the desired effect

Office of the Louisiana Legislative Auditor

DB versus DC Discussion – Phase II

March 30, 2010

A Xerox Company

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Overview of State Retirement Systems

- Louisiana sponsors four retirement systems that provide pension benefits for 160,000 active employees.
- These defined benefit plans provide monthly pension benefits that are based on:
  - Average pay during the final years of employment, and
  - Years of service
- The plans are funded by a combination of employee contributions and actuarially determined contributions by the state.

Overview of State Retirement Systems

		Active Count	Total Salary	Average Salary	Average Age	Average Service	Accrued Liability	Normal Cost	Current Benefit Formula
	Louisiana State Employees' Retirement System (LASERS)								
*	**Regular**	**53,637**	**$ 2,149**	**$ 40,067**	**44.1**	**10.6**	**$ 4,563**	**$ 312.7**	**2.50% x FAE5 x service**
	Corrections	5,216	204	39,138	40.7	8.6	428	36.0	3.33% x FAE3 x service
	Wildlife	223	12	52,521	36.7	10.0	37	3.0	3.33% x FAE3 x service
	Judges	333	39	117,968	54.0	12.0	131	10.5	3.50% x FAE3 x service
	Legislators	18	1	49,593	54.6	14.5	4	0.3	3.50% x FAE3 x service
	Peace Officers	114	5	45,718	43.7	12.9	15	0.9	3.33% x FAE3 x service
	ATC	48	2	42,731	36.0	7.9	4	0.3	3.33% x FAE3 x service
	Total LASERS	59,589	$ 2,412	$ 40,484	43.8	10.4	$ 5,182	$ 363.7	
	Teachers' Retirement System of Louisiana (TRSL)								
*	**Regular**	**76,566**	**$ 3,302**	**$ 43,128**	**43.6**	**10.4**	**$ 6,091**	**$ 442.4**	**2.50% x FAE3 x service**
	LSU/University	6,750	402	59,527	45.2	9.0	738	54.2	2.50% x FAE3 x service
	Lunch A	144	4	24,835	56.1	26.8	21	0.8	3.00% x FAE3 x service
	Lunch B	1,259	24	19,273	50.0	10.1	34	2.8	2.00% x FAE3 x service
	Total TRSL	84,719	$ 3,732	$ 44,049	43.8	10.3	$ 6,884	$ 500.2	
	State Police Retirement System (STPOL)								
*	**STPOL**	**1,175**	**$ 59**	**$ 50,685**	**38.2**	**10.1**	**$ 678**	**$ 15.1**	**3.33% x FAE3 x service**
	Louisiana School Employees' Retirement System (LSERS)								
*	**LSERS**	**12,589**	**$ 292**	**$ 23,170**	**49.1**	**9.3**	**$ 810**	**$ 57.1**	**3.33% x FAE5 x service**
	Total for all Retirement Systems to be included in Project								
	TOTAL	**158,072**	**$ 6,495**	**$ 41,092**	**43.9**	**10.2**	**$ 13,554**	**$ 936.1**	

Note: Total salary, accrued liability and normal cost amounts are in $millions. Excludes DROP.

*** Indicates employee groups that will be included in our retirement plan analysis.**

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Our Charge

Question:

- What are the financial, benefit and risk management implications of implementing a defined contribution (DC) plan structure for employees hired by the state after July 1, 2010 ?

Concerns and Considerations

Benefits and cost associated with a new DC plan structure

- *What should the annual contribution rate be?*
- How should annual contributions be allocated between employees and state agencies?
- *What is the retirement benefit target for the DC plan?*
- *How do benefits under the new DC plans compare with benefits provided under the legacy DB plans?*
- *How will investment volatility affect benefits provided under the new DC plans?*
- To what extent will constitutional guarantees influence the design of the DC plans?
- *How will ancillary benefits, such as disability and survivor benefits, be accommodated under the DC plans?*

Please note that responses to questions in italics above were addressed in the first phase of this project.

Concerns and Considerations

Normal cost issues for the legacy DB plans

- Project normal costs for the legacy DB plans under the following conditions:
  - Status quo
  - Change funding method from Projected Unit Credit (PUC) to Entry Age Normal (EAN)
  - Decrease interest assumption from 8.25% to 7.00% (reduce interest assumption from 7.50% to 7.00% for STPOL and LSERS)
- Project normal costs for 20 years into the future
  - As dollars
  - As a percentage of legacy pay

Concerns and Considerations

Unfunded accrued liability (UAL) cost issues for the legacy DB plans

- Determine UAL and payment schedule under the following conditions:
  - Status quo
  - Change funding method from PUC to EAN
  - Decrease interest assumption from 8.25% to 7.00%
- Project UAL costs for 20 years into the future
  - As dollars
  - As percentage of legacy pay
  - As percentage of total pay

Concerns and Considerations

Risk-management strategies for legacy DB plans

- Uncouple COLAs from excess investment returns
- Change funding methods from PUC to EAN

Employer versus Employee Contributions

Employer versus Employee Contributions

Constitutional restrictions for employees contributions:

The constitution currently requires contributions to the retirement plan to be shared, so that 40% of the required contributions are made by employees and the remaining 60% are made by the employer.

Note: House Bill 931 has been introduced that would:

- Eliminate the 40% versus 60% relationship between employee and employer contributions
- Authorize the establishment of DC plans for post-2010 hires.
- Require annual employee contributions of 10.00% of pay
- Require annual employer contributions of 5.50% of pay

Employer versus Employee Contributions

Based on current constitutional requirements:

	LASERS	TRSL	STPOL	LSERS
Potential annual contribution to DC plan	13.00%	13.25%	22.50%	23.25%
Contributions to be made by employees				
• Required 40% of total amount	5.20%	5.30%	9.00%	9.30%
• Current level of employee contributions	8.00%	8.00%	8.50%	7.50%
• Net increase or (decrease)	(2.80%)	(2.70%)	0.50%	1.80%
Contributions to be made by employer	7.80%	7.95%	13.50%	13.95%

Comments

- New DC plan would be a reduction in employee contribution levels for new hires in LASERS and TRSL
- For STPOL and LSERS, the current employee contribution levels would increase under the DC plan structures being considered

Employer versus Employee Contributions

Based on proposed requirements in House Bill 931:

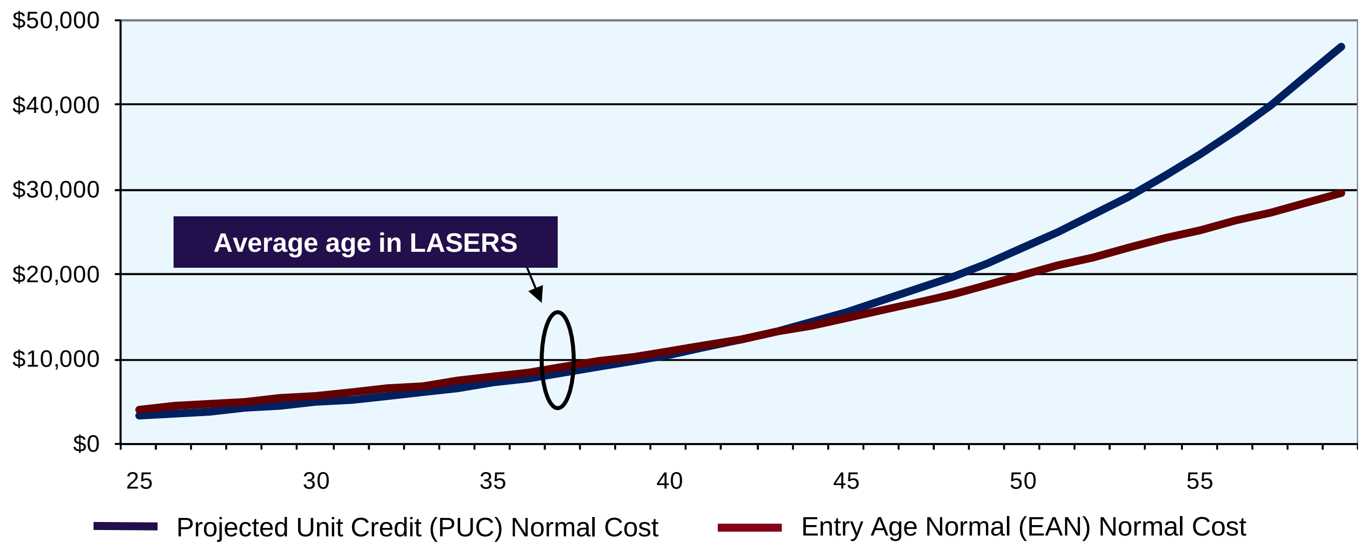
	LASERS	TRSL	STPOL	LSERS
Potential annual contribution to DC plan	13.00%	13.25%	22.50%	23.25%
Contributions to be made by employees				
• Required 10.00% of pay	10.00%	10.00%	10.00%	10.00%
• Current level of employee contributions	8.00%	8.00%	8.50%	7.50%
• Net increase or (decrease) in employee %	2.00%	2.00%	1.50%	2.50%
Contributions to be made by employer	5.50%	5.50%	5.50%	5.50%
Total of employee and employer contributions	15.50%	15.50%	15.50%	15.50%
Excess of 15.50% over target levels	2.50%	2.25%	N/A	N/A

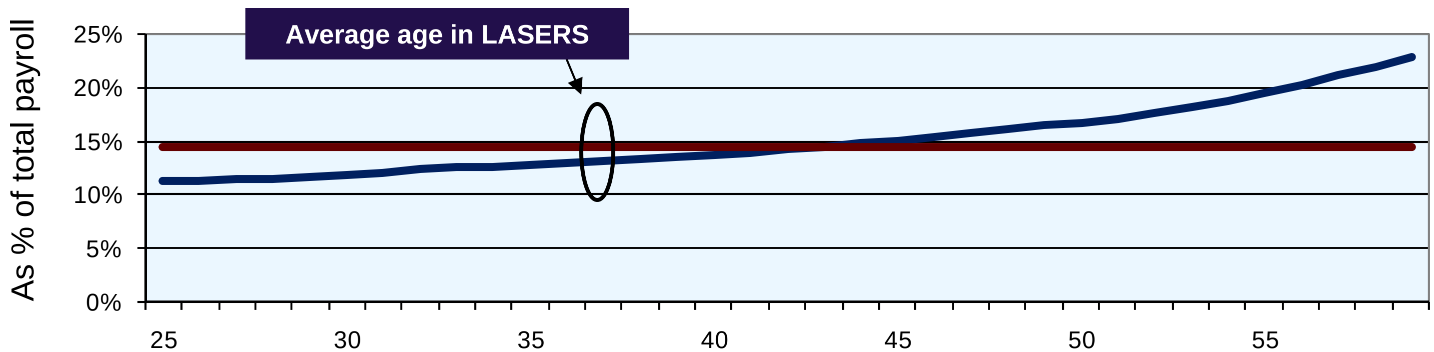
Comments

- For LASERS and TRSL, total contributions required by employee and employer exceed the total DC contribution levels currently being considered
- Employee contributions increase from current levels for each of the four Plans

LASERS Regular Employees

Sample Normal Cost Accrual Pattern - - Hired at 25





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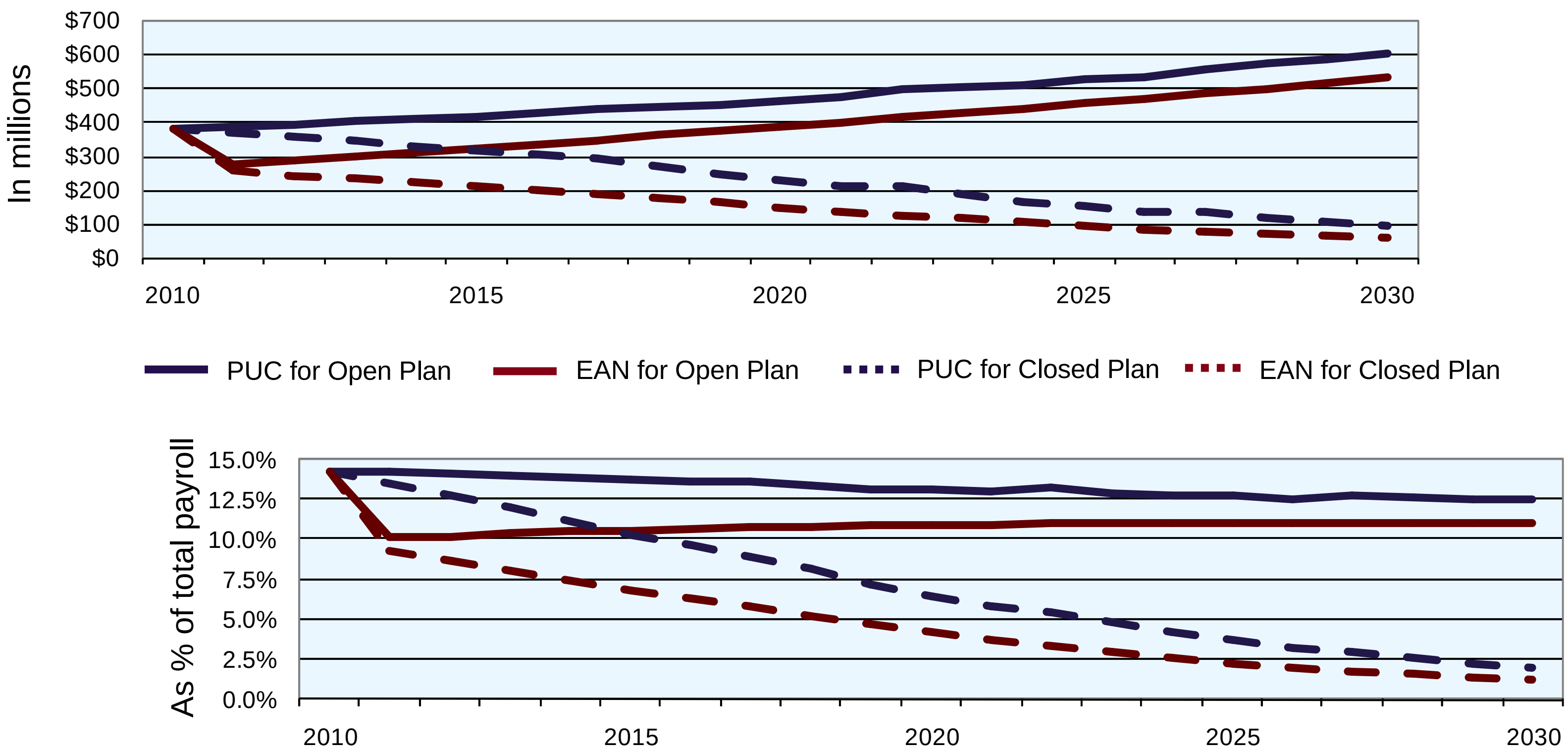
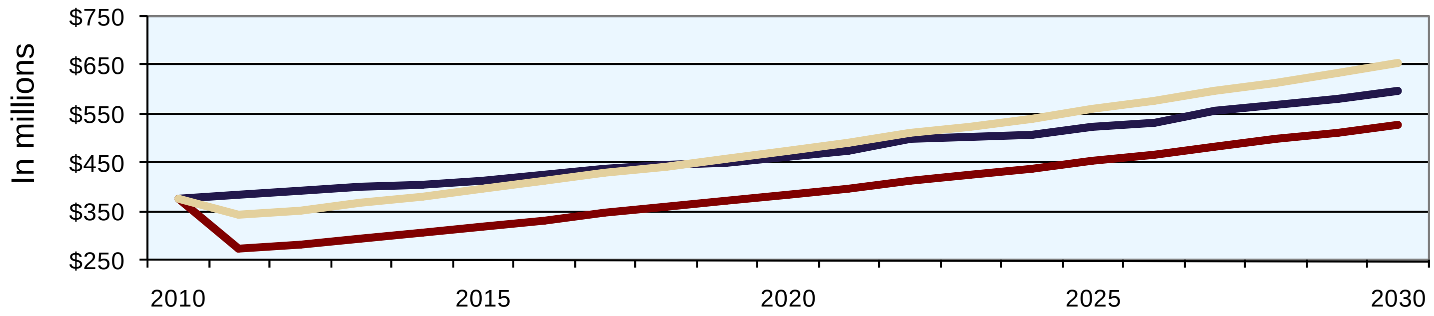
Projected Normal Cost - - Current 8.25% Basis



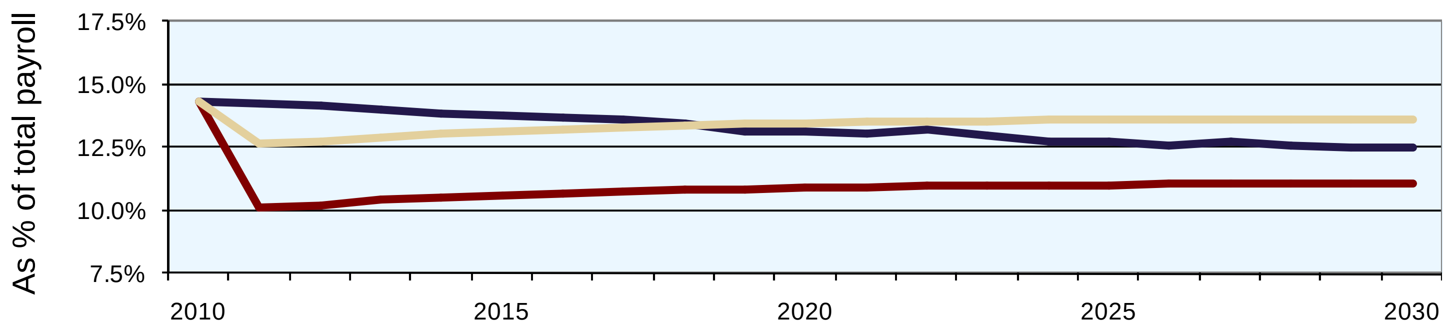
Note:

- Open Plan refers to new hires after July 1, 2010 continuing to participate in the DB plan
- Closed Plan refers to the DB plan that is “closed” to new hires after July 1, 2010, and the new hires are provided a DC plan

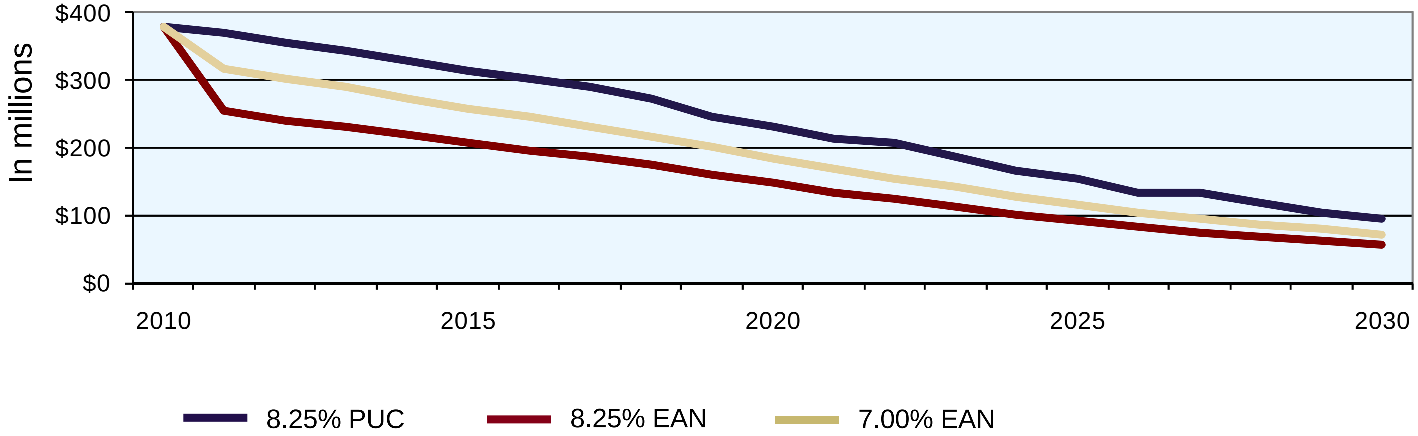
Projected Normal Cost - - Open Plan

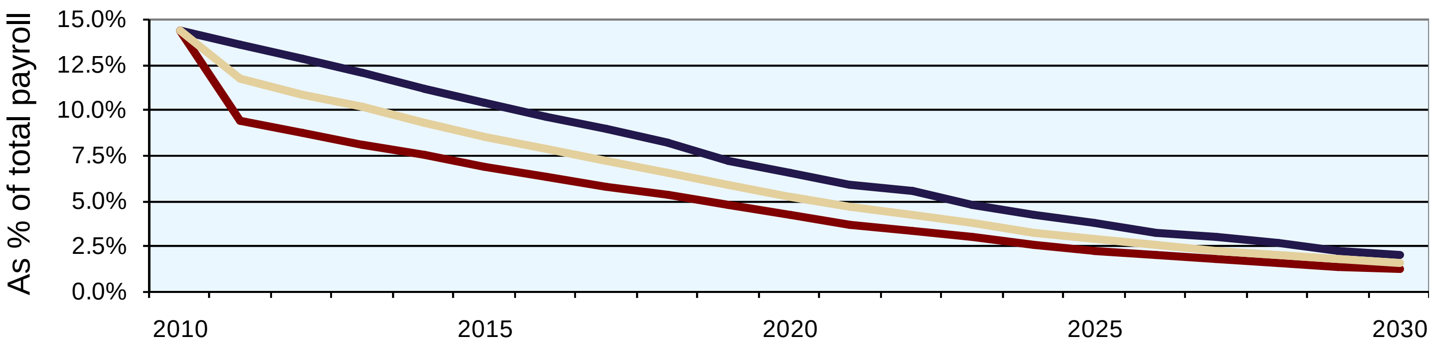


8.25% PUC 8.25% EAN 7.00% EAN



Projected Normal Cost - - Closed Plan





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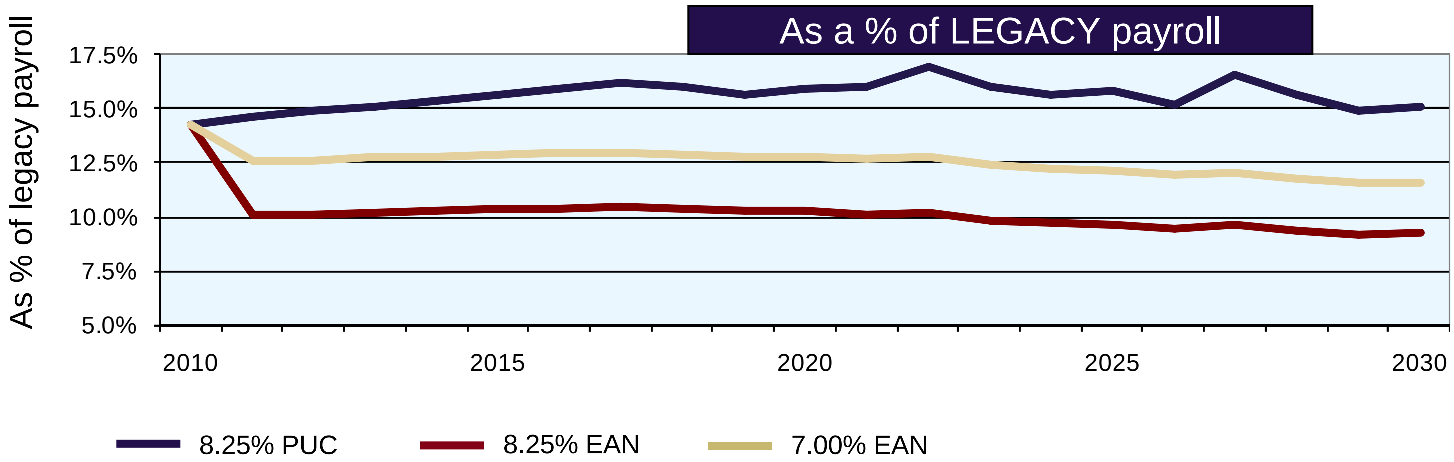
Projected Normal Cost - - Closed Plan



- A shift from the PUC cost method to the EAN cost method leads to an immediate decrease in normal cost.
- If the funding interest rate remains unchanged, the decrease below PUC normal cost lasts throughout the projection period, both on an open-group and a closed-group basis.
- Effect on normal cost is offset by effect on unfunded accrued liability.

