Still a Better Bang for the Buck:
An Update on the Economic Efficiencies of DB Pensions

Webinar
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Speakers

Diane Oakley
Executive Director
National Institute on Retirement Security (NIRS)

William (Flick) Fornia, FSA
Report Author &
President, Pension Trustee Advisors

Nari Rhee, PhD
Report Author &
Manager of Research, NIRS

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Why This Study

- Original NIRS study “A Better Bang for the Buck” (2008): Defined Benefit (DB) plans cost 46% less than a Defined Contribution (DC) plan to provide equivalent retirement benefits.
- Continued misperception that DC plans inherently “save money.”
- This study - updated assumptions, methodology to reflect changing retirement benefit landscape
  - DC plans: lower fees, increased use of Target Date Funds (TDFs).
  - DB asset allocation changes.

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Expert Advisory Group

Actuaries:	Rocky Joyner	Segal Consulting
	David Kausch	GRS Gabriel Roeder Smith & Company Consultants & Actuaries
Investment Experts:	Mike Heale	CEM Benchmarking
	Ron Peyton	Callan
Other Experts:	Rebecca Merrill	TRS Teacher Retirement System of Texas
	Karl Paulson	Colorado PERA
	Josh Shapiro	NCCMP National Coordinating Committee for Multiemployer Plans
		National Institute on Retirement Security

We Found – 3 Reasons Why DB plans Save Money Compared to DC plans

1. Pooling the longevity risks of large numbers of individuals, providing each the security of a lifetime pension without the risk of outliving their savings.

2. Are “ageless” and therefore can perpetually maintain an optimally balanced investment portfolio rather than the typical individual strategy of down-shifting over time to a lower risk/return asset allocation.

3. Achieve higher investment returns as compared to individual investors because of professional asset management and lower fees.

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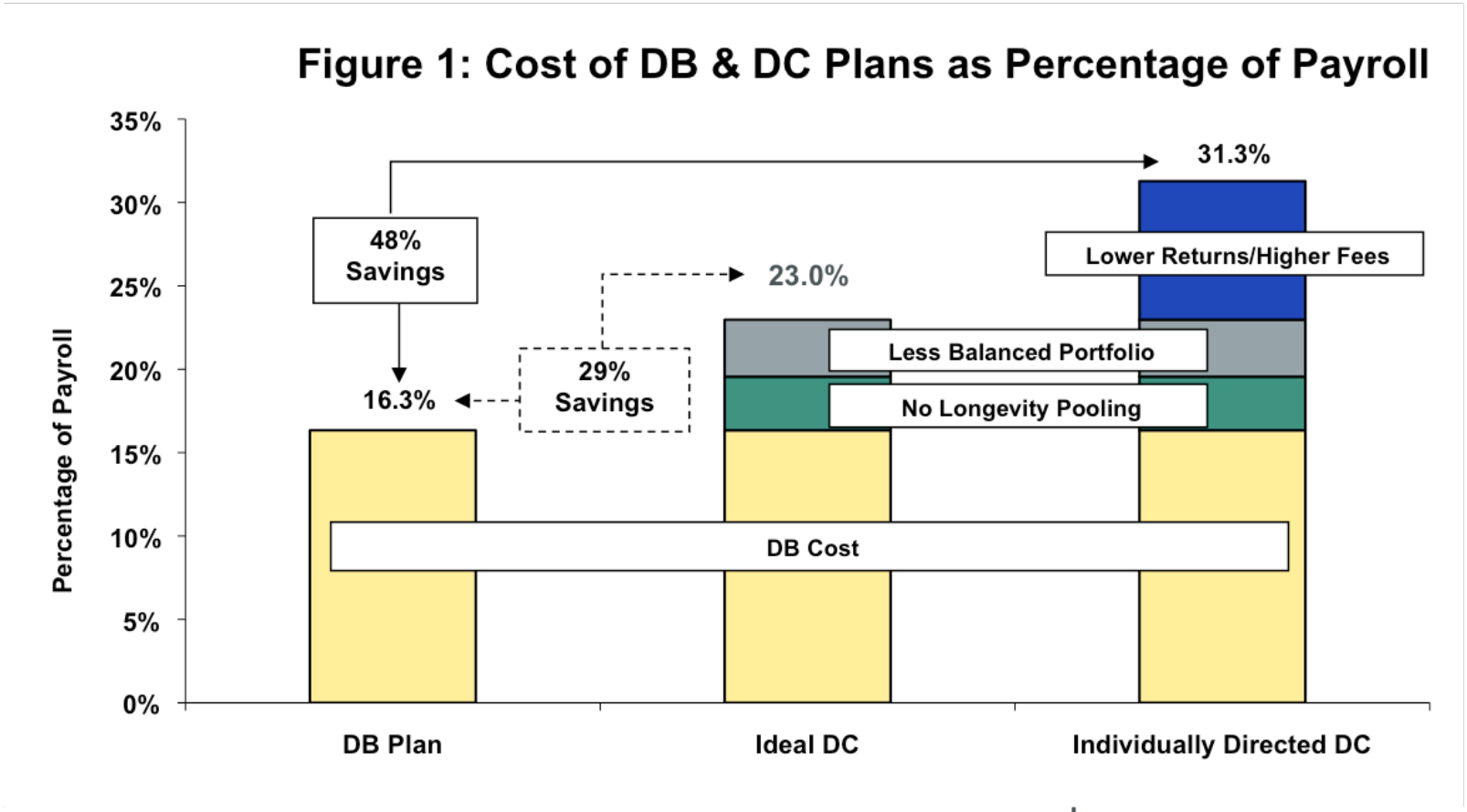
Summary: DB Plan Can Still Deliver Same Benefit at About Half the Cost of DC Plan



