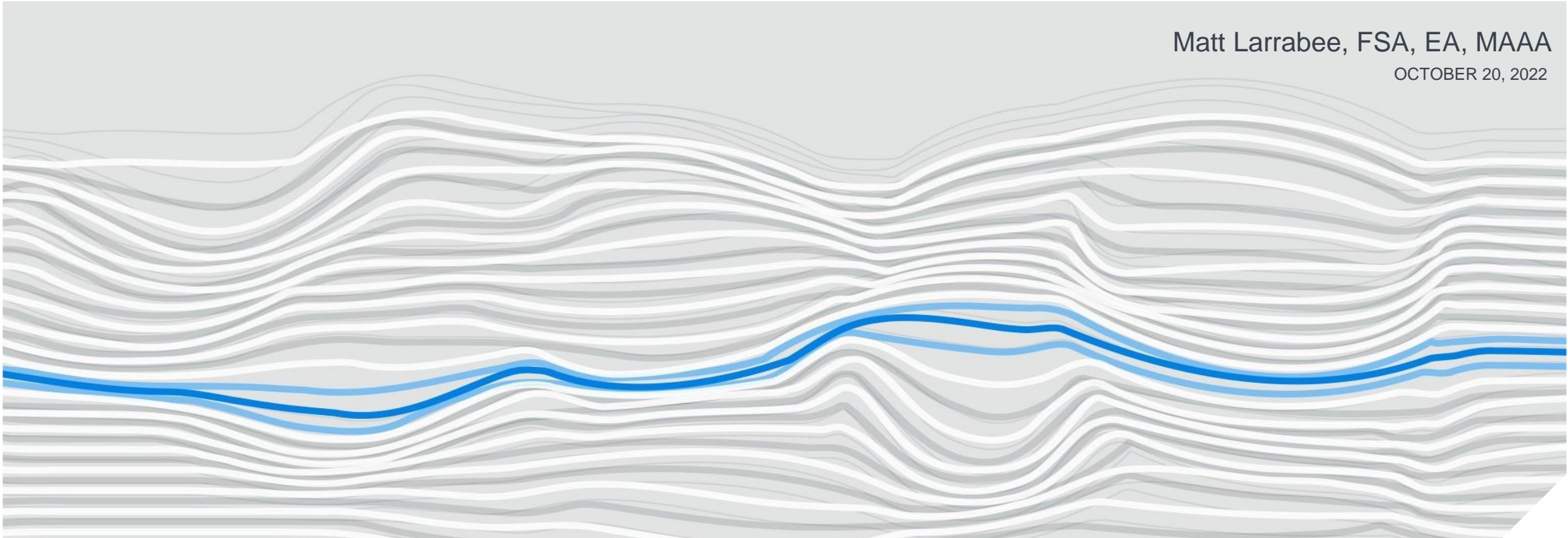


Florida Retirement System

2022 FRS Actuarial Assumption Estimating Conference
Including Preliminary July 1, 2022 Actuarial Funding Valuation Results

Matt Larrabee, FSA, EA, MAAA

OCTOBER 20, 2022



Executive Summary

- HB 5007 increased 2022-2023 blended composite rates by approximate 0.73% of payroll
- Preliminary July 1, 2022 valuation / 2023-2024 contribution rates determined at a 6.8% return assumption:
 - -7.2% plan year return on a fair market basis; fair market asset measure still \$1.0 billion above the smoothed asset measure used to calculate contribution rates; July 2022 funded status on the fair market asset measure is 83.9%
 - July 2022 funded status using the smoothed asset measure is unchanged year-over-year at 83.4%
 - The blended Pension Plan/Investment Plan composite employer contribution rate increases by 0.20% of payroll to 13.78% of payroll due to plan year 2021-2022 experience and projected 2023-2024 employer contributions increase by \$225 million to \$5.33 billion
- Aon's "SBA Approach" investment return outlook model has a median projected geometric average return of 6.87%, which is slightly above the current 6.8% return assumption
- The 2023-2024 contribution rate increase for a 0.10% decrease in the investment return assumption would be an additional 0.61% of payroll (estimated as an additional \$240 million contribution cost increase for 2023-2024)
- Current policy, which was first adopted at the 2021 Conference, amortizes newly arising unfunded actuarial liability (UAL) charge and credit bases over 20 years as a level percent of projected system UAL payroll

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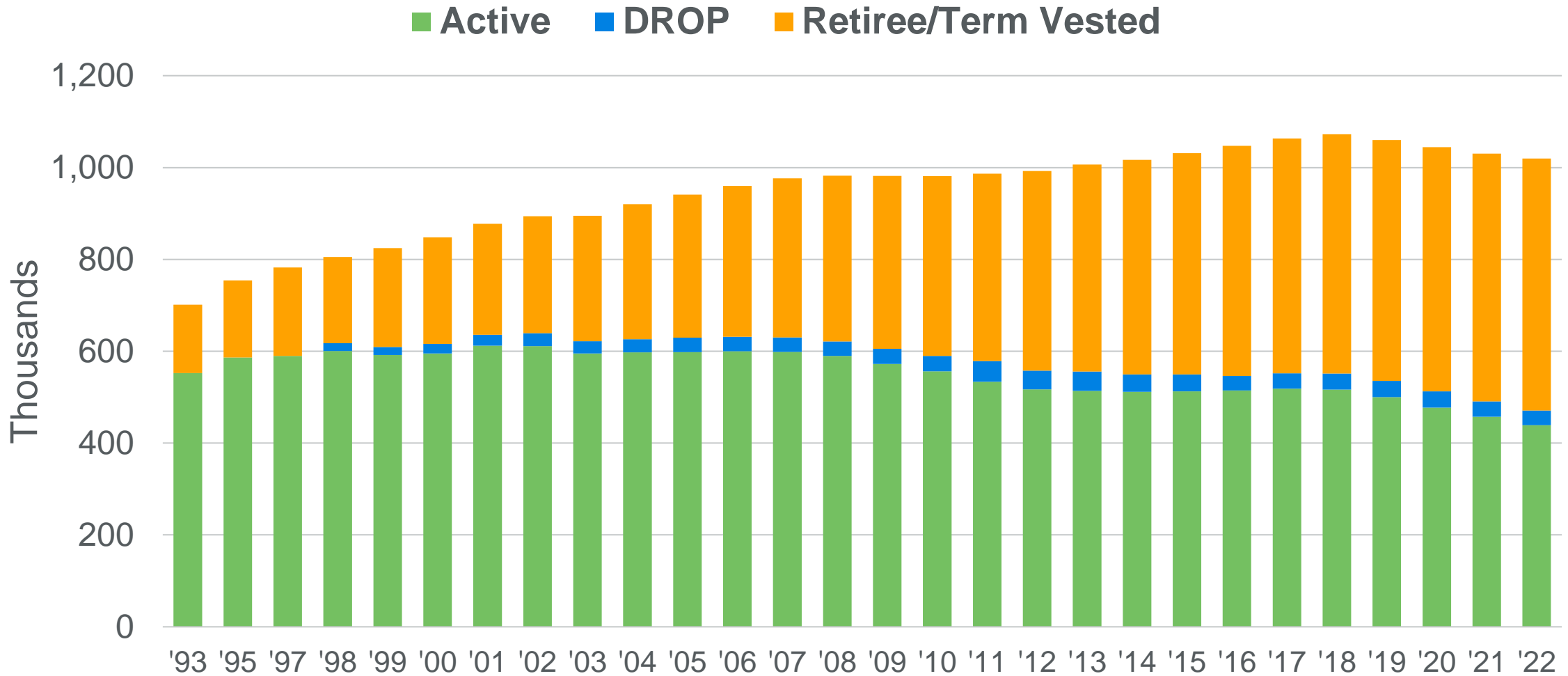
Agenda

- Preliminary 2022 actuarial funding valuation results
- Investment return assumption for FRS Pension Plan funding actuarial valuation
- Discount rate for Health Insurance Subsidy & Florida National Guard GASB actuarial valuations
- Needed guidance from Conference Principals

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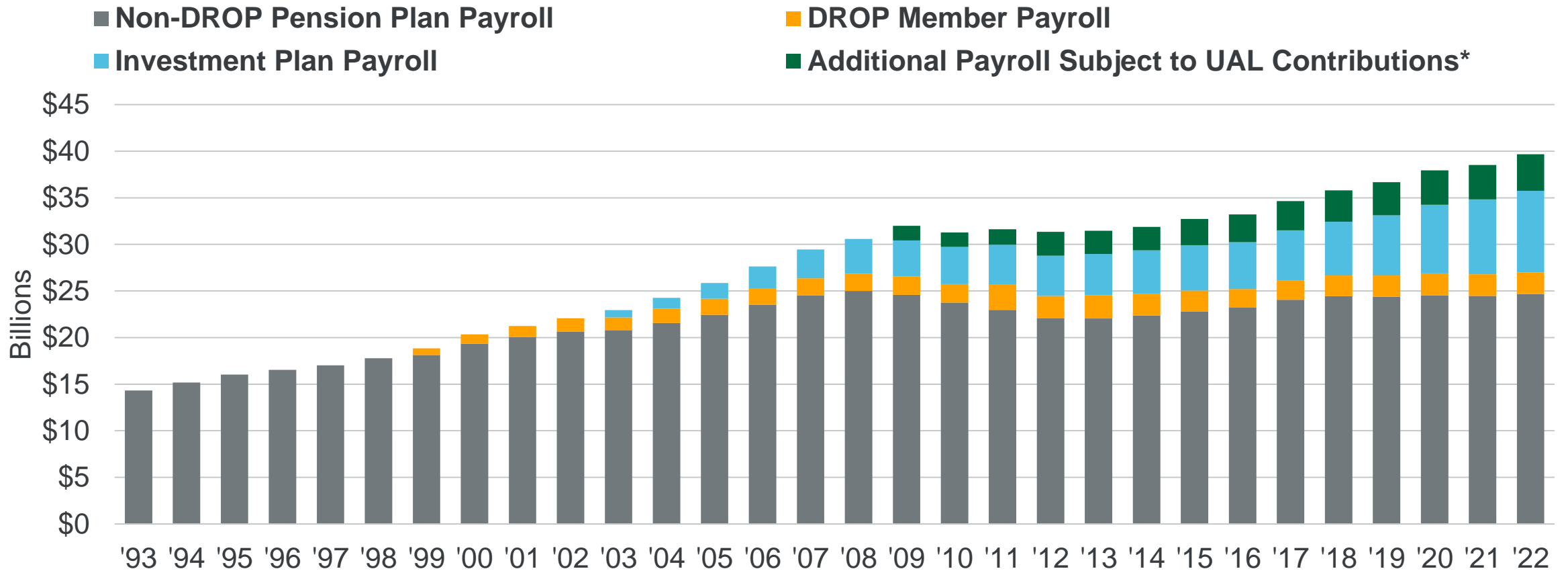
FRS Pension Plan Assets, Member Demographics

