Adoption of 2023-2025 Employer Contribution Rates

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

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Introduction

- At the July meeting we reviewed summary valuation results as of December 31, 2021 for:
  - Tier One/Tier Two & OPSRP retirement programs
  - Retiree Health Insurance Account (RHIA), and
  - Retiree Health Insurance Premium Account (RHIPA)
- Earlier this month we published our full detailed December 31, 2021 System-Wide Actuarial Valuation Report
- Based upon that valuation at today's meeting we are presenting 2023-2025 employer contribution rates for adoption by the PERS Board
- PERS staff will provide detailed reports for each employer

Valuation Process and Timeline

- Actuarial valuations are conducted annually
  - Alternate between “rate-setting” and “advisory” valuations
  - This valuation as of 12/31/2021 is rate-setting
- Board adopts contribution rates developed in rate-setting valuations, and those rates go into effect 18 months after the valuation date

Rate-Setting Valuation Date	Employer Contribution Rates
12/31/2019 →	July 2021 – June 2023
12/31/2021 →	July 2023 – June 2025
12/31/2023 →	July 2025 – June 2027

Funded Status & Unfunded Actuarial Liability (UAL)

- Comparison of system-wide results for two most recent rate-setting valuations

Valuation Date	Excluding Side Accounts		Including Side Accounts	
	UAL	Funded Status	UAL	Funded Status
12/31/2019	$ 24.6 B	72%	$ 19.1 B	79%
12/31/2021	$ 20.0 B	80%	$ 13.4 B	86%

Summary of Valuation Results - Contributions

- Average collared base employer contribution rates **will increase 1.07% of pay starting July 2023**
  - Collared base employer rates paid by new employer contributions and/or side account transfers
- Average collared net employer contribution rates **will increase 0.68% of pay starting July 2023**
  - Collared net rates are paid by new employer contributions
- Factors affecting July 2023 – June 2025 contribution rate calculations:
  - Decrease in investment return assumption to 6.9% **increased normal cost rates**
  - Actual 2021 investment returns of +20% decreased uncollared UAL rates
  - **Updated rate collaring policy** adopted mid-2021 led to **no decrease in average collared base UAL rates**
  - **Larger 2023-2025 side account offsets** from strong 2021 returns lessened the net contribution rate increase

System-Average Weighted Total* Pension-Only Rates

2009-2011 rates set **prior to 2008 economic downturn**

2011-2013 rates first to reflect **-27%** return in 2008 and **+19%** return in 2009

2013-2015 rates shown before (dotted line) and after (solid line) **legislated changes**

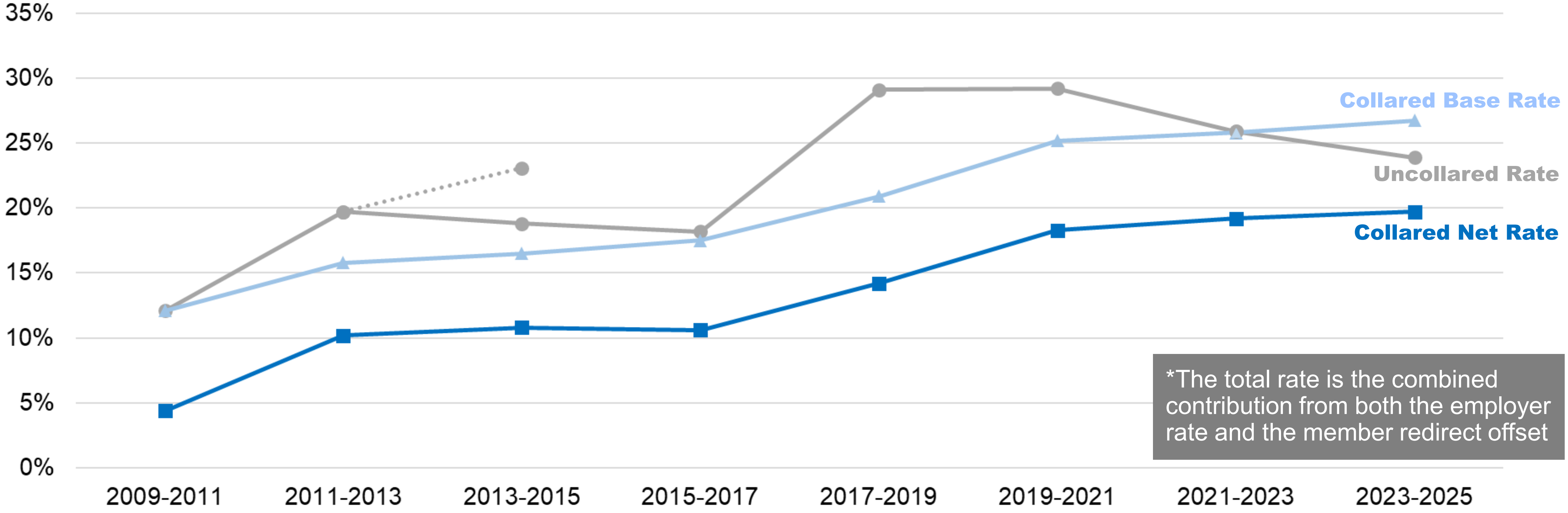
2015-2017 rates set **pre-*Moro*** reflecting 2012 (**+14.3%**) & 2013 (**+15.6%**) returns, first **decrease in assumed return**

