



Segal Webinar

Pension De-Risking Strategies

October 21, 2024

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Introduction

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Articles | March 12, 2024

Benefits of Pension De-Risking and Why Now Is the Right Time

By [Jason Russell](#) & [Seth Almaliah](#)

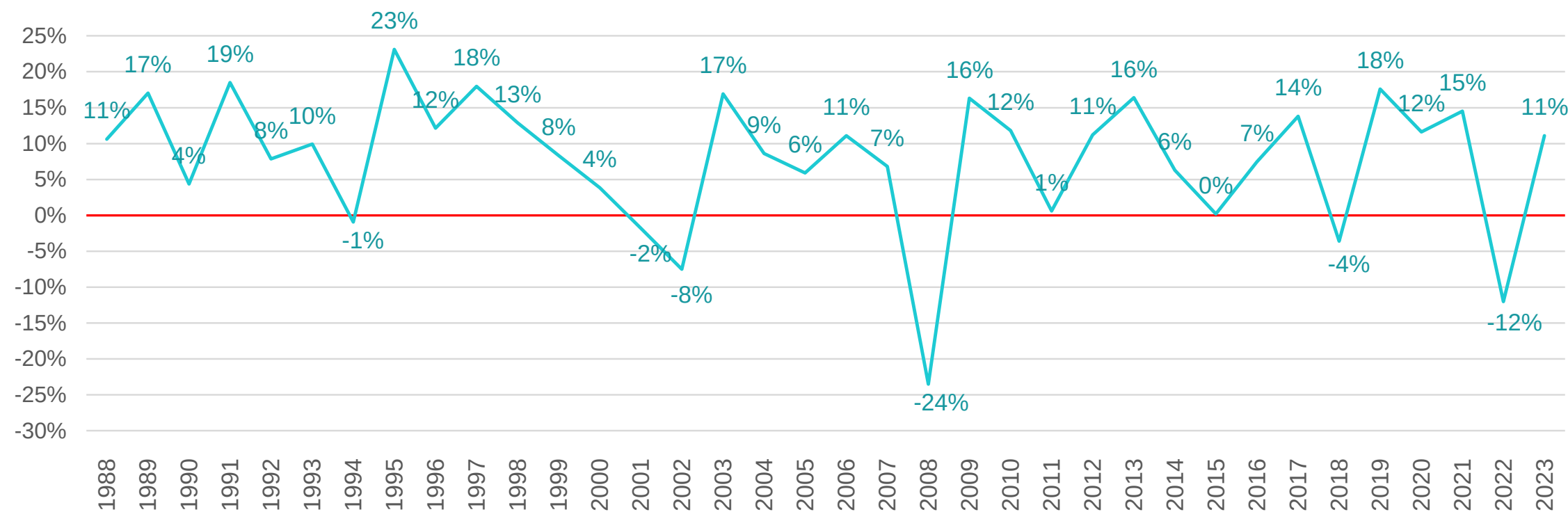
Since late 2022, interest rates have risen to levels not seen in more than 15 years. Over that period, most pension plans have become more demographically mature, which makes them more vulnerable to risk factors such as investment return volatility and changing interest rates.



Source: <https://www.segalco.com/consulting-insights/benefits-of-pension-de-risking-and-why-now-is-the-right-time>