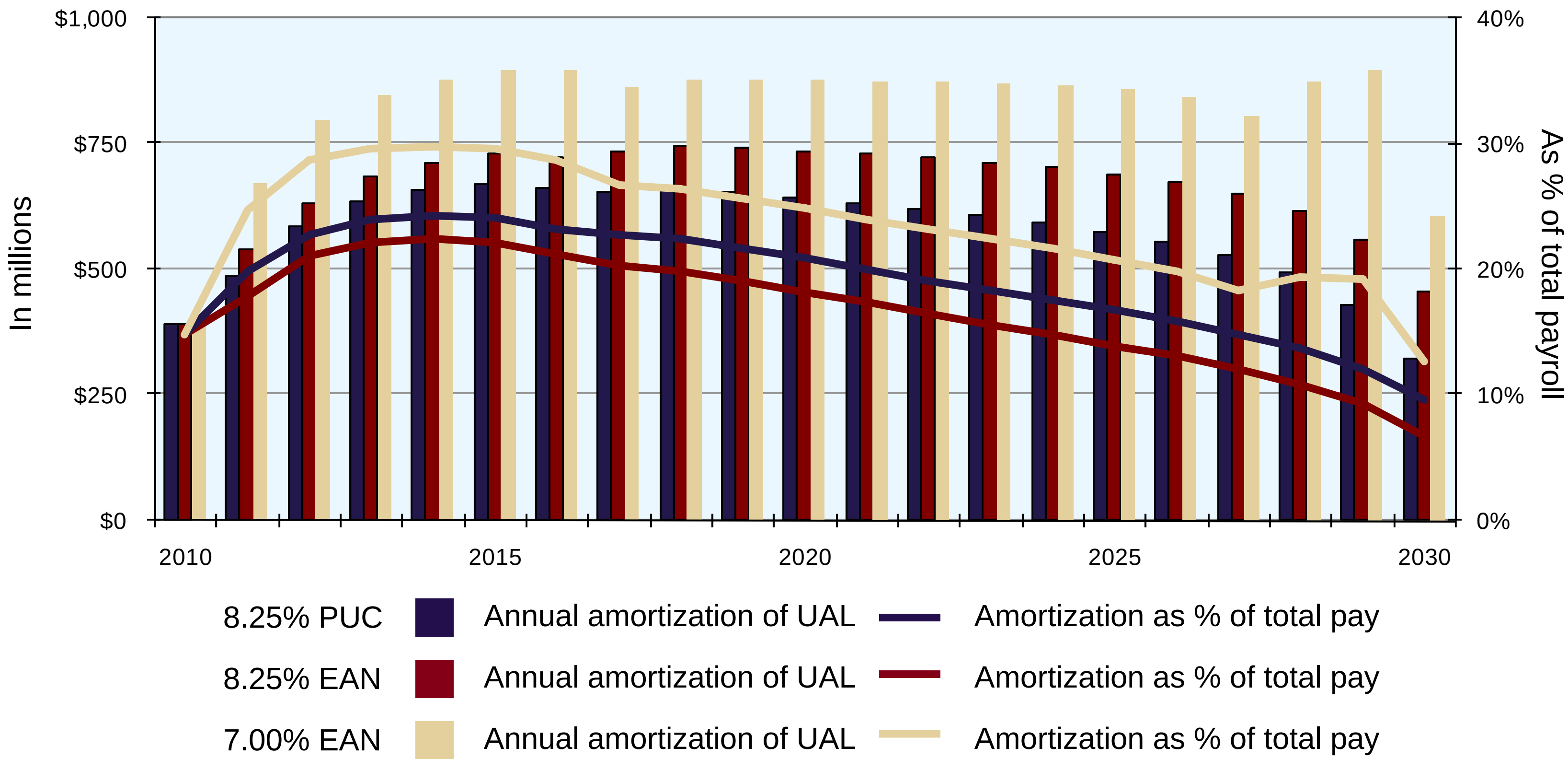
Annual Amortization of UAL

	8.25% PUC UAL				8.25% EAN UAL				7.00% EAN UAL			
		Amort	Pmt as % of Pay			Amort	Pmt as % of Pay			Amort	Pmt as % of Pay	
Year	UAL	Pmt	Total	Legacy	UAL	Pmt	Total	Legacy	UAL	Pmt	Total	Legacy
2010	$ 5,694	$ 390	15%	15%	$ 5,694	$ 390	15%	15%	$ 5,694	$ 390	15%	15%
2011	6,375	486	18%	19%	7,008	542	20%	22%	9,001	671	25%	27%
2012	7,276	586	21%	25%	7,902	633	23%	26%	9,982	798	29%	33%
2013	7,636	634	22%	28%	8,318	685	24%	30%	10,273	846	30%	37%
2014	7,473	658	22%	31%	8,207	713	24%	33%	10,057	877	30%	41%
2015	7,273	670	22%	33%	8,058	729	24%	36%	9,800	896	30%	45%
2016	7,044	661	21%	35%	7,878	725	23%	38%	9,505	896	29%	47%
2017	6,800	654	20%	37%	7,686	735	23%	41%	9,189	862	27%	48%
2018	6,540	662	20%	39%	7,464	747	22%	44%	8,882	878	26%	52%
2019	6,250	653	19%	42%	7,208	742	22%	47%	8,534	877	26%	56%
2020	5,943	643	18%	45%	6,933	737	21%	51%	8,159	876	25%	61%
2021	5,613	633	17%	48%	6,635	730	20%	55%	7,753	875	24%	66%
2022	5,260	621	16%	51%	6,314	722	19%	59%	7,316	873	23%	71%
2023	4,887	607	16%	52%	5,971	713	18%	61%	6,848	869	22%	75%
2024	4,499	593	15%	56%	5,607	703	18%	66%	6,351	865	22%	82%
2025	4,090	575	14%	60%	5,217	689	17%	72%	5,818	858	21%	89%
2026	3,660	554	13%	63%	4,804	672	16%	76%	5,252	844	20%	95%
2027	3,211	528	12%	66%	4,368	650	15%	82%	4,656	804	18%	101%
2028	2,744	493	11%	65%	3,913	618	14%	82%	4,053	874	19%	116%
2029	2,274	431	9%	62%	3,450	560	12%	81%	3,335	895	19%	129%
2030	1,824	323	7%	52%	3,001	458	10%	73%	2,544	607	13%	97%

Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to the 8.25%/7.00% discount rates

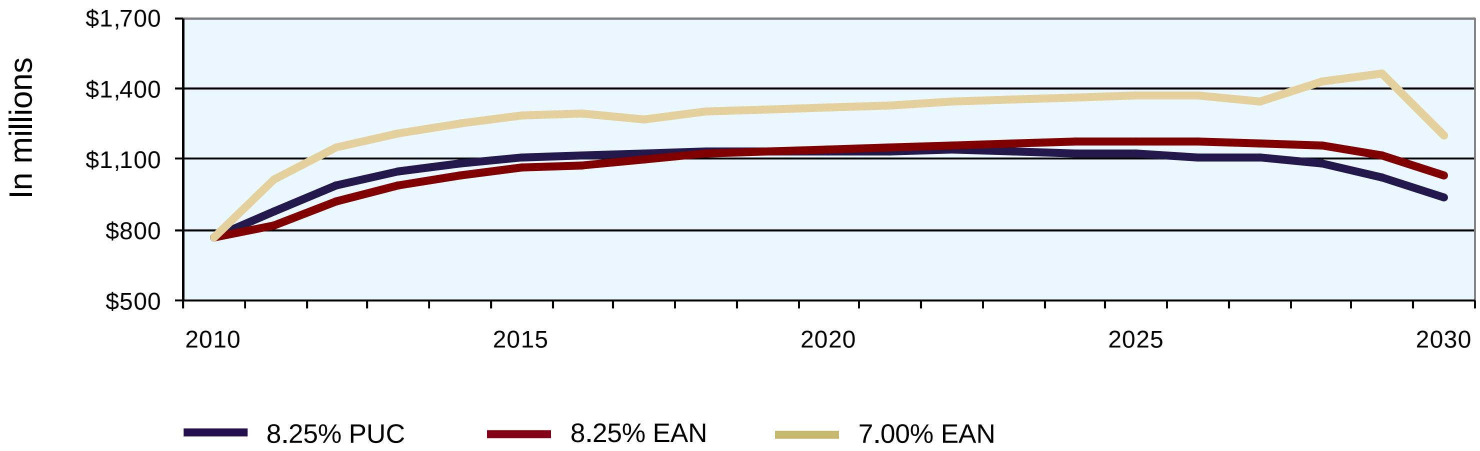
Annual Amortization of UAL

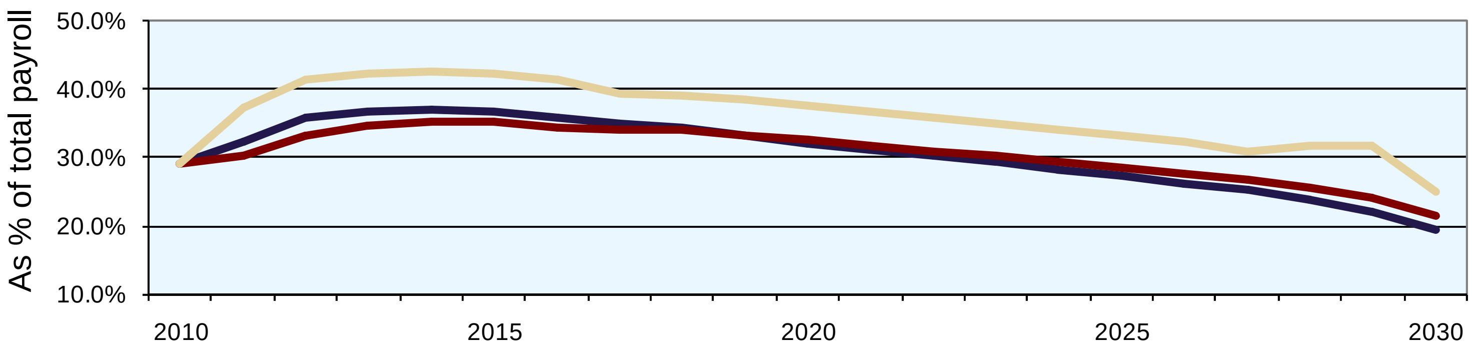


Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to the 8.25% / 7.00% discount rates

Projected Contributions - - Open Plan





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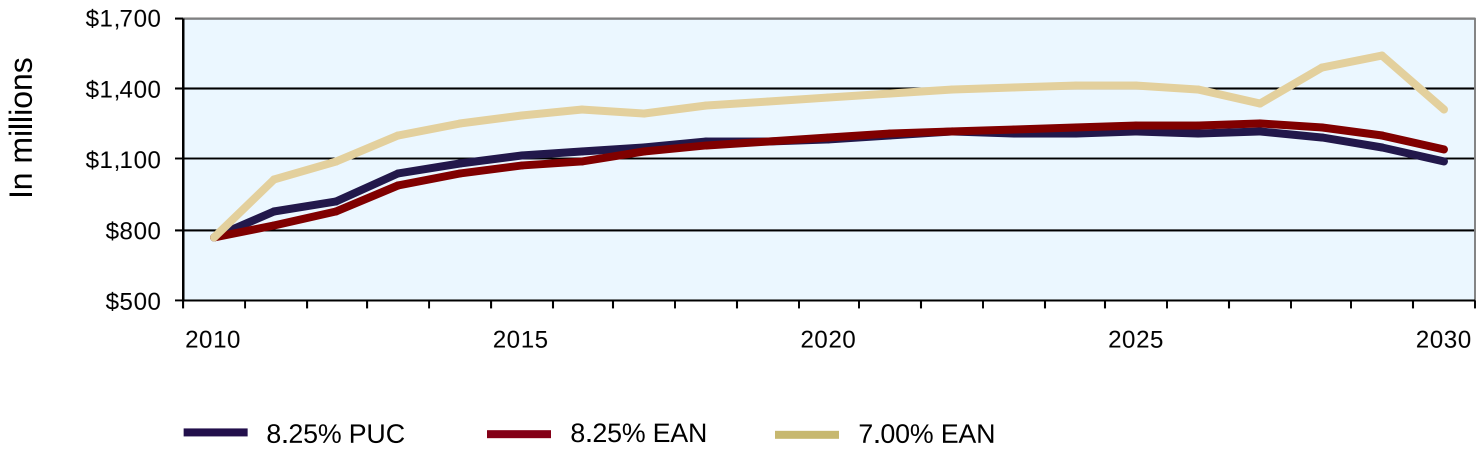
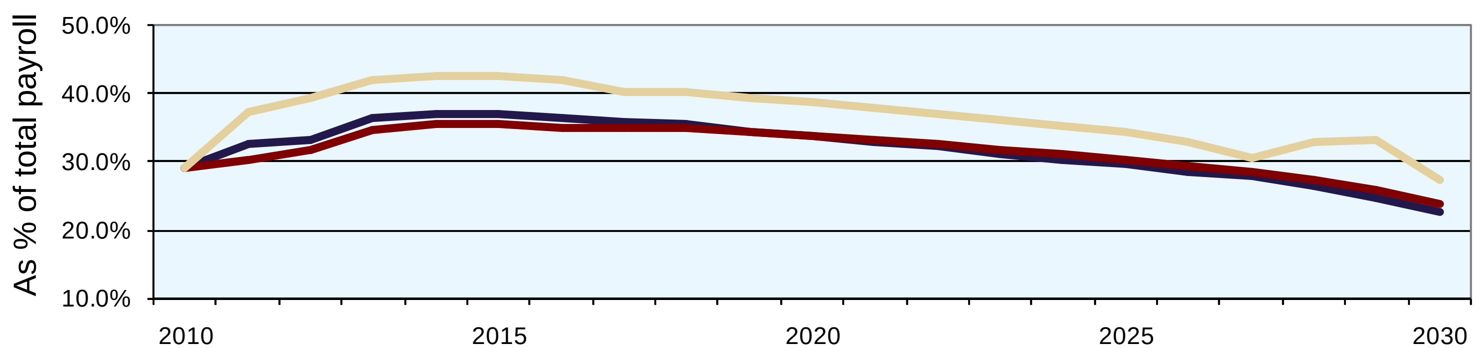
Projected Contributions - - Closed Plan (including the 15.5% DC plan for new entrants)





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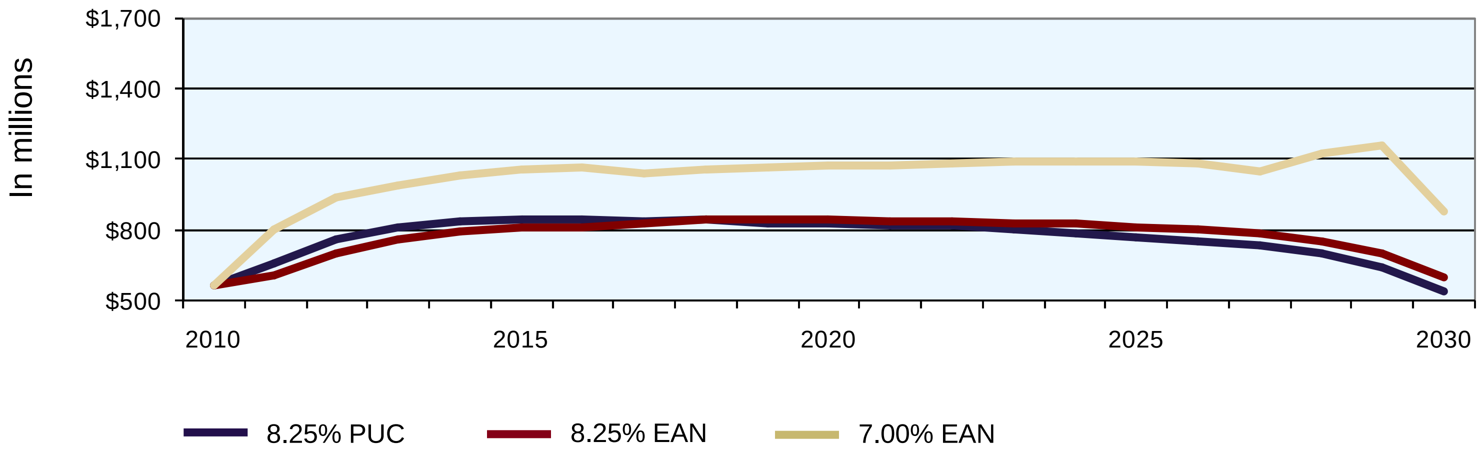
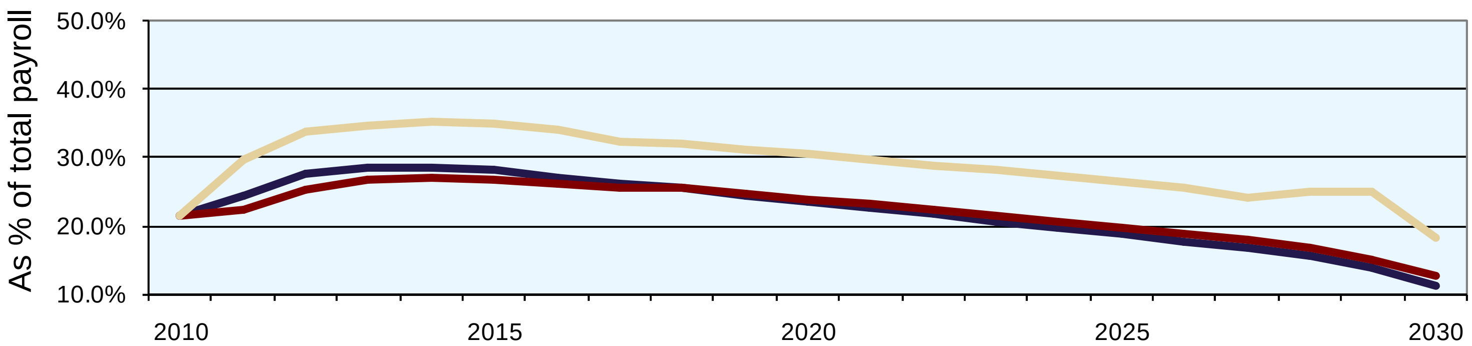
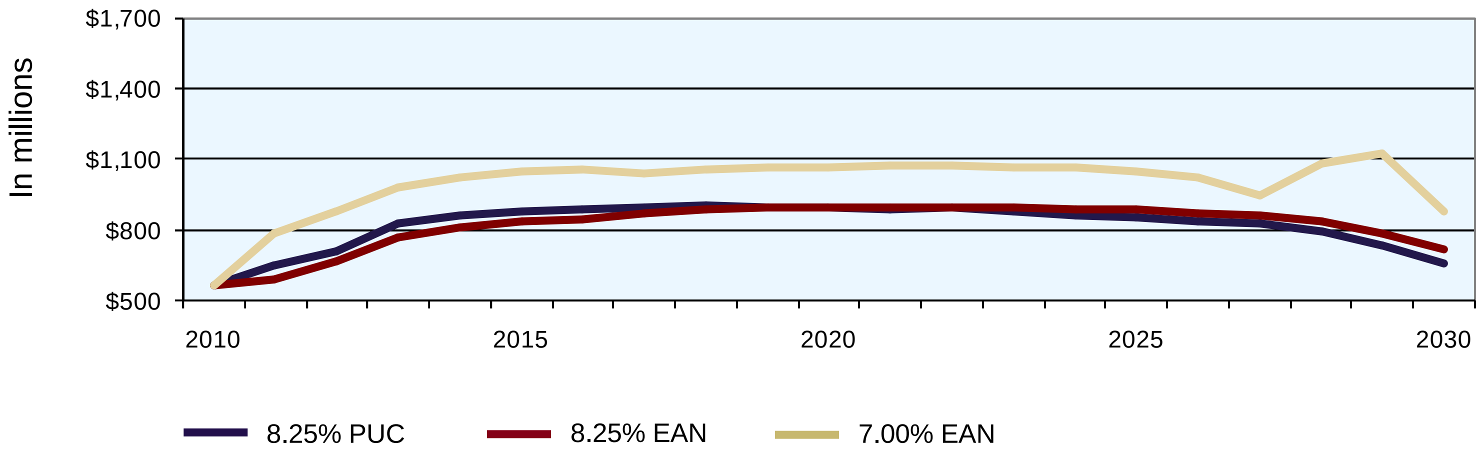
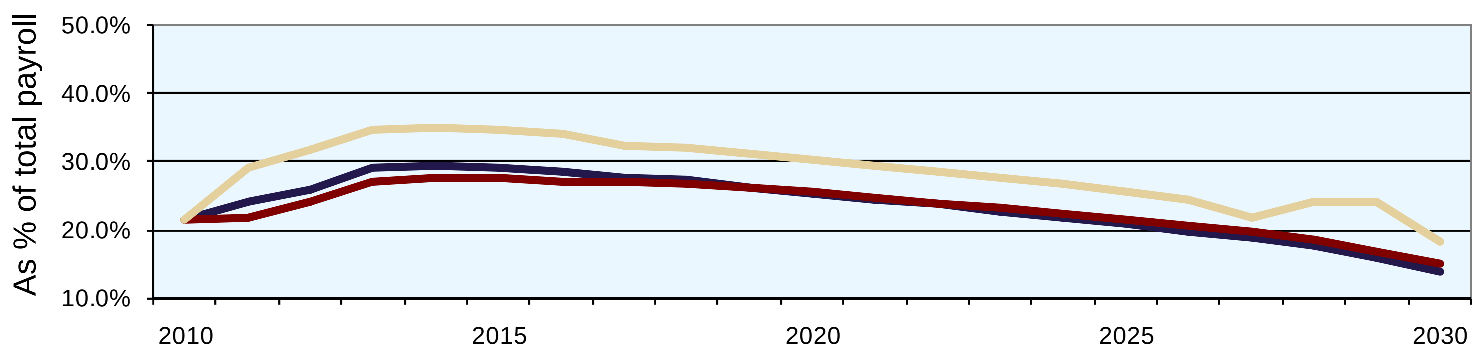
Projected Employer Contributions - - Open Plan





Projected Employer Contributions - - Closed Plan (including employer portion of the 15.5% DC plan for new entrants)