2017-2019 rates set **post-*Moro***, reflecting 2015 return (**+2.1%**) and second **decrease in assumed return**

2019-2021 rates reflect **+15.4%** return in 2017 and third **decrease in assumed return**

2021-2023 rates reflect **mandated reamortization of Tier One/Tier Two UAL**, biennial returns near assumption

2023-2025 rates reflect 2021 actual return of **+20.05%, fourth decrease in assumed return** and **update to collaring policy**



*The total rate is the combined contribution from both the employer rate and the member redirect offset

Assumed Return:	2009-2011	2011-2013	2013-2015	2015-2017	2017-2019	2019-2021	2021-2023	2023-2025
	8.00%	8.00%	8.00%	7.75%	7.50%	7.20%	7.20%	6.90%

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Individual Employer Rates

- Employers pay separate rates on different payrolls:
  - Tier One/Tier Two payroll
    - Some SLGRP employers can pay distinct General Service and Police & Fire rates on their Tier One/Tier Two payroll
  - OPSRP General Service payroll
  - OPSRP Police & Fire payroll
- Individual rates (and accompanying detailed reports) provided for over 600 employers
  - 362 SLGRP employers
  - 127 Independent employers
  - 125 School District employers with side accounts
    - An additional 169 School District employers without a side account all receive an identical report
- Detail for State Agencies shown on following slides
  - Note that side accounts specific to individual state agencies are reflected separately

Individual Employer Rates

- From the employer rate listing provided in today's meeting materials
- "State Agencies" in this context includes: the agencies of state government, semi-independent agencies, boards, commissions, public universities and public corporations

Summary of PERS Employer Contribution Rates

Rates shown reflect the effect of side account rate offsets and retiree healthcare contributions, and exclude contributions to the IAP and debt service for pension obligation bonds.

Employer Number	Employer Name	Net Employer Contribution Rate 7/1/21 - 6/30/23			Net Employer Contribution Rate 7/1/23 - 6/30/25		
		Tier 1/ Tier 2 Payroll (reflects 2.45% member redirect offset)	OPSRP General Service Payroll (reflects 0.70% member redirect offset)	OPSRP Police and Fire Payroll (reflects 0.70% member redirect offset)	Tier 1/ Tier 2 Payroll (reflects 2.40% member redirect offset)	OPSRP General Service Payroll (reflects 0.65% member redirect offset)	OPSRP Police and Fire Payroll (reflects 0.65% member redirect offset)
	State (excluding Agency specific side accounts)						
1000	State Agencies	22.38%	17.29%	21.65%	22.91%	18.28%	23.07%

Individual Employer Rates

- From the detailed report PERS will provide to each employer

Employer Rates Effective July 1, 2023 for State Agencies

	Payroll				
	Tier 1/Tier 2			OPSRP	
	Default	Optional Separate Rates			
	All T1/T2 Payroll	General Service	Police & Fire	General Service	Police & Fire
Pension					
Normal cost rate	16.27%	15.14%	21.79%	9.89%	14.68%
Tier 1/Tier 2 UAL rate[1]	12.61%	12.61%	12.61%	12.61%	12.61%
OPSRP UAL rate	1.69%	1.69%	1.69%	1.69%	1.69%
Pre-SLGRP pooled liability rate	1.33%	1.33%	1.33%	1.33%	1.33%
Transition liability/(surplus) rate[2]	0.00%	0.00%	0.00%	0.00%	0.00%
Side account rate relief [2]	(6.59%)	(6.59%)	(6.59%)	(6.59%)	(6.59%)
Member redirect offset[3]	(2.40%)	(2.40%)	(2.40%)	(0.65%)	(0.65%)
Net employer pension contribution rate	**22.91%**	**21.78%**	**28.43%**	**18.28%**	**23.07%**
Retiree Healthcare					
Normal cost rate	0.13%	0.13%	0.13%	0.00%	0.00%
UAL rate	(0.13%)	(0.13%)	(0.13%)	0.00%	0.00%
Net retiree healthcare rate	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
Total net employer contribution rate	**22.91%**	**21.78%**	**28.43%**	**18.28%**	**23.07%**
Total net employer contribution rate effective July 1, 2021:	*22.38%*			*17.29%*	*21.65%*

