



NATIONAL INSTITUTE ON
Retirement Security

Reliable Research. Sensible Solutions.

**The National Institute on Retirement Security's Fact Check
On
"Defined-Contribution Pensions are Cost-Effective" Paper and "Debunking the
Defined Benefit Cost Effectiveness Myth" Presentation to NCSL Summit**

The National Institute on Retirement (NIRS) served on a National Conference of State Legislatures (NCSL) panel with Josh McGee of the Manhattan Institute on August 5, 2015. Although it is common practice to provide an advance copy of presentations and research to fellow panelists, Mr. McGee withheld his research paper.

A week after the panel discussion, the Manhattan Institute released the paper, *Defined-Contribution Pensions are Cost-Effective*. Based on NIRS' comprehensive review of this report, which Mr. McGee frequently referenced during his talk, we find that his presentation did not give proper reference or context and could be easily misconstrued. Furthermore, it is clear that the research published by the Manhattan Institute is fundamentally flawed when applied to discussions of public pension systems. The research is not based on public sector plans but instead exclusively uses private sector pension data that is not comparable. Thus, neither have relevance to debate on how to efficiently deliver retirement security to public employees while managing the workforce that delivers key public services to our citizens. More specifically, the Manhattan Institute study is contradicted by -- and fails to refute -- NIRS research in ***Still a Better Bang for the Buck: An Update on the Economic Efficiencies of Defined Benefit Pensions*** (*Still a Better Bang for the Buck*) including:

- The Manhattan Institute paper claims that defined benefit (DB) plans are not structurally more cost-efficient than defined contribution (DC) plans. **Fact: NIRS data and empirical evidence show otherwise. DB pensions can deliver a target retirement benefit at half the cost of a DC account.**
- The paper says DC plans get similar investment returns as DB plans. **Fact: The analysis relies strictly on private sector pension data, and fails to account for asset allocation shifts in private sector DB pension to more conservative, lower-return investments due to increased "frozen" pensions and corporate accounting that makes this private sector data inappropriate for assessing the efficiency of state and local government DB pension systems.**
- The paper indicates that it is incorrect to conclude that DC plans cannot offer annuities to provide lifetime retirement income. **Fact: It does not**

address the cost associated with buying annuities or it assumes a subsidy from the DB pension plan. In reality, few DC plans provide an annuity option and even fewer retirees choose income from annuities due to costs and other reasons. *The Still a Better Bang for the Buck* paper demonstrates there is significant cost savings in pooling longevity risk through a DB plan.

- The research says pension debt is a significant cost driver for DB plans. **Fact: This is not relevant to the economic efficiencies of DB pensions – just like the significant retirement savings shortfalls and asset leakage are not relevant to measuring the efficiency of DC accounts to deliver adequate income replacement.**
- The Manhattan Institute paper indicates DC plans are a good retirement security option. **DC plans can be well designed, and can serve an important role in providing supplemental retirement savings as they have in the public sector. In fact, the one public DC plan that might come close to the cost efficiencies of public pensions as a primary retirement vehicle relies on the state DB plan to pool longevity risk and investments. This state reopened the DB pension that was closed in 1997 to new employees and now most of new employees actively choose to join the DB pension when they are hired.**

An in depth review of Josh McGee's presentation and research follows.

The Manhattan Institute paper fails to reflect the investment returns of public pension assets. The PowerPoint presentation Mr. McGee used at the NCSL Summit did not disclose that the data he referenced was not public pension plan data. Since state legislators are not responsible for federal laws governing private pensions,¹ his brief mention of using data from the U.S. Department of Labor could have left the live audience and viewers of the online slides to mistakenly conclude that his presentation was based on the investment return results of public defined benefit (DB) pensions and defined contribution (DC) plans rather than non-comparable experience from the private sector. In fact, one organization has already widely distributed a letter to state legislators wrongly suggesting the conclusions in Manhattan Institute's paper are based on public plan data. That suggestion is wholly inaccurate.