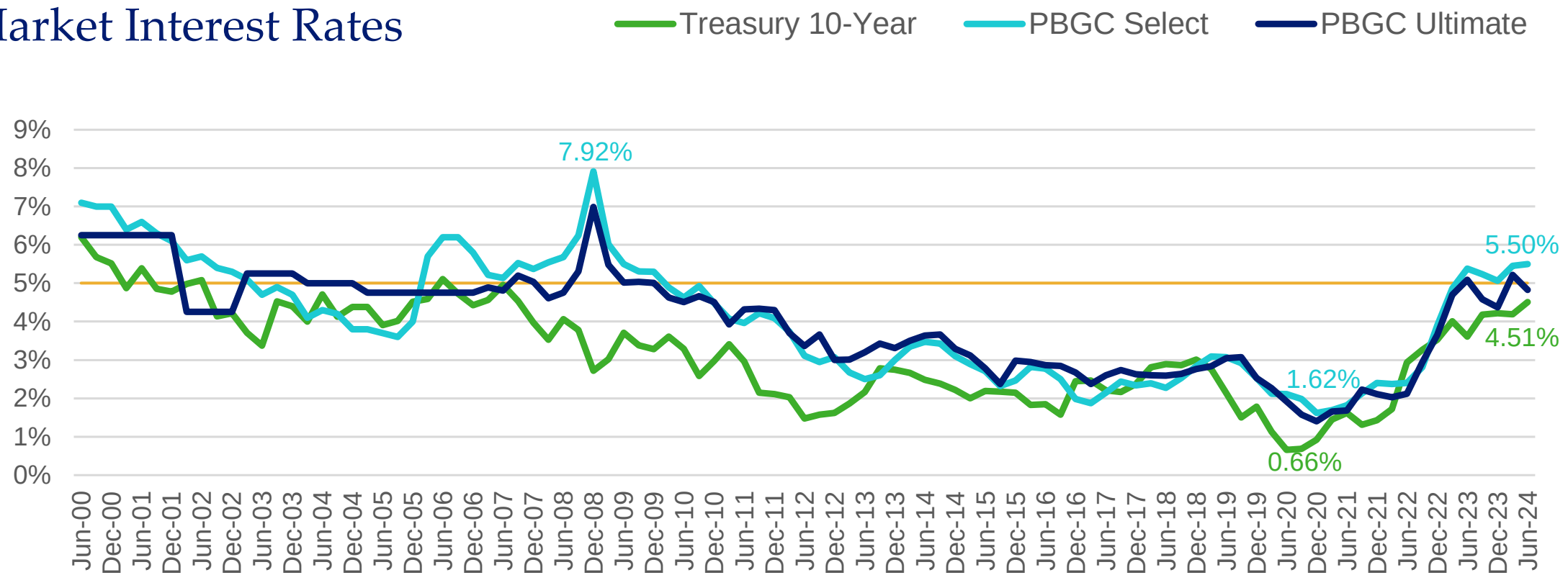
Historical Investment Returns

Median Investment Returns for Multiemployer Pension Plans

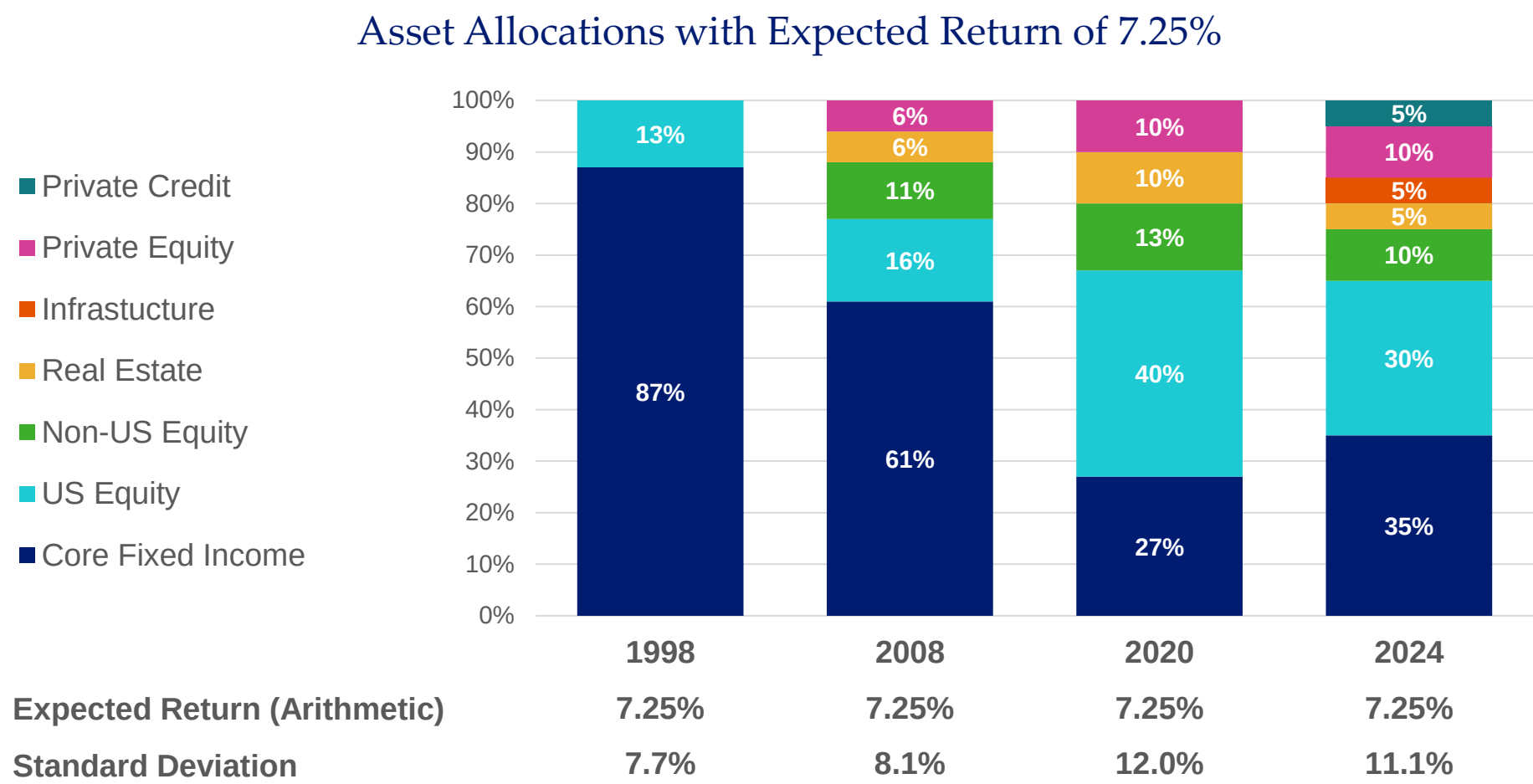


Interest Rate Environment

Market Interest Rates



Capital Market Expectations: 1998 to 2024



Note: Analysis by Segal Marco Advisors

De-Risking Strategies

Reduce Volatility

Reduce investment volatility by increasing allocation to high-quality fixed income: corporate bonds and Treasuries.

Short-Term Cash Matching

Pay near-term benefits and expenses from a **dedicated portfolio** of high-quality fixed income.

Avoid “selling low” in a down market to pay plan obligations.

Long-Term Immunization

Match duration of a portion of benefit liabilities with high-quality fixed income.

Eliminates interest rate risk and investment volatility risk for immunized liabilities.

Pension Risk Transfer (PRT)

Purchase annuities from a private insurer.

Plan no longer bears responsibility for benefits transferred to the insurer.