This rate-setting valuation

Prior rate-setting valuation

Individual Employer Pension Rates

- Focusing on just the Net Employer Pension Rates circled in green from the prior slide, we can illustrate the weighted average rate calculation for State Agencies, reflecting estimated 2023-2025 biennium payroll

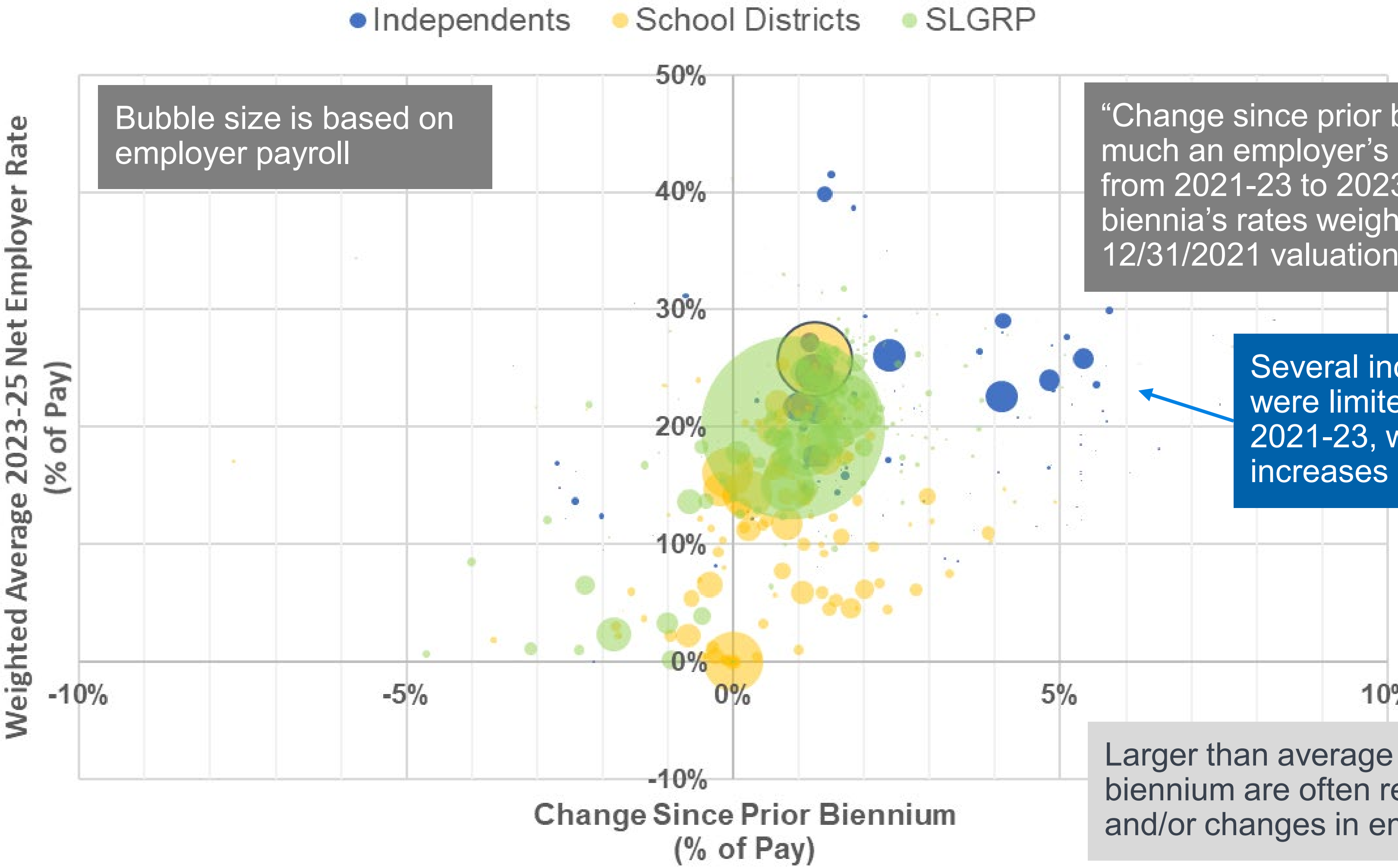
($ millions) **State Agencies**	**Tier One / Tier Two**	**OPSRP General Service**	**OPSRP Police & Fire**	**Total**
Projected 2023-2025 Biennium Payroll	$1,805	$5,710	$845	$8,360
2023-2025 net employer pension contribution rates	22.91%	18.28%	23.07%	19.80%*
Contribution for weighting	$415	$1,045	$195	$1,655

