, governments need to balance the needs of employees with those of taxpayers, creating an ongoing challenge in determining what an appropriate retirement benefit should be.

In the effort to balance competing needs, many governments are modifying their attitudes towards retirement benefits toward a more partnership approach which lies between the extremes of the paternal-transactional model continuum. Under it, governments and employees each have a role to play in ensuring the continued financial viability of the retirement plan. This shift is due to internal and external factors including the need to better manage future obligations and to respond to taxpayer attitudes about the cost of government. Employees take on a greater responsibility to save and be financially prepared for retirement. Likewise, government employers need to provide adequate contributions to the retirement arrangement and pay employees sufficiently so that they have the financial capacity to save for retirement.

Regardless of the level of financial assistance afforded employees for retirement, public employers must take extra steps to educate employees about retirement benefits, investment choices, and healthy living provided by knowledgeable retirement counselors and other professionals. These efforts are relatively low-cost yet can be extremely valuable in promoting retirement readiness.[45] Some even argue that governments, as employers, have a role in forcing employees to save for their retirement because employees are lax in saving voluntarily. Under this view, governments would institute mandatory contributions or automatic deferrals from pay checks.

Retirement goals are best met through diligent savings throughout an employee's career. So how much should a public employee save? Making that decision can be difficult, particularly when considering current expenditure demands. But under-saving results in individuals either needing to continue working (if able) or living a less than preferred lifestyle in retirement. A 2011 study by the Center for Retirement Research[46] found the median income replacement rate for a household with a state-local government retiree is 60.2 percent, including Social Security, pension, and other financial assets. The amount increased to 72.7 percent for individuals who spent more than 50 percent of their career in government, but this figure is still far less than the generally accepted 85 percent replacement goal.

The appropriate plan contribution rate[47] depends largely on the type of retirement plan. In a defined benefit environment, employees are able to calculate their benefit based on their plan's formula, factor in Social Security (if applicable), and then estimate the extent to which supplemental savings are needed. For a core defined contribution plan, the general consensus on what constitutes an appropriate employer-employee contribution rate is 12 to 15 percent of salary with Social Security and closer to 18 to 20 percent without Social Security.[48] When including Social Security benefits, retirement contributions in the range of 12 to 15 percent over a career, appropriately invested, are projected to generate replacement income of 70 percent.[49]

Effective Defined Contribution Plan Design in the New Retirement Environment

Research and practice indicate that the growing role of defined contribution plans in the public sector has led to a simultaneous push to make them look more like defined benefit plans in order to increase retirement savings. There is also greater appreciation of behavioral economics research which has found that individual freedom and responsibility for retirement savings may make achieving retirement goals more difficult for a majority of the population. This chapter reviews how governments are using behavioral economics and the knowledge gained from the 401(k) world to design retirement plans that overcome the limitations of human nature. It also explores strategies for improving management and oversight of defined contribution plans to make them less expensive and easier for employees to navigate.

Behavioral Economics and Retirement Savings

Behavioral economics for retirement savings explores why people do not save enough for retirement. Herbert

Simon's "bounded rationality" posits that people are limited in their ability to consider all issues and facets for a complex problem.[50] In regard to retirement planning, people have difficulty predicting factors such as investment returns, cash flows, tax rates, and longevity[51], which leads them to be more likely to accept a default option when making decisions about their retirement savings. Bounded rationality is compounded by "bounded self-control," which is a lack of will power when it comes to savings. Simply put, people do not save enough because they have a much higher near-term discount rate, almost hyperbolic, compared to future discount rates. In other words, they value immediate consumption far greater than delayed consumption, and the longer the delay, the larger the difference. Individuals can be greatly influenced in their decision making by how an issue is framed.[52] For example, framing a savings decision in a way that requires less effort may lead to increased willingness to save.[53]

Research has found several similar behavioral characteristics that can negatively influence investing decisions. Many individuals lack firm preferences for investing, including making the tradeoff between risk and return.[54] Therefore, the framing of investment decisions can greatly affect choices about investment portfolios. For example, having relatively more funds within a particular asset class will lead investors to continue to choose that type of investment, regardless of whether it will produce the best return. Inertia also affects investment decision making. Once an individual makes an investment decision, he or she is likely to leave it unchanged.[55]

Other undesirable retirement investment practices include *chasing returns*, *loss aversion*, and *narrow framing*.[56] When *chasing returns*, individuals rely only on past performance to make investment choices, rather than studying expected returns and risk. This may be because past performance is readily available, even though it is often a less accurate predictor of outcomes. *Loss aversion* causes individuals to invest too conservatively, which minimizes opportunities for growth. Research has found that individuals view losses as 2.5 times more painful than an equivalent gain.[57] Finally, loss aversion can be heightened through *narrow framing,* which looks at investment decisions as isolated events rather than a recurring process. If individuals looked at their choices in a larger context, they might begin to value losses and wins equally, leading to better investing decisions.

Outcome-Based Defined Contribution Plan Design

To overcome the widespread shortfalls in retirement savings, experts have begun promoting an outcome-based approach to defined contribution plan design. Under this model, the framework for designing plans and communicating with employees is retirement adequacy and an acceptance of participant behavior.[58] This approach may be a good fit for state and local governments because it aligns well with their historic tendency to utilize retirement benefits to promote long-term relationships with employees that governments have typically valued. Design features specifically seek to increase savings during employment by selecting appropriate investment strategies, limiting leakage, and fostering communication. The more common examples include *auto enrollment*, *auto escalation*, and *target date funds.*[59] These features are particularly important when the defined contribution plan is the primary retirement savings program.

Key Tenets for Supplemental Defined Contribution Plans

The purpose of a supplemental defined contribution plan is to encourage retirement savings for use in addition to Social Security and income from a defined benefit plan. Key tenets of an effective supplemental defined contribution plan to achieve increased retirement savings are:[60]

- Making participation and decision making as simple as possible for employees
- Ensuring that plan administration and costs are as transparent as possible
- Minimizing costs to enable greater savings for employees
- Providing tools, education, and retirement counseling for informed decision making.

Achieving these tenets is easier said than done and the pathway is not always clear, particularly when it comes to making participation as simple as possible. A 2012 NAGDCA survey found that the average 457 plan participation rate for respondents was 26 percent in 2011, which is only two percent higher than 2007.[61] The most frequently used tools to encourage participation are employer contribution matches and education. Employees are more likely to save when there is an employer match,[62] but many governments cannot afford this extra cost while maintaining full pension benefit plans. Typical venues for educating employees about retirement plans include new employee orientations, on-site meetings, and employee fairs; but their effectiveness is uneven.[63] Some governments promote peer relationships to encourage savings and create a culture where plan participation is the norm.[64] However, in order to create such a culture, employers first need high levels of sustained participation; and achieving that can be a challenge. To the extent these traditional outlets are not available or not achieving desired results, plan administrators are considering new design tools including automatic enrollment and automatic escalation.

Automatic Enrollment and Automatic Escalation in Public Sector Plans

Research has shown that auto enrollment is effective at encouraging employees to save. [65] Furthermore, increasing the default contribution rate for auto enrollment does not decrease participation. For example, Choi et al. (2004) found that opt-out rates were the same for employees whether default contribution was set at 3 percent or 6 percent.[66] However, most research has focused on private sector 401(k) plans and, to a lesser extent, public 401(k) and 401(a) plans, but rarely on supplemental public sector defined contribution plans. Currently, only a small percentage of supplemental plans use auto enrollment, and there are differing opinions on its viability.[67]

One argument posits that public employees will need income from a well-funded supplemental defined contribution fund to offset decreases in retirement benefits such as reduced or eliminated cost of living adjustment (COLAs) or increases in health care costs. When employers reduce their defined benefit multipliers, employees may need a supplemental fund to reach the desired 85 percent replacement benchmark. For example, Houston, Texas reduced its defined benefit multiplier from 2.5 percent to 1.8 percent for new employees hired after July 1, 2008[68], with the expectation that affected employees would contribute to a supplemental defined contribution fund. City officials believed employees would have the resources to make these contributions since they did not contribute to the defined benefit fund. Under circumstances where the defined benefit was not intended to be the primary source of retirement income, automatic enrollment may make sense to ensure sufficient employee savings.

However, in some cases, auto enrollment may not always be appropriate. Public employees participating in plans with higher employee contributions and defined benefit levels may not feel as much pressure to participate in a supplemental fund. In instances when employers institute a low auto enrollment contribution because of concerns with employee resistance, administrative fees may need adjusting due to the imbalance of relatively small account balances and relatively inflexible administrative costs.[69] In some states, legislation may be required before auto enrollment could be implemented. Finally, auto enrollment could be administratively challenging in governments with unions that have pension plan agreements. Some consensus with the unions about auto enrollment would be needed before implementation, and that may be difficult to achieve.[70] As a result of these issues, the decision to use auto enrollment for supplemental defined contribution plans should be considered on a plan-by-plan basis.

Automatic escalation is almost nonexistent for supplemental defined contribution funds and will likely stay that way for the time being. Because supplemental funds today typically are not expected to have significant asset accumulation, the need to escalate contributions annually does not appear necessary.[71] Rather, auto escalation may be more appropriate for core defined contribution plans or hybrid plans but with a lower cap.

Investments and Record Keepers

Selecting an investment portfolio and record keeper are extremely important fiduciary roles for plan sponsors and can have serious financial impacts for participants. The selection of investments is at the core of supplemental defined contribution plan management because it establishes the vehicles used to drive investment gains for participants. Furthermore, to guide trustees responsible for making these decisions, a written investment policy statement can be extremely valuable. One of the basic considerations in selecting funds is to limit the number so that participants are not overwhelmed by the choices.[72] This thinking reflects both findings from behavioral economic research and observed results. However, the appropriate number of funds is open to debate. From this report's research interviews, the ideal number of funds ranged from as few as six (plus target-date funds) to as many as twenty.[73]

For employees who want more choice, a brokerage window might be the logical option. According to the NAGDCA 2012 survey, 57 percent of the responding governmental plans offer a brokerage window.[74] Though the availability is widespread, participation is limited to just a small percentage of employees on average.[75] This small number further demonstrates some reluctance to venture further into the vast choice, investor driven model. Plan sponsors may find it appropriate to place controls on brokerage accounts to keep the supplemental fund's purpose intact—promoting retirement savings rather than playing the stock market. For example, a plan may require a minimum balance in the main account, and the window can be limited to mutual funds rather than individual stocks.

The challenge in having a limited pool of funds is ensuring a sufficiently diverse fund selection to maximize returns. The goal is to have investment choices that include all the major asset classes and accommodate participants' varying ages and risk thresholds.[76] Some administrators like mutual funds with high name recognition in order to maintain employee satisfaction and encourage participation.[77] These funds can be researched on the Internet and may make employees feel more comfortable about their selections. Index funds also receive strong support because of their low cost and simplicity. These funds may work best for employees who prefer not to move their money and have the patience to stay with a fund over the long term, such as young employees.[78] However, employees invested in these types of funds will likely need to take responsibility for transferring the proportion of their equity index funds to more conservative investments over time.

One of the most popular fund choices is the target date fund.[79] When auto enrollment is used, target date funds are the preferred default fund choice. In fact, 90 percent of auto-enrolled employees are defaulted into target date funds, according to Vanguard Group.[80] Plan administrators like these funds because they can help ensure proper asset allocation for employees as they age yet don't require active participant management.