A reading of *Defined-Contribution Pensions are Cost-Effective* (Manhattan Institute paper) reveals that the data its author used came from the U.S. Department of Labor's filings of private sector retirement plan annual reports on the Form 5500.² Governmental retirement plans do not file Form 5500 reports³. Therefore, not a single public plan was included in the research data set used to evaluate investment returns. This material omission in the slides makes them inconsistent with the published Manhattan Institute paper.

NIRS believes that the Manhattan Institute's use of private plan data to evaluate the investment performance of public DB and DC plans is a fundamental flaw

seriously limiting its paper's relevance in the discussions of the cost efficiencies of public DB pensions over DC retirement plans.

Furthermore, the exclusive use of private sector DB pension data in the Manhattan Institute study to characterize public sector DB experience heavily weights the paper's DB/DC investment data in favor of Mr. McGee's argument. It is common knowledge that frozen private sector DB pensions have adopted very different investment approaches with greater allocations to fixed income investments as compared to ongoing public sector DB pensions. The DB plan asset tables from the Federal Reserve System flow of funds data document this trend, which NIRS highlighted in a research paper in 2013. Two charts from "How Do Public Pensions Invest? A Primer," appear below and graphically illustrate the historical patterns of plan asset allocations for public sector and private sector defined benefit pensions.⁴

Investment Trends in Defined Benefit Pension Plans for Public and Private Plans

Figure 3a. **State and Local Retirement Systems**

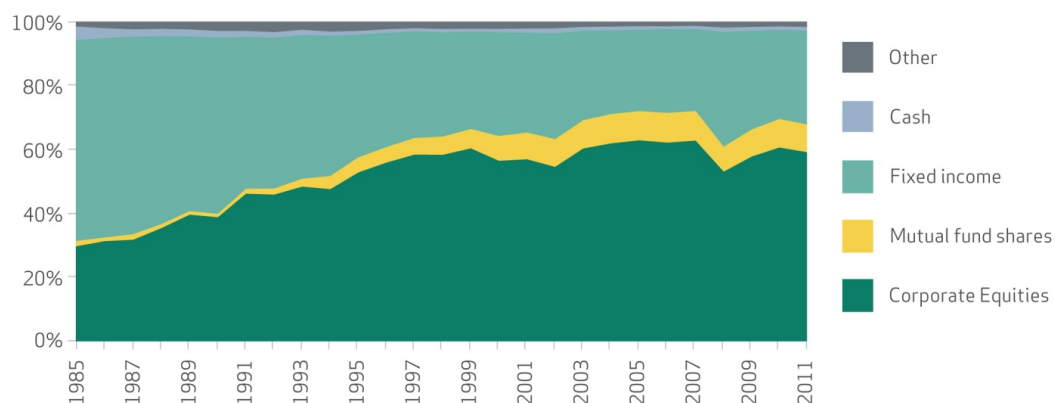
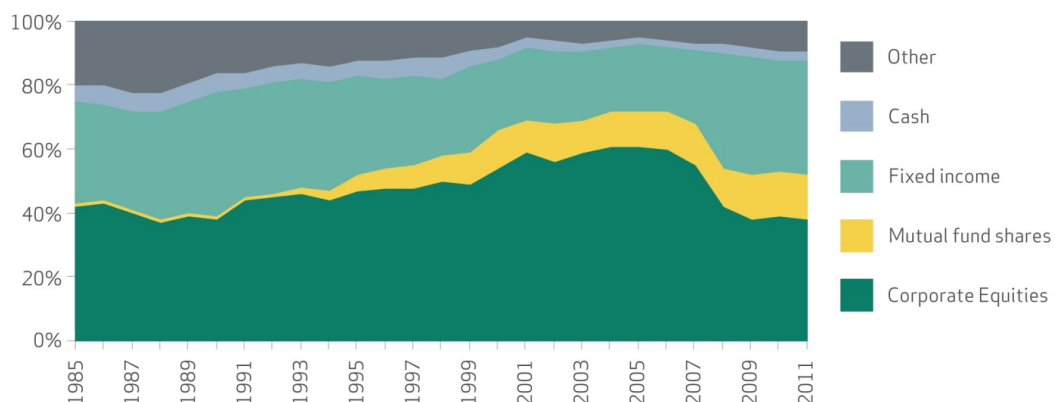


Figure 3b. **Private Sector DB Plans**



Source: Jung and Rhee, 2013, using data from Federal Reserve Flow of Funds 1985-2011.