** Weighted average: $1,655 / $8,360 = 19.80%*

- Projected 2023-2025 payroll is based on State Agencies payroll from this valuation increased with the 3.40% annual payroll growth assumption
- For reference, the projected 2021-2023 employer contribution was $1,470 million; over half of the increase in the 2023-2025 amount is due to projected payroll growth

Average Net Rates by Employer and Change Since Prior Biennium

Weighted by 12/31/2021 valuation payroll (Tier One/Tier Two, OPSRP GS, OPSRP PF)



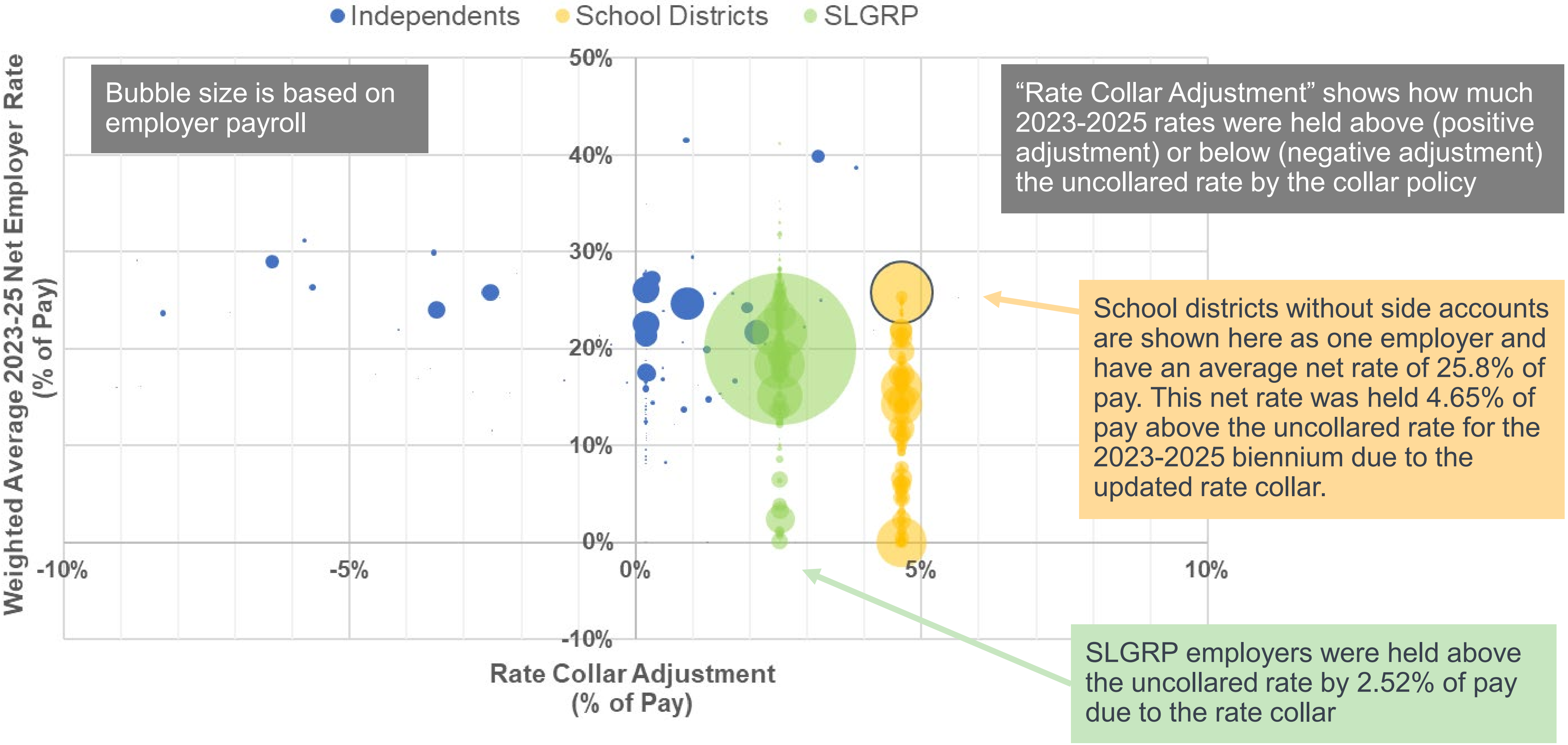
"Change since prior biennium" shows how much an employer's average rate changed from 2021-23 to 2023-25, with both biennia's rates weighted based on 12/31/2021 valuation payroll

Several independent employers were limited by the rate collar in 2021-23, which led to rate increases in 2023-25

Larger than average changes since prior biennium are often related to side accounts and/or changes in employer payrolls

