National Institute on Retirement Security

Reliable Research. Sensible Solutions.

What Makes a Strong Public Pension System?

Webinar | June 17, 2026

Agenda

- Logistics
- Speaker Introductions
- What Makes a Strong Pension Presentation & Conversation
- Q&A

Logistics

- Attendees in listen-only mode.
- Submit questions via Q&A function throughout presentation.
- Recording in progress.
- Replay will be available at www.nirsonline.org.events

Today's Speakers

Dan Doonan

Executive Director

National Institute on Retirement Security

Bill Hallmark

Consulting Actuary

Cheiron

Bonnie Rightnour

Consulting Actuary

Cheiron

Key Pillars

A Strong Public Pension System

Benefit Policy

Defines what benefits are provided to employees

Contribution Policy

Sets employee and employer contribution amounts and timing

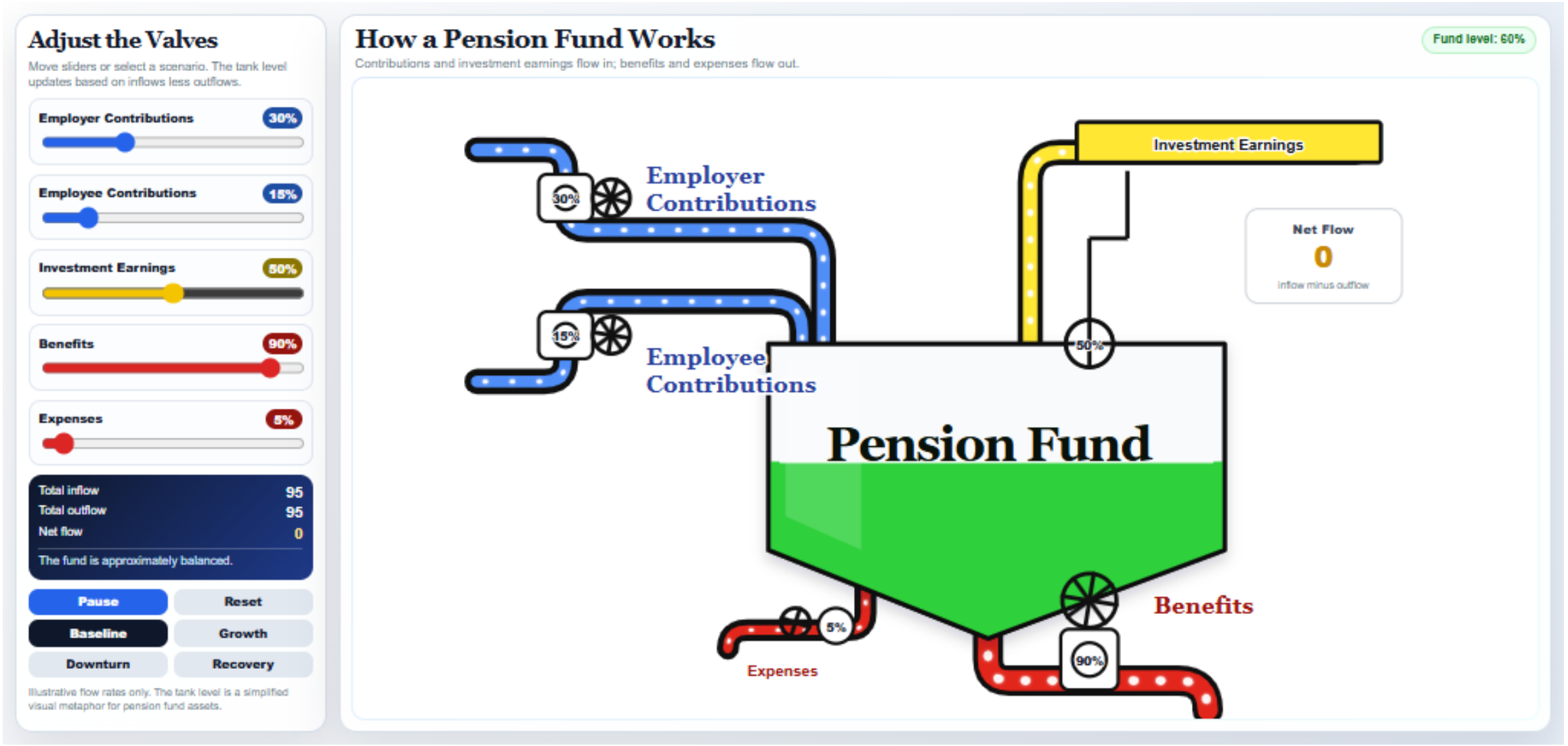
Investment Policy

Determines expected return and the level of risk taken

Governance

Oversight, Accountability, and Stewardship

Contributions + Investments = Benefits + Expenses

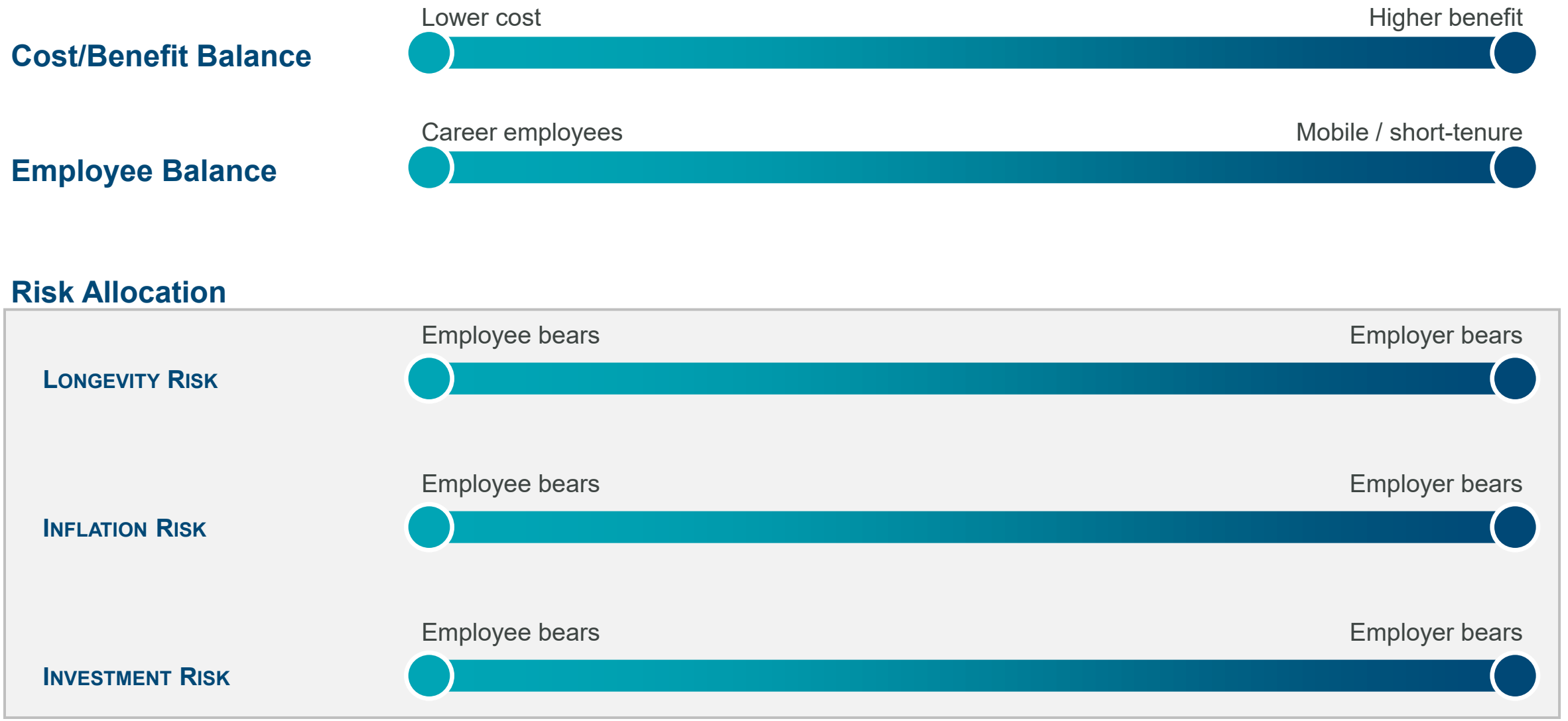


Based on a diagram published in Harvard Business Review, 1965

Interactive Version

Benefit Policy

Key Trade-Offs in Retirement Benefit Policy



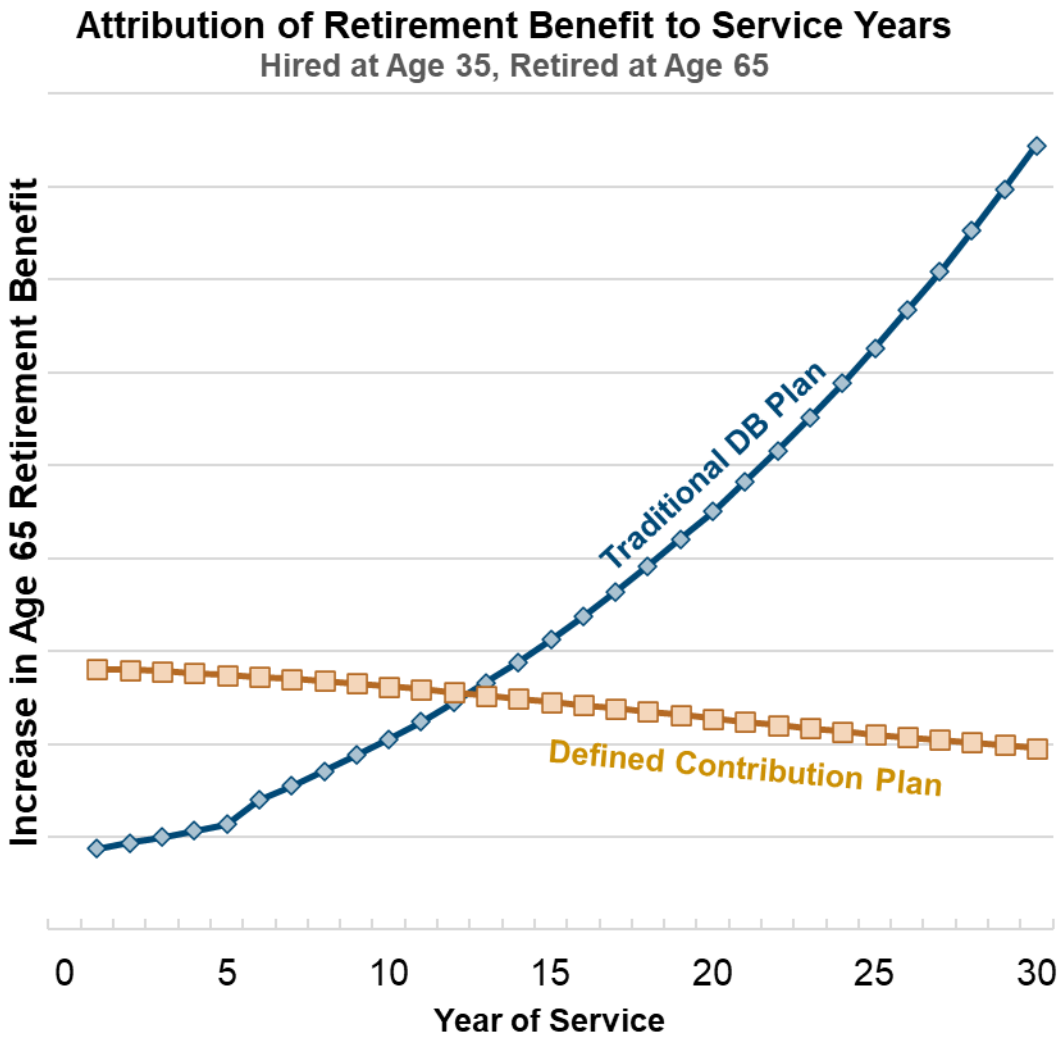
Cost Versus Benefit Level

Fundamental Law: C + I = B + E

- For Benefits to be higher, Contributions and/or Investment Earnings have to be higher
  - Some gains can be made by reducing expenses, but expenses are normally a small piece of the equation
- If contributions are fixed, benefits must be variable
- If benefits are fixed, contributions must be variable
- Maximizing investment earnings increases benefits and/or decreases contributions