FRS Pension Plan Membership



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Payroll: FRS + Non-FRS UAL Contributory

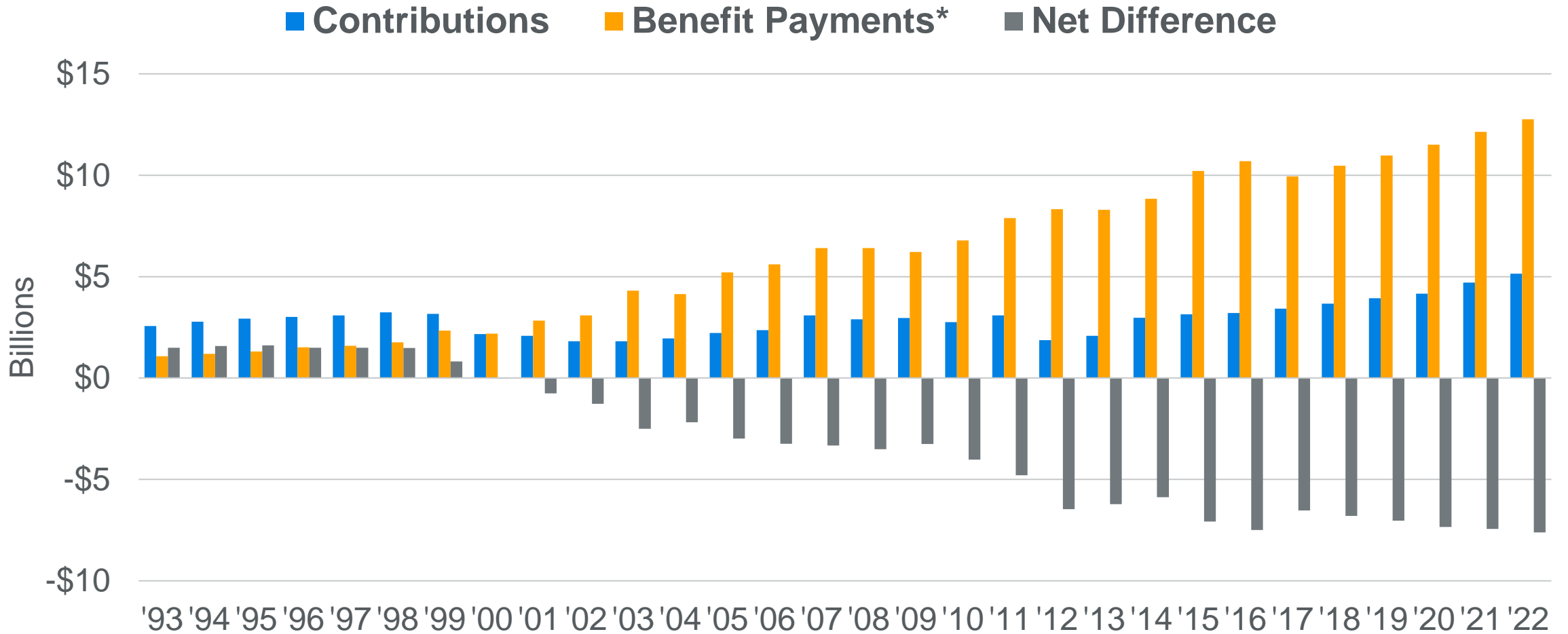


- Payroll increased by 3.0% last year; with 10-year annualized growth of 2.4%

*Includes payroll for participants in certain non-FRS defined contribution plans upon which UAL Rate contributions to the FRS Pension Plan are made. This payroll component is anticipated to be \$3.9B in the 2022-23 plan year.

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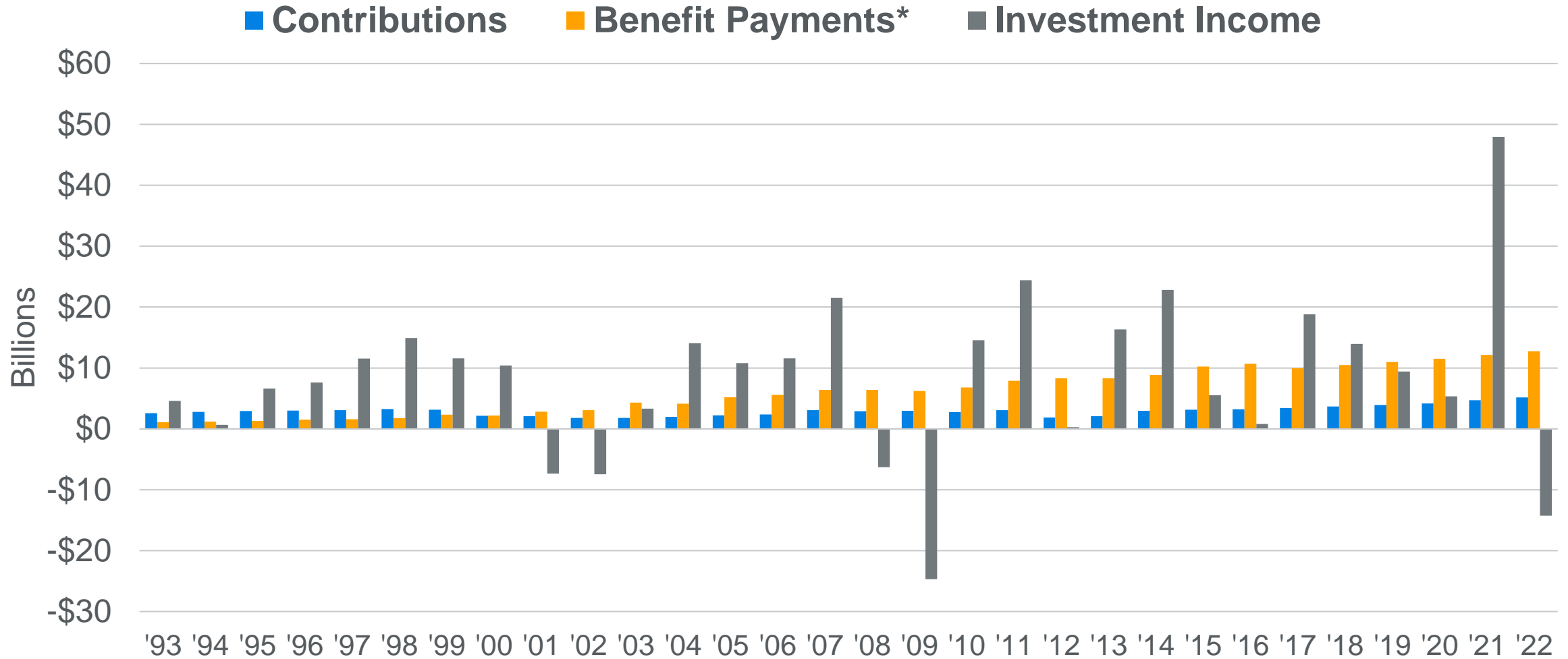
Contributions and Benefit Payments



* Includes transfers to Investment Plan in 2013 and subsequent years.

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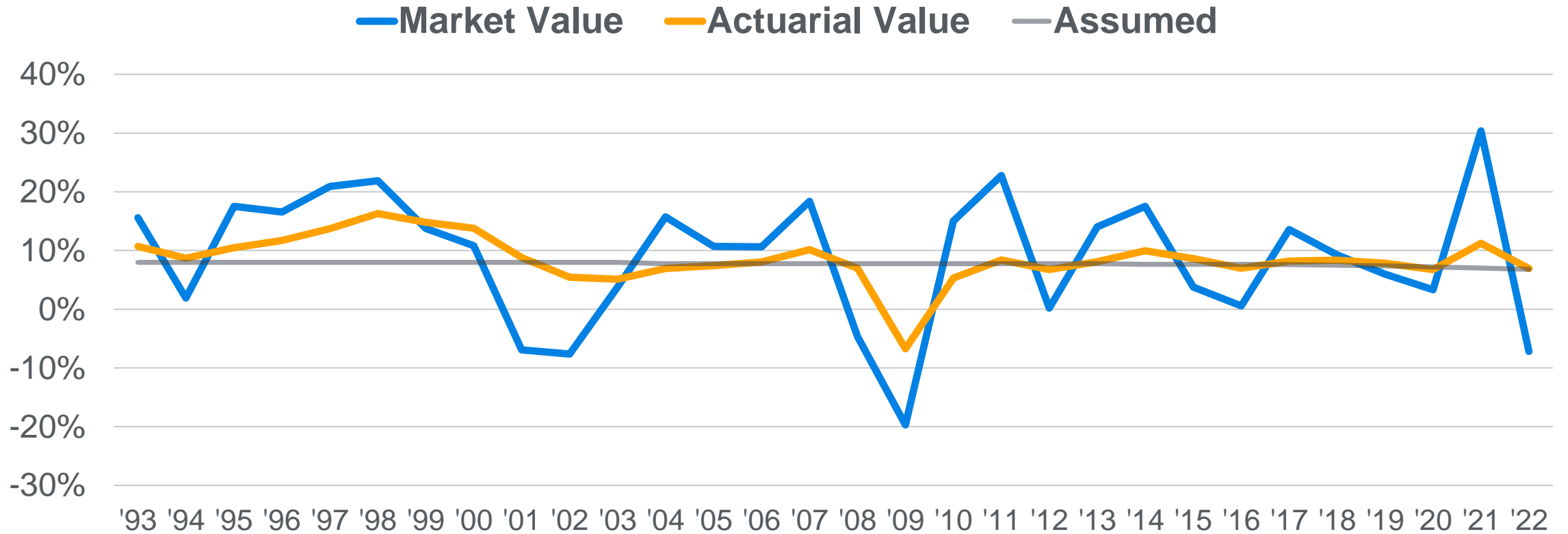
Pension Plan Cash Flows



