The Actuarial Perspective on the Market Downturn

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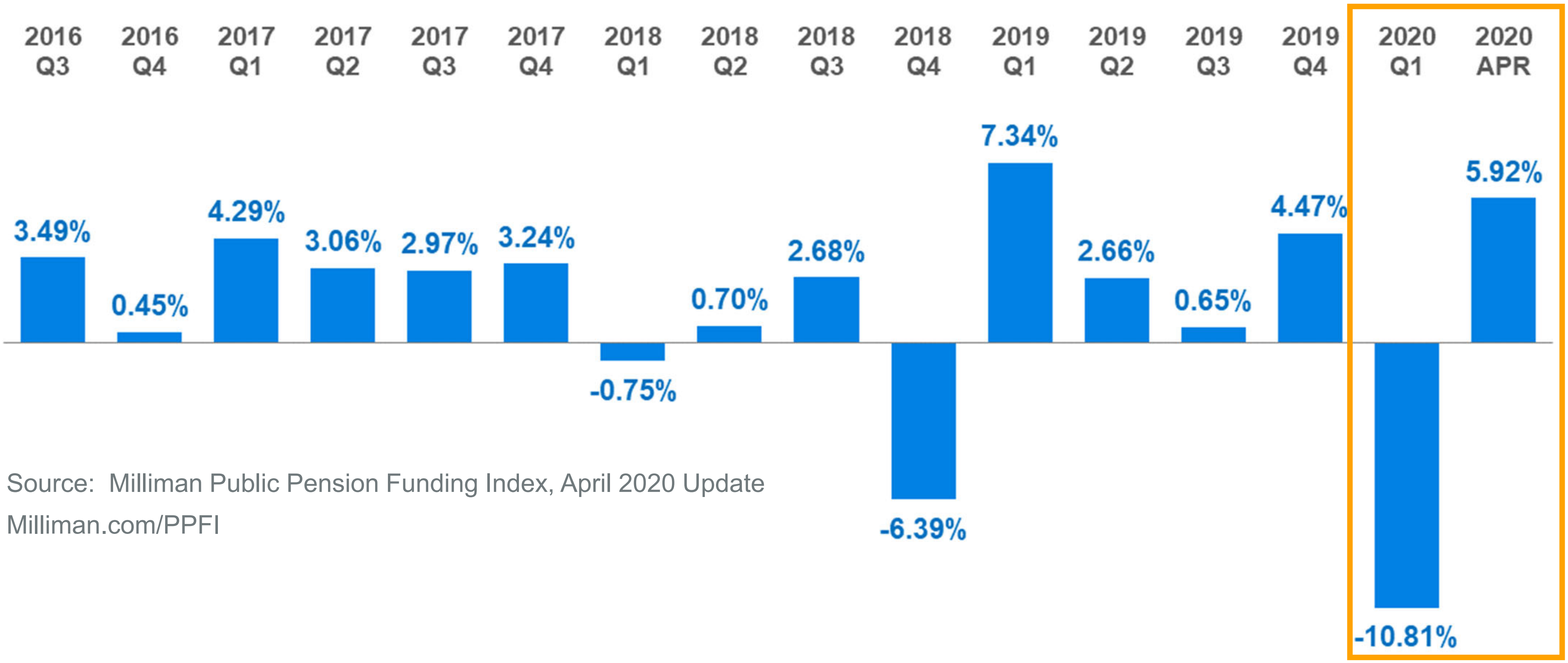
Milliman

