

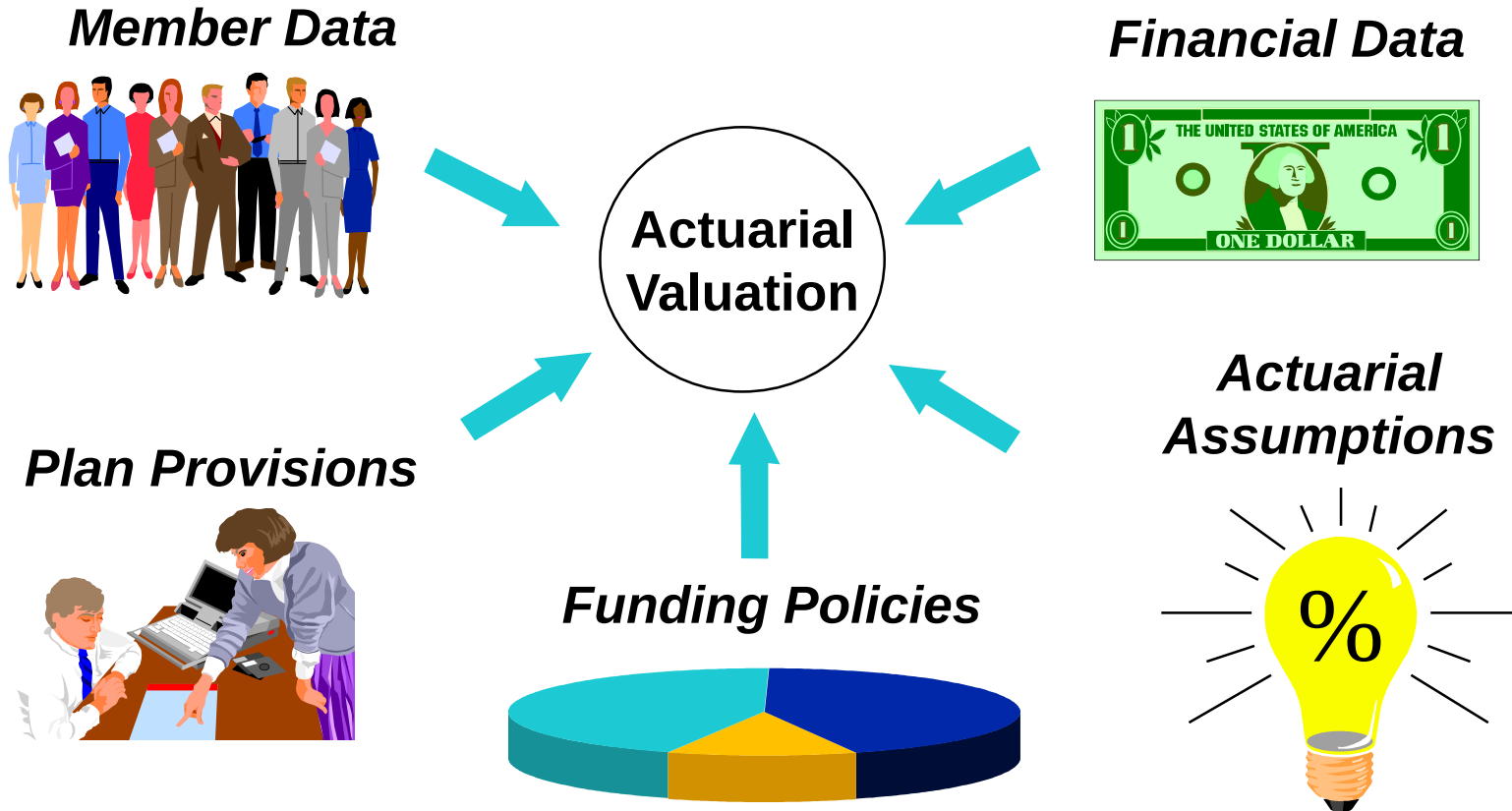
San Bernardino County Employees' Retirement Association

**Proposal to Manage Short-term “UAAL Tail Volatility”
August 6, 2020**

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What Goes Into an Actuarial Valuation