Only one sentence in the Manhattan Institute paper discusses the factors the author offers to support his performance findings for private sector DC plans.⁵ The text has no mention of the contrasting investment changes in private DB pension plans resulting from the movement toward fixed-income assets in frozen private sector DB plans which make up the other side of its analysis. Moreover, the paper offers no explanation of how using data exclusively from private sector retirement plans is an appropriate substitute for an analysis of public sector investment practices. Absent such, Mr. McGee's conclusions amount to an "apples to oranges" comparison that does not set the stage for a reasonable debate.

This omission in the Manhattan Institute paper contrast with lengthy discussion put forth by William Fornia and Nari Rhee, authors of the in the NIRS' paper. They explain and account for the changes occurring in retirement benefit landscape in DB and DC asset allocations and fees since 2008. The NIRS' authors also draw on widely accepted knowledge from financial behavior research. They incorporated those factors into a rigorous model of DB and DC plan costs in *Still a Better Bang for the Buck* an update of a previous study.⁶ For example, the earlier study utilized aggregate DB and DC performance data from the Towers Watson and studies by the Center for Retirement Research. The new study used a "building block" method for calculating investment returns based on actual asset allocation and uniform capital market assumptions. Based on this method, Fornia and Rhee modeled a typical large public DB pension plan⁷ using corresponding asset allocations and fees and two DC plans based on a composite target date fund (TDF). Typical DB expenses were drawn from Census data, and TDF fees were based on Morningstar TDF data. The two DC models consisted of an "Ideal" DC plan with the same fees and investment discipline as public DB pensions, and a more realistic "Individually Directed" DC plan with typical fees and a modest estimate of the impact of typical individual investor behavior on returns. The NIRS study calculated the percentage of pay required to fully fund the same amount of retirement income from each type of plan.⁸

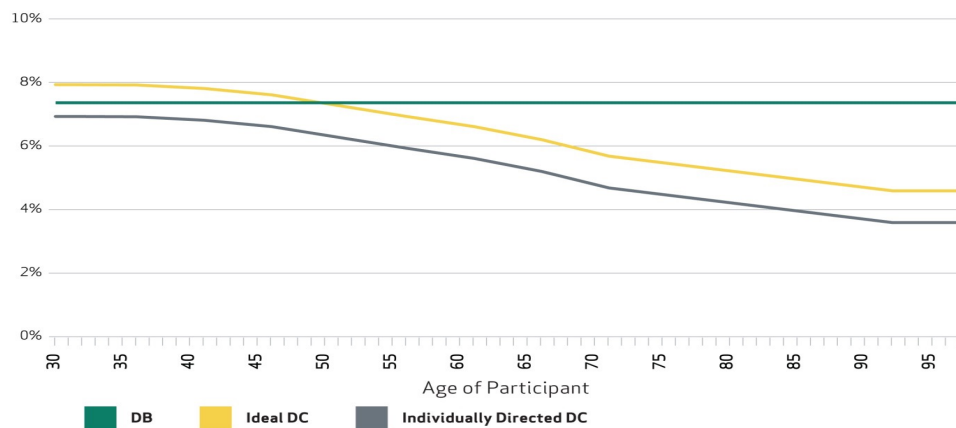
DB Pensions have a structural advantage over a DC plan using a target date fund.