However, target date funds require effort and focused fiduciary responsibility for the plan sponsor. Because all target date funds are not the same, they can produce significant differences in asset returns over time. For example, target date funds, when controlling for age, can vary by as much as 30 percent in the amount of equity exposure.[81] Likewise, funds will differ in whether they freeze equity exposure when the participant reaches age 65 or continue to decline holdings as the person ages.[82] One additional concern with these funds is their level of diversification. In testing against benchmarks, it may be useful to perform stress tests for glide paths to determine income replacement at retirement or even through a certain age in retirement (i.e., longevity).[83] Management costs for these funds also vary considerably. Finally, there are concerns about liability when using target date funds as a default because they tend to be actively managed and returns can be volatile. As a result, some plan sponsors favor using stable value funds as the default on automatic enrollment contributions.

Another fund option is to permit employees to invest (through their defined contribution plans) in the government's defined benefit fund or in a fund that mirrors it. The states of Idaho, Oregon,[84] and Washington permit this type of investment.[85] Benefits of this option include low cost, professional management, and a more diverse investment portfolio than typically available in a defined contribution environment.

Issues and difficulties with employees investing in pooled assets exist and are worth considering. The first is education. Employees need to understand that the fund's portfolio is for a large investor and may have risks that are inconsistent with the individuals' needs and risk tolerances. They would have to be responsible for appropriately divesting themselves of this fund as they neared retirement. Furthermore, employees could incorrectly think that by investing in the defined benefit fund (or one that mirrored it), they would have sufficient assets upon retirement to generate an income stream similar to the one given through the defined benefit plan.[86] There are also concerns about how to establish an accurate value for the fund so that employees can fairly buy and sell their "shares." This occurs because defined benefit funds typically invest in non-liquid holdings such as real estate and individual companies. Because the actual value of a "share" is unknown until the fund's assets are sold, the plan sponsor or government would be required to establish a price that may ultimately be over or under its true value. For example, in Washington, the fund's prices are set quarterly.

To help with the administration of defined contribution funds, the vast majority of plan sponsors hire private-sector record keepers. Research strongly supports hiring one (but no more than three) record keepers in order to reduce complexity for participants and administrative expenses.[87] The primary concern with multiple vendors is the risk that they may encourage employees to select their own investments, making coordination more difficult. With a single vendor, plan sponsors can still provide a diversity of investment choices to participants but with a "much simpler and more cohesive experience [for participants]."[88]

After deciding upon the number of record keepers, the next question is whether to bundle or unbundle[89] services. For smaller plans or governments without the expertise to review and select their own investments, using fully bundled services may make the most sense. Bundled services with a single provider allows for streamlined implementation, simplified data processing, consolidated reporting, and greater direct accountability.[90] Borland and Frost discuss the benefits of a "best in class" approach in which the government awards multiple contracts based on the various facets of fund management.[91] The hoped-for benefits in this approach are reduced costs, deeper domain expertise, and diversified business risk. Larger governments have more options when it comes to contracting for services or providing them "in house." For example, several larger plans have their own investing capabilities either internally or through a governmental agency. Furthermore, some plans provide their own education and call centers while others bundle all services except for investments. There can be cost advantages to providing services "in house," but that depends on several issues including achieving economies of scale, the complexity of the record keeping (e.g., number of payrolls), ability to select and manage investments, and staff to provide retirement education and counseling to participants.

Availability of Loans and Withdrawals

Another important policy decision related to supplemental defined contribution plans is whether to allow loans and withdrawals on participant accounts. In looking after the long-term interests of the employee, the trend in government has been to discourage loans. However, several respondents believed that allowing loans offered an incentive to participation. Generally, loans are seen as reasonable, particularly for supplemental plans because they are voluntary and not part of core retirement. The argument against loans or withdrawals is that they are contrary to the fund's purpose which is to save exclusively for retirement. To the extent supplemental defined contribution funds become an integral part of an employee's retirement income, governments may want to impose greater limits on loans and withdrawals, such as how much can be taken from the account or how often. For example, employers may choose to prohibit future loans after a default. Other ideas to limit leakage include extending repayment periods, allowing loan repayment even if the employee leaves service, and increasing educational efforts about the financial impact of withdrawals and loan defaults.[92]

Other Administrative Issues

There are three additional issues with defined contribution fund management that merit attention within the scope of this report—revenue sharing, fee disclosure, and automation.

Revenue Sharing. This occurs when a portion of the investment-related fees collected from participant accounts is returned to the plan sponsor. It is relatively common practice with plans that use private-sector investment funds. There is some debate about what do with the money that comes from revenue sharing such as using it to offset administrative expenses or returning it to participant accounts, with the former being more common. One concern with revenue sharing is that it may not occur with all funds in equal proportions. Index funds are an example. To the extent that the revenue sharing dollars offset plan expenses, participants who do not invest in funds with revenue sharing receive a disproportionate benefit. Best practice would call for allocating dollars proportionally to accounts, provided the administrative cost of doing so does not exceed the total amount of money received. With the increasing importance of defined contribution funds, which will result in more assets in these accounts and the new U.S. Department of Labor fee disclosure requirements,[93] revenue sharing will receive greater attention in the near future.

Fee Disclosure. The new Department of Labor fee disclosure regulations cover several areas including general plan structure, fees related to administrative expenses, benchmark and performance data for investments, and investment fees.[94] Uncertainties abound in regard to implementation of the regulations and their applicability to public sector plans. NAGDCA is already playing an important role in explaining the regulations, and members will likely seek more assistance in the coming months, including how to best present the data and how much to offer electronically versus in paper format.

Automation. With new fee disclosure requirements and a desire to keep employees informed, plan sponsors and record keepers will be searching for ways to communicate with employees other than through the mail. One option may be to shift from traditional paper to emailing quarterly reports. Unfortunately, some of these automation options may be more difficult for local governments to implement because of the relatively high number of employees without access to computers at work, such as public works employees. This may require employers to maintain employees' personal email addresses as part of their contact information, which could be difficult to track, particularly after they leave employment.

Core Defined Contribution and Hybrid Plan Design

As previously indicated, the number of public hybrid and core defined contributions plans are slowly increasing. Governments and plan sponsors following this path have an opportunity to learn from private sector experience —what to do and what not to do—to create the best possible defined contribution plans for their workforce. This section focuses on what research indicates ideal core defined contribution and hybrid plans should look like and gives some justification as to why. *Of course, what constitutes an ideal plan is normative and therefore open to debate*.

When analyzing a core defined contribution plan, it is important to appreciate its impetus and goals. Policy makers sometimes have multiple goals when reforming a retirement benefit: recruit and retain employees, provide adequate retirement income for employees, and save money. The last reason is often the impetus for adopting a core defined contribution plan.[95] For the purposes of creating an "ideal" plan, this report considers employees earning an adequate retirement income as the primary goal. This qualification is important when it comes to deciding upon contribution levels and using design tools that mirror defined benefit plans.

Recommended Core Defined Contribution Plan Components

The following section provides a proposed summary of recommended core defined contribution plan components based on research[96] and responses from the people interviewed for this report. This proposed plan summary is meant to open a dialogue about improving plan design rather than criticize plans that differ from it. In reality, state and local governments and plan sponsors must deal with multiple plan goals, legal restrictions, and diverse interests in plan design.

- Employee contributions are mandatory and begin immediately. A state or local government may want to have a brief waiting period (less than three months) before starting contributions due to turnover.
- Total contribution level is 12 to 15 percent with Social Security and 18 to 20 percent without Social Security.
- The employer contributes half or approximately the amount contributed to the defined benefit plan for employees.
- Employee contributions are set at the full amount immediately so that auto escalation is not needed.
- Contributions are defaulted into a target date fund.
- A 10–15 fund menu is offered (excluding target date funds) and includes all major asset classes and varying levels of risk.
- A limited brokerage window is allowed for employee contributions only. A minimum balance must be kept in the main account.
- There is one record keeper.
- Loans from employee contributions are allowed only for hardships and at the discretion of the employer. No loans are available from the employer portion. A dollar limit on the amount of loan may also be appropriate.
- Vesting in employer contributions is one year or less.
- An option to annuitize part or all of the fund balance is allowed at or near retirement and /or offer a deferred annuity investment option.[97]
- Availability of plan-sponsored, objective retirement counseling and education to help employees make informed retirement (versus investing) decisions.

Overall, the plan presented above has several behavioral tools to force retirement savings and simplify decision making, similar to defined benefit plans. Specific provisions that mimic a defined benefit plan include mandatory participation, default target date fund, limited pool of investment choices, restrictions with the brokerage window, limited loans, and an annuity option. Public employers typically require employee contributions and control contributions within defined benefit plans, making it logical to argue for a similar prerogative in defined contribution plans. This control can be taken to further extremes, including directing investments. However, by taking on this responsibility, the state or local government may also face greater fiduciary risk or at least high levels of employee resistance since the employees bear the risk if the investments do not produce well. So, the issue is not whether employers can mandate participation and employee contributions but at what level.

The retirement contribution involves two critical issues: who contributes and how much. The total recommended contribution reflects the numbers typically stated as being necessary to reach replacement income of 80 to 85 percent. The amount of employer contribution is based on the assumption that defined contribution plans are not primarily adopted for cost savings and can be expected to treat participation the same as employees in defined benefit plans. One can also reasonably argue that as a matter of personal responsibility, employees can be expected to contribute to their retirement as well. Finally, rather than ratchet up employee contributions through automatic escalation, it may be easier to require the full contribution as a condition of employment. Therefore, employees come into the plan expecting to pay and are not budgeting for increases over time.

The investment portfolio and its management would generally resemble best practice for a supplemental fund. This includes limited fund choices and using one record keeper. Having 10 to 15 funds was chosen because that was the median response from this report's research interviews. However, brand name funds would not be necessary to encourage participation. Instead, a core defined contribution plan would utilize less expensive index funds and managed accounts when necessary to ensure all major asset classes were included in the plan's investment fund menu (e.g., small cap fund). This fund may be able to offer a wider array of investment choices, such as a real estate fund. Like the supplemental fund and for the same reasons, the default fund would be a target date fund.

One investing difference between core and supplement funds would be the availability of a brokerage window. Though this report's research showed that having one is important, it may be prudent to limit its use because of the serious implications if employees make poor choices. In addition to limiting investments to mutual funds as suggested with supplemental plans, core defined contribution plans could prohibit using employer contributions. The argument for doing so is to prevent employees from harming themselves. This thinking is in keeping with the fund's goal to provide adequate retirement income.

The proposed fund would also limit loans in order to ensure sufficient retirement income. The research of this report showed overall support for hardship loans although a strong argument can be made to prohibit any loans, just as they are prohibited in defined benefit plans. Allowing hardship loans from employee contributions provides a middle ground.

Literature on ideal defined contribution plans generally argues for vesting within one year of service.[98] However, the vesting period offers a small incentive to stay with an organization if it is not too long. In addition, a vesting period is a source of savings for state and local governments because contributions are returned for employees who do not vest. However, this plan model is predicated on employee retention and cost savings being secondary to providing an adequate retirement income. Because retention and cost savings are important considerations in practice, a longer vesting period for employer contribution such as three or four years may be more appropriate.

