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A ROLE FOR DEFINED CONTRIBUTION PLANS IN THE PUBLIC SECTOR

*By Alicia H. Munnell, Jean-Pierre Aubry, Josh Hurwitz, and Laura Quinby**

INTRODUCTION

In the wake of the financial crisis, policymakers have been talking about shifting from defined benefit plans to defined contribution plans in the public sector. Three states – Georgia, Michigan, and Utah – have taken action, joining the 10 states that had introduced some form of defined contribution plans before 2008. Interestingly, these new plans are “hybrids” that combine elements of both defined benefit plans and defined contribution plans. Such an approach spreads the risks associated with the provision of retirement income between the employer and the employee. This *brief* provides an update on defined contribution initiatives in the public sector and then discusses whether the hybrids that have been introduced are the best way to combine the two plan types.

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The *brief* proceeds as follows. The first section discusses the issues involved with moving from a defined benefit plan to a defined contribution arrangement. The second section recaps the role that defined contribution plans played in the public sector before the financial crisis. The third section describes the new hybrid plans recently adopted in Georgia, Michigan, and Utah. And the fourth section suggests that a better type of hybrid might be one where defined contribution plans are “stacked” on the state's defined benefit plan rather than placed alongside of it. The fifth section concludes that defined contribution plans have a role in the public sector, but that role is supplementing, not replacing, defined benefit plans.

DEFINED BENEFIT VS. DEFINED CONTRIBUTION

A defined benefit plan provides employees with lifetime retirement income based on a formula that accounts for service and final average salary. Most

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defined benefit plans in the public sector adjust benefits, at least partially, for inflation after retirement. Both employees and employers generally contribute to public sector plans. Defined benefit plan assets are held in trust and managed by professional investors.

In contrast, defined contribution plans are like savings accounts. The employee and employer both contribute money to the account, and the employee selects the investments from a list of options provided by the plan. The benefit at retirement depends on the value in the account and how employees elect to take receipt of the money – lump sum, periodic payments, or an annuity.

Evaluating whether to shift from a defined benefit to a defined contribution plan involves consideration of risks, costs, and human resource goals.

RISKS

The defining characteristic of defined contribution plans is that they shift all the responsibilities and all the risk from the employer to the employee. In terms of responsibilities, the employee must decide whether to join the plan, how much to contribute, how to allocate those contributions among different investment options, how to change those allocations over time, and how to withdraw the accumulated funds at retirement. Under a defined benefit plan, the sponsor retains these responsibilities. The plan requires participation, sets contribution rates, invests the assets, and pays an annuity at retirement.

Leaving the responsibilities in the hands of employees means that they are exposed to the risks of saving too little, losing funds when financial markets fluctuate, seeing the value of their retirement income eroded by inflation, and outliving their resources since payment is generally not in the form of an annuity.

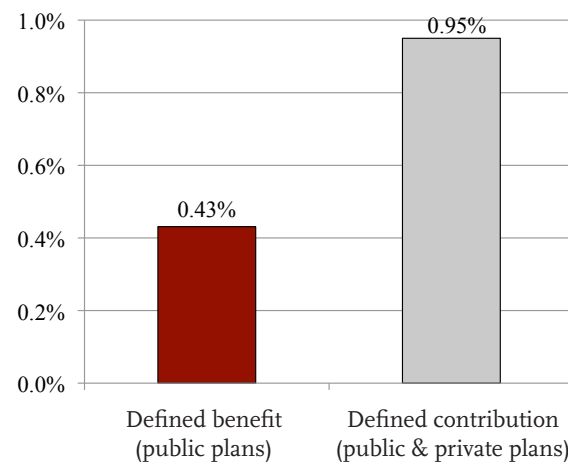
In a defined benefit plan, the sponsor bears the investment risk during the accumulation phase and then absorbs longevity risk and much of inflation risk after retirement. This arrangement means that if financial markets collapse, the sponsor – in the public sector, taxpayers – must come up with additional funds to cover promised benefits.¹ Public plan sponsors also face the “moral hazard” that benefit promises will not be funded. Participants, who believe that they will be paid regardless of funding, may not push for government contributions. And politicians are all too happy to address short-term priorities rather than put money aside for long-term funding needs. Similarly, legislatures sometimes make unfunded benefit