* Includes transfers to Investment Plan

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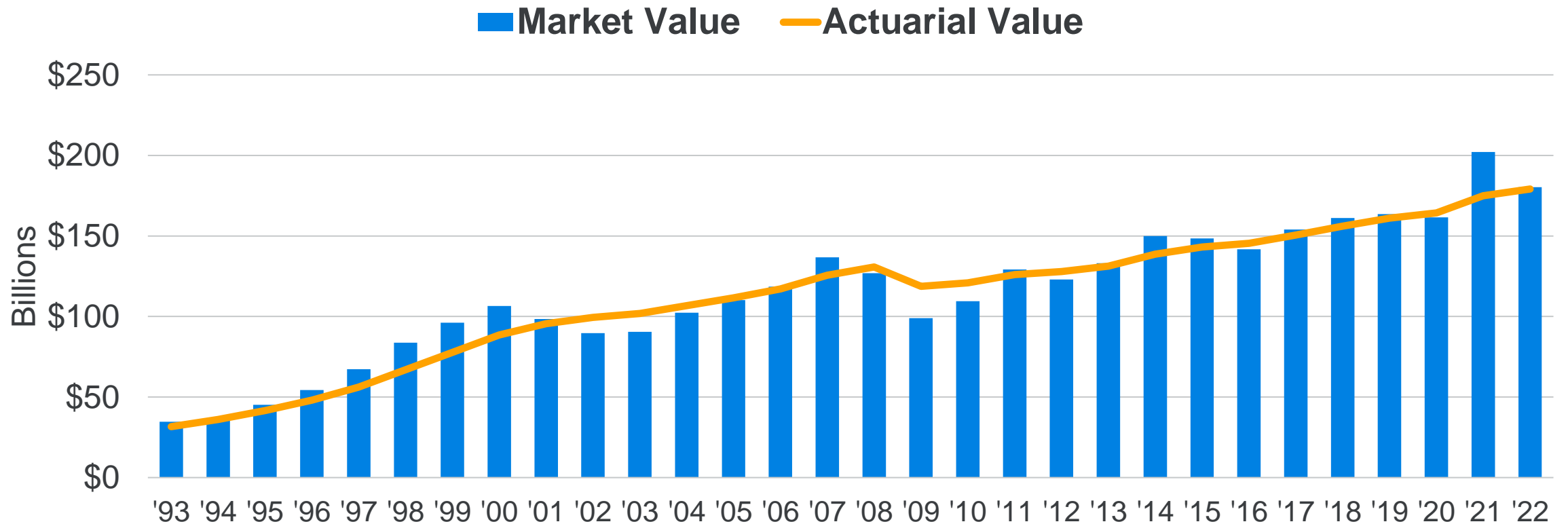
Historic Asset Returns



- The 2021-22 return was **-7.2%** on a market value of assets (MVA) basis and **+7.0%** on a smoothed actuarial value of assets (AVA) basis
 - AVA return is determined by market value returns over the prior five years

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Market & Actuarial Value of Assets

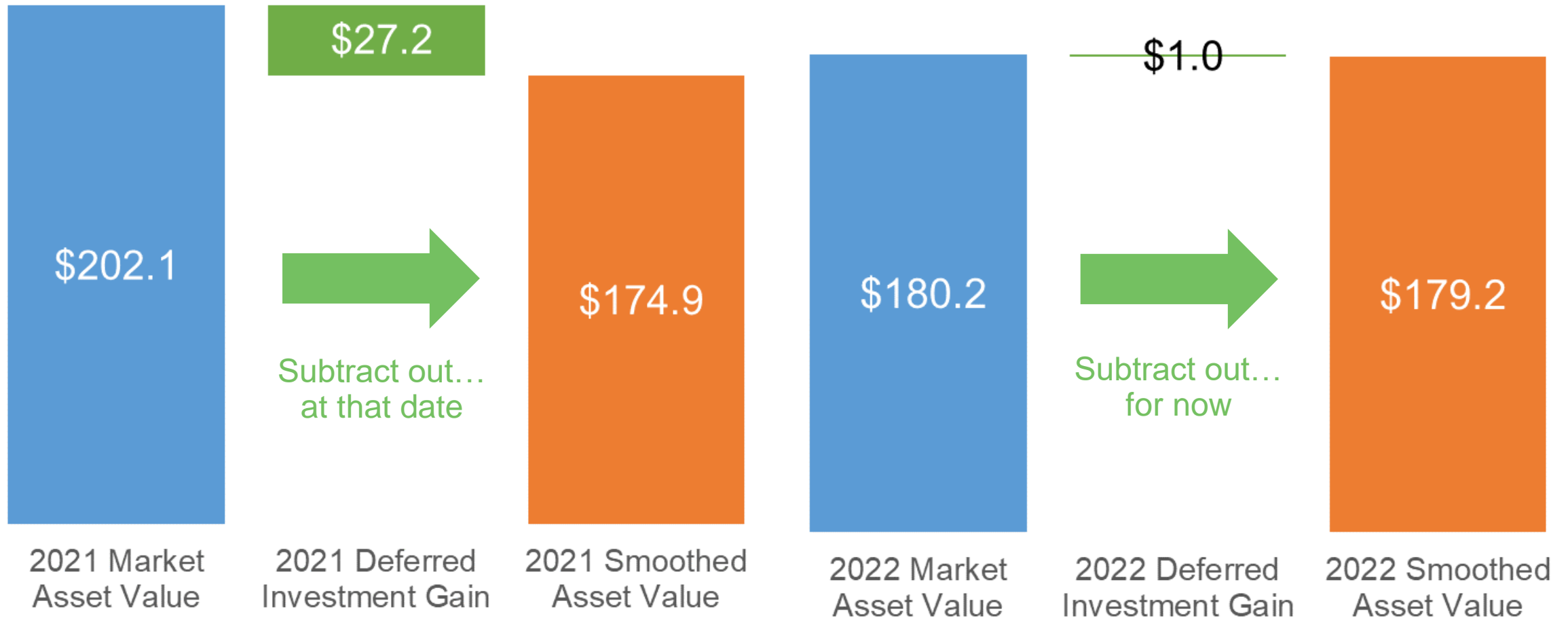


- Market value of assets (MVA) is **\$1.0 billion above** the Actuarial Value of Assets (AVA) at July 2022. That **deferred investment gain** will be recognized in higher AVA returns (and associated **contribution rate decreases**) in future valuations if future market investment performance meets current assumption and valuation assumptions are not changed.

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Fair Market and Smoothed Asset Measures for 2021 & 2022

(Amounts in billions)



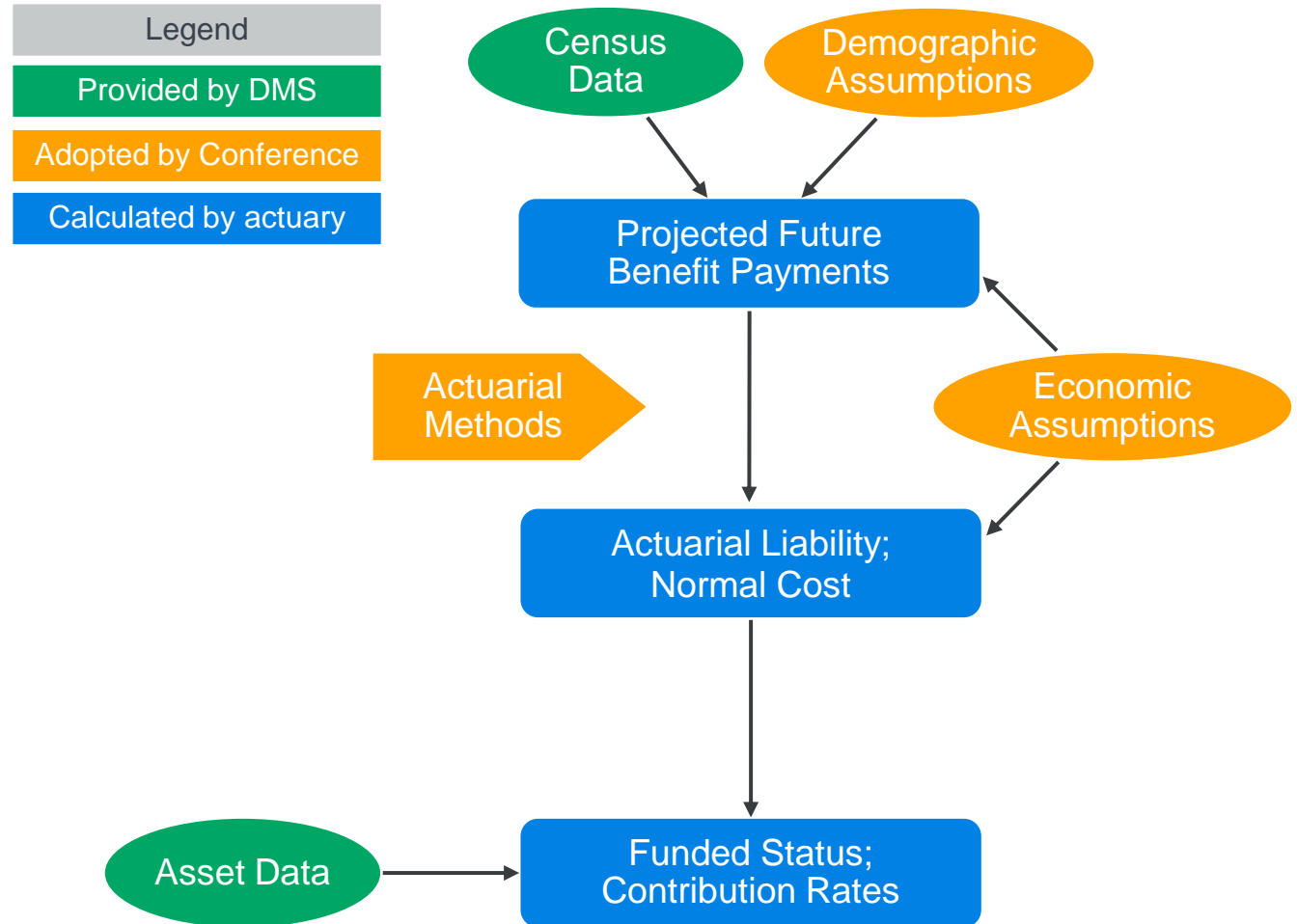
- The **smoothed asset value** is used to set actuarially determined contribution rates

