Your Pension Plan is Well-Funded – Now What?

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Today’s Discussion

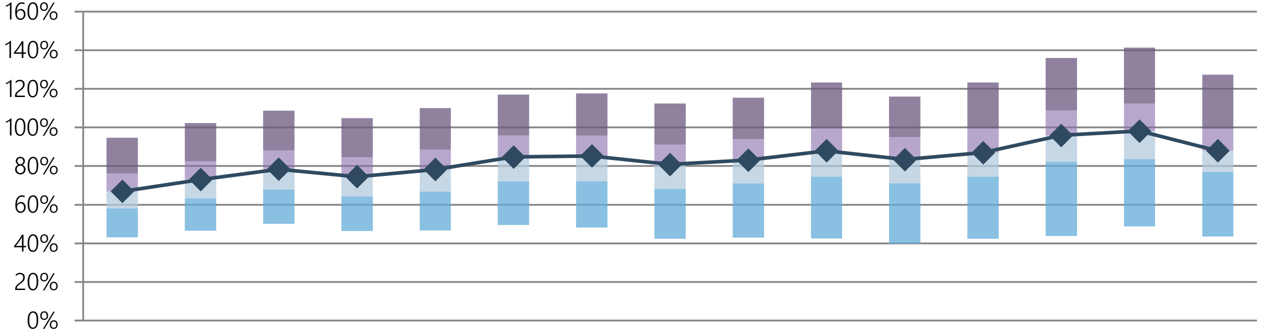
- Why Are We Here?
- What Does It Mean To Be “Well-Funded”?
- Revisiting Actuarial Assumptions
- Why Plan Maturity Matters
- Now What?

Why Are We Here?

Funded Levels Have Improved

Market Value Funded Percentages (Beginning of Year)

Multiemployer Defined Benefit Pension Plans: All Industries



Plan Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Number of Plans	1,179	1,146	1,240	1,239	1,253	1,257	1,268	1,249	1,238	1,233	1,223	1,211	1,192	1,177	1,168
95th Percentile	95%	102%	109%	105%	110%	117%	118%	112%	115%	123%	116%	123%	136%	141%	127%
75th Percentile	76%	82%	88%	85%	89%	96%	96%	91%	94%	99%	95%	99%	109%	112%	99%
◆ 50th Percentile	67%	73%	78%	75%	78%	85%	85%	81%	83%	88%	83%	87%	96%	98%	88%
25th Percentile	58%	63%	68%	64%	67%	72%	72%	68%	71%	75%	71%	75%	82%	84%	77%
5th Percentile	43%	47%	50%	46%	47%	50%	48%	42%	43%	42%	40%	42%	44%	49%	44%

Source: Form 5500 Data

What Does it Mean to be "Well-Funded"?

What Do YOU Think It Means?

1. 80% (threshold for green zone)
2. 100% (full funding)
3. 120% (full funding + cushion)
4. It’s more complicated than that

Which Plan is Better Funded?

	Plan A	Plan B
Funded Percentage	94%	79%
Zone Status	**Green Zone**	**Yellow Zone**
Interest Rate Assumption	7.5%	6.5%

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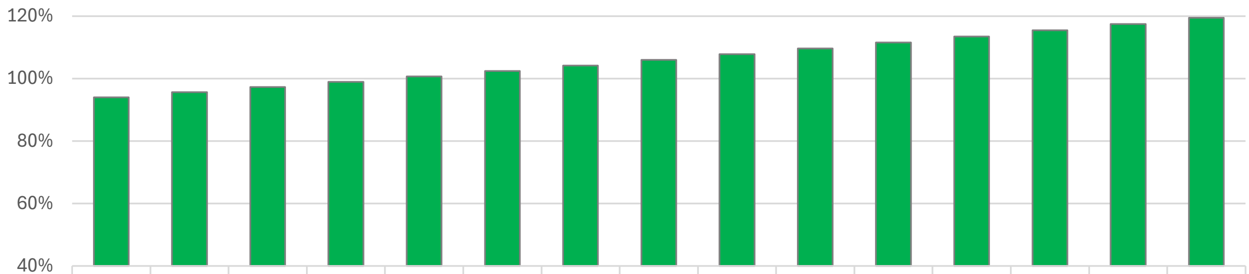
Interest Rate Assumption	7.5%	6.5%
Mortality Tables	RP-2000	PRI-2012
Inactive/Active Ratio	3.0	1.5
Cash Flow	-5.0%	-2.5%

Which Plan is Better Funded?