The general consensus of the economic literature is that lifetime income is a very important part of retirement income; however, how much depends on a number of factors.[99] David Babbel (2008) suggests that lifetime income should be 40 to 80 percent of total retirement assets.[100] Therefore, employees with a *core* defined contribution plan (and no other lifetime income other than Social Security) should probably annuitize a sizeable portion of their employee's assets. The next chapter of this report will discuss annuities and their role in public sector retirement programs in more depth.

The final plan summary point concerns education for retirement counselors and employees on retirement readiness and planning, investments and investing, and retirement income management. In an environment where investing and retirement decisions are shifted to employees, retirement counselors will need to become at least "minimally competent" in these areas to meet the increased educational needs of members. Design tools such as auto enrollment or target date funds may help employees arrive at retirement with sufficient savings, but employees will still need education and guidance on how to integrate defined contribution assets with other lifetime income. Some even argue that plan administrators will need to provide retirement advice and retirement planning software to meet employees' needs.

Disability Benefits in Core Defined Contribution Plans

How to provide disability benefits with a core defined contribution plan is an important issue for state and local governments because of the high proportion of public safety employees. There are three options for providing disability benefits:[101]

- Create a 401(h) account within the 401(a) fund for health and disability coverage. A drawback to this choice is that no more than 25 percent of the contribution can be allocated to the 401(h).
- Purchase an insurance product outside the plan to cover the disability of high-risk employees. There may be cost concerns, but it would cost less than providing disability coverage for all employees.
- For state and local governments with a grandfathered defined benefit fund, make an extra contribution to it to cover disability benefits of employees in the defined contribution plan. This model would work for employees in a hybrid plan as well.

Some governments may choose not to provide disability benefits. There are advantages and disadvantages to these solutions, and an in-depth review is worthwhile for state and local governments moving to a core defined contribution plan.

Hybrid Plan Design

Because hybrid plans continue to offer a defined benefit, the defined contribution component can be a middle ground between the purely supplemental where there is a strong defined benefit and a core defined contribution plan. Several defined benefit-type tools might be appropriate to the defined contribution portion of a hybrid plan.

With hybrid plans typically offering between a 1 and 1.5 percent defined benefit multiplier, employees will need to contribute to a defined contribution plan in order to meet the goal of 80 to 85 percent replacement income at retirement. Therefore, a fairly aggressive auto enrollment at 5 to 6 percent would likely be important. This may be particularly appropriate if public employees contribute little or nothing to the defined benefit portion of the plan. Whether the employer contributes a match to the defined contribution portion may depend on plan design. For example, Utah provides a 1.5 percent multiplier for the defined benefit component but does not offer a match for the defined contribution portion; while Georgia offers a 1 percent multiplier but up to a 3 percent match in the defined contribution fund. In Rhode Island's plan, which also has a 1 percent multiplier, the state contributes 1 percent to employees' defined contribution plans and requires employees to contribute 5 percent to it as well.[102]

The investment portfolio options, default fund choice, and the record keeper could reasonably resemble either the optional or core defined contribution plan since these are quite similar. Without employer or limited contributions, restrictions on loans and brokerage accounts may not need to be as stringent as with core defined contribution plans.[103] Also, as is the case with supplemental plans, any employer match to a defined contribution plan should be vested immediately. Finally, because hybrid plans generally provide a smaller portion of the retirement payment from the defined benefit component, it may be useful to offer an annuity option or deferred annuity fund for the defined contribution plan, particularly where Social Security is not included.

Governance and Ethics with Defined Contribution Plans

The increasing importance of defined contribution plans will result in greater attention to their management including ensuring that board members and staff meet their fiduciary responsibilities. Areas of greatest concern are investment selection and oversight, fees and fee disclosure, conflict of interest, fiduciary training, and governance with small plans.[104]

One of the most important responsibilities of supplemental and core defined contribution plan fiduciaries is the selection of funds. By selecting a particular fund, the fiduciary is making an implicit recommendation. Board members and staff need to perform strong due diligence in their research, selection, and management of funds and fund managers. The investments should be screened for charges and expenses, manager tenure, size of the fund, past performance, risk levels, volatility, and changes to fund operations.[105] Written investment policy statements can greatly assist in that effort by providing guidance and continuity in decision making.

Once chosen, investments require sustained oversight. For example, fiduciaries must ensure that managed funds are actually being effectively and actively managed, particularly since defined contribution plan participants pay higher fees for this service. The plan should have established investment policies and benchmarks that are followed consistently with performance updates done quarterly. To help with this work, hiring an investment performance consultant can be extremely beneficial. In addition to fund performance, fiduciaries need to make sure the fees charged for management are reasonable and transparent. Recommended practice is to bid out services for record keepers and fund managers on some recurring basis. Finally, administrative and investment fees need to be available to employees in a readable and accessible format. Oversight of investments takes resources, time, and effort.

Training on investments is generally recommended for board members and anyone with fiduciary responsibility.[106] Although having financial expertise is not a prerequisite for serving on a retirement fund board, building knowledge about investment approaches and options, selecting managers, and overseeing investments are core fiduciary responsibilities. Without proper training, board members cannot question their record keeper or consultant about fees, benchmarks, fund management, etc. Appreciating the importance of training, NAGDCA helped found the International Foundation for Retirement Education that offers plan administration and counseling education for professionals involved with public sector defined contribution plans.

In this report's research, ethics was raised as a critical issue for board and staff members as well as record keepers and vendors. Strong policies prohibiting conflicts of interest are essential. For board members, that means not having personal relationships with vendors and using a fact-based decision process in vendor selection. For record keepers, it means not cross-selling products or using participant data to sell products.[107] To prevent lapses in responsibilities, training on fiduciary responsibilities and execution of duties is of utmost importance for both board members and staff. It should occur regularly and be of high quality.

Overall, the respondents interviewed for this report believed that larger defined contribution plans are generally well managed because they have the staff and resources to perform due diligence and oversight. However, it may be more difficult for smaller plans to meet their fiduciary responsibilities.[108] Some smaller governments may not have staff with sufficient financial expertise to bid for a record keeper and/or develop benchmarks or the time to ensure proper oversight.[109] In these instances, a state or local government may benefit from joining a statewide hybrid, DC plan, or consortium that can provide fiduciary responsibilities on its behalf.

Conclusion

This chapter touched on many of the key issues associated with defined contribution design and management. Designing defined contribution plans to operate more like defined benefit plans may help overcome the behavioral flaws that lead to inadequate retirement savings and investment. Although design options like auto enrollment or target date funds will not mitigate investment risk and market volatility, a more supportive approach to defined contribution plans may work well with the existing culture of state and local governments. However, implementing these tools should be considered on a case-by-case basis depending on whether the defined contribution plan is a core or supplemental plan.

In contrast, a strong argument can be made for a more structured core defined contribution plan combined with retirement education and counseling to ensure that employees have adequate retirement income. Finally, the governance and management of defined contribution plans, whether they are supplemental or core, will receive greater attention as the number of participants and their contributions grow.

Creating Lifetime Income from Defined Contribution Savings

Ensuring that employees have sufficient retirement income is one of the primary goals of public retirement programs. Survey research has found a positive correlation between retirees reporting satisfaction with their retirement and greater net worth.[110] State and local governments have made successful retirements possible for many employees through defined benefit plans. But, as these plans evolve, it is important to understand and explore other avenues for attaining income security. This chapter looks at adding lifetime income options to the defined contribution environment with particular focus on annuities and their role in public sector retirement design, as these options are not commonplace today. Over the last several decades, governments have relied on defined benefit plans to provide their retirees with a lifetime income sufficient to support an adequate quality of life. A defined benefit plan with a 2 percent salary multiplier and Social Security would provide a 30-year employee with a combined annuity equal to approximately 85 percent of salary,[111] often with regular cost-of-living increases. With such a high percentage of income coming from lifetime income sources, an employee would not need to purchase additional annuities with their savings. Instead, a supplemental defined contribu-

Annuities

"An **annuity** is a contract between [an individual] and an insurance company…under which [the individual] make[s] a lump-sum payment or series of payments. In return, the insurer agrees to make periodic payments to [the individual] beginning immediately or at some future date." Three main types:

"In a **fixed annuity**, the insurance company agrees to pay [an annuitant] no less than a specified rate of interest during the time that [an annuitant's] account is growing. The insurance company also agrees that the periodic payments will be a specified amount per dollar in [one's] account. These periodic payments may last for a definite period, such as 20 years, or an indefinite period, such as [an annuitant's] lifetime or the lifetime of [an annuitant] and [his or her] spouse."

"In an **indexed annuity**, the insurance company credits [an annuitant] with a return that is based on changes in an index, such as the S&P 500 Composite Stock Price Index. Indexed annuity contracts also provide that the contract value will be no less than a specified minimum, regardless of index performance."

"In a **variable annuity**, [an annuitant] can choose to invest [his or her] purchase payments from among a range of different investment options, typically mutual funds. The rate of return on [his or her] purchase payments, and the amount of the periodic payments [he or she] eventually receive, will vary depending on the performance of the investment options… selected."

Source: U.S. Securities and Exchange Commission: Annuities [http://www.sec.gov/answers/annuity.htm] tion fund would provide additional resources for major purchases, paying off debt, medical costs, unexpected expenses, travel, or a higher quality of life.

With the role of defined contribution funds growing as a source of retirement income for public employees, it is worth reviewing the most common approaches used today by financial advisors to generate retirement income. When individuals transition from asset accumulation to decumulation of retirement funds, they have numerous choices to consider and options to weigh. Spending too much too soon can result in insufficient income later for health care, bequests, or even everyday expenses; however, delaying consumption too long may result in a less satisfying quality of life than might be possible through strategic use of retirement savings. Balancing the consumption and savings tradeoff is particularly important for employees with hybrid or core defined contribution plans when they begin to spend down their retirement savings. Two of the more common income strategies used are the "dividend and interest only approach" and the "systematic withdrawal approach."

Dividend and Interest Only Approach

Under this fiscally conservative method, retirees only spend income earned from their investments and leave capital untouched; thereby eliminating longevity risk (i.e., outliving one's assets). In addition, this approach may be appropriate for those with strong bequest intensions. However, there are serious drawbacks to it as well. Most importantly, consumption is driven by asset allocation,[112] which can vary significantly over time, making budgeting difficult. Determining an appropriate balance between stocks and bonds to accommodate both growth and security can be difficult to achieve. This approach is primarily for wealthier investors who are not at risk of running out of money and who have other assets to provide income needed for retirement quality of life. For the average worker, a dividend and interest only approach might protect their savings principal, but will likely not provide sufficient income over time needed for retirement quality of life.

The Systematic Withdrawal Approach

Spending down assets through systematic withdrawals has become increasingly popular over the past 20 years. In this approach, an individual continues to invest his or her assets in equities and/or bonds and spends down the account annually until the assets are depleted. A common rule of thumb for a withdrawal rate is 4 to 4.5 percent the first year with increases in withdrawals to match changes in the consumer price index. It further requires a minimum of 50 percent of assets invested in equities at the beginning of and through the end of the retirement horizon.[113] The expectation is that, barring major losses and disciplined withdrawals, the fund should last approximately 30 years.[114] This approach provides control over assets and flexibility while dealing with investment inertia. The employee can alter investment choices and withdrawal amounts which may be important in cases of emergency. This approach also minimizes the need for researching and committing resources required to purchase an annuity.

