

PERS Update

SDAO Legislative Day

Steven Patrick Rodeman
PERS Executive Director

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The PERS Funding Equation

At the end of each calendar year, the PERS actuaries calculate the system's funded status using the following basic equation:

$$B = C + E$$

$$\text{BENEFITS} = \text{CONTRIBUTIONS} + \text{EARNINGS}$$

present value of
earned benefits

employer funds to pay
pension benefits

future returns on
invested funds

Set by:

Oregon Legislature

Set by:

PERS Board

Managed by:

Oregon Investment Council

Every two years, the PERS Board adjusts contributions so that, over time, those contributions will be sufficient to fund the benefits earned, if earnings follow assumptions.

Employer Contribution Rate Setting Cycle

Actuarial valuations are conducted annually, but alternate between “advisory” and “rate setting”: e.g., the December 31, 2014, valuation results were used to project employer rates, but the December 31, 2015, valuation was used to set actual rates for the 2017-2019 biennium.

Once employer rates are adopted by the PERS Board (in the fall of the even-numbered year), they become effective the following July 1 of the odd-numbered year (18 months after the valuation date).

Valuation Date	Employer Contribution Rates
December 31, 2013	→ July 2015 - June 2017
December 31, 2015	→ July 2017 - June 2019
December 31, 2017	→ July 2019 - June 2021

Solving the Equation . . .

When setting employer contribution rates, the PERS Board considers the following objectives and principles:

- Transparent process and inputs
- Predictable and stable employer contribution rates
- Protect funded status to secure future benefit payments
- Equitable across generations of taxpayers funding the system
- Actuarially sound – fully fund the system if assumptions are met
- GASB compliant

Some of the objectives can conflict, particularly in periods with significant volatility in investment return or projected benefit levels. Overall system funding policies should seek an appropriate balance between conflicting objectives.

Funded Status and Unfunded Actuarial Liability (UAL) (\$ billions)

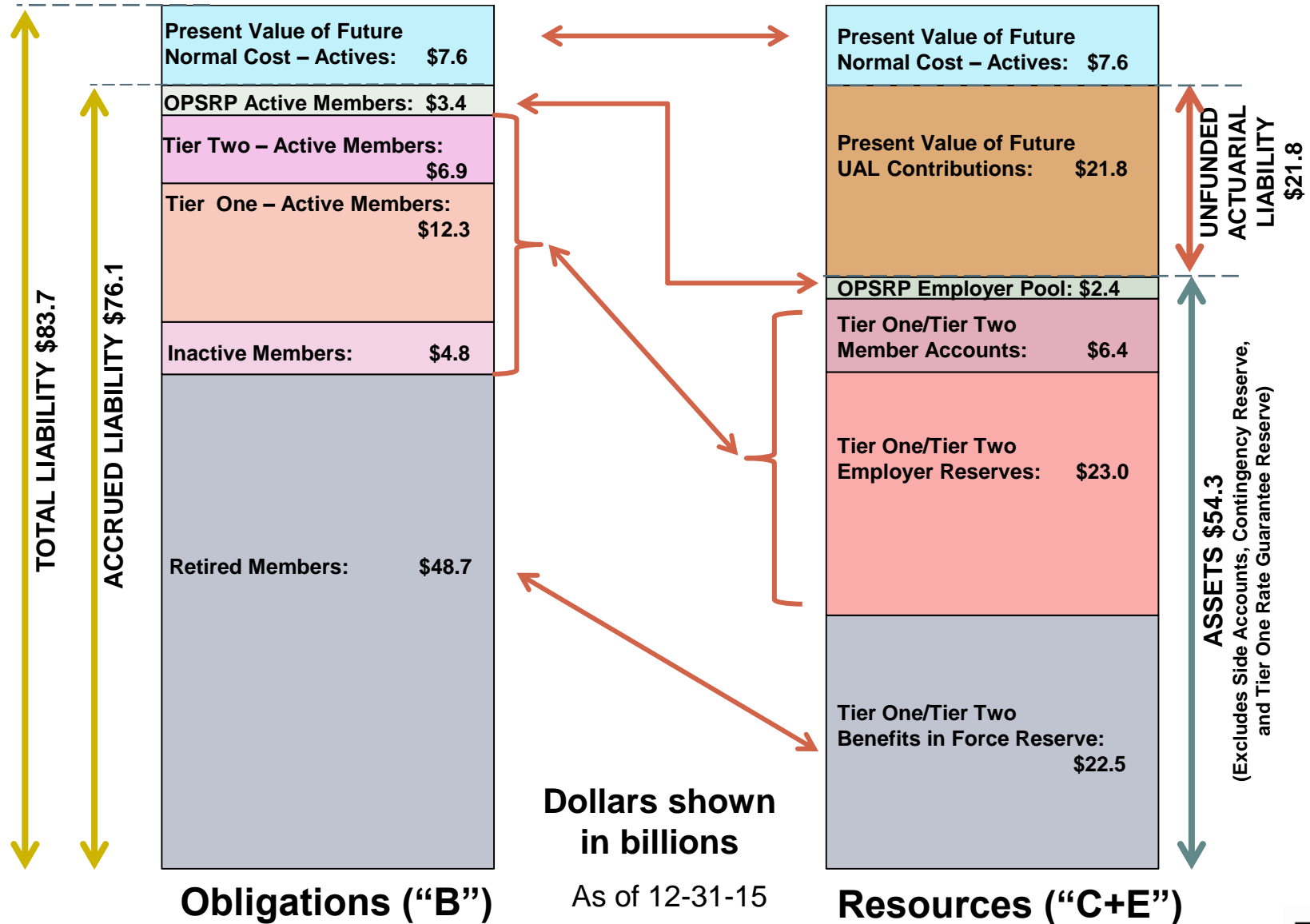
System-total Pension Funded Status (\$ billions)			
<i>Reflects:</i>	12/31/2013	12/31/2014	12/31/2015
<i>Moro decision?</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>
<i>2014 Experience Study assumptions?</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>
Actuarial liability	\$62.6	\$73.5	\$76.2
Assets (excluding side accounts)	<u>\$54.1</u>	<u>\$55.5</u>	<u>\$54.4</u>
UAL (excluding side accounts)	\$8.5	\$18.0	\$21.8
Funded status (excluding side accounts)	86%	76%	71%
Side account assets	<u>\$5.9</u>	<u>\$5.9</u>	<u>\$5.6</u>
UAL (including side accounts)	\$2.6	\$12.1	\$16.2
Funded status (including side accounts)	96%	84%	79%

Sources of 2014-2015 UAL Increase (\$ billions)