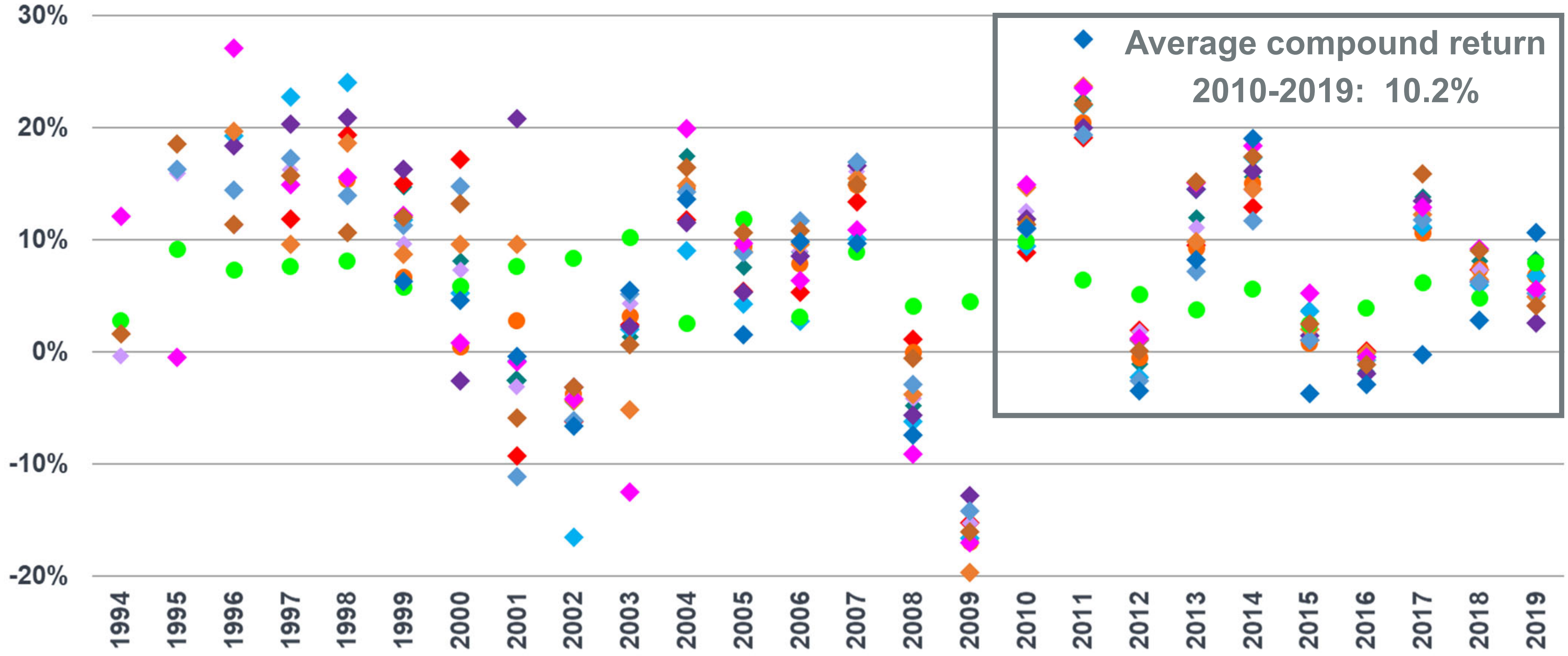
Topics

Investment returns for 100 largest US public pension plans

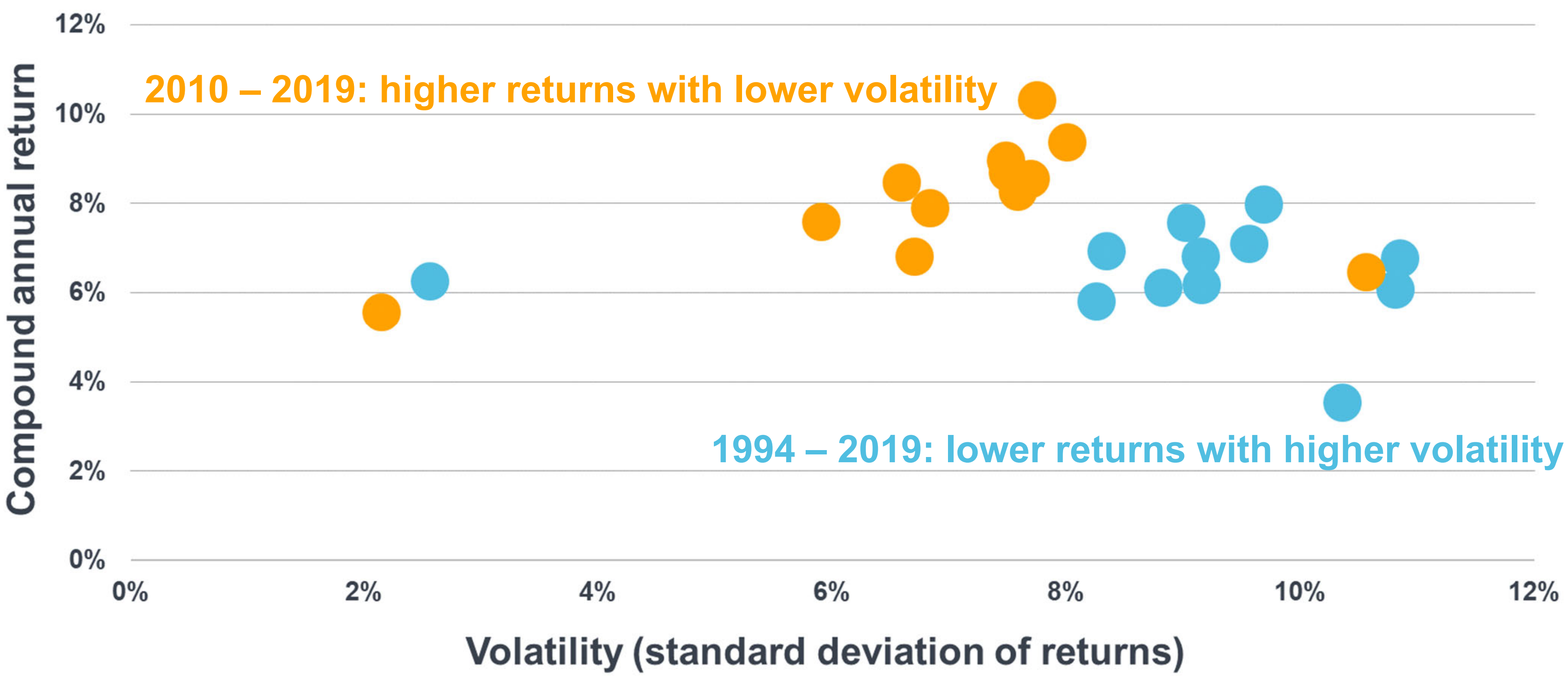


Source: Milliman Public Pension Funding Index, April 2020 Update
Milliman.com/PPFI

Long-term perspective for 12 public plans (all 6/30 FYEs)