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Valuation Process and Projected Benefit Payments

Actuarial Valuation Process

- Today: Discuss preliminary 2022 valuation results, select assumptions and methods for 2022 system funding valuation
- By December 1: Complete 2022 actuarial valuation report, including actuarially calculated contribution rates
- Demographic assumptions, census data, and benefit provisions determine projected future year-by-year benefit payments
- Methods and economic assumptions affect calculations of funded status and contribution rates



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Overview of an Actuarial Valuation

Two Pension Plan valuations are conducted annually in parallel to:

- Calculate funded status and develop actuarially calculated contribution rates (funding valuation)
- Satisfy financial reporting requirements (separate GASB valuation)

Data

Assumptions

Methods

Provisions



**Projected
Benefit
Payments**



Funded Status

**Actuarially Calculated
Contribution Rates**

GASB Reporting

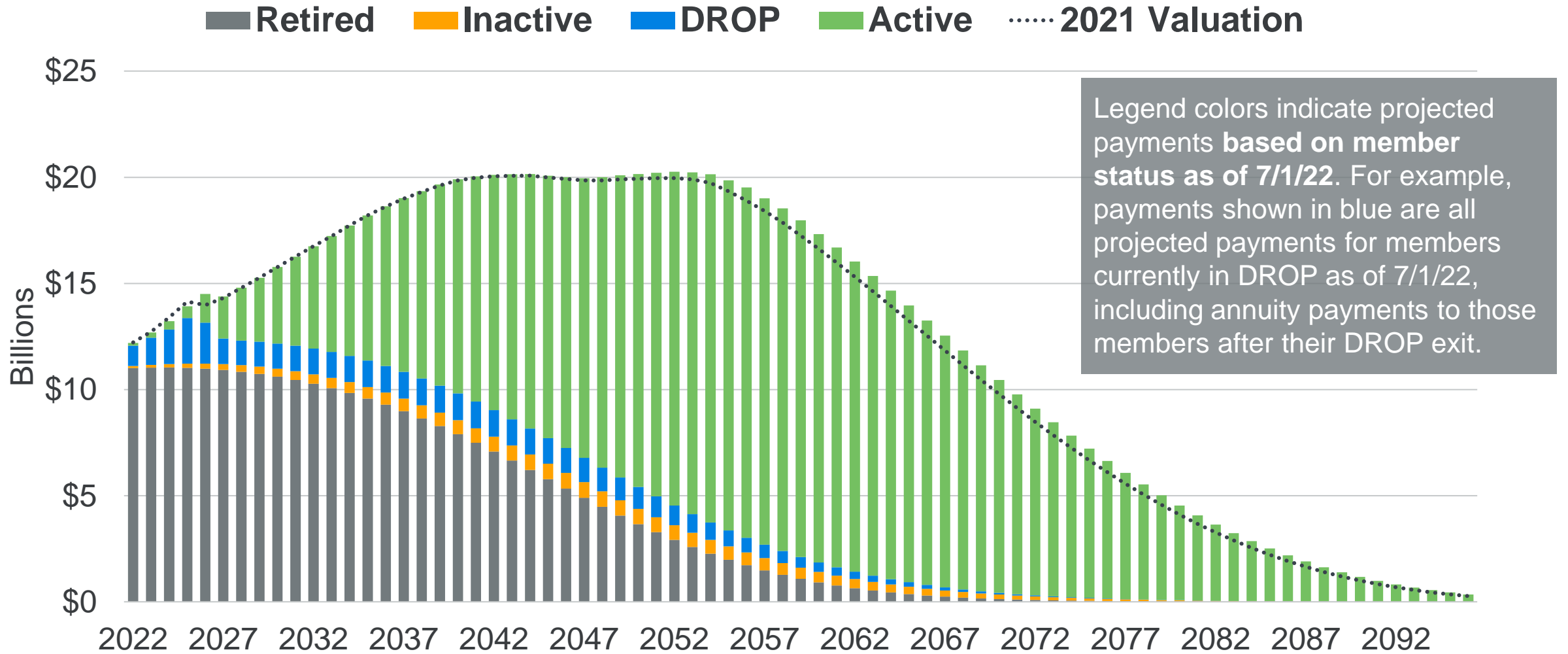
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Projected Benefit Payments

- Projected benefit payments are developed using:
 - Census data provided by the Division of Retirement
 - Demographic assumptions
 - Life expectancy (i.e., mortality)
 - Likelihood and timing of immediate unreduced retirement or DROP entry
 - Likelihood of termination of employment prior to unreduced retirement eligibility
 - Annual salary increase assumption for individual members
 - Incidence of disability
- Membership demographic data is provided annually by the Division of Retirement
- Assumptions listed above are typically formally reviewed in detail every five years as part of an actuarial experience study

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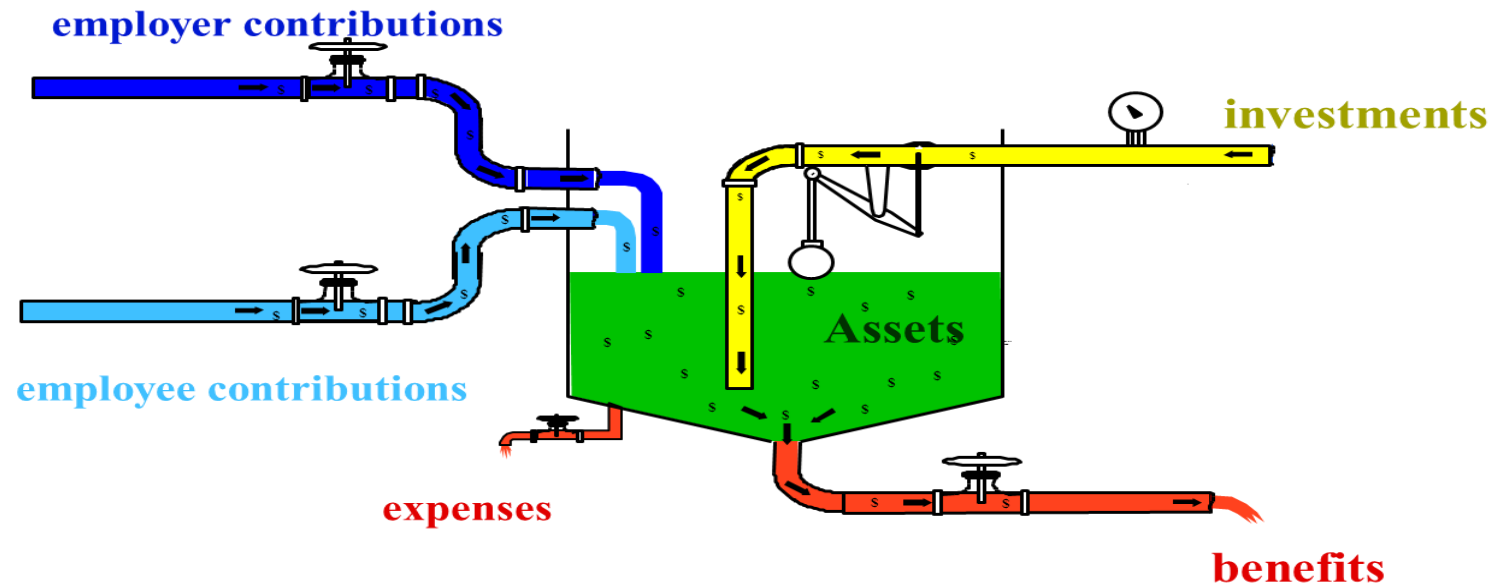
Projected Benefit Payments – 2022 Valuation



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Actuarial Methods and Assumptions for System Funding Calculations

The Fundamental Cost Equation



- Methods & assumptions do not determine ultimate long-term System cost, only the budgetary **timing** of cost incurrence

Ultimately, the Fundamental Cost Equation always governs:

$$\text{Contributions} + \text{Investments} = \text{Benefits} + \text{Expenses}$$

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Key Actuarial Methods Previously Adopted

- Individual Entry Age Normal (Individual EAN) cost allocation method
 - First adopted in 2019
 - This method sets the normal cost rate as a level percent of payroll contribution needed during a member's full career to fund that member's projected cost of total benefits if experience follows assumptions. As such, Tier I members have higher normal cost rates than Tier II members.
- 20-year amortization over a closed period, as a level percent of projected payroll, of previously unanticipated changes in UAL that arise since the prior actuarial valuation
 - First adopted in 2021, for both existing and new bases
 - Because of this approach, each year's amortization payments on charge bases will be large enough to cover at least the interest on the UAL of those bases

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Preliminary 2022 Actuarial Funding Valuation Results

Calculation of Valuation Results

- Projected year-by-year benefit payments are converted to a present value projected cost of total benefits using the return assumption
 - The present value is allocated between past (Actuarial Liability) and projected future service (Normal Costs) via the cost allocation method
- This establishes “2022 Preliminary” funding valuation results using:
 - Actual 2021-22 investment returns
 - Member demographic census data as of July 2022
 - Methods and assumptions as adopted by the 2021 FRS Actuarial Assumption Conference, based in part on the 2019 Experience Study
 - An experience study is conducted every five years
 - Plan changes adopted as of July 1, 2022 in HB 5007, which increases IP employer contribution rates by 3.00% and extends the maximum length of DROP participation by 36 months for Special Risk Class Law Enforcement Officer Members
- “2022 Preliminary” funding valuation results exclude any effect of plan changes for PTSD presumption for correctional officers (HB 689) and Firefighter Cancer presumption (SB 838)

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Pension Plan UAL and Funded Status

	2021 Final (2021 data; 2021 assumptions)	2022 Preliminary (2022 data; 2021 assumptions)
Actuarial Liability (AL)	\$ 209.6	\$ 214.8
Actuarial Value of Assets (AVA)	<u>174.9</u>	<u>179.2</u>
Unfunded Actuarial Liability (UAL)	\$ 34.7	\$ 35.6
Funded Status	83.4%	83.4%

(Amounts in \$ billions)

- Market Value of Assets (MVA) is \$1.0 billion above AVA at July 2022. That deferred investment gain will be recognized in higher future AVA returns (and associated future UAL contribution rate decreases) if future market value investment performance meets or exceeds 6.80%.
- On a market value of assets basis, the unfunded liability is \$34.6 billion and the funded status is 83.9%
- Results shown above use the 6.80% investment return assumption from the 2021 funding valuation