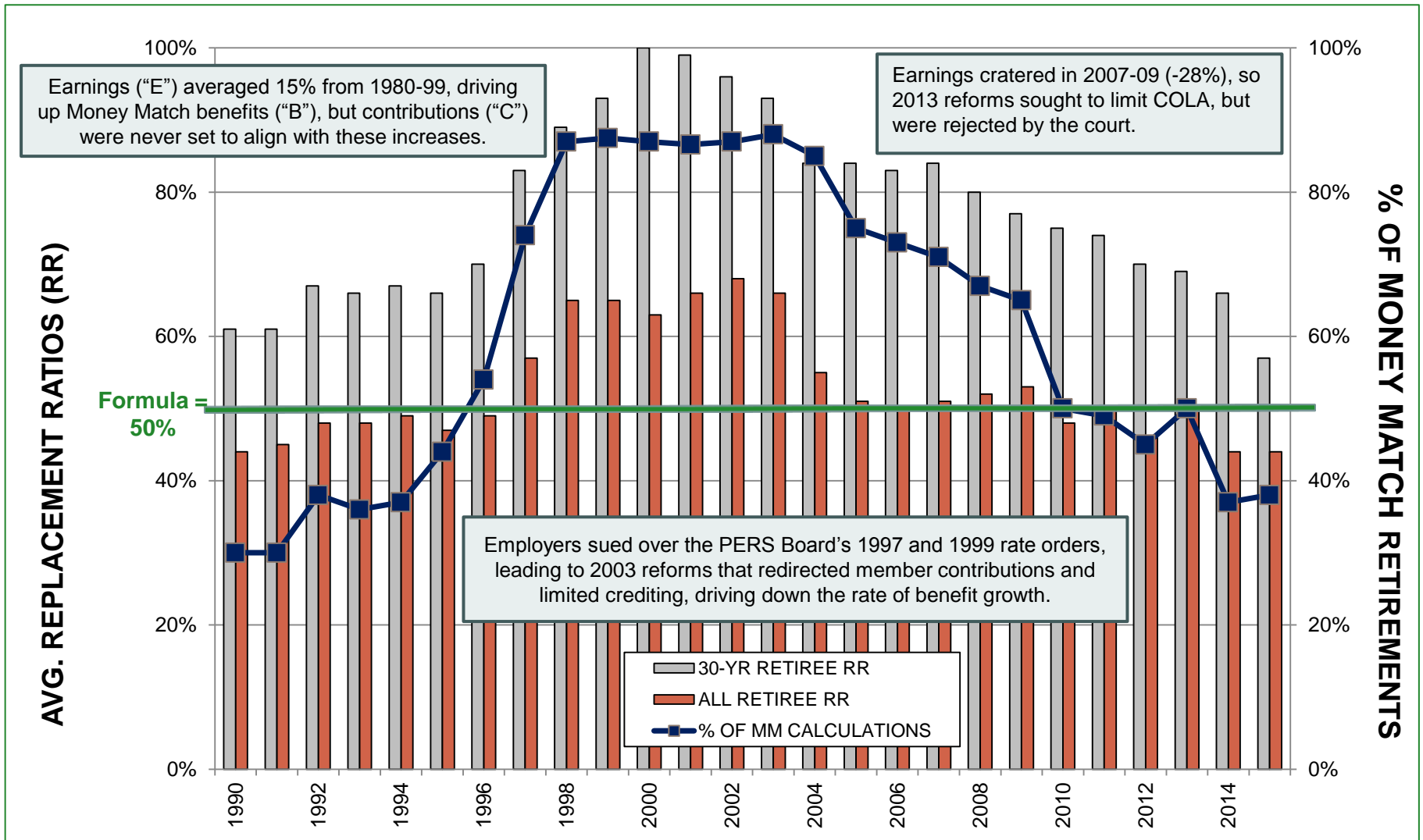
2014	UAL Increase
Expected UAL increase during 2014	\$0.2
2014 actual investment returns below assumption	\$0.2
<i>Moro</i> adjustment to projected benefits	\$5.1
Decrease in assumed rate of return to 7.50%	\$1.7
Update to mortality assumptions	\$1.8
All other assumption changes and actual experience	<u>\$0.5</u>
Total	\$9.5 billion

2015	UAL Increase
Expected UAL increase during 2015	\$0.9
2015 actual investment returns below assumption	\$2.6
Actual demographic experience different than assumed	<u>\$0.5</u>
Total	\$3.8 billion

Problem: the “B” and “C+E” Don’t Align

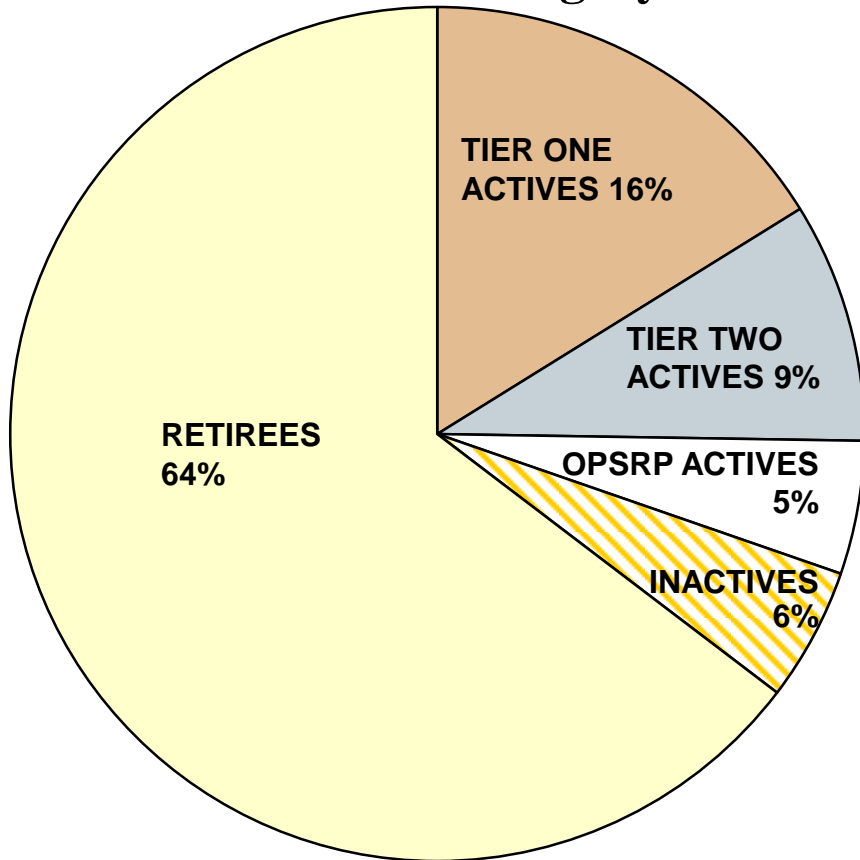


Where the Funding Balance Got Away – Avg. Replacement Ratios (% of “final salary” to monthly benefit)