Valuation Input

Funding Policies – Three components



- **Actuarial Cost (or Funding) Method** – allocates present value of member's projected benefits to years of service: past, current and future
 - Defines Normal Cost and Actuarial Accrued Liability (AAL)
- **Asset Smoothing Method** – assigns a value to assets that manages short term volatility while tracking market value
 - Defines the Unfunded Actuarial Accrued Liability (UAAL)
- **UAAL Amortization Policy** – sets contributions to systematically pay off any UAAL
 - Includes structure, periods and pattern of payments

SBCERA's UAAL Amortization Structure

- Effective in 2002, Board adopted layered UAAL amortization
 - Then current (6/30/2002) UAAL amortized over 20 years
 - In subsequent valuations, each new change in UAAL is amortized over separate, fixed periods
 - 20 years for gains/losses and assumptions changes
 - 15 years for plan amendments
 - Up to 5 years for temporary retirement incentive
 - Amortization payments structured as a level percentage of projected total payroll

SBCERA's UAAL Amortization Structure (continued)

- For each amortization layer, the amortization schedule shows
 - Source and amount of each change in UAAL since 2002
 - Outstanding balance remaining
 - Years remaining before being fully amortized
 - Current amortization payment
- Sum of outstanding balances by layer equals total UAAL
 - Separate schedules for each cost group

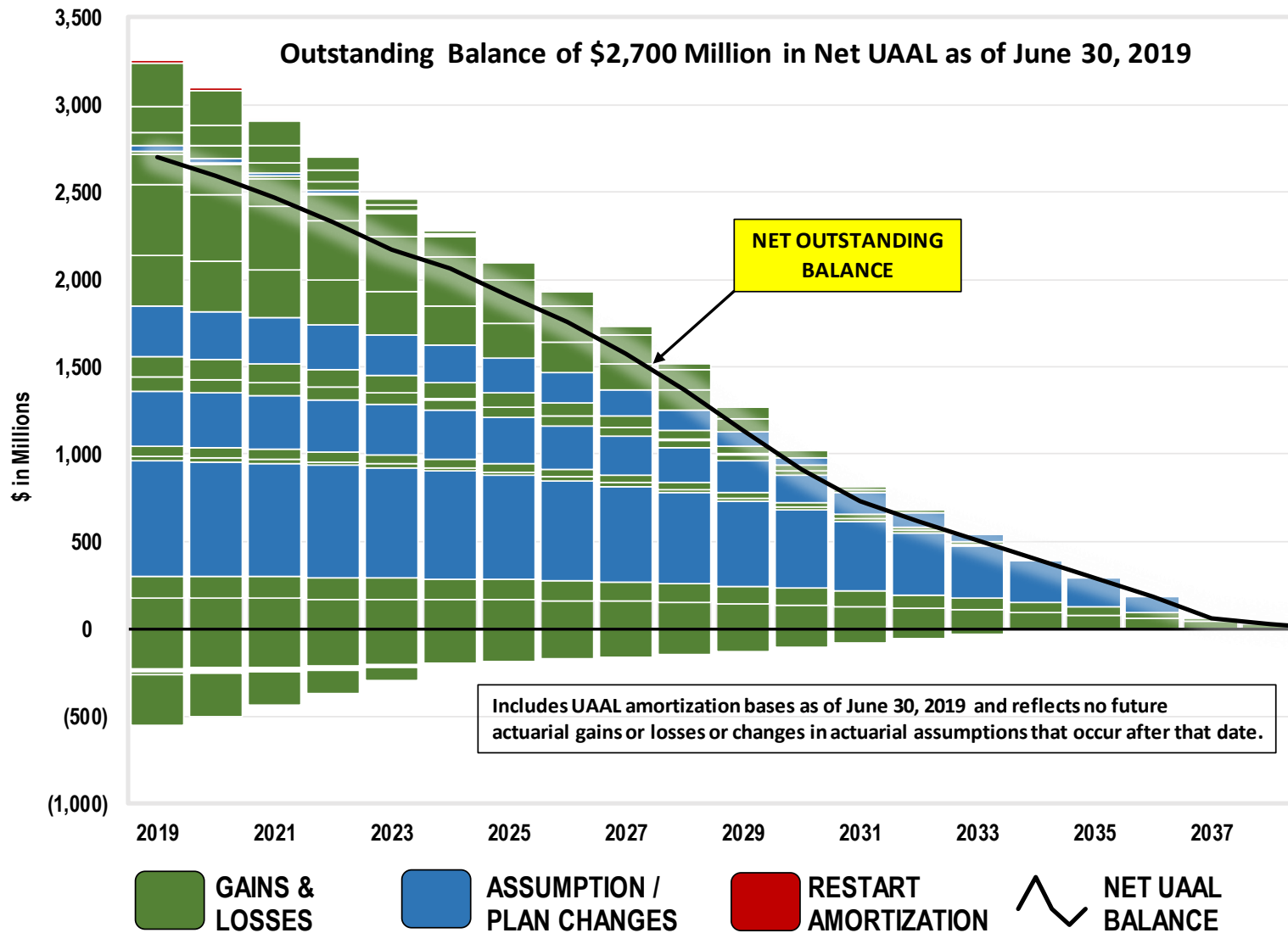
SBCERA June 30, 2019 Amortization Schedule