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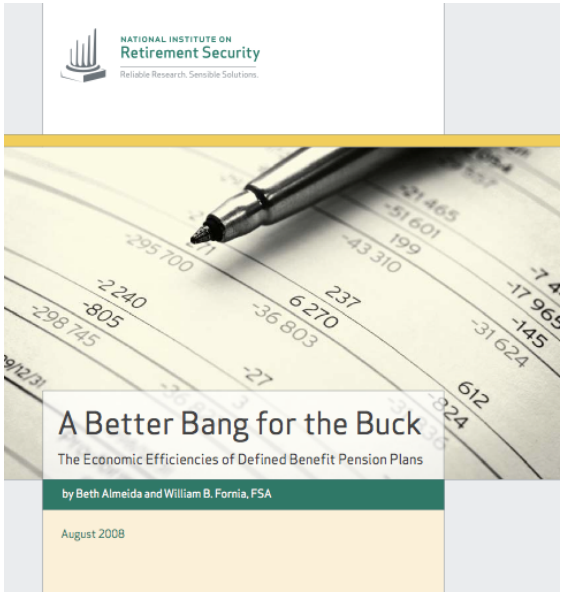
Study Methodology

- How do the costs of delivering retirement benefits through each type of plan compare?
- Apples-to-apples comparison.
- Calculate the cost to deliver the same level of retirement benefits
  - DB plan.
  - DC plan.



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Study Compares Three Plans:

- **DB plan**
  - Asset allocation and fees typical of large public plan.
- **Individually directed DC plan**
  - Target Date Fund (TDF) glide path from equities to fixed income.
  - Industry average fees, modest "behavioral drag."
- **"Ideal" DC plan**
  - TDF asset allocation glide path.
  - Same fees as DB, no behavioral drag (no individual choice).

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Methodology

- We model a population of 1,000 female teachers who work for 30 years - their final salary is $60,000.
- We define a “target” retirement benefit - about $2,700/month – at age 62.
- We calculate the cost to fund this benefit through a DB plan structure, then through a DC plan structure.

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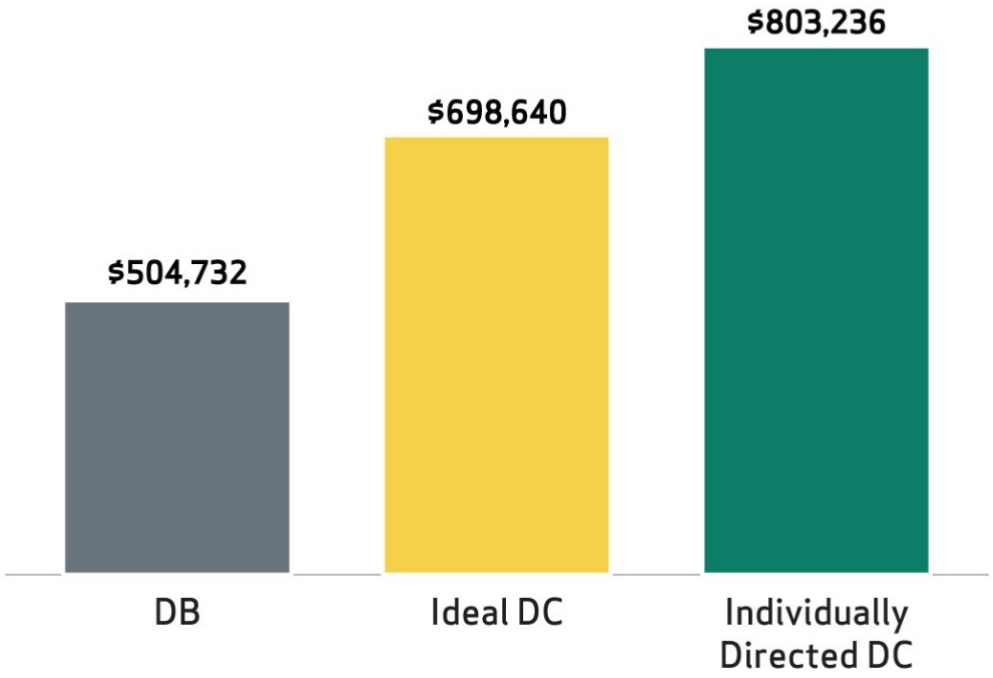
DB Plan Can Still Do More with Less