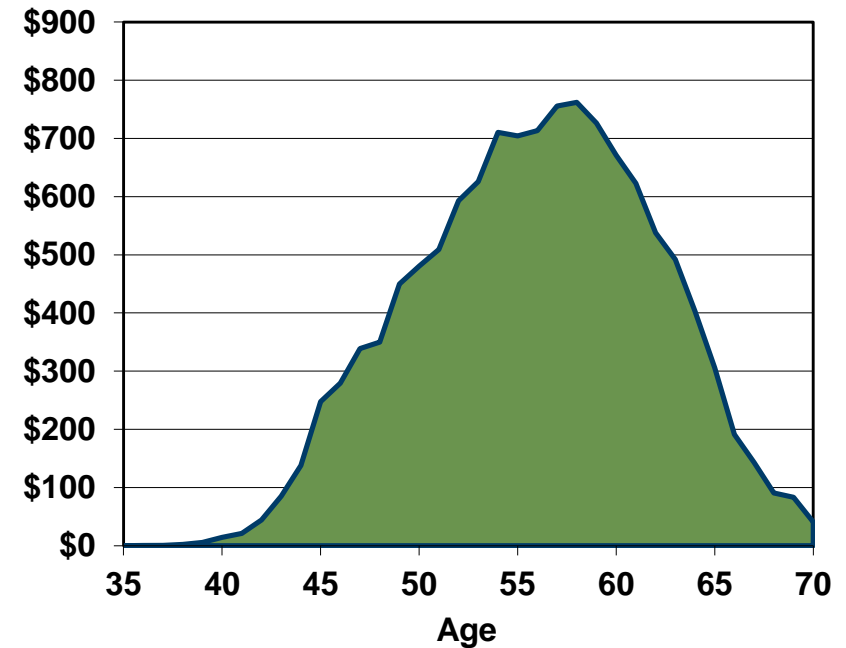


Actuarial Liability by Benefit Program (Tier One/Two and OPSRP as of 12-31-15)

Actuarial Liability by Member Category



Age Distribution of Tier One Actives' Liability (\$ millions)



System Wide Pension Rates (% of Payroll)

Excludes Retiree Health Care and IAP Contributions

	2015 - 17 Rates			2017 - 19 Rates		
	Tier One/Two	OPSRP	Weighted Average ¹	Tier One/Two	OPSRP	Weighted Average ¹
Normal Cost	13.18%	7.79%	10.94%	15.07%	8.56%	11.79%
Tier 1/Tier 2 UAL	6.63%	6.63%	6.63%	16.02%	16.02%	16.02%
OPSRP UAL	0.61%	0.61%	0.61%	1.27%	1.27%	1.27%
Uncollared Rate²	20.42%	15.03%	18.18%	32.36%	25.85%	29.08%
Increase				11.94%	10.82%	10.90%
Collar Limitation	(0.72%)	(0.72%)	(0.72%)	(8.23%)	(8.23%)	(8.23%)
Collared Base Rate*	19.70%	14.31%	17.46%	24.13%	17.62%	20.85%
Side Account (Offset)	(6.38%)	(6.38%)	(6.38%)	(6.14%)	(6.14%)	(6.14%)
SLGRP Charge/(Offset)	(0.47%)	(0.47%)	(0.47%)	(0.48%)	(0.48%)	(0.48%)
Collared Net Rate	12.85%	7.46%	10.61%	17.51%	11.00%	14.23%
Increase				4.66%	3.54%	3.62%

¹ Weighting based on the membership distribution (Tier 1/Tier 2, OPSRP) as of the valuation date.

² Does not include side accounts

Milliman presentation; July 29, 2016 Board meeting

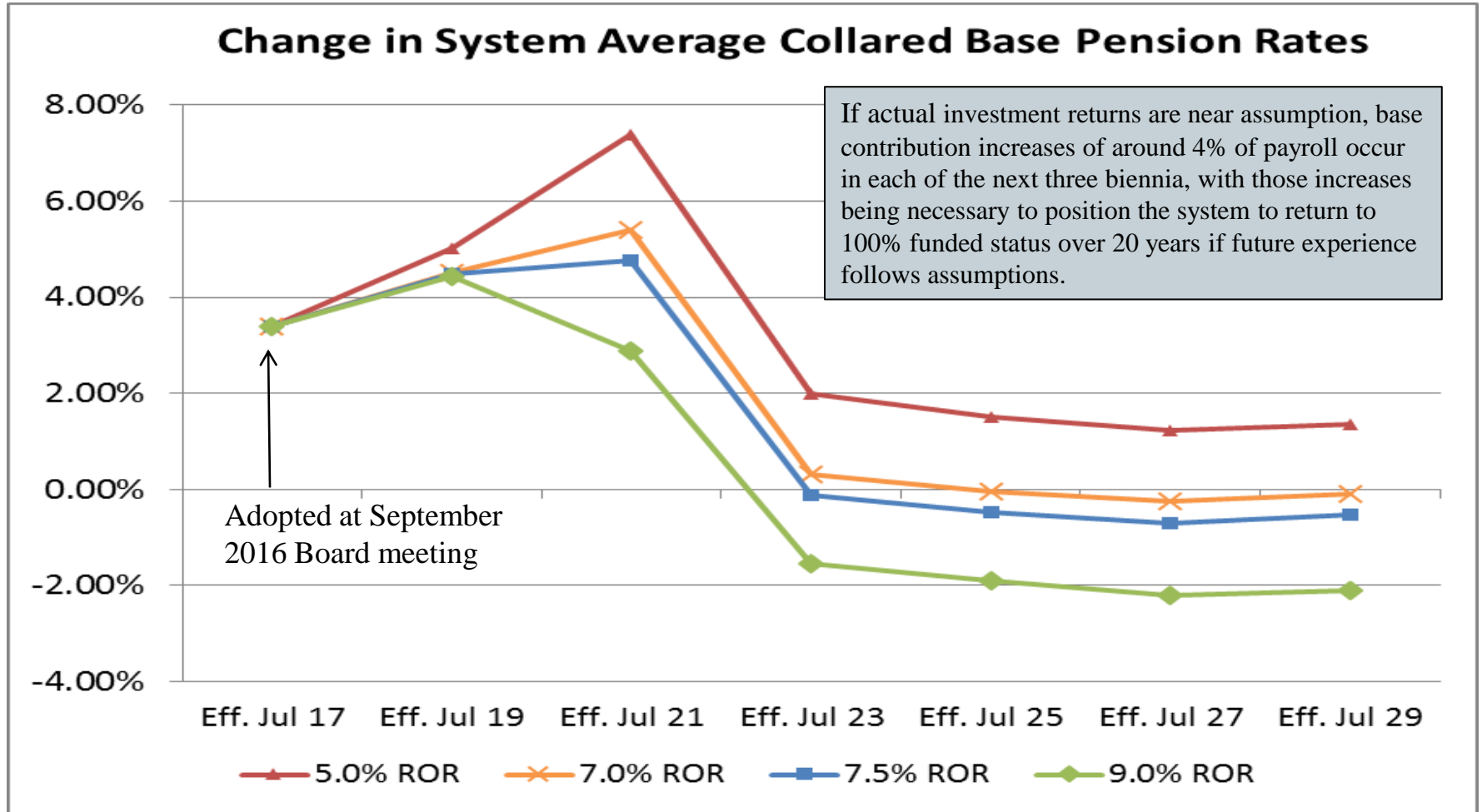
2017-19 Contribution Increase Estimates

(\$ millions)	Projected 2015-17 Payroll*	(A) Projected 2015-17 Contribution	Projected 2017-19 Payroll*	(B) Projected 2017-19 Contribution	(B) - (A) Projected Contribution Increase
State Agencies	\$5,620	\$575	\$6,020	\$835	\$260
School Districts	\$6,120	\$575	\$6,560	\$910	\$335
All Others	<u>\$7,350</u>	<u>\$875</u>	<u>\$7,880</u>	<u>\$1,165</u>	<u>\$290</u>
Total	\$19,090	\$2,025	\$20,460	\$2,910	\$885