Benefit Accrual Patterns

- Traditional DB plan rewards career employees
  - Highest average salary
  - Significant value earned late in career
    - Application of salary increases to all prior years of service
    - Shortened period until retirement
- Traditional DC plan rewards young, short-term, and mobile employees
  - Most powerful contribution is when an employee is young with many years to accumulate earnings
  - Changing jobs doesn't affect retirement benefit

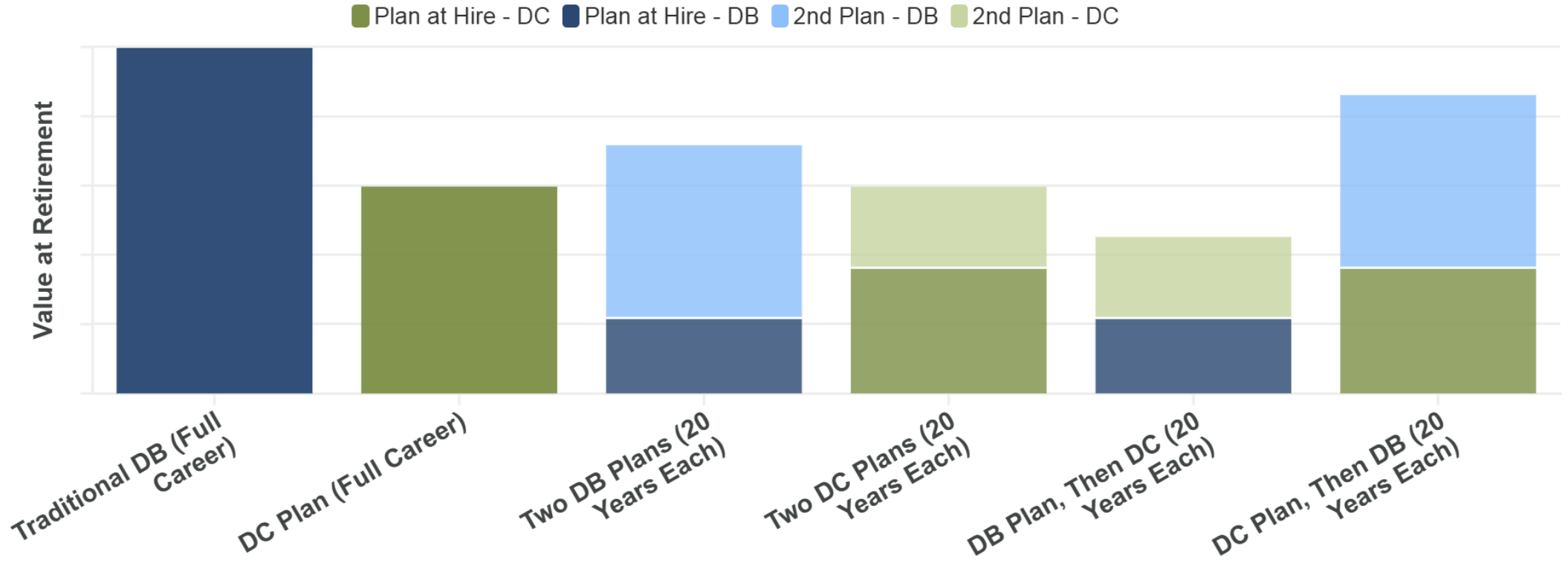


Benefit Accrual Pattern – Impact of Job Changes

Illustration of Portability Impacts

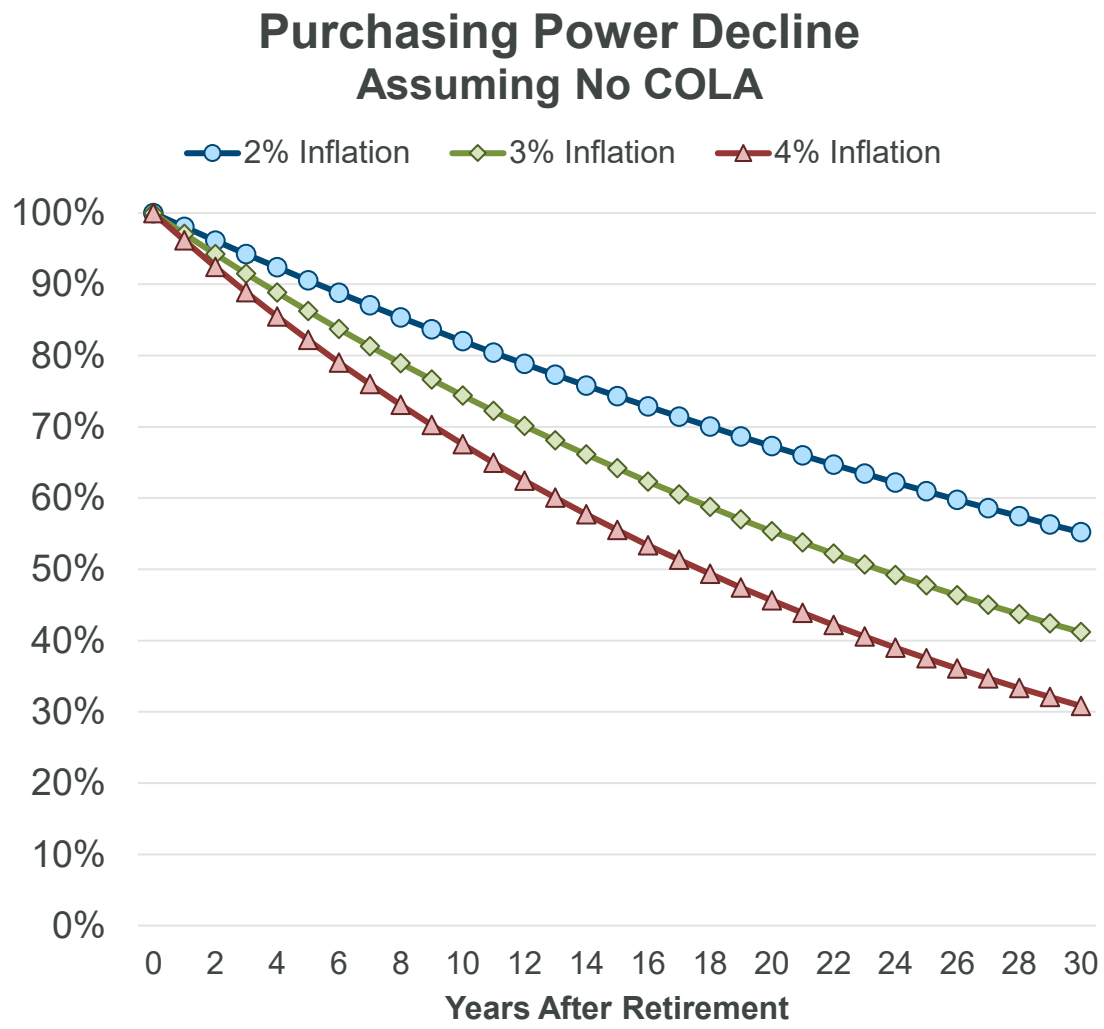
Employee Hired at Age 25, Retired at Age 65

All | DB vs DC | One vs Two DBs | One vs Two DCs | DB/DC vs DC/DB



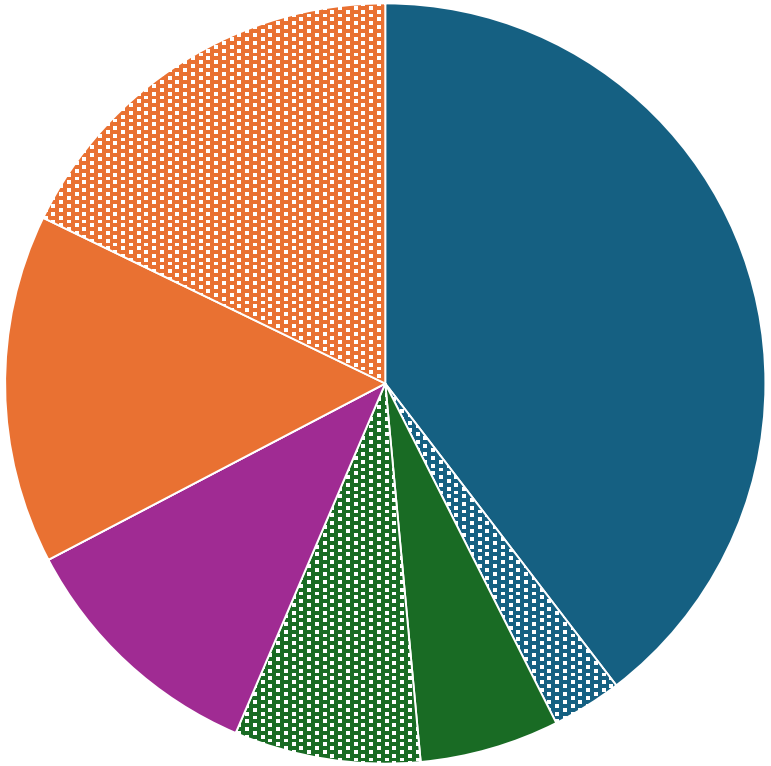
Preserving Purchasing Power

- COLAs – simple or compound
- Inflation-based COLAs
  - Full or partial based on CPI
  - Can have a floor or a cap
- Investment-return-based COLA
  - Based on the plan's actual investment return compared to a "hurdle rate"
  - Usually, there is a minimum and a maximum
- Other contingencies
  - Based on plan's funded status
  - Maintain minimum purchasing power



NASRA Issue Brief COLA

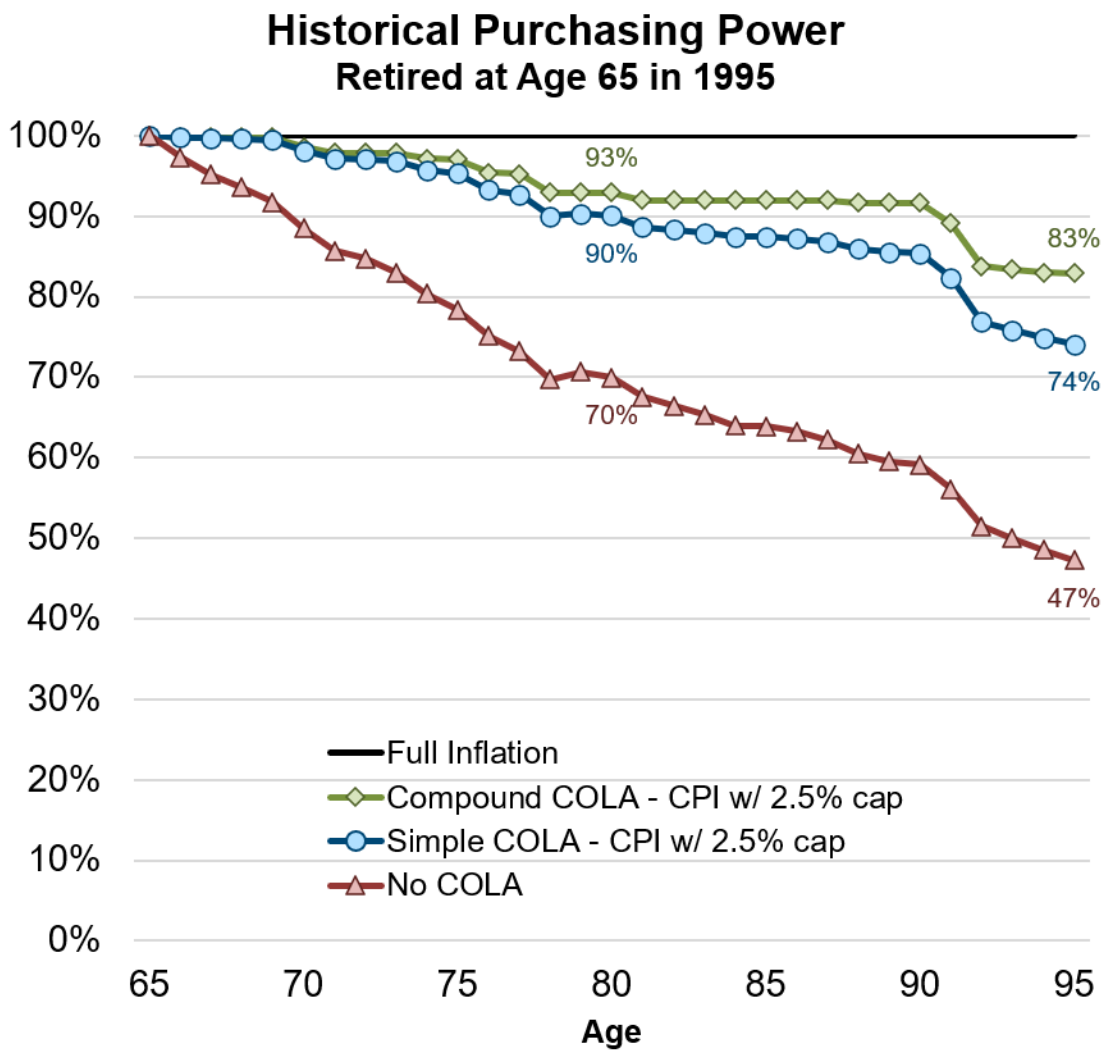
For the 101 Systems that offer a COLA, over half are tied to inflation