improvements in good times that further aggravate the funding shortfall. As a result, future taxpayers and employees will be required to contribute not only to cover the accruing cost of benefits for current workers but also to cover benefits for retirees for whom insufficient funds have been put aside. A defined contribution plan avoids this type of “moral hazard,” as the plans are fully funded by design.

COSTS

For any given level of benefits, defined contribution plans, which maintain individual accounts and typically update these accounts daily, have higher administrative expenses than defined benefit plans. In addition, most defined contribution plans use mutual funds or similar instruments as investment options – with an average expense ratio payable to the fund manager of about 0.60 percent for bond funds and about 0.67 percent for stock funds.² In contrast, defined benefit plans involve professionally-managed large investment pools with no individual account reporting. As a result, the annual cost of a defined contribution plan generally exceeds that of a defined benefit plan (see Figure 1).

FIGURE 1. ADMINISTRATIVE AND INVESTMENT EXPENSES AS A PERCENT OF ASSETS, BY PLAN TYPE, 2009



Note: Defined benefit data reflect 2008 plan experience. Sources: U.S. Census Bureau (2008); and HR Investment Consultants (2009).

HUMAN RESOURCE ISSUES

Defined benefit plans are designed to attract and retain qualified employees. As such, these plans become more valuable the closer the employee gets to the full retirement age, because accrual rates often increase with age, and the salary base is usually an average of the last three to five years of earnings. Vested employees who leave early forfeit significant retirement income because their accumulated credits are applied to their salary at termination rather than their salary at retirement.³

With a few exceptions, defined contribution plans were not initially created as retirement vehicles but rather as supplementary savings accounts.⁴ Since the value of these plans increases more evenly over an employee's worklife, they provide no incentive to stay on the job. Similarly, they do not penalize employees who leave early. Mobile employees can take the funds in their account with them when they leave employment and roll them over into a new defined contribution plan or individual account.

OTHER ARGUMENTS AND COUNTERARGUMENTS

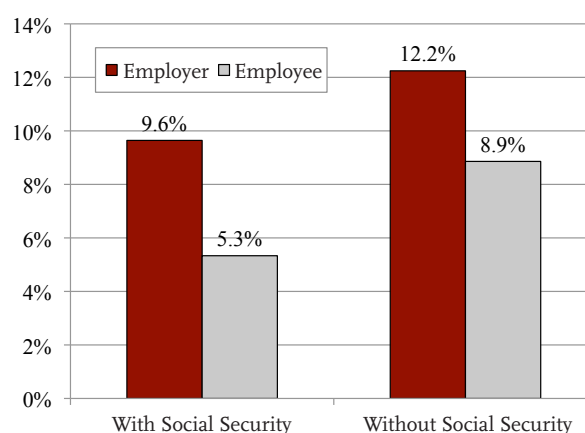
Risk, cost, and human resource considerations are the real issues relevant to deciding whether to shift from a defined benefit to a defined contribution plan. But other assertions also arise in the debate. Some supporters highlight the magnitude of the unfunded liabilities in public sector defined benefit plans as justification for switching to a defined contribution plan. The reality is that even with a new defined contribution plan, states and localities are still left to deal with past underfunding. A new plan only addresses pension costs going forward; it does not help close the current gap between pension assets and liabilities.⁵

Similarly, some contend that switching to a defined contribution plan would save money in the future.⁶ But, as noted above, for any given level of benefits, defined contribution plans cost more.