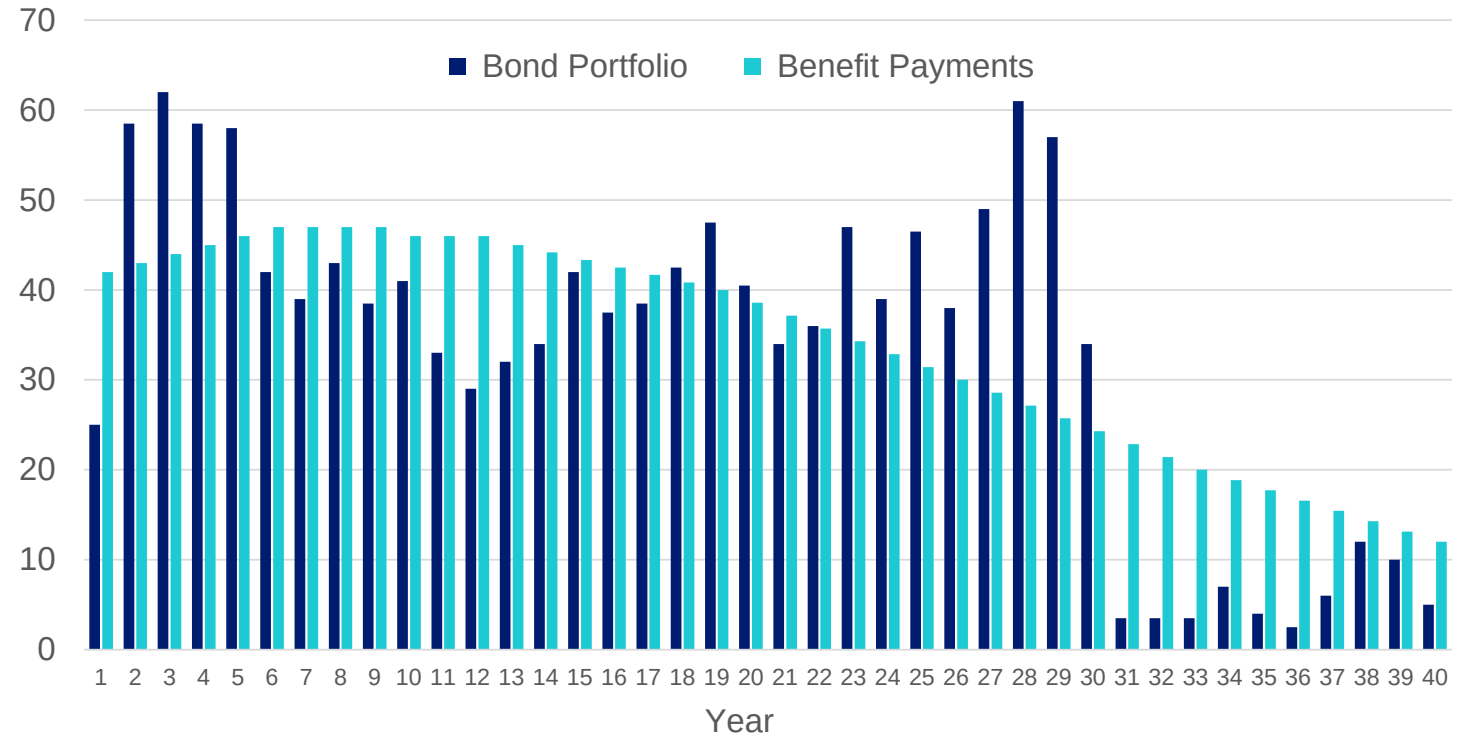
Trustees should consider their plan’s demographic maturity, cash flows, and current and projected funded status when evaluating risk reduction strategies.

Immunizing Benefit Payments

Commentary

- Bond portfolio payments include coupons (interest) and principal
- Reasonably tight fit between bond portfolio and projected benefit payments
- Both streams of cash flows have same present value and duration

Bond Portfolio vs. Plan Cash Flows





Importance of Plan Maturity

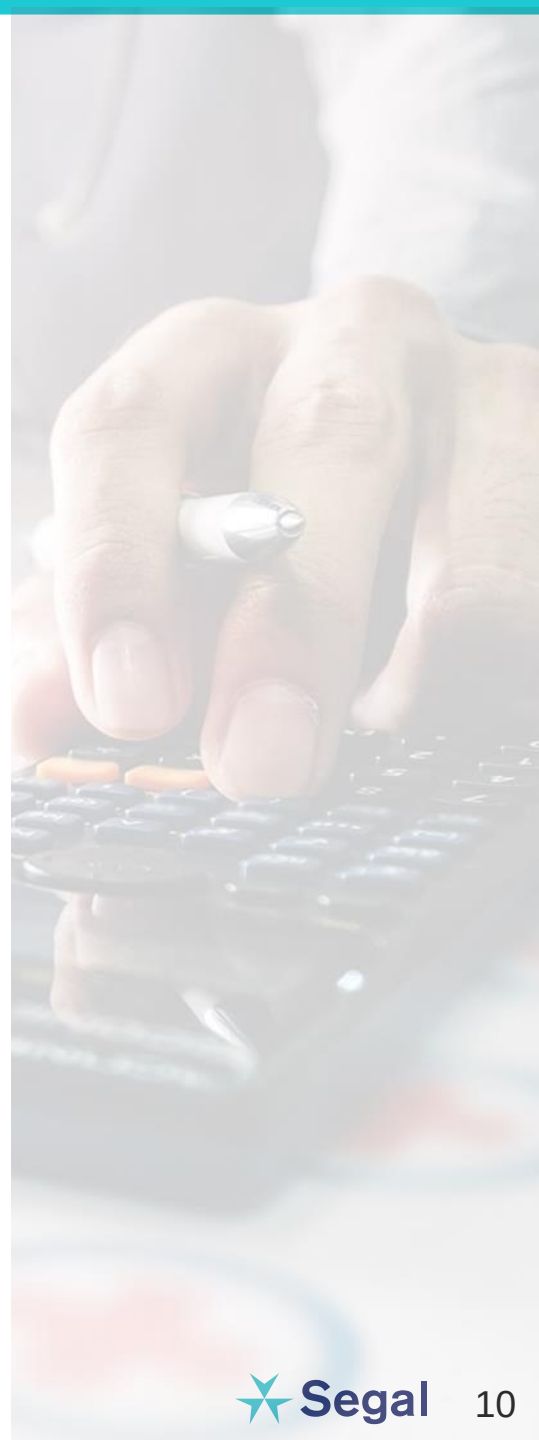
Why Does Plan Maturity Matter?