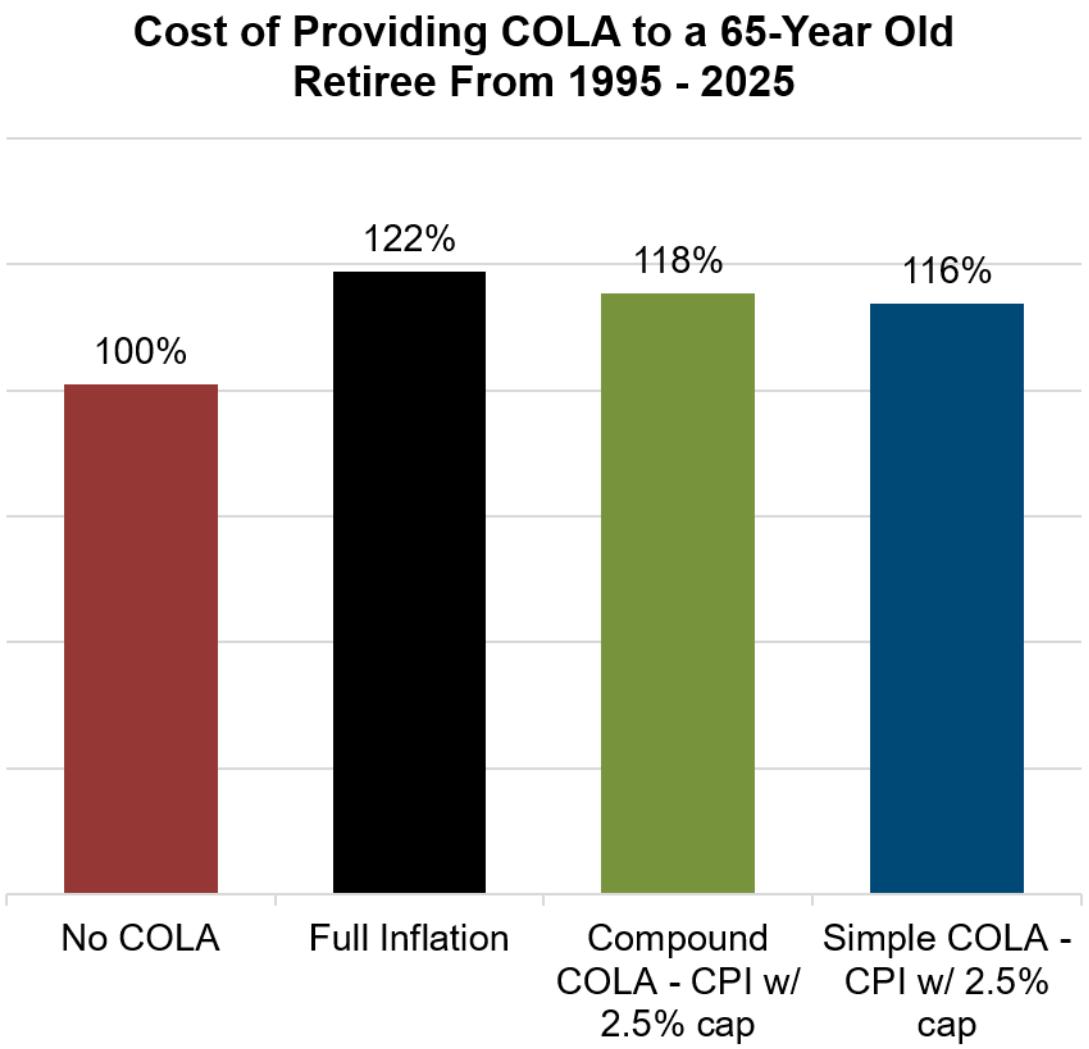


Solid Fill = Automatic, Shaded Fill = Ad-hoc

- Linked to Inflation
- Linked to investment or funding factors
- Linked to CPI and investment or funding factors
- Fixed percentage or other factor

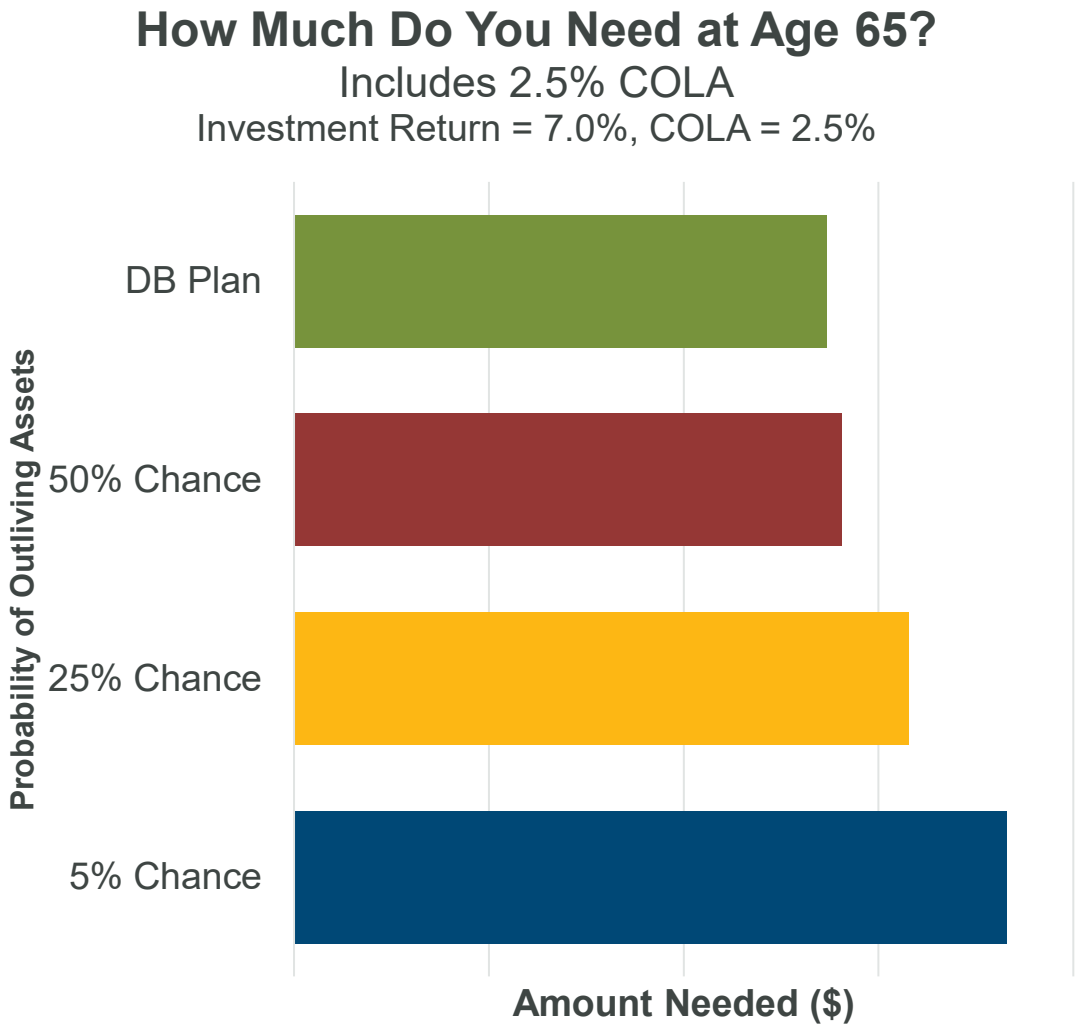
Historical Cost of Purchasing Power Protection





Benefit Risks – Efficiency of Pooling

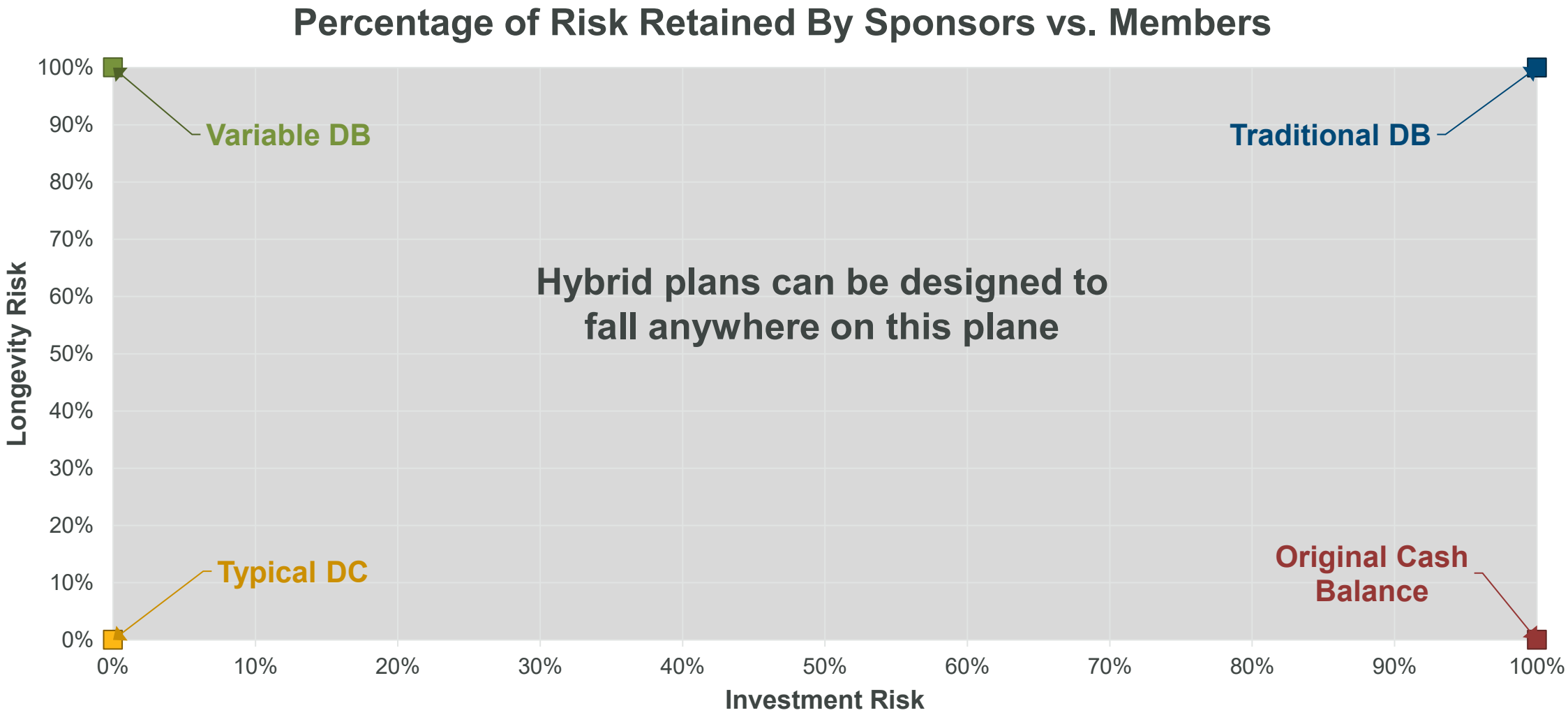
- Pooling is efficient if:
  - Members are subject to similar risk
  - Risk is relatively rare and unpredictable
  - Economies of scale
- Examples
  - Disability
    - Difficult for individuals to bear risk
    - Hazardous occupations may need to be pooled separately
  - Longevity
    - Difficult for an individual to predict, but they may know their risk level
    - Pooling is efficient for providing lifetime income, but reduces bequests



Four Corners of the Benefit Design Spectrum

Typical DC	Variable DB	Original Cash Balance	Traditional DB
• Contribution amounts are defined by the plan, usually as a percentage of pay • Benefits depend on contributions throughout an employee's career and investment returns	• Annual accrual of benefit at retirement is defined as a percentage of annual pay • Accumulated accruals (including in retirement) are adjusted for investment returns above or below a "hurdle" rate of return	• A percentage of annual pay is credited each year to a cash balance account • Cash balance account is increased each year for interest based on an index (e.g., yield on 30-year Treasury)	• Annuity benefit defined as a percentage of final average earnings multiplied by service at retirement • Contributions are actuarially determined and vary depending on investment returns and other experience