The financial logic underlying the growing use of TDFs is the funds' gradual and automatic shifting of asset allocations from risky stocks to less risky bonds as a worker approaches retirement. This approach is intended to align an individual's investment risk with one's level of tolerance for risk as the ability to earn a salary decreases with age and the individual shifts from accumulating assets to drawing down an income. This so-called "glide path" approach targets delivering higher investment returns (as a percentage of the investment) in TDFs focused on younger workers, while TDFs focused on workers near retirement have TDF allocations that produce lower returns.

Thus, under the TDF approach the investment returns will be the lowest in the years when the value of the DC account is at its highest.⁹ Figure 6 from *Still a*

Better Bang for the Buck illustrates the expected annual investment returns as the participants age from the modeled investment allocations for the DB pension, the ideal DC plan and the individually directed DC plans evaluated in the NIRS model.

Figure 6: **Expected Annual Investment Return (Net of Fees)**



Source: Forna and Rhee, 2014, "Still a Better Bang for the Buck," NIRS

In contrast to the declining expected returns using TDFs, the relatively stable optimal asset allocation of the DB pension plan maintains its target investment strategy throughout. Maintaining an optimum asset allocation delivers an 11 percent cost advantage to the DB plan over the "ideal DC plan." The description of the NIRS findings in the Manhattan Institute paper¹⁰ suggesting that the ideal DC plan achieves investment returns on par with DB pensions is not accurate.

Annuities can address longevity risk, but they can be a costly option, especially, in low interest rate environments. The Government Accountability Office (GAO) has found the actual use of annuities by retirees with DC accounts is less than 6 percent.¹¹ Since the mid-1980s economists have done extensive research exploring the unsolved "annuity puzzle" as to why so few immediate annuities are purchased. Average individuals only need to see that a Google search of "annuity costs" pulls up over 12 million items to sense that choice to buy an annuity is not simple and different views on their value abound depending on the expert offering the opinion.¹² In fact, the pricing of lifetime annuities is so complex that identifying basic underlying information such as interest rates can require an actuary.¹³

Providing retirement income from a DC account using an annuity has a significant cost and that should be part of a valid cost analysis. The NIRS model reflects the most common DC payout strategy of gradual withdrawals from individual accounts. Furthermore, the NIRS report's sensitivity analysis illustrated the cost of buying annuities at retirement to pay the same amount of lifetime income indexed to inflation as under the model DB plan. NIRS cost estimates

reflected buying lifetime annuities at both the current (3.7 percent) interest rate and higher interest rate.¹⁴ The retirement savings as a percent of salary for a teacher in the NIRS model would have to increase to 25.4 percent of payroll (or 36 percent more than the cost of the DB pension) using a DC account to generate an adequate accumulation at age 62 to buy an immediate annuity equal to the same DB income based on current payout rates. This is a substantial cost factor that is simply not addressed in the Manhattan Institute paper or in Mr. McGee's presentation as he evaluates the cost effectiveness of both plan designs.¹⁵

During the presentation, Mr. McGee advocates buying the annuity from the DB plan, but again he does not provide any analysis of the cost or the risk in calling for sponsors to offer favorable annuities to individuals outside of the plan participants. In effect, this would require that a state re-assume the longevity risk and investment risk, which he advocated shedding for a DC plan design. Thus, it is a circular argument to say that a DC plan with an annuity can be as cost-efficient as a DB pension, if the DC plan must use the DB pension to price that annuity.

Interestingly during the presentation, Mr. McGee was critical of sponsors and policy makers for not adequately funding pension promises and he also faulted policy makers for offering benefits without knowing their cost on other occasions but in this circumstance he circles back ready to put the liability for favorable priced annuities on the DB pension. Only by using the cost-efficient public DB pension can the DC plan begin to approach delivering the same benefit at a similar cost.