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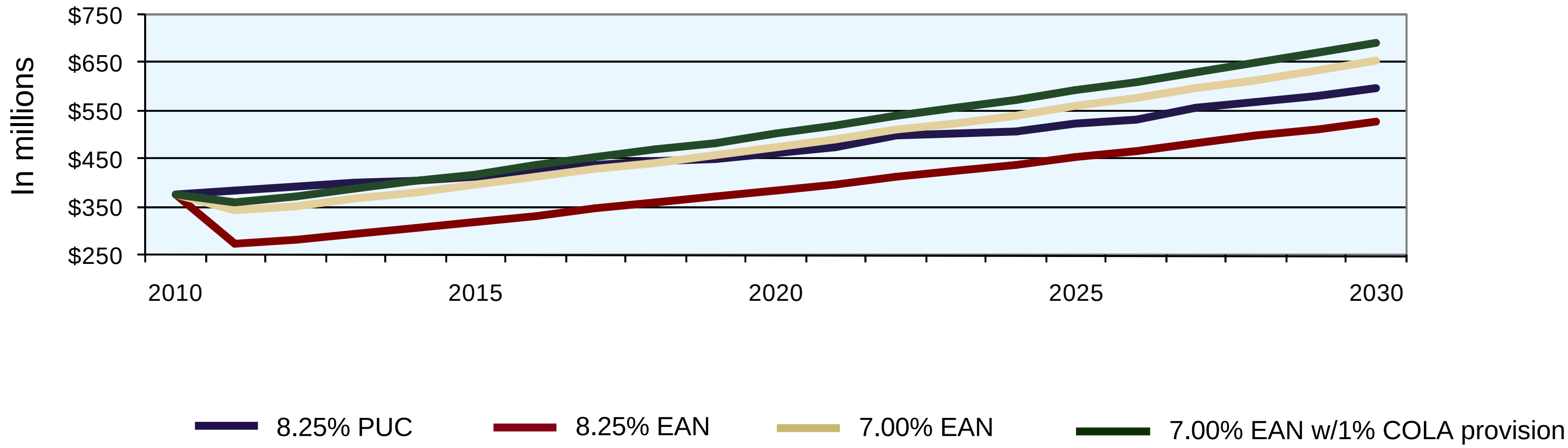
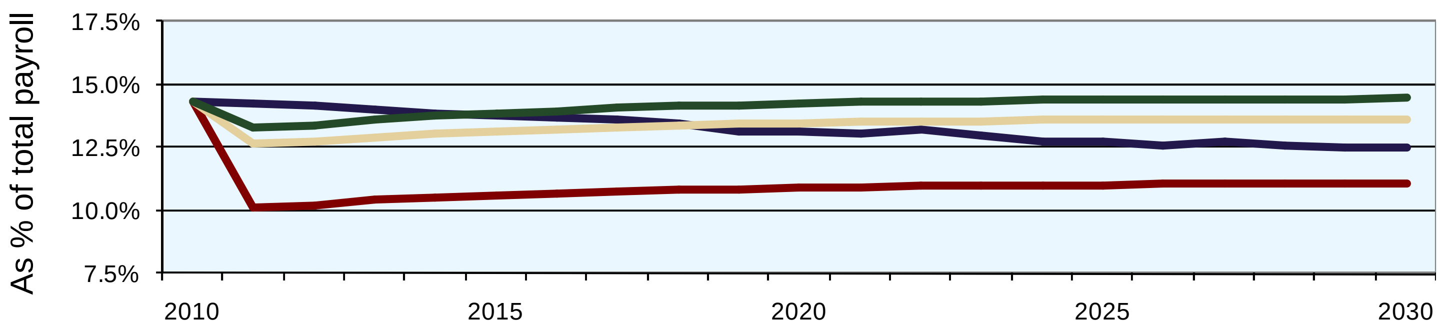
Uncouple the COLAs From Excess Investment Returns

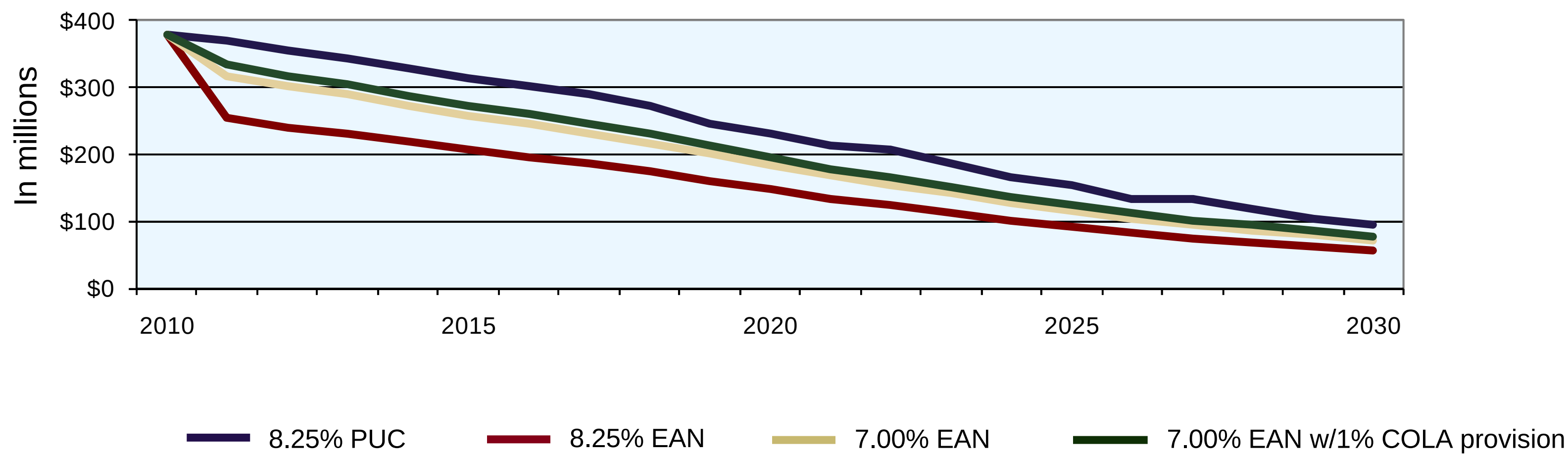
- Current COLAs provided through excess investment returns
  - Returns in excess of the 8.25% actuarial rate of return
  - First $100 million of excess returns reduce outstanding amortization bases
  - 50% of the excess above $100 million credited to Experience Account (EA) to fund COLAs
  - Requires legislative approval, EA balance limited to two COLA increases
  - COLA is the lesser of CPI-U and 3% applied up to $70,000 of annual benefit (indexed from 1999)
  - COLA limited to 2% if actuarial return is less than 8.25% for the prior year and, if funded percentage is also less than 80%, no COLA can be not granted
  - Retiree must be at least age 60 and retired for 1 year (minimum age does not apply to disabled retirees)
- Alternative ongoing COLA of 1.0% per year
  - Funded on an ongoing actuarial basis, with initial liability amortized over 30 years on a level dollar basis
  - Same eligibility requirements as above
  - $70,000 limit on benefit would not apply
  - COLA would not be provided for death benefits while actively employed and those who terminate before reaching retirement eligibility

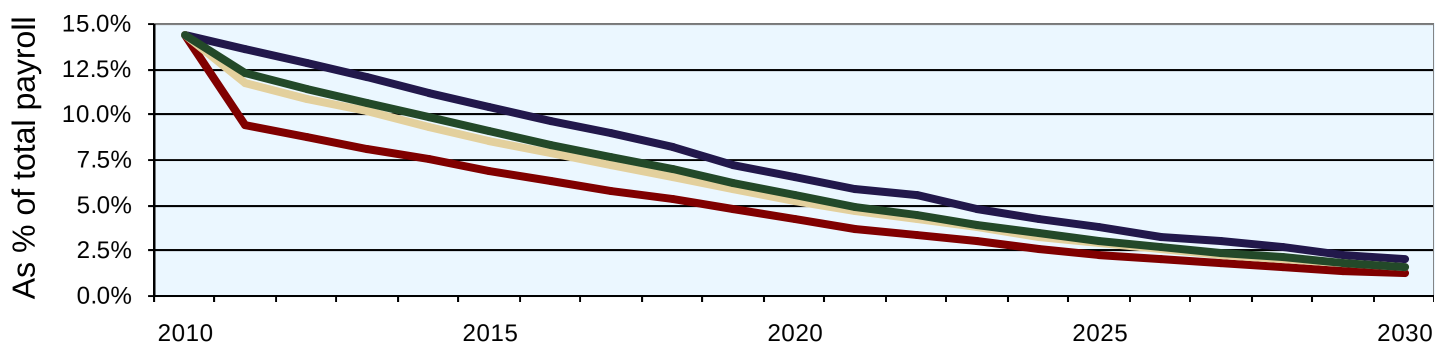
Projected Normal Cost - - Open Plan





Projected Normal Cost - - Closed Plan





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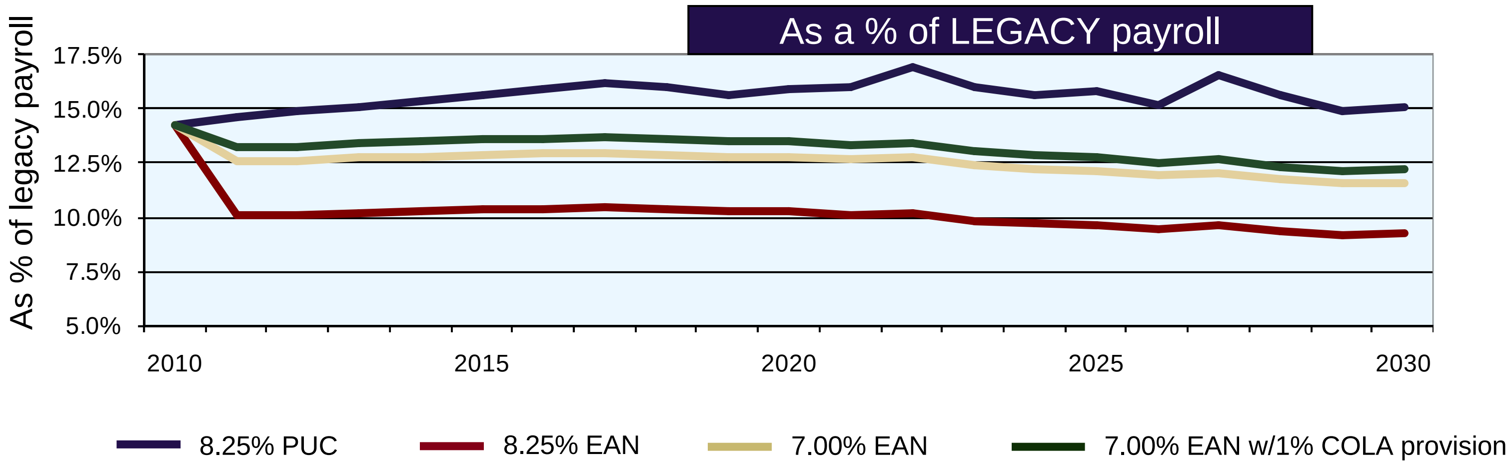
Projected Normal Cost - - Closed Plan



- The introduction of a 1% recurring COLA raises EANC slightly.
- Even with the addition of a 1% COLA, the EANC at 7% interest is below the PUC normal cost throughout the projection period for a closed plan.
- Introduction of the COLA also affects unfunded accrued liability (see next slide).

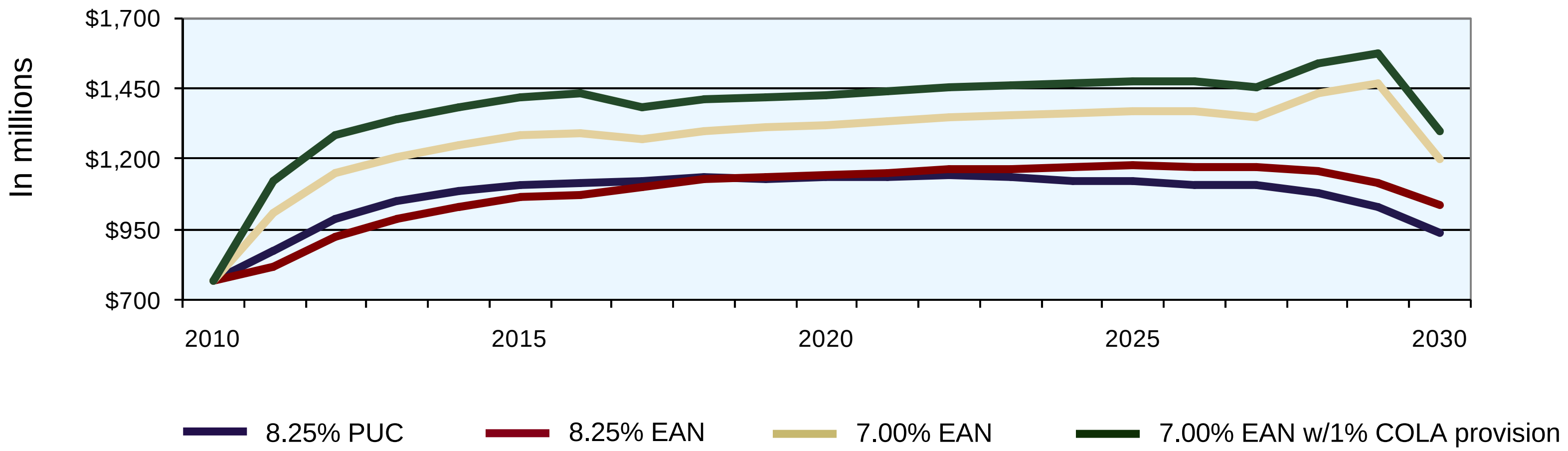
Annual Amortization of UAL - - Impact of 1% COLA

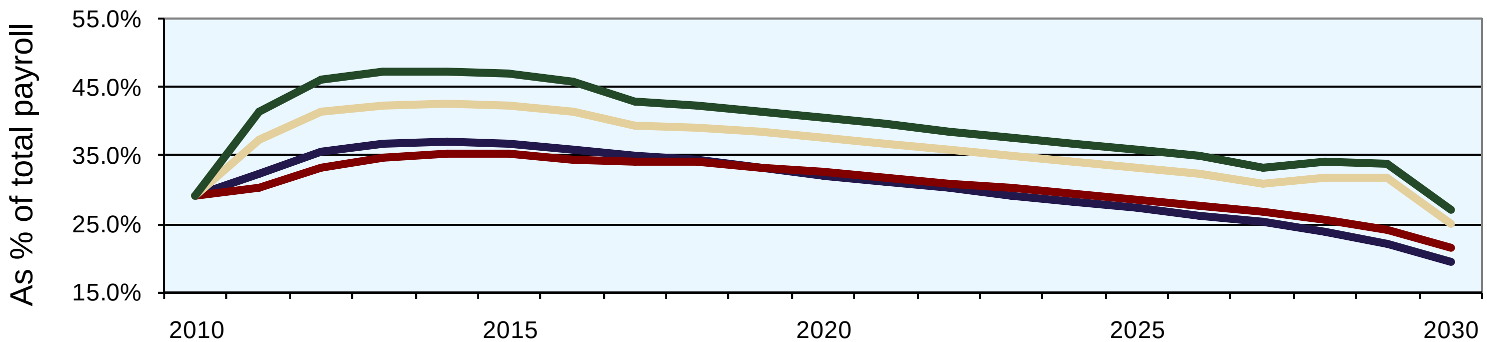
	7.00% EAN UAL				7.00% w/ 1% COLA EAN UAL			
		Amort	Pmt as % of Pay			Amort	Pmt as % of Pay	
Year	UAL	Pmt	Total	Legacy	UAL	Pmt	Total	Legacy
2010	$ 5,694	$ 390	15%	15%	$ 5,694	$ 390	15%	15%
2011	9,001	671	25%	27%	10,184	763	28%	30%
2012	9,982	798	29%	33%	11,269	918	33%	38%
2013	10,273	846	30%	37%	11,528	966	34%	43%
2014	10,057	877	30%	41%	11,284	997	34%	47%
2015	9,800	896	30%	45%	10,998	1,017	34%	51%
2016	9,505	896	29%	47%	10,673	1,017	33%	54%
2017	9,189	862	27%	48%	10,321	957	30%	54%
2018	8,882	878	26%	52%	10,004	974	29%	58%
2019	8,534	877	26%	56%	9,643	974	28%	62%
2020	8,159	876	25%	61%	9,251	974	28%	68%
2021	7,753	875	24%	66%	8,826	973	27%	73%
2022	7,316	873	23%	71%	8,367	971	26%	79%
2023	6,848	869	22%	75%	7,874	969	25%	84%
2024	6,351	865	22%	82%	7,348	966	24%	91%
2025	5,818	858	21%	89%	6,784	959	23%	100%
2026	5,252	844	20%	95%	6,182	947	22%	107%
2027	4,656	804	18%	101%	5,544	908	21%	114%
2028	4,053	874	19%	116%	4,896	978	22%	130%
2029	3,335	895	19%	129%	4,129	1,000	21%	144%
2030	2,544	607	13%	97%	3,284	703	15%	113%

Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to 7.00%

Projected Contributions - - Open Plan, Impact of 1% COLA





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Comments and Observations

- A shift from the PUC method to the EAN method would produce total contributions that are more stable as a percentage of pay over the projection period.
- It would result in contributions that are initially lower than those produced by PUC, followed by contributions that are somewhat higher than those produced by PUC.
- All other things being equal, a change in cost method merely reallocates the total cost of retirement benefits between normal cost and accrued liability. In the case of the PUC-to-EAN change, the result of the reallocation is a more stable contribution pattern over the projection period.
- A change to a lower assumed interest rate results in permanently higher contributions, as investment returns are assumed to provide fewer of the benefit dollars that will be needed in the future.
- Introduction of a decoupled COLA provision has much the same effect as a decrease in the assumed interest rate.

Data, Assumptions, Methods and Plan Provisions

- Census data and asset information as of June 30, 2009
- Unless otherwise noted
  - Interest discount rate of 8.25% for all years
  - Plan liabilities are determined using the projected unit credit funding method
  - Asset returns are equal to 8.25% per year net of administrative expenses
    - Expenses for investment advisors equal to .45% of assets
    - All other expenses increase by 2.00% per year
- 20% of investment returns are attributed to realized gains/losses
- Asset returns on an AVA basis in excess of 8.25%:
  - First $50 million reduce the OAB and next $50 million reduce the EAAB
  - Provide retiree COLAs (50% of the amount in excess of $100m)

Data, Assumptions, Methods and Plan Provisions

- Contributions to the plan are made by only the employer and employees
- IUALAF assumed to be exhausted as of June 30, 2010 to reduce the OAB and EAAB per Act 497
  - The IUALAF and ECA will not be used in future years to reduce funding requirements
- Changes in methods, assumptions, and COLA provisions funded over 30 years on a level dollar basis
- Entry Age Normal liabilities based on current payroll regressed backwards to date of hire using the assumed salary scale.
- All other assumptions, actuarial methods and plan provisions are as outlined in the 2009 valuation reports

Key definitions:

IUALAF - Initial Unfunded Accrued Liability Amortization Fund

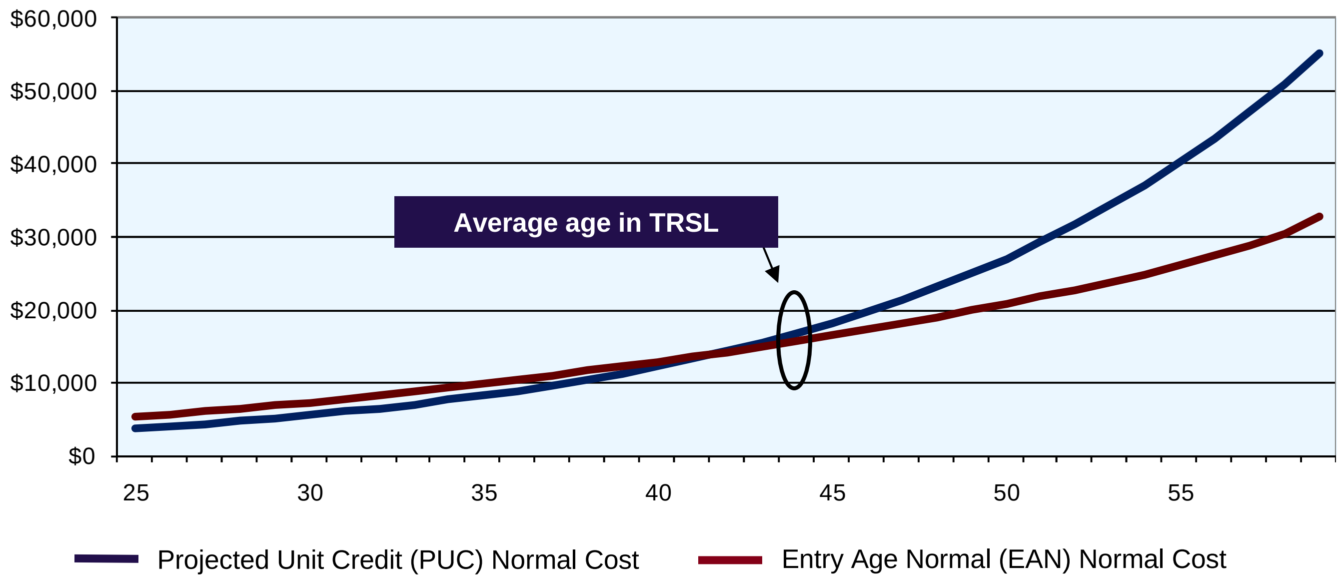
OAB - Original Amortization Base

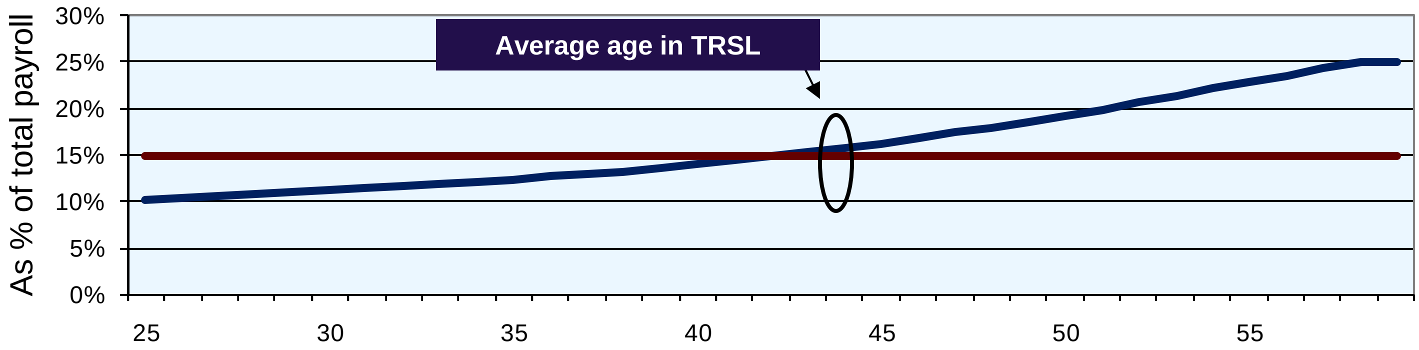
EAAB - Experience Account Amortization Base