Plan A

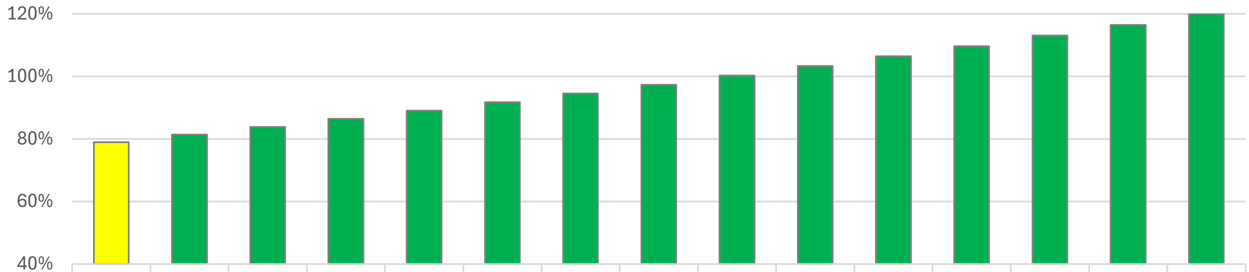
7.5% Returns



Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Funded %	94%	96%	97%	99%	101%	102%	104%	106%	108%	110%	112%	114%	115%	117%	120%

Plan B

6.5% Returns

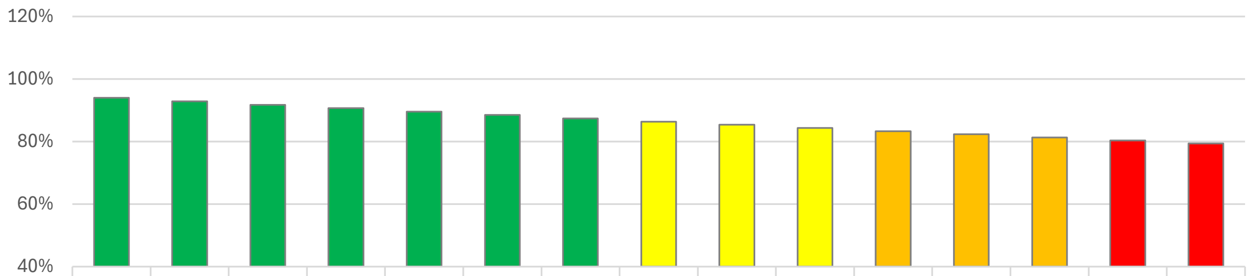


Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Funded %	79%	81%	84%	86%	89%	92%	94%	97%	100%	103%	106%	110%	113%	116%	120%

Which Plan is Better Funded?

Plan A

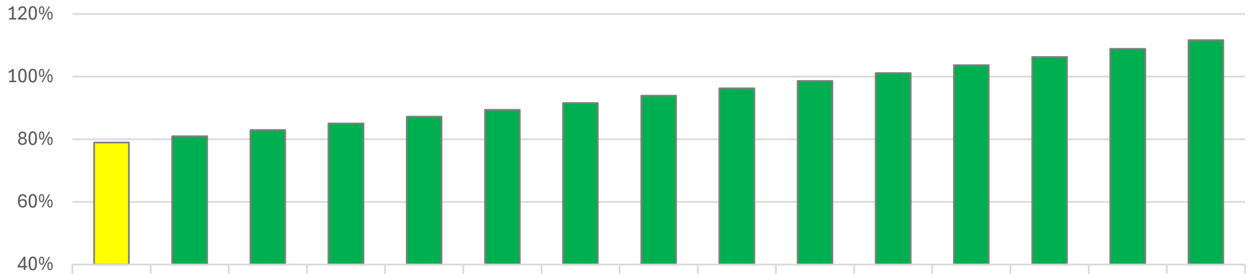
6.0% Returns



Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Funded %	94%	93%	92%	91%	90%	88%	87%	86%	85%	84%	83%	82%	81%	80%	79%

Plan B

6.0% Returns



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Funded %	79%	81%	83%	85%	87%	89%	92%	94%	96%	99%	101%	104%	106%	109%	112%