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



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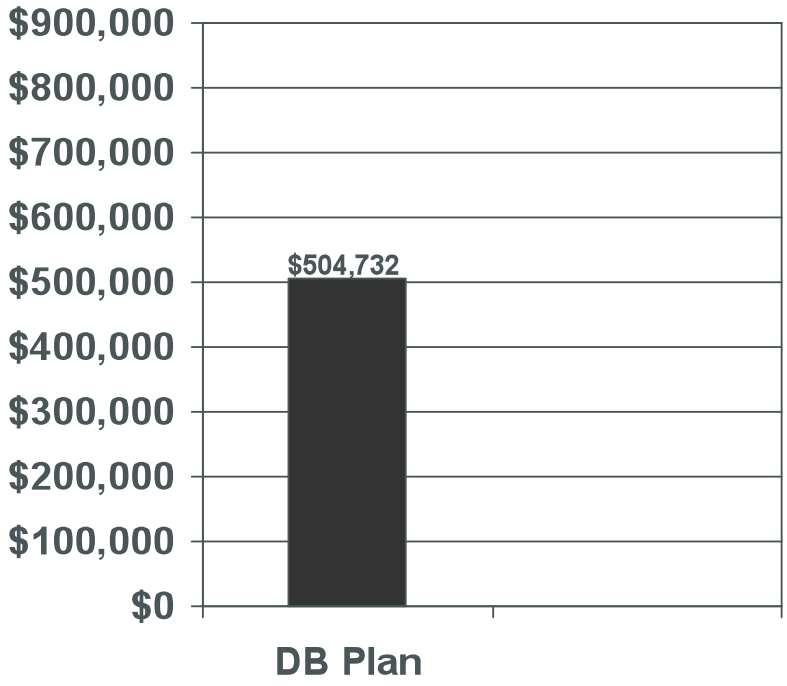
Amount Needed at Age 62 to Fund Target Retirement Benefit in DB Plan

- The DB plan must have about **$500,000** set aside for each person in the plan at age 62.
- In order to fund this amount, contributions must be **16.3% of payroll** each year.
- This is more than our 2008 study ($355,000 & 12.5%)
  - Longer life expectancies.
  - Reduced DB Assumed Rate of Return from 8.00% to 7.36%.
  - DC plan had similar impact from assumption changes.



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DB Plan Strength # 1

Longevity Risk Polling

- Because they cover large numbers of retirees, DB plans can be funded to last the **average life expectancy** for each person, yet pay monthly benefits to each retiree as long as she lives.
- An individual under a DC plan will want to avoid the risk of running out of money if they live a long life.
- Because individuals must plan for significantly longer than average life expectancy, more money must be accumulated in a DC plan compared to a DB plan.

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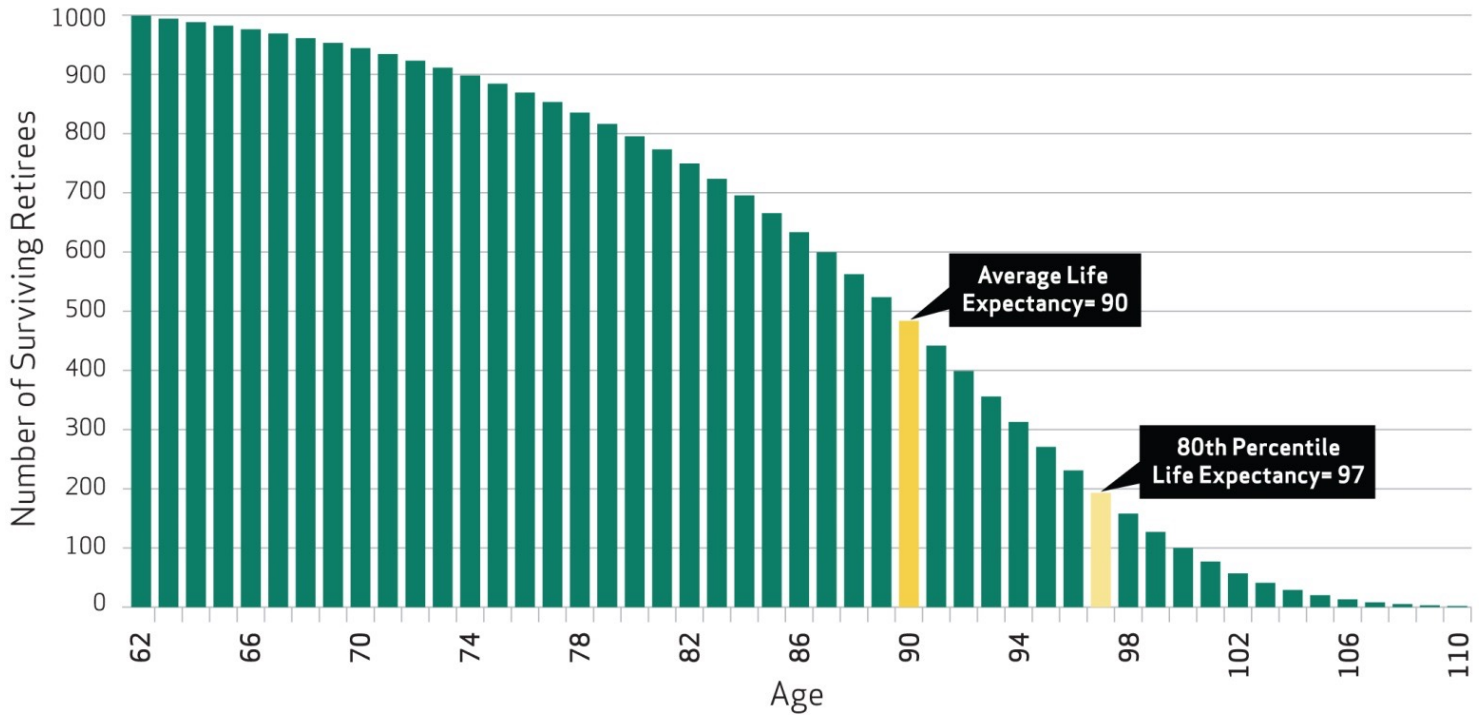
Life Expectancy for 1,000 Teachers

