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Defined Benefit and Defined Contribution Retirement Plans

Ronald Smith, FSA, Director, Actuarial Services
May 30, 2014

Overview

- Introduction
- Financial Pressures on Public Pensions
- Defined Contribution Plans – Beyond the Basics
- Recent Pension Reform Activity – State Level

Who We Are

- Mission-based, non-profit, U.S. corporation
- Focused exclusively on helping ***public sector*** employees build retirement security
- $50 billion in ***public sector*** assets under administration*
- 8,200 ***public sector*** plans*,**
- 341 ***Florida*** clients***
  - $3.4 billion
  - 74k participants

* As of December 31, 2013

** Represents 401, 457, Retirement Health Savings Plans and Employer Investment Program for OPEB Trusts

*** As of April 30, 2014

Pensions in the News

Sources:

Bloomberg, Martin Braun, "Public Pensions up 12% Get Most in 2 Years as Stocks Soar," August 6, 2013

CNBC, John Schoen, "Pandemic of Pension Woes is Facing the Nation," August 5, 2013

Forbes, John Wasik, "Why 401(k)s Have Failed", April 24, 2013

Market Watch, Robert Powell, "Will Your Pension Disappear, post-Detroit," July 24, 2013

New York Times, Monica Davey and Mary Williams Walsh, "Chicago Sees Pension Crisis Growing Near," August 5, 2013

New York Times, Richard Riordan and Tim Rutten, "A Plan to Avert the Pension Crisis," August 4, 2013

PBS.org, Theresa Ghilarducci, "Why the 401(k) is a "Failed Experiment"", April 23, 2013

Reuters, Jim Christie, "California Court Battle with Unions sets Stage for Pension Reform Showdown," July 22, 2013

The Economist, "The Unsteady States of America," July 27, 2013

New York Times, Davey, Vlasic and Walsh, "Detroit Ruling on Bankruptcy Lifts Pension Protections," December 3, 2013

Chicago Sees Pension Crisis Drawing Near

Pandemic of pension woes is plaguing the nation

Will your pension disappear, post-Detroit?

Create a 'what if' plan that assumes pension is cut by half

0 Comments digg NEW Portfolio R LEARN MO

America's public finances

The Unsteady States of America

It is not just Detroit. American cities and states must promise less or face disaster

The New York Times

The Opinion Pages

WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIEN

OP-ED CONTRIBUTORS

A Plan to Avert the Pension Crisis

FRONTLINE › Business / Economy / Financial › The Retirement Gamble ›

Teresa Ghilarducci: Why the 401(k) is a "Failed Experiment"

PERSONAL FINANCE | 4/24/2013 @ 3:25PM | 11,753 views

Why 401(k)s Have Failed

Bloomberg Our Company | Profess

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Public Pensions Up 12% Get Most in 2 Years as Stocks Soar

By Martin Z. Braun - Aug 6, 2013 12:28 PM ET

Politics on NBCNEWS.com

California court battle with unions sets stage for pension reform showdown

Detroit Ruling on Bankruptcy Lifts Pension Protections


Financial Pressures on Public Pensions

Financial Pressures on Public Pensions

- New pension accounting standards (GASB 67 & 68)
- Credit rating agencies view on public pensions
- Security of public pensions


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GASB Statements No. 67 and 68

GASB 67 and 68

Significant changes from prior standards

- New accounting standard effective for employers for fiscal years after June 15, 2014
  - Does not impact plan ***funding***
- Balance sheet focus
- For single employer plan sponsors
  - Net Pension Liability (NPL) recognized on balance sheet
    - NPL similar to Unfunded Actuarial Liability
- Participating employers in cost sharing plans (e.g., FRS) allocated prorata share of NPL
  - FRS (87% funded) NPL about $20 billion at 6/30/2013 under *Ultimate* Entry Age cost method
  - GASB 68 mandates *Individual* Entry Age cost method
  - NPL may differ, potentially significantly, under different cost methods

Net Pension Liability (NPL)

NPL = Plan liabilities in excess of market value of assets

- Interest rate used to value plan liabilities
  - To extent plan assets (including some future contributions) projected to cover projected benefit payments
    - Expected return on plan assets
  - For remaining unfunded benefit payments
    - 20-year, high quality general obligation municipal bonds
    - Example – 20 Bond Index (WSLB20)
  - A blended interest rate is then calculated
- Market value of assets used