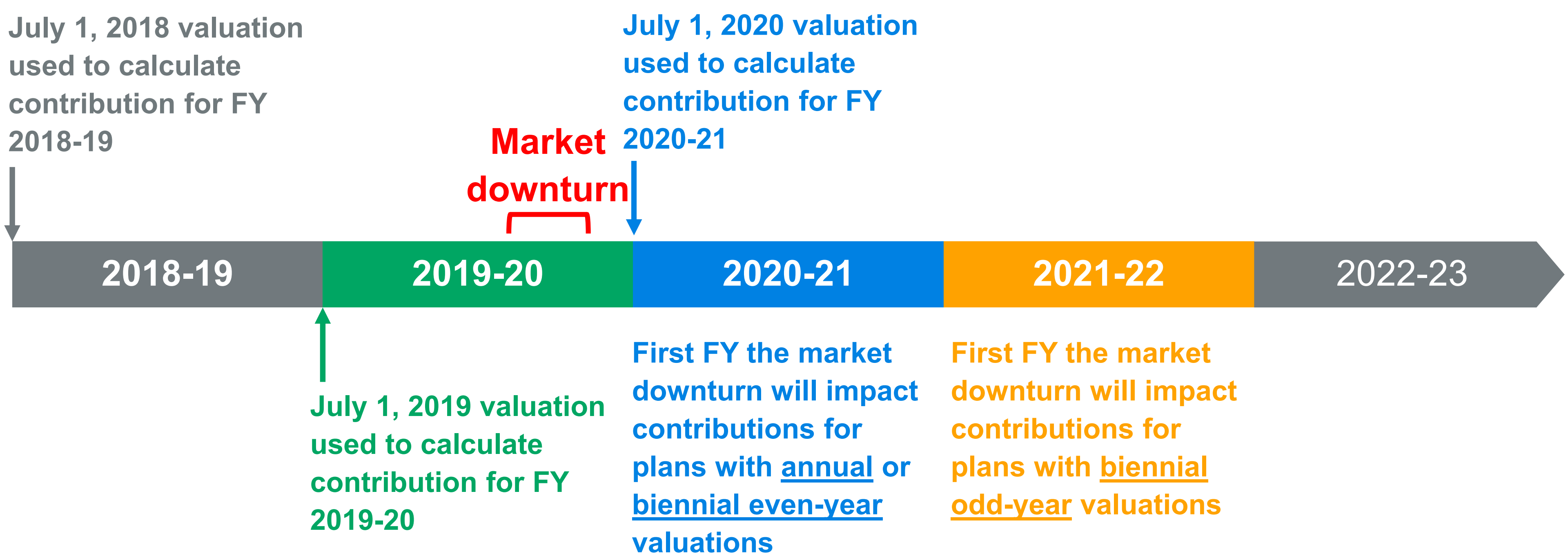
Last ten years -- pretty quiet versus -- last twenty-five years



Topics

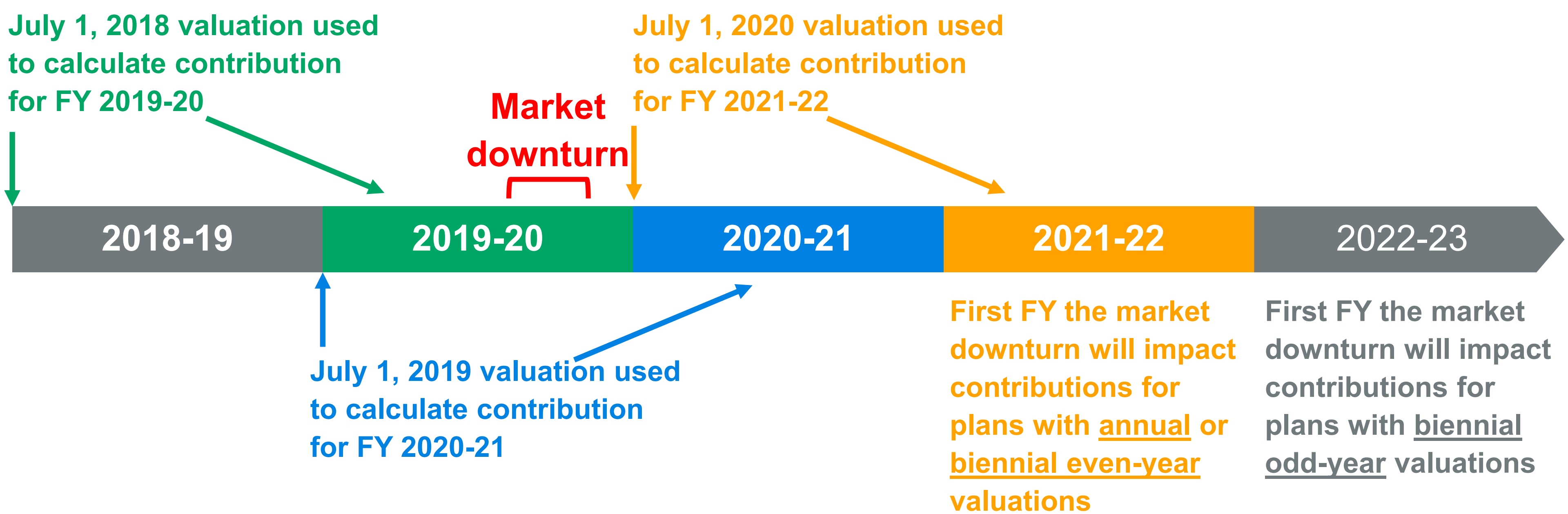
Relationship of the valuation date to the fiscal year

If valuation date is at or near the start of the fiscal year (example uses a June 30 FYE)