Date Established	Source	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Amortization Amount (\$ in '000s)
Combined						
June 30, 2002	Restart Amortization	\$36,177	20	\$14,074	3	\$5,047
June 30, 2003	Actuarial Loss	515,947	20	252,244	4	69,032
June 30, 2004	Actuarial Loss	249,570	20	143,490	5	31,964
June 30, 2004	POB Credit	(505,187)	20	(290,396)	5	(64,688)
June 30, 2004	Plan Change	1,245	20	711	5	158
June 30, 2005	Actuarial Loss	120,808	20	78,730	6	14,869
June 30, 2005	Assumption Change	41,487	20	27,024	6	5,105
June 30, 2006	Actuarial Gain	(16,929)	20	(12,142)	7	(1,999)
December 31, 2006	UAAL Prepayment	(10,000)	20	(7,458)	7.5	(1,156)
June 30, 2007	Actuarial Gain	(6,662)	20	(5,126)	8	(751)
June 30, 2007	Plan Change	586	20	445	8	65
June 30, 2008	Actuarial Loss	19,453	20	15,943	9	2,112
June 30, 2008	Assumption Change	(10,692)	20	(8,765)	9	(1,162)
June 30, 2009	Actuarial Loss	206,143	20	177,197	10	21,488
June 30, 2010	Actuarial Loss	454,302	20	405,311	11	45,433
June 30, 2011	Actuarial Loss	320,873	20	294,633	12	30,782
June 30, 2011	Assumption Change	312,234	20	286,706	12	29,953
June 30, 2012	Actuarial Loss	122,009	20	114,807	13	11,256
June 30, 2012	Burial Allowance Method Change	3,010	20	2,777	13	271
June 30, 2013	Actuarial Loss	79,446	20	76,201	14	7,052
June 30, 2014	Actuarial Gain	(232,660)	20	(226,084)	15	(19,848)
June 30, 2014	Assumption Change	331,433	20	322,043	15	28,271
June 30, 2015	Actuarial Loss	59,042	20	58,010	16	4,852
June 30, 2016	Actuarial Loss	24,146	20	23,910	17	1,912
June 30, 2017	Actuarial Gain	(2,921)	20	(2,912)	18	(224)
June 30, 2017	Assumption Change	662,715	20	659,461	18	50,625
June 30, 2018	Actuarial Loss	127,034	20	\$126,893	19	9,376
June 30, 2019	Actuarial Loss	172,248	20	<u>172,248</u>	20	<u>12,283</u>
Grand Total				\$2,699,975		\$292,078

SBCERA's UAAL Amortization Structure (continued)

- 2019 valuation includes graphical representation of UAAL amortization layers
 - Projects UAAL amortization bases and payments
 - **Assuming no future actuarial gains/losses, assumption changes or plan amendments**
 - Use graphs in conjunction with amortization schedule