There are major drawbacks to only using a systematic withdrawal approach as well. Most importantly, it does not guarantee against longevity risk. Outliving one's assets can be a very real possibility, particularly if the retiree takes large withdrawals due to unforeseen expenses, underestimates future health care cost increases, and/or incurs significant investment losses. Likewise, if the market underperforms, individuals may need to reduce consumption and change their lifestyle. Furthermore, some argue that matching fixed spending plans with unpredictable investment returns is inappropriate.[115] Some financial experts anticipate a "new normal" with the stock market producing slower growth and greater volatility—making the withdrawal method riskier.[116] Finally, managing these assets requires sustained and substantial effort, either by the retiree or a financial advisor.

Because of the importance of appropriately managing investments in retirement and the lack of personal financial expertise, many individuals seek the advice of financial planners, which adds to costs. Little to no research exists on how well retirees spend down their accounts to provide reliable data for assessing the success of the withdrawal method over the long term.

Guaranteeing Lifelong Income

Because of the severe consequences of miscalculating decumulation of assets, many economists recommend annuitizing sufficient assets to meet a minimum standard of living.[117] In addition, research has found that retirees who felt they could count on lifelong guaranteed income were significantly happier than those who could not.[118] Yet, the general public does not routinely purchase annuities.[119] Aside from overarching reasons related to defined benefit coverage which provides lifetime income, possible reasons for public employees' hesitancy include:[120]

- **Underestimating Longevity**. A survey of retirees found that respondents underestimated their longevity by 2.5 years on average[121] and, therefore, do not fully appreciate long-term risk.

- **Framing**. Many retirees view annuities as an investment and therefore assign it greater risk than other types of investments such as bonds. When framed as an insurance product that enhances the ability to consume, people favored annuities.[122]
- **Cost.** Annuities are believed to be expensive, particularly during times of low interest rates.[123] However, some research has contradicted that finding.[124] Additionally, life expectancy of the typical annuitant is longer than the general population which drives up the cost of the product.[125]
- **Control and Flexibility.** After purchasing a fixed annuity, the retiree would not have access to the money invested for unexpected healthcare, long-term care, or other expenses, and the benefit is "locked in." Purchasers may have to pay significant penalties for cancelling their annuities during the surrender period.
- **Viability of the Insurance Company.** Retirees may have concerns that the insurance company that sold the annuity will fail, resulting in losing all or part of the annuity.
- **Inertia.** Because purchasing an annuity is a major decision, retirees or near-retirees often delay purchasing them. The more complex the annuity decision becomes due to choices, the more easily people become overwhelmed.[126]
- **Discounting Long-term Outcomes**. Behavioral economic theory helps explain why people under-save for retirement. With regard to annuities, people discount the need to have income in the future relative to the present.
- **Bequests**. Retirees want to pass on assets to loved ones, particularly spouses, rather than lock funds into an annuity.

In response to several of these concerns, the financial industry has created new products, strategies, and enhancements to meet expectations. However, the new products and extras typically come with additional costs. Examples include survivor benefits, inflation adjustments, guaranteed minimum withdrawal benefits, advanced life deferred annuities, combining annuitization with systematic withdrawals, and trial annuities. These options are often utilized in combination with other retirement income such as Social Security or defined benefit pensions.

Guaranteed Minimum Withdrawal Benefits. These are variable annuities with benefit floors.[127] The funds are typically invested in a proprietary product such as a company's target date or risk-based fund. In addition to investment management fees, the investor pays a premium for a guaranteed minimum lifetime income benefit (i.e., annuity), which would kick in if all the assets in the account are used before his or her death. Conversely, if the participant dies before spending all the assets, beneficiaries can inherit any remaining market value balance in the account based on market value. The participant still has control over the assets in his or her account and can withdraw funds if necessary; however, this would likely lower the amount of guaranteed income. If the investment performs well, the income stream may be raised as well. Many of these products are portable,[128] so there is less risk associated with losing assets due to default by the insurance carrier. Despite the advantages, there are lingering concerns about guaranteed minimum withdrawal products, particularly costs; therefore, plan sponsors and participants should carefully review the fees associated with the various products.

Advanced Life Deferred Annuities. Advanced life deferred annuities act as longevity insurance. These annuities are typically purchased by individuals in their 50s or 60s and provide guaranteed monthly income when the annuitant reaches a chosen age, often between 75 and 85.[129] Because of the pooled risk associated with not reaching the annuity's maturity, the product is relatively inexpensive, 10 to 25 percent of retirement savings.[130] This annuity could be a reasonable complement to spending down savings or as a hedge against inflation for fixed income. The Departments of Labor and Treasury support the use of advanced life deferred/longevity annuities in private sector employer plans.[131]

Trial Annuity. In this relatively new concept, a portion of an employee's retirement contribution is automatically deposited into an annuity product with an opt-out provision. Upon retirement, the employee is given an annuity and has the option of canceling it without penalty within a fixed period of time. The expectation is that the employee will keep the annuity because he or she becomes comfortable with the regular payments and prefers not to change an existing income structure. However, by assigning an employee an annuity, the plan sponsor may not be offering the most appropriate product, which could be detrimental to the participant over time. There may also be questions about the fiduciary responsibility of the public plan sponsor in this arrangement as it relates to annuity cost; however in private sector ERISA plans, the Department of Labor has provided needed clarification.

Partial Annuitization and Systematic Withdrawal. Annuitizating some defined contribution assets to create a necessary lifetime income floor, while leaving the rest of the assets in a managed portfolio, is increasingly considered by many financial professionals to be the best of both worlds. The retirees' managed assets have the upside potential to provide the needed protection against inflation over a long time horizon and the lifetime income floor addresses longevity risk for the retiree. This approach also provides access to retirement funds when needed for emergencies and yet reduces some of the disadvantages of solely relying on annuitization.

Even with many concerns about annuities, the research of this report found strong support for them in a core defined contribution environment because of the importance of ensuring guaranteed lifetime income.[132] Currently, demand for annuities in the public sector is not high because of the prevalence of defined benefits. However, for state and local governments that have added hybrid and/or core defined contribution plans, the interest in annuities will likely change as employees approach retirement. State and local governments and plan sponsors can play an important role in helping employees understand and assess the cost and benefits of annuities. Four actions governments can take to assist employees considering annuities are:

1. **Offer an in-plan annuity.** An in-plan annuity will be less expensive for retirees. To make this approach viable, state and local governments need to carefully select insurance carriers and periodically review the carriers' continued financial soundness. To limit fiduciary liability, state and local governments may want to consider a guaranteed minimum withdrawal product as one potential annuity option because of its portability; another option is an advanced life deferred annuity. Additionally, state and local governments may be in a better position to negotiate lower-rate annuity products to reduce their costs.
2. **Offer an annuity shopping service**. With a shopping service, state and local governments offer employees a platform that provides competitive bids where they can shop for the annuity on their own.[133] This option makes buying an annuity easier for employees, but the annuities are out of plan. In the 401(k) world, annuities on this type of platform are institutionally priced. State and local governments have some fiduciary responsibility in researching the shopping service and may even want to review the insurance companies that participate in it.
3. **Offer government annuities**. A state or local government can also elect to offer an annuity option for employees with a core defined contribution benefit. A few plans currently offer this service, including the Ohio Public Employees Retirement System (OPERS). Listed benefits of this option include a less expensive/higher income annuity for the employees due to lower administrative costs, elimination of profit, and no fear of default. Larger state systems which have the infrastructure and internal experience to pay benefits based on an initial lump sum investment can compete with insurance companies and investment managers who would perform the same function, yet at a lower cost. In addition, having additional assets under management should lower the percent of fixed asset management costs allocated over the entire plan.[134]

   There are also concerns with this option. By offering an annuity, the state or local government assumes investment risk, which conflicts with one of the reasons why governments typically adopt hybrid and core defined contribution plans. To avoid the state or local government incurring additional costs from investment risk, the plan sponsor would need to establish a sufficiently low discount rate that may be less than the one used by the defined benefit fund's actuary. A lower default rate makes the annuity more expensive, but it may still be less expensive than ones sold in the private sector. Other policy and administrative concerns include the additional workload for the plan, overcoming political hurdles (which may involve legislation), and ensuring the funds are properly segregated and not diverted for other uses. Finally, there could be some issues over discriminatory pricing. This occurs when women pay more for an annuity because they live longer on average than men. Plan sponsors may be hesitant to have different prices based on gender for liability reasons, yet creating a uniform price makes the annuity more expensive for men. Plans that offer annuities often use uniform pricing for men and women, which administrators say has not caused any problems.
4. **Provide annuity education**. At a minimum, state and local governments and plan sponsors can begin to offer education about annuities for near retirees. In addition to written information, a seminar format that uses case studies with scenarios familiar to public employees may be preferred, allowing employees to question and work through different financial scenarios. Recommended topics include:

- Types of annuities
- Advantages and disadvantages of annuities, including longevity
- Situations when annuities are most appropriate and/or desirable
- Managing inflation, interest rates, and market risks
- Tax ramifications and strategies
- Pricing and discount rates of annuities
- Trade-offs between the costs of annuity guarantees and related reduction in payouts
- Managing guaranteed lifetime income.

These options require varying levels of commitment and resources from the plan sponsor, necessitating thoughtful evaluation. Whether to implement one or more of them will probably need to be based on more than employee demand since few employees appreciate the benefits of an annuity until they learn more about it. In this regard, state and local governments may want to encourage employees with hybrid or core defined contribution plans to consider annuities as an option to maximize retirement income and protect against longevity risk.

Financial Literacy for Defined Contribution Plans

A well-known researcher in the field of financial literacy, Dr. Anna Maria Lusardi, argued that plan design is a complement, not a substitute, for financial education.[135] This chapter examines financial and retirement education for defined contribution plans in the public sector including why education programs are important, different methods applied in practice, and programs specifically for near retirees.

Retirement planning involves a multitude of decisions for employees throughout their careers. With public sector defined benefit plans, employees do not need to work as hard at retirement planning. Career employees can easily calculate the percent of the annuity they will have at retirement and add it to their Social Security benefit, if applicable. Employees who are or will depend upon defined contribution plans to fund their retirement need to be more financially sophisticated to ensure sufficient retirement income throughout their life. Their decisions include how much to contribute to the plan, the composition of their portfolios, and how to manage assets and household budgets upon retirement in order to mitigate longevity risk.