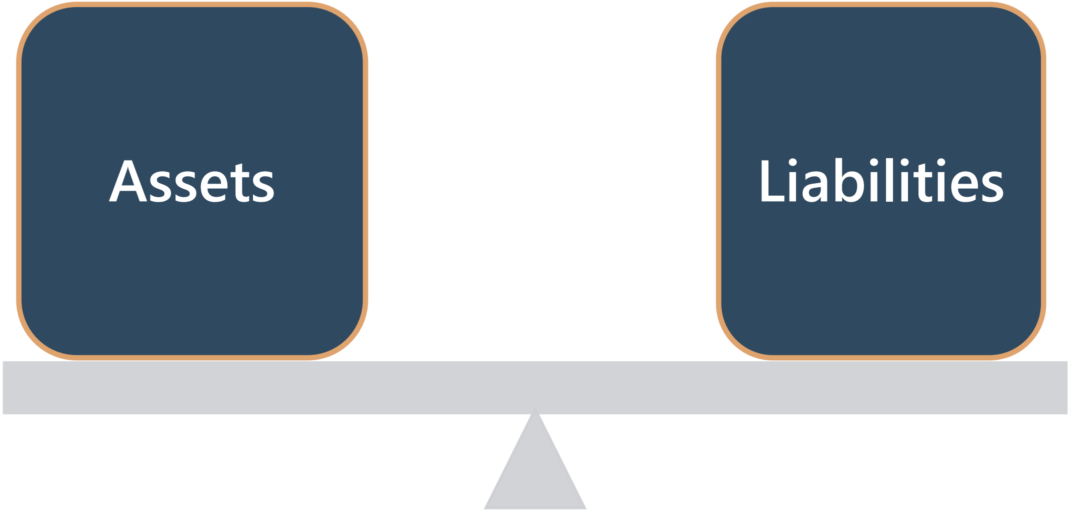
What Does it Mean to Be Well-Funded?

- Goes beyond current funded percentage
- How appropriate are the assumptions?
- How mature is the plan?
- What are the projected funding levels?
- What are the implications of NOT meeting the assumptions?

Revisiting Actuarial Assumptions

Let's Start With A Simple Question

- **What does it mean to be 100% funded?**



Digging A Little Deeper…

Assets

- **Value on Financials**
- **Volatile!**

Liabilities

- **Value of Promised Benefits**
- **Depends on Assumptions!**
- **Only 100% Funded If All Assumptions are met**

Assumptions Are Actuary's Best Estimate

- **Under ERISA Section 304(c)(3)**
  - Each actuarial assumption must be reasonable
  - In combination, the assumptions must represent the actuary's best estimate of anticipated experience under the plan

Range of Reasonable Assumptions

- **More Conservative Assumptions**
  (e.g., lower expected returns, longer life expectancy, lower future hours)
  - Reduced probability of "bad surprises"
  - Increase in today's liabilities/costs
- **More Aggressive Assumptions**
  (e.g., higher expected returns, shorter life expectancy, higher future hours)
  - Increased probability of "bad surprises"
  - Increase in liabilities/costs down the road if assumptions not met

Example: Interest Rate Assumption

Hypothetical Multiemployer Plan

2024 Survey of Capital Market Assumptions

Asset Class	Portfolio Weight	*Average Survey Assumptions* 10-Year Horizon	20-Year Horizon	Standard Deviation
US Equity - Large Cap	20.0%	6.46%	6.96%	16.52%
US Equity - Small/Mid Cap	10.0%	7.07%	7.50%	20.57%
Non-US Equity - Developed	7.5%	7.08%	7.52%	18.06%
Non-US Equity - Emerging	5.0%	7.70%	8.24%	23.61%
US Corporate Bonds - Core	7.5%	4.93%	4.88%	5.90%
US Corporate Bonds - Long Duration	2.5%	5.05%	5.16%	10.98%
US Corporate Bonds - High Yield	5.0%	6.13%	6.36%	9.94%
Non-US Debt - Developed	5.0%	3.66%	3.71%	7.33%
Non-US Debt - Emerging	2.5%	6.17%	6.28%	10.76%
US Treasuries (Cash Equivalents)	5.0%	3.68%	3.43%	1.10%
TIPS (Inflation-Protected)	5.0%	4.38%	4.27%	6.10%
Real Estate	7.5%	6.06%	6.17%	16.61%
Hedge Funds	5.0%	5.90%	6.17%	8.03%
Commodities	2.5%	4.92%	4.95%	17.81%
Infrastructure	2.5%	7.26%	7.36%	16.02%
Private Equity	5.0%	9.09%	9.71%	22.57%
Private Debt	2.5%	8.32%	8.44%	12.00%
Inflation	N/A	2.42%	2.44%	1.86%
TOTAL PORTFOLIO	**100.0%**	*Expected returns are geometric.*		

	10-Year Horizon Conservative Advisor	Survey Average	Optimistic Advisor	*20-Year Horizon* Conservative Advisor	Survey Average	Optimistic Advisor
Expected Returns						
Average Annual Return (Arithmetic)	5.83%	7.29%	8.49%	6.38%	7.56%	8.63%
Annualized Return (Geometric)	5.28%	6.73%	7.98%	5.85%	7.01%	7.99%
Annual Volatility (Standard Deviation)	10.77%	10.98%	10.49%	10.59%	10.87%	11.74%
Range of Expected Annualized Returns						
◆ 75th Percentile	7.57%	9.07%	10.22%	7.45%	8.65%	9.76%
◆ 25th Percentile	2.98%	4.39%	5.75%	4.25%	5.38%	6.22%
Probabilities of Exceeding Certain Returns						
7.50% per Year, Annualized	25.7%	41.2%	55.8%	24.3%	42.1%	57.4%
7.00% per Year, Annualized	30.6%	46.9%	61.7%	31.4%	50.2%	64.7%
6.50% per Year, Annualized	36.0%	52.7%	67.3%	39.2%	58.4%	71.5%