SBCERA Projection of UAAL Amortization Balances as of June 30, 2019



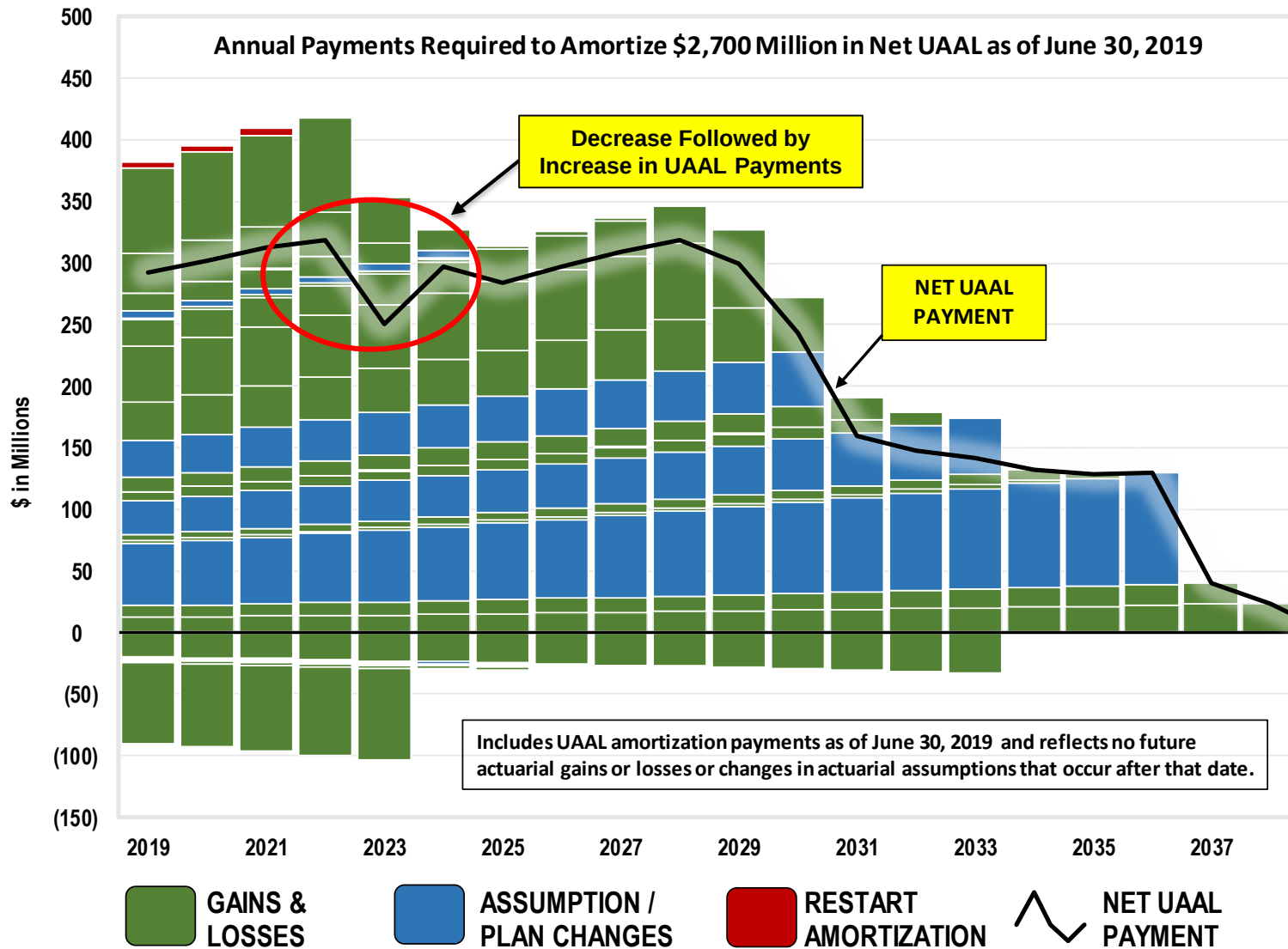
SBCERA's UAAL Amortization Structure – Managing “Tail Volatility”

- Layered amortization allows full transparency by tracking:
 - Where UAAL came from
 - When each portion of UAAL will be fully amortized
- Ability to track UAAL comes at a policy price: tail volatility
 - Most layers are “charge” layers, but gain layers are “credit” layers
 - When a charge layer is fully amortized, next year’s contribution decreases
 - When a credit layer is fully amortized, next year’s contribution increases