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Blended Proposed Statutory Rates at 6.80% Return

Weighted Average of Rates Across All Membership Classes	Final 2022-23 Rates (6.80% Assumption)			Preliminary 2023-24 Rates (6.80% Assumption)		
	NC	UAL	Total	NC	UAL	Total
PP composite employer rate	7.79%	7.35%	15.14%	7.83%	7.72%	15.55%
IP composite employer rate	7.64%	0.00%	7.64%	7.57%	0.00%	7.57%
Blended PP / IP employer rate	7.76%	5.82%	13.58%	7.77%	6.01%	13.78%
Employee contribution rate			3.00%			3.00%
Composite blended employer plus employee rate			16.58%			16.78%

- Pension Plan (PP) contribution rates are blended with Investment Plan (IP) contribution rates to create blended PP/IP proposed statutory employer rates
- Statutory IP rates by membership class are unchanged, but the 2023-24 IP payroll is more heavily weighted to Regular Class, which decreases the IP composite employer rate
- Both the 2022-23 and 2023-24 rates reflect HB5007, which increased IP employer contribution rates by 3.00% of pay and extended DROP by 36 months for Special Risk Class Law Enforcement Officers

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Projected Employer Contributions in Dollars at 6.80% Return

Total For All Membership Classes	Normal Cost Rate	Applicable Normal Cost Payroll	UAL Rate	Applicable UAL Payroll	Blended PP/IP Rate	Employer Contribution
Final 2022-23	7.76%	\$36.0 billion	5.82%	\$39.8 billion	13.58%	\$5.11 billion
Preliminary 2023-24	7.77%	\$36.9 billion	6.01%	\$41.0 billion	13.78%	\$5.33 billion
Change	+0.01%		+0.19%		+0.20%	+\$0.22 billion

- $(\text{Employer normal cost rate} \times \text{normal cost payroll}) + (\text{UAL rate} \times \text{UAL payroll}) = \text{Employer contribution}$
- Pension Plan (PP) contribution rates are blended with Investment Plan (IP) contribution rates to create blended PP/IP proposed statutory employer rates
- Preliminary 2023-24 rates above reflect actual 2021-22 investment performance and July 1, 2022 FRS member census, along with all actuarial methods and assumptions used in the July 1, 2021 valuation and HB5007.

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Results Under Current Methods at 6.80% Return

Valuation Results at 6.80% Assumption	Blended PP/IP Employer Rate	UAL (AVA)	Funded Status
Final 2022-23	13.58%	\$34.7 B	83.4%
Preliminary 2023-24:			
- 6.80% return assumption, 20-year level % of projected pay amortization of newly established UAL amortization bases	13.78%	\$35.6 B	83.4%

- Based on projected 2023-24 PP/IP payroll of \$41.0 billion (including payroll subject to only UAL contributions), estimated combined 2023-24 PP/IP employer contribution of:
 - \$5.33 billion** reflecting actual 2021-22 investment performance and July 1, 2022 FRS member census, but before any potential modification to the return assumption or amortization policy

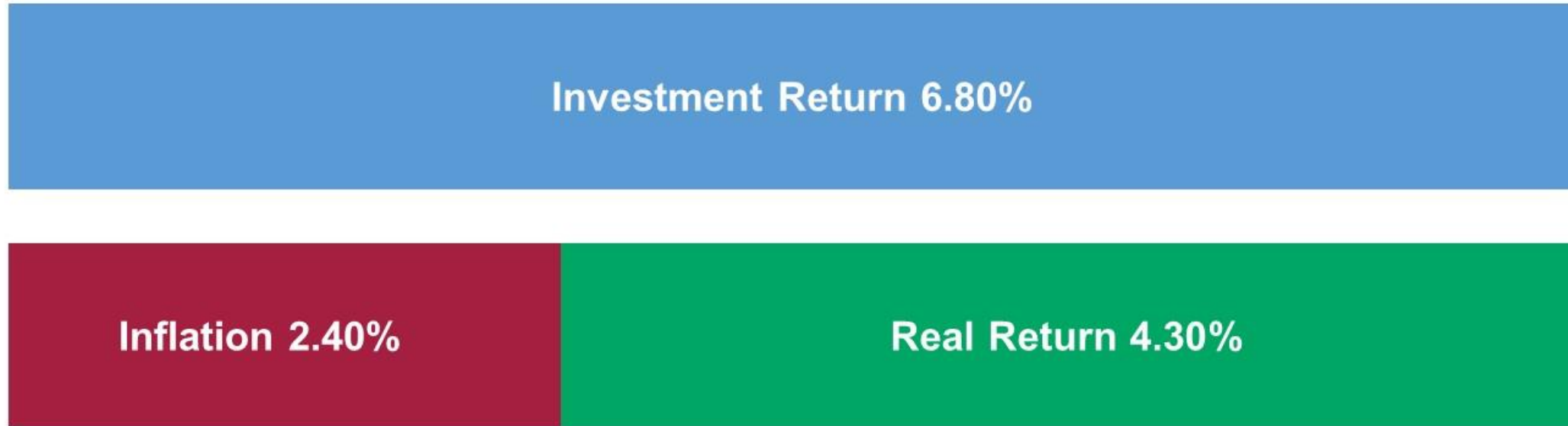
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Investment Return Assumption for System Funding

Note: Today's Milliman speaker is not a
credentialed investment advisor

Components of 2021 Conference's Return Assumption

- The Conference identifies investment return and inflation assumptions
- From that, the Conference's implied real return assumption can be mathematically inferred

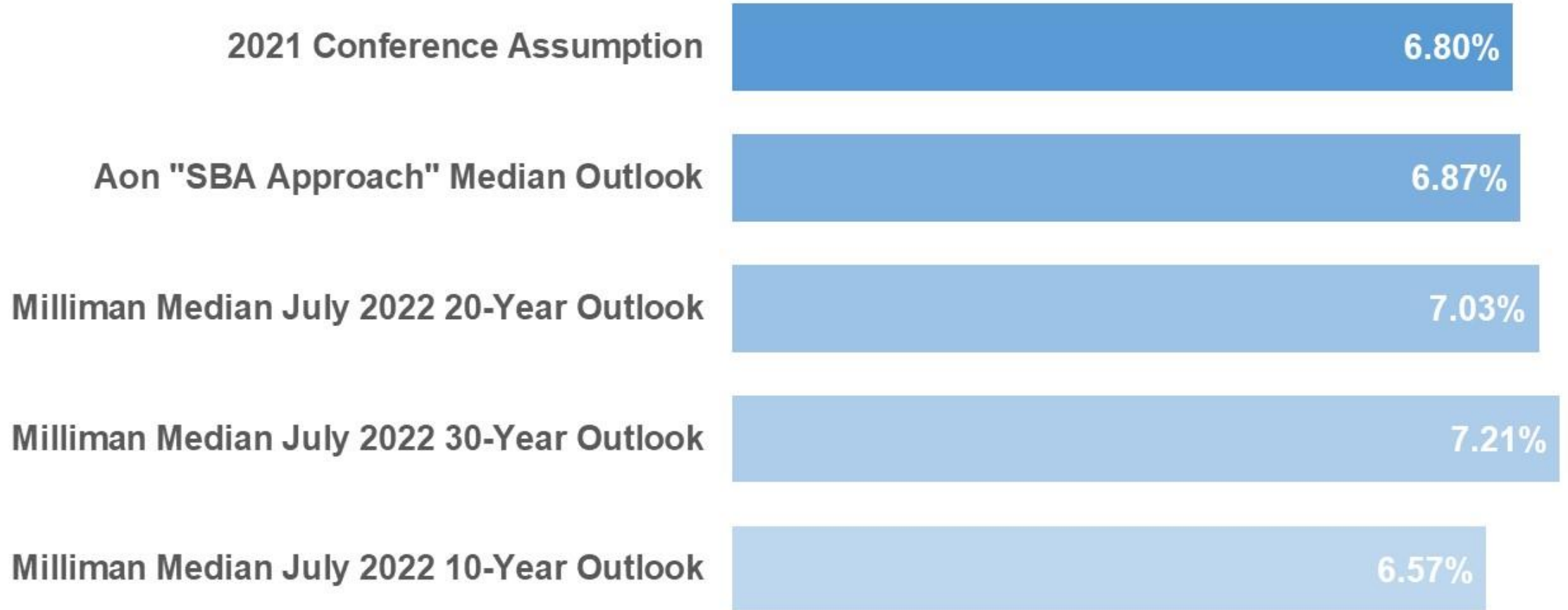


- The governing mathematical formula is:

$$(1 + \text{Investment Return}) = (1 + \text{Inflation}) \times (1 + \text{Real Return})$$

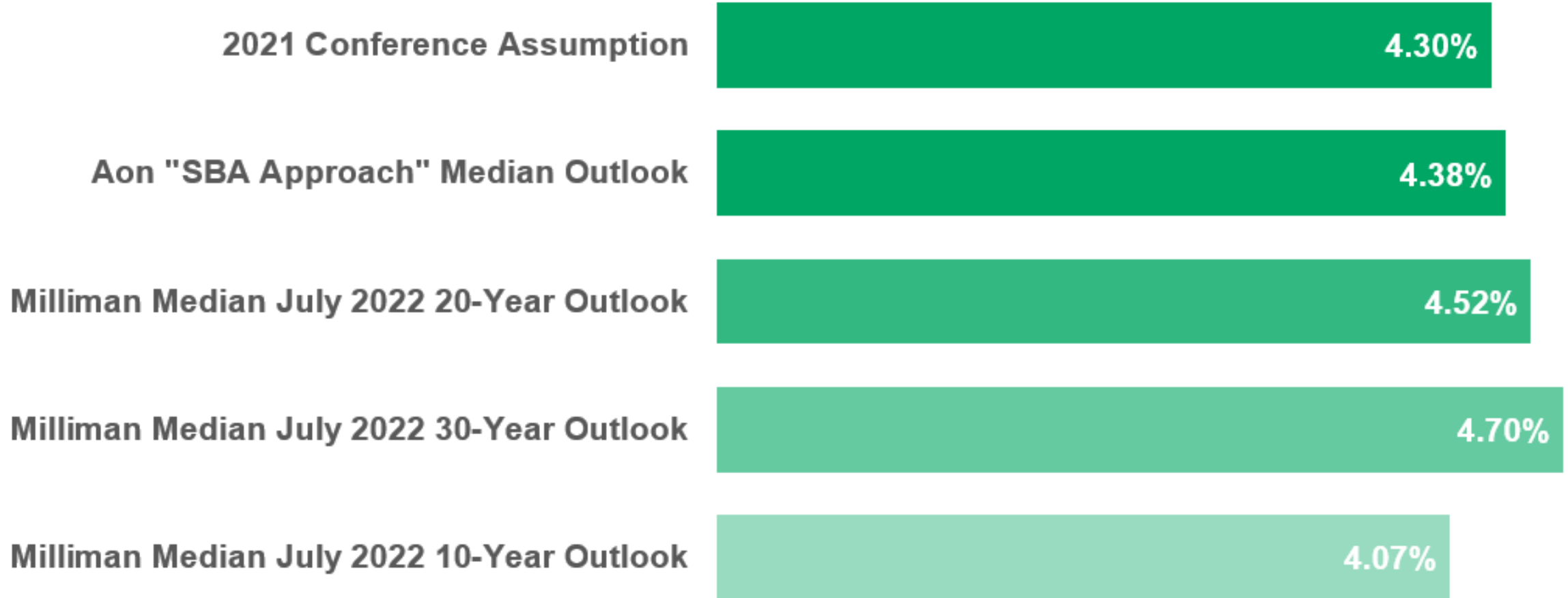
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Guidance on Nominal Return Assumption