Average Net Rates by Employer and Effect of July 2023 Collaring

Weighted by 12/31/2021 valuation payroll (Tier One/Tier Two, OPSRP GS, OPSRP PF)



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Wrap Up / Next Steps

- Adoption of employer-specific rates for 2023-2025 biennium
- PERS to distribute detailed valuation reports to employers
- In December, we will present contribution rate and funded status projections
  - Focus on system-average results
  - Will use the latest year-to-date investment return information at the time the projections are made
  - Projections will be developed using two types of models
    - Steady return
    - Variable return

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Appendix

Certification

This presentation summarizes key results of an actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2021, for the Plan Year ending December 31, 2021. The results are high-level in nature and may not be relied upon to, for example, prepare the System's Annual Comprehensive Financial Report. The full development of detailed results is shown in the formal December 31, 2021 System-Wide Actuarial Valuation Report.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System. The valuation results were developed using models intended for valuations that use standard actuarial techniques.

Future actuarial measurements may differ significantly from the current measurements presented in this report 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. Our annual financial modeling presentation to the PERS Board should be referenced for additional analysis of the potential variation in future measurements. Our December 31, 2021 Actuarial Valuation Report provides additional discussion of the System's risks. The PERS Board has the final decision regarding the appropriateness of the assumptions.

Actuarial computations presented in this report are for purposes of presenting advisory contribution rates consistent with the adopted funding policy the System. The computations prepared for other purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the plan provisions described in the appendix of this report. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Certification

Milliman's work is prepared solely for the internal business use of the Oregon Public Employees Retirement System. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third-party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

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

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States of the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. Assumptions related to the claims costs and healthcare trend (cost inflation) rates for the retiree healthcare program discussed in this report were determined by Milliman actuaries qualified in such matters.

Data Exhibits

	December 31, 2021				December 31, 2020
	Tier One	Tier Two	OPSRP	Total	Total
Active Members					
Count	12,225	27,975	137,539	177,739	180,685
Average Age	57.7	53.0	43.6	46.0	46.0
Average Service	27.7	20.6	7.5	11.0	10.8
Average prior year Covered Salary	$ 91,245	$ 85,536	$ 62,523	$ 68,120	$ 63,741
Inactive Members[1]					
Count	9,517	13,546	27,678	50,741	48,180
Average Age	61.8	55.5	48.4	52.8	53.0
Average Monthly Benefit	$ 2,323	$ 965	$ 487	$ 959	$ 972
Retired Members and Beneficiaries[1]					
Count	129,796	20,163	9,626	159,585	156,156
Average Age	73.7	68.8	68.3	72.8	72.5
Average Monthly Benefit	$ 3,184	$ 1,323	$ 628	$ 2,795	$ 2,743
Total Members	**151,538**	**61,684**	**174,843**	**388,065**	**385,021**

[1] *Inactive and Retiree counts are shown by lives within the system. In other words, a member is counted once for purposes of this exhibit, regardless of their service history for different rate pools. This contrasts with the method used to count inactive participants in some of the later exhibits.*

School District Weighted Total* Pension-Only Rates

2009-2011 rates set **prior to economic downturn**

2011-2013 rates first to reflect **-27%** return in 2008 and **+19%** return in 2009

2013-2015 shown before (dotted line) and after (solid line) **legislated changes**

2015-2017 set **pre-*Moro*** reflecting 2012 (**+14.3%**) & 2013 (**+15.6%**) returns, **first decrease in assumed return**