SOURCE: Horizon Actuarial 2024 Survey of Capital Market Assumptions

Considerations

- **Arithmetic vs. Geometric Returns**
  - Important to focus on geometric returns

Year 1	
Beginning of Year Assets	100,000,000
Return	-50%
End of Year Assets	50,000,000
Year 2	
Beginning of Year Assets	50,000,000
Return	50%
End of Year Assets	75,000,000

Arithmetic Return = 0%

Geometric Return = -13%

Considerations

- **Short-term vs. long-term: where should we focus?**
  - How mature is the plan?
    - Support ratio (active participants to inactive participants)
    - Cash flow (contributions less benefit payments and expenses)

Other Assumptions

- **Remember: Review ALL Assumptions**
  - Work levels, future contributions, contribution rates
  - Mortality: current and future improvements
  - Retirement, termination, disability, etc.
- **Remember: The Actuary "Owns" The Assumptions**
  - But you can ask questions!
  - Are our assumptions conservative or aggressive?
  - When is the last time you performed an experience study?
  - How did you develop the expected return assumption?

Why Plan Maturity Matters

Why Plan Maturity Matters

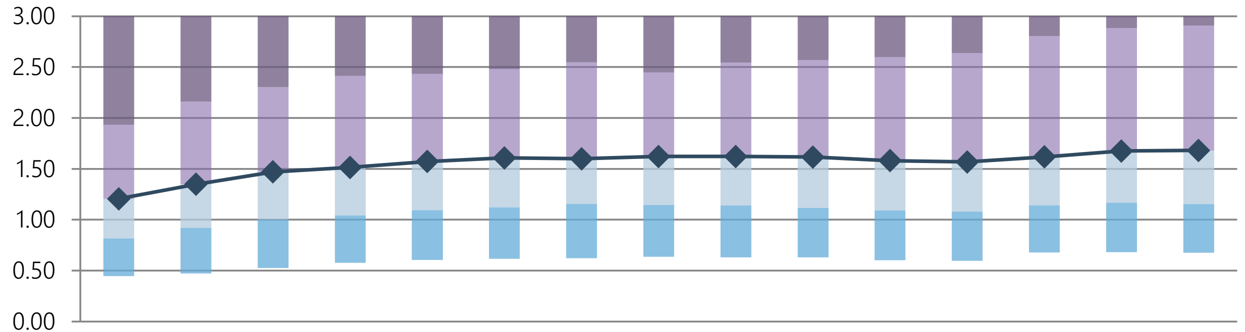
	Plan #1	Plan #2	Plan #3
Assets ($M)		$90	
Liabilities ($M)		$100	
Unfunded Liability ($M)		$10	
15-Year Cost ($M)		$1	
Inactives		900	
Actives	900	600	300
Inactive/Active Ratio	1.0	1.5	3.0
Cost of Unfunded Liability	$0.67 / hour	$1.00 / hour	$2.00 / hour

Less Mature → More Mature

Support Ratio (Inactive to Active Ratio)

Participant Ratios: Inactive to Active (Beginning of Plan Year)

Multiemployer Defined Benefit Pension Plans: All Industries



More Mature

Less Mature

Plan Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Number of Plans	1,326	1,292	1,295	1,274	1,283	1,275	1,263	1,245	1,227	1,221	1,214	1,202	1,187	1,176	1,164	
95th Percentile	7.00	6.94	7.37	8.90	9.73	9.81	10.85	11.70	10.95	11.43	12.43	12.71	14.70	15.54	16.17	
75th Percentile	1.93	2.16	2.30	2.41	2.43	2.48	2.55	2.45	2.54	2.57	2.60	2.64	2.80	2.88	2.91	→ Plan #3
◆ 50th Percentile	1.21	1.35	1.47	1.51	1.57	1.61	1.60	1.62	1.62	1.62	1.58	1.57	1.62	1.68	1.68	→ Plan #2
25th Percentile	0.82	0.92	1.00	1.04	1.09	1.12	1.16	1.15	1.14	1.12	1.09	1.08	1.14	1.17	1.15	→ Plan #1
5th Percentile	0.45	0.47	0.53	0.58	0.61	0.62	0.62	0.64	0.63	0.63	0.60	0.60	0.68	0.68	0.68	