ECA - Employer Credit Account

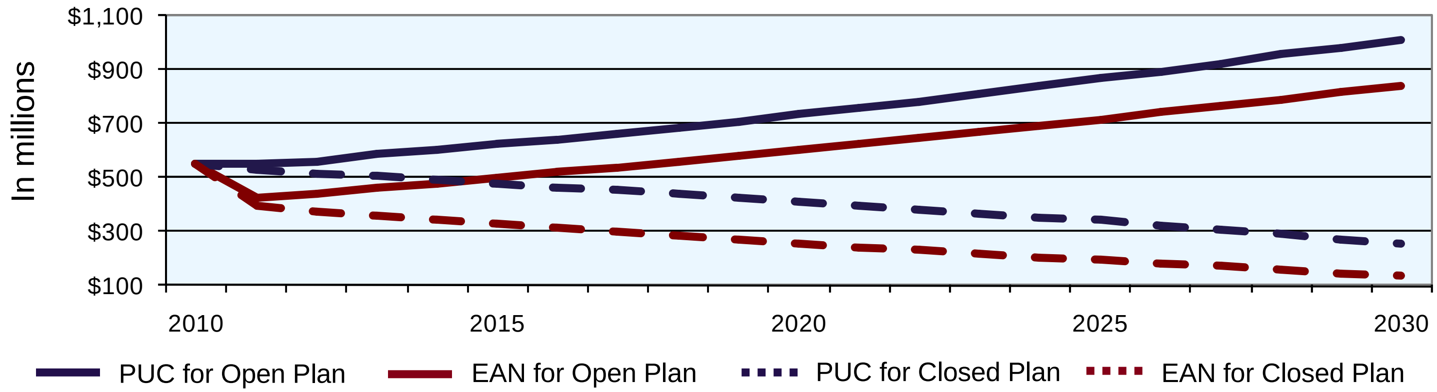
Teachers' Retirement System of Louisiana

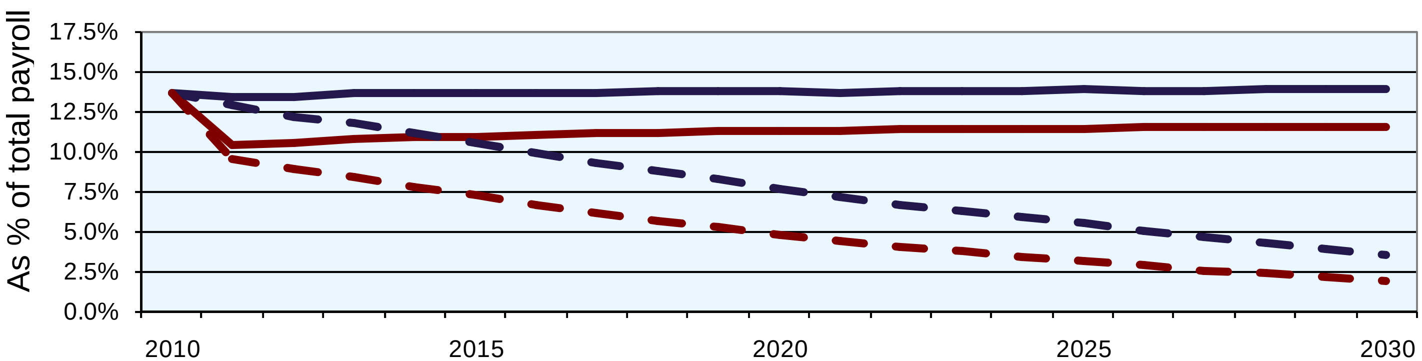
Sample Normal Cost Accrual Pattern - - Hired at 25





Projected Normal Cost - - Current 8.25% Basis

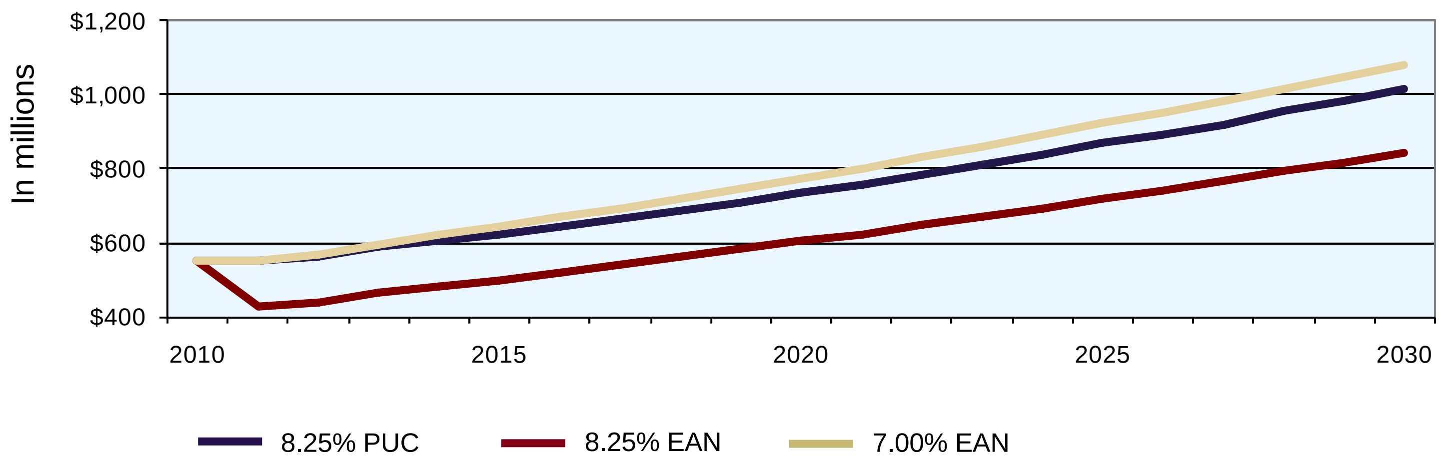


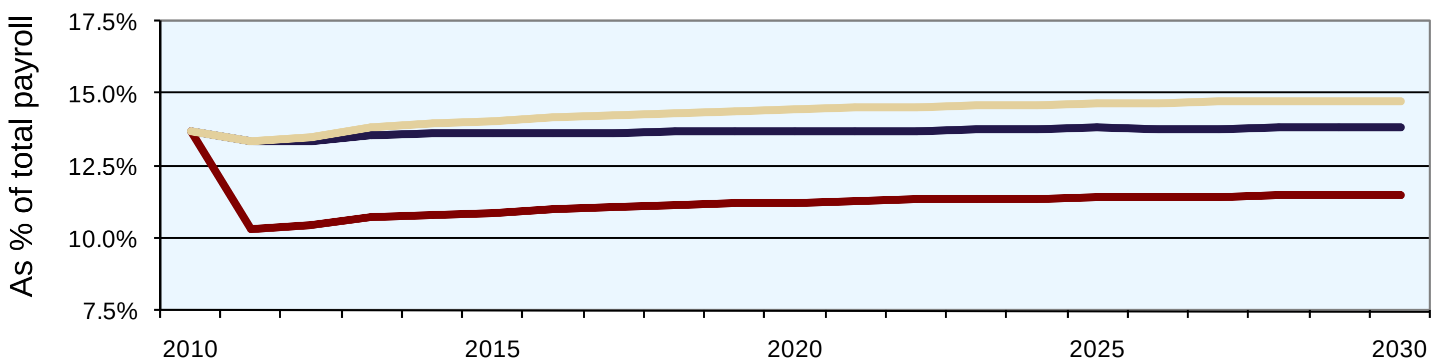


Note:

- Open Plan refers to new hires after July 1, 2010 continuing to participate in the DB plan
- Closed Plan refers to the DB plan that is "closed" to new hires after July 1, 2010, and the new hires are provided a DC plan

Projected Normal Cost - - Open Plan





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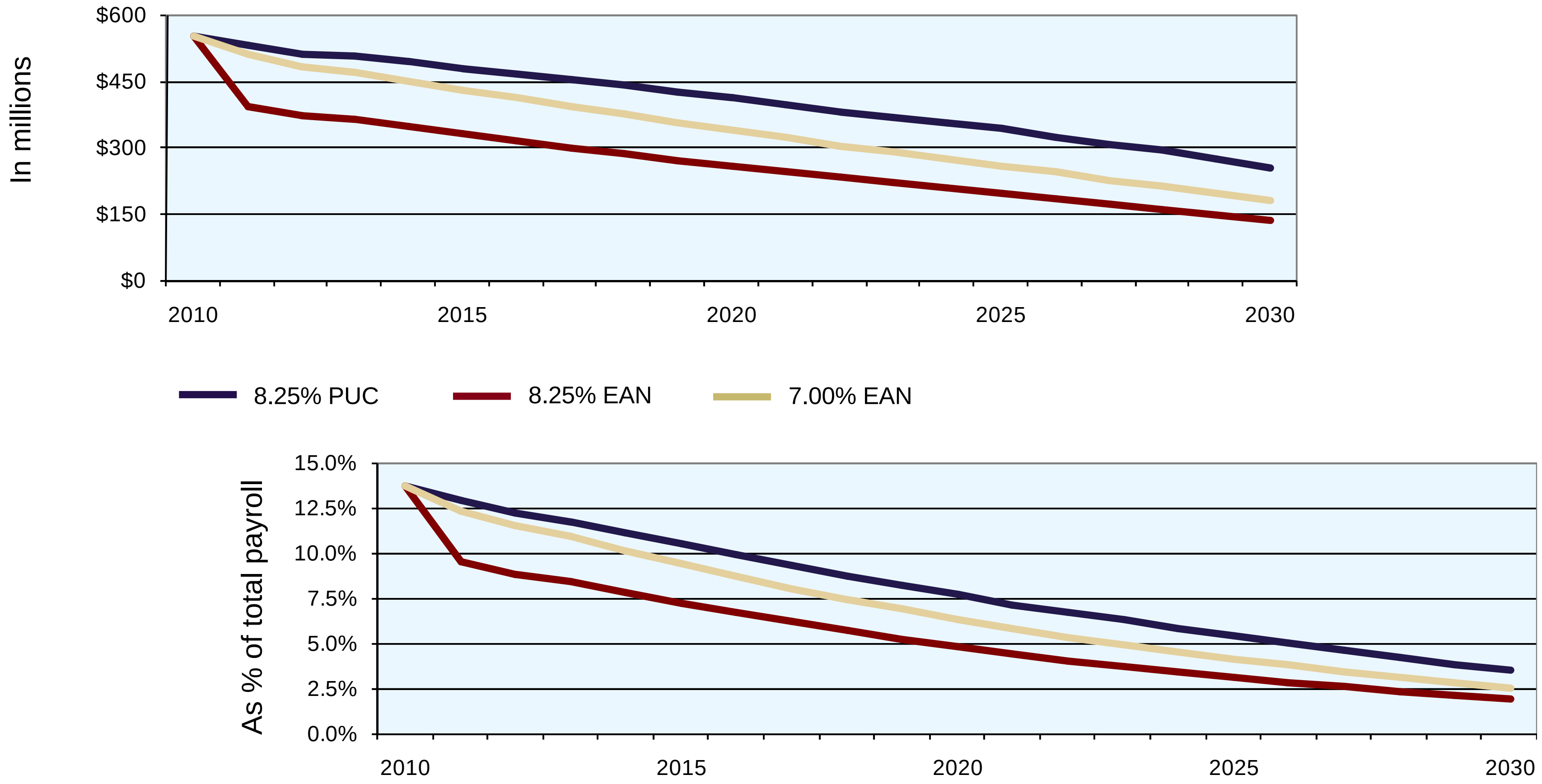
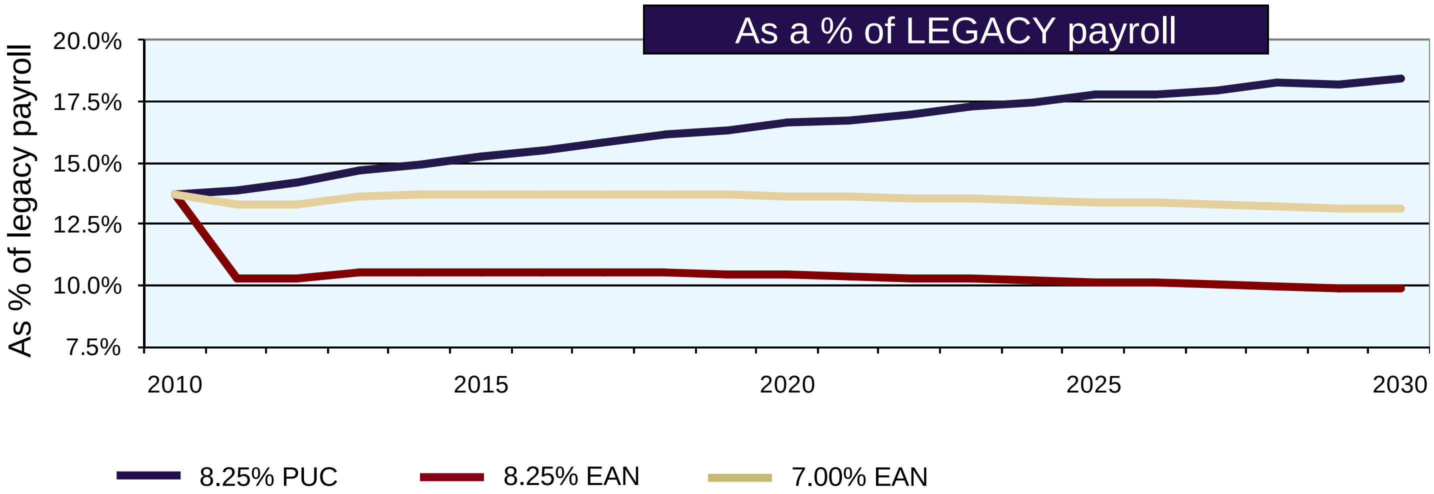
Projected Normal Cost - - Closed Plan



Projected Normal Cost - - Closed Plan



- A shift from the PUC cost method to the EAN cost method leads to an immediate decrease in normal cost.
- If the funding interest rate remains unchanged, the decrease below PUC normal cost lasts throughout the projection period, both on an open-group and a closed-group basis.
- Effect on normal cost is offset by effect on unfunded accrued liability.

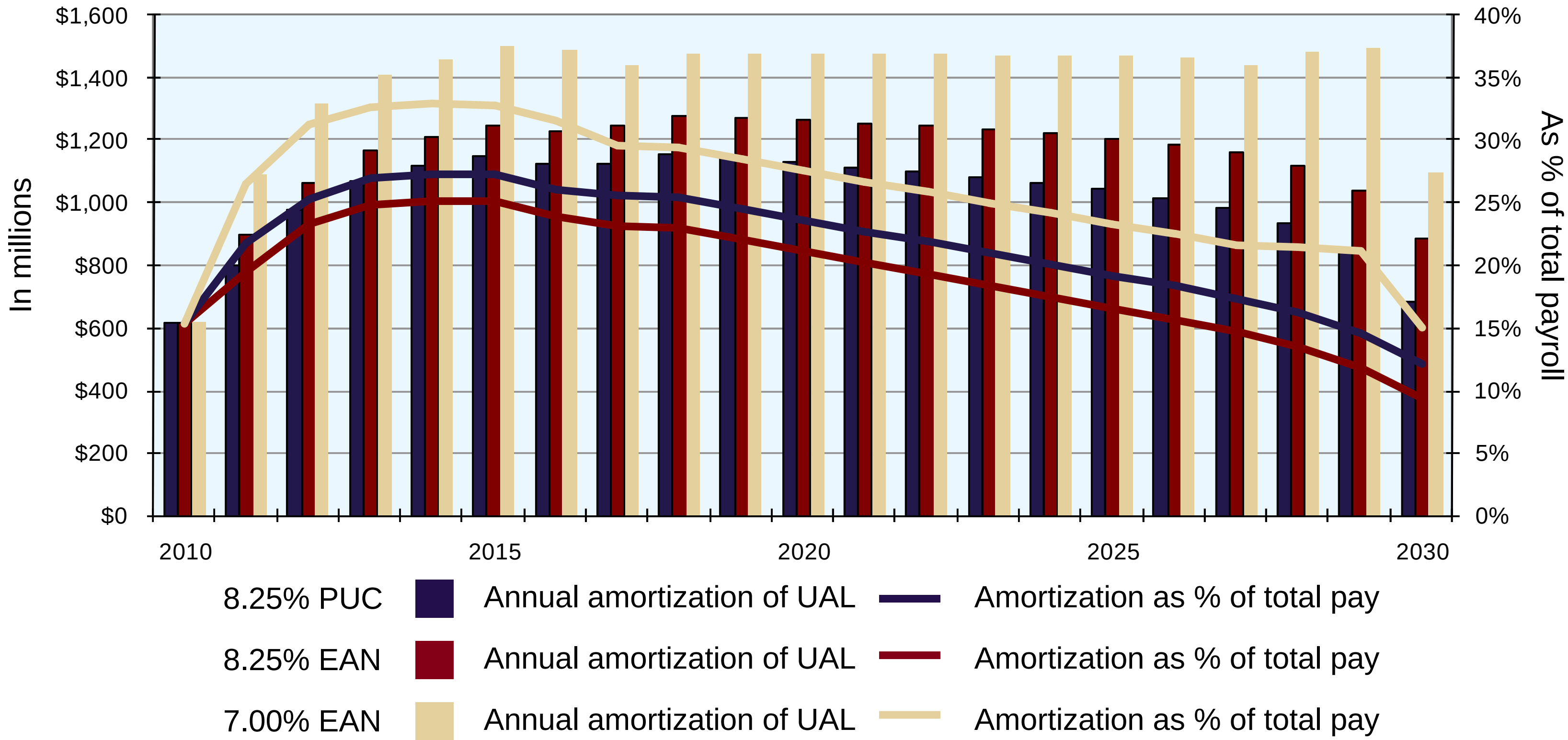
Annual Amortization of UAL

	8.25% PUC UAL				8.25% EAN UAL				7.00% EAN UAL			
		Amort	Pmt as % of Pay			Amort	Pmt as % of Pay			Amort	Pmt as % of Pay	
Year	UAL	Pmt	Total	Legacy	UAL	Pmt	Total	Legacy	UAL	Pmt	Total	Legacy
2010	$10,113	$ 619	15%	15%	$10,113	$ 619	15%	15%	$10,113	$ 619	15%	15%
2011	10,934	802	19%	21%	12,025	897	22%	23%	15,223	1,093	26%	29%
2012	12,428	976	23%	27%	13,510	1,064	25%	29%	16,838	1,315	31%	36%
2013	13,062	1,072	25%	31%	14,191	1,165	27%	34%	17,329	1,409	33%	41%
2014	12,847	1,117	25%	34%	14,019	1,213	27%	37%	16,995	1,461	33%	44%
2015	12,575	1,147	25%	37%	13,789	1,248	27%	40%	16,599	1,500	33%	48%
2016	12,249	1,127	24%	38%	13,512	1,232	26%	41%	16,144	1,491	32%	50%
2017	11,914	1,128	23%	40%	13,221	1,248	26%	44%	15,661	1,441	30%	51%
2018	11,544	1,153	23%	42%	12,890	1,278	25%	47%	15,196	1,477	29%	54%
2019	11,110	1,141	22%	44%	12,491	1,272	25%	49%	14,651	1,477	28%	57%
2020	10,646	1,129	21%	46%	12,067	1,264	24%	51%	14,069	1,477	28%	60%
2021	10,150	1,115	20%	47%	11,607	1,256	23%	53%	13,437	1,476	27%	63%
2022	9,620	1,100	19%	49%	11,117	1,247	22%	56%	12,765	1,475	26%	66%
2023	9,052	1,084	18%	51%	10,585	1,236	21%	58%	12,035	1,474	25%	69%
2024	8,450	1,065	17%	52%	10,021	1,223	20%	60%	11,259	1,472	24%	73%
2025	7,809	1,042	17%	54%	9,418	1,207	19%	63%	10,427	1,469	23%	76%
2026	7,132	1,016	16%	56%	8,778	1,188	18%	65%	9,539	1,462	23%	80%
2027	6,418	982	15%	58%	8,100	1,161	17%	68%	8,592	1,442	22%	85%
2028	5,670	934	14%	58%	7,387	1,121	16%	70%	7,595	1,485	22%	93%
2029	4,904	843	12%	56%	6,650	1,039	15%	70%	6,482	1,498	21%	100%
2030	4,156	683	9%	50%	5,931	884	12%	64%	5,277	1,100	15%	80%

Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to the 8.25%/7.00% discount rates

Annual Amortization of UAL



Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to the 7.50% / 7.00% discount rates