Relationship of the valuation date to the fiscal year

With one-year lag between valuation date and fiscal year



Topics

1	Historical perspective
2	Valuation timing considerations
3	**Asset smoothing policy**
4	Amortization policy

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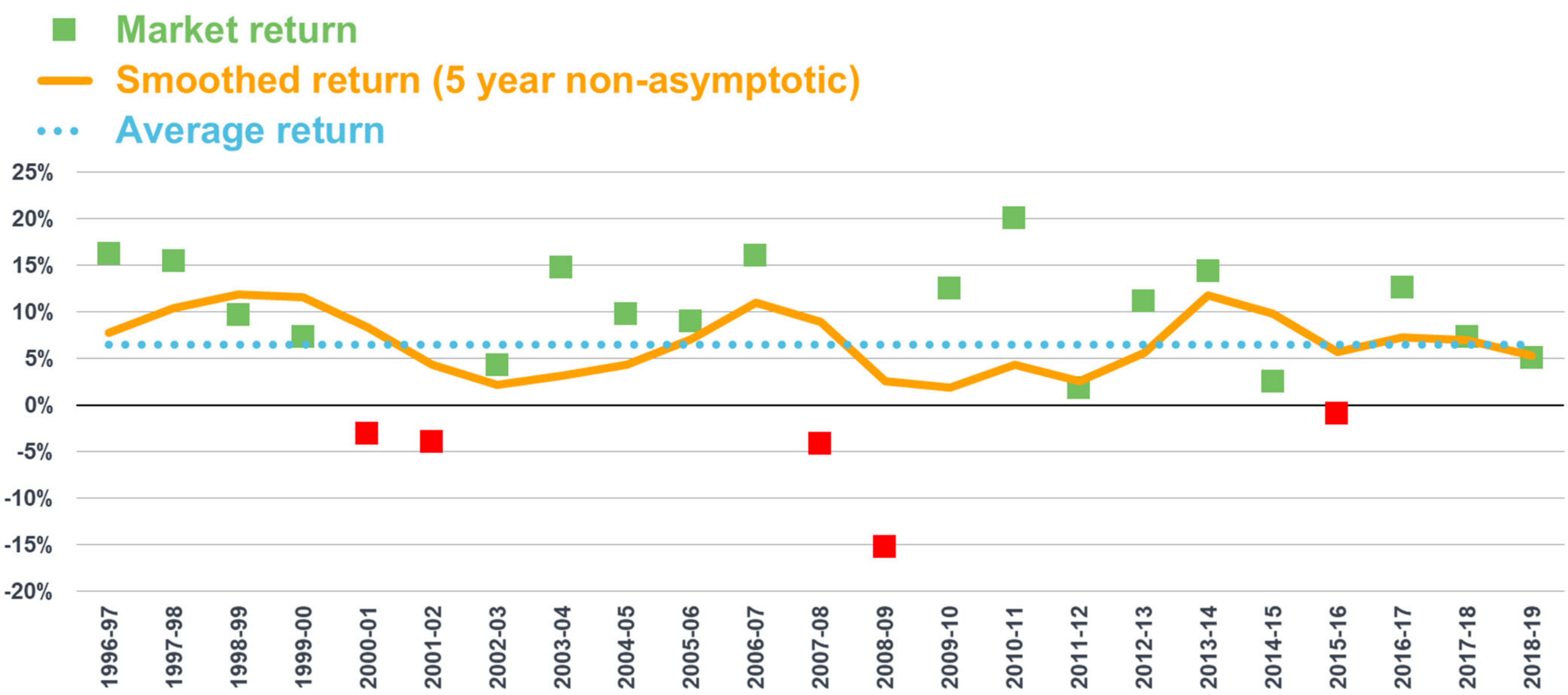
Asset smoothing dampens the impact of market fluctuations



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Asset smoothing

- Market returns are measured **net** of all investment expenses
- Market “gains” or “losses” are measured relative to the interest rate assumption used in the prior valuation:
  - Market value of assets at 7/1/2019 = $10,000,000
  - For simplicity, let’s say contributions in = benefits paid out, so net cash flows = $0
  - Interest rate assumption = 6.5%, so assets are expected to earn $650,000
  - Suppose market return is -10%, so assets actually lose $1,000,000

    → Market loss for smoothing purposes = $1,650,000
  - With 5 year smoothing, 1/5 x $1,650,000 = $330,000 of the market loss will be recognized in each of the next 5 years