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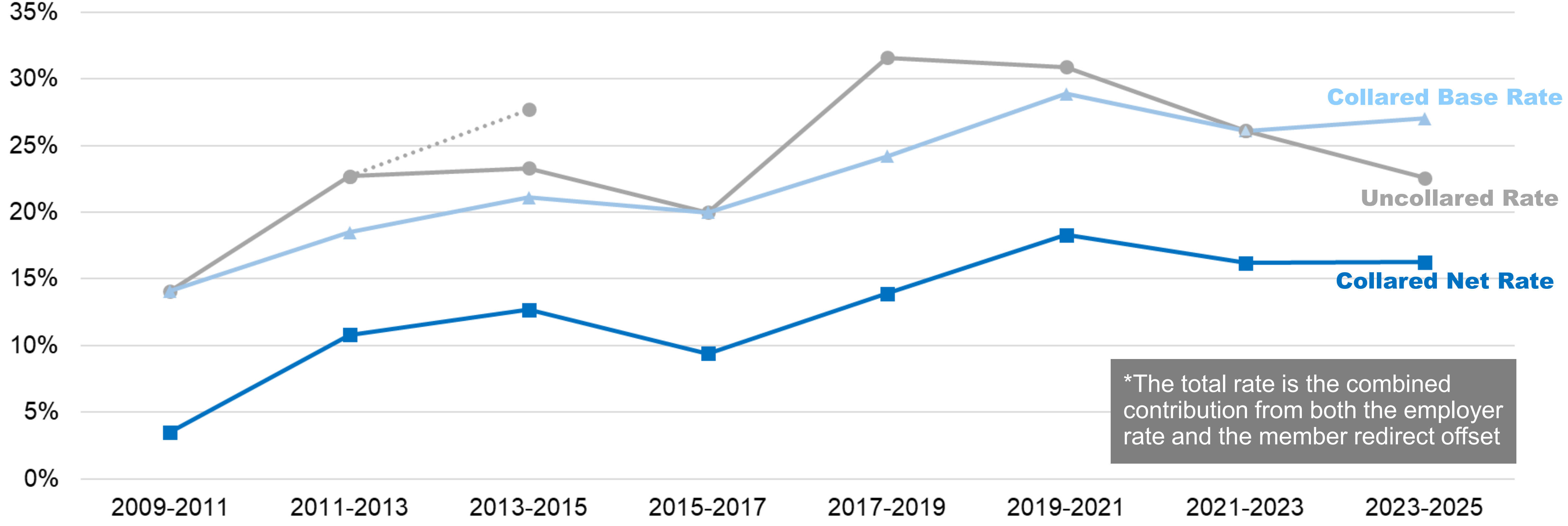
2019-2021 reflects 2017 return (**+15.4%**) and third **decrease in assumed return**

2021-2023 rates **reflect mandated reamortization of Tier One/Tier Two UAL**, biennial returns near assumption

2023-2025 rates reflect 2021 actual return of **+20.05%,** **fourth decrease in assumed return** and **update to collaring policy**



Assumed Return:	8.00%	8.00%	8.00%	7.75%	7.50%	7.20%	7.20%	6.90%

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SLGRP Weighted Total* Pension-Only Rates

2009-2011 rates set **prior to economic downturn**

2011-2013 rates first to reflect **-27%** return in 2008 and **+19%** return in 2009

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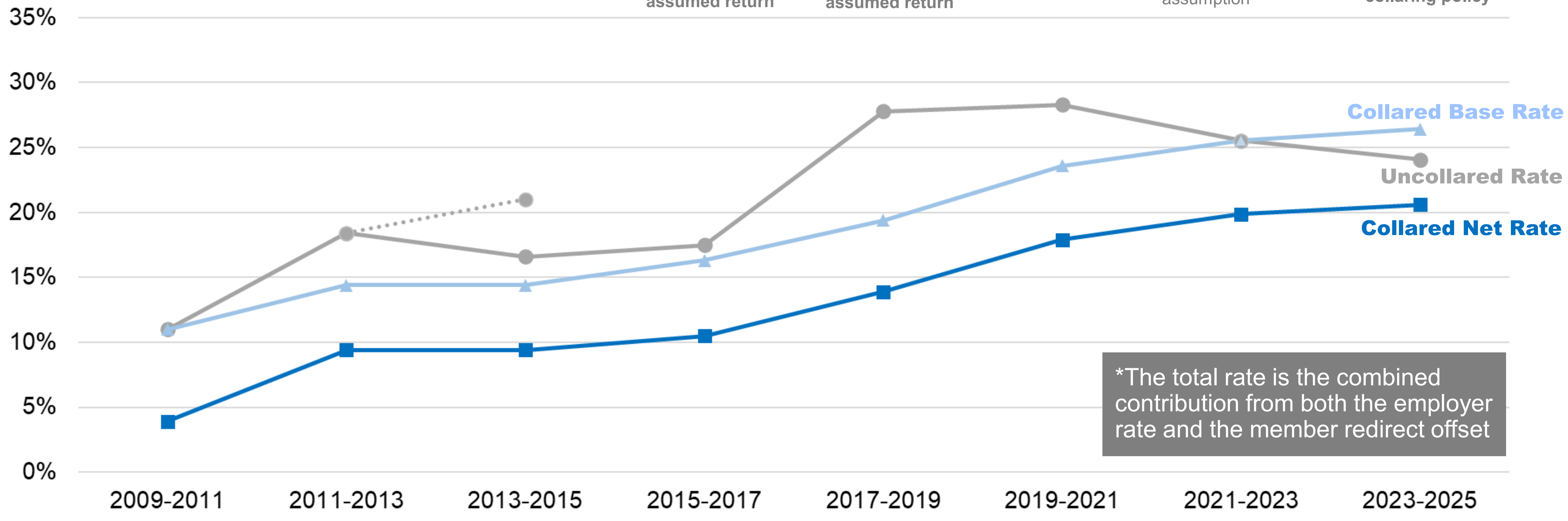