Source: Form 5500 Data

Why Plan Maturity Matters

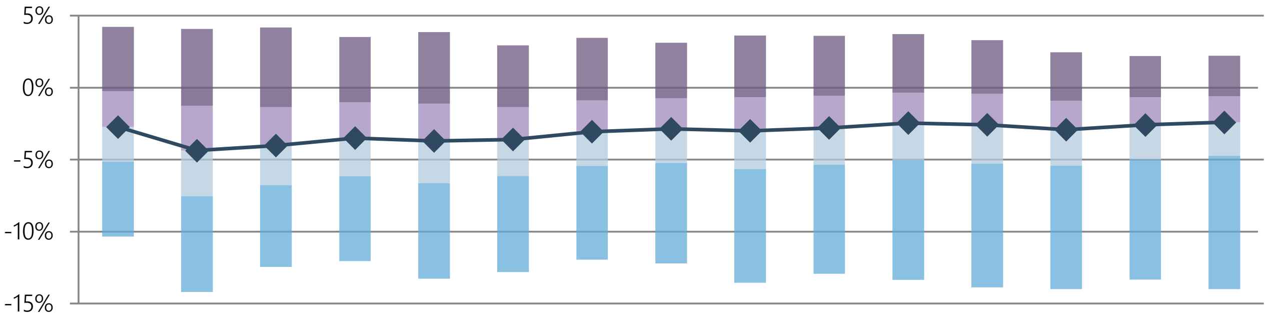
	Plan #1	Plan #2	Plan #3
Liability ($M)		$100	
Assets (January 1) ($M)		$100	
Benefits + Expenses ($M)		$10	
Interest Assumption		7.0%	
Return for Year		-3.0%	
Contributions ($M)	$10	$7.5	$5
Cash Flow (% of assets)	0%	-2.5%	-5.0%
Assets (December 31) ($M)	$97	$94.5	$92

Less Mature → More Mature

Cash Flow (Contributions less BPs and Expenses)

Net Cash Flow as a Percentage of Assets (Prior Plan Year)

Multiemployer Defined Benefit Pension Plans: All Industries



Less Mature

More Mature

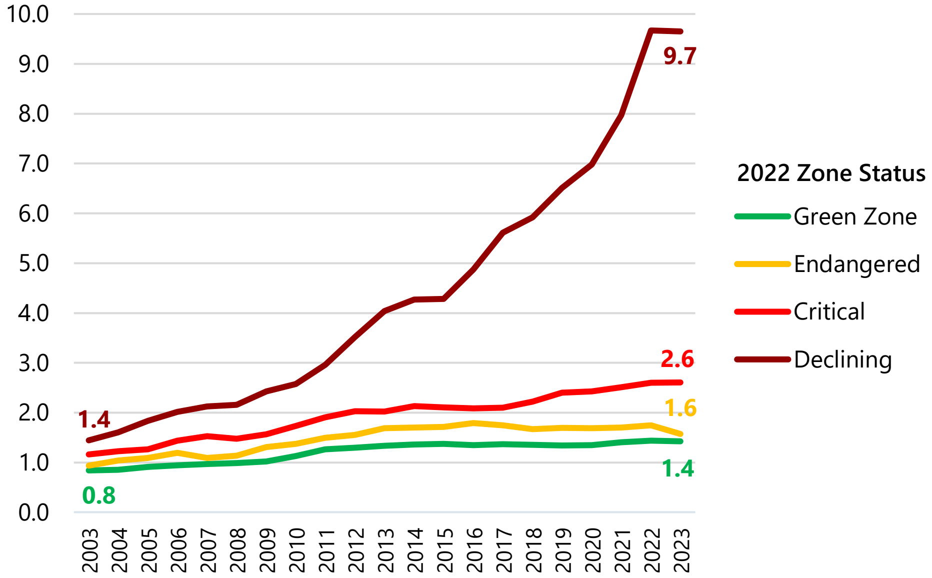
Plan Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Number of Plans	1,333	1,214	1,283	1,280	1,291	1,277	1,270	1,248	1,237	1,230	1,224	1,210	1,189	1,173	1,164	
95th Percentile	4.2%	4.1%	4.2%	3.5%	3.9%	2.9%	3.5%	3.1%	3.6%	3.6%	3.7%	3.3%	2.5%	2.2%	2.2%	
75th Percentile	-0.3%	-1.3%	-1.3%	-1.0%	-1.1%	-1.3%	-0.9%	-0.7%	-0.7%	-0.6%	-0.4%	-0.4%	-0.9%	-0.7%	-0.6%	→ Plan #1
◆ 50th Percentile	-2.7%	-4.4%	-4.0%	-3.5%	-3.7%	-3.6%	-3.1%	-2.9%	-3.0%	-2.8%	-2.5%	-2.6%	-2.9%	-2.6%	-2.4%	→ Plan #2
25th Percentile	-5.1%	-7.5%	-6.8%	-6.2%	-6.6%	-6.1%	-5.4%	-5.2%	-5.7%	-5.4%	-5.1%	-5.3%	-5.4%	-5.0%	-4.7%	→ Plan #3
5th Percentile	-10.4%	-14.2%	-12.5%	-12.1%	-13.3%	-12.8%	-12.0%	-12.2%	-13.6%	-12.9%	-13.4%	-13.9%	-14.0%	-13.3%	-14.0%	

Source: Form 5500 Data

Plan Maturity

Historical Support Ratio

(Inactive to Active Participants)



Median support ratio as of the beginning of each year based on Form 5500 Data.