Figure 2: **Longevity of 1,000 Retired Female Teachers**



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Annual Retirement Payments for 1,000 Teachers

Figure 3: **Total Payments under the Defined Benefit Plan**

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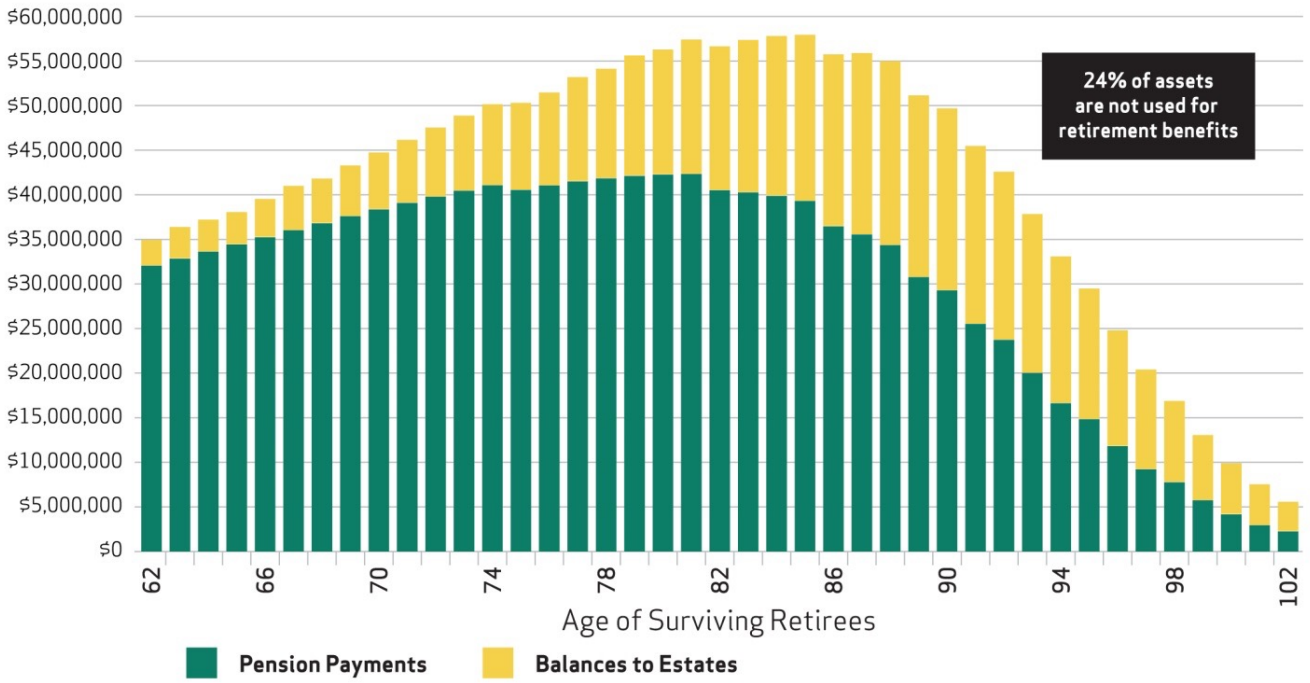
Under the DC Plan 24% of Assets Are Not Used for Retirement

Figure 5: **Total Benefit and Estate Payments under the DC Plan Based on Adjusted Withdrawal Strategy**