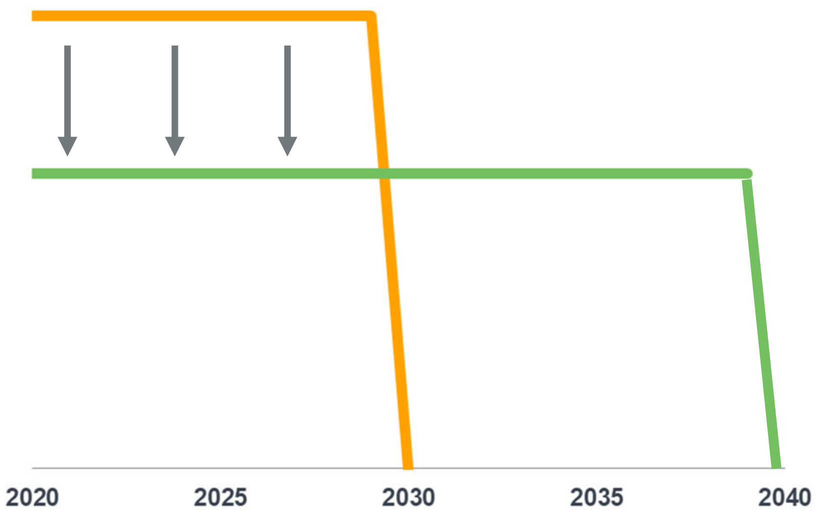
Topics

1	Historical perspective
2	Valuation timing considerations
3	Asset smoothing policy
4	**Amortization policy**

Lengthening the amortization period

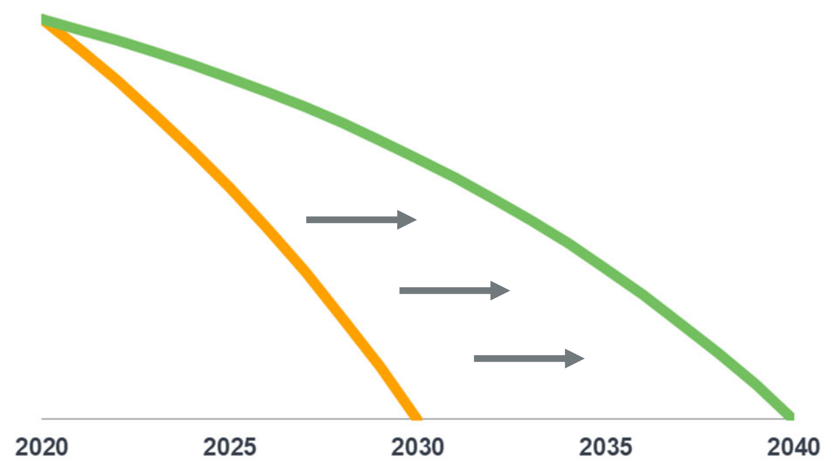
Lengthening the period lowers the annual amortization payment

Annual payments, 10 year schedule
Annual payments, 20 year schedule



But it takes that much longer to pay off the Unfunded Accrued Liability and get to 100% funded

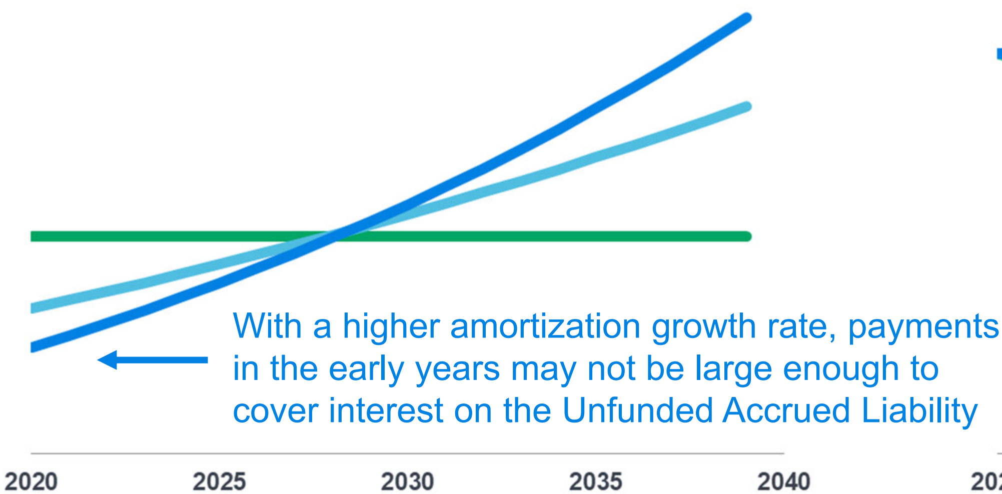
Unfunded accrued liability, 10 year schedule
Unfunded accrued liability, 20 year schedule



Changing the amortization growth rate

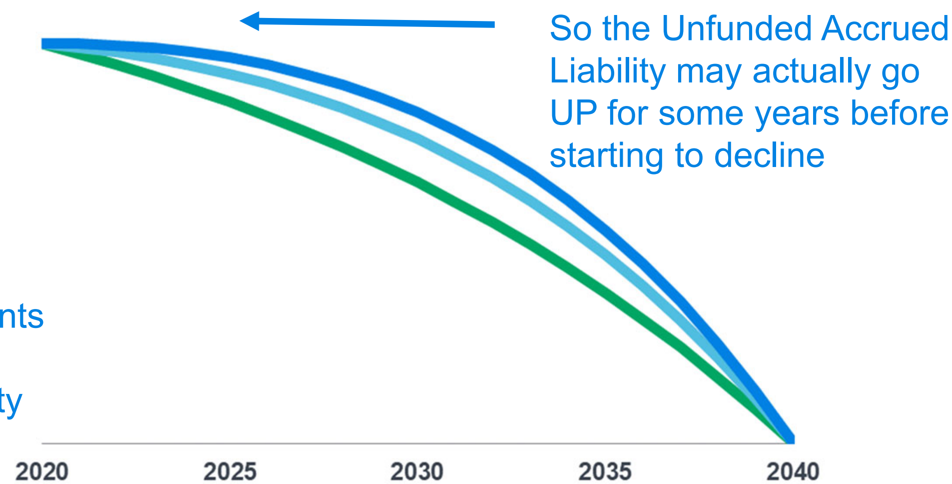
If amortization payments are designed to grow over time, they start lower and end higher

Annual payments, level dollar
Annual payments, 2.5% growth rate
Annual payments, 4.0% growth rate



The Unfunded Accrued Liability gets to 100% funded in the same year, but by different pathways

Unfunded liability, level dollar
Unfunded liability, 2.5% growth rate
Unfunded liability, 4.0% growth rate



Separate treatment for the current FY asset loss?