20 Bond Index

4.33% as of May 1, 2014

State and Local Bonds –
Bond Buyer Go 20-Bond Municipal Bond Index (WSLB20)

Shaded areas indicate US recessions.
2014 research.stlouisfed.org

FRED

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Source: Board of Governors of the Federal Reserve System

An Example

	OLD GASB 27	NEW GASB 68
Actuarial Liability (7.75% expected return)	$ 3,644	$3,644
Assets – smoothed	2,806	N/A
– market value	N/A	2,159
Unfunded actuarial liability ("UAL")	838	1,485
Future funding		
– Current employees	N/A	(237)
– Future employees (excludes normal cost, 4% annual payroll growth assumed)	N/A	(486)
– Total	N/A	(723)
Projected "funded" UAL (7.75% return)	N/A	762
Projected "unfunded" UAL (7.75% return)	N/A	723
– Remeasuerd at 4.33% (estimated)	N/A	1,022
– Increase	N/A	299
Net pension liability (UAL + increase above)	N/A	1,784
Funded Status	77%	55%
Effective interest rate (estimated)	7.75%	6.89%

Volatile

Volatile

Wrap Up

You Manage What You Measure

- Unfunded liabilities now reflected on balance sheet
  - For many jurisdictions, the largest entry
  - Volatile components
    - Market value of assets
    - Municipal bond volatility, where applicable
- Communication issues to interested parties
- Significantly expanded financial reporting disclosures
  - Impact on audit and actuarial fees
- Unresolved accounting issues for cost sharing plans
  - Role of plan vs. employer auditor
- GASB scheduled to release OPEB exposure draft in May
  - Possible similar treatment for retiree medical liabilities


Credit Rating Agencies View on Public Pensions

Credit Rating Agencies & Public Pensions

Introduction

- Three primary rating agencies
  - Fitch Ratings
  - Standard & Poor's (S&P)
  - Moody's
- Each treats pension obligations differently

Credit Rating Agencies & Public Pensions

Fitch Ratings

- Standardizes pension liabilities using a 7% interest rate
  - Changes liabilities by 11% for each 1.00% discount rate adjustment
- 5-year average of market asset values
- Funded status evaluation (one of several evaluation factors)
  - 70%+ is “adequate”
  - Below 60% is “weak”
- Fitch will evaluate participating employers in cost-sharing plans once GASB 68 is operational

Source: Fitch Ratings, Enhancing the Analysis of U.S. State and Local Government Pension Obligations, February 2011

Credit Rating Agencies & Public Pensions

S&P – Four Indicators

- Pension funded ratio
  - **Strong** 90% or above
  - **Above average** 80% to 90%
  - **Below average** 60% to 80%
  - **Weak** 60% or below
- Pension funding levels
  - **Strong** Consistently funds ARC
  - **Above average** Funds ARC in most years
  - **Below average** Has not funded ARC for 3 years
  - **Weak** Has not funded ARC for 3+ years

Source: S&P U.S. State Ratings Methodology, January 2011

Credit Rating Agencies & Public Pensions

S&P – Four Indicators

- Unfunded state pension liabilities per capita
  - **Strong** Below $500
  - **Above average** $501 to $2,000
  - **Below average** $2,001 to 3,500
  - **Weak** Above $3,500

- Ratio of state pension liabilities to personal income
  - **Strong** Below 2%
  - **Above average** 2.1% to 4.0%
  - **Below average** 4.1% to 7.0%
  - **Weak** Above 7.1%