With increasing maturity...

- Fewer active participants to support non-active participants
- Changes in accrual rates and contribution rates have less impact
- Benefit payments grow, contribution income shrinks
- Annual cash flows become increasingly negative

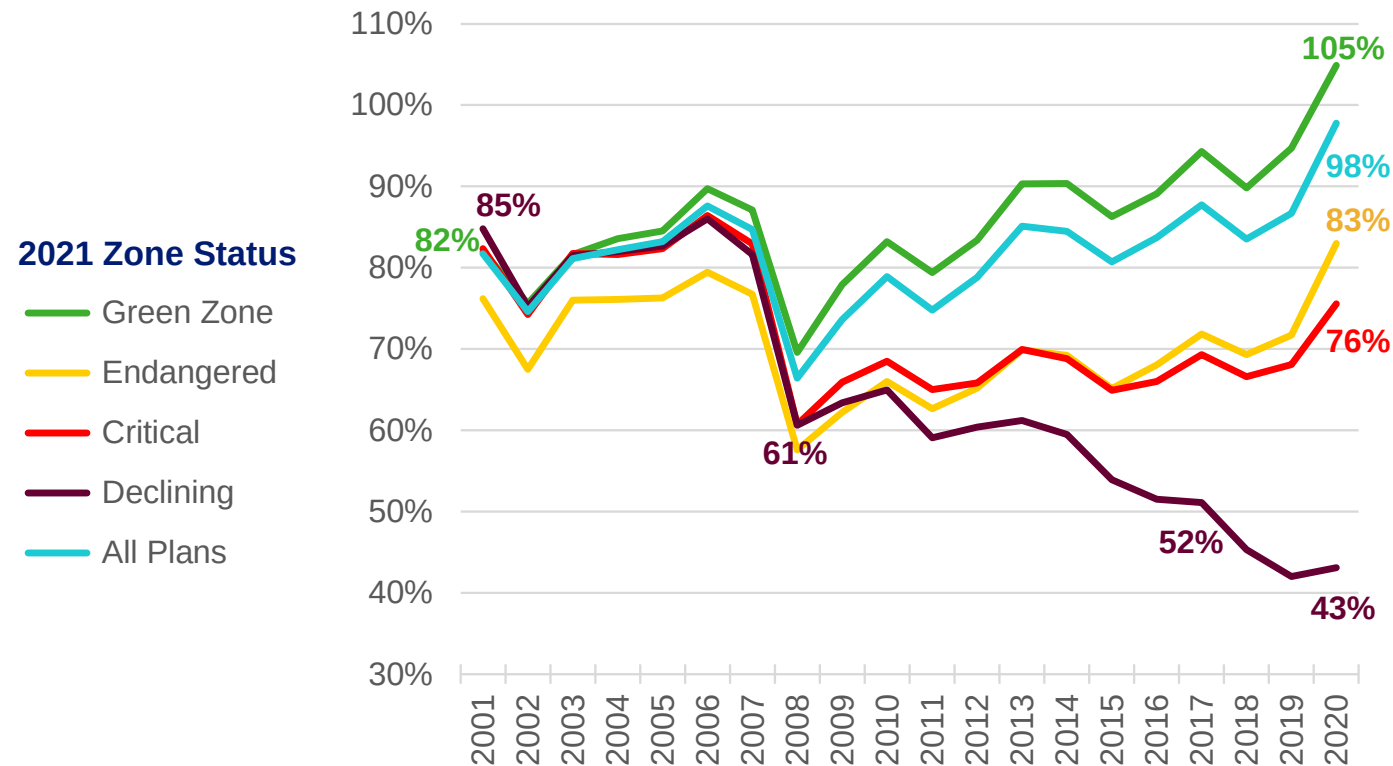
With negative cash flows...