Commentary

- Historically, plan maturity has been linked with zone status
- Mature plans have more difficulty addressing underfunding and are more likely to be certified in a non-green zone

Now What?

What Should Well-Funded Plans Do?

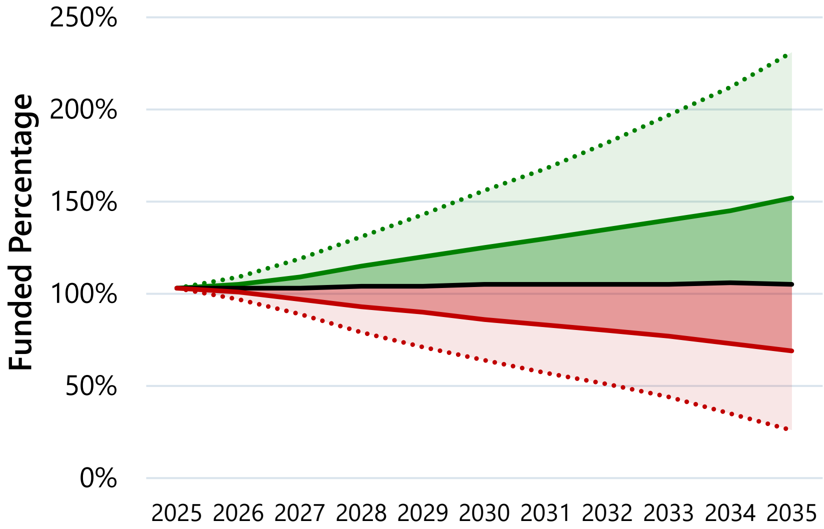
- Understand and Monitor Plan Risk
- Consider Long-Term Plan Stability Strategies
- Evaluate Potential Benefit Improvements
- Exercise Caution with Contribution Reductions

Understand and Monitor Plan Risk

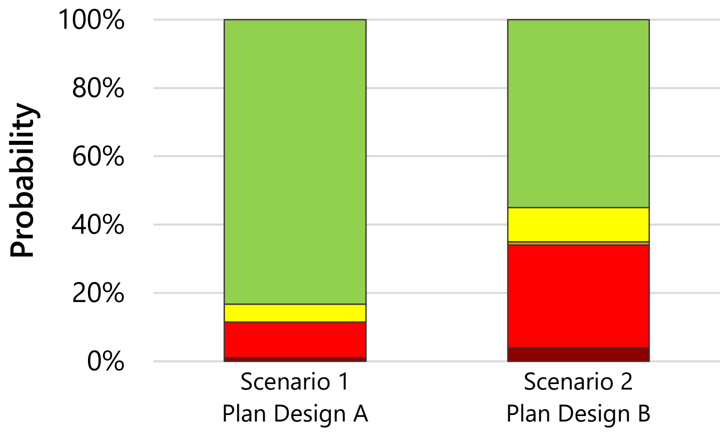
- **Keep an eye on your maturity measures**
  - What are they now and projected to be in 5 or 10 years?
  - Changes can happen quickly and unexpectedly
- **Review sensitivity projections**
  - What happens if returns/work levels are less than expected?
- **Perform stochastic projections**
  - What are the range of potential future outcomes?
  - What are the chances my plan is not in the green zone in the future?

Stochastic Projection Examples

Projected Funded Percentage



Projected Zone Status Probabilities in 10 years



	Scenario 1 Plan Design A	Scenario 2 Plan Design B
"Green Zone"	80%	55%
Endangered	5%	10%
Seriously Endangered	0%	1%
Critical	10%	30%
Critical & Declining	1%	4%