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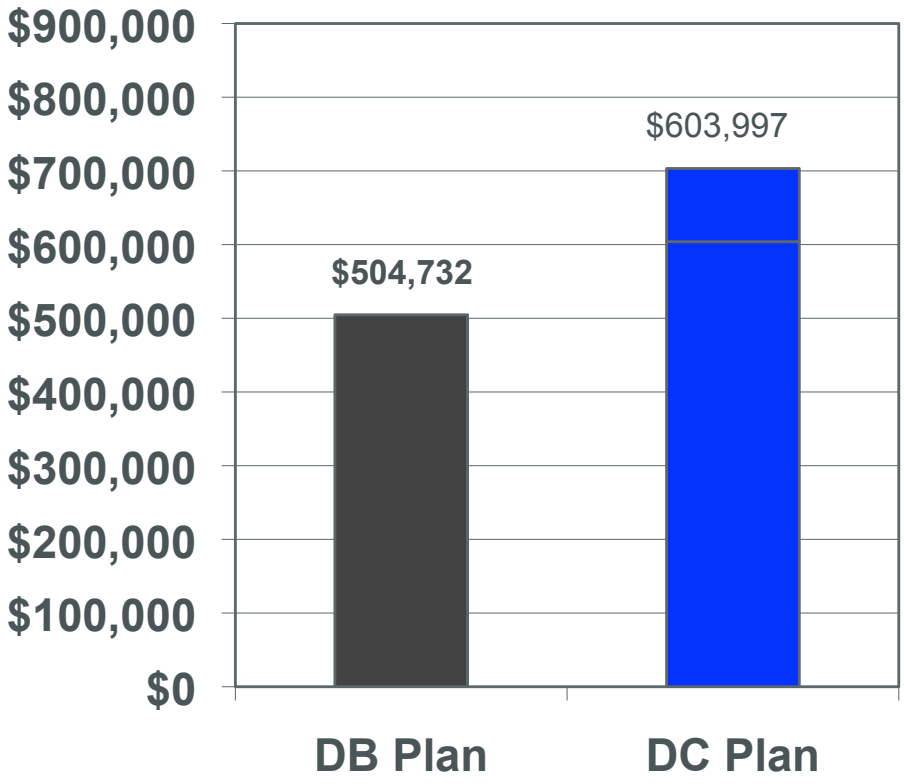
Lack of Longevity Risk Pooling Drives Up Cost in DC Plans

- Individuals must "self-insure" longevity risks – each retiree at age 62 needs nearly **$600,000** in DC plan for same monthly income.
- Analysis uses an **80th percentile life expectancy**, thus a 1 in 5 chance of insufficient savings.
- Contributions must be 1**9.6%** of payroll for benefit.



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DB Plan Strength #2

Maintenance of Portfolio Diversification

- DB plans can maintain a well diversified portfolio over time – unlike individuals who must adjust risk as they age.
- To protect against market shocks, individuals in DC plans are advised to shift toward more conservative investments as they age, sacrificing some expected return.
- We modeled typical TDF asset allocation until age 71, then gradual shift to 100% fixed income by age 92.
- Lower returns mean more money must be contributed to deliver the same level of benefits.

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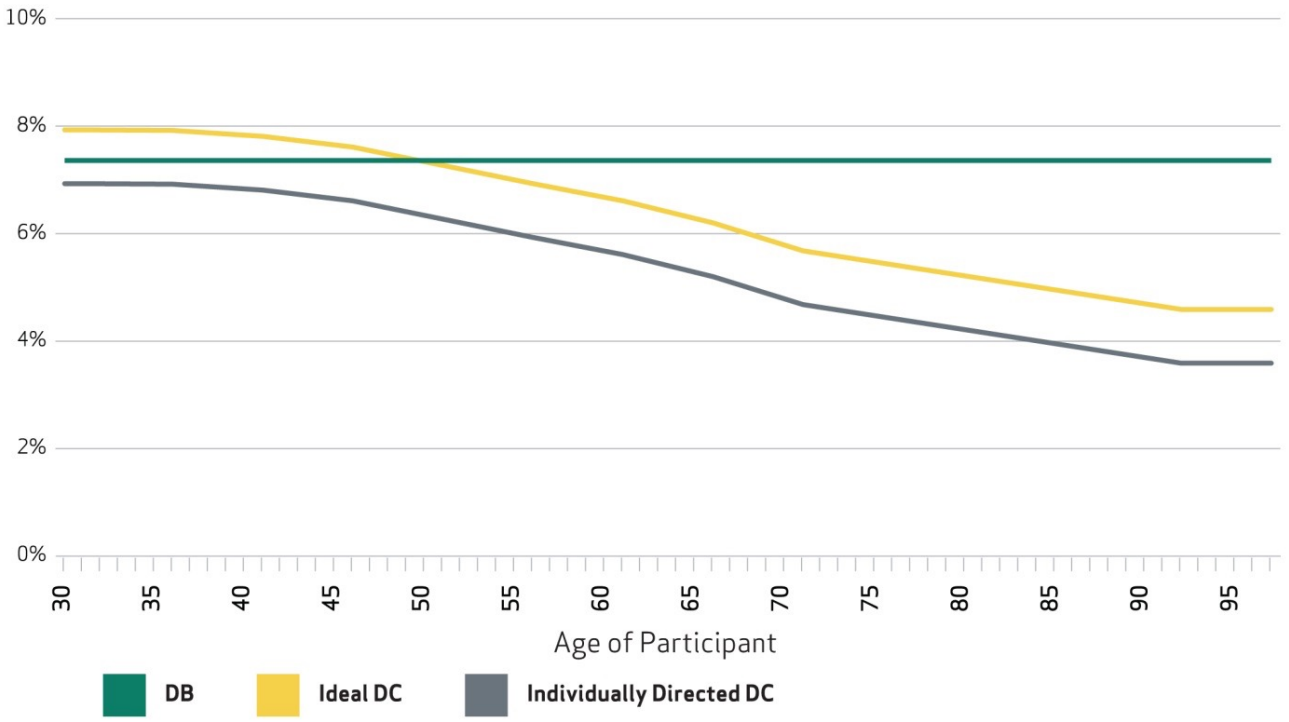
As Individuals Shift DC Portfolio Allocation, Expected Return Reduced