Advocates may think that even if total costs increased, taxpayers could gain by shifting contributions from the government to the employee. Transferring the burden to the employee provided a major economic incentive in the private sector to move from defined benefit plans (where employees make no contributions) to 401(k) plans (where employees make the bulk of the contributions). But, in the public sector, many employees already make substantial contributions to their defined benefit pensions. In states where employees are covered by Social Security,

the median contribution rate is 5 percent of earnings. In states without Social Security, the median employee contribution rate is 9 percent (see Figure 2). Therefore, state and local governments might meet significant resistance from public employees if they attempted to shift more of the cost to participants. Of course, moving to a defined contribution plan could be used as a mechanism to cut retirement benefits and thereby lower total employee compensation.

FIGURE 2. STATE AND LOCAL EMPLOYER AND EMPLOYEE MEDIAN CONTRIBUTION RATES, 2009



Source: Public Plans Database (2009).

The main issue appears to be one of risk. From the perspective of sponsoring governments, shifting to a defined contribution plan would eliminate investment, inflation, and longevity risk from these entities and, thereby, taxpayers. These plans would be funded by definition and, when things go wrong in financial markets, the taxpayer would not be responsible for covering the shortfall. The other side of alleviating risks for taxpayers is that public employees must face the risk of saving too little, the risk of poor investment returns, the risk that inflation will erode the value of their income, and the risk that they might outlive their assets.⁷

PRE-2008 DEFINED CONTRIBUTION ACTIVITY

The fact that defined contribution plans put employees at such risk may help explain why before the financial crisis only a smattering of states had introduced these plans on a mandatory basis.⁸ Im-

New hires are automatically enrolled in the 401(k) plan (unless they affirmatively elect not to participate) and contribute 1 percent of salary with additional contributions up to 5 percent eligible for an employer match.¹⁶ The match is 100 percent of the automatic contribution and 50 percent of optional contributions, for a maximum match of 3 percent of salary. Employees can contribute up to the Internal Revenue Service (IRS) limit, but will receive no further employer match.

The defined benefit plan will pay 1 percent for each year of service on the annual average of the highest 24 months of earnings.¹⁷ Members contribute 1.25 percent of salary to the defined benefit plan, and the state contributes an actuarially-determined rate, which was 6.54 percent of payroll in 2009.

System communiqués indicate that the change was driven primarily by the preference of young workers, who constitute 62 percent of the state's workforce, for wages over benefits. In response, the State raised wages and introduced the smaller hybrid plan, with a 401(k) component so that young mobile workers would have something to take with them when they left state employment.

MICHIGAN

As discussed above, since 1997 all new Michigan general state employees have been enrolled in a 401(k) plan. But when the time came to revamp the system for public school employees, the State decided to adopt a hybrid. Employees hired after July 1, 2010 automatically contribute 2 percent of salary to the 401(k) (unless they affirmatively elect not to participate), with optional contributions up to the IRS limit. The sponsor matches 50 percent of the employee's first 2 percent of contributions.¹⁸

The defined benefit plan for new hires will pay 1.5 percent for each year of service on the annual average of the highest 60 months of earnings. Employees will contribute 6.4 percent of salary to the plan. Whereas the accrual rate is the same as it was under the two existing defined benefit plans for school employees, the age and service requirements for this plan have been increased and the cost-of-living adjustment eliminated.

Press reports suggest that future employer costs (including required contributions for retiree health insurance) were a major motivation for the new

plan.¹⁹ Essentially, the new plan reduces the benefits compared to the existing defined benefit plan, and the defined contribution plan involves an extremely modest contribution from the employer.

UTAH

State and local government employees hired after July 1, 2011 will have the option to participate in either a defined contribution plan or in a hybrid. In the case of the defined contribution plan, the employer will automatically contribute 10 percent for most public employees and 12 percent for public safety and firefighter members.²⁰ Employees can contribute up to the IRS limit. Employee contributions vest immediately, and employer contributions vest after four years. Members can direct the investment of their contributions immediately, and

those of the employer after four years.