Longevity and Investment Risk Allocation



Benefit Risk Management – Rebalancing Need

Pre-Retirement

- Salary freezes, reductions in force, and hiring freezes
- New reduced benefit tiers or accruals
- Changes in retirement age
- Employee contribution increases – can sometimes result in intergenerational inequity if employee contribution exceeds normal cost

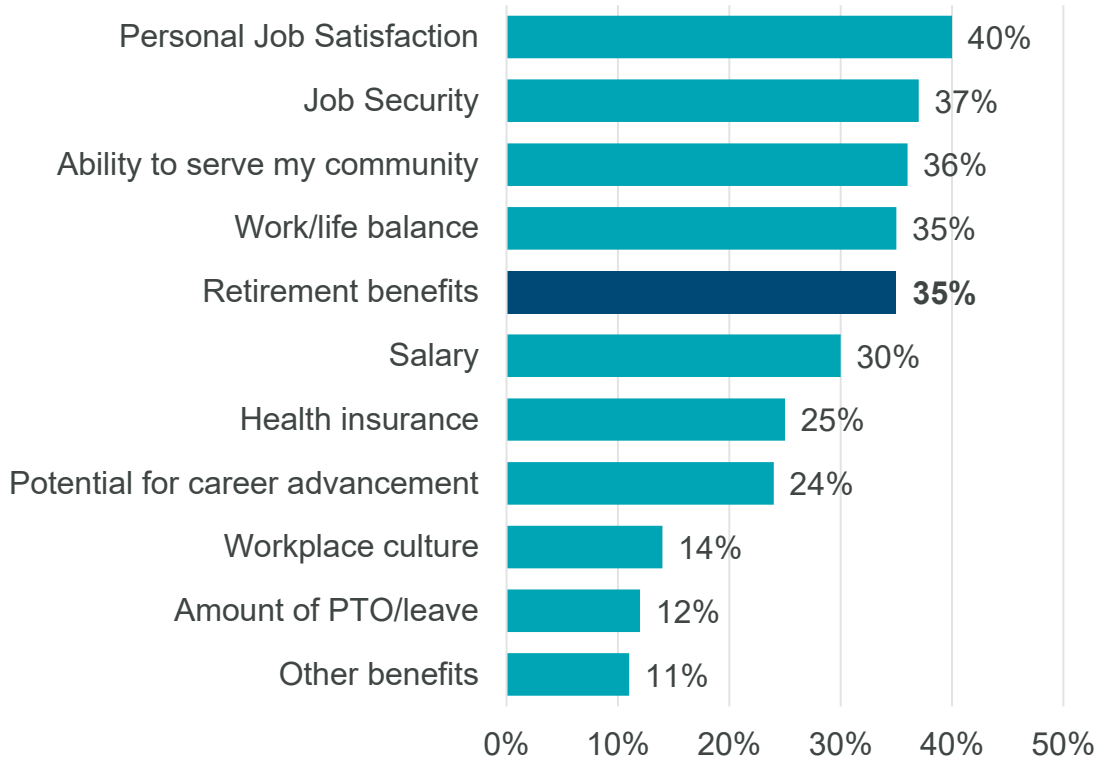
Post Retirement

- COLA reduced or eliminated (generally prospectively but could also apply retrospectively for previously awarded COLAs) for:
  - Current retirees
  - New retirees
  - New hires

Employee Insights From Colorado Survey

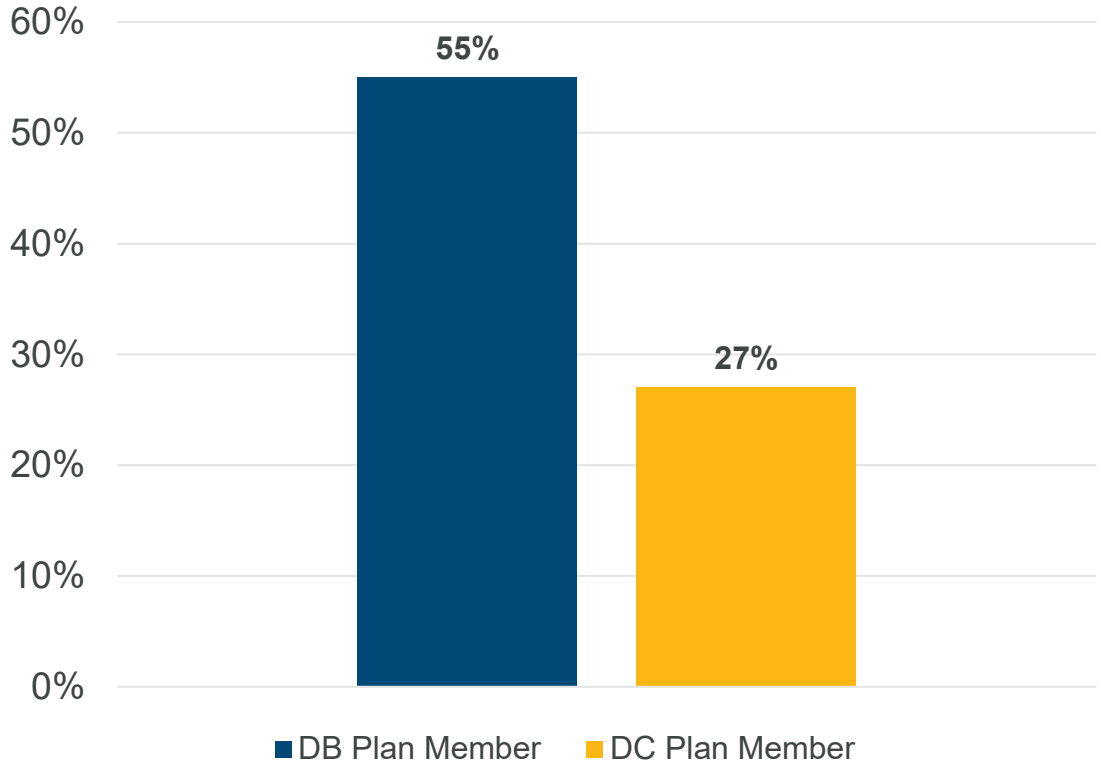
Attraction

Ranked in Top 3 Factors Attracting Workers to CO State Jobs



Retention

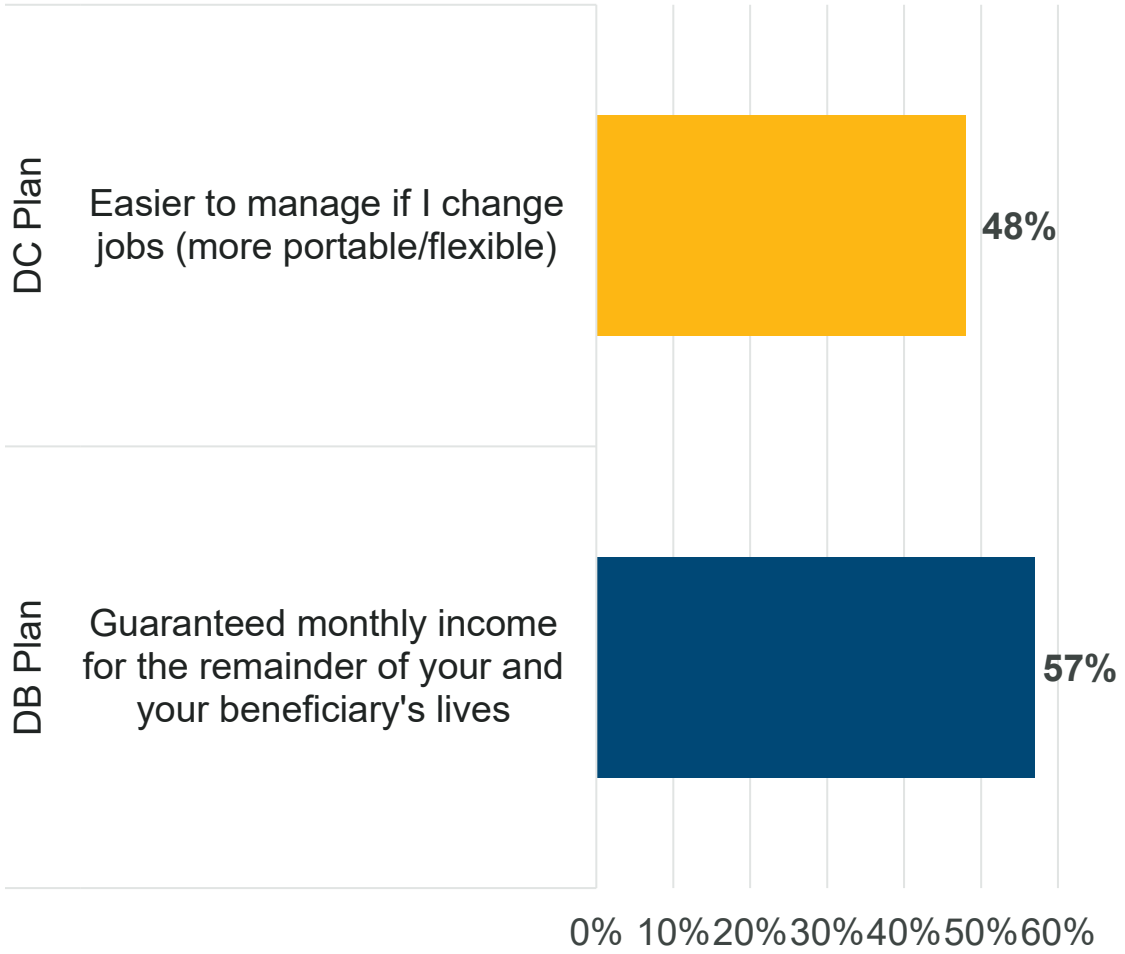
Retirement Benefits Are Major Factor For Remaining



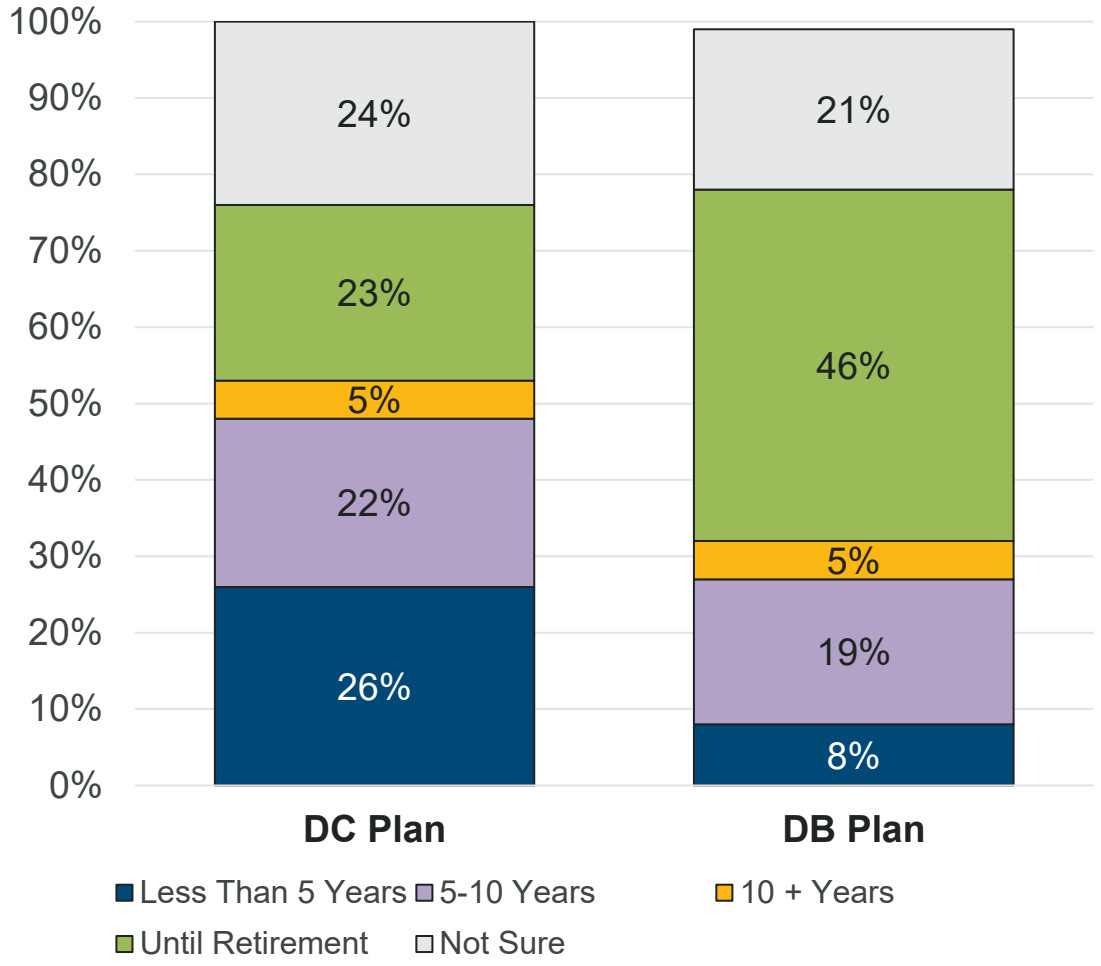
[Colorado PERA Hybrid Defined Benefit Plan Study]