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



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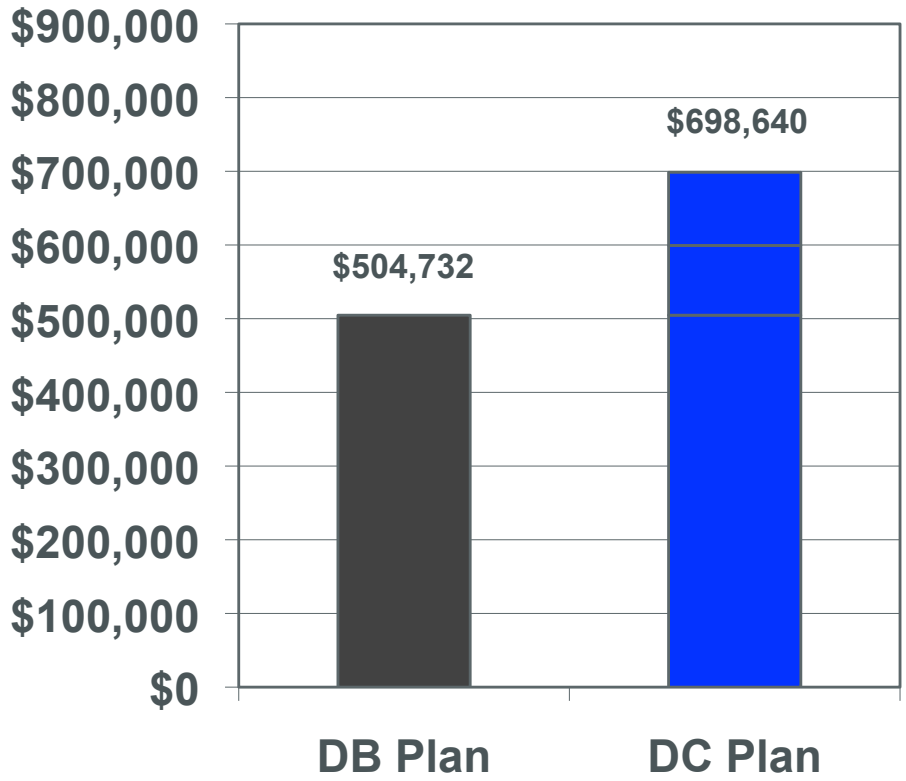
Age-Driven Shift to More Conservative Portfolio in DC Plans Drives Up Cost

- Each retiree in the DC plan now must have nearly **$700,000** account balance at age 62.
- In order to fund this amount, contributions must be **23.0%** of payroll.
- This summarizes the “Ideal” DC plan cost.



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DB Plan Strength #3

Lower Fees & Professional Management

- Pooled investments in DB plans can lower expenses
  - Large group pricing negotiation.
  - Avoid expenses of individual record keeping, investment education, investment transactions.

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Lower Fees & Professional Management (cont.)

- While DB plan investments are professionally managed, individuals tend to underperform
  - Individual investor level returns lag behind long-term returns for any asset class, and most mutual funds.
  - Failure to re-balance, poor timing
  - "Behavioral drag" estimates range from 98 bp to over 200 bp.
- 2014 study is based on additional 1.00%, like 2008 study,
  - 40 bp additional DC expenses, industry average
  - Optimistic 60 bp for "behavioral drag" (individual v fund skill)

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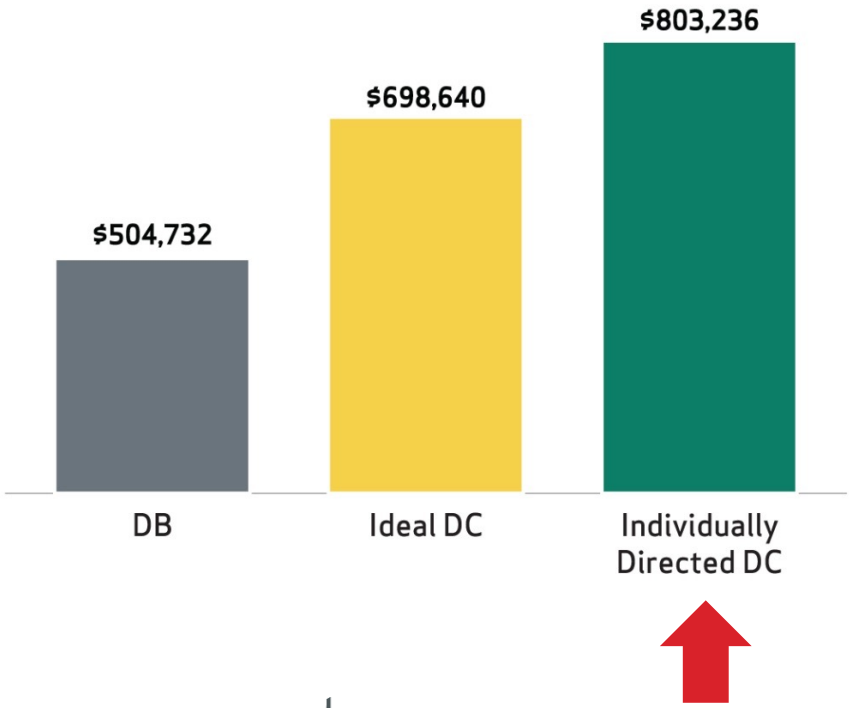
Lower Returns/Higher Fees in DC Plans Drive Up Cost

- Each retiree in the DC plan now must have more than **$800,000** in account at age 62.
- In order to fund this amount, contributions must be **31.3%** of payroll.