* Assumes payroll grows at 3.50% annually based on 12/31/2015 active member census, reflecting proportional payroll composition (Tier One/Tier Two vs. OPSRP) as of 12/31/2015

- Collared net rates are used to project 2017-2019 contributions
- The advisory valuation had a projected contribution increase of \$800 million; the change from that estimate was caused primarily by 2015 investment underperformance and the leveraged effects that side accounts had on net rates

Biennial Collared Base Rate Changes (November 2016 Financial Modeling)

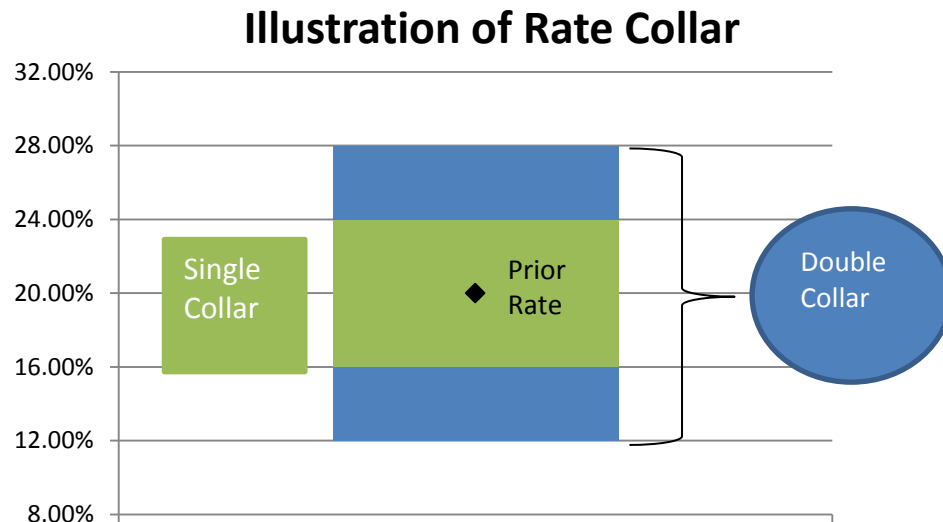


Shows biennium-to-biennium changes under steady return projections

Milliman presentation; November 18, 2016 Board meeting

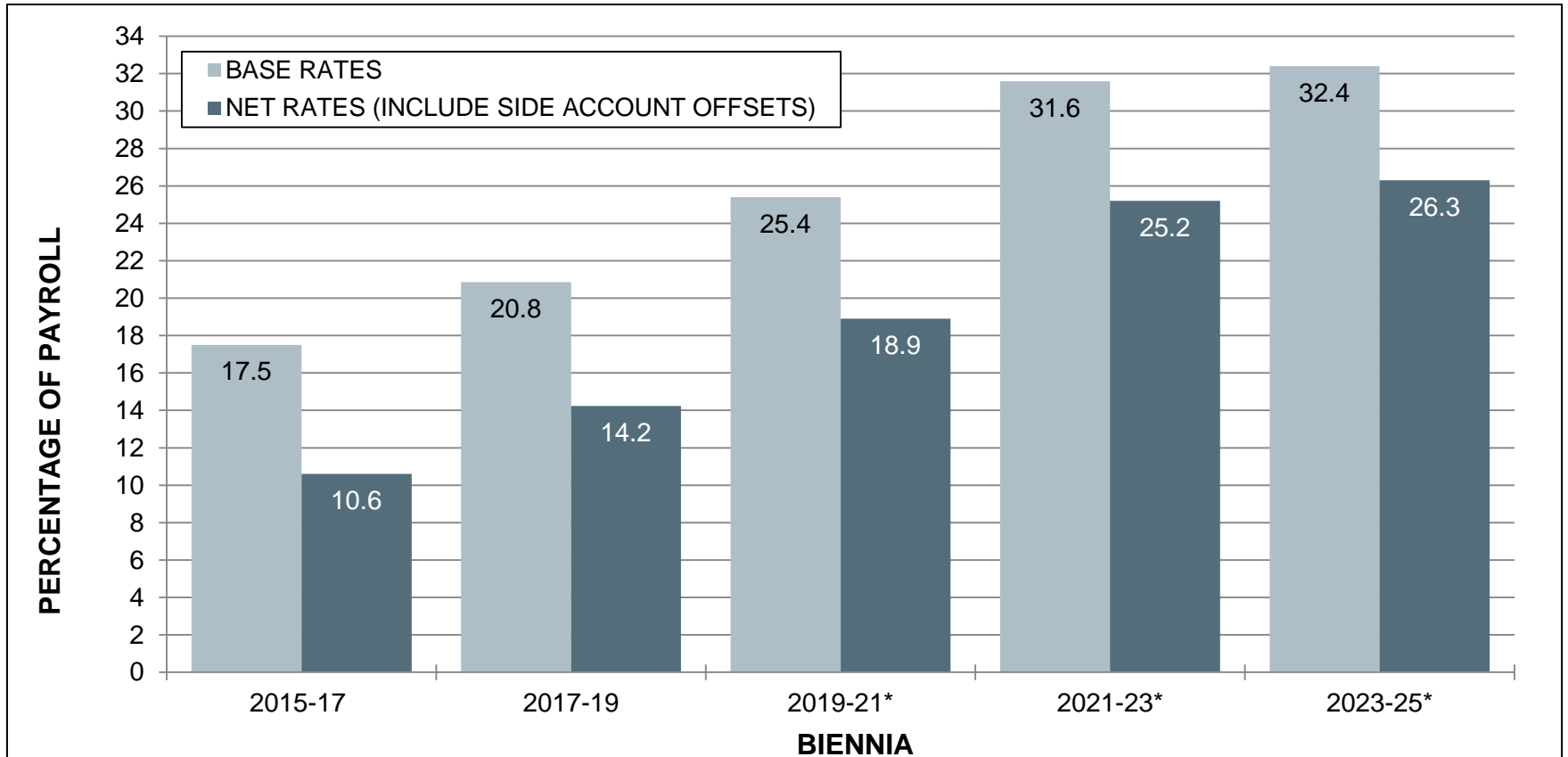
Current Design of Rate Collar

- The maximum change typically permitted by the collar is 20% of the rate currently in effect (3% of payroll minimum collar width)
- If funded status is 60% or lower, the width of the collar doubles to 40% of rate currently in effect (6% of payroll minimum collar width)
- If the funded status is between 60% and 70%, the collar size is prorated between the initial collar and double collar level



- Rate collars are calculated at a rate pool level and limit the biennium to biennium increase in the UAL rate for a given rate pool