Colorado Survey Insights – DB vs. DC

Top Reason For Choosing a Plan



Expected Tenure at Hire



[Colorado PERA Hybrid Defined Benefit Plan Study]

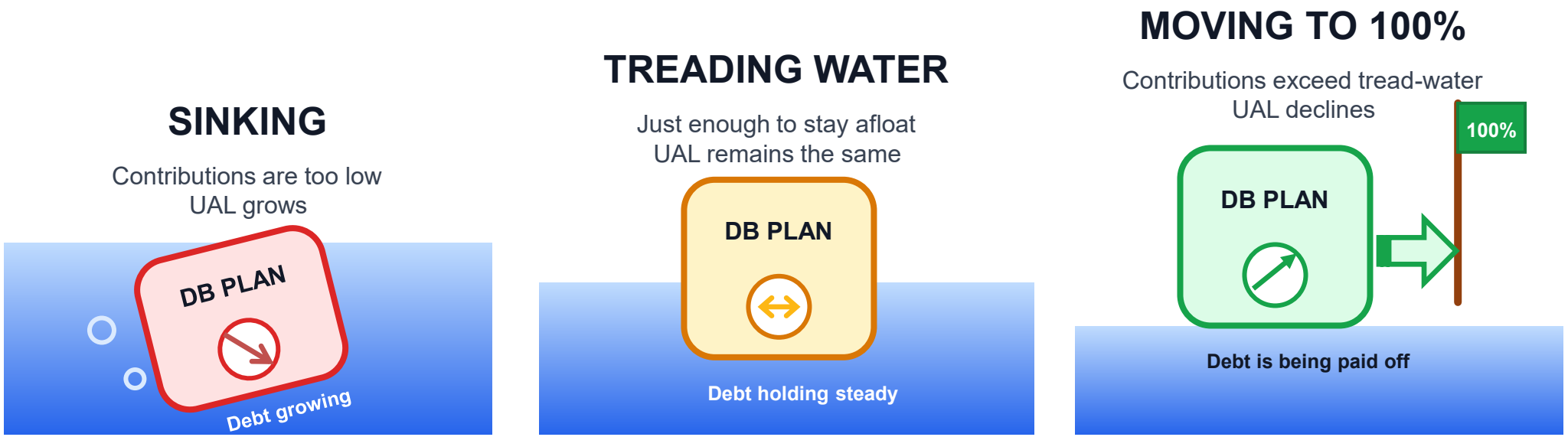
Benefit Policy Discussion

- Replacement Income Targets at Various Retirement Ages
- Career vs Mobile Employees
- Lifetime Income
- Inflation Protection and COLAs
- Investment Risk Sharing

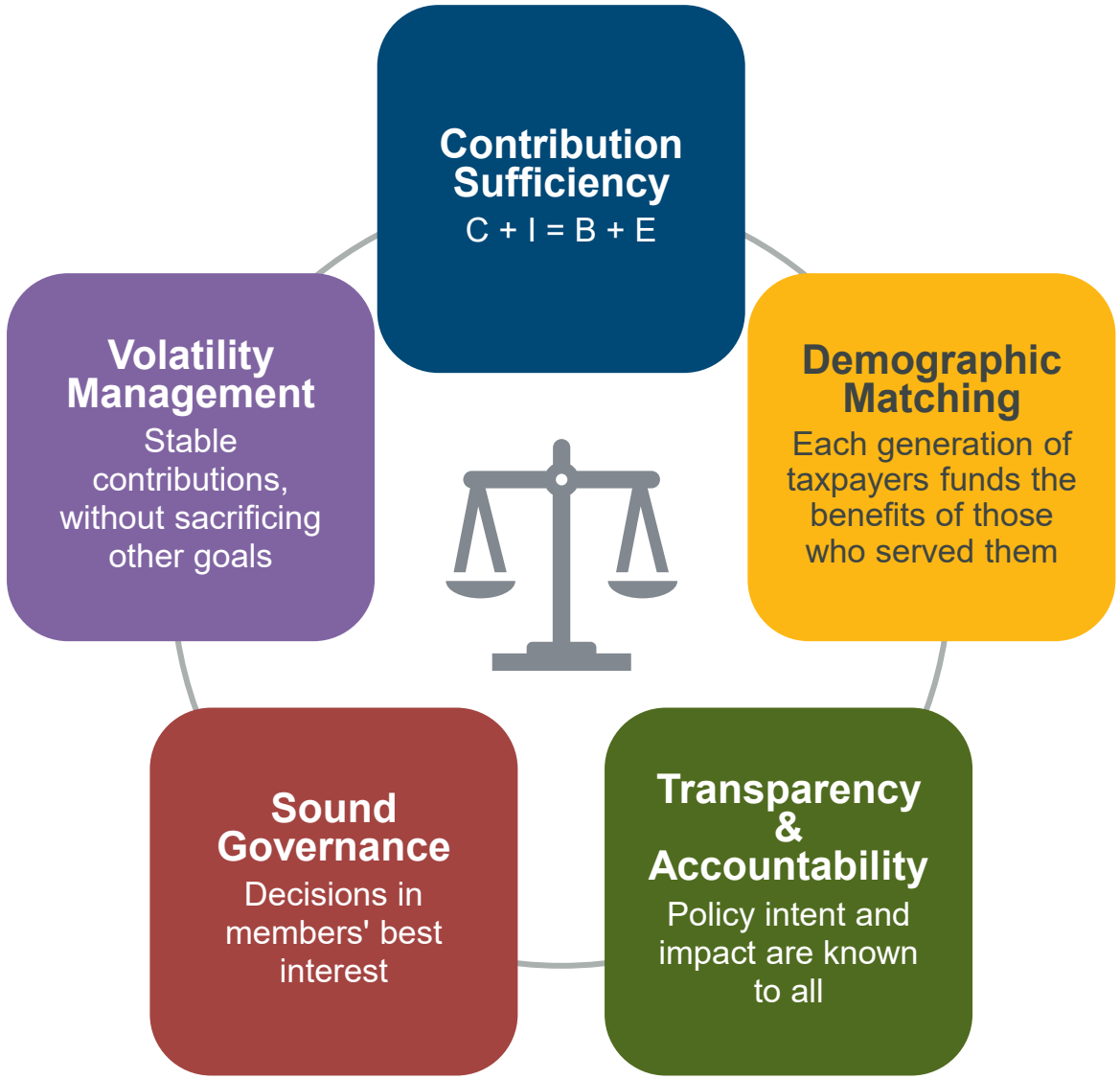
Contribution Policy

Treadwater Contribution Level

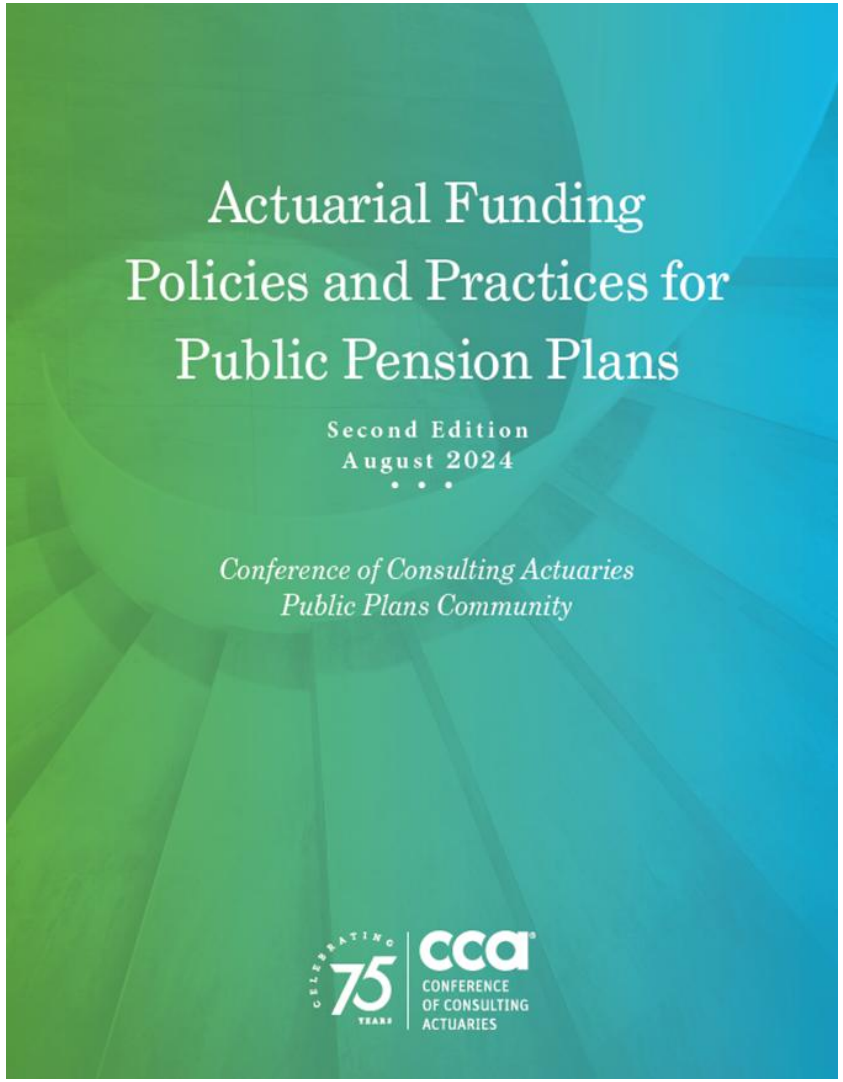
- Treadwater contribution equals the Normal Cost (annual accruals) + the Interest on Unfunded Actuarial Liability (UAL). It is the contribution amount needed to prevent the UAL from growing if all assumptions are met.