The greater individual responsibility for managing retirement which comes with hybrid or defined contribution plans implies that employees have tools to make good decisions. Yet research has shown this is not the case. In fact, a sizeable portion of Americans struggle with basic financial concepts like interest rates, inflation, and risk diversification.[136] Research has further indicated that people with low financial literacy make poor economic decisions, which has negative impacts not only on the individuals but also society at large.[137] Individuals who do not plan for retirement have lower net wealth and are less likely to invest in assets with higher expected returns such as equities.[138]

Financial education leads to a greater understanding of financial markets, risk-return tradeoffs with investments, and the level of savings needed to achieve retirement goals, all of which are essential in a defined contribution environment.[139] Furthermore, financial literacy is positively correlated with wealth, pension contributions, and retirement planning.[140] This is particularly true for low-income individuals. Dr. Annamaria Lusardi and Dr. Olivia Mitchell reached these three conclusions about financial literacy:[141]

1. Financial literacy determines how well individuals make and execute financial decisions.
2. Financial literacy's effects on financial decision making extend beyond the effects of education, sex, race, income, and other factors that were earlier found to be associated with gaps in financial knowledge.
3. Researchers have uncovered a convincing causal link between financial education programs and enhanced financial decision making.

While the benefits of financial literacy are increasingly clear, who should provide it is not. As a larger public policy issue, one can argue that financial education should start in school so that it reaches the entire population, particularly since defined contribution plans are widely used in the private sector. Since this is not occurring, employers are typically tasked with supplying it to guide their employees.

For state and local governments, these education programs have characteristically involved information about the supplemental defined contribution plans offered with some additional retirement planning assistance provided through education specialists, online resources, and call centers. The research of this report found mixed opinions about the benefits of using education specialists for retirement planning with the majority favoring them. Those supporting education specialists believe that individual service to employees is very effective and desirable. Others argued that the costs for the specialists exceeded the benefits, particularly when trying to increase participation. However, it is important to note that participation varies by government. For example, San Jose, California, has a 70 percent participation rate in its supplemental defined contribution plan which staff attributes to high levels of personal communication including brown bag lunches and multiple seminars on investing.[142] The quality of the design of the programs delivered has a significant impact on whether or not desired results are achieved.

Strategies identified to ensure that education specialists are effective resources for retirement include: [143]

1. Paying them a salary, not a commission, to reduce conflicts of interest and build trust with employees.
2. Assigning specialists to a government or agency rather than sharing them across several governments so that employees and human resources staff can build productive relationships with them.
3. Maximizing specialist flexibility in meeting with employees including attending "lunch and learn" sessions, employee orientations, individual meetings, benefit fairs, etc. It also means going to employees' work sites such as fire stations, police precincts, and maintenance garages at different times to meet with shift employees.
4. Although not specifically about financial specialists, requiring employees to attend education programs may help with the effectiveness of using education specialists.

Finally, employers need to review their policies to ensure they are encouraging employee participation in defined contribution plans. In particular, governments should not require employees to use vacation time to attend retirement seminars, which discourages participation.

Research has tried to measure the effectiveness of varying types of education processes. Generally, seminars are more effective than printed material for increasing savings.[144] More specifically, employees with 401(k) accounts who attended seminars were more active in planning their retirement, wanted to establish a supplemental plan, increased their contribution rates, and became more active in managing their accounts.[145] Furthermore, seminars have stronger impacts among the least educated and the least wealthy.[146] This finding may be particularly valuable as state and local governments and plan administrators try to maximize outcomes with limited education resources.

Increasing automation is a way to effectively reach a diverse workforce.[147] For example, state and local governments are moving to online enrollment for supplemental defined contribution plans. With time at a premium, placing five to ten minute instructional videos about various aspects of financial management online is one way to reach busy employees. Due to limited resources, offering traditional classes on multiple financial issues may be cost prohibitive, but videos, worksheets, and calculators provide valuable information at a lower cost. Web-based programs allow retirees to access information at their convenience, providing ongoing support for people who have left the workplace. A note of caution is in order. In a recent survey, the Employee Benefits Research Institute found that "only a minority of workers and retirees feel very comfortable using online technologies to perform various tasks related to financial management" such as obtaining financial information or processing financial transactions."[148] Therefore, plan administrators need to assess the computer literacy of both current and retired employees when designing online financial resources.

In thinking about how to improve education programs, it is important to remember that one size does not fit all. Current research is trending toward targeted or at least generational approaches to education.[149] In fact, some research has found that generic financial and economic information does not have any significant influence on savings through defined contribution plans.[150] Older workers tend to prefer the personal contact of education specialists while younger employees are more comfortable using online resources, which could encourage their participation. Therefore, plan administrators should consider what venues are most effective for specific groups when developing educational programs.

One of the biggest challenges in improving participation in defined contribution plans appears to be garnering the interest of young workers. Many young employees are paying off student loans, focusing on more immediate investments like purchasing a home, and starting a family on a relatively limited income. However, even small investments early in a career could translate to substantial retirement savings over time. In addition to placing information on the state or local government's website, sending texts and using social media may be the best ways to reach young employees.

Finally, there is increased interest in developing financial education programs that consider the whole person.[151] One organization recently created a

360-degree personal financial health assessment program.[152] In it, the employer assists individuals in developing a holistic financial plan that takes into account debts, assets, and retirement. Others believe state and local governments should provide employees with a comprehensive financial literacy program that includes issues well beyond retirement planning such as college planning, real estate and mortgages, debt management, etc.[153] With better financial literacy, employees will experience less stress, decreased absenteeism, increased salary satisfaction, and improved productivity, making the return on investment in these programs financially positive. However, not everyone agrees with this expanded educational approach.[154] The counter arguments to these non-retirement programs are that they are too costly and go beyond the responsibility of state and local governments as employers. One can reasonably say that as retirement benefits evolve in the public sector, state and local governments will need to assess the scope of their education services to employees to increase the likelihood of their ability to meet retirement savings goals.

Approaching Retirement

Helping employees make sound financial decisions as they move from accumulating assets to preparing for retirement and then on to decumulation is one of the most important aspects of retirement education. In fact, of the people interviewed for this report, nearly all spoke of the importance of preparing employees for retirement. The need for accurate and comprehensive information will continue to increase as employees rely more heavily on defined contribution plans, particularly for employees with hybrid and core defined contribution plans. Those employees will need to understand the complexities of annuities and be able to critically compare them against spending down their accounts. However, in order to do this, they will need objective, reliable information and plan sponsors can be excellent resources.

Though the need to prepare employees for retirement is generally appreciated, the scope of the state or local government's role varies.[155] Some offer workshops for employees over age 50 on managing retirement income while there's still time for employees to change behavior and have a substantial impact on the quality of their retirement. Others offer transition counseling. Still others admit they are not doing enough because of budget constraints. In providing information to retirees about retirement options, employers can explain the benefits of keeping assets within their plans such as incurring less expensive fees. One of this report's interviewees offered an ideal retirement preparation agenda that included starting workshops a year or two prior to retirement with a "check in" with retirees six months after they leave service to see how they are doing and to answer any questions. The workshops would discuss budgeting so participants would better understand the impacts of spending choices on their supplemental defined contribution accounts including reviewing spending and withdrawal scenarios. Other suggested topics included the impact of health care costs and inflation on retirement income, and coordinating drawing Social Security with receiving pension and spousal benefits.

Conclusion

Research on financial literacy continues to demonstrate its value; however, not all programs and formats are equally effective. Traditional seminars and the individual focus of education specialists are viewed as having positive impacts, particularly for those with the least education and wealth. Increasing automation provides a way to offer a wider spectrum of information at less cost. To encourage employees to take greater ownership in their retirement, including participating in supplemental defined contribution funds, plan administrators will need to provide more education and retirement counseling regarding the timing of the receipt of employee retirement benefits including Social Security, budgeting, and other retirement income decisions. In addition, employers may want to consider creating programs that are targeted to different generations. This includes offering programs for near retirees who have difficult choices to make about their retirement income, particularly those who are more reliant on their own savings.

Examples of Structural Change

State and local governments have and are continuing to undergo pension reform. In some instances, these changes have resulted in hybrid plans, either as an option (e.g., Florida, Ohio, Utah) or mandatory (e.g., Georgia, Rhode Island) or core defined contribution plans (e.g., Alaska, Michigan) for employees. In most state and local governments, pension reform has entailed adjustments to the defined benefit plan, which has renewed interest in supplemental defined contribution plan participation. This chapter considers the issues and challenges of implementing new hybrid and core defined contribution programs, drawing on the experience of a few governments that have recently undertaken structural changes. The chapter looks at four governments:

two states, one large urban county, and a small city. This diversity provides an opportunity to see whether implementing a defined contribution plan presents more challenges to one type of government or another.

As part of this research, administrators were interviewed[156] from the state of Georgia and a small city in the state, Fayetteville, which implemented hybrid plans for new employees in 2009 and 2012, respectively. This chapter also draws on prior research conducted by the Center for State and Local Government Excellence,[157] which included case studies on the state of Oregon and Gwinnett County, Georgia. Oregon began its hybrid plan in 2003 and Gwinnett replaced its defined benefit with a core defined contribution plan for new employees in 2007. The goals, impetuses, and processes for reform differ among the governments, reflecting political, financial, and social circumstances. All of the government and plan administrators interviewed for this report believe their pension reforms have been successful.

The following sections provide brief summaries of the reform plans.

State of Georgia. The state created a hybrid plan for new employees hired on or after January 1, 2009 that provides a defined benefit with employees contributing 1.25 percent of their salary to it. The defined contribution component is optional; however, the government used auto enrollment at 1 percent to encourage participation. In addition, the state provides up to a 3 percent match to employees contributions to their defined contribution accounts. The employees' 1 percent contribution is matched at 100 percent, and additional contributions are matched at 50 percent up to an additional 2 percent match from the state. Therefore, employees maximize the match when their contributions reach 5 percent. The default fund is a target date fund.

State of Oregon. For employees hired after August 29, 2003 the state's defined benefit multiplier is 1.5 percent for regular employees and is fully funded by the employer. Employees' 6 percent contributions are deposited into individual defined contribution accounts.[158] These contributions are invested by the Oregon Investment Council. For employees hired prior to the effective date of the reform, their 6 percent contributions are also directed to the defined contribution accounts. However, they continue to have the option of selecting a pension benefit based on a traditional defined benefit formula (1.67 percent multiplier for regular employees) or a money-match plan.

City of Fayetteville, Georgia. Beginning in 2012, new employees participate in a defined benefit plan with a 1.5 percent multiplier and contribute 2 percent of their salary to it. The defined contribution component is optional with the city providing a 50 percent match up to a total contribution of 2 percent. The city extended the match to current employees as well. The city did not adopt auto enrollment because it already has a strong culture of high participation in its 457 plan. Daily management of the plan is through the state's municipal association.

Gwinnett County, Georgia. Since January 1, 2007 new employees have participated in a mandatory core defined contribution retirement plan. The county contributes 7 percent of salary and employees choose their contribution level at 2.5 percent, 5 percent, or 7 percent. Gwinnett also adds 1 percent to the defined contribution plan for employees who contribute at least 2.5 percent to their 457 plan accounts.

Administrators for the state of Georgia, city of Fayetteville, and Gwinnett County all said implementation of their new retirement programs went smoothly. In all three instances, the governments were building off existing defined contribution plans. Georgia had a 401(k) plan in place that had limited use.[159] Gwinnett County had created a 401(a) plan in 2000 for exempt employees while Fayetteville simply restructured its 457 plan for all employees. None of these governments encountered problems with technological or data changes. For Georgia, the retirement system administrator hired its record keeper to make the modifications for an extra fee. Fayetteville's city manager worked with the Georgia Municipal Association to develop the plan, and the human resources (HR) director adjusted the payroll.