Source: S&P U.S. State Ratings Methodology, January 2011

Credit Rating Agencies & Public Pensions

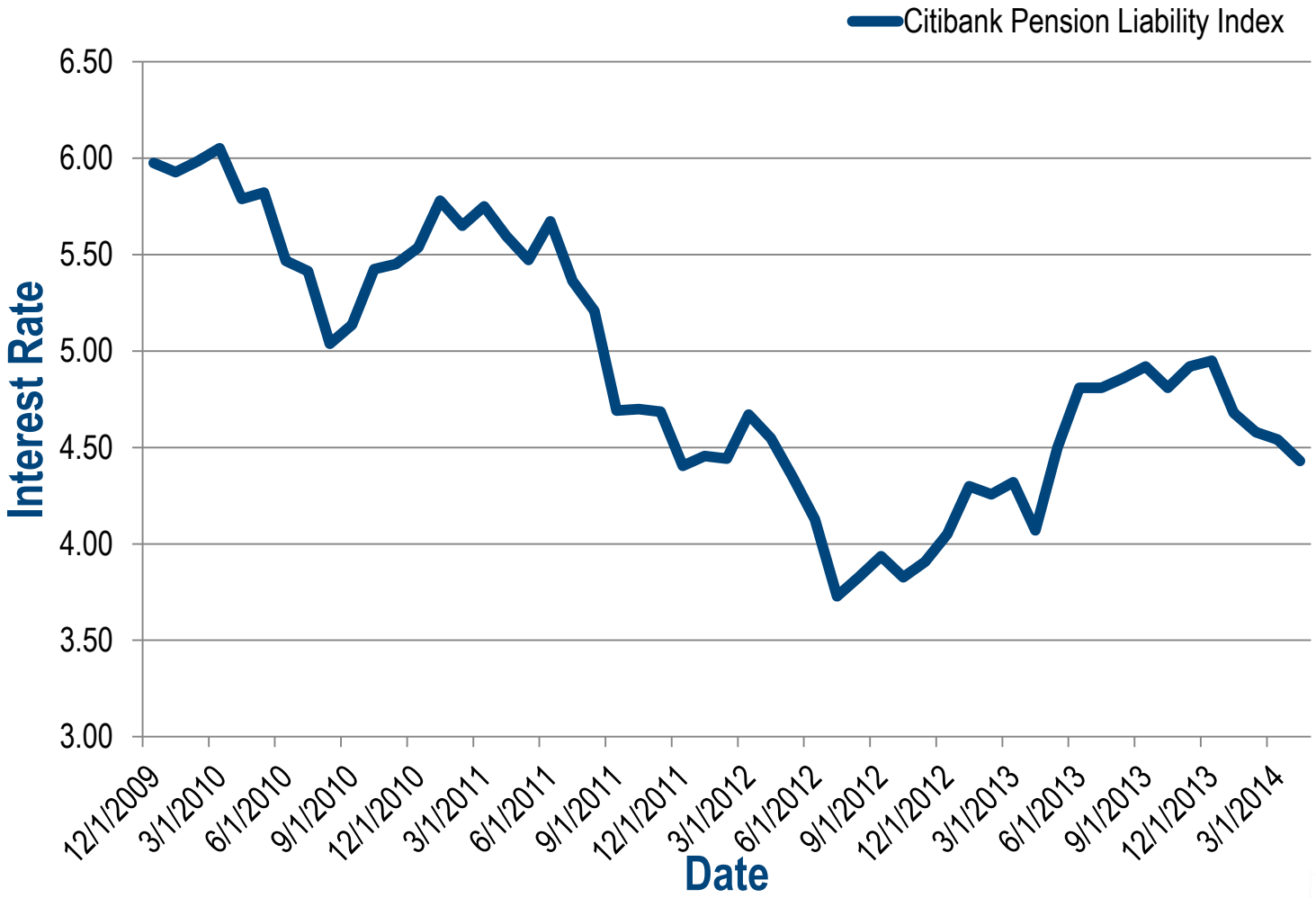
Moody's

- "Adjusted NPL" based on a high-grade long-term corporate bond index discount rate (Citibank Pension Liability Index)
- Market value of assets
- Cost sharing plan liabilities allocated to employers
- Additional change (January 2014)
  - Increase the weighting of debt and pensions from 10% to 20% for credit rating purposes

Source: Moody's, Adjustments to US State and Local Government Reported Pension Data, April 2013