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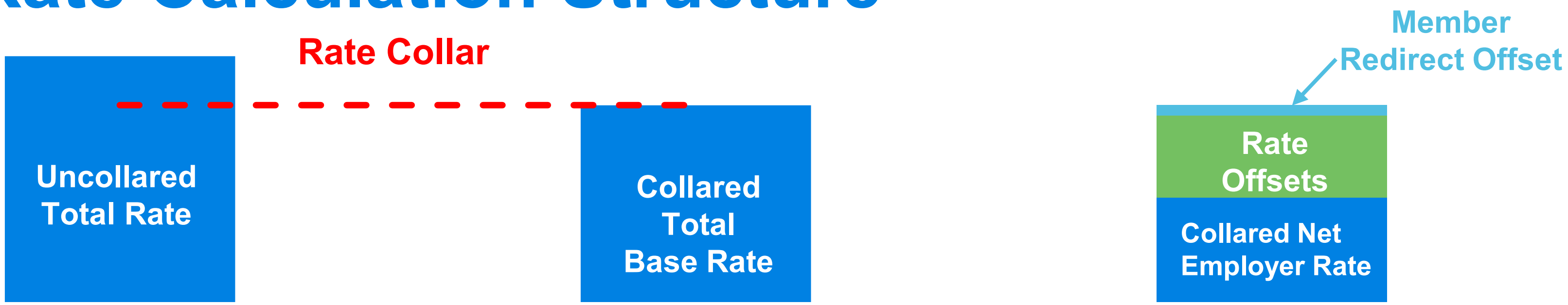
Overview of Rate Calculation Structure



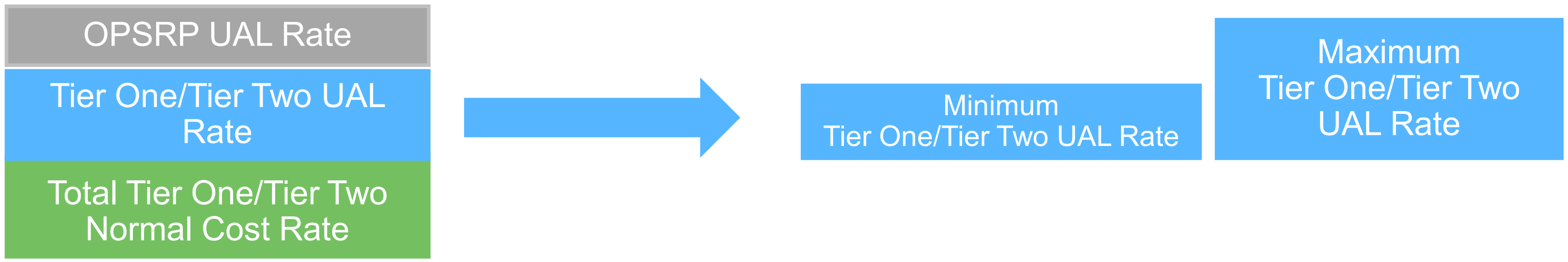
- The ***uncollared total rate*** is the theoretical contribution rate to reach 100% funded status over a specified amortization period if:
  - Contributions at that rate started on the actuarial valuation date, and
  - Actual future experience mirrors the actuarial valuation's assumptions, and
  - The normal cost rate does not change in subsequent years
- The rate collar sets a biennium's ***collared total base rate***, limiting the base rate change for a single biennium when there is a large change in the uncollared rate
- ***Member redirect offset*** reflects estimated portion of collared total base rate paid by redirected member contributions
- Employers pay the ***collared net employer rate***, which reflects the member redirect offset and any rate offset adjustments from:
  - Side account rate offsets for employers with side accounts
  - SLGRP charges/offsets (e.g., Transition Liability/Surplus)

Rate Collar Design

The rate collar structure was revised with the assumptions and methods adopted for the 2020 Experience Study

- Rate collar focuses on the biennium-to-biennium change in the UAL Rate component
  - Normal Cost Rate component is always paid in full and is not subject to a rate collar limitation
- The maximum biennium to biennium change in UAL Rate permitted by the rate collar is:
  - **SLGRP and School District Pools Tier One/Tier Two UAL Rates**: 3% of pay
  - **OPSRP UAL rate**: 1% of pay
  - **Tier One/Tier Two UAL Rates of Independent Employers**: greater of 4% of pay or 1/3rd of the difference between the collared and uncollared Tier One/Tier Two UAL Rates at the last rate-setting valuation
- UAL Rate is not allowed to decrease at all unless funded status excluding side accounts is at least 87%, and a full collar width decrease is not allowed unless funded status is at least 90%