Under the hybrid plan, the employer will pay up to 10 percent of an employee's compensation toward the defined benefit component; employees will contribute any additional amount to make the required contribution. The defined benefit plan for new employees is less generous than the former plan: the accrual rate is reduced from 2.0 percent per year to 1.5 percent; the period for calculating final average salary was increased from high three years to high five; and the employee contribution increased from zero to the cost above 10 percent. For the defined contribution component of the hybrid plan, employers will contribute 10 percentage points minus the amount contributed to the defined benefit plan. For example, if they contribute 10 percent to the defined benefit plan, they will contribute nothing to the defined contribution plan.

Table 1 on the next page summarizes the provisions of the new hybrid plans. The pattern is quite similar in several respects. First, the combined cost of the new plan is significantly less than the pre-existing defined benefit plan. Second, the commitment to the defined contribution plan is minimal. Experience with 401(k)s in the private sector suggests that participants tend to stay where they are put.²¹ So if automatic contributions are set at 1 percent or 2 percent of earnings, participants are likely to keep their contributions at that level. Low saving in the defined contribution component means that employees will be forced to rely primarily on the now-reduced defined benefit plan in retirement.

*Today's hybrid plan model
could be redesigned to work better.*

TABLE 1. PROVISIONS OF NEW HYBRID PLANS

Provision	Georgia	Michigan	Utah
<i>Defined benefit plan</i>			
Accrual rate	1.0%	1.5%	1.5%
COLA	Ad-hoc	None	CPI up to 2.5%
Contributions			
Employer	6.54% (2009)	TBD	10% cap
Employee	1.25%	6.4%	DB cost > 10%
<i>Defined contribution plan</i>			
Automatic contribution	1%	2%	10% – DB cost
Employer match	100% on first 1%, 50% on next 4%	50% on first 2%	None

Note: Michigan Public Schools' 2010 Actuarial Valuation Report has not yet been released.

Sources: Various retirement systems' annual reports, legislation, and websites of state legislatures.

A BETTER MOUSETRAP?

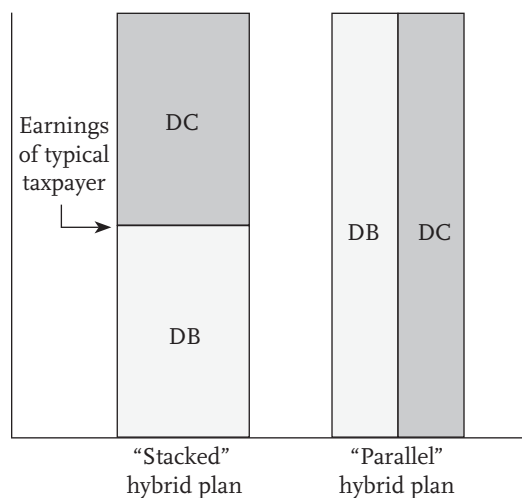
The emergence of hybrid plans reflects an attempt to balance employee and taxpayer risk. But, to date, states are achieving this goal by reducing the government's contribution across the board rather than considering how best to use each plan type.

Defined benefit plans provide the most secure income for long-service employees. While some public sector employees leave in the first 10 years, many tend to remain for a full career.²² Therefore, defined benefit plans are an effective mechanism for public sector employers to attract and retain employees. Defined benefit plans, however, put the taxpayer at risk if financial markets drop, inflation takes off, or retirees live longer than expected.

A fair question is how much risk should taxpayers bear? Utah answered that question by capping employer contributions at 10 percent of payroll. Such a cap, however, places lower paid and higher paid participants at equal risk of having to increase contributions. A better approach to limiting taxpayer risk is to cap the income covered by the defined benefit plan. Such a cap would prevent the situation where the typical taxpayer, earning \$50,000, is forced to pay higher taxes when the stock market plummets to cover benefits for highly-paid public employees, such as university presidents. Therefore, the proposal would be to limit coverage under the defined benefit plan to earnings below, say, \$50,000 (indexed for inflation).²³ Many public sector workers would still be covered in full under the defined benefit plan.