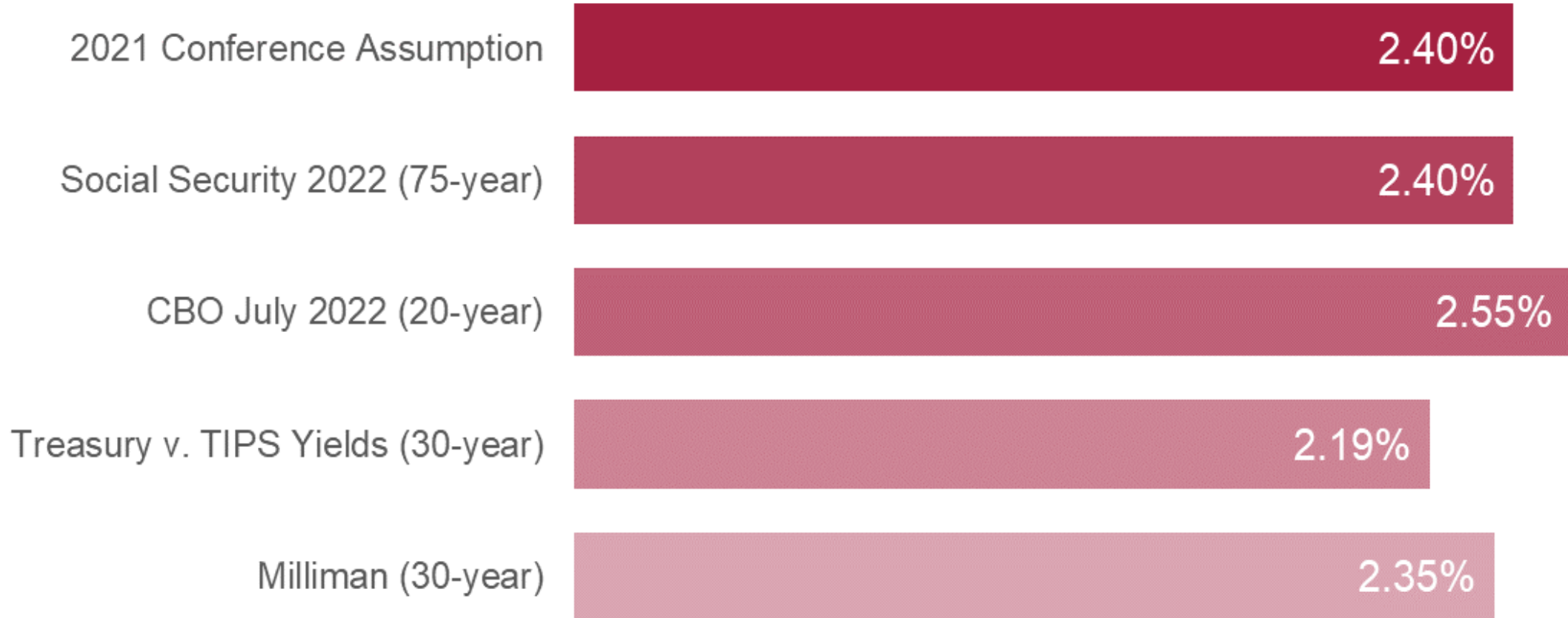
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Guidance on Real Return Assumption



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Guidance on Inflation Assumption



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What Are FRS's Jumbo Peer Systems Doing?

Assumptions in 2010



Assumptions in 2022



Source: NASRA Public Fund Survey (July '22)

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2021 Valuation – Last Year’s Return Models and Assumption

- Median (50th percentile) average annual long-term future investment returns from two real return investment models presented at the 2021 Conference are summarized below:
 - Aon’s “SBA Approach” model from its August 2021 asset-liability study that blends the global equity risk premiums of three large investment consultancies: **6.13%** median return
 - Reflects Aon’s current outlook for inflation of 2.1%
 - Inferred: Aon median real (in excess of inflation) return outlook of **3.95%**
 - Milliman model: **6.67%** median return
 - Uses the Conference’s most recently adopted inflation assumption of **2.4%**
 - Inferred: Milliman median real (in excess of inflation) return outlook of **4.17%**
 - The current default inflation assumption in Milliman’s outlook model is 2.3%
- Last year’s Conference lowered the return assumption from **7.0%** to **6.8%** for the 2021 actuarial valuation for funding purposes

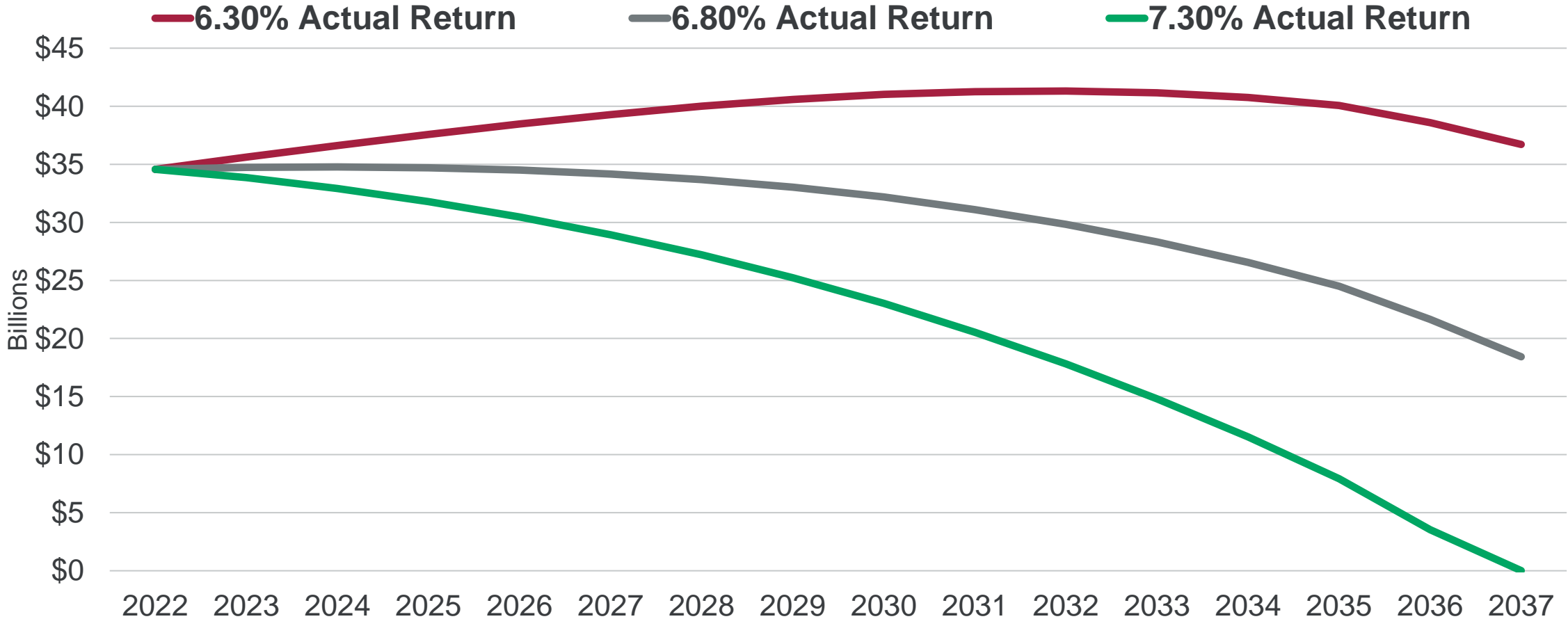
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2022 Valuation - Updated Return Models for This Year

- Aon's "SBA Approach" model from its September 2022 asset-liability study that blends the global equity risk premiums of three large investment consultancies: **6.87%** median return
 - Reflects Aon's current outlook for inflation of 2.4%
 - Inferred: Aon median real (in excess of inflation) return outlook of **4.38%**
- Milliman 30-year outlook model: **7.21%** median return
 - Uses the Conference's most recently adopted inflation assumption of **2.40%**
 - Inferred: Milliman median real (in excess of inflation) return outlook of **4.70%**
 - The current default inflation assumption in Milliman's 30-year outlook model is 2.35%