Funding Policy Objectives



Model Contribution Policy



Actuarial Cost Method	• Entry Age cost method with level percentage of pay normal cost
Asset Smoothing Method	• 3- to 7-year fixed smoothing periods with appropriate corridor
Amortization Method (other than surplus)	• Layered, fixed-period amortization by source • Level or declining percent of pay
Experience Gain or Loss	• 15 to 20 years
Assumption Changes	• 15 to 25 years
Active Plan Amendments	• Active demographics (up to 15 years as an approximation)
Long-Term Inactive Plan Amendments	• Inactive demographics (10 years as an approximation)
Short-Term Inactive Plan Amendments	• 5 years or less

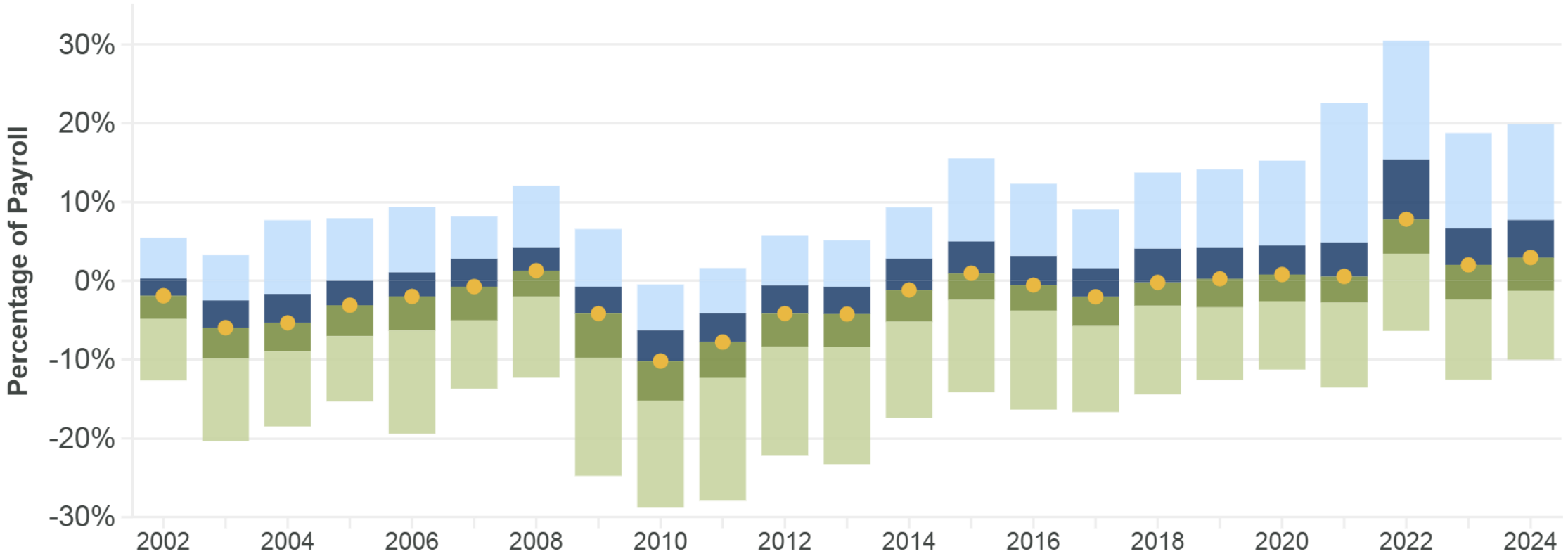
More Plan Contributions Are Exceeding Tread Water

Distribution of Unfunded Paydown Rates

Unfunded Paydown Rate = Total Contribution Rate - Tread Water Rate

Gold dot = Median

Percentiles of Distribution: 5th to 25th; 25th to 50th; 50th to 75th; 75th to 95th

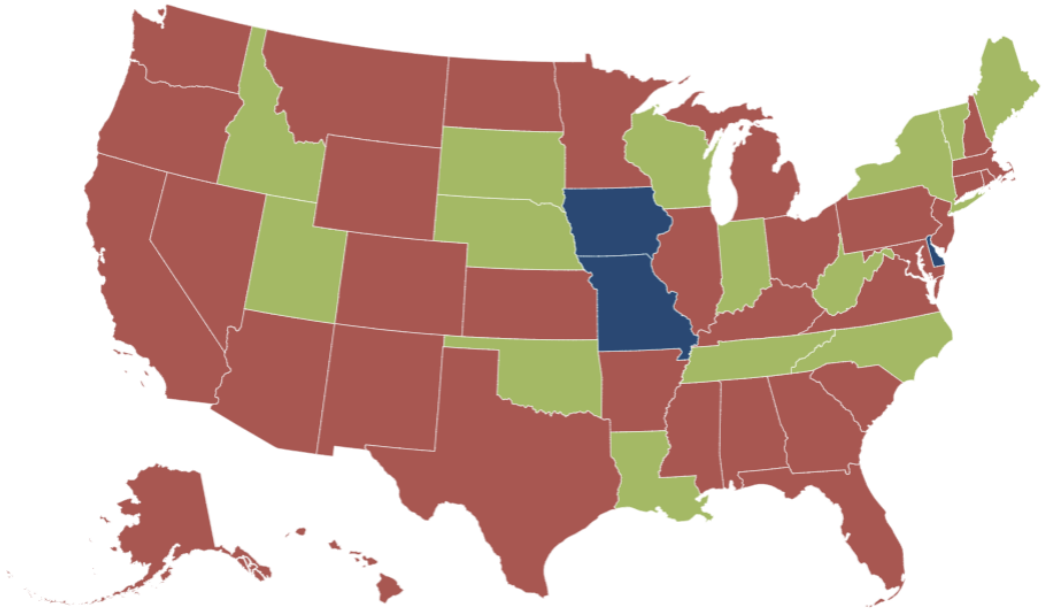


Most State Plans Now Have Positive Net Amortization

2014 Net Amortization by State

33 Negative, 3 Stable, and 14 Positive

Negative Stable Positive

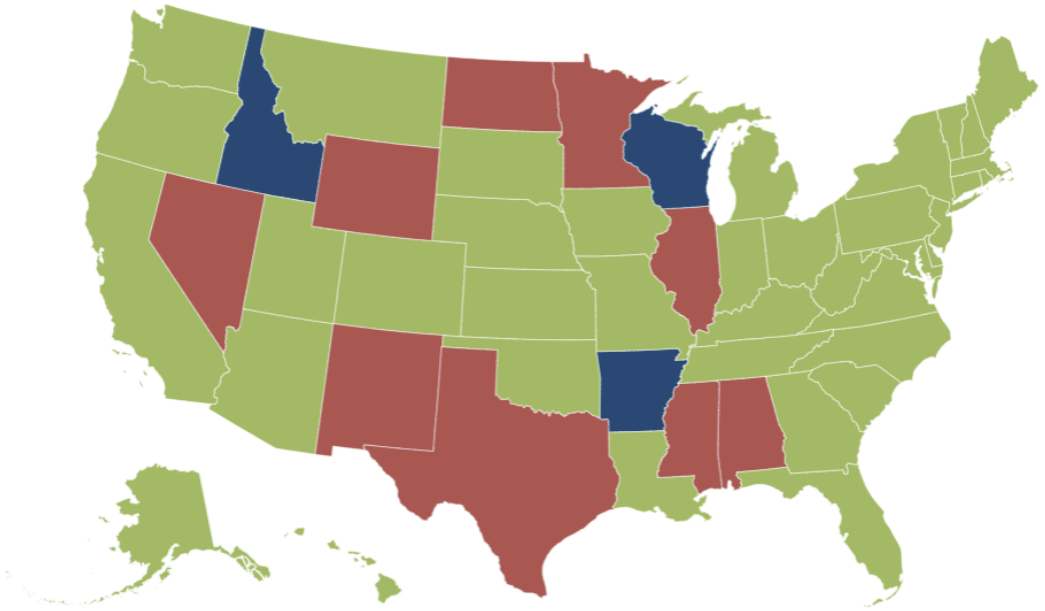


Source: The Pew Charitable Trusts: Funded Ratios Increased in Most States in Fiscal Year 2014 •
Stable = Between 95% and 105% of Net Amortization

2023 Net Amortization by State

9 Negative, 3 Stable, and 38 Positive

Negative Positive Stable

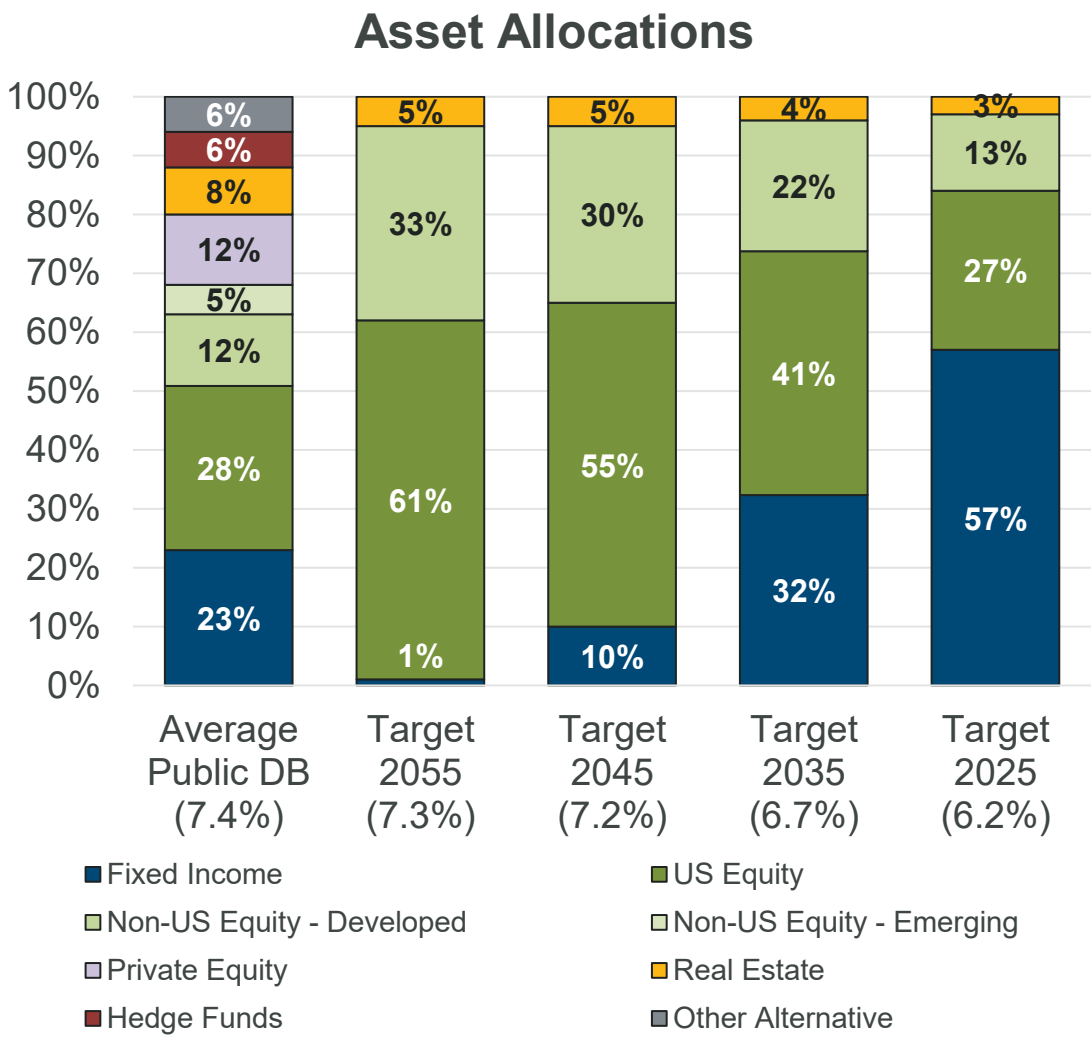


Source: The Pew Charitable Trusts: State Pension Funding Levels Stayed Stable Despite Volatility •
Stable = Within 0.5% of Payroll of Net Amortization

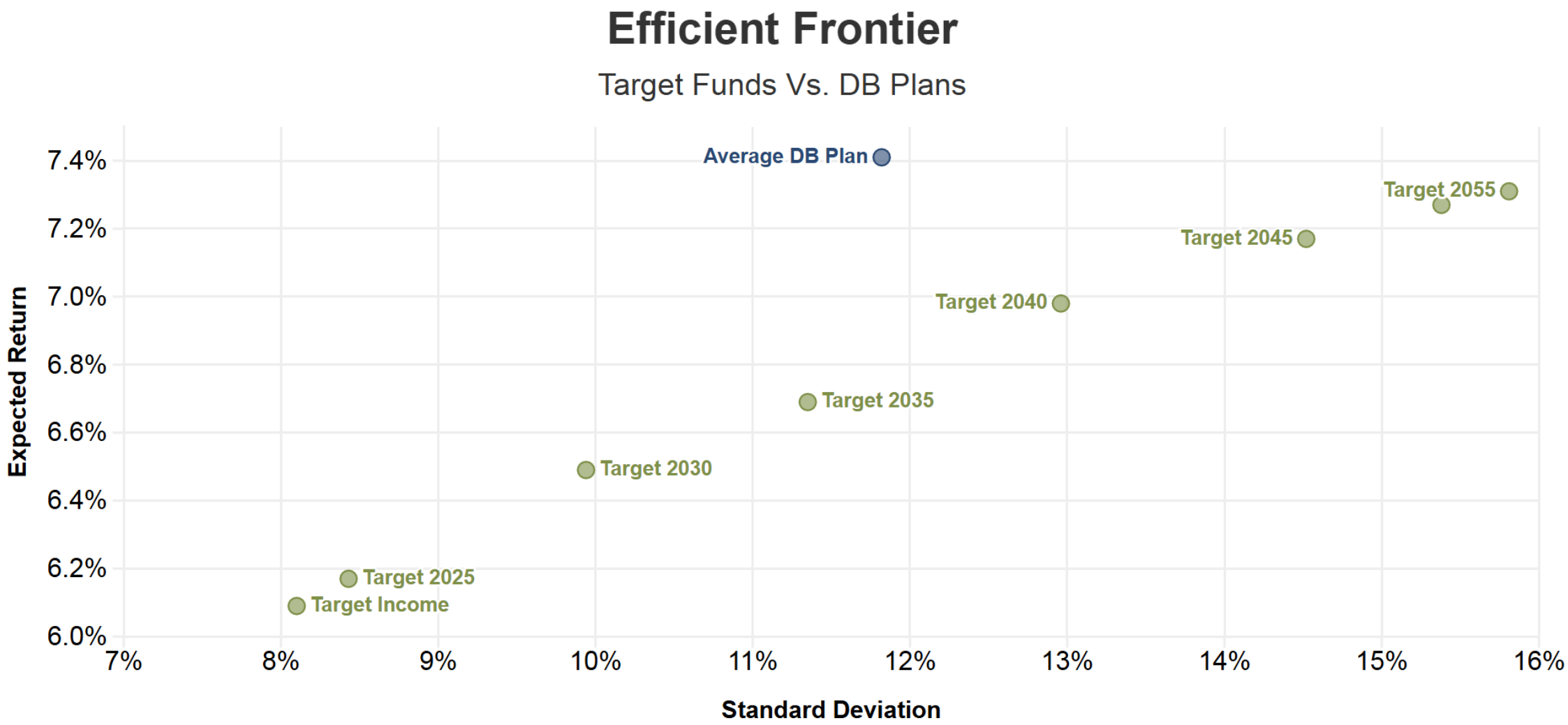
Investment Policy

DB vs. DC Professionally Managed Investments

- Target date funds represent a recommended investment strategy for DC plan members
  - Aggressive at younger ages
  - Becomes more conservative as the member nears retirement
- Expected return for the average public DB plan is higher than any of the target date funds
  - Target date funds don't use illiquid asset classes
  - Public DB plans can maintain a long investment horizon