Long-Term Plan Stability Strategies

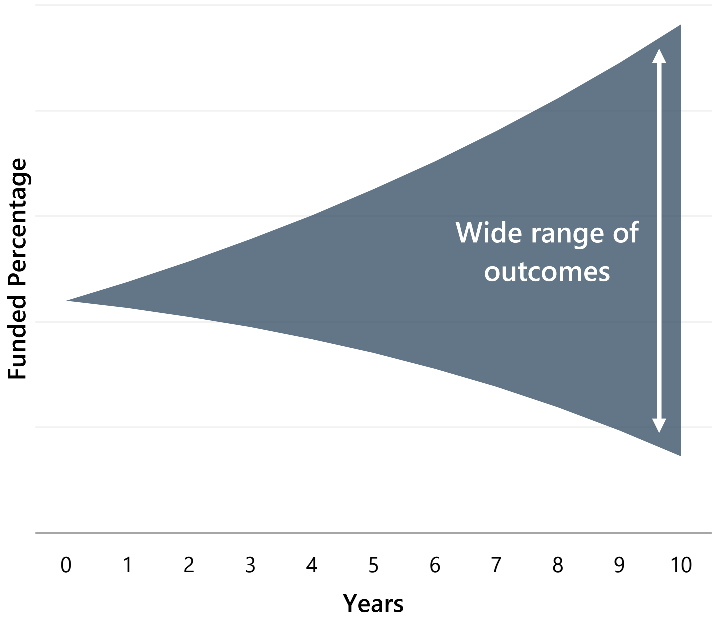
Benefits	Investments	Funding
• **Alternative Plan Designs** Example: Variable Annuity Plan benefits aligned with investment performance to reduce chance of future underfunding	• **Reduce Volatility** Shift investments from return-seeking assets to high-quality fixed income • **Cash Flow Matching** Invest in bond portfolio designed to generate income to pay for benefits/expenses • **Pension Risk Transfer** Purchase an annuity contract from an insurer to make payments to pensioners	• **Funding Cushions** Develop and maintain funding levels above 100% to better absorb losses in down markets • **Conservative Assumptions** Make decisions using conservative assumptions (e.g., lower future investment returns)

Important: There is no "one size fits all" solution for plans. Strategies must be tailored to a plan's specific situation and be aligned with Trustee objectives.

Impact of Investment Strategies

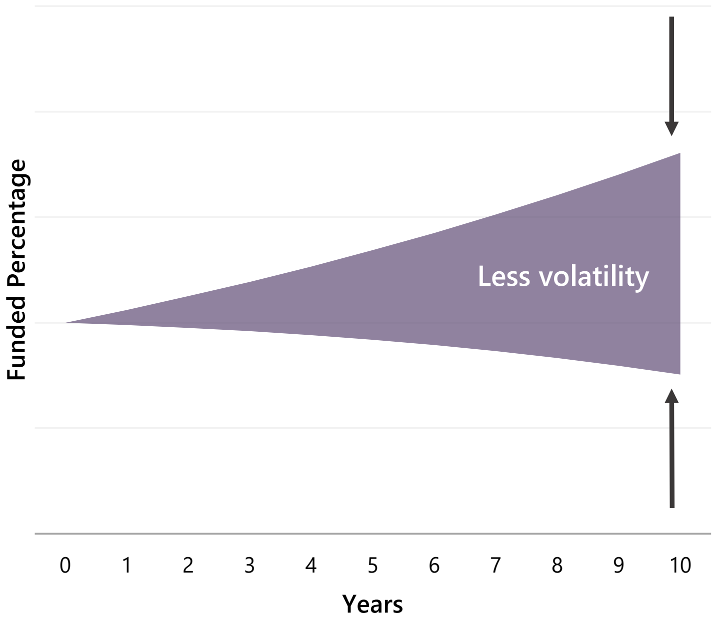
Traditional Strategies:

More growth potential;
greater uncertainty



Plan Stability Strategies:

More predictability, reduced downside risk;
may limit growth opportunity



Which Plan Should Consider Improvements?

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Funded Percentage (2024)	94%	79%
Projected Funded Percentage (2038)	120%	120%
Zone Status	**Green Zone**	**Yellow Zone**

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Mortality Tables	RP-2000 🚩	PRI-2012
Inactive/Active Ratio	3.0 🚩	1.5
Cash Flow	-5.0% 🚩	-2.5%