- Plan must liquidate assets to pay benefits
- Greater risk of investment volatility



Funding and Zone Status

Historical Funded Percentages



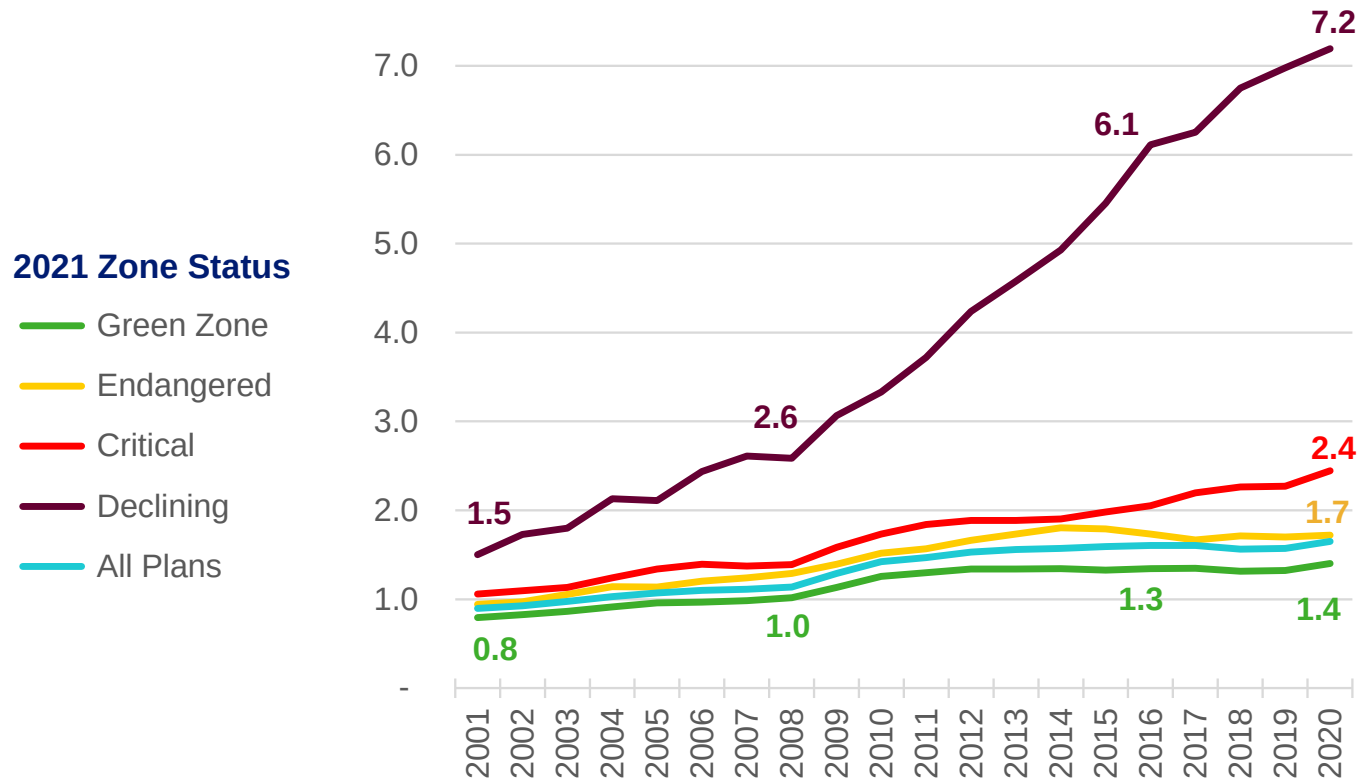
Study of Form 5500 data by Segal. Graph shows median funded percentages based on market value of assets at plan year end. Plans are grouped by 2021 zone status.