In Gwinnett County, the reforms were part of a larger effort to take over management of the county's pension plans from the state county association. Staff needed to hire a record keeper, develop policies and benchmarks, and appoint a board. Gwinnett staff used this opportunity to create a core defined contribution plan based on best practice. For example, participation is mandatory and loans are prohibited in order to increase retirement savings. One drawback staff see with the plan is that it does not allow employees to change their contribution levels, such as with a 401(k). The HR director would like employees to have the opportunity to raise their contribution rates as they earn more and progress in their careers. Overall, implementation went smoothly because staff had the time to do their research, hire the best consultants, and deliberate over what they wanted the plan to look like in order to meet their goals.

In Oregon, implementation was more challenging for several reasons including a short time frame, the need to create new accounts for existing employees, implementing a new computer system, litigation over the new laws, and an extremely large caseload of new retirements prompted by the reform's impact on existing employees.[160] Eventually some of the reform provisions were deemed unconstitutional. However, Oregon's experience provides a good lesson about the importance of ensuring sufficient time for implementation and thinking about the unintended consequences of changing retirement benefits for existing employees.

Each government took a different approach to employee contributions. Oregon's mandatory 6 percent was a transfer of an existing contribution and provides a healthy amount for the individual account program (IAP), particularly since the defined benefit will provide a 45 percent replacement ratio for a career employee. Gwinnett's contribution is also mandatory, but the amount can be as low as 2.5 percent, resulting in a combined total contribution of 9.5 percent.[161] This is less than the 12 to 15 percent amount that is generally perceived as necessary for an employee to reach an income replacement ratio of 80 to 85 percent at retirement with Social Security. Employees choosing the 5 or 7 percent contribution rates should meet that goal. Georgia chose a 1 percent auto-enrollment amount for its defined contribution in order to not discourage employees from participating. Approximately 90 percent of employees have stayed in the plan. However, 80 percent are still at the 1 percent contribution amount even though the government matches higher contributions. In Fayetteville, contribution to the defined contribution plan is also voluntary, and auto enrollment is not used. With the plan being so new and the city so small (only 150 employees), it is difficult to draw conclusions about this decision's impact on employee participation.

Summary

This brief overview of the reform processes in four very different governments indicates that neither the level of government nor its size makes implementing a hybrid or core defined contribution plan more difficult. Two key issues that have some impact on outcomes are whether new employees are included in the reform and the time frame for enacting it. The reform stories also suggest that defined contribution plan design will impact contribution rates. The Georgia experience shows that the selected automatic enrollment rate will increase participation, but employees are likely to stay at the automatic enrollment level even with a match at a higher contribution level. Similarly, a government can impose tools that limit employee choice to positive ends. Gwinnett County has not encountered any problems attracting or retaining personnel due to its loan prohibition in the core defined contribution plan. On a final note, when asked to give advice to other governments, one interviewee replied that structural change was not that complicated and made a lot of sense for the government. The key is to think strategically over the long term.

Summary of Key Findings

This report has touched on the major issues and considerations surrounding defined contribution plans in the public sector. Currently, defined contribution plans play a supporting role to defined benefit plans and Social Security for the vast majority of public sector employees and that will likely continue for some time. However, pension reforms across state and local governments are increasing the importance and dependence on defined contribution plans for producing a larger portion of retirement income, or in rare instances, even becoming the primary source. Hybrid plans may also likely grow in popularity over the next several years. With the increasing importance of the defined contribution plan portion of retirement savings, it is worthwhile to consider the benefits and limitations of this savings instrument so that it can be used to best serve public employees.

The following key findings that emerged from this research can assist retirement plan administrators and public policy makers in their review and implementation of defined contribution plans.

- Between 2009 and 2011, 43 states enacted pension reform. Many of these changes will result in lower levels of income from traditional defined benefit retirement plans for new employees, current workers, and in some cases retirees. These changes will necessitate increasing reliance on personal savings.
- Several experts predict a continuing trend toward increased reliance on a defined contribution plan component in the public sector to provide retirement income. Furthermore, some foresee an increase in hybrid plans, which maintain a core defined benefit supplemented by a defined contribution plan.
- The research in this report found the definition of what constitutes an adequate retirement income for employees varies. Experts recommend replacement revenue benchmarks ranging from 70 to 100 percent of pre-retirement income depending upon multiple

factors such as pre-retirement income household debt, family obligations, and rising health care costs.

- Behavioral research suggests that most people lack the skills to effectively manage their own retirement investments, which is particularly troubling in a defined contribution environment. As a result, state and local governments and plan administrators have begun using tools in defined contribution plan designs that are more typical in a defined benefit environment to make saving and investing easier and more structured.
- Automatic enrollment is an effective tool for increasing participation in defined contribution plans because it overcomes individual inertia. In fact, inertia may be so powerful that automatic enrollment contribution levels can be as high as 5 or 6 percent of salary before seeing significant participant drop off. Furthermore, automatic enrollment should be seriously considered for hybrid plans.
- Not all defined contribution plans need tools like automatic enrollment, particularly supplemental plans that are partnered with an adequate defined benefit plan. Therefore, employers need to carefully assess when these tools are necessary, keeping in mind that income security is a primary goal.
- Core defined contribution plans require the same fiduciary and management focus as defined benefit plans. Employers can exert greater control in core defined contribution plans such as mandating contributions,[162] restricting loans, and limiting investment options to increase the likelihood of successful outcomes.
- Best practice recommends that in a defined contribution environment employees have access to lifetime income options to protect against longevity risk. Offering institutionally-priced in-plan or out-of-plan annuities directly available to employees, or allowing employees to purchase defined benefit credits may help reduce their cost, which is a primary obstacle to obtaining lifetime income for defined contribution plan savings. Due to the complexity of annuities, state and local governments may need to offer near retirees education and retirement-counseling programs to help them make the most effective decisions.
- Financial literacy and counseling can help employees improve their investment and retirement planning choices, particularly those with lower education and income. For governments trying to make the best use of limited education dollars, expanding online resources and focusing on high-need groups and near retirees may be appropriate.
- Based on the examples presented, implementing a new defined contribution program does not appear to be technologically or administratively daunting, and all states already have defined contribution supplemental plans. When considering plan reform some of the cost issues to consider are transition costs, funding of existing pension liabilities, and contributions to the new plan. Furthermore, plan design choices such as automatic enrollment, automatic escalation, and benefit payout options require substantial research and consideration as to their potential impact on retirement savings and plan cost. Ultimately, the design of a defined contribution plan determines its effectiveness as a retirement savings tool.

Endnotes

1 The authors would like to thank Elizabeth Kellar and Christine Becker of the Center for State and Local Government Excellence for their review of this report.

2 Throughout this report defined contribution is referred to as a general type of retirement plan. One should note that there are a range of types of governmental defined contribution plans with varying rules and structures. Please see the following link for more information: http://www.irs.gov/Retirement-Plans/Governmental-Plans-under-Internal-Revenue-Code-Section-401(a)

3 Due to time limitations, not all interviewees were asked every question from the survey instrument. However, all interviewees did answer at least 75 percent of the questions.

4 James Potvin, Executive Director, Employees' Retirement System of Georgia and Joe Morton, City Manager, City of Fayetteville, GA

5 Clark, Robert L., Lee A. Craig, and John Edward. Sabelhaus. *State and Local Retirement Plans in the United States.* Cheltenham, UK: Edward Elgar, 2011.

6 Vested Employees

7 Clark, Robert L., Lee A. Craig, and John Edward. Sabelhaus. *State and Local Retirement Plans in the United States.* Cheltenham, UK: Edward Elgar, 2011. Pgs 24 and 72

8 "Retirement Plans, Benefits & Savings." *U.S. Department of Labor*. 18 July 2012. http://www.dol.gov/dol/topic/retirement/typesofplans.htm.

9 "Table 2. Retirement benefits: Access, participation, and take-up rates, State and local government workers, National Compensation Survey, March 2011." *U.S. Bureau of Labor Statistics*. http://www.bls.gov/ncs/ebs/benefits/2011/ownership/govt/table02a.pdf

10 "Latest EBS News Release." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, 18 July 2012. http://www.bls.gov/ncs/ebs/

11 ibid

12 “Table 2. Retirement benefits: Access, participation, and take-up rates, State and local government workers, National Compensation Survey, March 2011.” *U.S. Bureau of Labor Statistics.* http://www.bls.gov/ncs/ebs/benefits/2011/ownership/govt/table02a.pdf

13 There has been increased interest in hybrid retirement plans. For more information, please see: http://www.nasra.org/resources/HybridBrief.pdf

14 Clark, Robert L., Lee A. Craig, and John Edward. Sabelhaus. *State and Local Retirement Plans in the United States.* Cheltenham, UK: Edward Elgar, 2011. Pg 75 and http://slge.org/wp-content/uploads/2011/12/S-L-pensions-are-different.pdf

15 Calculations: SLGE / Data: Miriam King, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. Integrated Public Use Microdata Series, Current Population Survey: Version 3.0. [Machine-readable database]. Minneapolis: University of Minnesota, 2010.

16 Center for State and Local Government Excellence. 2012 *State and Local Government Workforce: 2012 Trends.* http://slge.org/publications/state-and-local-government-workforce2012-trends.

17 Job Openings and Labor Turnover Technical Note. *U.S. Bureau of Labor Statistics.* http://www.bls.gov/news.release/jolts.tn.htm

18 Job Openings and Labor Turnover Survey (Other seperations). U.S. Bureau of Labor Statistics. http://www.bls.gov/data/

19 Munnell, Alicia H, Jean-Pierre Aubry, Josh Hurwitz, Madeline Medenica, and Laura Quinby. 2012. *Issue Brief: The Funding of State and Local Pensions: 2011–2015.* Washington, DC: Center for State and Local Government Excellence. http://slge.org/wp-content/uploads/2012/05/12-002_CSLGE_Issue_Brief-2.pdf

20 “STATE PENSION REFORM, 2009-2011.” *State Pension Reform 2009-2011* . 18 July 2012. http://www.ncsl.org/issues-research/labor/state-pension-reform-2009-to-2011.aspx

21 http://slge.org/publications/state-and-local-government-workforce2012-trends.

22 “STATE PENSION REFORM, 2009–2011.” *State Pension Reform 2009-2011*. 18 July 2012. http://www.ncsl.org/issues-research/labor/state-pension-reform-2009-to-2011.aspx

23 Based on current trends and responses from interviewees.

24 Based on current trends and responses from interviewees. The vast majority of interviewees believed governments will be moving to hybrid plans in the future.

25 Responses from three interviewees.

26 Munnell, Alicia H, Jean-Pierre Aubry, Josh Hurwitz, and Laura Quinby. 2011. *Issue Brief: A Role for Defined Contribution Plans in the Private Sector*. Washington, DC: Center for State and Local Government Excellence.

27 Response from interviewee and argument made in Munnel, Aubry, Hurwitz, and Quinby. 2011.

28 Munnell, Aubry, Hurwitz, and Quinby. 2011.

29 A few respondents cautioned about possible changes to Social Security and the impact that would have on retirees’ income.

30 Investment risk is informally defined here as investments producing sufficient income to pay for accrued pension liabilities.