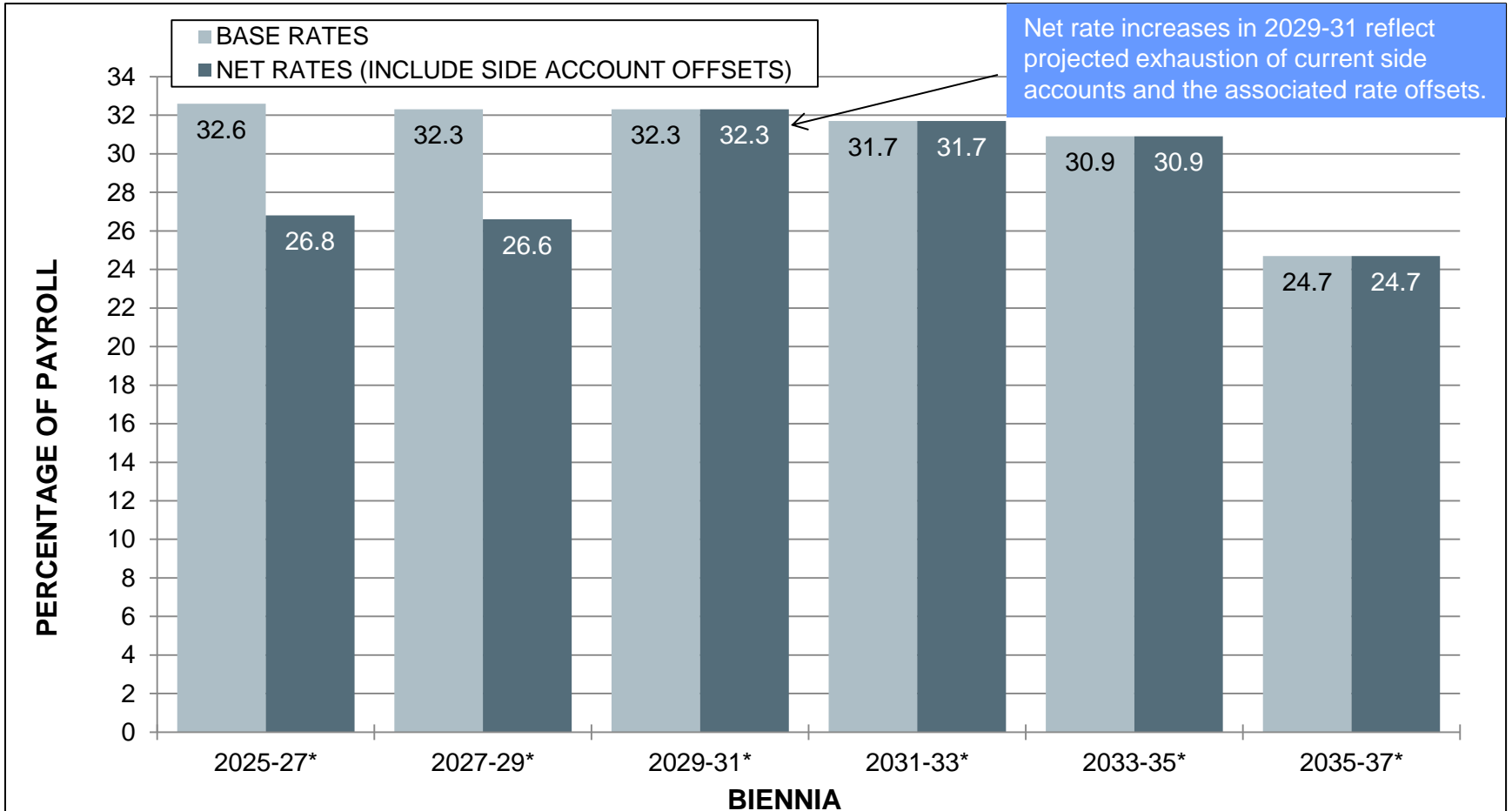
Actual and Projected System Wide Employer Rates (2015 -2025)



- RATES ARE COLLARED; THIS LIMITS THE MAXIMUM ALLOWABLE BIENNIUM-TO-BIENNIUM CHANGE IN RATES. THE WIDTH OF THE RATE COLLAR IS DETERMINED BY AN EMPLOYER'S CURRENT CONTRIBUTION RATE AND FUNDED STATUS
- EXCLUDES 6% MEMBER IAP CONTRIBUTIONS AND PENSION OBLIGATION BOND DEBT SERVICE PAYMENTS
- INCLUDES TIER ONE, TIER TWO, AND OPSRP
- DOES NOT INCLUDE RHIA/RHIPA

* PROJECTED BASED ON NOVEMBER 2016 MILLIMAN FINANCIAL MODELING PRESENTATION

Projected System Wide Employer Rates (2025-2037)