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



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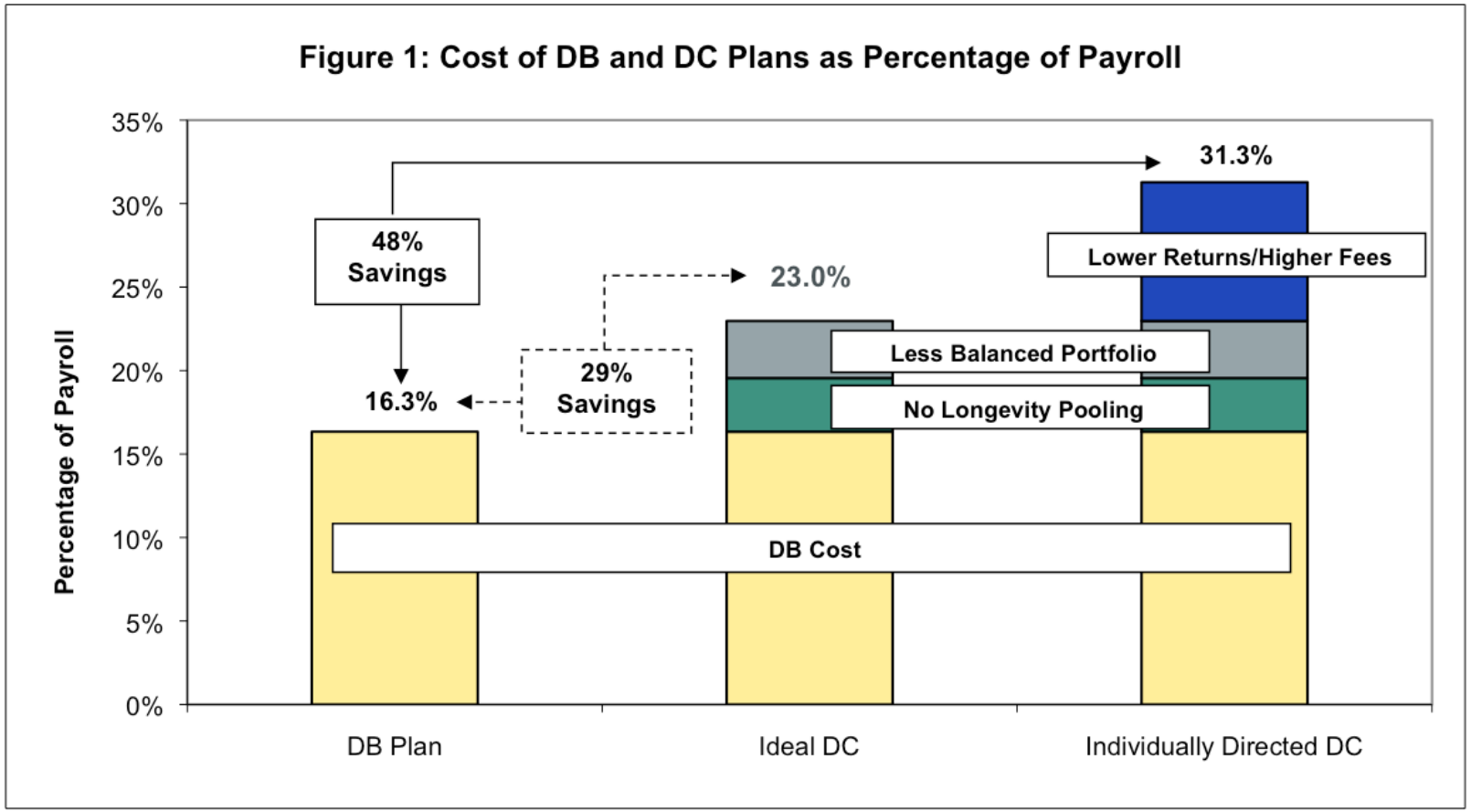
Cost of DB Plan is About Half the Cost of DC Plan



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Tallying DB Plan Cost Savings
Compared to a Typical DC Plan

1. Longevity risk pooling saves	**10%**
2. Maintenance of portfolio diversification saves	**11%**
3. Lower fees & prof'l management saves	**27%**
All-in costs savings in DB plans ……	**48%**

In other words - a DB plan can provide the same benefit at almost half the cost of a DC plan