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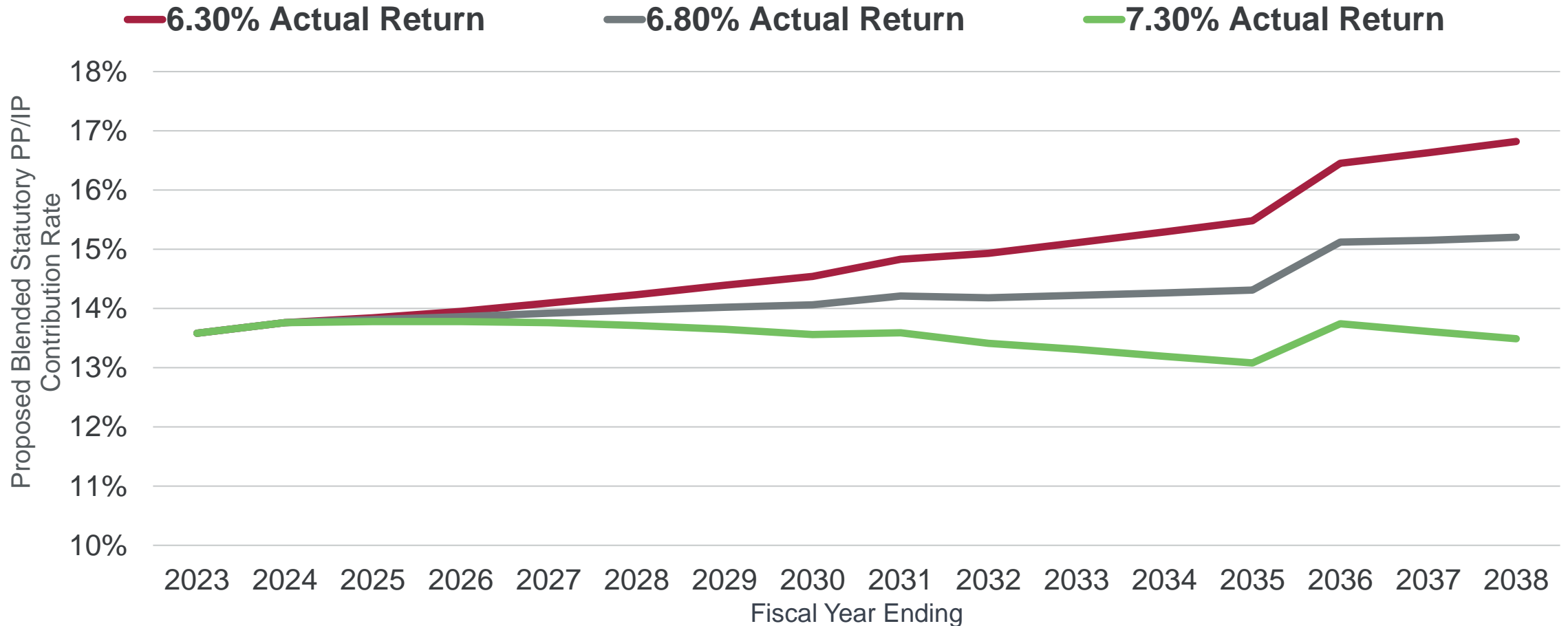
Unfunded Liability (MVA Basis) for Various Actual Return Levels



Using a 6.80% adopted assumption for the actuarial valuation’s assumed return, this chart projects unfunded liability on a **market value of assets basis** under three scenarios for the level of actual annual future investment return on a market value of assets basis

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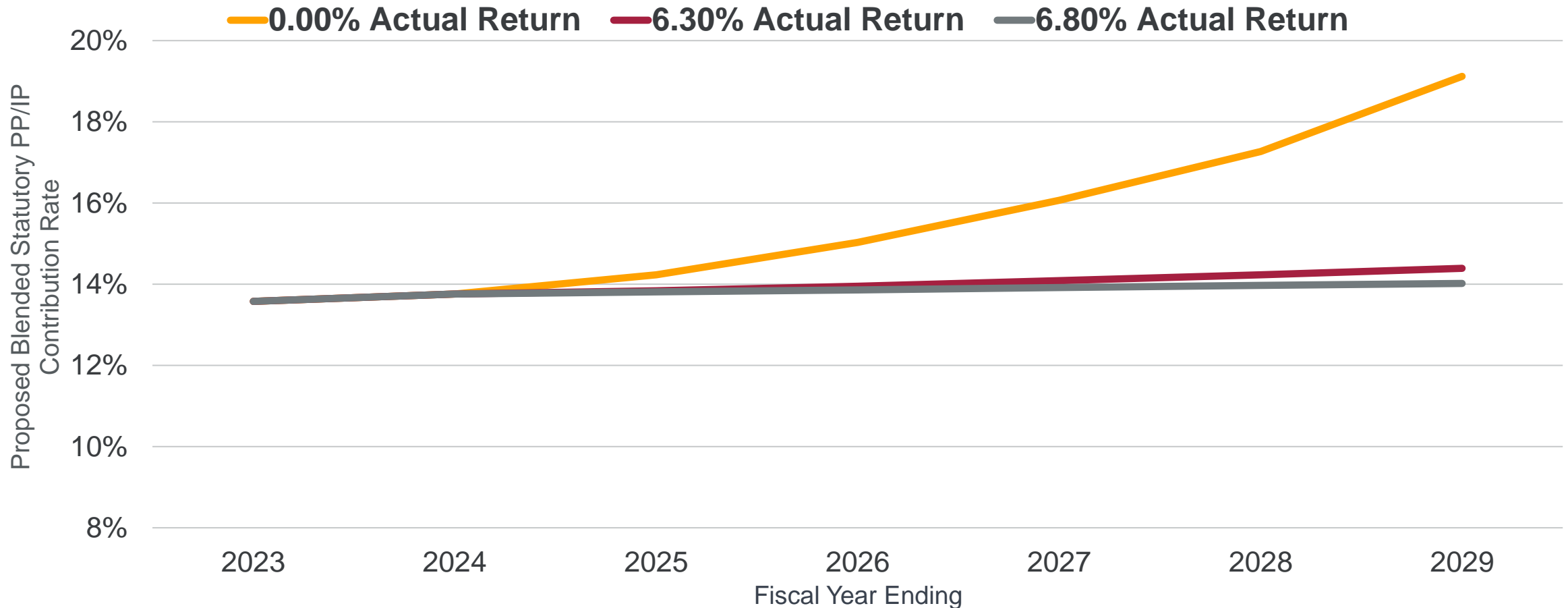
Contribution Rate for Various Actual Return Levels



Using a 6.80% adopted assumption for the actuarial valuation's assumed return, this chart projects the proposed blended statutory composite Pension Plan/Investment Plan employer contribution rate under three scenarios for actual annual investment return on a fair market value of assets basis

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Near-Term Contribution Rate for Various Actual Return Levels



Using a 6.80% adopted assumption for the actuarial valuation's assumed return, this chart projects the proposed blended statutory composite Pension Plan/Investment Plan employer contribution rate under three scenarios for actual annual investment return on a fair market value of assets basis

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Sensitivity of Results to Return Assumption

System Average Valuation Results	Blended PP/IP Employer Rate	UAL (AVA)	Funded Status
Final 2022-23 at 6.80% assumption	13.58%	\$34.7 B	83.4%
Preliminary 2023-24:			
- At 6.80% assumption ¹	13.78%	\$35.6 B	83.4%
- At 6.75% assumption ²	14.09%	\$36.9 B	82.9%
- At 6.70% assumption ³	14.39%	\$38.1 B	82.5%
- At 6.60% assumption ⁴	15.00%	\$40.6 B	81.5%

- Based on projected 2023-24 PP/IP payroll of \$41.0 billion (including payroll subject to only UAL contributions), estimated combined 2023-24 PP/IP contribution of:

¹ **\$5.33 billion** at 6.80% return assumption

² **\$5.45 billion** at 6.75% return assumption [**\$120 million** increase from 6.80% return assumption]

³ **\$5.57 billion** at 6.70% return assumption [**\$240 million** increase from 6.80% return assumption]

⁴ **\$5.81 billion** at 6.60% return assumption [**\$480 million** increase from 6.80% return assumption]

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Discount Rate Assumption for HIS and National Guard Accounting Valuations

GASB Discount Rate Assumption

- Currently, the Florida Health Insurance Subsidy (HIS) and Florida National Guard benefits are effectively funded on a pay-as-you-go basis
- Accounting standards first effective several years ago (GASB 67 & 68) give direction on the discount rate assumption to be used for financial reporting of programs funded on a pay-as-you-go basis
 - The assumption should reflect an **index of 20-year, tax exempt, high quality (AA/Aa or higher) general obligation municipal bonds**
 - The assumption selected should be based on **market conditions as of the measurement date** of the financial reporting in question
- After consideration of these requirements at the time of initial implementation of the accounting standards, the Conference adopted the **Bond Buyer General Obligation 20-Bond Municipal Bond Index** for use in HIS and National Guard GASB calculations
 - That index has been used for pay-as-you-go GASB financial reporting valuations by all public systems with which I am familiar

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Historical Values of the Bond Index

- The table below shows the value of the Bond Buyer General Obligation 20-Bond Municipal Bond Index as of the last five fiscal year-end measurement dates

June 30	Index
2022	3.54%
2021	2.16%
2020	2.21%
2019	3.50%
2018	3.87%

- The **higher** the index, the **lower** the calculated present value liability, with an index **increase** from 2.16% to 3.54% estimated to **decrease** HIS liability and National Guard liability by approximately \$2.1 billion and \$315 million, respectively

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Needed Guidance

Needed Guidance for FRS Pension Plan

- From Conference Principals for system funding calculations, identification of **methods** and **assumptions** to use in the 2022 FRS Pension Plan valuation calculations for system funding purposes to calculate blended proposed 2023-24 statutory contribution rates, including:
 - Investment return assumption (currently 6.80%)
 - Inflation assumption (currently 2.40%)
 - Amortization policy - currently 20-year amortization as a level percent of projected future payroll for newly arising UAL (unfunded actuarial liability) bases
 - All pre-existing UAL bases were recalculated at July 1, 2021 to be no more than 20-year amortizations as a level percent of projected future payroll

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Needed Guidance for the HIS and National Guard Programs

- From Conference Principals for GASB accounting valuations of the Health Insurance Subsidy (HIS) and Florida National Guard programs:
 - Re-confirmation of the Bond Buyer General Obligation 20-Bond Municipal Bond Index as the discount rate for the two programs' GASB valuations
- Demographic assumptions will be consistent with those used in the prior valuation whenever appropriate, taking into consideration current provisions and currently available data

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Appendix

Milliman 30-Year Capital Market Outlook Assumptions

Asset Class	Policy Allocation:	Annual Arithmetic Mean	Annualized Geometric Mean	Annual Standard Deviation
US Cash	1.00%	2.57%	2.56%	1.10%
US Government Bonds	0.57%	3.46%	3.35%	4.93%
US Interm (1-10 Yr) Government Bonds	9.00%	3.35%	3.29%	3.59%
US Interm (1-10 Yr) Credit Bonds	9.00%	4.76%	4.67%	4.33%
Private Credit	1.19%	9.46%	8.80%	12.00%
Global Equity	54.05%	8.75%	7.29%	17.75%
US REITs	1.00%	8.62%	6.56%	21.07%
Private Real Estate Property - Core	9.33%	7.24%	6.00%	16.23%
Private Equity	9.07%	13.08%	9.03%	30.00%
Timber	0.34%	7.09%	6.30%	13.00%
Infrastructure - Public	1.29%	7.48%	6.12%	17.07%
Commodities	0.39%	4.92%	3.56%	16.81%
Hedge Funds - MultiStrategy	1.67%	6.60%	6.17%	8.99%
Hedge Funds - Event-Driven	0.14%	6.65%	6.12%	9.40%
Hedge Funds - Equity Hedge	0.27%	7.24%	6.42%	11.84%
Hedge Funds - Macro	1.24%	5.20%	4.79%	7.57%
Hedge Funds - Distressed	0.45%	6.56%	5.99%	9.78%
US Inflation*		2.40%	2.40%	1.25%
Total Fund	100.00%	8.12%	7.21%	12.94%

For assessing the expected portfolio return under Milliman's capital market assumptions, we considered FRS investments to be allocated among the model's asset classes as shown below. This allocation is based on our understanding of the current target allocation policy, as provided to us by Aon Hewitt Investment Consulting via email on August 4, 2022.