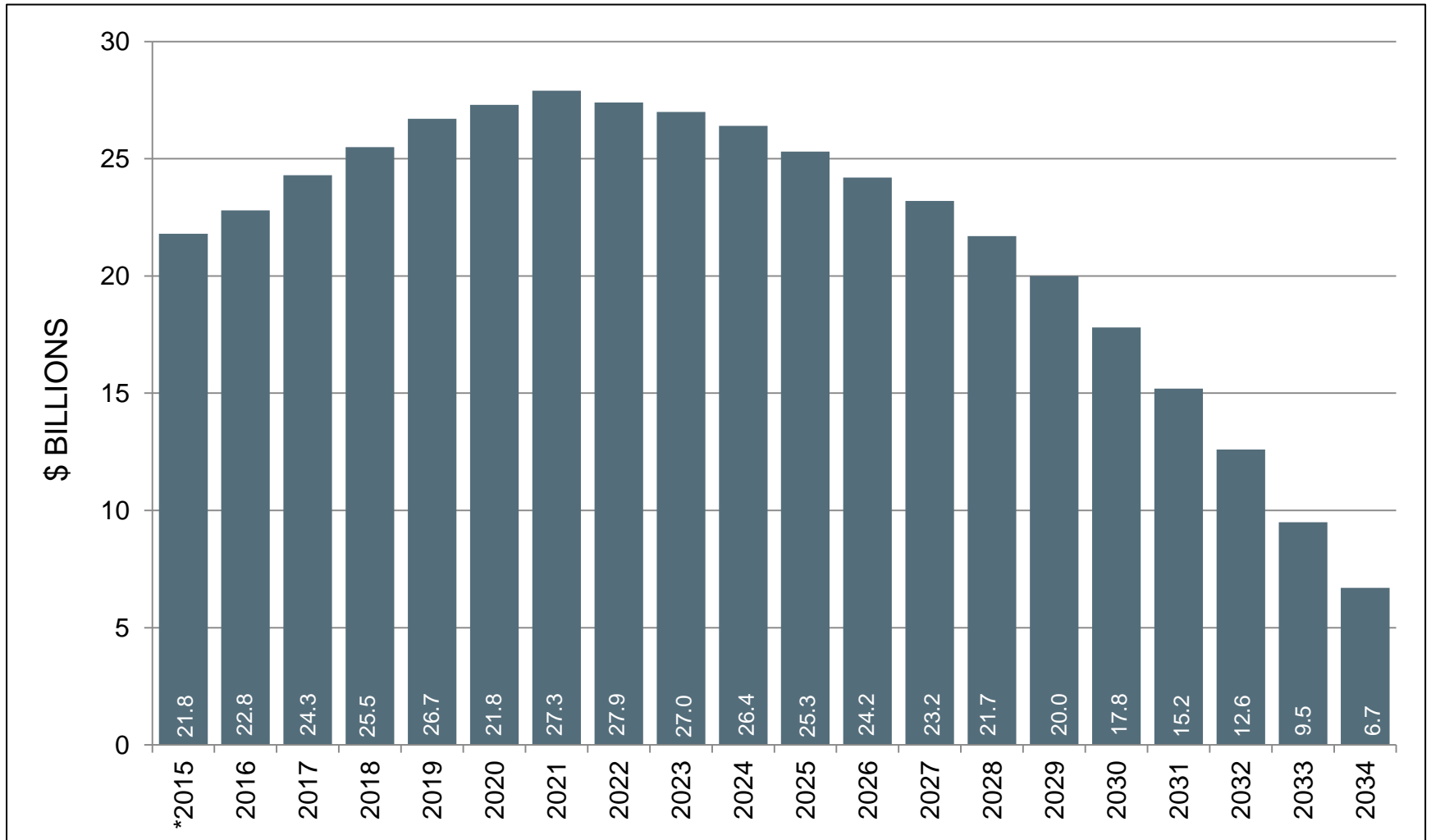


Net rate increases in 2029-31 reflect projected exhaustion of current side accounts and the associated rate offsets.

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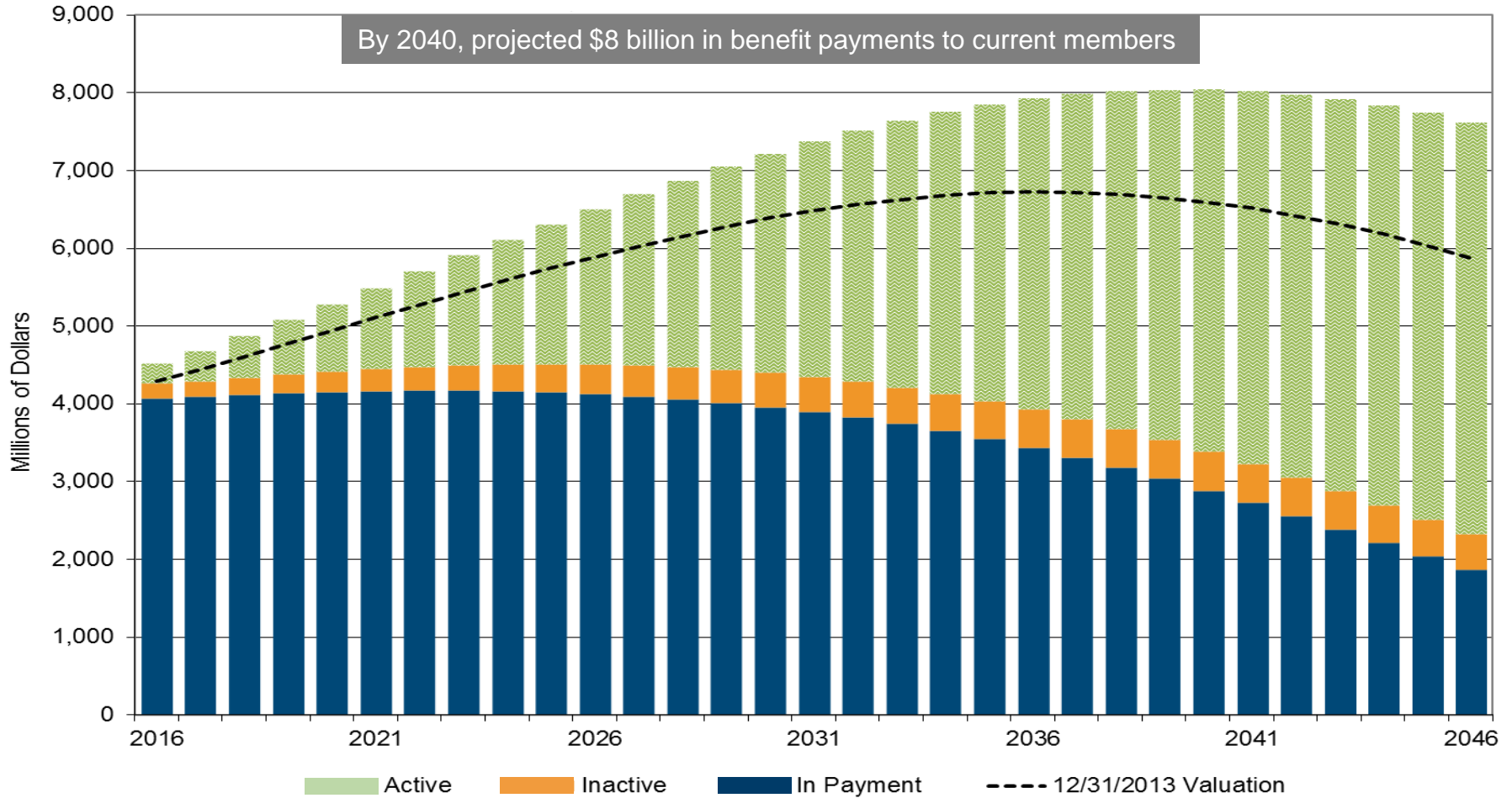
* PROJECTED BASED ON NOVEMBER 2016 MILLIMAN FINANCIAL MODELING PRESENTATION

Current and Projected UAL (Excluding Side Accounts)