Observations

- In 2001, not much dispersion in median funded percentages
- Over last 20 years, funding for plans in **critical and declining** status deteriorated rapidly
- In 2001, plans currently in **critical and declining** status had a slightly *higher* median funded percentage than plans currently in the **green zone**

Plan Maturity and Zone Status

Historical Demographic Maturity Ratio



Study of Form 5500 data by Segal. Graph shows median ratios of non-active participants to active participants at plan year end. Plans are grouped by 2021 zone status.

Observations

- Here, maturity is expressed as ratio of non-active participants to active participants
- Plans currently in **critical and declining status** were more mature than average in 2001 and highly mature now
- Note higher maturity levels in 2020 for non-declining plans, compared with 2001

Significance of Negative Cash Flows

Simplified example

- Plan A is cash flow neutral (contributions cover benefits and expenses)
- Plan B has highly negative cash flows, about 8% of assets annually
- Following an investment loss, Plan B needs a much higher return to bounce back

Plan Year	Plan A: Cash Flow Neutral		Plan B: Cash Flow Negative	
	Year 1	Year 2	Year 1	Year 2
Investment Return	-5.0%	+5.3%	-5.0%	+25.0%
Beginning Assets	1,000	950	1,000	872
Net Cash Flow	0	0	(80)	(80)
Investment Return	(50)	50	(48)	208
Ending Assets	950	1,000	872	1,000