Earnings above \$50,000 would be covered by a defined contribution plan. Thus, someone earning \$100,000 would receive benefits based on the first \$50,000 from the defined benefit plan and benefits on the second \$50,000 from the defined contribution plan. That is, instead of “parallel” plans where employees contribute to both a 401(k) and a defined benefit plan from the first dollar of earnings, “stacked” plans would maintain the defined benefit plan as a base and provide defined contribution coverage for earnings above some cutoff (see Figure 5). The stacked approach is a suggestion for a “better plan design” and could be wed with any desired size of the plan.

FIGURE 5. “STACKED” HYBRID PLAN VERSUS “PARALLEL” HYBRID PLAN



Source: Authors' illustration.

The advantage of the “stacked” approach is that it allows employees with modest earnings to receive the full protection of a defined benefit plan. This group would be the most vulnerable if required to rely on a 401(k) for a portion of their core retirement benefit. Indeed, the private sector experience with 401(k)s illustrates the concern. The typical private sector taxpayer approaching retirement (ages 55-64) had accumulated only \$78,000 in 401(k) assets before the financial crisis.²⁴ So maintaining a full defined benefit plan for public employees such as elementary school teachers would be preferable. More highly-paid public employees would still have the protection of a defined benefit plan as a base and would then rely on the 401(k) for earnings replacement that exceeded

the earnings of a typical private sector worker.²⁵ This overall arrangement offers a reasonable balance by providing adequate and secure benefits targeted to public employees who need them most while limiting the risk to taxpayers of covering large pension shortfalls.

One question is whether such a stacked approach would violate IRS non-discrimination rules. The legal answer is that tax-qualified governmental plans are generally not subject to non-discrimination provisions.²⁶ On a substantive level, the government contribution for the defined contribution plan could be less than for the defined benefit plan, so that the two plans taken as a whole do not favor higher-paid workers.

CONCLUSION

Defined contribution plans may well have a role in the public sector, but in combination with, not as an alternative to, defined benefit plans. The hybrids introduced in Georgia, Michigan, and Utah reflect sponsors' recognition of the need to balance the risks to employees and the risks to taxpayers. These hybrids consist of slimmed-down defined benefit plans and defined contribution plans operating in "parallel." A preferable approach may be a "stacked" arrangement. Meaningful defined benefit plans could remain as a secure base for the typical public employee, and defined contribution plans could be "stacked" on top to provide additional retirement income for those at the higher end of the pay scale. Such an approach would ensure a more equitable sharing of risks and would also prevent headlines generated by the occasional inflated public pension benefit.

ENDNOTES

1 Although, in theory, taxpayers bear the risk, in the wake of the recent financial collapse employers and employees have shared the burden. From 2008 to 2011, 20 states increased pension contributions for either new or existing employees, while five states reduced benefits for current employees and an additional three eliminated or reduced the cost-of-living adjustment for current retirees. In several instances – Colorado, Minnesota, and South Dakota are widely publicized examples – the state’s actions have been taken to court. See National Conference of State Legislatures (2008-2011) for more details.

2 The estimates of investment management expenses are from Lipper (2008).

3 Under many state plans, vesting does not occur for 10 years, and employees who leave receive only their contributions and some minimal amount of credited interest.

4 TIAA-CREF is a notable exception.

5 In many cases, closing an existing defined benefit plan to new hires and switching to a defined contribution plan increases short-term costs. The Governmental Accounting Standards Board (GASB) Statement Number 25 states that closed plans using the level percent of payroll method for calculating the annual required contribution (ARC) must acknowledge that covered payroll is decreasing. This recognition frontloads costs. As a result, most closed plans use the level dollar method of amortizing the unfunded liability. However, the ARC under the closed plan is still frontloaded relative to the ARC under the ongoing plan. Moreover, market gains from future new hire contributions that would have been used to offset the unfunded liability are now sequestered in the new defined contribution plan. See California Public Employees’ Retirement System (2005); Michigan House Fiscal Agency (2009); Retirement Systems of Minnesota (2011); and The Segal Company (2010) for more information.