* 2015 IS ACTUAL; OTHER YEARS ARE PROJECTED BASED ON NOVEMBER 2016 MILLIMAN PRESENTATION

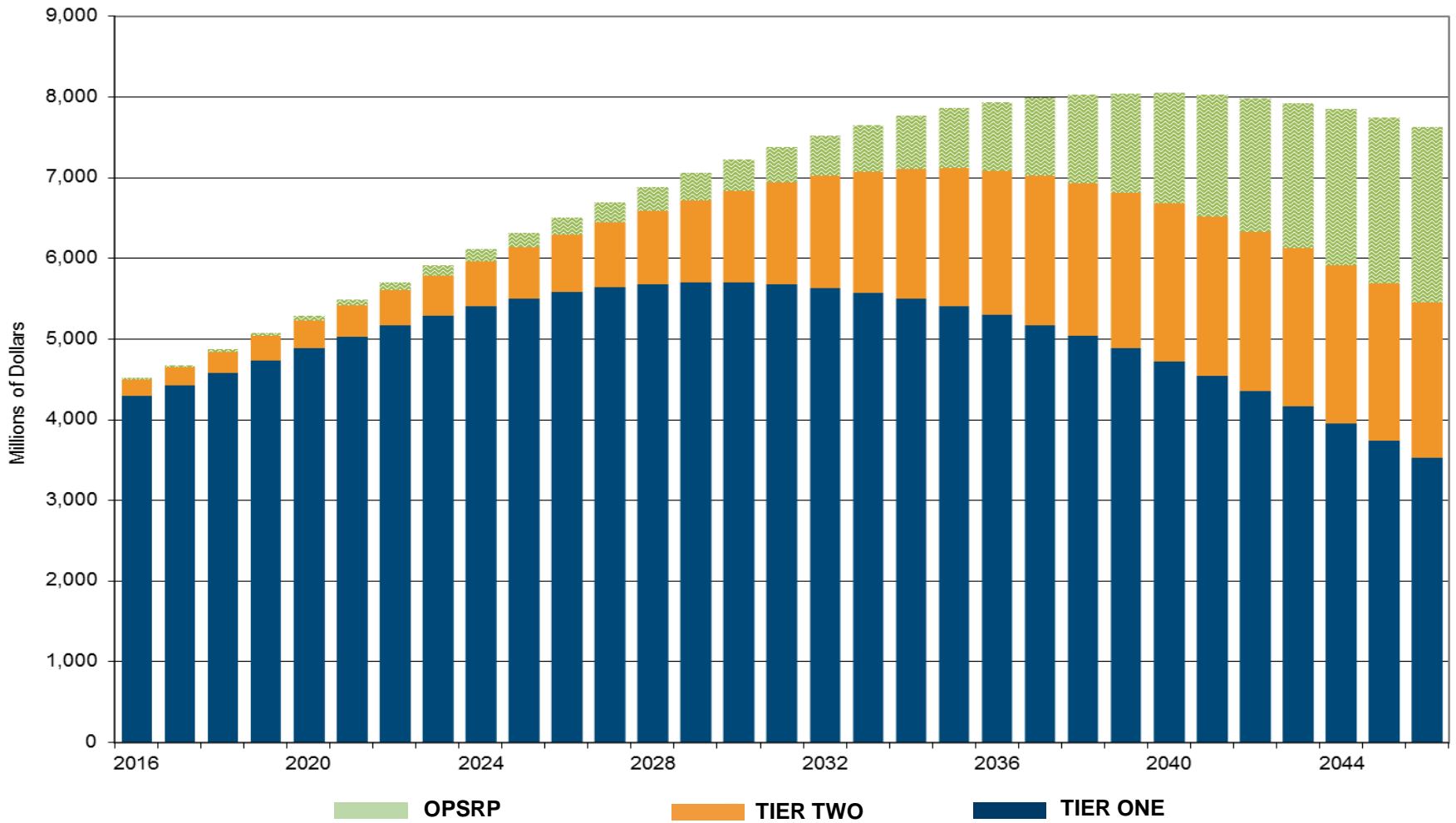
Projected Benefit Payments by Status (as of 12-31-15)



Dotted line depicts the projected payments from the 12/31/2013 rate-setting valuation, which did not reflect the *Moro* decision

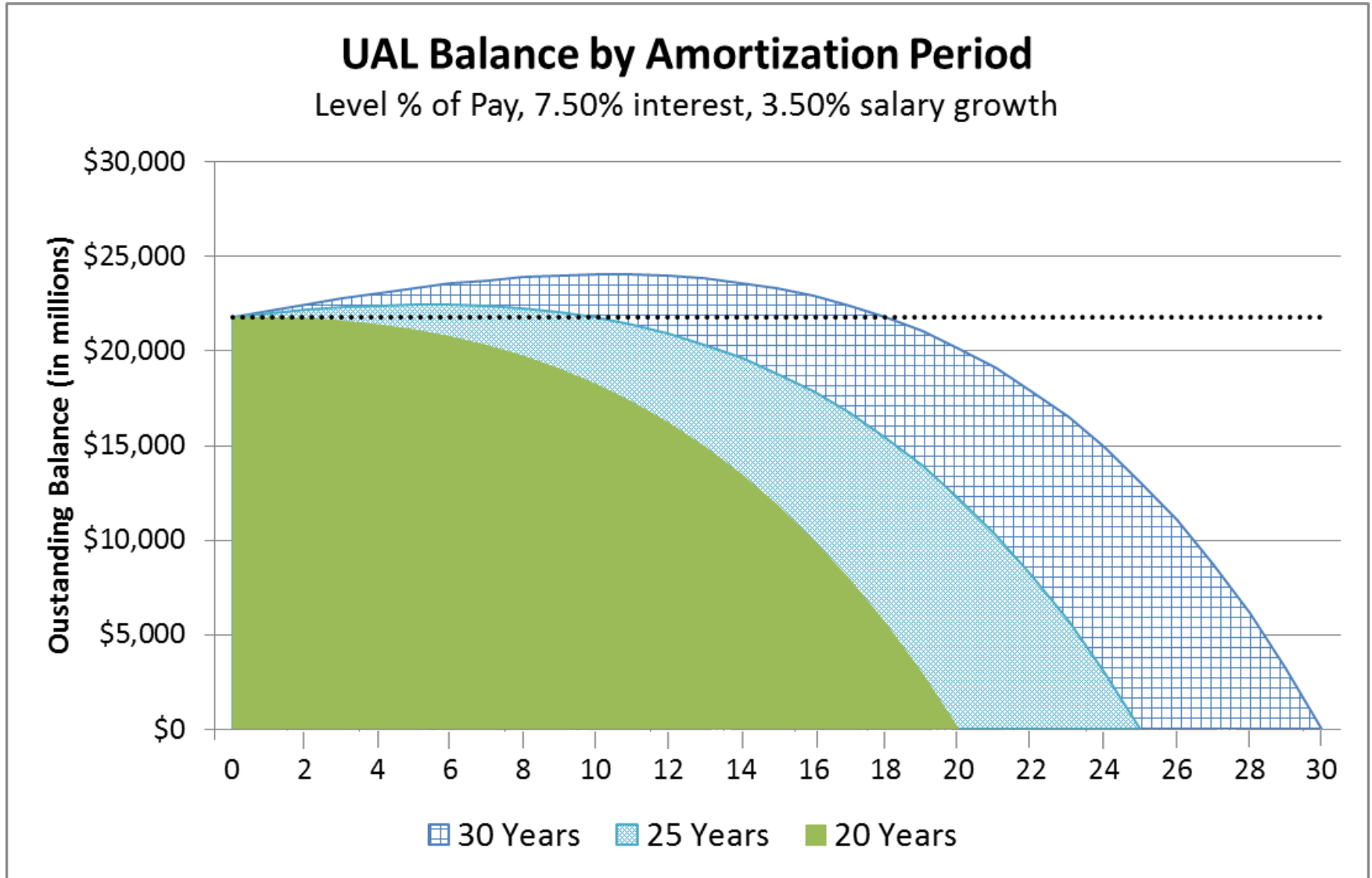
Milliman presentation; July 29, 2016 Board meeting

Projected Benefit Payments by Program (as of 12-31-15)