31 Munnell, Alicia H, Alex Golub-Sass, Kelly Haverstick, Mauricio Soto, and Gregory Wiles. 2008. *Issue Brief: Why Have Some States Introduced Defined Contribution Plans?* Washington, DC: Center for State and Local Government Excellence.

32 Based on comments from interviewees.

33 Almeida, Beth, Kelly Kenneally and David Madland. 2009. “The New Intersection on the Road to Retirement: Public Pensions, Economics, Perceptions, Politics, and Interest Groups.” In *The Future of Public Employee Retirement Systems*, Olivia Mitchell and Gary Anderson (eds.). 294-326. New York: Oxford University Press.

34 Bender, Keith and John Haywood. 2010. “Out of Balance? Comparing Public and Private Sector Compensation over 20 Years.” Washington, DC: Center for State and Local Government Excellence and National Institute for Retirement Security.

35 Response from a majority of interviewees on the question of whether public sector compensation packages will resemble those in the private sector.

36 This was confirmed through this report’s interview research as well.

37 For example Stefaniak, Angela and Clayton Vetter. 2007. “Understanding the Generation Gap in Today’s Workplace” *Policy Perspectives*. Center for Public Policy and Public Administration, The University of Utah. 3: 4. Found at http://www.imakenews.com/cppa/e_article000797869.cfm

38 Center for State and Local Government Excellence. 2011. *Strengthening State and Local Finances: Lessons for Negotiating Public Pension Reform Plans*. Found at http://slge.org/publications/strengthening-state-and-local-government

39 Concern raised by a couple of the respondents.

40 Lucas, Lori. 2010. “The Next DC Frontier: An Outcomes Based Approach to DC Plan Management.” *Benefits Quarterly*. 26: 4, pp. 15–21.

41 Parmer, Bruce A. 2008. *GSU/Aon Retire Project Report* . Atlanta, GA: Georgia State University. Research report series Number 08-1, June 2008.

42 See: Franzel, Joshua and Paul Yakoboski. 2012. *2012 Retirement Confidence Survey of the State and Local Government Workforce*. Center for State and Local Government Excellence and TIAA-CREF Institute. Found at: http://slge.org/wp-content/uploads/2012/07/SLGE_TIAA-CREF_Retirement_Confidence_Survey_2012_13-016.pdf

43 Yakoboski, Paul J. 2011. “Worries and Plans as Individuals Approach Retirement.” *Benefits Quarterly* . 27: 2. pp. 34–37.

44 Responses from interviewees.

45 Spending on financial literacy programs are typically between $50 to $350 per employee with an estimated return on investment of $3 for every $1 spent. Holland, Joseph, Doug Goodman, and Bethany Stitch. 2008. “Defined Contribution Plans in the Public Sector: The Manifestation of Defined Contribution and the Effects of Workplace Financial Literacy Education” *Review of Public Personnel Administration*. 28:4, pp. 367–384.

46 Munnell, Alicia H, Jean-Pierre Aubry, Josh Hurwitz, and Laura Quinby. 2011. *How Prepared Are State and Local Workers for Retirement?* Boston: Center for Retirement Research at Boston College.

47 Defined as the amount of money contributed to the retirement plan as a percent of employee salary.

48 Crane, Roderick, Michael Heller and Paul J. Yakoboski 2008. *Best Practice Benchmarks for Public Sector Core Defined Benefit Plans.* TIAA-CREF Institute. Found at http://www.tiaa-crefinstitute.org/institute/research/trends_issues/ti_bestpractice_0708.html; *The Path Forward: Designing the Ideal Defined Contribution Plan.* 2010. Northern Trust Line of Site. Found at www.northerntrust.com; Of those interviewed, over two-thirds specifically said that the combined employee-employer rate should be between 12–15 percent, with Social Security.

49 Yakoboski, Paul J. 2011. *Rethinking Defined Contribution Retirement Plan Design: Plan Sponsor Perspectives.* TIAA-CREF Institute. Found at http://www.tiaa-cref.org/ucm/groups/content/@ap_ucm_p_inst/documents/document/tiaa04025220.pdf

50 Simon, Herbert A. 1947. *Administrative Behavior*. New York: Free Press

51 For example, Lusardi, Annamarie. 2004. “Saving and The Effectiveness of Financial Education.” *Pension Design and Structure*. Olivia Mitchell and Stephen Utkus (eds.) New York: Oxford University Press. pp. 157–184; Mitchell, Olivia and Stephen Utkus. 2004. “Lessons from Behavioral Finance for Retirement Plan Design.” *Pension Design and Structure* . Olivia Mitchell and Stephen Utkus (eds.) New York: Oxford University Press. pp. 9–41; Beshears, John, James Choi, David Laisbon, Brigitte Madrian. 2010. “Defined Contribution Plans in the Public Sector: Lessons from Behavioral Economics.” NBER State and Local Pensions Conference. Aug. 19–20, 2010.

52 Ibid.

53 Madrian, Bridgette and Dennis Shea, 2001. “The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior.” *Quarterly Journal of Economics* . 57, pp. 573–598.

54 Bernartzi, Shlomo and Richard Thaler. 2002. “How Much is Investor Autonomy Worth?” Journal of Finance 57:4, pp. 1593-1616. Note that research focused on Americans’ investing behavior.

55 Choi, James, David Laibson, Bridgette Madrian, and Andrew Metrick. 2001. “For Better or For Worse: Default Effects and 401(k) Savings Behavior.” NBER Working Paper 8651. Found at www.nber.org/papers/w8651

56 Mitchell and Utkus. 2004.

57 Ibid.

58 Lucas. 2010.

59 Auto enrollment and escalation are much more prevalent in core defined contribution plans while target date funds are commonly available in both supplemental and core defined contribution plans.

60 From interviewee and reviewers of this paper.

61 NAGDCA. 2012. *Defined Contribution Plan Survey Report*. Found at http://www.nagdca.org/documents/2012_NATIONAL_SUMMARY1847.pdf.

62 Dumbar, Scott, Vincent Galindo, Jillian Perkins, and Jacob O’Shaughnessy. 2012. *Making the Most of Your Match* . Found at https://www.am-a.com/company/research/wp_match.pdf; Rappaport, Anna, Stacy Schaus, and Jeff Clymer. 2011. “Improving Retirement Security in a Heavily DC World.” *Benefits Quarterly*. 27: 3, pp. 34–44.

63 A few of the respondents questioned the effectiveness of most investment educational activities. To the extent this view was given, most of these respondents supported using behavioral tools as a substitute, like auto enrollment.

64 Duflo, Esther and Emmanual Saez. 2002. “Participation and Investment Decisions in a Retirement Plan: the influence of colleagues’ choices.” *Journal of Public Economics*. 85, pp. 121–148. Additionally, a few of the respondents interviewed said colleague recommendations have had a positively meaningful impact on plan participation.

65 For example, Choi, James, David Laibson, Bridgette Madrian, and Andrew Metrick. 2001. “Defined Contribution Plans: Plan Rules, Participant Decisions, and the Path of Least Resistance. NBER Working Paper 8655. Found at www.nber.org/papers/w8655; Crane, Heller, and Yakoboski. 2008; Beshears, Choi, Laisbon, and Madrian. 2010.

66 Choi, James, David Laibson, Bridgette Madrian, and Andrew Metrick. 2004. “Saving for Retirement on the Path of Least Resistance.” Found at: http://www.hks.harvard.edu/fs/bmadria/Documents/Madrian%20Papers/ Saving%20for%20Retirement%20on%20the%20Path%20of%20Least%20Resistance.pdf

67 NAGDCA. 2012. *Defined Contribution Plan Survey Report*. Found at http://www.nagdca.org/documents/2012_NATIONAL_SUMMARY1847.pdf. “Eighty-eight percent of responding plans said plan participation was elective and 88% of those plans with elective participation do not utilize auto-enrollment.” Based on comments from respondents.

68 These employees will not receive a COLA in retirement as well.

69 Concern voiced by a respondent.

70 Based on comment from respondent.

71 This is the view of the authors and others may disagree.

72 Quote from one interviewee.

73 One plan is currently revising their fund options and will reduce the fund choices to 5 plus a target date fund.

74 NAGDCA 2012.

75 Ibid.

76 Government Finance Officers Association. *Best Practice: Asset Allocation Guidance for Defined Contribution Plans* (1999 and 2009) (COBRA). Found at gfoa.org

77 Based on comments from one interviewee.

78 Comment from one interviewee.

79 Of the interviewees who discussed the types of funds in their supplemental or their ideal DC plan, all of them included a target date and/or managed fund.

80 Miller, Mark. June 12. 2012. “Retirement Savers Stay Put When Employers Boost Contributions.” Reuters. Found at http://www.reuters.com/article/2012/06/12/us-retirement-autoenroll-idUSBRE85B0OP20120612. Furthermore, over eighty percent of interviewees specifically mentioned target date funds as their preferred default fund for an ideal core DC plan. The other 20 percent cited stable value funds as the preferred default fund.