Pre-2020 experience
existing amortization schedule

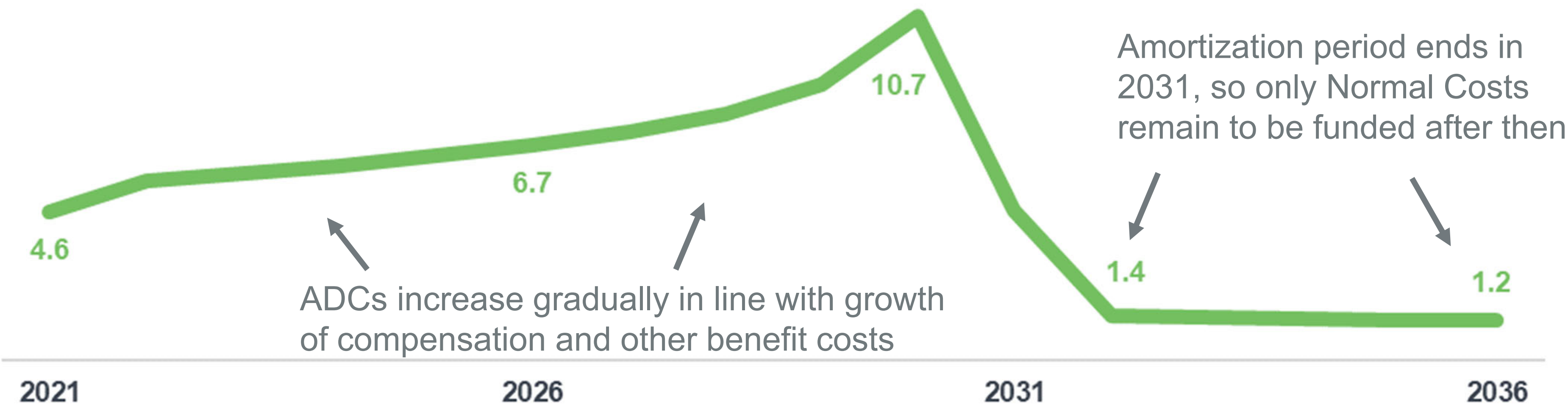
2020 asset loss
longer amortization period; track payments separately

Post-2020 experience
existing amortization schedule

Need to understand long-term impact of amortization choices

Baseline projection of Actuarially Determined Contributions from the 2019 valuation

- 5 year asset smoothing
- 10 year closed amortization period
- 2.75% amortization growth rate
- 80% funded at 7/1/2019
- 1 year lag between valuation date and FY



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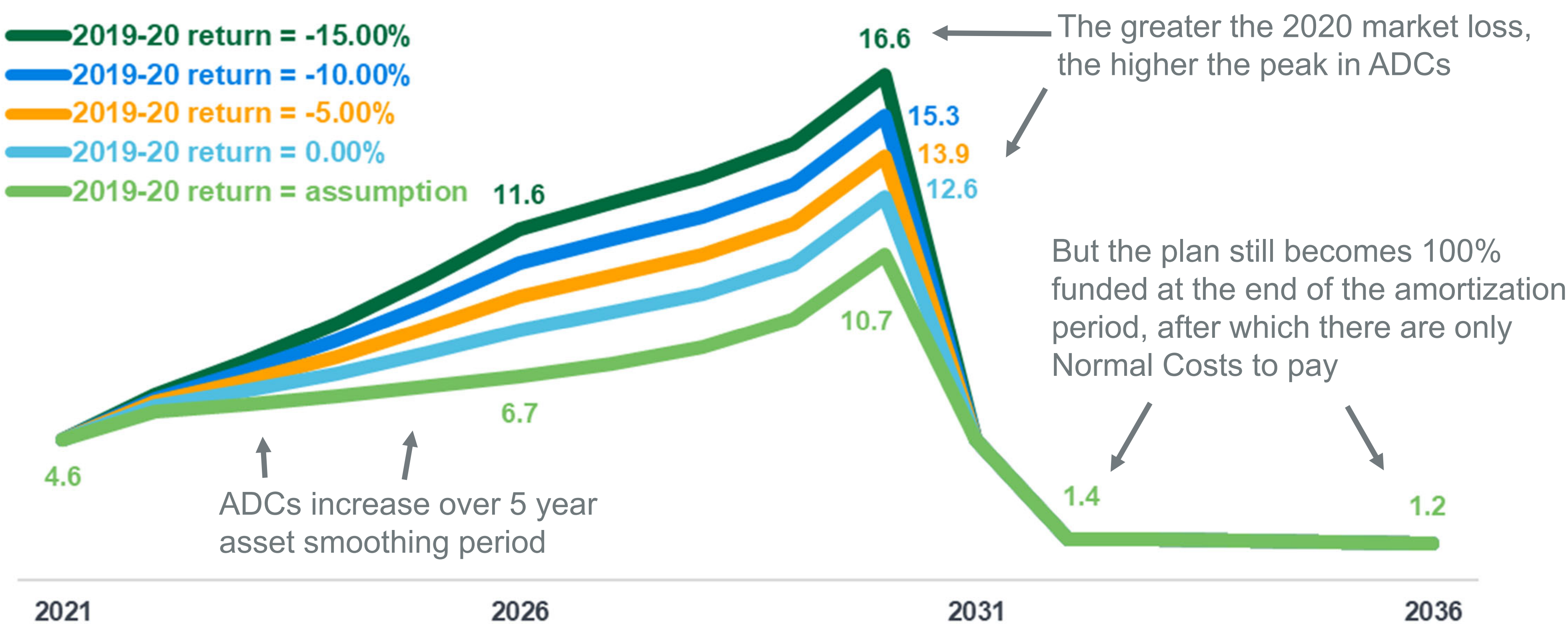
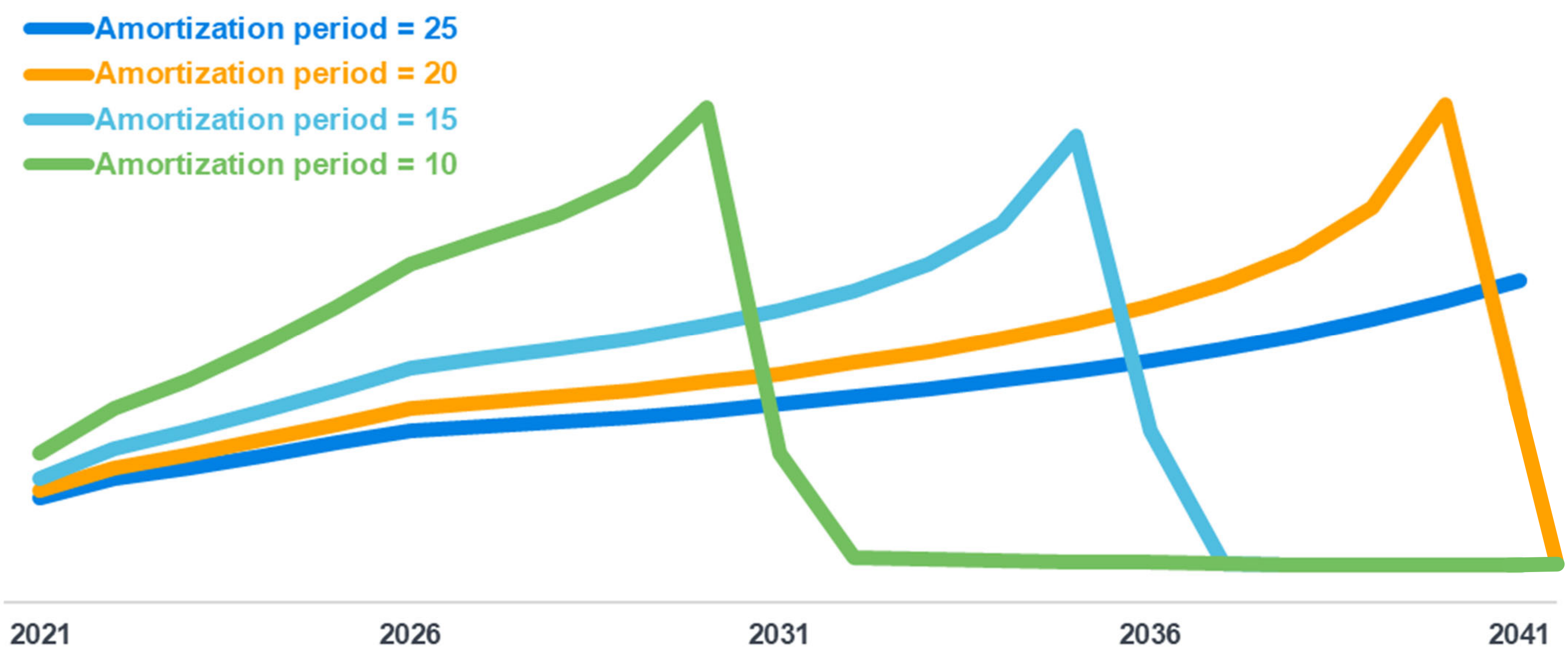
How size of 2020 loss impacts long term contribution level