Citibank Pension Liability Index

4.43% as of April 30, 2014



Source: Society of Actuaries

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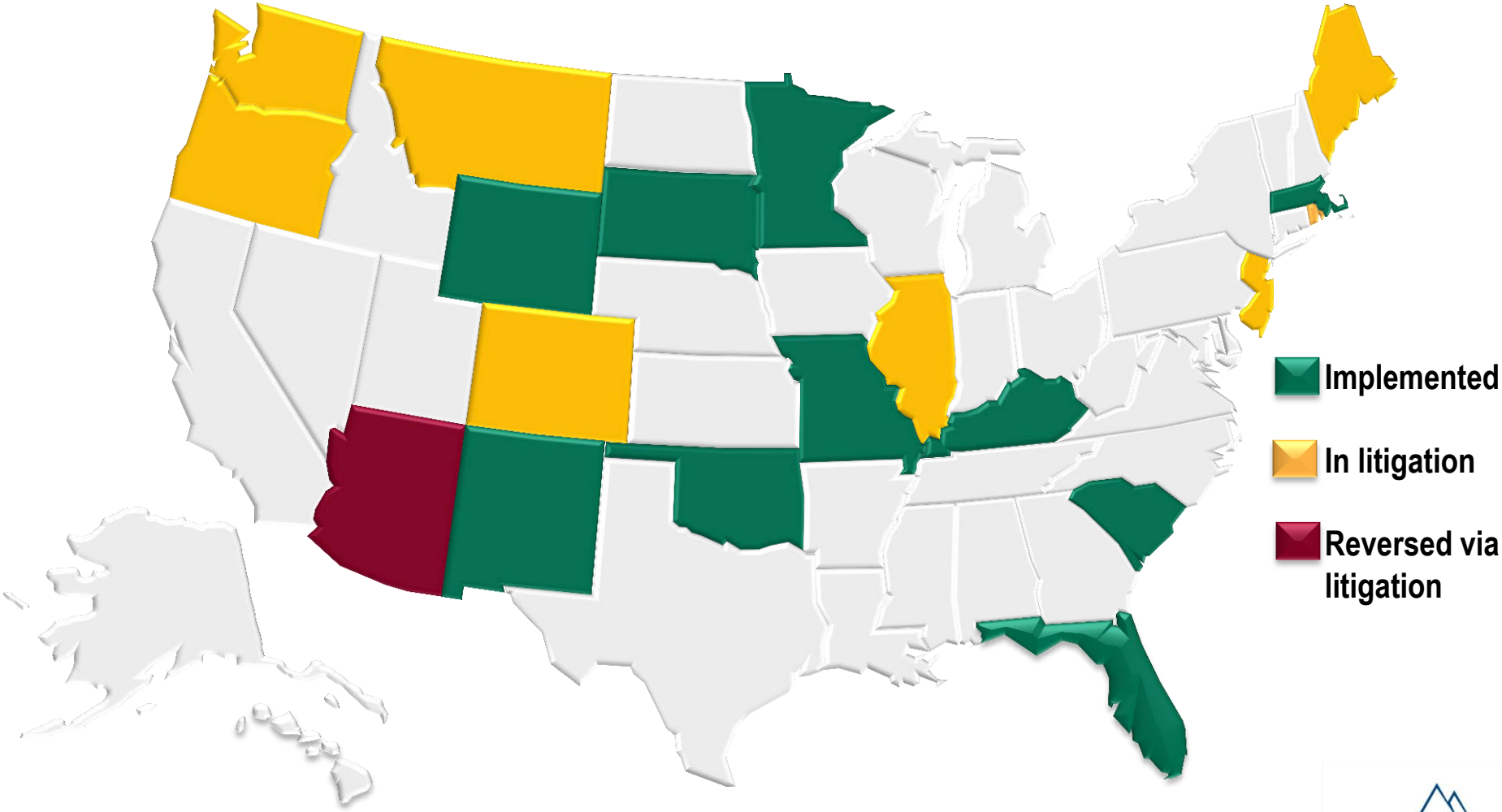
Security of Public Pensions

Security of Public Pensions

Introduction

- Most states protect public pensions
  - Explicit constitutional protection
  - “Contract law” protection
  - Florida
    - No explicit constitutional protection
    - Rights based on impairment of contract principles
- Protections vary
  - Benefits accrued to date (Florida)
  - Benefits accrued to date and future accruals
- Examples of benefit “takeaways”

States that Have Reduced COLAs for Existing Retirees



Source: NASRA Issues Brief, Cost of Living Adjustments, February 2014

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Security of Public Pensions

Rhode Island

- Funded ratio under 50%
- Aggressive pension reform
  - Retiree COLAs generally suspended until 80% funded
    - COLAs limited to $25,000 of pension income
  - Current and new employees (except public safety) moved from **traditional** DB plan to **hybrid** retirement program
    - DB plan multiplier reduced from 1.7% – 3.0% to 1%
    - 6% of pay DC plan (5% employee, 1% employer)
  - $4 billion reduction in unfunded actuarial liability
    - About a 50% reduction
- Multiple lawsuits filed
  - Mediation unsuccessful
  - September trial scheduled