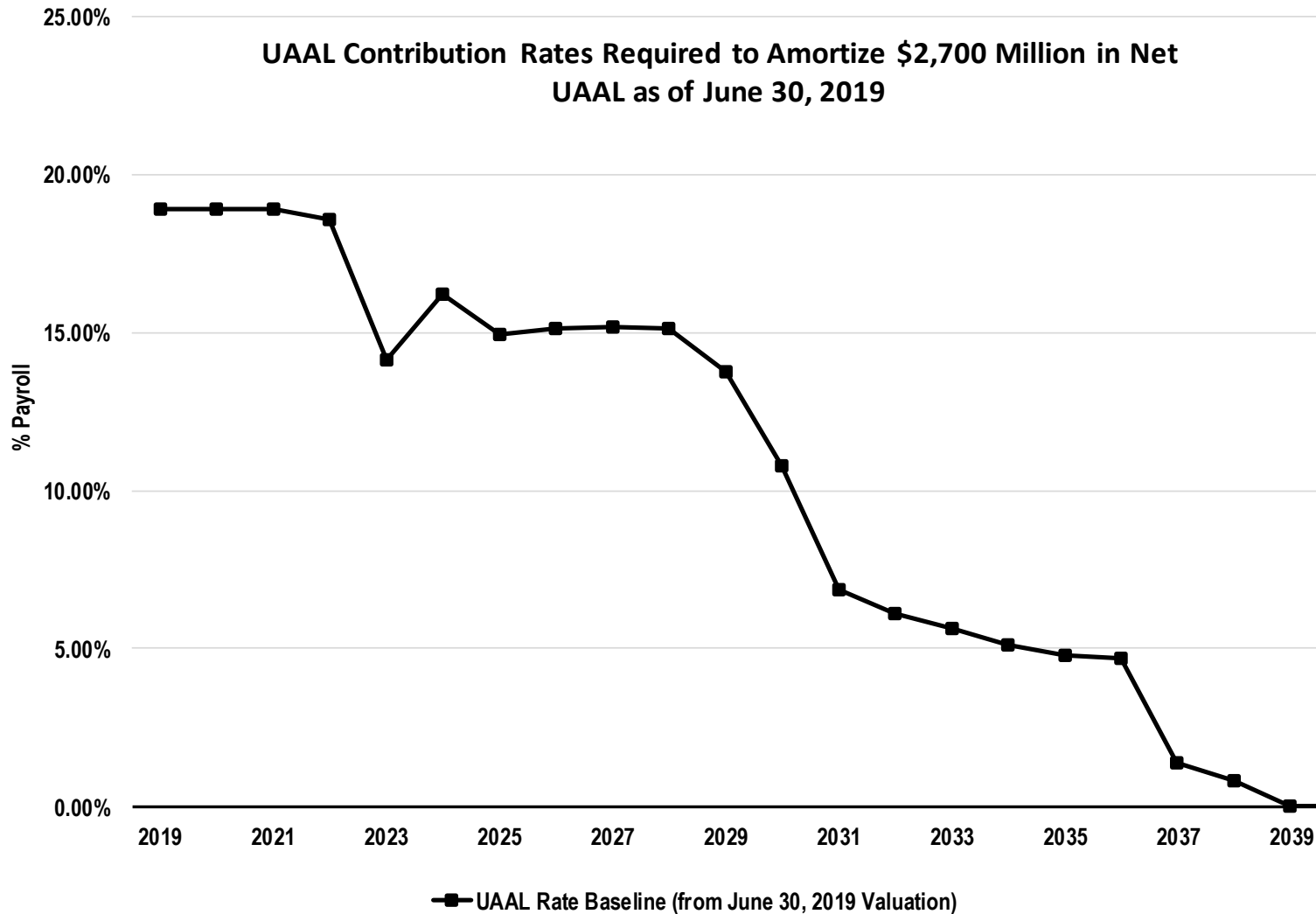
Managing Tail Volatility – UAAL Amortization Structure (continued)

- Solution: occasional active management of amortization periods
 - Only to manage tail volatility
 - Not intended to accelerate or decelerate UAAL funding
- For SBCERA, net UAAL payments decrease then increase between 2023 and 2024 valuations
 - Decreases in 2023 valuation due to full amortization of actuarial loss from 2003 valuation
 - Increases in 2024 due to full amortization of net gain from POB credit, actuarial loss and plan change from 2004 valuation

SBCERA Projection of UAAL Amortization Payments as of June 30, 2019



SBCERA Projection of UAAL Contribution Rates (% of Payroll)