Illustration of Rate Collar for Tier One/Tier Two UAL Rate



Pension Rate in Current Biennium

Potential Pension Rate in Next Biennium

Retirement System Risks

- Oregon PERS, like all defined benefit systems, is subject to various risks that will affect future system liabilities and contribution requirements, including:
  - **Investment risk**: the potential that investment returns will be different than assumed
  - **Demographic risks**: the potential that mortality experience, retirement behavior, or other demographic experience for the system membership will be different than assumed
  - **Contribution risk**: the potential that actual future contributions will be materially different than expected, for example if there are material changes in the system's covered payroll
- The results of an actuarial valuation are based on one set of reasonable assumptions, but it is almost certain that future experience will not exactly match the assumptions.
- Further discussion of system risks and historical information regarding system experience are shown in our annual actuarial valuations. In addition, our annual financial modeling presentation to the PERS Board illustrates future outcomes under a wide range of future scenarios reflecting variation in key risk factors.

Actuarial Basis

Data

We have based our calculation of the liabilities on the data supplied by the Oregon Public Employees Retirement System and summarized in the data exhibits on the preceding slides.

Assets as of December 31, 2021, were based on values provided by Oregon PERS reflecting the Board's earnings crediting decisions for 2021.

Methods / Policies

Actuarial Cost Method: Entry Age Normal, adopted effective December 31, 2012.

UAL Amortization: The UAL for OPSRP and Retiree Health Care as of December 31, 2007 were amortized as a level percentage of combined valuation payroll over a closed 16-year period for OPSRP and a closed 10-year period for Retiree Health Care. For the Tier One/Tier Two UAL, the amortization period was reset at 20 years as of December 31, 2013. Senate Bill 1049 was signed into law in June 2019 and requires a one-time re-amortization of Tier One/Tier Two UAL over a closed 22-year period at the December 31, 2019 rate-setting valuation which will set actuarially determined contribution rates for the 2021-2023 biennium. Gains and losses between subsequent odd-year valuations are amortized as a level percentage of combined valuation payroll over the amortization period (20 years for Tier One/Tier Two, 16 years for OPSRP, 10 years for Retiree Health Care) from the odd-year valuation in which they are first recognized.

For the Retiree Health Care programs (RHIA and RHIPA), beginning with the December 31, 2021 rate-setting valuation the amortization policy when a program is over 100% funded status will be to amortize the actuarial surplus over Tier One/Tier Two payroll using a rolling 20-year amortization basis. The resulting negative UAL Rate will offset the normal cost rate for the program, but not below 0.0%. If either program subsequently fell below 100%, the UAL would be amortized over combined payroll following the 10-year closed, layered amortization policy.

Actuarial Basis

Methods / Policies (cont'd)

Contribution rate stabilization method: The UAL Rate contribution rate component for a rate pool (e.g. Tier One/Tier Two SLGRP, Tier One/Tier Two School Districts, OPSRP) is confined to a collared range based on the prior biennium's collared UAL Rate contribution rate component (prior to consideration of side account offsets, SLGRP transition liability or surplus rates, or pre-SLGRP liability rate charges or offsets).

Collar Width: the rate pool's new UAL Rate contribution rate component will generally not increase or decrease from the prior biennium's collared UAL Rate contribution rate component by more than the following amount:

- Tier One/Tier Two SLGRP and Tier One/Tier Two School District Pool: 3% of payroll
- OPSRP: 1% of payroll
- Tier One/Tier Two rates for independent employers: greater of 4% of payroll or one-third of the difference between the collared and uncollared UAL Rate at the prior rate-setting valuation. In addition, the UAL Rate will not be allowed to be less than 0.00% of payroll for any Tier One/Tier Two independent employer with a funded status (excluding side accounts) less than 100%.

UAL Rate decrease restrictions**:** the UAL Rate for any rate pool will not be allowed to decrease if the pool's funded status is 87% (excluding side accounts) or lower; the allowable decrease will phase into the full collar width from 87% funded to 90% funded.

Expenses: System-wide administration expenses are assumed to be equal to $59.0M. The assumed expenses are allocated between Tier One/Tier Two and OPSRP based on projected payroll and are added to the respective normal costs.

Actuarial Value of Assets: Equal to Market Value of Assets excluding Contingency and Tier One Rate Guarantee Reserves. The Tier One Rate Guarantee Reserve is not excluded from assets if it is negative (i.e. in deficit status). The Actuarial Value of Assets includes the value of Employee Pension Stability Accounts (EPSA).

Assumptions

Assumptions for valuation calculations are as described in the 2020 Experience Study for Oregon PERS and presented to the PERS Board in July 2021.

Provisions

Provisions valued are as detailed in the forthcoming 2021 Valuation Report.