*2.4% is the inflation assumption most recently adopted by the FRS Actuarial Assumption Conference. That 2.4% assumption is then applied to real return assumptions in Milliman's capital market outlook model to calculate a median (50th) percentile return.

Real return assumptions in the Milliman model are set semi-annually by a committee of credentialed investment professionals.

The default inflation assumption in the Milliman 30-year model is currently 2.35%.

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Milliman 30-Year Investment Return Model

Percentile	30-Year Average
65 th	8.13%
60 th	7.82%
55 th	7.52%
50th	7.21%
45 th	6.93%
40 th	6.63%
35 th	6.32%

- Based on the current target asset allocation, model results are geometric annual average net returns based on:
 - A series of average annual real returns by asset class, plus asset class correlations
 - The 2021 Conference's 2.4% inflation assumption
 - The 45th percentile means that in the Milliman model 45% of possible 30-year average annualized returns are at or below 6.93%
 - Details on the model inputs on the previous slide

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Regular Class - Various Return Assumptions

Regular Membership Class	Blended PP/IP Employer Rate	Estimated PP/IP Contribution
Final 2022-23 at 6.80% assumption	10.19%	\$2.92 B
Preliminary 2023-24:		
- At 6.80% assumption	10.33%	\$3.05 B
- At 6.75% assumption	10.59%	\$3.12 B
- At 6.70% assumption	10.84%	\$3.20 B
- At 6.60% assumption	11.35%	\$3.36 B

- Based on projected 2023-24 PP/IP payroll subject to UAL contributions of \$31.8 billion
 - Does not include projected contributions on DROP payroll (estimated for 2022-23 to be \$0.221 billion in contributions on \$2.42 billion of applicable payroll)

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Special Risk Class - Various Return Assumptions

Special Risk Membership Class	Blended PP/IP Employer Rate	Estimated PP/IP Contribution
Final 2022-23 at 6.80% assumption	26.11%	\$1.43 B
Preliminary 2023-24:		
- At 6.80% assumption	26.38%	\$1.50 B
- At 6.75% assumption	26.92%	\$1.53 B
- At 6.70% assumption	27.46%	\$1.56 B
- At 6.60% assumption	28.51%	\$1.62 B

- Based on projected 2023-24 PP/IP payroll subject to UAL contributions of \$5.72 billion
 - Does not include projected contributions on DROP payroll (estimated for 2022-23 to be \$0.221 billion in contributions on \$2.42 billion of applicable payroll)

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Level Dollar Amortization at 6.80% Return

Preliminary 2023-24 Valuation ¹ at 6.80%:	Blended PP/IP Employer Rate	Employer Contribution
Level % of pay – 20-year max amortization on all bases	13.78%	\$5.33 B
Level \$ – 25-year level \$ amortization on new bases ²	13.81%	\$5.34 B
Level \$ – 20-year level \$ amortization on new bases ²	13.82%	\$5.35 B
Level \$ – 20-year level \$ amortization on all bases ³	15.65%	\$6.10 B

¹ Reflecting current demographic assumptions and individual entry age normal cost method, and based on projected 2023-24 PP/IP payroll of \$41.0 billion (including payroll subject only to UAL contributions)

² Under this scenario, only bases newly established with this valuation would be amortized on a level-dollar basis. All bases established in prior valuations would continue to be amortized as a level % of projected payroll.

³ Under this scenario, all bases would be amortized on a level-dollar basis. The remaining amortization period for each base would be unchanged.

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Setting the Investment Return Assumption

Actual future investment returns are not knowable in advance, so how should the assumption be set?

- Prudently select a best estimate
- Review return models from credentialed investment professionals
- Remain cognizant that hoping for a result does not make it happen; the assumption selected does not affect actual investment returns
- Avoid myopia – the objective is to make a prudent long-term estimate, not to get a single individual year right
- Neither ignore historical results nor be beholden to them
- Since actual results will vary from assumption, review a return model's probability range and consider a margin for variance

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Contribution Rate Calculations

- Pension Plan-specific contribution rates have two components:
 - Normal cost rate - Cost assigned to current year benefits by the allocation method
 - UAL rate - Rate calculated to eliminate UAL in a systematic manner over a specified time period if future experience follows assumptions
- To calculate the UAL rate, an additional assumption and an additional method are needed
 - For amortizations as a level percentage of projected payroll, the system's **general wage increase** assumption affects the rate
 - In addition, the length of the **amortization period** affects the rate

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Asset Smoothing

- Contribution rates established annually based on the reported unfunded actuarial liability (UAL)
 - UAL compares Actuarial Liability against a system asset measure
- The Actuarial Value of Assets (AVA) measure used by FRS to calculate UAL is specified by statute, and employs an “asset smoothing” technique
 - The mandated method annually recognizes 20% of investment return deviations from assumption
- The statutory calculation approach includes a “corridor” to ensure smoothed assets vary no more than 20% from fair market value
- The objective of asset smoothing is to keep long-term contribution levels appropriately linked to actual investment performance, and to have year-to-year contribution rate changes be less volatile and more predictable
- Five-year smoothing method recognizes heavy losses gradually following times of unfavorable asset performance
- The smoothing is symmetrical, so that any large investment gains are also not “felt” all at once, but instead serve as a cushion against potential future unfavorable asset performance

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Disclaimer

At your request, we have provided these draft results prior to completion of the July 1, 2022 Actuarial Valuation Report. Because these are draft results, Milliman does not make any representation or warranty regarding the contents of the presentation. Milliman advises any reader not to take any action in reliance on anything contained in this presentation. All draft results from this presentation are subject to revision or correction prior to the release of the finalized July 1, 2022 Actuarial Valuation Report, and such changes or corrections may be material.

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Certification

This presentation summarizes key preliminary results of an actuarial valuation of the Florida Retirement System (“FRS” or “the System”) as of July 1, 2022. The valuation, when finalized, will develop actuarially calculated contribution rates for the Plan Year ending June 30, 2024. The results in this presentation are preliminary in nature and may not be relied upon to, for example, prepare the System’s Annual Consolidated Financial Report. The reliance document will be the formal July 1, 2022 Actuarial Valuation Report.

In preparing this presentation, we relied, without audit, on information (some oral and some in writing) supplied by Division of Retirement (“Division”) staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

Preliminary results have been determined on the basis of actuarial assumptions and methods as most recently adopted by the 2021 FRS Actuarial Assumption Conference. At the time of their review and adoption, in our professional opinion those assumptions were individually reasonable (taking into account the experience of the System and reasonable expectations); and offered a reasonable estimate of anticipated future experience affecting the System.

Future actuarial measurements may differ significantly from the current measurements presented in this presentation due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The FRS Actuarial Assumption Conference has the final decision regarding the selection of assumptions for System funding calculations.

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Certification

Computations presented in this presentation are for purposes of preliminarily estimating the actuarially calculated contribution rates for funding the System. Computations prepared for other purposes may differ. The calculations in the presentation have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this presentation have been made on a basis consistent with our understanding of the plan provisions described in the appendix of our formal actuarial valuation report as of July 1, 2021, as modified by HB 5007 effective July 1, 2022. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this presentation. Accordingly, additional determinations may be needed for other purposes.

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The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel. The presenting actuaries are independent of the plan sponsors. I am not aware of any relationship that would impair the objectivity of Milliman's work.

On the basis of the foregoing, I hereby certify that, to the best of my knowledge and belief, this presentation has been prepared in accordance with generally recognized and accepted actuarial principles and practices. I am a member of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

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Actuarial Basis

Data

We have based our calculations on demographic member census data as of July 1, 2022 as supplied by the Division of Retirement (“Division”). That data will be summarized in our formal actuarial valuation report for funding purposes as of July 1, 2022, which will be published in the 4th quarter of this year. Assets as of June 30, 2022, were based on values provided by the Division.

Methods / Policies

Actuarial Cost Method: Individual Entry Age Normal, as initially adopted by the 2019 FRS Actuarial Assumption Conference and most recently adopted by the 2021 FRS Actuarial Assumption Conference

UAL Amortization: Newly arising UAL each plan year is amortized as a level percentage of projected payroll over a closed 20-year period, except where explicitly modeled as a policy alternative in the body of the presentation.

Actuarial Value of Assets: A smoothed asset value specified by Florida Statutes that annually recognizes 20% of deviations in investment performance from the long-term assumption systematically over time. The statutory calculation approach includes a “corridor” to ensure smoothed assets vary no more than 20% from fair market value.

Assumptions

Assumptions for preliminary 2022 valuation calculations use assumptions as detailed July 1, 2021 Actuarial Valuation Report for funding purposes. For the projections 75% of new Special Risk members are assumed to enroll in the Pension Plan and 25% are assumed to enroll in the Investment Plan, while for non-Special Risk members 25% are assumed to enroll in the Pension Plan and 75% in the Investment Plan.

Provisions

Provisions valued are as summarized in the July 1, 2021 Actuarial Valuation Report for system funding purposes as subsequently modified by HB 5007.

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