6 For a more detailed discussion of the cost efficiencies of defined benefit pension plans, see Almeida and Forna (2008).

7 The defined contribution aspects described – individual investment direction, high expense compared to defined benefit plans, flexibility over payout, and lack of annuitization – reflect how most defined contribution plans are currently designed. A defined contribution plan could be designed to address many of the current downsides. For example, MyFRS in Florida is a low-fee defined contribution fund, while the Texas Municipal Retirement System is a cash balance plan that annuitizes the balances of individual member accounts.

8 Public sector workers often have optional 403(b) and/or 457 defined contribution plans that allow them to put aside a portion of their pay on a tax-deferred basis to augment their public pension. These supplementary plans are not the topic of this *brief*. Rather, the focus is on states where the nature of the *primary* plan has changed. For a discussion of early defined contribution activity, see Munnell et al. (2008).

9 In Nebraska, the primary Public Employee Retirement System was a defined contribution plan from 1967 to 2002. It was closed to new employees and replaced with a cash balance plan on January 1, 2003 over concerns that the defined contribution plan was producing lower returns than the defined benefit plans (see Nebraska Public Employees’ Retirement Systems, 2002, for more details). A cash balance plan is a defined benefit plan that maintains notional individual accounts throughout the asset accrual phase. Similarly, the West Virginia Teachers plan, which became a primary defined contribution plan in 1991, switched back to a primary defined benefit plan in 2005. The Texas Municipal Retirement System maintains a cash balance plan. The District of Columbia requires its general government employees to join a primary defined contribution plan, but our analysis is limited to states.

10 These states were Colorado, Florida, Montana, Ohio, South Carolina, and Washington. Except in Washington and Ohio, the options are either a traditional defined benefit plan or a defined contribution plan. Washington offers a choice of a defined benefit plan or a hybrid plan. Ohio employees can choose from a defined benefit plan, a defined contribution

plan, or a hybrid plan. In all cases, the defined benefit plan is the default for those who do not actively make a selection.

11 Mandatory defined benefit plans are primary plans that require employees to join. Mandatory defined contribution plans are primary plans that require employees to join. Mandatory hybrid plans require employees to join a plan with both a defined benefit and a defined contribution component. “Choice” plans typically allow employees to pick either a primary defined contribution plan or a primary defined benefit plan.

12 For example, from January 1, 1995 to December 31, 1999, the S&P 500 had an average annual return of nearly 30 percent. For a discussion of early defined contribution activity, see Munnell et al. (2008). This study looked at the effect of economic and political factors on the probability of introducing a defined contribution plan for public employees. It found that Republican leadership – with its emphasis on individual control over investments and plan portability – was the leading predictor of plan changes.

13 In the private sector, when a new plan is adopted, the existing defined benefit plan is generally frozen. Existing employees can retain the benefits earned but are not permitted to accrue any further service credits. In the public sector, when a new plan is adopted, existing employees generally have a legal right to continue to participate in the previous plan and only employees hired after the date the plan is adopted are required to participate in the new plan.

14 Authors’ calculations from the U.S. Census Bureau (2008) and *Public Plans Database* (2009).

15 The issue is under discussion in Alabama, Connecticut, Nevada, North Carolina, Tennessee, and Wisconsin. Legislation to introduce a defined contribution plan for new hires recently passed the Kentucky Senate, but has not yet been acted on by the House of Representatives. Similar proposals are currently under consideration in Illinois and Oklahoma, while a defined contribution bill was defeated in North Dakota. See Frazier (2010); Fehr (2010); National Conference of State Legislatures (2011); Steyer (2010); and Preston and McNichol (2010).