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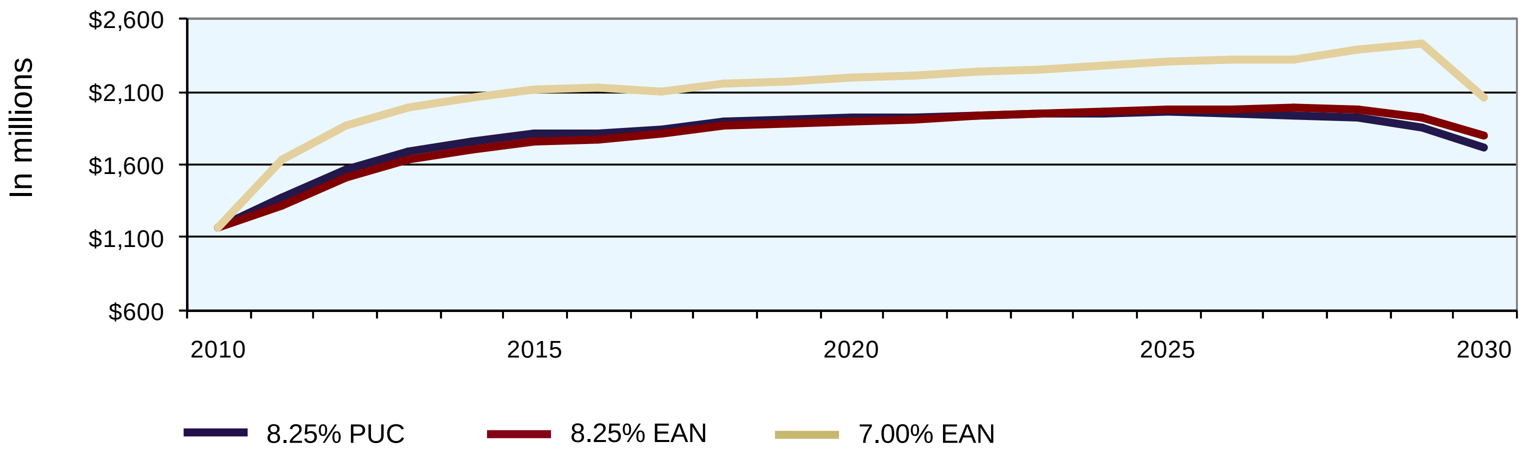
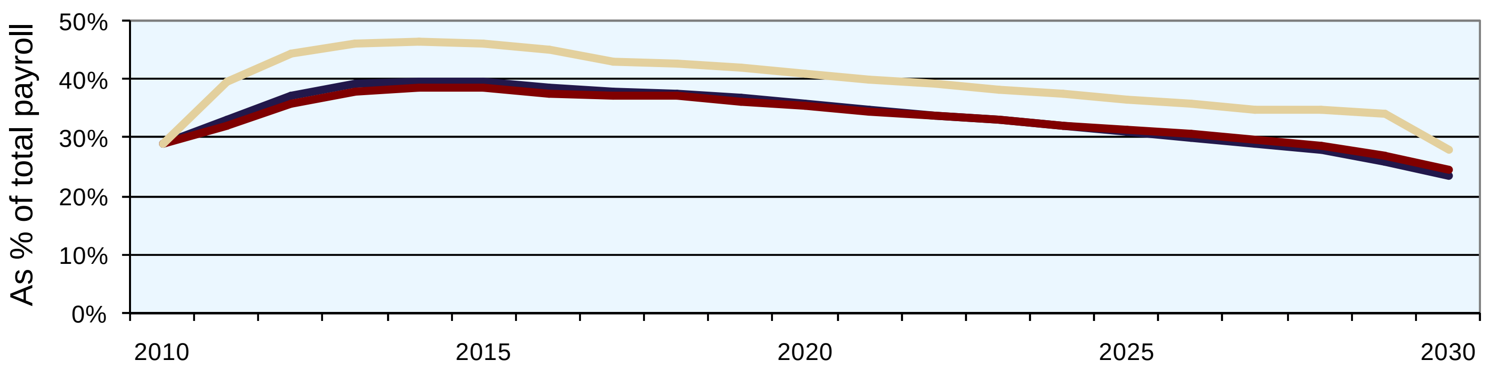
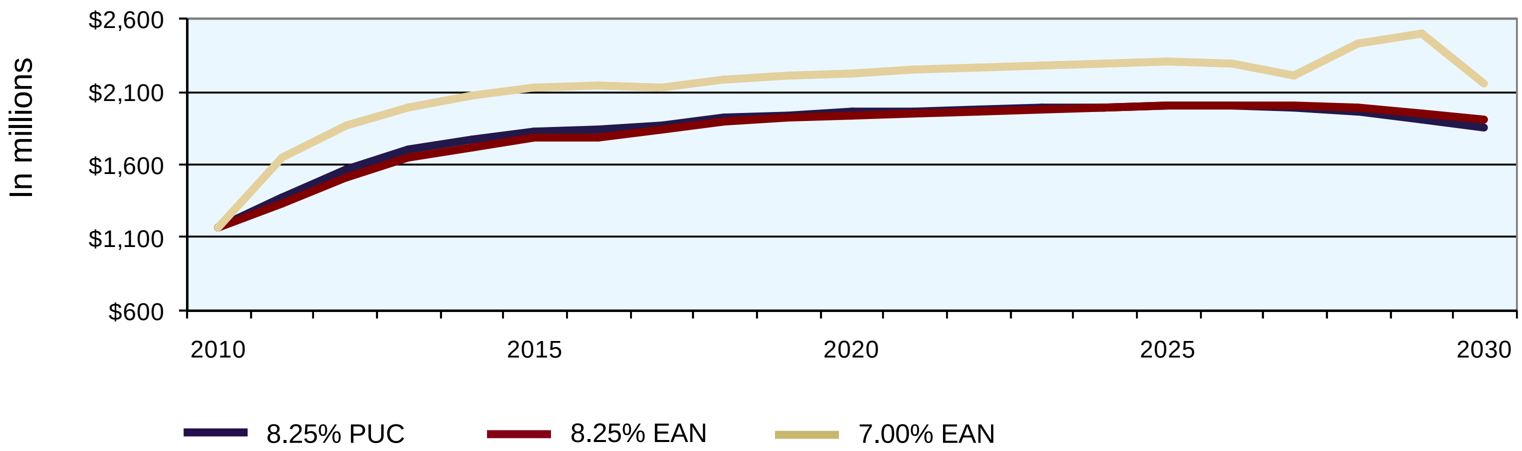
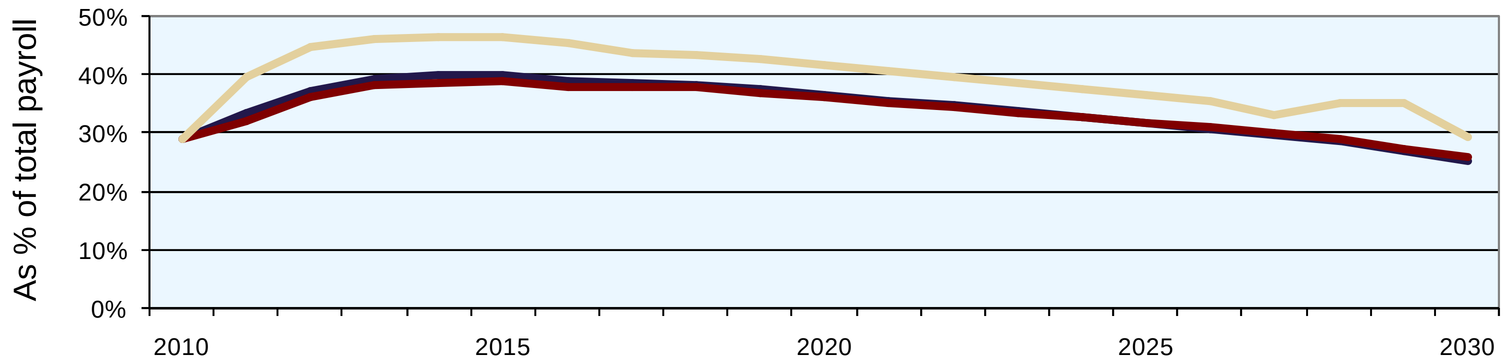
Projected Contributions - - Open Plan





Projected Contributions - - Closed Plan (including the 15.5% DC plan for new entrants)





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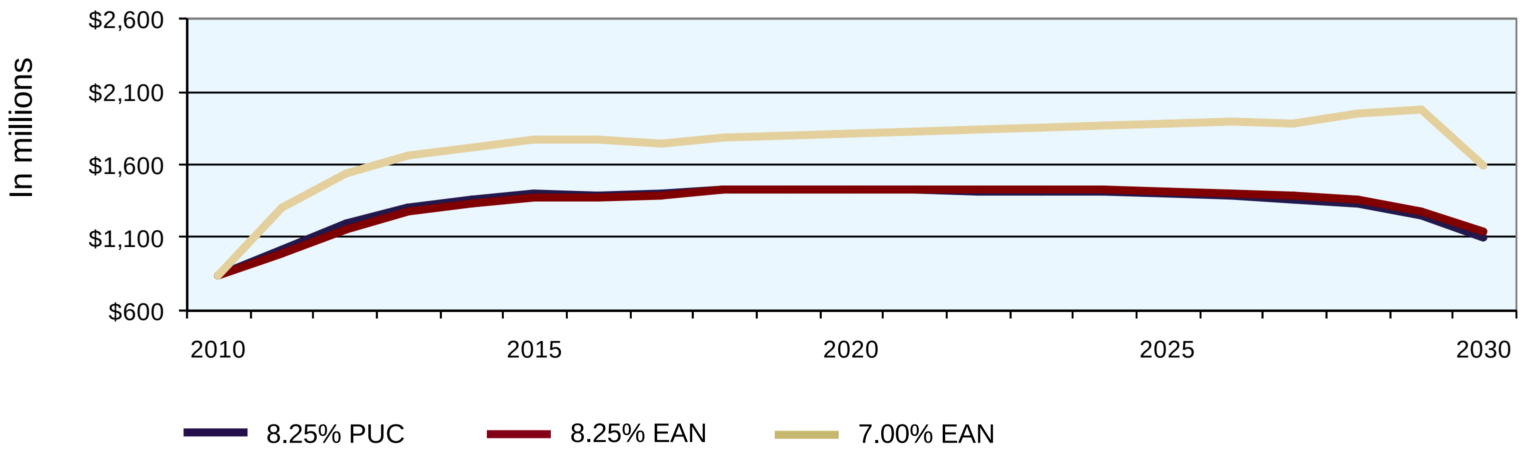
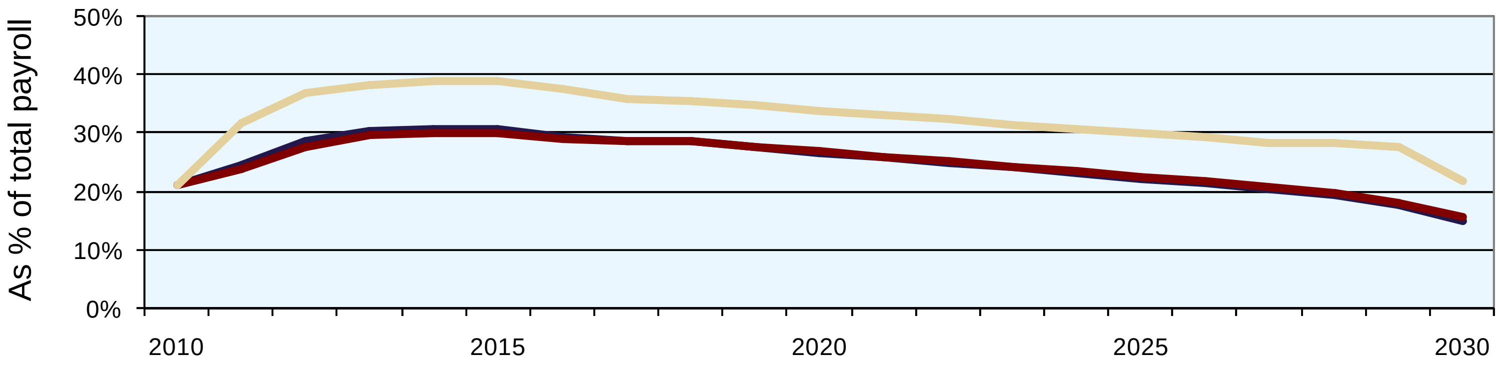
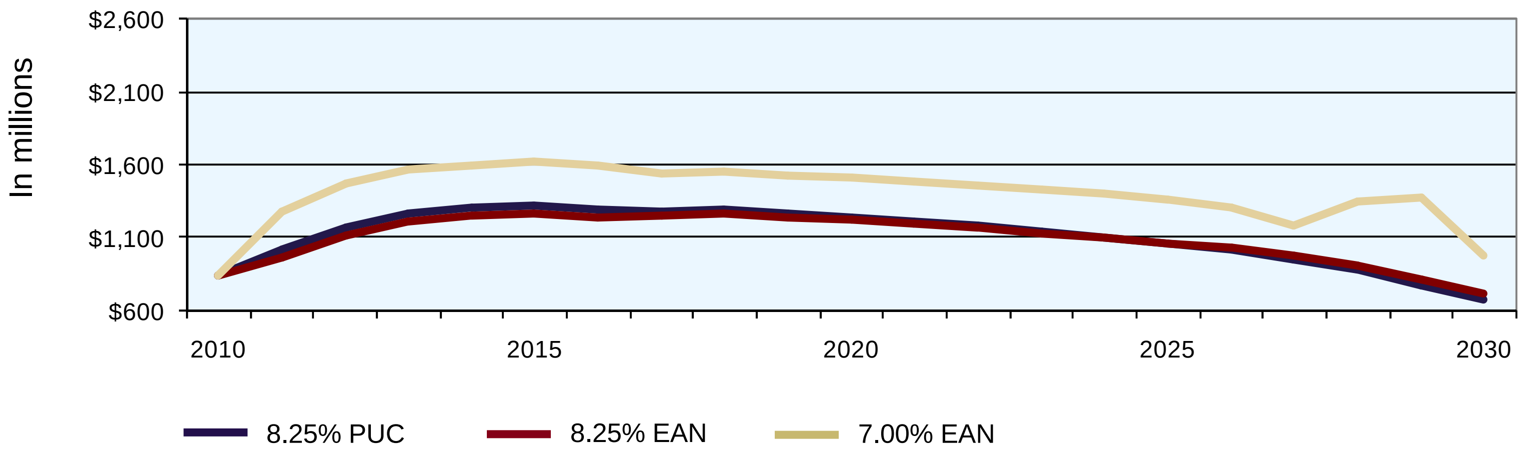
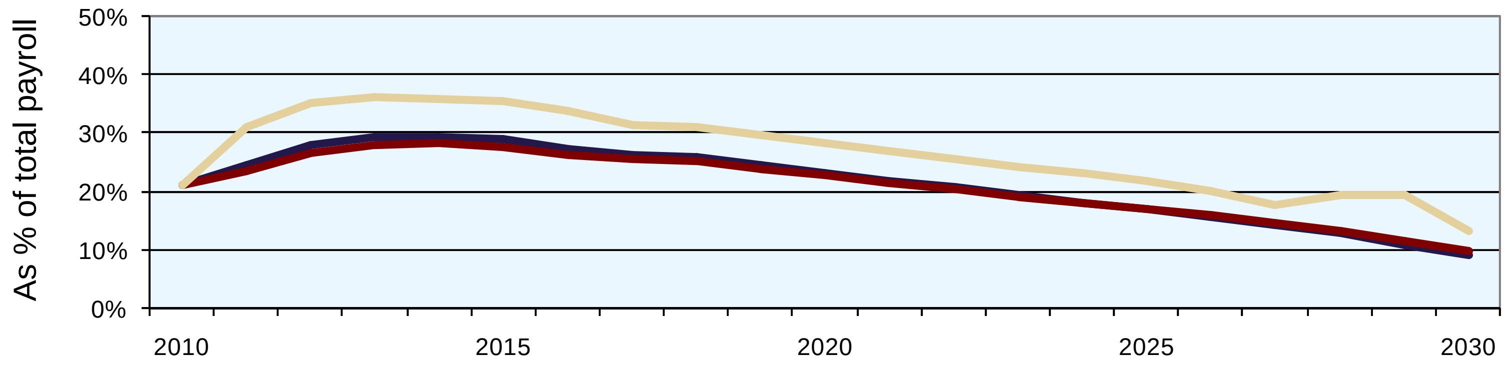
Projected Employer Contributions - - Open Plan





Projected Employer Contributions - - Closed Plan (including employer portion of the 15.5% DC plan for new entrants)

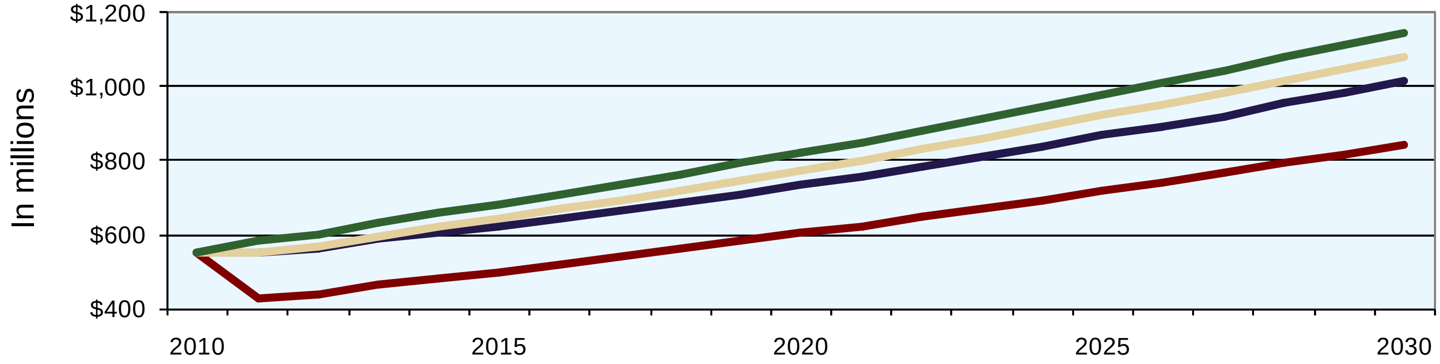


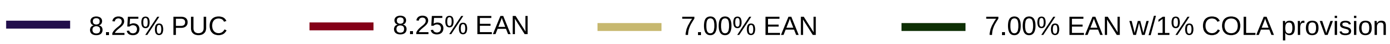


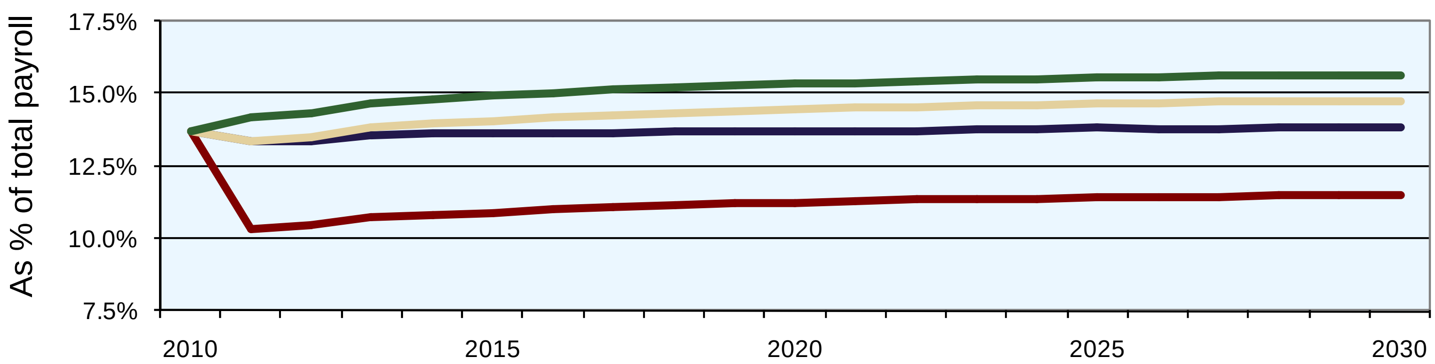
Uncouple the COLAs From Excess Investment Returns

- Current COLAs provided through excess investment returns
  - Returns in excess of the 8.25% actuarial rate of return
  - First $200 million of excess returns reduce outstanding amortization bases
  - 50% of the excess above $200 million credited to Experience Account (EA) to fund COLAs
  - Requires legislative approval, EA balance limited to two COLA increases
  - COLA is the lesser of CPI-U and 3% applied up to $70,000 of annual benefit (indexed from 2001)
  - COLA limited to 2% if actuarial return is less than 8.25% for the prior year and, if funded percentage is also less than 80%, no COLA can be not granted
  - Retiree must be at least age 60 and retired for 1 year (minimum age does not apply to disabled retirees)
- Alternative ongoing COLA of 1.0% per year
  - Funded on an ongoing actuarial basis, with initial liability amortized over 30 years on a level dollar basis
  - Same eligibility requirements as above
  - $70,000 limit on benefit would not apply
  - COLA would not be provided for death benefits while actively employed and those who terminate before reaching retirement eligibility

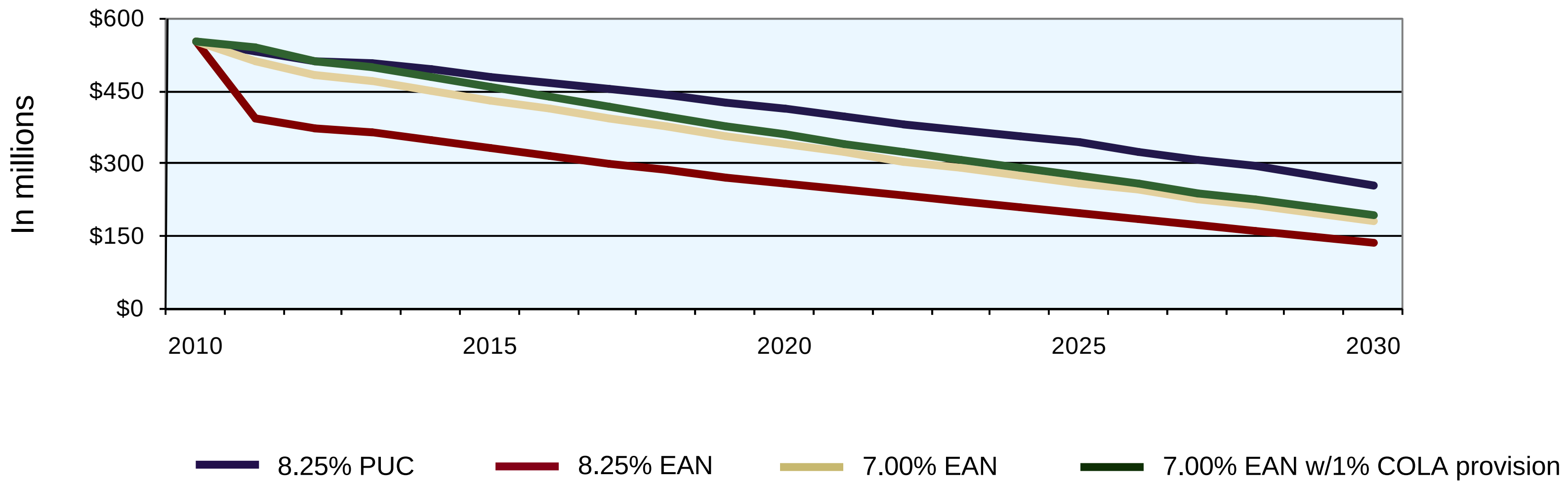
Projected Normal Cost - - Open Plan

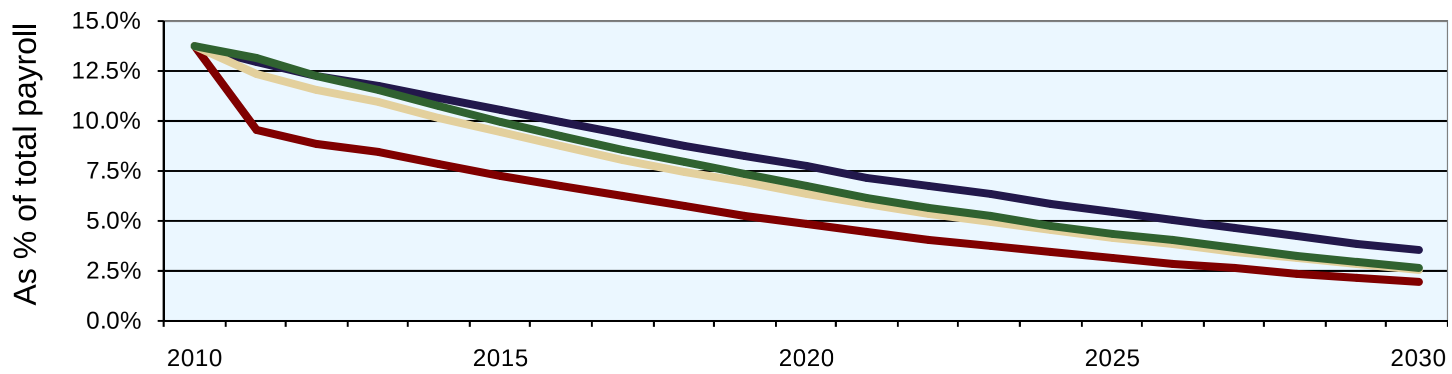






Projected Normal Cost - - Closed Plan





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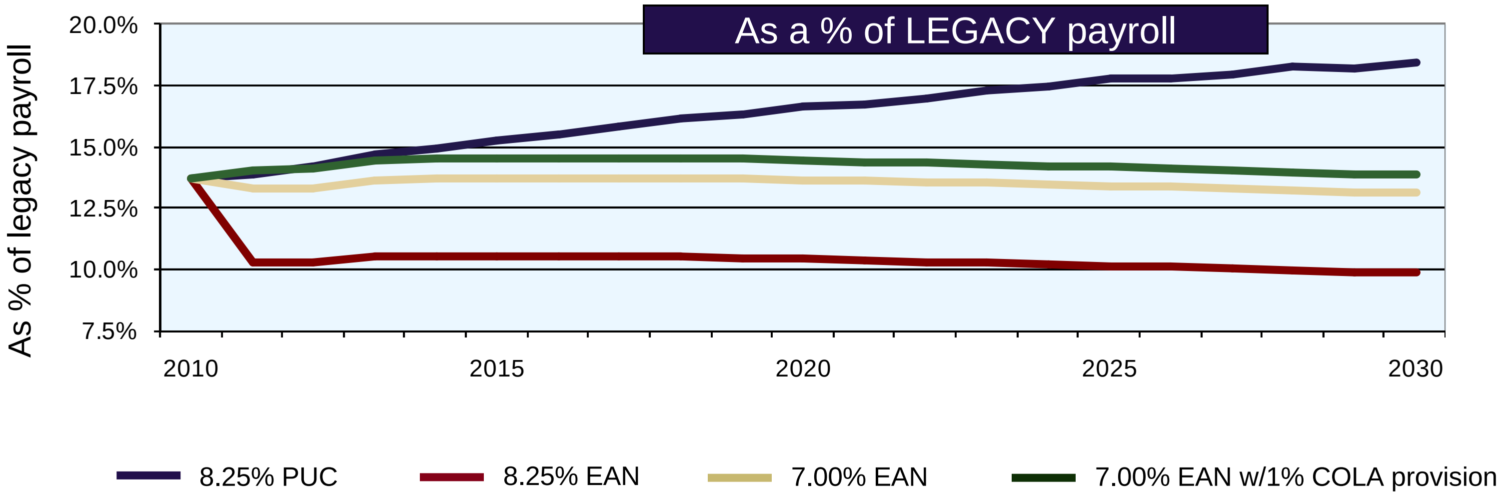
Projected Normal Cost - - Closed Plan



- The introduction of a 1% recurring COLA raises EANC slightly.
- Even with the addition of a 1% COLA, the EANC at 7% interest is below the PUC normal cost throughout the projection period for a closed plan.
- Introduction of the COLA also affects unfunded accrued liability (see next slide).