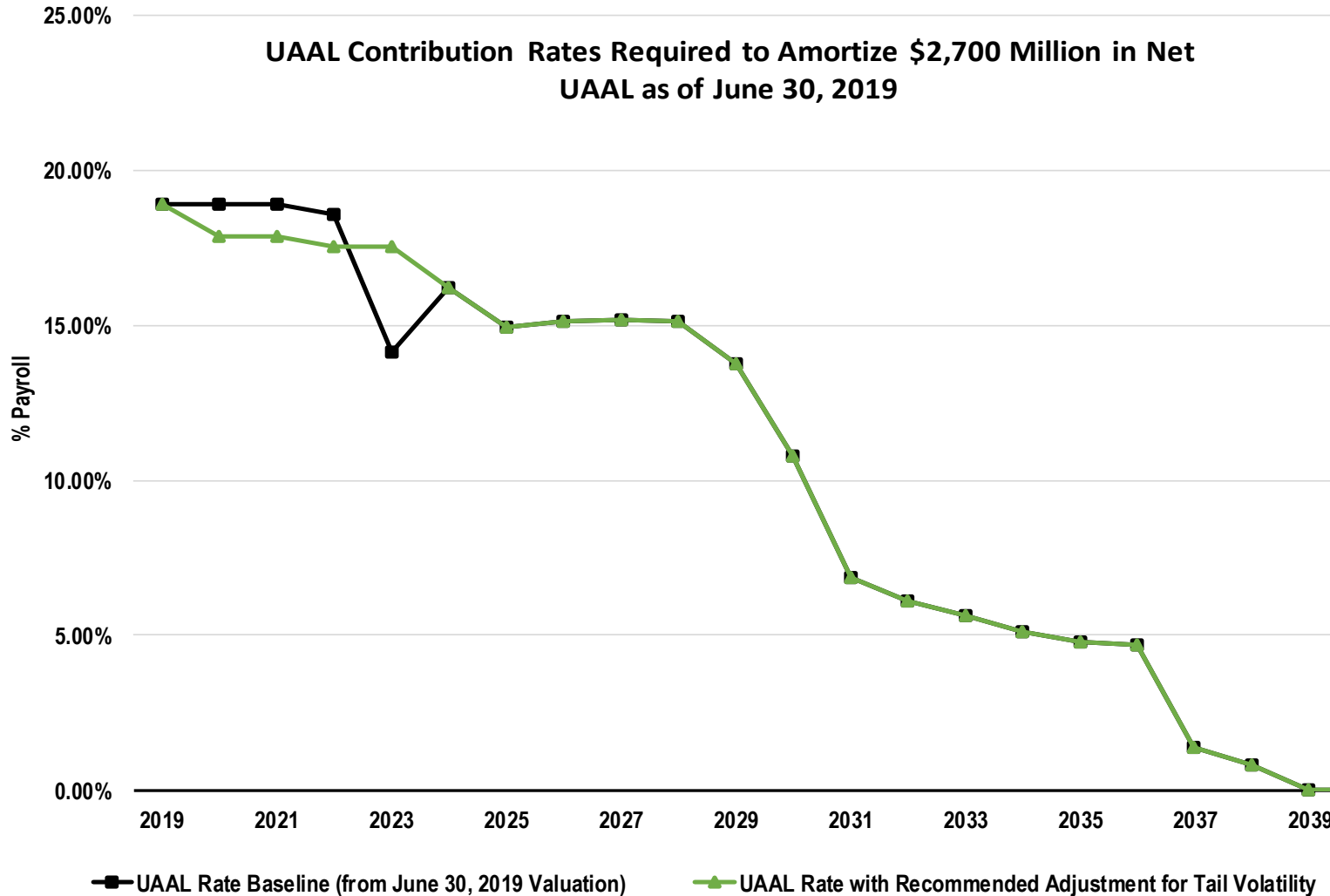


Managing Tail Volatility – Proposed Adjustment to UAAL Amortization Periods

- To manage UAAL rate volatility in upcoming valuations
 - Proposed effective with the 6/30/2020 valuation
 - Action now reduces immediate impact on employer contributions
- Uses 4 year amortization for
 - 2003 charge layer: extended from 3 years to 4 years
 - 2004 credit layer: unchanged at 4 years
 - Note we adjust periods, not combine layers, to keep UAAL history
- UAAL rate impact
 - Extending amortization of 2003 layer results in small net amortization payment decrease of about 1% of pay through 2022
 - Instead of larger decrease in 2023 followed by increase in 2024

Managing Tail Volatility –

SBCERA Projection of UAAL Contribution Rates (% of Payroll) with Adjustment



Questions?