NIRS demonstrated that longevity pooling adds a 10 percent cost advantage to the DB pension. When this longevity advantage is added to the investment advantage, the DB pension cost 29% less as a percent of pay that need s to be saved each year in the "ideal DC plan" under the NIRS model.¹⁶

The NIRS Still a Better Bang for the Buck model conservatively accounts for the impact of individual investment behavior and added costs that are common among DC retirement plans. The behavioral finance research that brought target date plans into favor also supports the adjustment that the NIRS model makes when individuals control the investment of their DC retirement accounts. Most 401(k) and other DC retirement savings plans take advantage of the safe harbor under the fiduciary rules of ERISA that enable employers to not be responsible for their employees investment selections as long as employees can choose from among reasonable sets of investment options. In short, real word DC plans allow employees to make their own investment decisions.

While the Manhattan Institute paper suggests that this individual investment control delivers statistically similar investment returns, the work of leading economists indicates otherwise. Professor and Nobel Prize winning economist Robert Shiller wrote on participant behaviors as early as 1999 and told *The Washington Post*, "The idea that everyone will manage their 401(k) plan

optimally is really not right.”¹⁷ In the introduction to Barber and Odean’s paper, “The Behavior of Individual Investors,” these economists provide the following assessments of the success of individual investment decisions:

A large body of empirical research indicates that real individual investors behave differently from investors in these models. Most individual investors hold underdiversified portfolios. Many apparently uninformed investors trade actively, speculatively, and to their detriment. And, as a group, individual investors make systematic, not random, buying and selling decisions.... More surprisingly, many studies document that individual investors earn poor returns even before costs. Put another way, many individual investors seem to have a desire to trade actively coupled with perverse security selection ability!¹⁸

NIRS clearly identified the extent of empirical research the authors reviewed as they modeled a conservative one percent rate adjustment mostly due to individuals making investment choices. Its authors suggested readers could refer to the Barber and Odean paper¹⁹ for its excellent overview of the extensive empirical data and findings on the impact of this so-called “behavioral drag.”

Furthermore, in a recent white paper, “Customize DC Investments for Participant Success,” Aon Hewitt indicated: “sponsors that look only at high-level plan averages may not fully understand the varied experiences of the underlying individual participants.”²⁰ Using the firm’s research base of large private sector employers, they reported on the impact of inappropriate risk taking, suboptimal diversification and poor market timing of DC plan participants. For example, participants’ guesses about market peaks, especially in times of down and volatile markets, impacts returns in their DC accounts to the extent of reducing compound investment returns by 2 percent.²¹

The more valuable and appropriate comparisons take into account what happens at the individual’s level; perhaps an analysis using the ICI/EBRI data for individual plan participants could shed light on this point rather than the analysis of average returns.

School systems that want to attract and retain quality teachers, for example, will want to understand the impact on employees of the tradeoff between risk and cost in considering different retirement designs. Thus, the 2012 Pension Plan Design Study by the Teachers’ Retirement System (TRS) of Texas modeled self-directed DC plan and pooled DC plan benefit projection estimates yielding the following retirement income replacements:

Given individual investors’ tendency to significantly underperform the market, the simulations indicated a typical DC plan would deliver only 45 percent of the benefit of the existing TRS DB plan at age 65. Furthermore, a pooled DC plan with professional investment management and full annuitization of balances at age 65 through an insurance company at a generous 5 percent interest rate would provide only 60 percent of the TRS benefit.²²

Comparison of Alternative Plans						
Targeted Contribution Approach						
Illustrated Structure	State Contribution	Member Contribution	Relative Cost	Replacement Ratio at Age		
				60	62	65
Current Defined Benefit Plan	4.2%	6.4%	100	63.6%	67.8%	74.2%
Side by Side Hybrid Plan	4.2%	6.4%	100	51.1%	55.1%	61.3%
Capped Hybrid Plan	4.2%	6.4%	100	51.1%	55.1%	61.3%
Cash Balance Plan	4.2%	6.4%	100	51.4%	59.7%	74.8%
Pooled Defined Contribution Plan	4.2%	6.4%	100	35.4%	40.9%	50.9%
Self-Directed Defined Contribution Plan	4.2%	6.4%	100	24.7%	27.7%	33.1%