🚩 = Potential "red flag" for benefit improvements

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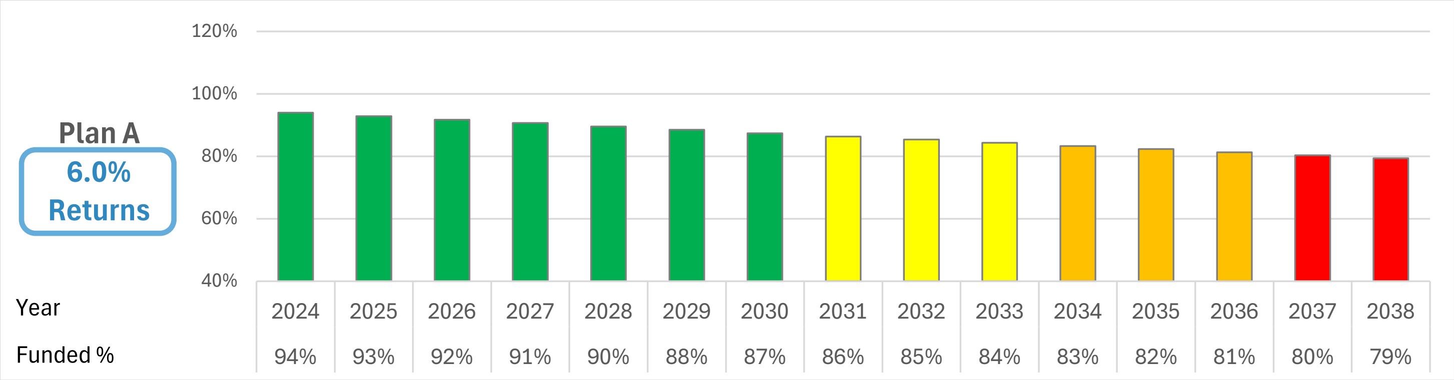

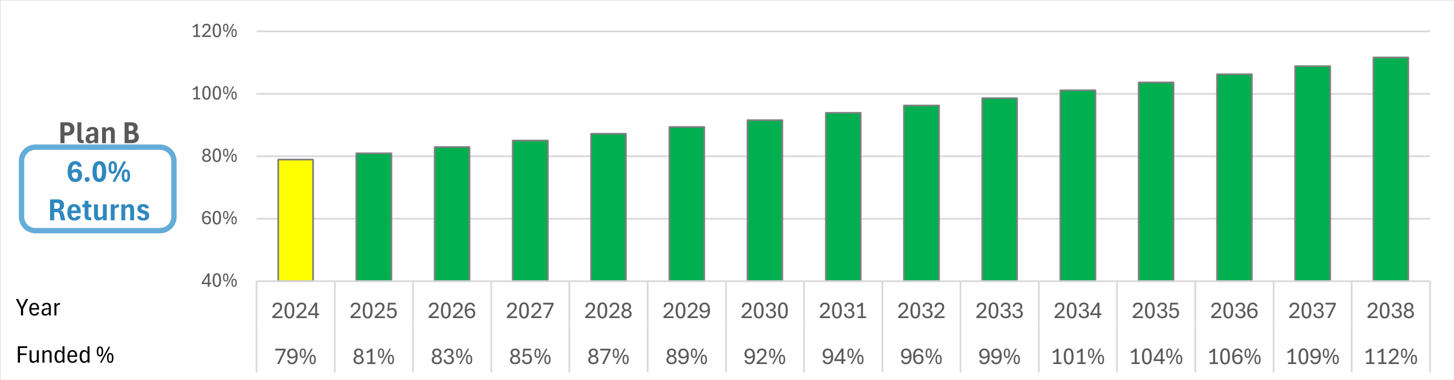

When to Improve Benefits

- **After or in conjunction with:**
  1. Reviewing/updating assumptions
  2. Discussing/understanding plan maturity
  3. Reviewing projections (including stress testing, stochastic modeling)
     - Both before and after proposed improvement
  4. Reviewing investment strategy/goals
- **After a bad investment year**
- **At a point where the plan is too well-funded?**

How to Improve Benefits

- **Gradually**
  - More likely to result in fair and equitable benefits
  - Provides inflation protection
- **Thoughtfully**
  - Equity and fairness
  - Workforce management (attraction and retention)
  - What do members value?
  - Optics matter!

Types of Benefit Improvements

Benefit Accruals
Past Service
Future Service
Past + Future Service
13th Check
Ad-Hoc Retiree Increase
Modify Service Schedule
Contribution Rate Increase
Backfill Periods of Lower Accruals

Benefits, Rights, and Features
Early Retirement Eligibility
Early Retirement Reduction Factors
Disability Eligibility
Disability Benefit Amount
Late Retirement Increases
Modify Service Schedule
Optional Form of Payment Factors
Other Ancillary Benefits

Contribution Reductions

- **Could be desirable for many reasons**
  - Prevent plan from becoming too overfunded
  - Make funds available for other purposes such as:
    - Pay for increasing costs in welfare fund
    - Increase contribution to supplemental defined contribution (DC) plan
    - Increase take-home pay during bouts of high inflation
- **Exercise Caution**
  - Ensure contributions continue to cover actuarial costs, preferably with a margin for adverse deviation
  - Review projection sensitivities and/or perform stochastic projections

Key Takeaways

- **My Plan Is Well-Funded - Now What?**
  - Make sure you are actually well-funded
  - Review actuarial assumptions
  - Review plan maturity measures
  - Review projections with stress testing
  - Implement plan stability strategies
  - Improve benefits!!
    - - Gradually and thoughtfully

Contact Information

If you have any questions, please contact one of the consultants whose contact information is provided below.

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