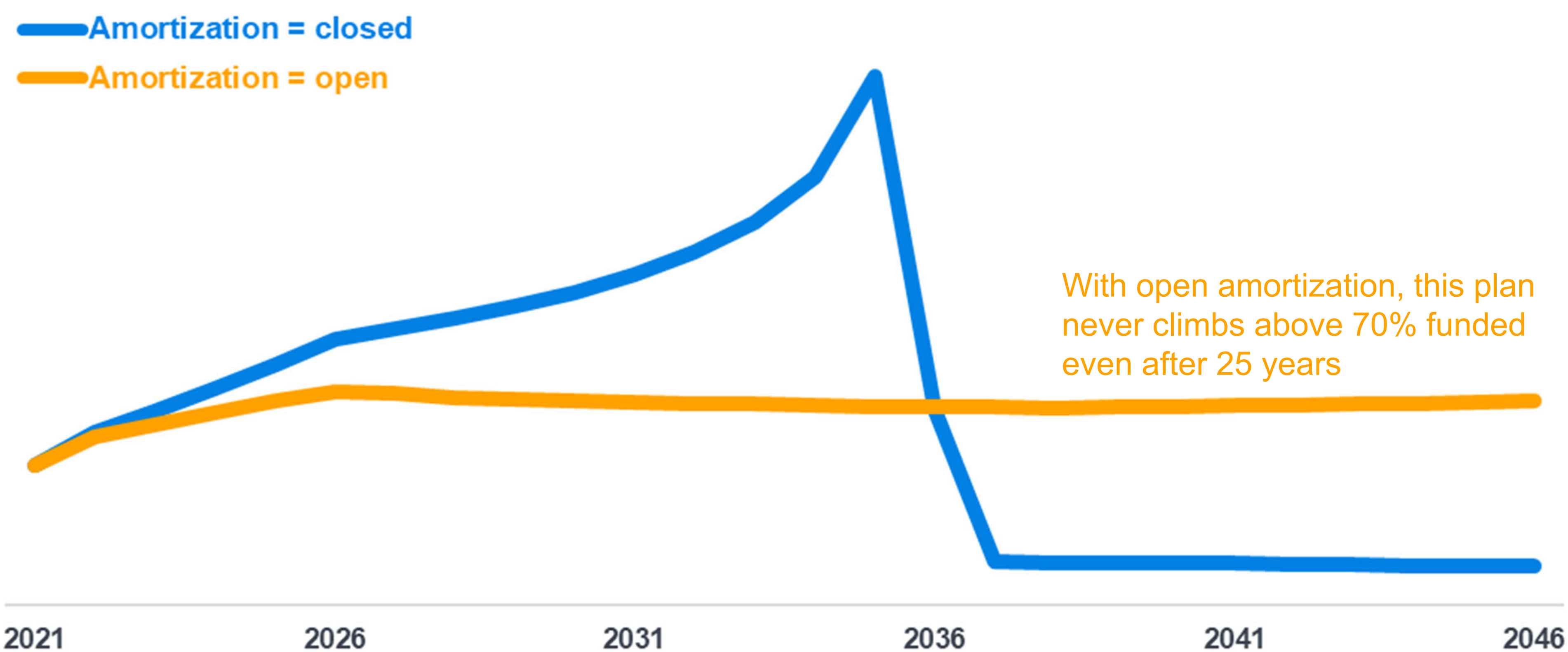
Based on 5 year asset smoothing, 10 year closed amortization period, 2.75% amortization growth rate, 80% funded at 7/1/2019, 1 year lag between valuation date and FY