Projection with Historical Returns

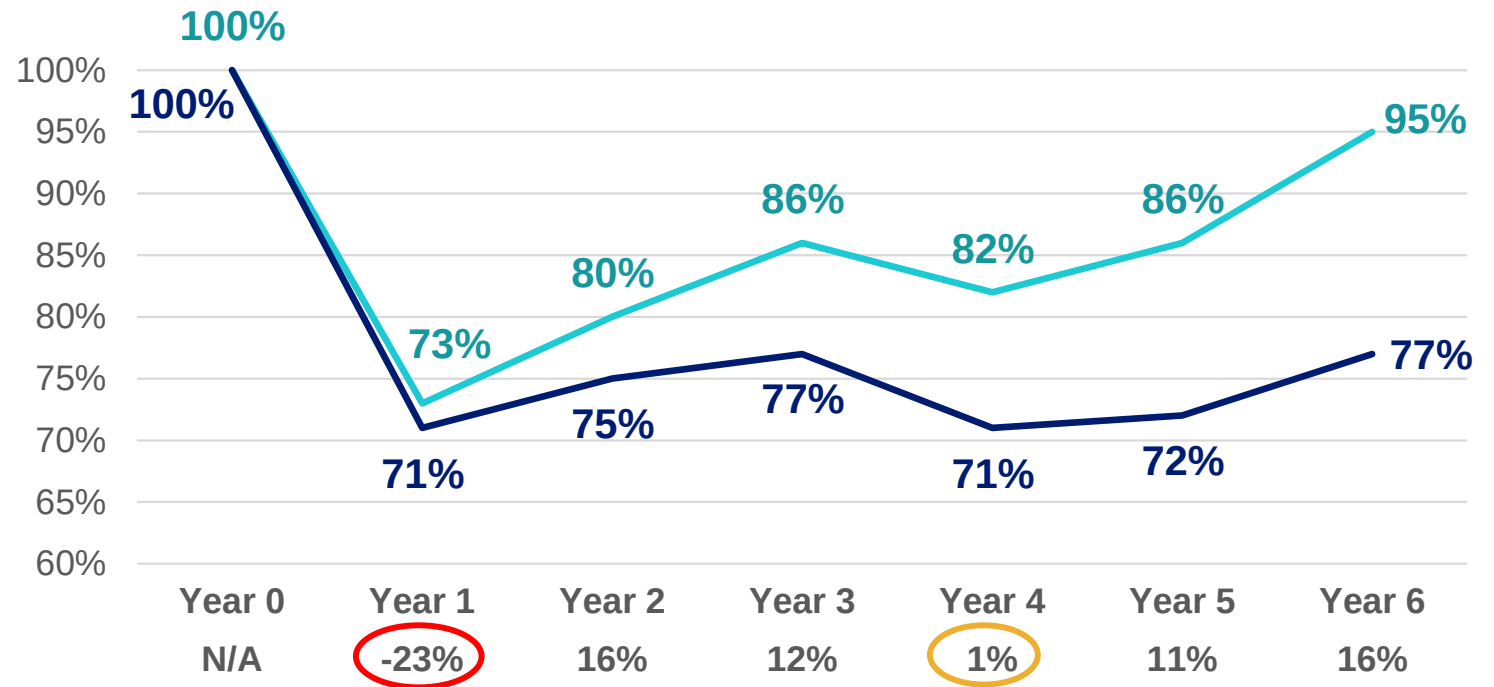
Commentary

- Assume historical median investment returns from 2008 through 2013
- With investment volatility, funding levels for **Plan A** bounce back, while **Plan B** struggles to recover
- Projections assume no changes to benefits or contribution rates for either plan

Projected Funded Percentages

Plan A: Cash Flow Neutral

Plan B: Negative Cash Flow, 8% of Assets



Case Studies

Case Study 1: Plan Received SFA in 2022

Background

- Plan was in **critical and declining** status before receiving SFA
- Priority group 2; received SFA in 2022
- SFA interest rates = 2.95%, 5.29%
- SFA assets > 90% of total plan assets
- Annual return needed to remain solvent indefinitely ~ 4.5%
- Negative net cash flows > 6% of plan assets, relatively stable
- Projected exhaustion of SFA assets in mid-2040s

Investment strategy

- SFA assets: 100% investment grade fixed income
 - SFA assets also include **short-term cash flow match** portfolio
 - Cash flow match targets next 5 years of benefit payments and expenses
 - Periodically extend cash flow match portfolio based on investment returns, funding levels
- Legacy (non-SFA) assets: mix of equities and fixed income

Case Study 2: Plan Received SFA in 2024

Background

- Plan was in **critical and declining** status before receiving SFA
- No priority status; received SFA in 2024
- SFA interest rates = 3.77%, 5.85%
- SFA assets ~ 40% of total plan assets
- Annual return needed to remain solvent indefinitely ~ 6.0%
- Negative net cash flows > 6% of plan assets, relatively stable
- Projected exhaustion of SFA assets around 2030

Investment strategy

- SFA assets: **100% cash flow matched** with investment grade fixed income
- Legacy (non-SFA) assets:
 - Diversified portfolio of equities, fixed income, and alternatives
 - **Benefits-driven investing (BDI)** strategy: increase allocation to duration-matched bond portfolio based on total plan funded percentage

Case Study 3: Mature Green Zone Plan

Background

- Plan has always been in **green zone**
- About 120% funded based on 7.0% interest rate
- Annual return needed to remain at least 100% funded indefinitely ~ 6.0%
- Shrinking contribution base
- Negative net cash flows > 6% of plan assets, increasing

Investment strategy

- **Option 1:** short-term cash flow match; target next 5 years of benefit payments and expenses
- **Option 2:** duration match; immunize benefits for certain retirees
- Under both options:
 - Expected return on total plan assets (including immunization) > 6.0%
 - Periodically extend immunization portfolio based on investment returns, funding levels

Case Study 4: Underfunded Green Zone Plan

Background

- Plan is in **green zone**, recently emerged from **red zone**
- Below 80% funded based on 7.0% interest rate
- Annual return needed become 100% funded in desired timeframe ~ 7.0%
- Negative net cash flows ~ 2% of plan assets, increasing to ~ 3% over next 10 years
- Trustees interested in de-risking plan investments

Investment strategy

- Asset-liability modeling (ALM) study showed that reducing risk:
 - Would reduce expected return on total plan assets below 7.0%
 - Would likely delay attainment of funding objectives
 - Would not reduce probability of future declining status or insolvency
- Trustees decided to maintain existing investment policy, asset allocation

Further Discussion

Thank You

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