Security of Public Pensions

Prichard, AL and Central Falls, RI

- Prichard, AL
  - Twice filed for bankruptcy
  - Pension fund exhausted
    - Retirement payments stopped
    - Retirees now receiving about 1/3 of original payment
  - City attempting to emerge from bankruptcy
- Central Falls, RI
  - Filed (and exited) for bankruptcy
  - Up to 55% reduction for public safety employees
    - Not covered by Social Security
    - State reducing the cut to 25% for five years

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Security of Public Pensions

Detroit

"Pension benefits are a contractual obligation of a municipality and not entitled to any heightened protection in bankruptcy,"

"Impairing contracts is what the bankruptcy process does"

–Judge Steven Rhodes
US Bankruptcy Court
December 3, 2013

- Proposed pension impact (as of May 15, 2014)
  - Subject to 2/3 vote by participants
  - Public safety employees and retirees
    - No reduction in base benefit, reduced COLA
  - General employees and retirees
    - 4.5% reduction in base benefit, COLA eliminated
- Appeal filed with 6th circuit Court of Appeals on Detroit's eligibility for bankruptcy
  - Does a reduction in pension benefits void eligibility for bankruptcy?

Source: Detroit News, various dates

Security of Public Pensions

Wrap Up

- Underfunded public plans remain under pressure
  - New accounting rules place NPL on balance sheet
    - Increased balance sheet volatility
  - Credit rating agencies continue to scrutinize
- The security of public pension unclear
  - State protection/US bankruptcy conflict may be resolved by the Supreme Court
    - Detroit or some other jurisdiction
  - Absent bankruptcy, many pension plans have undergone benefit reductions for current and future members
- Ultimately, a truly secure public pension requires a well funded plan
  - Adequate funding remains a challenge for many jurisdictions


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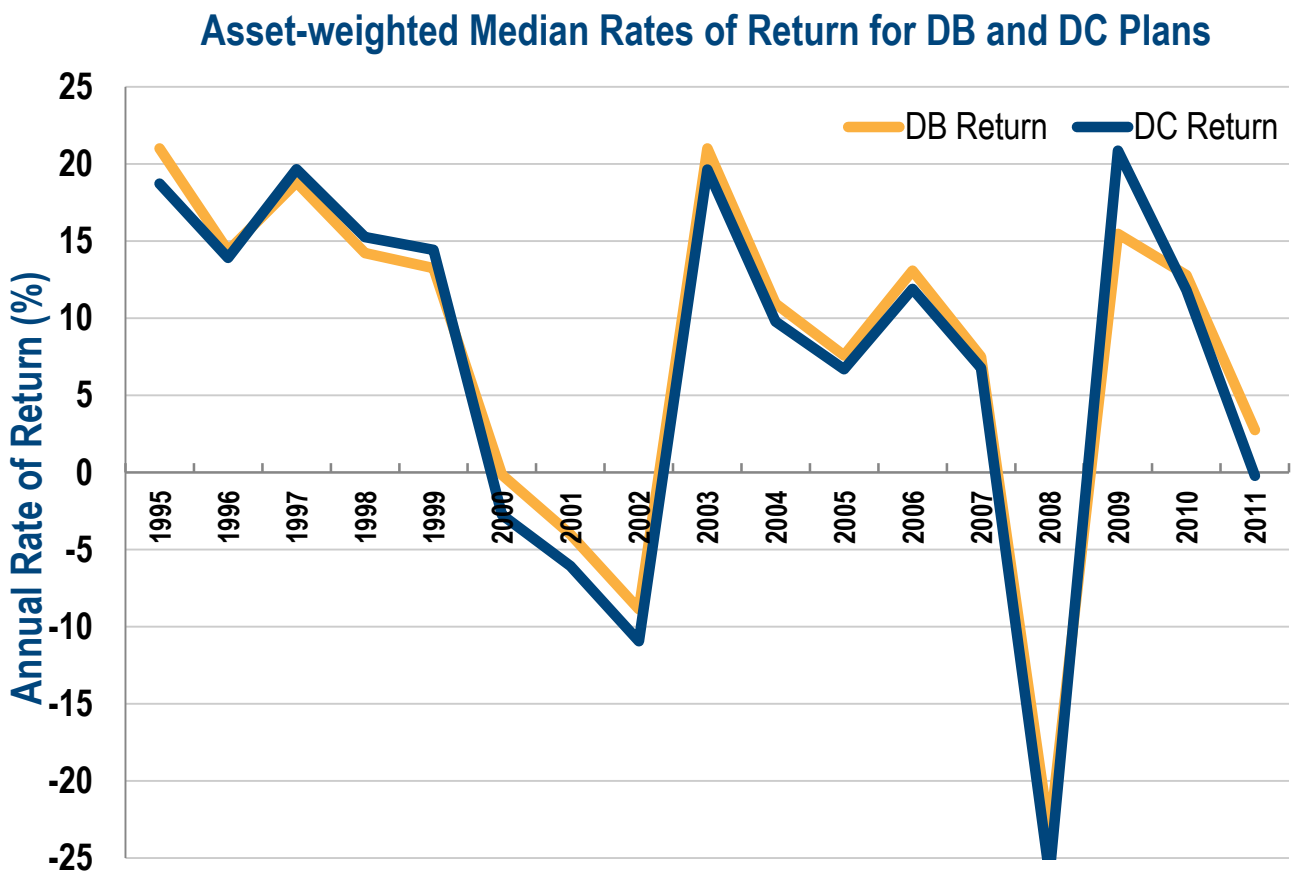
Defined Contribution Plans Beyond the Basics