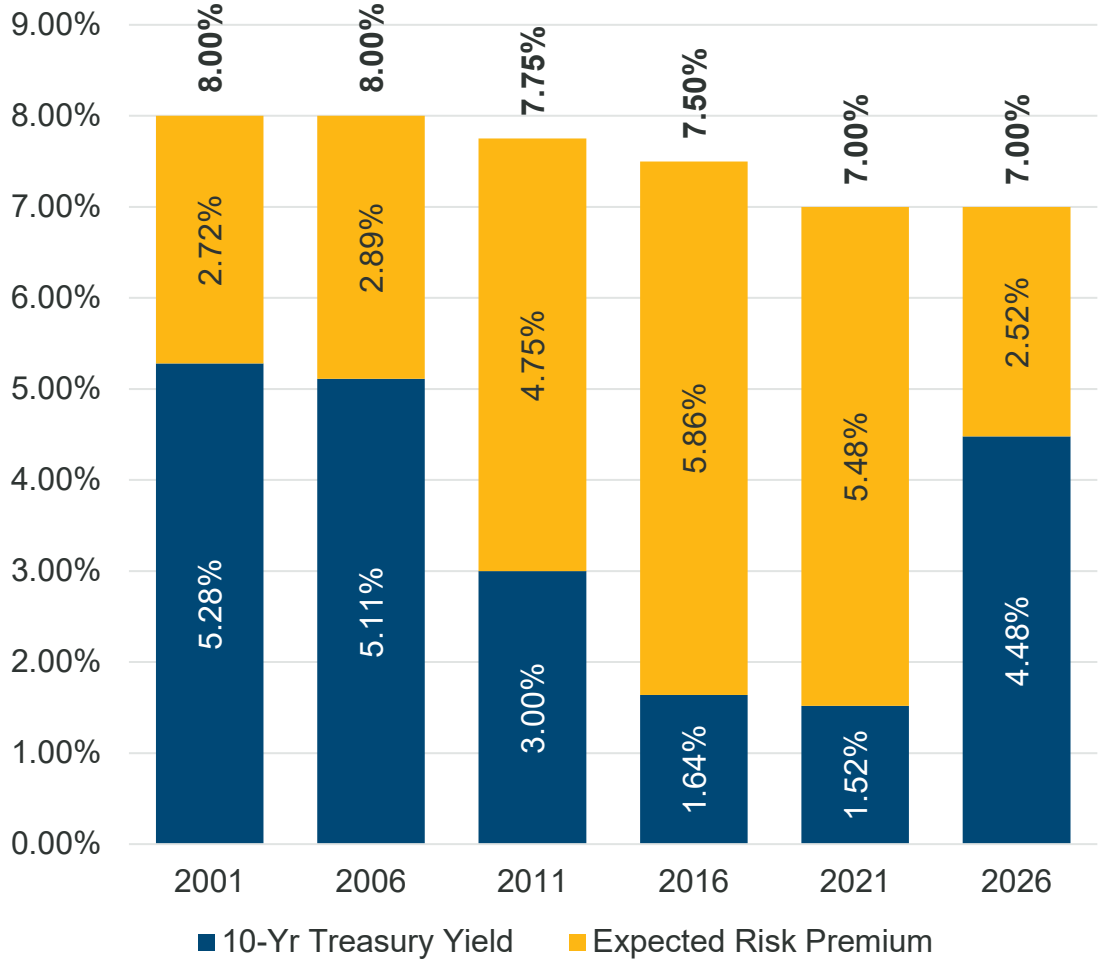


DB Plans Can Be More Efficient

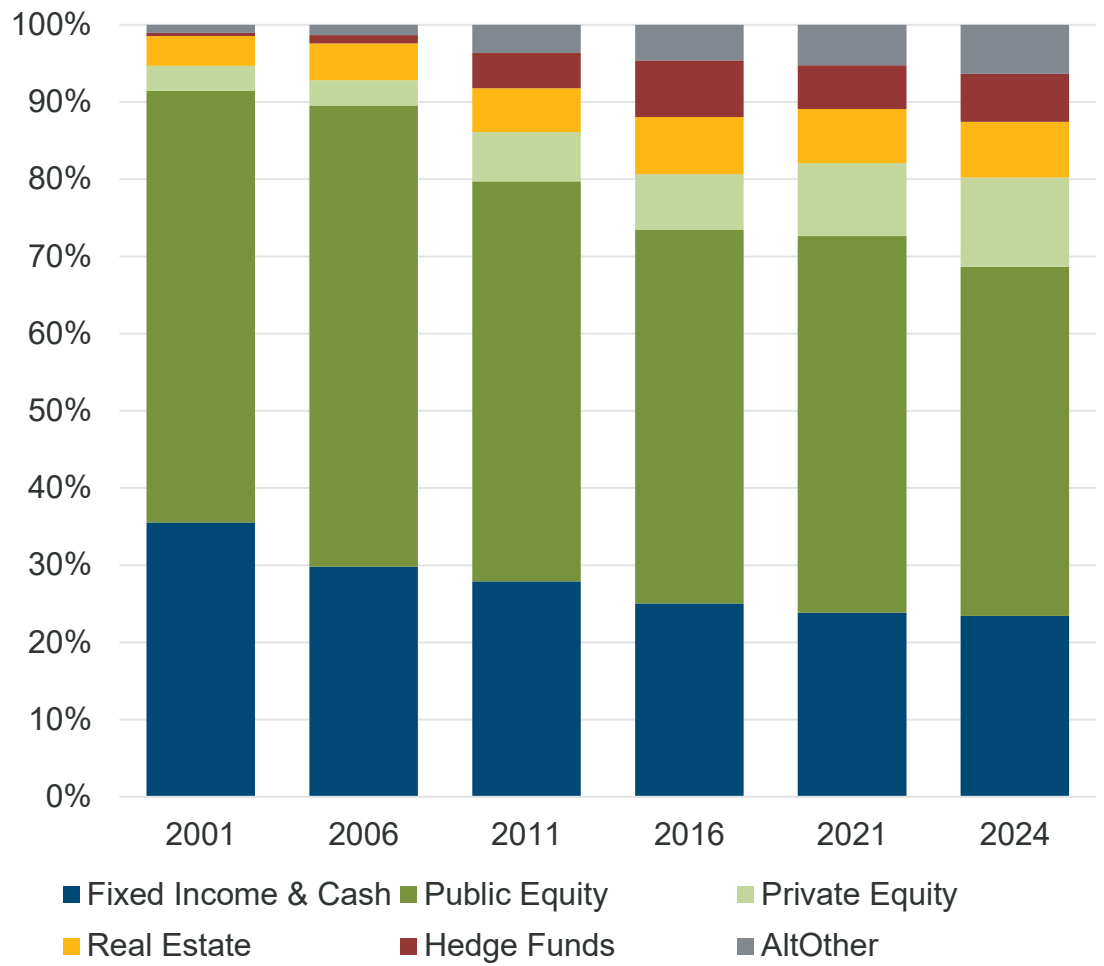


Interest Rates, Expected Returns, and Asset Allocations

Median Plan's Discount Rate

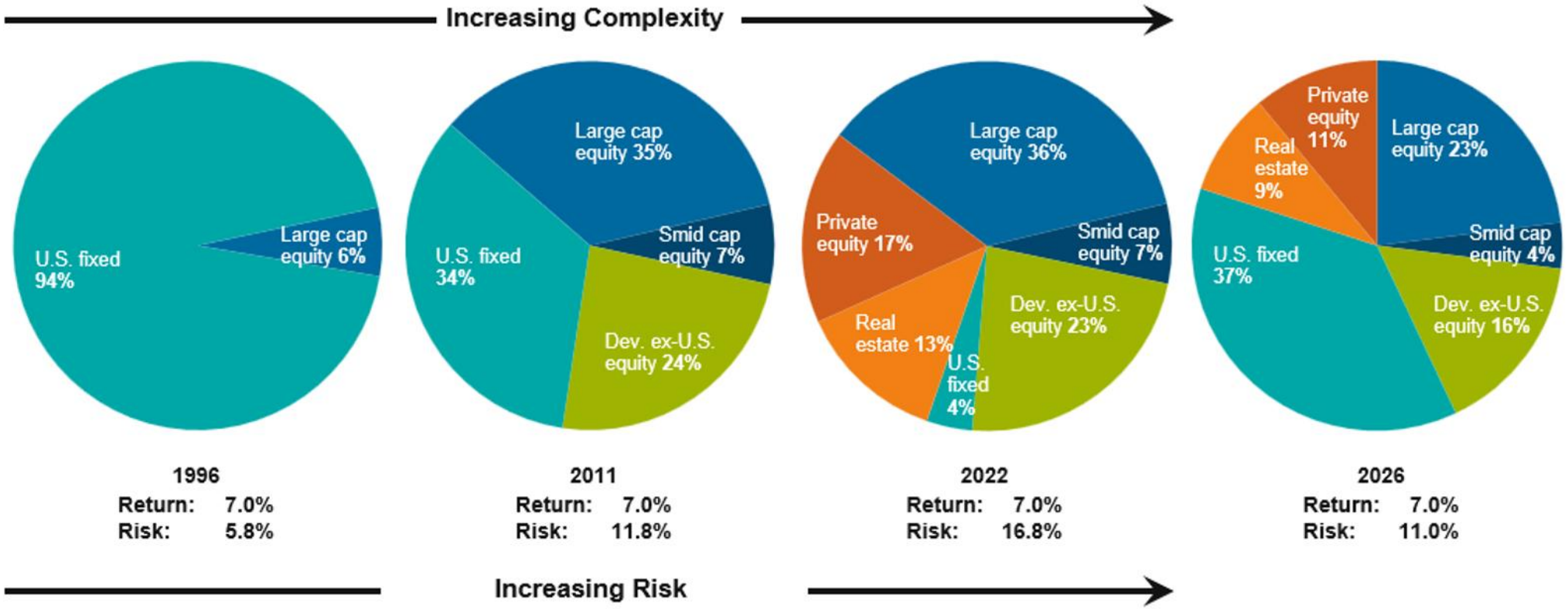


Average Plan's Asset Allocation



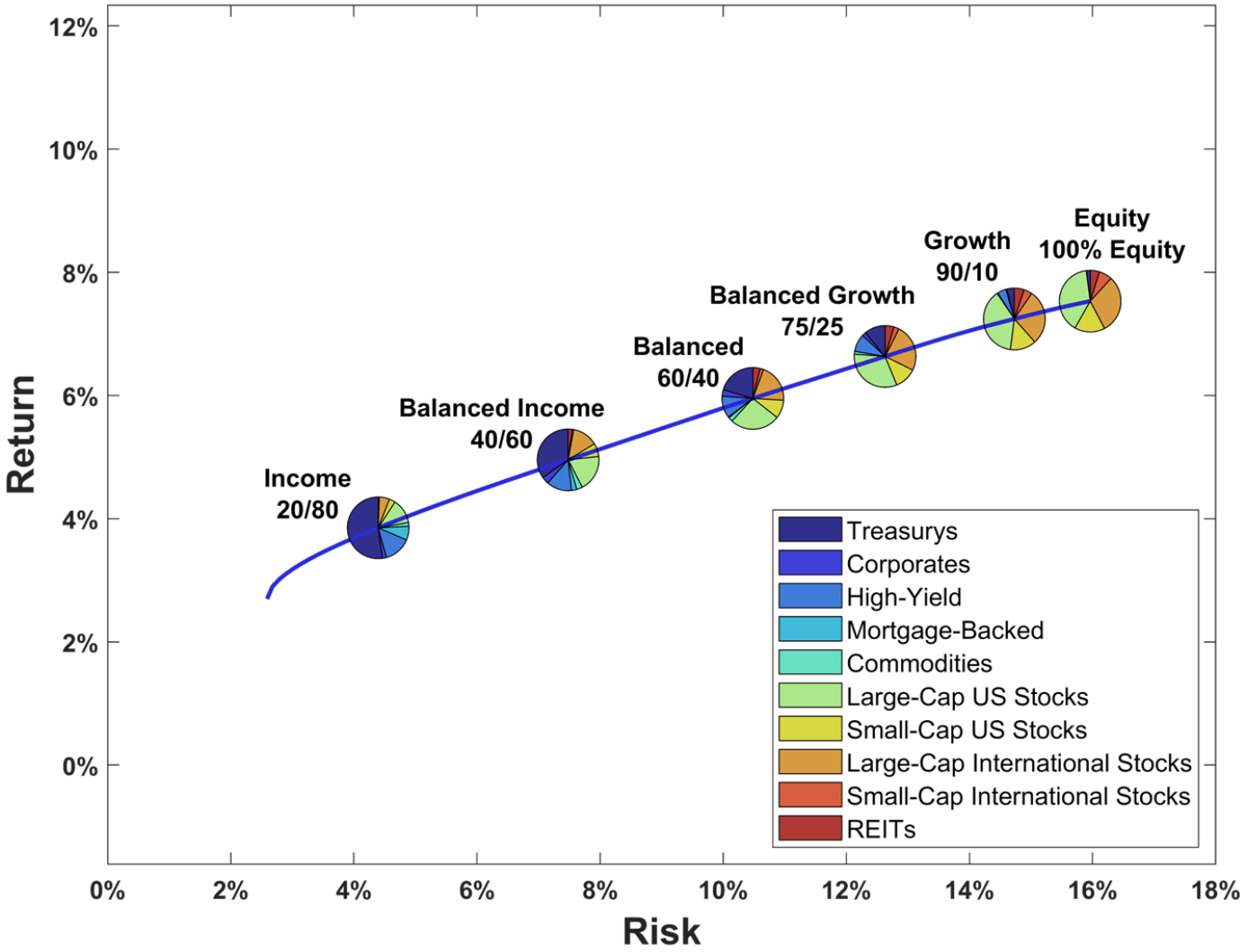
Increasing Complexity, Higher Risk, Same Target

7% Expected Returns Over Past 30 Years



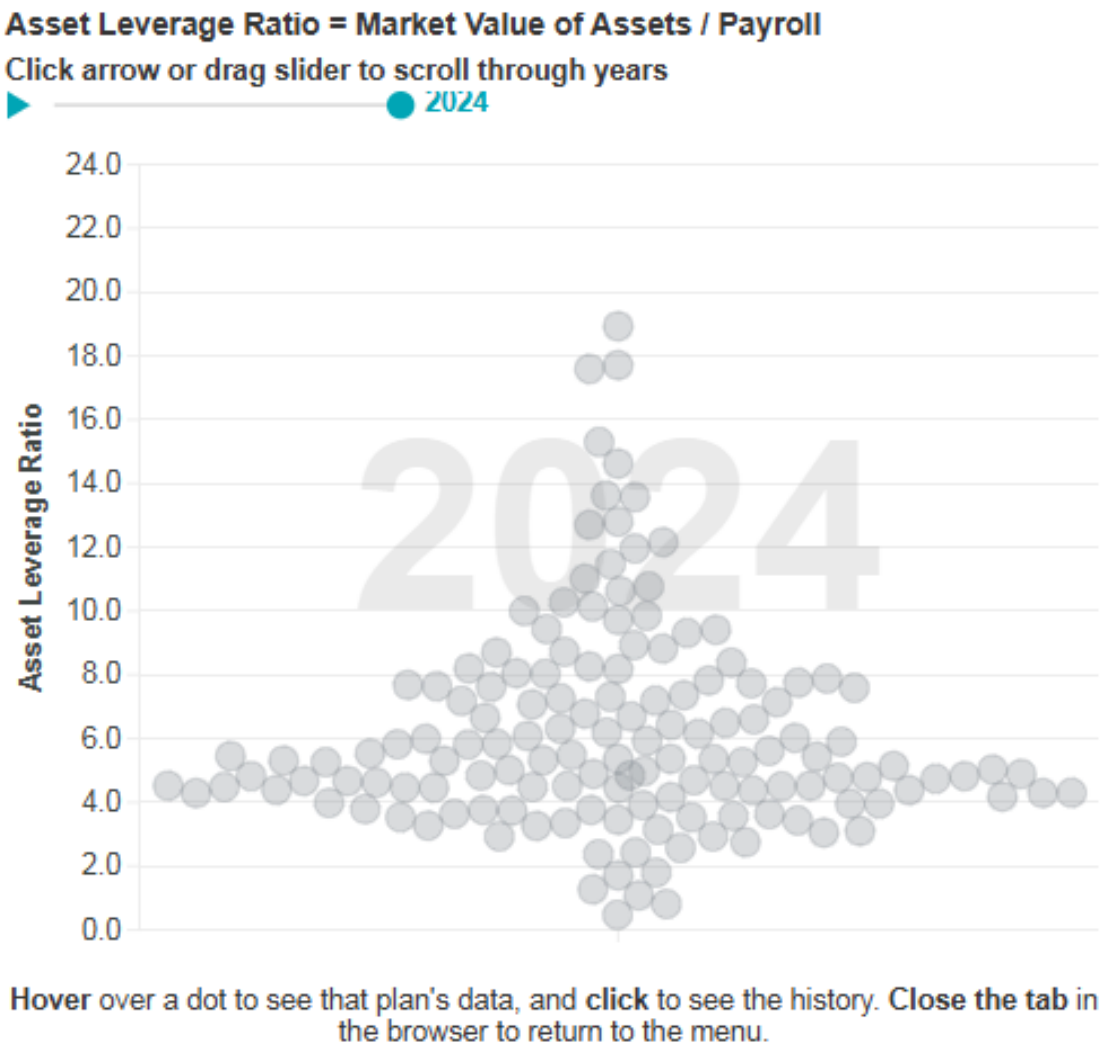
Source: Callan

Simple Risk-Return Models Are Insufficient



- **Actuaries:** The discount rate is the portfolio's assumed return
- **Investment consultants:** The portfolio is constructed to achieve the actuary's discount rate
- Risk and return targets should be developed at the same time
  - The range of potential portfolio returns needs to be translated to the ultimate impact on contributions
  - Potential contribution impact needs to be evaluated in the context of the resources available to make those contributions

Increasing Maturity Magnifies the Risk

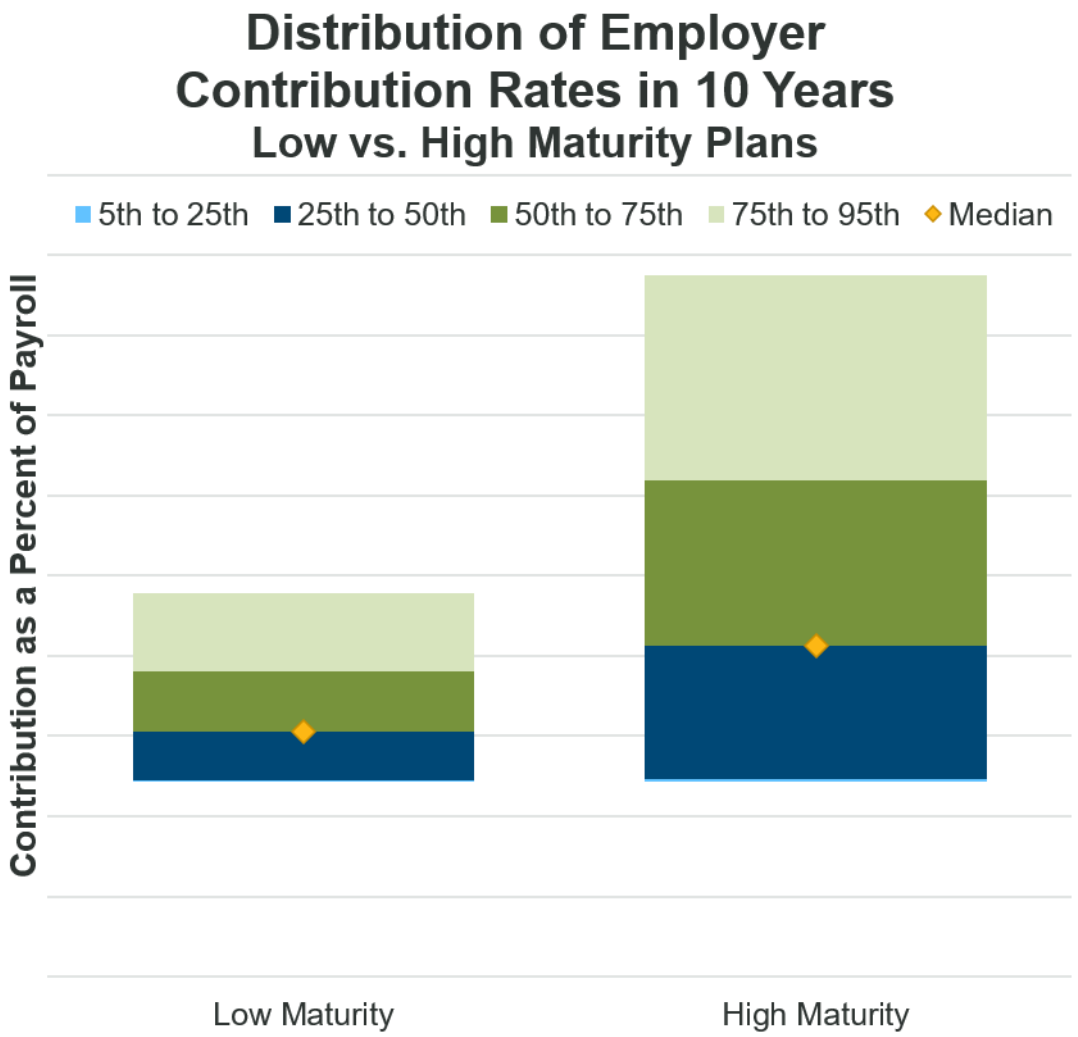


Asset Leverage = Market Value of Assets / Payroll

Asset Leverage Ratio	10% Investment Loss as a % of Payroll	Interest on Investment Loss as a % of Payroll
4	40% (4 x 10%)	**2.8%** (40% x 7%)
10	100% (10 x 10%)	**7.0%** (100% x 7%)

Should these two plans have similar investment policies?

Consider Plan Maturity in Asset Allocation



- Risk tolerance
  - Plans with high maturity cannot tolerate as much downside risk
  - If plan is close to 100% funded, the positive side of the distribution may be limited
- Approaches to consider
  - Reduce the standard deviation of the diversified portfolio
  - Match a portion of retiree benefit payments for some period
    - Matched portion can be considered to have no standard deviation
    - Asset leverage ratio can be calculated ignoring the cash flow matching portfolio

What Makes a Strong Public Pension System?

- Adequate benefits
  - Appropriate for job's typical career path
  - Provides adequate COLAs to protect purchasing power
- Longevity and disability risks are pooled
- Thoughtful risk-sharing
  - Recognizes the affordability limits of different parties
  - Equitable
- Contributions are based on a reasonable actuarially determined contribution
- Efficient investment strategy
  - Recognizes the affordability limits of parties bearing investment risk
  - Takes plan maturity into account
- Hires an actuary 

Questions?

Check out NEW NIRS Podcast

Retirement *in* America

A NIRS Podcast

https://www.nirsonline.org/research/retirementinamerica-episode1/