Source: Texas Teacher Retirement System, Pension Plan Design Study, 2012

The above discussion confirms that the weight of empirical data supports the conservative NIRS assumption of a 1 percent reduction in DC account returns counting both fees and behavioral drag compared to those from the DB investment portfolio. Thus, *Still a Better Bang for the Buck* finds that a DB pension provides a further 27 percent cost savings over an individually directed DC plan.²³

Lastly, funding short falls are not applicable to measuring cost effectiveness. In comparing those efficiencies, the NIRS model was designed to make an “apples to apples” comparison and it assumes that both types of retirement plan are adequately funded to produce the target income benefit. For DB pension liabilities to be relevant to any reasonable degree the analysis of DC plans would also need to include the leakage from and funding shortfalls in individual DC accounts when assessing the economic efficiency of DC accounts. Moreover, it must be recognized that shifting from DB to DC structures cannot solve pension funding shortfalls. This is evidenced in NIRS’ case studies of public retirement systems that switched from DB to DC to in West Virginia, Michigan and Alaska.²⁴

Conclusion

It is imperative that applicable data be used assessing the cost efficiencies of differing plan designs in the public sector. *Still a Better Bang for the Buck* makes a simple conceptual point, at the individual account level addressing key retirement security risks requires more funding and a pension can pool those risk to a valuable advantage. In doing so, the NIRS model assumes that both plans are fully funded to provide retirement benefits that replace the same amount of income.

Figure 1:
Cost of DB and DC Plan as a Percentage of Payroll

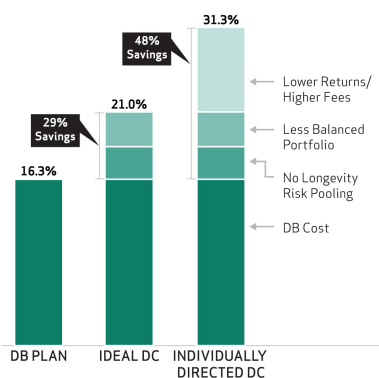
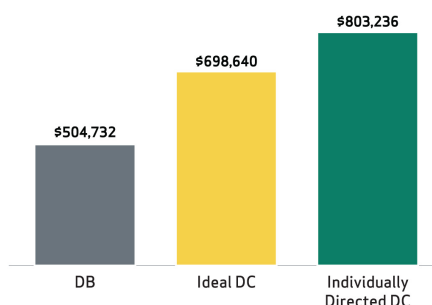


Figure 7:
Per Employee Amount Required at Age 62
DB Plan vs. DC Plan



Ultimately, *Still a Better Bang for the Buck* study was more than fair in modeling a DB pension with two DC plan structures; an ideal DC plan with a pooled approach that uses best practices that the Manhattan Institute suggests including Target Date Funds and a more typical individually directed DC plan, such as a 401(k) plan.

Policymakers can see that the numbers add up to a cost efficiency when using a defined benefit pension to deliver retirement benefits to public sector employees: 48 percent cost savings over a typical DC plan and a 29 percent cost efficiency over a best practice, ideal DC plan.²⁵

In the end, the Manhattan Institute paper fails to offer evidence of a cost-effective defined contribution plan. Data confirming a freestanding and equally cost-efficient DC plan does not surface in the *Defined-Contribution Pensions are Cost-Effective* paper, as the one potential example assumes buying an annuity from the DB pension to make the DC plan as close to cost-effective as the pension itself.

¹ The Employee Retirement Income Security Act of 1984 or ERISA is federal pension law that covers private sector retirement plans.

² J. McGee, 2015, "Defined-Contribution Pensions Are Cost-Effective," Manhattan Institute, New York, NY.

³ Only private retirement plans must file Form 5500 under ERISA.

⁴ R. Jung and N. Rhee, 2012, "How Do Public Pensions Invest? A Primer," NIRS, Washington, DC.