81 Lucas. 2010.

82 Ibid.

83 Ibid.
84 In Oregon, employee contributions to their Individual Account Program (IAP) are automatically invested in the same manner as the DB fund. The IAP is an involuntary defined contribution plan.
85 Olleman, Mark. 2009. *Periscope: Public Plan DB/DC Choices* . Found at http://www.nasra.org/resources/Milliman_DBDC_Choice.pdf; Center for State and Local Government Excellence. 2011. *Issue Brief: Strengthening State and Local Government Finances: Lessons for Negotiating Public Pension Plan Reforms*.
86 Raised as a concerns by interviewees.
87 Crane, Roderick, Michael Heller, and Paul Yakoboski. 2008; Yakoboski, Paul. 2011. Rethinking Defined Contribution Retirement Plan Design: Plan Sponsor Perspectives." *Trends and Issues* TIAA-CREFF. Of all the people interviewed for this study, only one respondent recommended having between 3 to 5 record keepers and the vast majority believed having one record keeper was best.
88 Yakoboski. 2011. p 8. *Rethinking Defined Contribution Retirement Plan Design: Plan Sponsor Perspectives* .
89 Bundled services refers to a single private company providing multiple services for a retirement plan including record keeping, customer service, communications, asset management and education/financial counseling. Conversely, unbundled services means the plan sponsor hires a private company to one or more but not all these services.
90 Borland, Alison and Karen Frost. 2011. "Bundled or Best in Class?" *Benefits Quarterly*. 27: 2. pp. 12–18.
91 Ibid.
92 Rappaport, Schaus, and Clymer. 2011.
93 ERISA Section 404(a)(5)
94 NAGDCA Publications Committee and Executive Board. 2012. *Rising to the Challenge of the New Fee Disclosure Requirements* . Found at http://www.nagdca.org/content.cfm/d/rising_to_the_challenge_of_the_new_fee_disclosure_requirements
95 Although the responsibility to fund the legacy defined benefit plan remains along with the new defined contribution costs.
96 Crane, Heller, and Yakoboski. 2008; Northern Trust. 2010. *The Path Forward: Designing the Ideal Defined Contribution Plan;* Government Finance Officers Association. 2009. *Best Practice: Asset Allocation Guidelines for Defined Contribution Plans.* Found at http://www.gfoa.org/index.php?option=com_content&task=view&id=124&Itemid=136
97 An annuity is a contract between [an individual] and an insurance company…under which [the individual] make[s] a lump-sum payment or series of payments. In return, the insurer agrees to make periodic payments to [the individual] beginning immediately or at some future date." Found at http://www.sec.gov/answers/annuity.htm
98 Ibid. Also, respondents of this report's research interviews were not asked about vesting periods for a DC plan.
99 Babbel, David. 2008. *Lifetime Income for Women: A Financial Economist's Perspective* . Philadelphia, PA: Wharton Financial Institutions Center.
100 Ibid.
101 Based on a comment from a respondent.
102 For general employees.
103 Richard Hiller argues that distributions and loans should be treated similarly as would occur with a core DC plan in *A Way Out for Public Pensions* . TIAA-CREFF publication. Found at http://www.tiaa-cref.org/public/about/press/about_us/releases/articles/pressrelease421.html
104 US Department of Labor Employee Benefits Security Administration. 2010. *Meeting Your Fiduciary Responsibilities*. Found at www.dol.gov/ebsa; GFOA. 2009; Responses from interviewees.
105 GFOA. 2009
106 Based on responses from interviewees.
107 Based on responses from interviewees.
108 Issued discussed by four respondents.
109 Issue raised by a few interviewees.
110 Panis, Constantijn. 2004. "Annuities and Retirement Well-Being." In *Pension Design and Structure* . Olivia Mitchell and Stephen Utkus (eds.). New York: Oxford University Press. pp. 259–274.
111 Ratio could be higher depending upon the Social Security benefit they receive.
112 Webb, Anthony. 2009. *Making the Most of Your Nest Egg*. Boston, MA: Center for Retirement Research. Number 9-20
113 From a study informally referred to the Trinity Study published in 1998. The authors wrote a series of additional studies on withdrawal rates and the likelihood of not spending all assets before 30 years. Investment distribution comes from comments by a reviewer.
114 Cooley, Philip, Carl Hubbard, and Daniel Walz. 2011. "Portfolio Success Rates: Where to Draw the Line." *Journal of Financial Planning.* Found at http://www.fpanet.org/journal/CurrentIssue/TableofContents/PortfolioSuccessRates/ The authors present a variety of asset allocation scenarios and the likelihood of assets lasting 30 years.
115 For example, Webb. 2009; Scott, Jason, William Sharpe and John Watson. 2008. "The 4% Rule-At What Cost?" Found at http://www.stanford.edu/~wfsharpe/retecon/4percent.pdf
116 Rappaport, Schaus, and Clymer. 2011.
117 E.g., David Babbel at the Wharton School, University of Pennsylvania, Jeffrey R. Brown at University of Illinois at Urbana-Champaign, Olivia S. Mitchell at the Wharton School, University of Pennsylvania, Anthony Webb at the Center for Retirement Research at Boston College, Paul Yakoboski at TIAA-CREF Institute.
118 Panis, 2004.
119 From comments in research articles and responses from interviewees.
120 Several of these below were also stated by interviewees as well
121 Drinkwater, Matthew and Eric Sondergeld. 2004. "Perceptions of Mortality Risk: Implications for Annuities" In *Pension Design and Structure* . Olivia Mitchell and Stephen Utkus (eds.). New York: Oxford University Press.
122 Brown, Jeffrey, Jeffrey Kling, Senhill Mullainathan, and Martin Wrobel. 2008. "Why Don't People Insure Late-life Consumption? A Framing Explanation of the Under-Annuitization Puzzle." *American Economic Review: Papers and Proceedings*. 98:2, pp. 304-309.

123 Cost was brought up many times by interviewees when asked their opinion of annuities.
124 Richardson, David and Christopher Spence. 2010. *Increased Longevity and the Annuity Solution: How Retirement Policy Reforms Can Reduce Longevity Risk* . TIAA-CREFF Institute. Found at http://www.tiaa-crefinstitute.org/institute/research/briefs/institute_pb_longevity_and_annuity_soln.html
125 Ibid.
126 Comment from respondent.
127 Biggs, Howard, Scott Dunbar, Vincent Galindo, Jillian Perkins, and Jacob O'Shaughnessy. 2011. *Lifetime Retirement Income: Annuities and Beyond*. Arnerich Massena, Inc. Found at https://www.am-a.com/company/research/wp_retirement_income2011.pdf; Information on GMWBs also comes from conversations with interviewees.
128 Remaining market value is portable. The guaranteed value is not portable.
129 Comments from reviewers and "Advanced Life Deferred Annuities" found at www.wikinvest.com/
130 Comments from the two reviewers who specifically spoke to this subject. In addition, this opinion was given on several websites discussing advanced life deferred annuities (e.g., www.wikinvest.com/; www.dummies.com/how-to/content/examining-advanced-life-deferred-annuities/; www.annuityfyi.com/blog/2012/03/tax-breaks-with-advanced-life-deferred-annuities/)
131 Based on comment from reviewer and Wagner, Marcia. "Government Debuts Lifetime Income Initiatives." *Plan Advisor*. Found at http://www.planadviser.com/MagazineArticle.aspx?id = 17551
132 From the review of the literature conducted for this report (for example see abbreviated list of researchers favoring annuities in earlier footnote) and interviews. The vast majority of interviewees said some amount of annuities were needed for core defined contribution retirement plans.
133 Biggs, Dunbar, Galindo, Perkins, and O'Shaughnessy. 2011.
134 Based on comments by reviewer.
135 Yakaboski, 2011. *Rethinking Defined Contribution Retirement Plan Design: Plan Sponsor Perspectives*.
136 Holland, Goodman, and Stitch. 2008; Lusardi, Annamaria and Olivia Mitchell. 2007. "Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education." *Business Economics*. 42: 1. pp. 35–44; Lusardi, Annamaria and Olivia Mitchell. 2011. "Financial Literacy and Planning: Implications for Retirement Well-being." In *Financial Literacy: Implications for Retirement Security in the Marketplace*. Olivia Mitchell and Annamaria Lusaridi (eds.). New York: Oxford University Press; Yakoboski. 2011. *Rethinking Defined Contribution Retirement Plan Design: Plan Sponsor Perspectives*.
137 Lusardi and Mitchell. 2011.
138 Lusardi, Annamaria. 1999. "Information, Expectations, and Savings for Retirement." In *Behavioral Dimensions of Retirement Economics*. Henry Aaron (ed.). Brookings Institution Press and Russell Sage Foundation. Lusardi and Mitchell 2011.
139 Clark, Robert and Madeleine d'Ambrosio. 2002. "Financial Education and Retirement Savings." Paper presented at the Retirement Implications of Demographic and Family Changes Symposium. San Francisco, CA. June 2002. Found at http://papers.ssrn.com/sol3/papers.cfm?abstract_id = 390642.
140 Behrman, Jere, Olivia Mitchell, Cindy Soo, and David Bravo. 2010. *Financial Literacy, Schooling, and Wealth Accumulation*. NBER Working paper 16452. Found at http://www.nber.org/papers/w16452
141 Lusardi and Mitchell 2011.
142 Haendiges, Brian. 2001. "Reeling in Retirement Plan Participants." *American City and County* . 113: 4, pp. 34–27.
143 Comments from interviewees who specifically spoke on this issue, reviewers and from Center for State and Local Government Excellence's 2011 issue brief, *Strengthening State and Local Government Finances: Lessons for Negotiating Public Pension Plan Reform*.
144 Clark and d'Ambrosio 2002. Lusardi and Mitchell 2007. Comments from interviewees also showed strong support for seminars, particularly those focused on pre-retirees.
145 Clark and d'Ambrosio 2002.
146 Lusardi and Mitchell 2007.
147 A few interviewees offered suggestions increasing
148 Employee Benefits Research Institute. 2012. *The 2012 Retirement Confidence Survey: Job Insecurity, Debt Weigh on Retirement Confidence, Savings*. Found at http://www.ebri.org/publications/ib/index.cfm?content_id = 5017&fa = ibDisp.
149 Lusardi and Mitchell 2007 and comments by interviewees.
150 Clark and d'Ambrosio 2002.
151 For example Clark and d'Ambrosio 2002.
152 Yakoboski 2011. *Rethinking Defined Contribution Retirement Plan Design: Plan Sponsor Perspectives*.
153 Holland, Goodman, and Stitch. 2008.
154 Based on comments from interviewees.
155 Based on comments from interviewees and reviewers.
156 Interviewed Jim Popvin, Executive Director of Employees' Retirement System of Georgia on June 20, 2012 and Joe Morton, City Manager of Fayetteville on June 26, 2012.
157 Center for State and Local Government Excellence. 2011. *Strengthening State and Local Government Finances: Lessons for Negotiating Public Pension Reform Plans*.
158 Starting in 1979, some employers in OPERS negotiated with unions to pick up their employees' retirement contributions in lieu of a pay increase. Today, 53 percent of employers pay the contribution which covers 70 percent of employees in the system. The state created the Individual Account Program (AIP) which is similar to a 457.
159 Plan was established in the 1980s but was dormant until the 1994 when it started being used for mental health providers who were no longer able to participate in the state's DB plan. In 1998, it was opened up to all employees as a supplemental DC plan. The 401(k) is used for a handful of small public employers.
160 Center for State and Local Government Excellence. 2011. *Issue Brief: Strengthening State and Local Finances: Lessons for Negotiating Public Pension Reform Plans*. Please read the case study for full details of the report.
161 Assuming employees do not contribute to the supplemental DC fund.
162 In some jurisdictions, legislation may be needed to allow for mandatory contributions. However, mandatory contributions are allowed in several public defined contribution plans across the country (e.g., universities)

The Evolving Role of Defined Contribution Plans in the Public Sector

About the ANC Foundation

The Arthur C. Caple Foundation was formed to advance knowledge in the field of public sector retirement security. The Foundation, established in 2006 as a supporting organization of the National Association of Government Defined Contribution Administrators (NAGDCA), supports both individual educational opportunities and research to expand knowledge related to the importance of retirement readiness. To accomplish its mission, the Foundation operates under the following principles: Retirement Education - The Foundation is to provide higher education students with funding to study financial or retirement planning and to create opportunities for the students to participate in related learning opportunities. Research and Information Exchange - The Foundation supports research, information sharing, and collaborative endeavors that further retirement readiness and expand knowledge of retirement issues and solutions. www.caplefoundation.org

About NAGDCA

NAGDCA's mission is to unite representatives from state and local governments that service and support defined contribution plans. NAGDCA provides an environment to foster growth in professional development of its members through networking with peers, educational opportunities, and information sharing that includes comprehensive publications, reports, and surveys. NAGDCA will promote and support federal legislative initiatives for the advancement of retirement plans. www.nagdca.org

About the Center for State and Local Government Excellence

The Center for State and Local Government Excellence helps state and local governments become knowledgeable and competitive employers so they can attract and retain a talented and committed workforce. The Center identifies best practices and conducts research on competitive employment practices, workforce development, pensions, retiree health security, and financial planning. The Center also brings state and local leaders together with respected researchers and features the latest demographic data on the aging work force, research studies, and news on health care, recruitment, and succession planning on its web site, www.slge.org.

ANC FOUNDATION | NAGDCA | CENTER FOR STATE & LOCAL GOVERNMENT EXCELLENCE

13-085