DC Plans – Introduction

- A plan where
  - Participants have an account balance
  - All plan assets are allocated to participant accounts
    - DC plans are 100% funded by definition
- The account balance increases/decreases based on
  - Contributions made by employee and/or employer
  - Investment gains and losses
    - Investments generally employee directed
- Benefit levels are not guaranteed
  - Member assumes all investment risk/reward
  - Member assumes all longevity risk
  - Retirement, death and disability benefits limited to account balance

DC Plans – Investment Returns



	DB	DC	Difference
Average 1995 – 2011	8.01%	7.25%	0.76%
Average last 10 years	5.87%	5.01%	0.86%
Average last 5 years	3.01%	2.62%	0.39%

Source: TowersWatson, "Corporate Finance Matters," July 2013
2011 sample size of 2,080 private sector pension plans. Past performance is no guarantee of future results.

DC Plans – Design Trends

How to help participants achieve their goals

- Auto participation and escalation
  - FSA §112.171 permits public employers to make deductions from employee wages if authorized by the employee, but written authorization is not expressly required
- Decreased focus on "Do It Yourself" investing
- Increased focus on
  - Target date funds
    - Diversified portfolio generally with decreasing equity exposure as participant ages
  - Managed accounts
    - Investment decisions made for participant

The share values of Target Date Funds are not guaranteed at any time, including at or after each Target Date Fund's target year, which is the year when investors expect to retire and begin making gradual withdrawals. There is no guarantee that a Target Date Fund will provide adequate income at and through an investor's retirement or that the investor will have adequate savings for retirement. Target Date Funds' allocations change over time.

DC Plans – Generating Retirement Income

Insured Product Approaches

- Guaranteed Minimum Withdrawal Benefits (GMWBs)
  - A “balanced fund” investment option
  - Upside potential from equity exposure
  - Downside protection from capital loss
    - Insurance premium charged for protection
  - Lifetime income stream potential
    - Retain access to account balance
- Traditional fixed income annuities
  - Continued low acceptance
    - Low interest rate environment
    - Participant concern over premature death
    - Desire to not lock up capital
- Longevity Insurance
  - Deferred annuity – payments begin at age 80 or 85
  - Low market acceptance to date

DC Plan Design – Thinking Outside the Box

Introduction

- Most DC plan designs provide uniform benefits to all participant
  - Example
    - 10% of salary
    - 4% of salary with a 100% employer match of employee contributions (up to 3%)
- A wide variety of design options exist to meet broader jurisdiction goals
  - Retirement security still the primary goal

DC Plan Design – Thinking Outside the Box

Favoring Older and Longer Service Employees

- Benefit formulas don't have to be uniform
  - Service related formula
    - 5% of pay for first 10 years of service
    - 10% of pay for next 20 years of service
  - Age & Service related formula

Age and Service	Benefit
Less than 30	5%
30 to 50	8%
Over 50	10%

  - But backloading contributions reduces investment income opportunity
- Designed to
  - Reward service
  - Provide a more backloaded "DB" accrual pattern