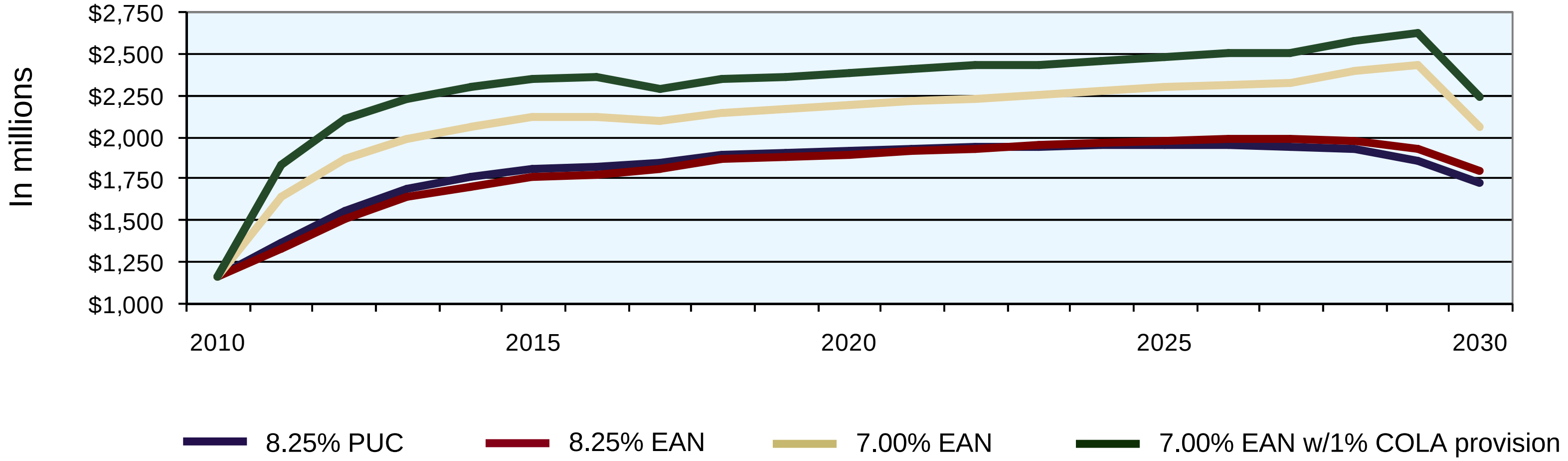
Annual Amortization of UAL - - Impact of 1% COLA

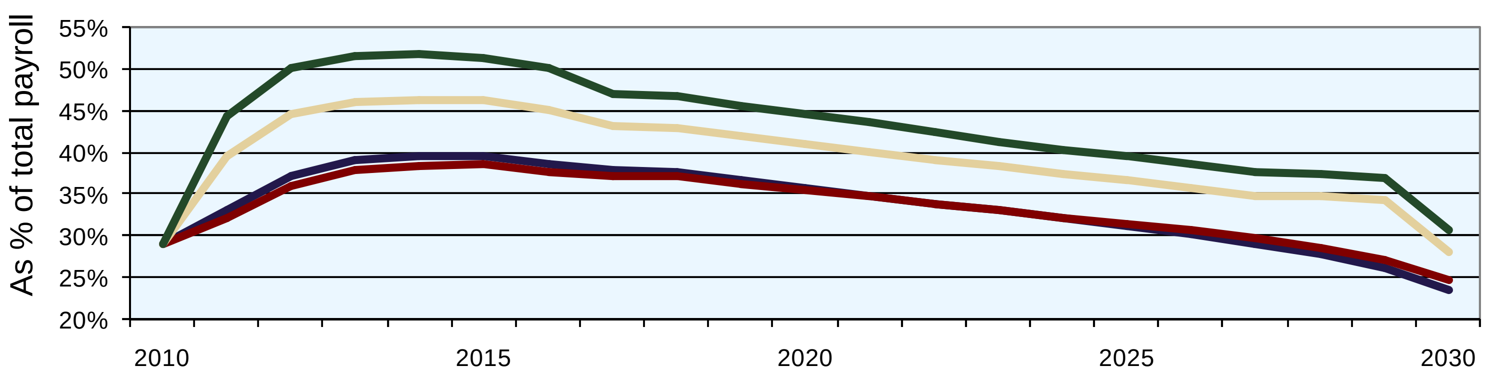
	7.00% EAN UAL				7.00% w/ 1% COLA EAN UAL			
		Amort	Pmt as % of Pay			Amort	Pmt as % of Pay	
Year	UAL	Pmt	Total	Legacy	UAL	Pmt	Total	Legacy
2010	$10,113	$ 619	15%	15%	$10,113	$ 619	15%	15%
2011	15,223	1,093	26%	29%	17,331	1,257	30%	33%
2012	16,838	1,315	31%	36%	19,111	1,523	36%	42%
2013	17,329	1,409	33%	41%	19,554	1,618	37%	47%
2014	16,995	1,461	33%	44%	19,175	1,671	38%	51%
2015	16,599	1,500	33%	48%	18,733	1,712	37%	55%
2016	16,144	1,491	32%	50%	18,230	1,704	36%	57%
2017	15,661	1,441	30%	51%	17,690	1,612	33%	57%
2018	15,196	1,477	29%	54%	17,208	1,649	33%	61%
2019	14,651	1,477	28%	57%	16,639	1,650	32%	64%
2020	14,069	1,477	28%	60%	16,030	1,651	31%	67%
2021	13,437	1,476	27%	63%	15,366	1,651	30%	70%
2022	12,765	1,475	26%	66%	14,657	1,651	29%	74%
2023	12,035	1,474	25%	69%	13,887	1,651	28%	77%
2024	11,259	1,472	24%	73%	13,065	1,650	27%	81%
2025	10,427	1,469	23%	76%	12,182	1,649	26%	86%
2026	9,539	1,462	23%	80%	11,236	1,644	25%	90%
2027	8,592	1,442	22%	85%	10,226	1,627	24%	96%
2028	7,595	1,485	22%	93%	9,156	1,669	24%	104%
2029	6,482	1,498	21%	100%	7,965	1,683	24%	113%
2030	5,277	1,100	15%	80%	6,677	1,278	17%	93%

Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to 7.00%

Projected Contributions - - Open Plan, Impact of 1% COLA





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Comments and Observations

- A shift from the PUC method to the EAN method would produce total contributions that are somewhat more stable as a percentage of pay over the projection period.
- It would result in contributions that are initially lower than those produced by PUC, followed by contributions that are somewhat higher than those produced by PUC.
- All other things being equal, a change in cost method merely reallocates the total cost of retirement benefits between normal cost and accrued liability. In the case of the PUC-to-EAN change, the result of the reallocation is a more stable contribution pattern over the projection period.
- A change to a lower assumed interest rate results in permanently higher contributions, as investment returns are assumed to provide fewer of the benefit dollars that will be needed in the future.
- Introduction of a decoupled COLA provision has much the same effect as a decrease in the assumed interest rate.

Data, Assumptions, Methods and Plan Provisions

- Census data and asset information as of June 30, 2009
- Unless otherwise noted
  - Interest discount rate of 8.25% for all years
  - Plan liabilities are determined using the projected unit credit funding method
  - Asset returns are equal to 8.25% per year net of administrative expenses
    - Expenses for investment advisors equal to .18% of assets
    - All other expenses increase by 2.00% per year
- 20% of investment returns are attributed to realized gains/losses
- Asset returns on an AVA basis in excess of 8.25%:
  - First $100 million reduce the OAB and next $100 million reduce the EAAB
  - Provide retiree COLAs (50% of the amount in excess of $200m)

Data, Assumptions, Methods and Plan Provisions

- Contributions to the plan are made by only the employer and employees
- IUALAF assumed to be exhausted as of June 30, 2010 to reduce the OAB and EAAB per Act 497
  - The IUALAF and ECA will not be used in future years to reduce funding requirements
- Changes in methods, assumptions, and COLA provisions funded over 30 years on a level dollar basis
- Entry Age Normal liabilities based on current payroll regressed backwards to date of hire using the assumed salary scale.
- All other assumptions, actuarial methods and plan provisions are as outlined in the 2009 valuation reports

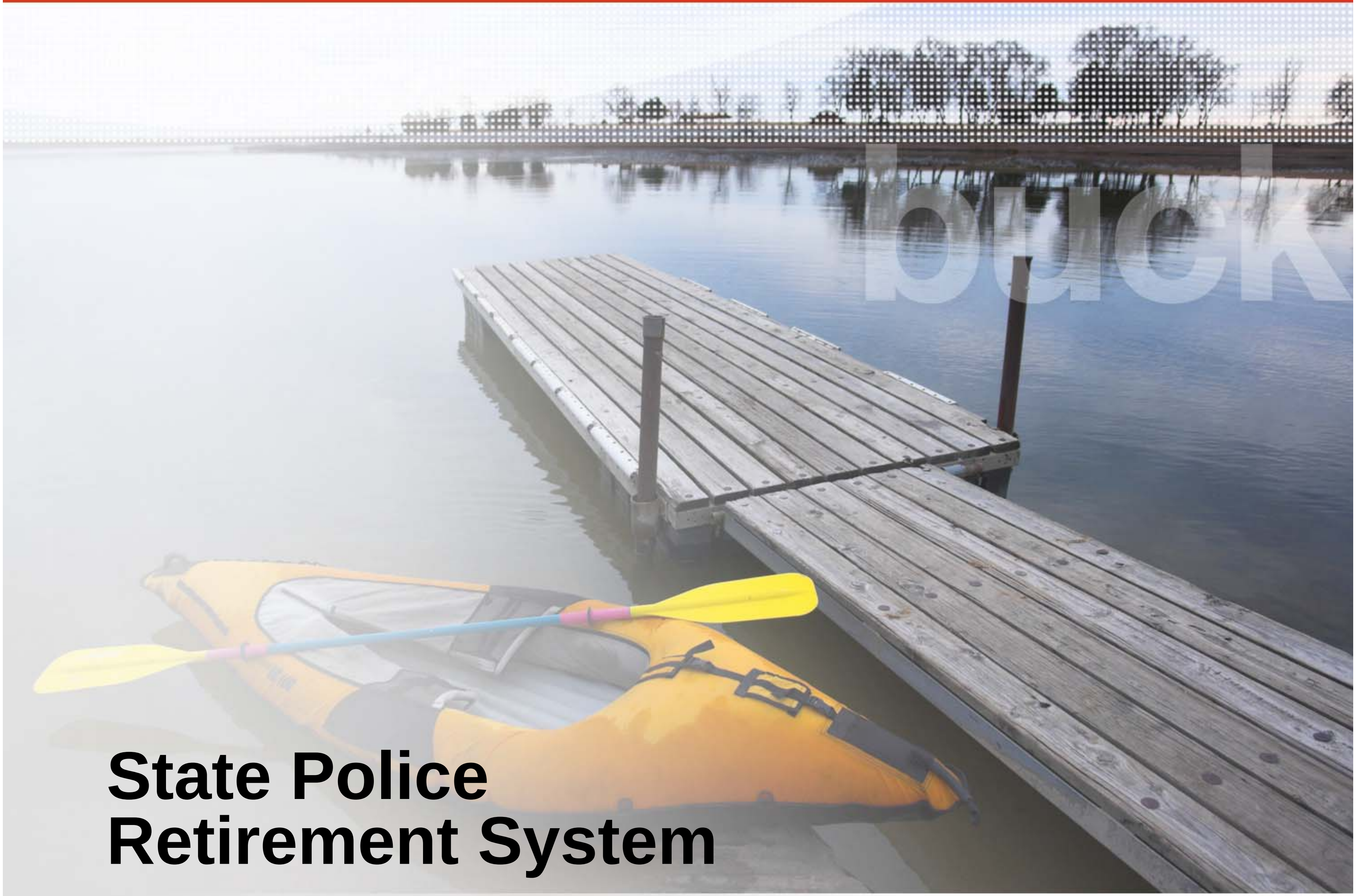
Key definitions:

IUALAF - Initial Unfunded Accrued Liability Amortization Fund

OAB - Original Amortization Base

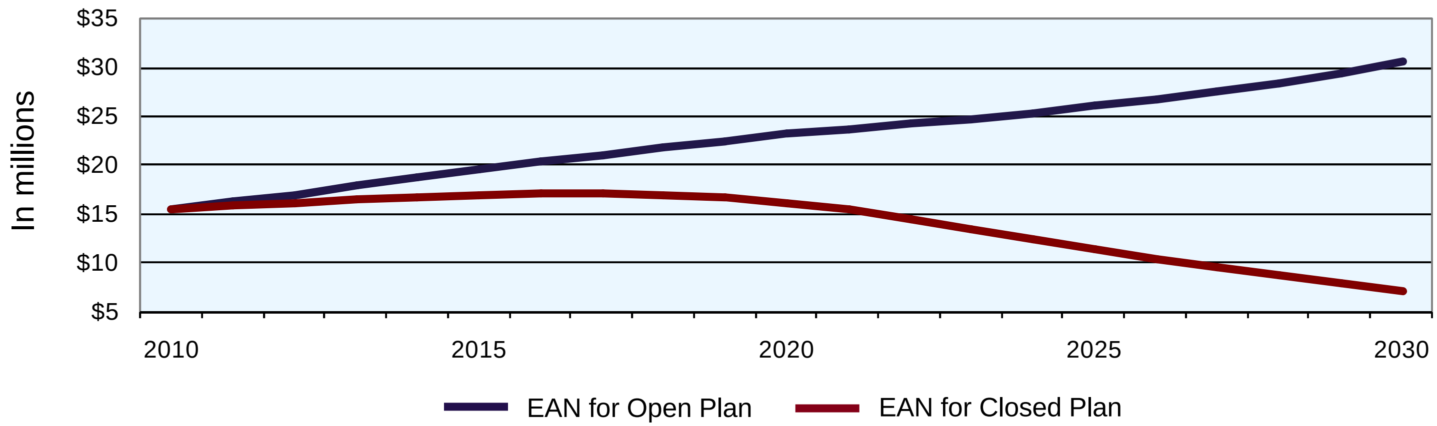
EAAB - Experience Account Amortization Base

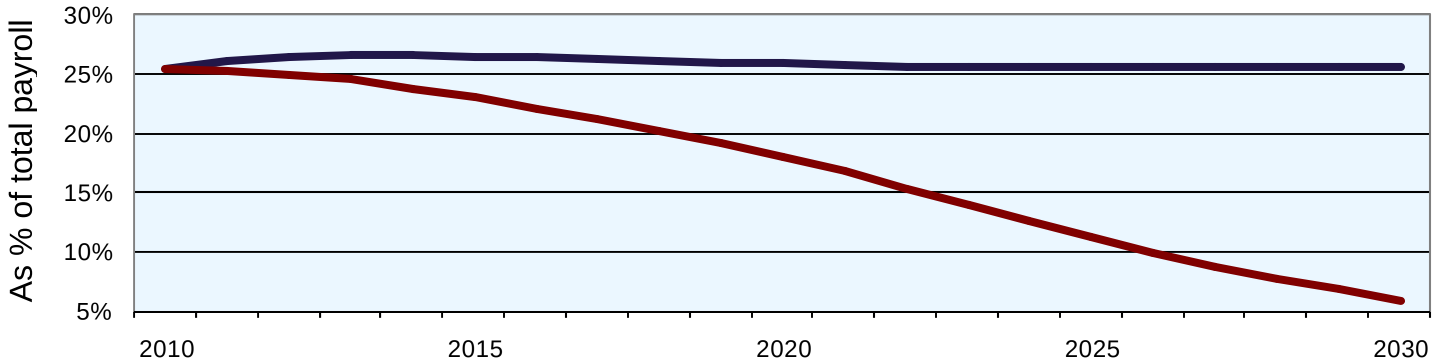
ECA - Employer Credit Account



State Police Retirement System

Projected Normal Cost - - Current 7.50% Basis

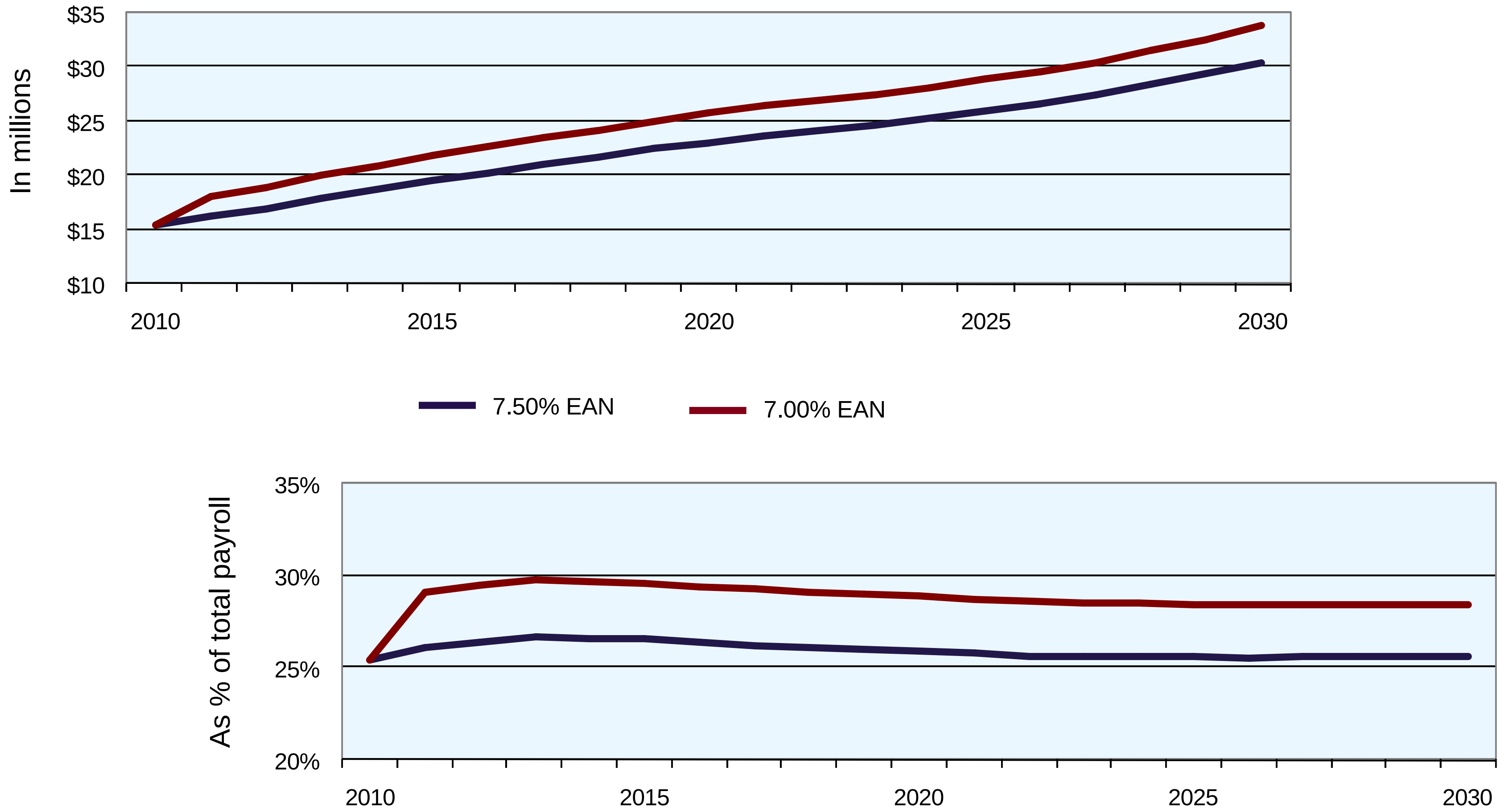




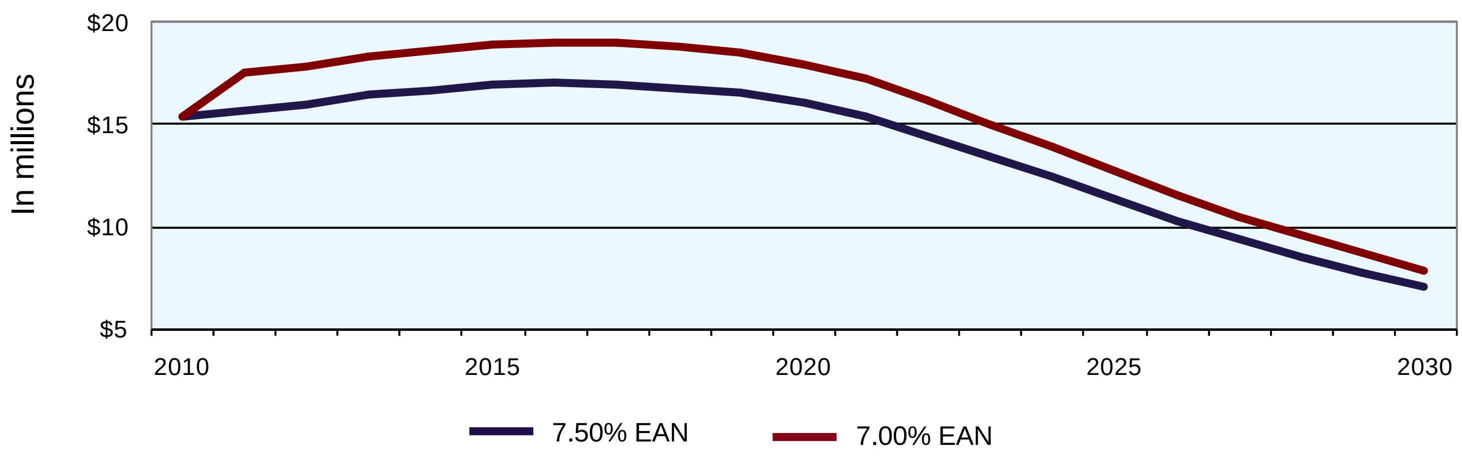
Note:

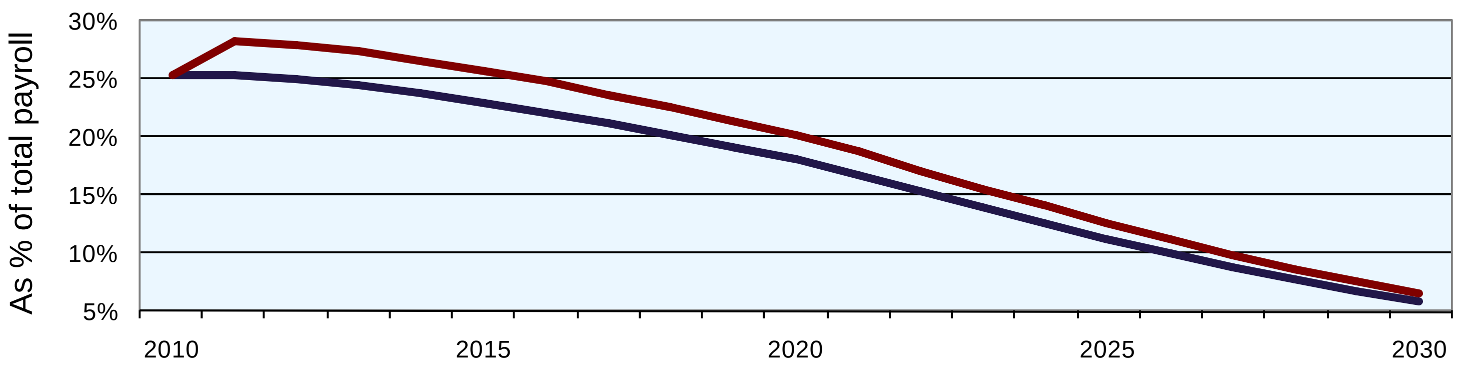
- Open Plan refers to new hires after July 1, 2010 continuing to participate in the DB plan
- Closed Plan refers to the DB plan that is “closed” to new hires after July 1, 2010, and the new hires are provided a DC plan

Projected Normal Cost - - Open Plan

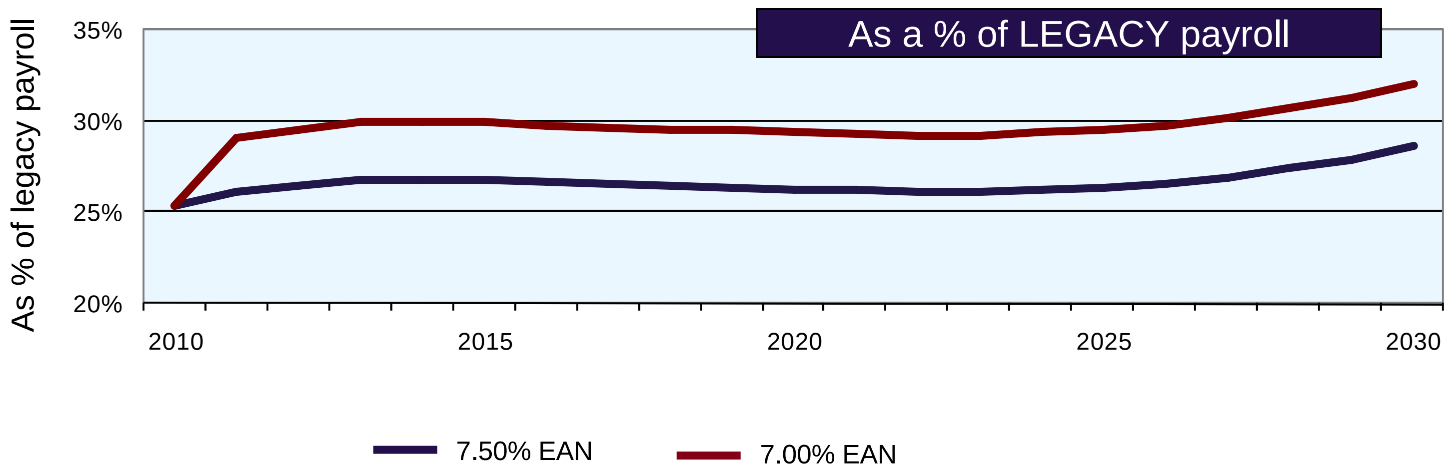


Projected Normal Cost - - Closed Plan





Projected Normal Cost - - Closed Plan



- The effect of a 50-basis-point reduction in the funding interest rate is a constant increase of approximately 4% of relevant payroll base (total payroll for open plan, legacy payroll for closed plan) in normal cost throughout the projection period.
- This is combined with an increase of somewhat greater magnitude in the contributions needed for the amortization of the unfunded liability (see next slide).

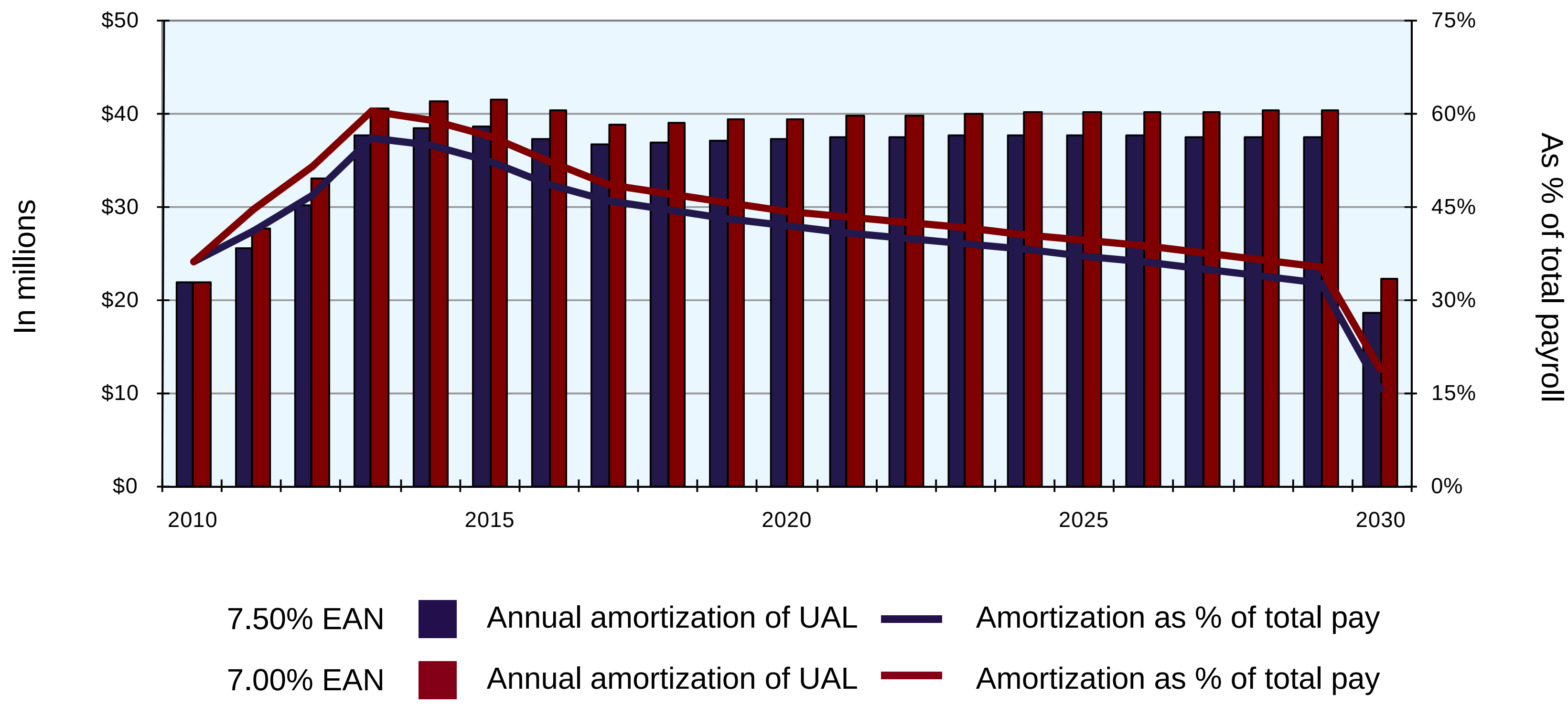
Annual Amortization of UAL

	7.50% EAN UAL				7.00% EAN UAL			
		Amort	Pmt as % of Pay			Amort	Pmt as % of Pay	
Year	UAL	Pmt	Total	Legacy	UAL	Pmt	Total	Legacy
2010	$ 282	$ 22	36%	36%	$ 282	$ 22	36%	36%
2011	326	25	41%	42%	368	28	44%	46%
2012	370	30	47%	50%	415	33	51%	55%
2013	392	38	56%	61%	435	40	60%	66%
2014	384	38	55%	62%	427	41	59%	66%
2015	376	38	52%	61%	418	41	56%	65%
2016	368	37	48%	58%	408	40	52%	63%
2017	360	37	46%	57%	399	39	48%	60%
2018	352	37	44%	58%	390	39	47%	61%
2019	342	37	43%	59%	381	39	46%	63%
2020	332	37	42%	61%	370	39	44%	65%
2021	320	37	41%	64%	358	40	43%	67%
2022	306	37	40%	68%	344	40	42%	72%
2023	291	38	39%	73%	328	40	41%	78%
2024	275	38	38%	79%	311	40	40%	84%
2025	256	38	37%	87%	293	40	40%	93%
2026	236	38	36%	96%	272	40	39%	103%
2027	215	37	35%	107%	251	40	38%	115%
2028	191	37	34%	120%	227	40	36%	129%
2029	166	37	33%	134%	202	40	35%	145%
2030	139	19	16%	76%	175	22	19%	91%

Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to the 7.50% / 7.00% discount rates

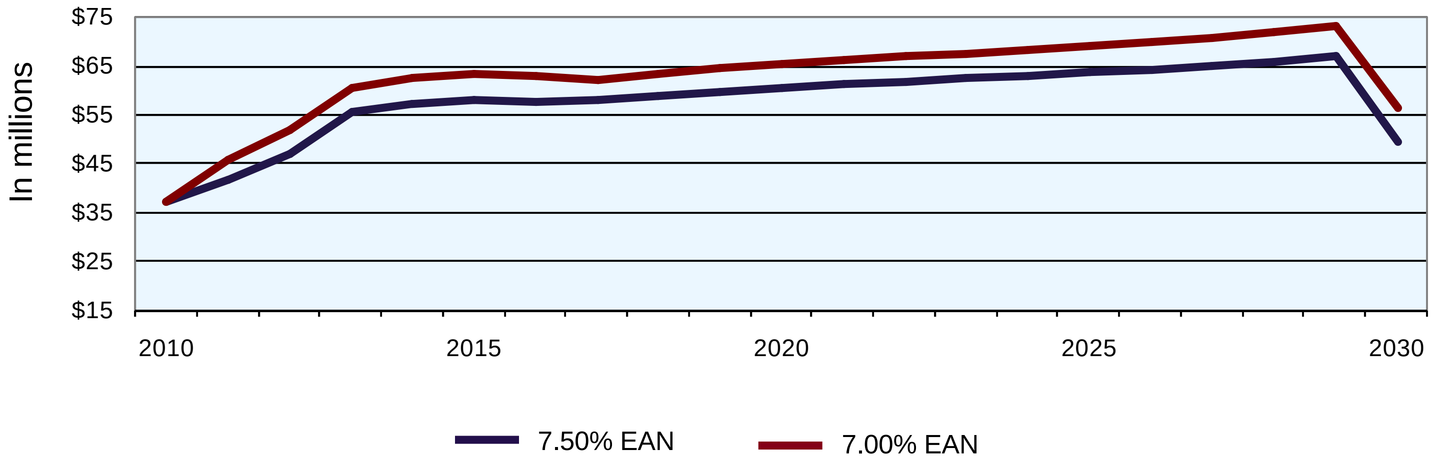
Annual Amortization of UAL

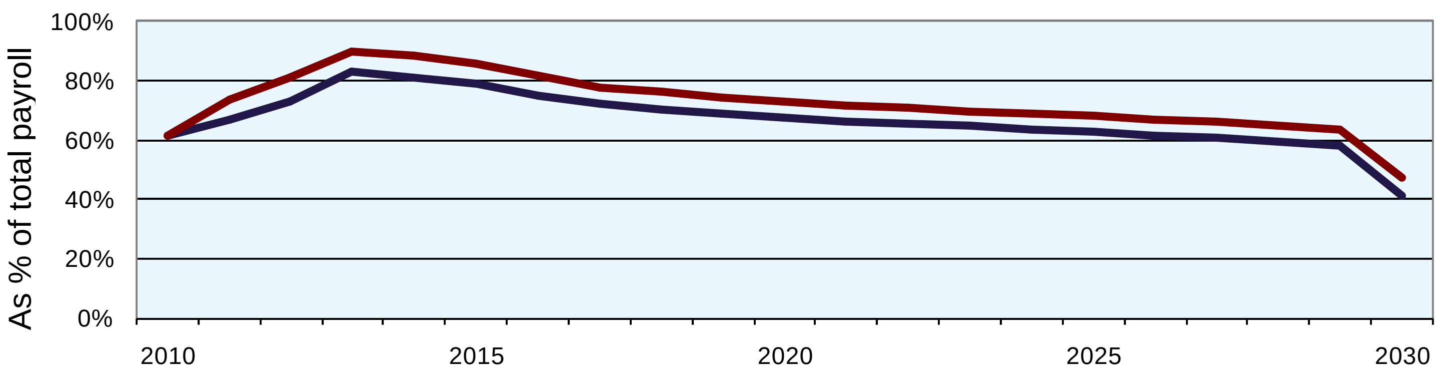


Comments

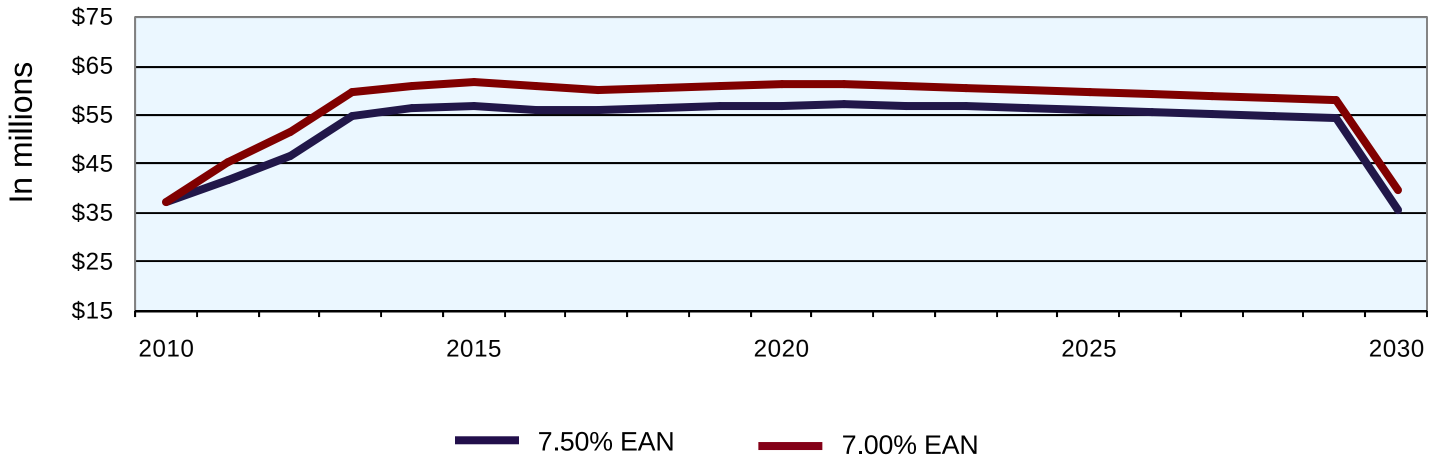
- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to the 7.50% / 7.00% discount rates

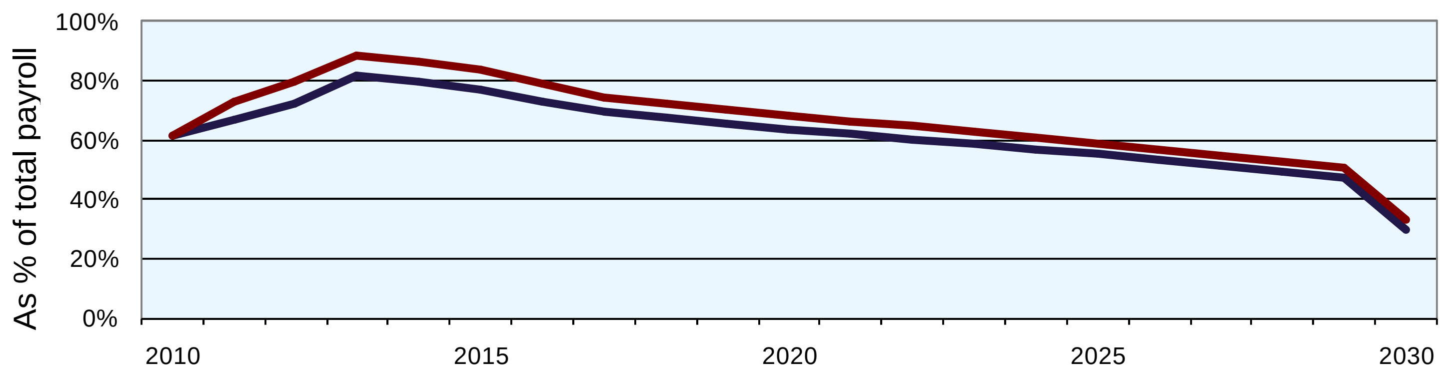
Projected Contributions - - Open Plan





Projected Contributions - - Closed Plan (including the 15.5% DC plan for new entrants)





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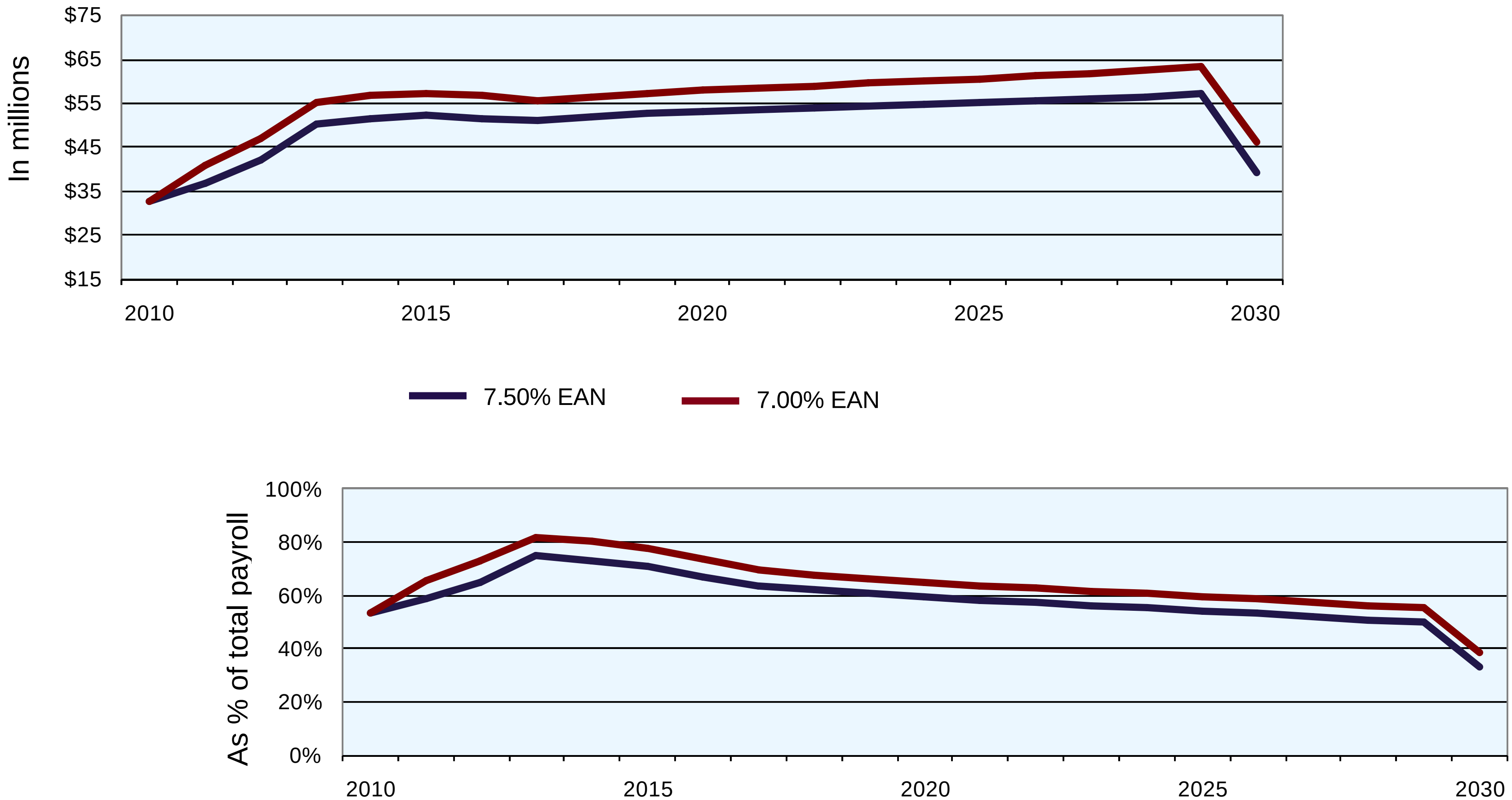
Projected Employer Contributions - - Open Plan