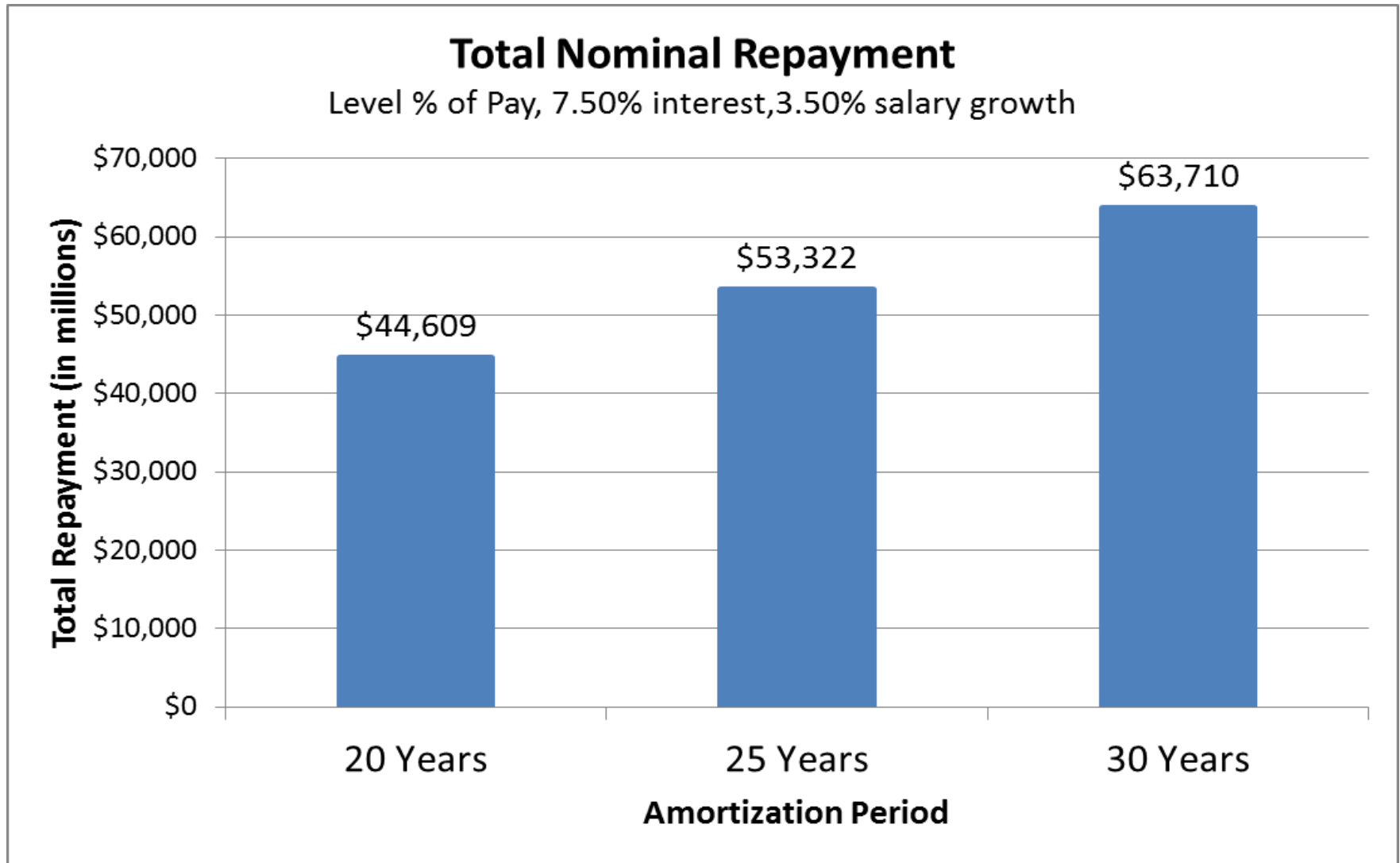
Milliman presentation; July 29, 2016 Board meeting

UAL Balance Amortization Patterns



Milliman presentation; September 30, 2016 – joint meeting of OIC/PERS Board

Total UAL Amortization Payments



Milliman presentation; September 30, 2016 – joint meeting of OIC/PERS Board

Potential Legislative Concepts Analyses

(calculated with a 1-1-18 effective date)

- 1. \$100,000 limit on final average salary (FAS):** would apply prospectively for all OPSRP and Tier One/Tier Two Full Formula and Formula + Annuity benefits.
- 2. 5-year FAS:** would apply prospectively for all OPSRP and Tier One/Tier Two Full Formula and Formula + Annuity benefits. Money Match would not be affected.
- 3. 1.00%/1.20% multiplier and 0.25%/0.30% multiplier:** would change the pension multiplier to 1.00% of FAS per year of service for general service members and 1.20% for police & fire members for service after January 1, 2018. Service earned before January 1, 2018 would continue to receive the current pension multiplier in benefit calculations.
- 4. Change Money Match interest rate:** used to convert account balances to monthly lifetime annuities from the PERS Board's current long-term investment return assumption of 7.50% to an illustrative interest rate of 3.5%. The rate would be independent of the PERS Board's long-term investment return assumption.

Potential Legislative Concepts Analyses

(calculated with a 1-1-18 effective date) (continued)

5. Reduce sick leave and vacation payments: would impact a Tier One/Tier Two member's FAS calculation. A specific proposal was not analyzed; instead the estimated financial impact of:

- **Halving Sick Leave and Vacation Payments** that are included in a Tier One/Tier Two member's FAS calculation.
- **Eliminating Sick Leave and Vacation Payments** that are included in a Tier One/Tier Two member's FAS calculation.

6. Redirect member contributions: the 6% member contribution would no longer go into member's Individual Account Program (IAP) accounts but would be redirected to fund Tier One/Tier Two and OPSRP defined benefit programs. Redirected contribution would not add to a Money Match-eligible account balance.

Estimated Effect of Potential Legislative Concepts

Concepts (if concepts are implemented together, the resulting effect would not be the cumulative amount of each concept because interactions between the various benefit modifications would produce a reduction in liability and uncollared contribution rate of smaller magnitude than the sum of the reductions)	12-31-15 Total Liability (\$B)	12-31-15 Accrued Liability (\$B)	2017-19 Uncollared Base Pension Employer Contribution Rates (% of Payroll)		
			Normal Cost (%)	UAL (%)	Total (%)
12-31-15 Pension Valuation Results	83.8	76.2	11.79	17.29	29.08
\$100,000 Limit on Final Average Salary	(3.3)	(2.0)	(1.30)	(1.55)	(2.85)
5-Year Final Average Salary	(0.7)	(0.5)	(0.25)	(0.40)	(0.65)
1.00%/1.20% Multipliers	(2.8)	(1.8)	(1.20)	(1.35)	(2.55)
0.25%/0.30% Multipliers	(6.5)	(4.0)	(2.85)	(3.0)	(5.85)
Change in Money Match Interest Rate	(0.9)	(0.8)	(0.20)	(0.60)	(0.80)
Halving Sick Leave & Vacation Payouts	(0.35)	(0.3)	(0.08)	(0.22)	(0.30)
Eliminate Sick Leave & Vacation Payouts	(0.7)	(0.6)	(0.15)	(0.45)	(0.60)
Redirecting Member Contributions	(0.0)	(0.0)	(6.00)	(0.0)	(6.00)