DC Plan Design – Thinking Outside the Box

Building Retention and Attraction Features in a DC Plan

- Can be targeted to specific employee groups
  - In addition to primary DC contribution
- Hiring bonus
  - $5,000 (or 10% of pay) upon hire or academy graduation
  - 5 year graded vesting schedule (20% per year)
- Retention bonus
  - Every 5th year anniversary a bonus of $1,000 times service
    - $5,000 at 5th year
    - $10,000 at 10th year
    - $15,000 at 15th year
    - $20,000 at 20th year
  - Each retention bonus subject to 5 year graded vesting

DC Plans – Thinking Outside the Box

Other Design Features

- One-time DC contribution in lieu of annual pay raise
  - Immediate vesting
  - Not subject to FICA tax
- Motivating specific behavior
  - Measurable and actionable accomplishments
    - Reduced energy costs
    - Improved response times
    - Improved productivity
    - Attainment of special skills or certifications
  - Can be individual, department or jurisdiction specific
  - Meeting goal funds a contribution pool for the DC plan
    - In addition to primary DC contribution

Summary of Retirement Plan Features

Feature/Characteristic	Defined Benefit (DB)	Defined Contribution (DC)	Hybrid (DB and DC)
How is benefit determined?	Annuity based benefit formula	Value of account balance	Combination of annuity and account balance
Who funds?	Employer and (usually) employee	Same	Same
Are costs variable (% of pay)?	Yes	No	Yes
Can the plan be underfunded?	Yes	No	Yes
Transparency and bond rating concerns	Yes	No	Yes
Who is responsible for investment and longevity risk/reward?	Employer	Employee	Shared
Early retirement subsidies	Yes	No	Some
Post-retirement COLAs	Common	Based on account balance	Some
Who makes investment decision	Retirement system	Employee traditionally, could be retirement system	Shared or retirement system
Leakage (e.g., loans)	No	Yes, if allowed by plan	Yes, if allowed by plan
Portability	Limited	Yes	Some
Disability and death protection	Common	Limited to account balance, separate insurance may be required	Some

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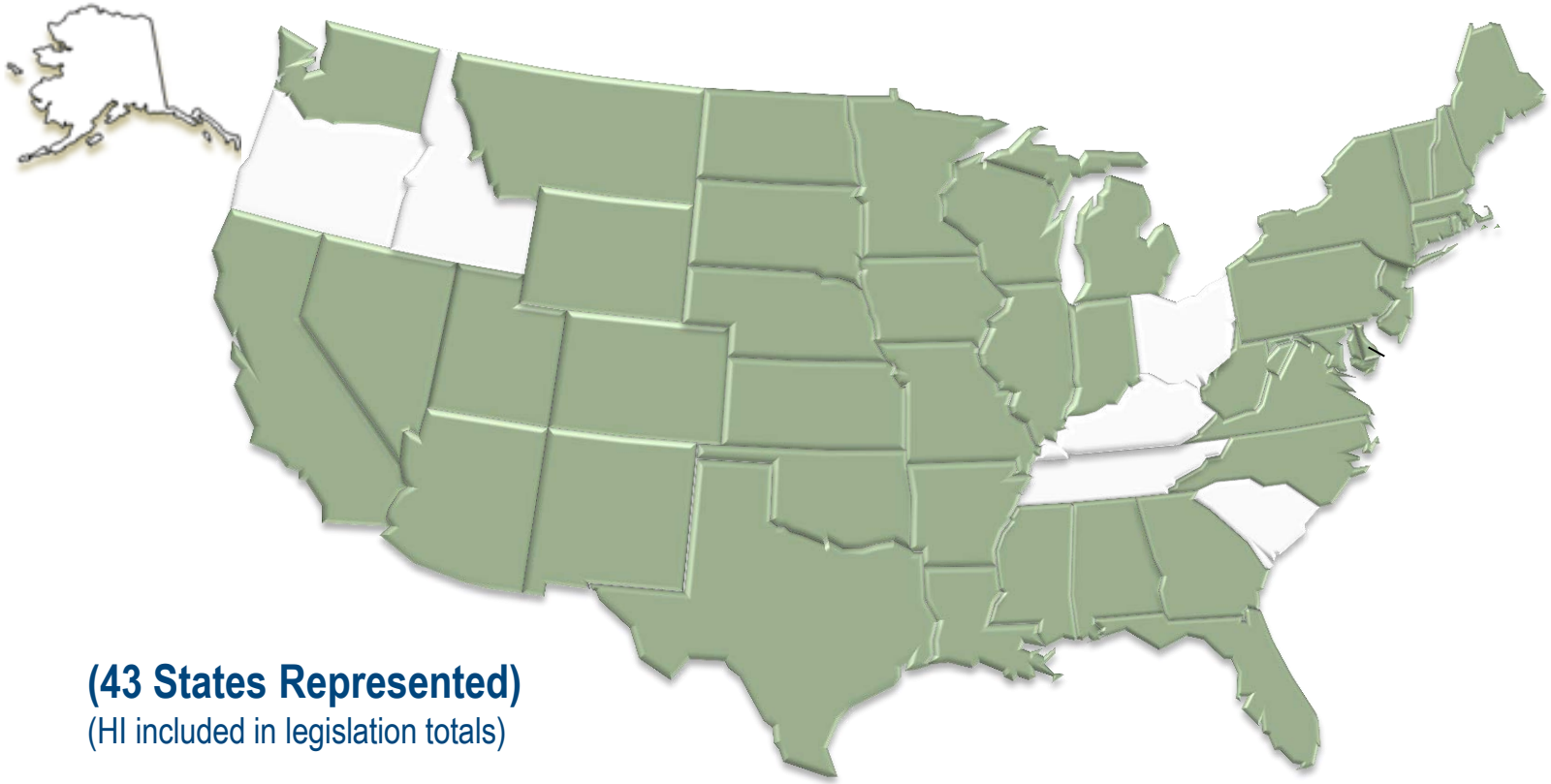
Recent Pension Reform Activity
State Level