Impact of lengthening the amortization period



Based on 5 year asset smoothing, 2.75% amortization growth rate, 80% funded at 7/1/2019, 1 year lag between valuation date and FY, -10% return in 2019-20

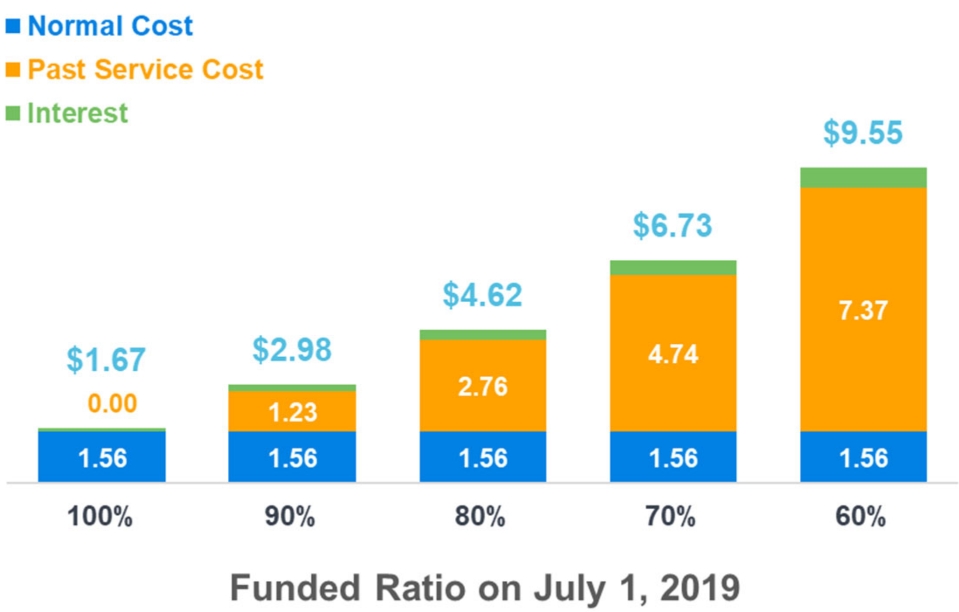
Closed versus open amortization



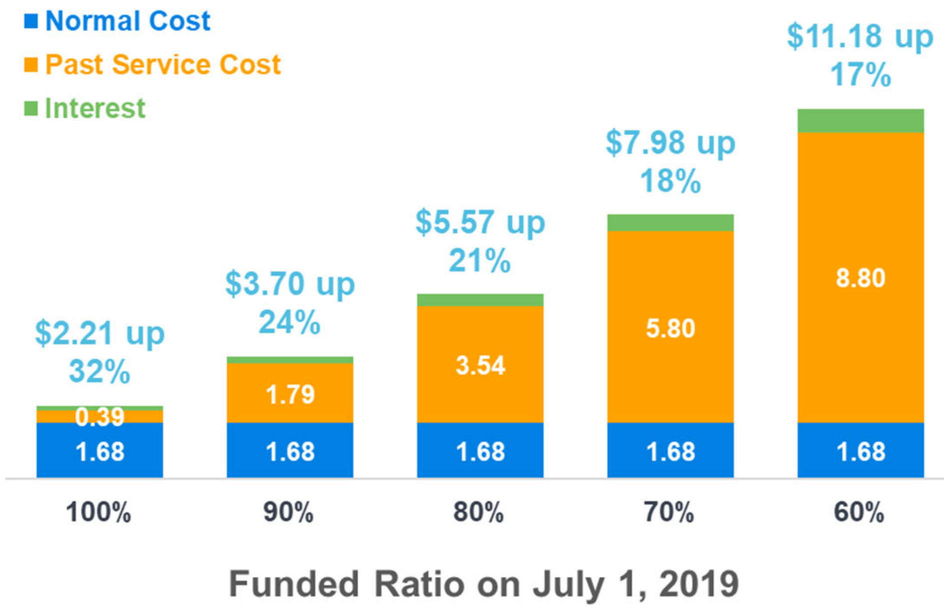
Based on 5 year asset smoothing, 15 year amortization period, 2.75% amortization growth rate, 80% funded at 7/1/2019, 1 year lag between valuation date and FY, -10% return in 2019-20

Impact of funded status before downturn

ADC for FY **2020-21** based on July 1, **2019** valuation



ADC for FY **2021-22**, reflecting **-10%** return in 2020



Based on 5 year asset smoothing, 10 year closed amortization period, 2.75% amortization growth rate, 1 year lag between valuation date and FY

Things to think about

- Make sure you are okay with the long-term impact of actions you take now
- Balance: short-term needs of the tax base vs. long-term need to fund the plan
- Intergenerational taxpayer equity: who shoulders the burden of today's losses?
- Governance: who has the authority to decide on changes in funding policy?
- Context: what else is going on in your financial picture?
- When was the last time you had an experience study performed to ensure that the actuarial assumptions are on target?
- When was the last time you considered the long-term impact of the level of investment risk that you are taking?

Questions?

Thank you

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