⁵ J. McGee, 2015, op cit. p. 10.

⁶ W. Fornia and N. Rhee, 2014, "Still a Better Bang for the Buck: An Update on the Economic Efficiencies of Defined Benefit Pensions," NIRS, Washington, DC. pages 5-6.

⁷ According to the National Association of State Retirement Systems Administrators (NASRA)/Center for Retirement Research (CRR) Public Fund Data Base, the universe of public pension funds is dominated by large plans as the 126 public funds represented in the data base include 85 percent of

all members of pensions that cover state and local governments and these 126 large public retirement funds hold more than 85 percent of all state and local government pension assets. This concentration of large plans is another reason that the Manhattan Institute's analysis of all private sector DB/DC plans does not offer a comparable data source.

⁸ Fornia and Rhee, 2014, op cit. NIRS provides extensive details on this methodology in the appendix.

⁹ Fornia and Rhee, 2014, op cit. p. 14

¹⁰ J. McGee, 2015, op cit. p. 10. NIRS does not acknowledge that the modeled Ideal DC plan achieves investment returns on par with the modeled DB plan over the observation period.

¹¹ C. Jeszeck, 2011 (June), "Retirement Income Ensuring Income throughout Retirement Requires Difficult Choices," Government Accountability Office (GAO), Washington, DC.

¹² Both legal interpretations of important ERISA protections that plan fiduciaries act exclusively to benefit participants and Retirement Equity Act protections assuring spouses rights in the selection of income options when a plan offers lifetime payouts are important employee protections. McGee's slides used at the NCSL meeting describing these longstanding, bipartisan-supported protections of private sector workers and spouses pension rights as "misguided" which is troubling especially as state legislatures have enacted similar standards for public retirement plan in an overwhelming number of states.

¹³ D. Oakley, 2015, "Retirement Security Risks: What Role Can Annuities Play in Easing Risks in Public Sector Pension Plans?" NIRS, Washington, DC. p. 16 and p. 29

¹⁴ Fornia and Rhee, 2014, op cit.

¹⁵ As the annuity interest rate increases, the cost increment for using an annuity lessens. However, as an indication of the reasonableness of the NIRS assumption, the largest public DC plan offering annuities, the Federal Thrift Savings plan, uses a 2.5 percent interest rate in the TSP payout rate for August 2015 found on the TSP website:

<https://www.tsp.gov/whatsnew/rates/annuityRateIndex.shtml>. Also, the TIAA fixed immediate annuity for money transferred to the insurer to buy an annuity in 2015 reflects a 3.25 percent interest rate, found at the TIAA-CREF website at: <https://www.tiaa-cref.org/public/tcfpi/investment/profile?symbol=47933630>.

¹⁶ Fornia and Rhee, 2014, op cit.

¹⁷ Irwin, N., 2013 (Oct. 20), "Shiller: I see a great deal of foolishness," *The Washington Post*.

¹⁸ B Barber and T. Odean, 2011 (Sep.), "The Behavior of Individual Investors," Working Paper, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1872211

¹⁹ Barber and Odean, 2011, op cit.

²⁰ W. Ryan, 2015, "Customize DC Investments for Participant Success," Aon Hewitt.

²¹ Ryan, 2015, op cit.

²² Teachers Retirement System of Texas, 2012 (Sep.), "Pension Benefit Design Study," Texas TRS, Austin, TX. and an analysis of data from Figure 5.3, p. 20

²³ W. Fornia and N. Rhee, 2014, op cit.

²⁴ NIRS, 2015, "Case Studies of Public Plans that Switched to Defined Contribution Plans," Public Pension Resource Guide, NIRS, Washington DC. and available here:

http://www.nirsonline.org/storage/nirs/documents/Case%20Studies/public_pension_resource_guide_-_case_studies_of_state_pension_plans_that_switched_to_defined_contribution_plans.pdf.

²⁵ Fornia and Rhee, 2014. Op cit.