16 In the public sector, the only 401(k)s are grandfathered plans that were established 5/6/86 or before, so Georgia had originally established a 401(k) plan before 1986 as an optional supplement to its primary defined benefit plan. See PlanMember Financial Corporation (2010).

17 The Board of Trustees can increase the benefit factor in the future up to 2 percent if funds are available.

18 Michigan House Fiscal Agency (2010).

19 Governor of Michigan (2010) and Michigan Association of School Boards (2010).

20 Liljenquist (2010).

21 Madrian and Shea (2001); Choi et al. (2004); and Gale, Iwry, and Orszag (2005).

22 Authors’ estimates from the Actuarial Valuations of the 14 largest plans.

23 The Internal Revenue Code contains a maximum compensation limit for defined contribution plans. This limit is \$245,000 in 2011. It is indexed for inflation and increased in \$5,000 increments. A similar procedure could be used for stacked plans.

24 This figure, which comes from the Federal Reserve’s 2007 *Survey of Consumer Finances*, also includes IRA assets as they typically come from 401(k) rollovers during a job switch.

25 A well-designed defined contribution plan would set the combined employee-employer contribution at a level to achieve, in combination with a defined benefit plan, a targeted replacement rate. It would also have the default payment at retirement be an annuity, with the ability of participants to opt out if such an arrangement did not meet their needs. One reviewer also suggested that the plan might guarantee the employee’s contribution regardless of investment performance to encourage participation.

26 Most of the public sector defined contribution plans are 401(a) money purchase plans with mandatory employee contributions. As noted earlier, governments generally cannot have 401(k) plans, and since 457(b) plans are subject to contribution limits, sponsors may be reluctant to crowd out supplemental saving. See Powell (2011) for a more thorough discussion of the nondiscrimination tax rules for governmental plans.

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APPENDIX

APPENDIX – PRIMARY DEFINED CONTRIBUTION PLANS

CHARACTERISTICS OF PRIMARY DEFINED CONTRIBUTION PLANS, 2009

Plan name	Legislative date	Participants		Assets (\$ in millions)	
		2007	2009	2007	2009
Mandatory defined contribution plans					
Alaska PERS	2005	2,862	7,516	9	41
Alaska TRS	2005	646	1,997	6	27
Michigan SERS	1996	24,043	26,044	2,547	2,207
Mandatory hybrid plans					
Georgia – GSEPS	2008	0	2,105	0	311
Indiana PERF – ASA	1997	213,984	223,561	2,707	2,669
Indiana TRF – ASA	1997	122,107	164,590	4,605	3,901
Michigan – MPSERS	2010	0	11,617	0	0
Oregon PERS – IAP	2003	43,541	59,073	1,877	2,109
Utah – Tier II Contributory Hybrid	2010	0	0	0	0
Choice of primary plan					
Colorado PERA – PERA-Choice	2004	489	3,039	3	37
Florida RS – PEORP	2000	98,070	121,522	3,687	4,075
Montana PERS – DCRP	1999	1,913	2,345	41	44
Ohio PERS – Combined Plan	2002	6,905	7,354	157	223
Ohio PERS – Member Directed Plan	2002	8,579	9,824	124	201
Ohio STRS – Member Directed and Combined Plans	2001	11,863	12,829	283	297
South Carolina – ORP	2000	26,873	31,968	502	561
Utah – Tier II Defined Contribution	2010	0	0	0	0
Washington PERS – 3	1999	27,605	31,123	1,348	1,188
Washington SERS – 3	1998	37,854	38,585	1,052	918
Washington TRS – 3	1998	57,667	60,146	3,971	3,419
Total		685,001	815,238	22,916	22,230

Note: Michigan SERS 2009 assets reflect 2008 levels. MPSERS has not yet reported 2009 asset levels. Ohio STRS does not separate assets for the Member Directed and Combined Plans in its financial reports.

Source: *Public Plans Database* (2007 and 2009).

ABOUT THE CENTER

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