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Conclusions

1. DB plans have built-in economic efficiencies – provide a “better bang for the buck.”

2. These efficiencies drive significant cost savings for taxpayers and employers.

3. Decision makers should continue to carefully evaluate claims that “DC plans will save money.”

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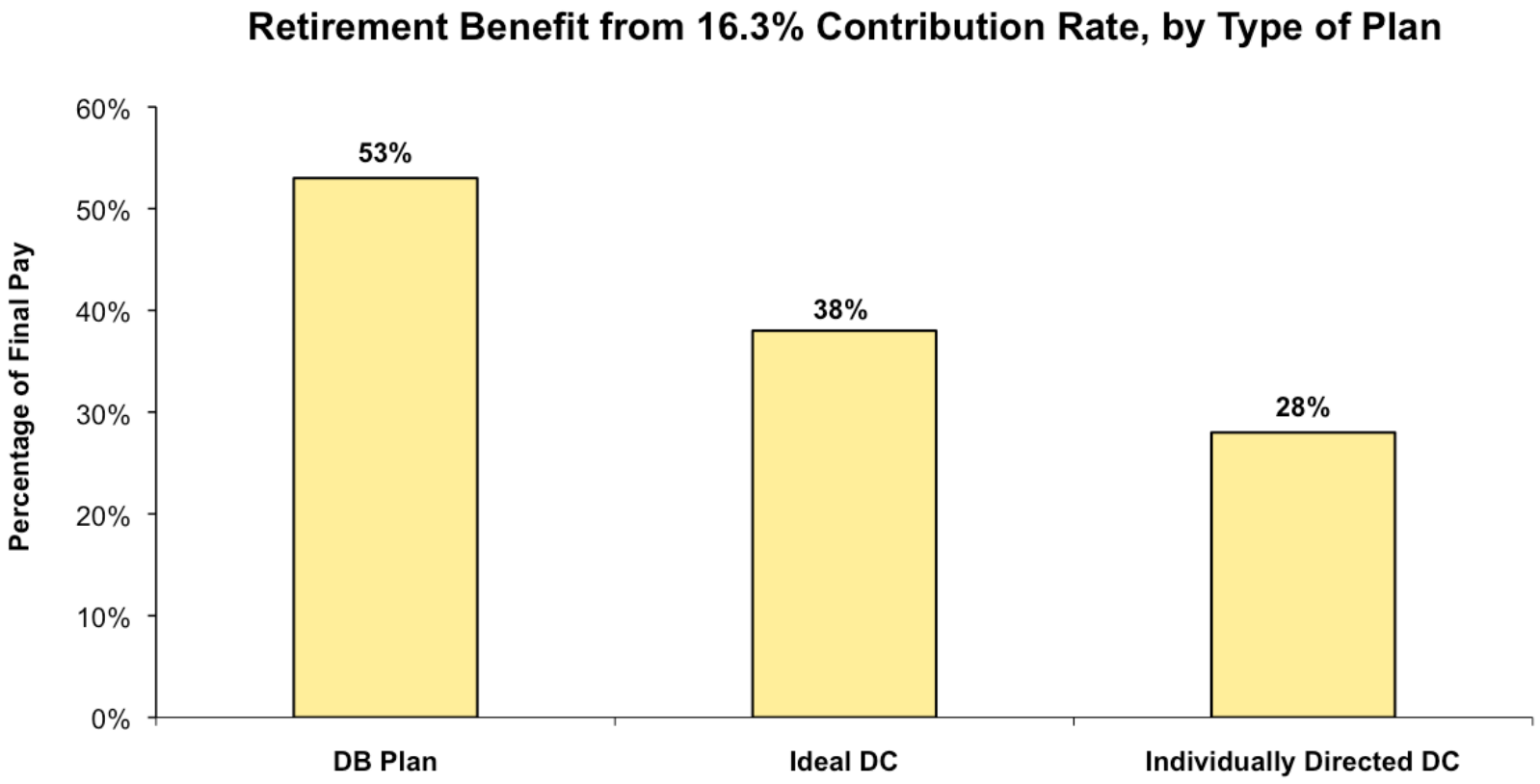
Comparison of Benefit Levels for Same Cost



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Annuitization is at Best Partial Solution for DC Plans

- Annuities protect more fully against longevity risk, but at a cost.
- Impact of annuitizing account balances at 62 in ideal DC plan:
  - Current annuity purchase rates – more costly (25.4% with annuities vs. 23.0% without).
  - Annuity purchase rates closer to historical norm (100 bp higher return) – slightly less costly (20.9% with annuities vs. 23.0% without).

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Additional Sensitivity Analyses

- Variations in assumptions still show significant DB-DC disparity
  - Returns.
  - Expenses and Behavioral Drag.
- Include public safety employee
  - Male, retire at 55, no Social Security.
  - DB saves 46% compared to typical DC (vs. 48% baseline).

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Recap

- **DB plans have built-in economic efficiencies – provide a "better bang for the buck"**
  1. Longevity Pooling.
  2. Maintenance of Diversified Investment Portfolio.
  3. No Drag on Returns vis-à-vis Individually Directed.
     - From expenses.
     - From investment behavior.
- **Plausible changes in assumptions do not change this basic conclusion**.

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Questions?

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