Recent Pension Reform Activity

Introduction

Major Pensions Legislation in 2009 – 2011



(43 States Represented)
(HI included in legislation totals)

Source: National Conference of State Legislatures

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Pension Reform Approaches

DB Centric

- May reduce COLAs for current employees and retirees
- New benefit tier for new hires only
  - Common design elements (may impact current employees)
    - Reduced benefit multiplier
    - Increased unreduced retirement age
    - Increased employee contributions
    - Increased vesting
    - Reduce pension spiking opportunities
      - Increase averaging period
      - Limit pensionable pay definition
- Cost impact
    - COLA reduction – big
    - Lower benefits for new hires – emerges over time
- Examples
  - Alabama, California, Illinois, New York, Wyoming

Pension Reform Approaches

DB/DC Hybrid

- Combination of
  - DB plan with reduced DB benefit multiplier
    - Typically 1.0% to 1.5%
    - COLA may be less generous or eliminated
  - DC plan with employer contributions
    - Typically a combination of
      - Employer mandatory contributions
      - Employer matching contributions
    - Mandatory employee contributions common
- Examples
  - Rhode Island – new and current employees
  - Virginia – new hires only

Net Pension Liability Allocation

DB Cash Balance Plan

- Cash balance plans are DB plans that "look like" DC plans
  - All financial aspects of DB plans remain
  - Investment risk/reward remains with employer
- Benefit communicated as an account balance
- Examples

Cash Balance for New Hires	Kentucky	Kansas
Credits		
• Employee contribution	5%	6%
• Employer contribution	4%	1 – 4 yrs = 3% 5 – 11 yrs = 4% 12 – 23 yrs = 5% 24 yrs+ = 6%
"Investment earnings"		
• Guaranteed minimum	4%	4%
• Employer contribution	75% of 5-yr. average actual return over 4%	0% to 4% based on annual fund earnings and funded status

Source: Kentucky and Kansas Retirement Systems

Pension Reform Approaches

Choice

- Utah example
- For new hires only
  - Employee makes one-time election between:
    - DC plan (10% employer contribution), or
    - Hybrid plan (default choice)
      - DB plan with 1.5% multiplier, funded up to 10% by employer
      - Difference between 10% and employer contribution to DB plan, if any, contributed to DC plan
  - If DB costs rise above 10%, employee pays difference
  - Additional 2% for public safety employees

Pension Reform Approaches

Wrap Up

- Each jurisdiction's issues and solutions are unique
- Typically involves both benefit and funding reform
- Debate about DC plans as primary retirement plans
  - Mandatory DC retirement programs in DC (1987), Michigan (1997) and Alaska (2006)
    - Oklahoma considering
  - Since 2008, a number of municipalities have adopted DC only retirement programs, primarily for new hires
- Easier to implement plan change for new hires
  - Reduced litigation risk and resistance
  - Funding relief is slowly phased in
- Major reform can impact active employees and retirees


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Questions and Feedback

THANK YOU

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