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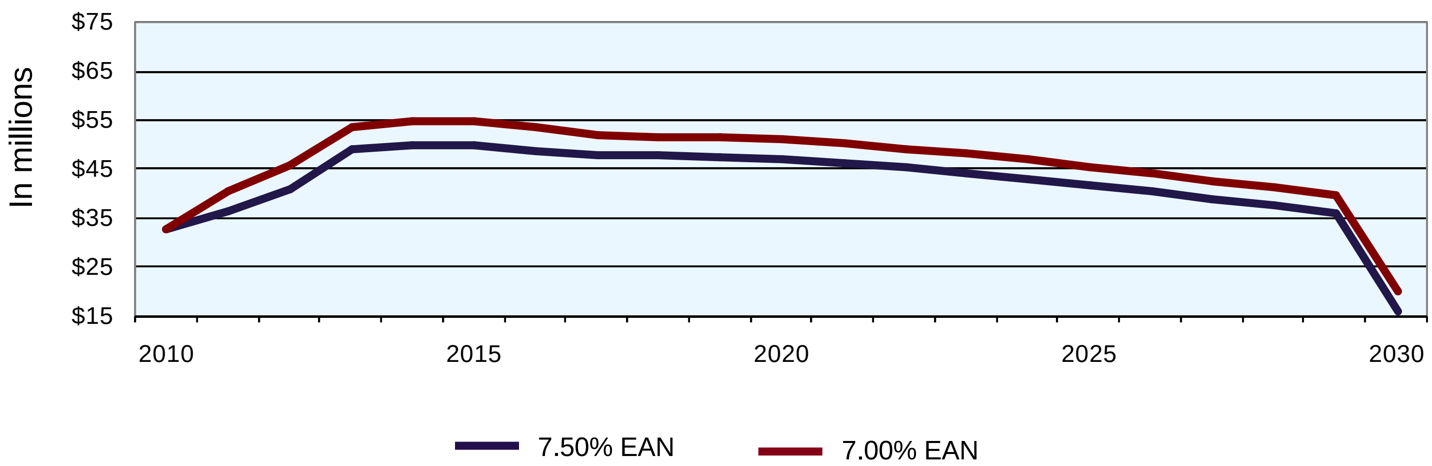
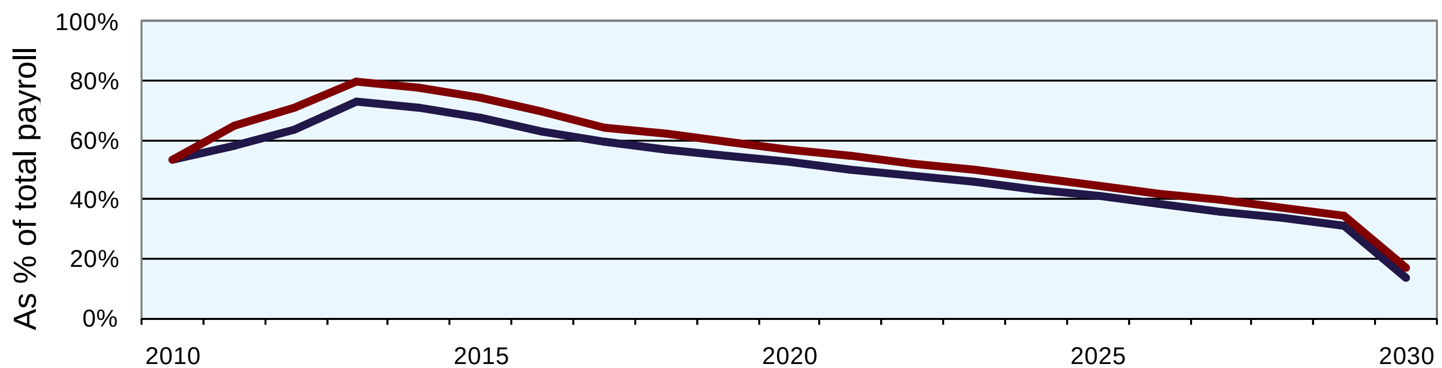
Projected Employer Contributions - - Closed Plan (including employer portion of the 15.5% DC plan for new entrants)



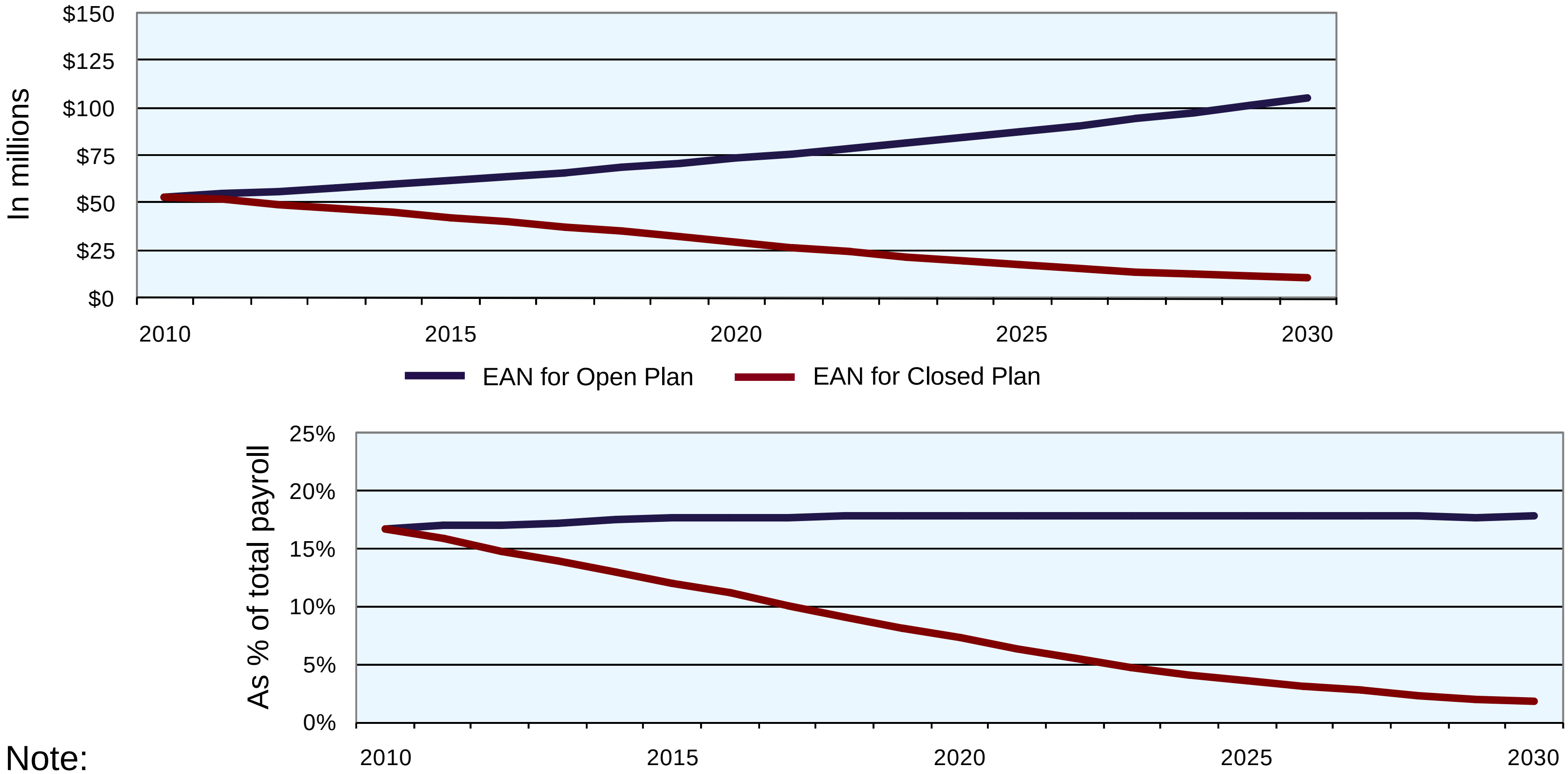


Data, Assumptions, Methods and Plan Provisions

- Census data as of June 30, 2009
- Unless otherwise noted:
  - Interest discount rate of 7.50% for all years
  - Plan liabilities are determined using the entry age normal funding method
  - Asset returns are equal to 7.50% per year net of administrative expenses
    - Expenses for investment advisors equal to .25% of assets
    - Expenses increase by 2.00% per year
- 20% of investment returns are attributed to realized gains/losses
- Contributions to the plan are made by only the employer and employees
- All other assumptions, actuarial methods and plan provisions are as outlined in the 2009 valuation reports
- Assume the Insurance Premium Tax continues at $1.5 million per year

Louisiana School Employees' Retirement System

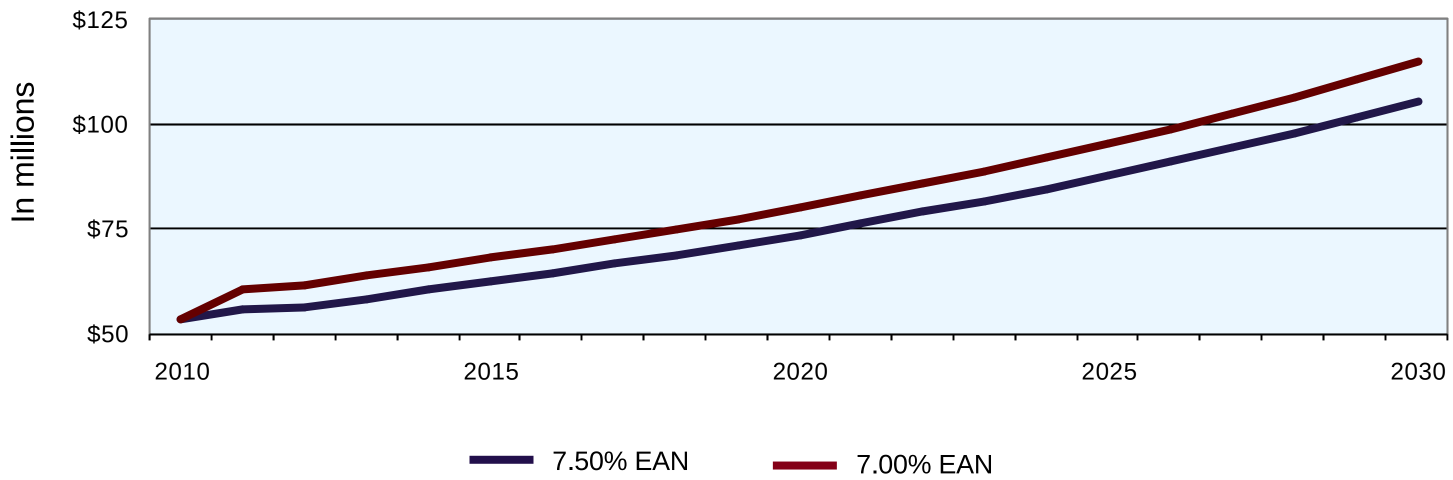
Projected Normal Cost - - Current 7.50% Basis

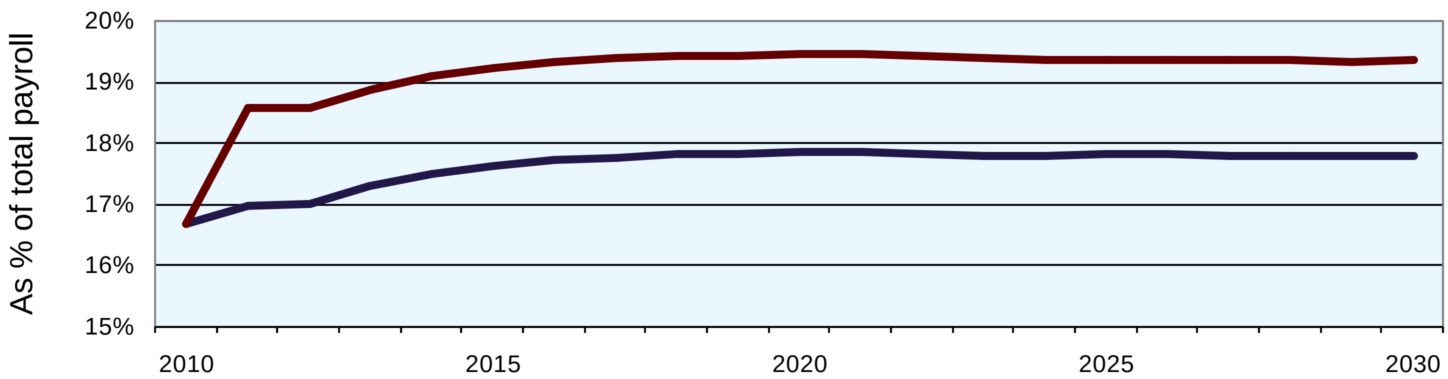


Note:

- Open Plan refers to new hires after July 1, 2010 continuing to participate in the DB plan
- Closed Plan refers to the DB plan that is "closed" to new hires after July 1, 2010, and the new hires are provided a DC plan

Projected Normal Cost - - Open Plan





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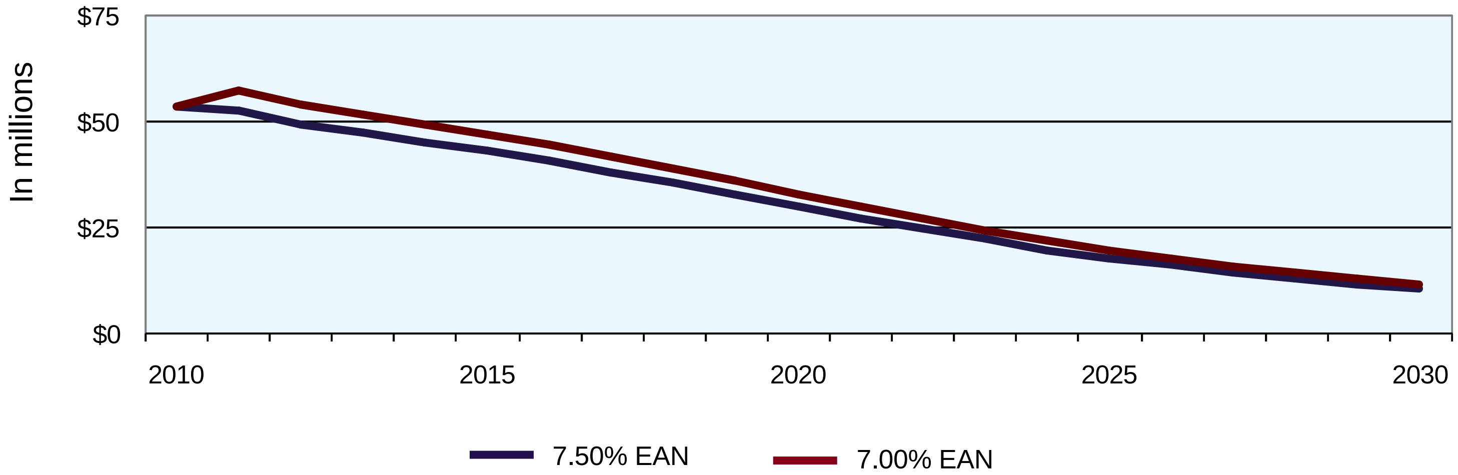
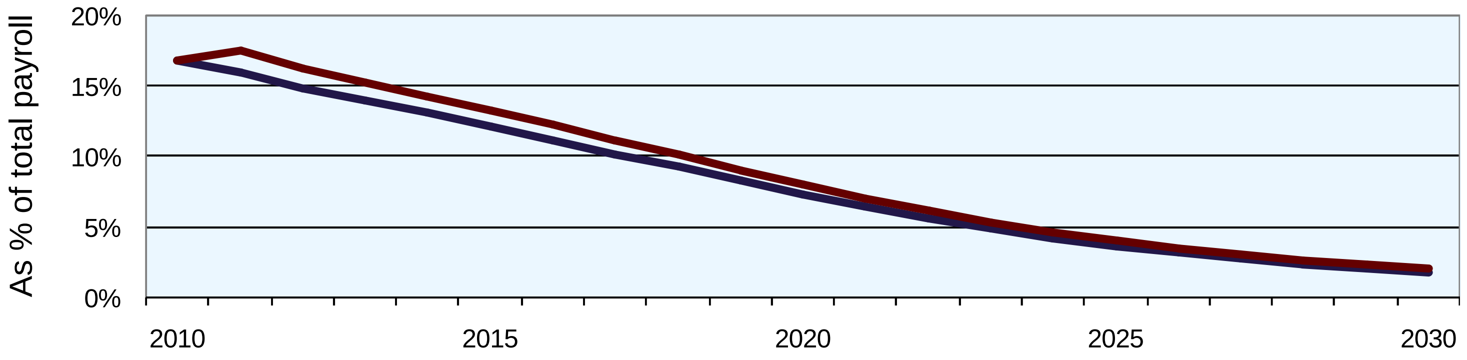
Projected Normal Cost - - Closed Plan





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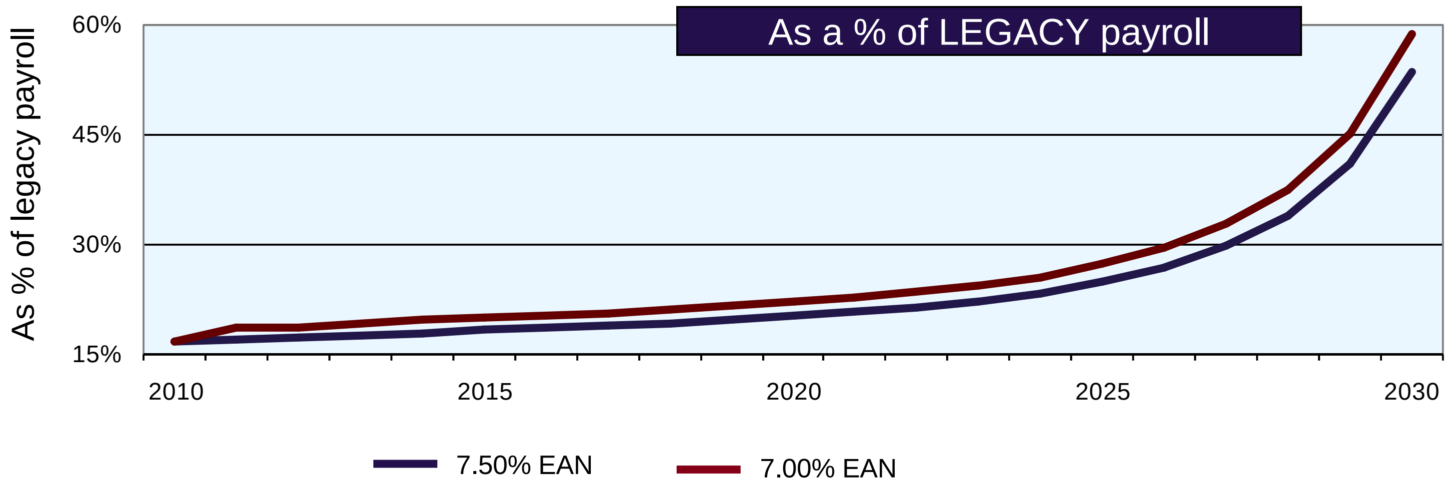
Projected Normal Cost - - Closed Plan



- The effect of a 50-basis-point reduction in the funding interest rate is a constant increase of approximately 1.5% -2% of relevant payroll base (total payroll for open plan, legacy payroll for closed plan) in normal cost throughout the projection period.
- This is combined with an increase of somewhat greater magnitude in the contributions needed for the amortization of the unfunded liability (see next slide).

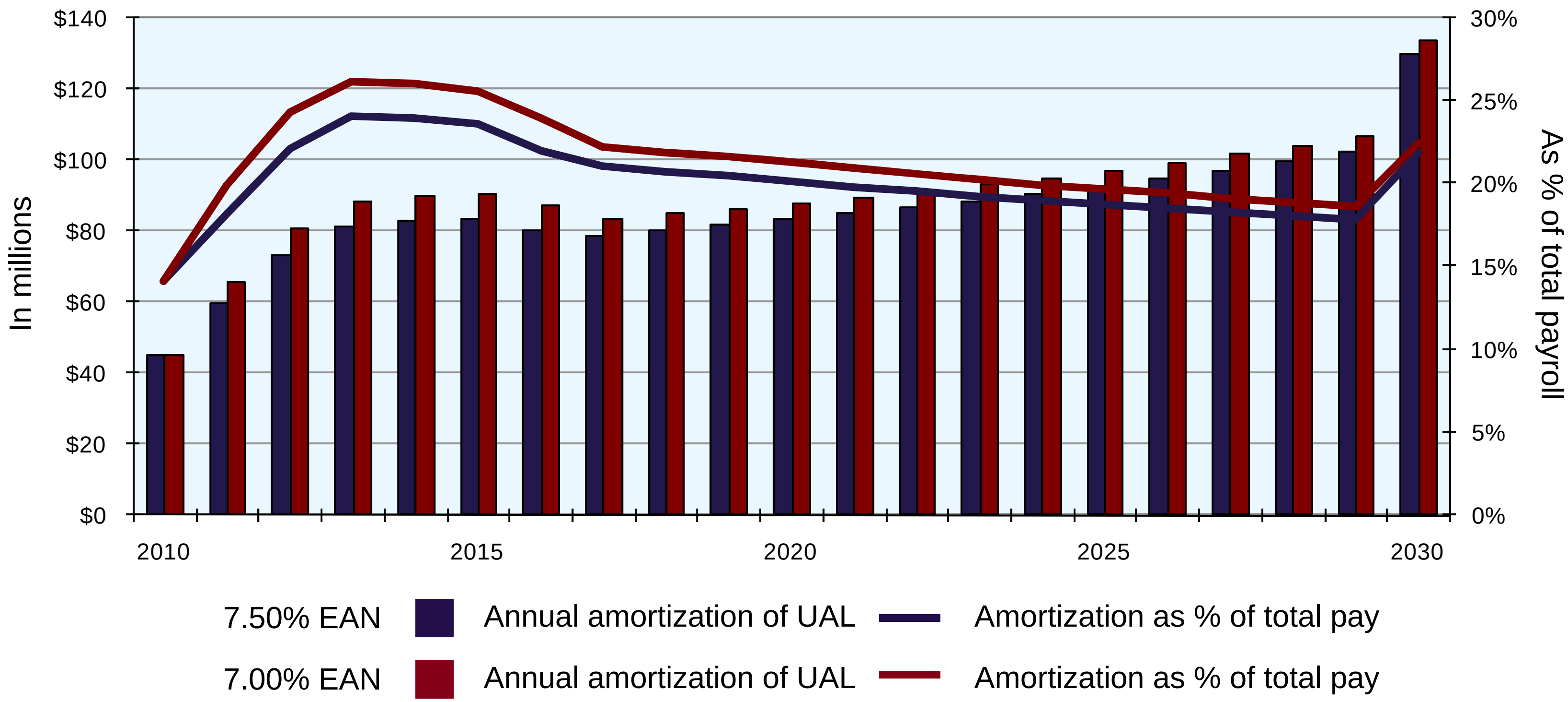
Annual Amortization of UAL

Year	7.50% EAN UAL UAL	Amort Pmt	Pmt as % of Pay Total	Legacy	7.00% EAN UAL UAL	Amort Pmt	Pmt as % of Pay Total	Legacy
2010	$ 743	$ 45	14%	14%	$ 743	$ 45	14%	14%
2011	895	60	18%	19%	1,004	65	20%	21%
2012	1,039	73	22%	25%	1,156	81	24%	28%
2013	1,101	81	24%	30%	1,212	88	26%	33%
2014	1,086	83	24%	33%	1,192	90	26%	36%
2015	1,068	83	24%	35%	1,170	90	26%	38%
2016	1,048	80	22%	37%	1,146	87	24%	40%
2017	1,029	79	21%	39%	1,122	83	22%	41%
2018	1,009	80	21%	43%	1,100	85	22%	46%
2019	986	81	20%	49%	1,074	86	22%	52%
2020	959	83	20%	56%	1,045	88	21%	59%
2021	928	85	20%	65%	1,011	89	21%	68%
2022	893	86	20%	75%	973	91	21%	79%
2023	852	88	19%	88%	930	93	20%	93%
2024	807	90	19%	107%	882	95	20%	112%
2025	756	92	19%	129%	829	97	20%	136%
2026	698	95	18%	160%	769	99	19%	167%
2027	634	97	18%	203%	702	101	19%	212%
2028	562	99	18%	264%	628	104	19%	276%
2029	482	102	18%	365%	547	107	19%	381%
2030	394	130	22%	668%	456	133	22%	686%

Comments

- Contributions are made each year equal to the minimum required amount
- Annual returns on assets are assumed to be equal to the 7.50% / 7.00% discount rates

Annual Amortization of UAL



Comments

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- Annual returns on assets are assumed to be equal to the 7.50% / 7.00% discount rates

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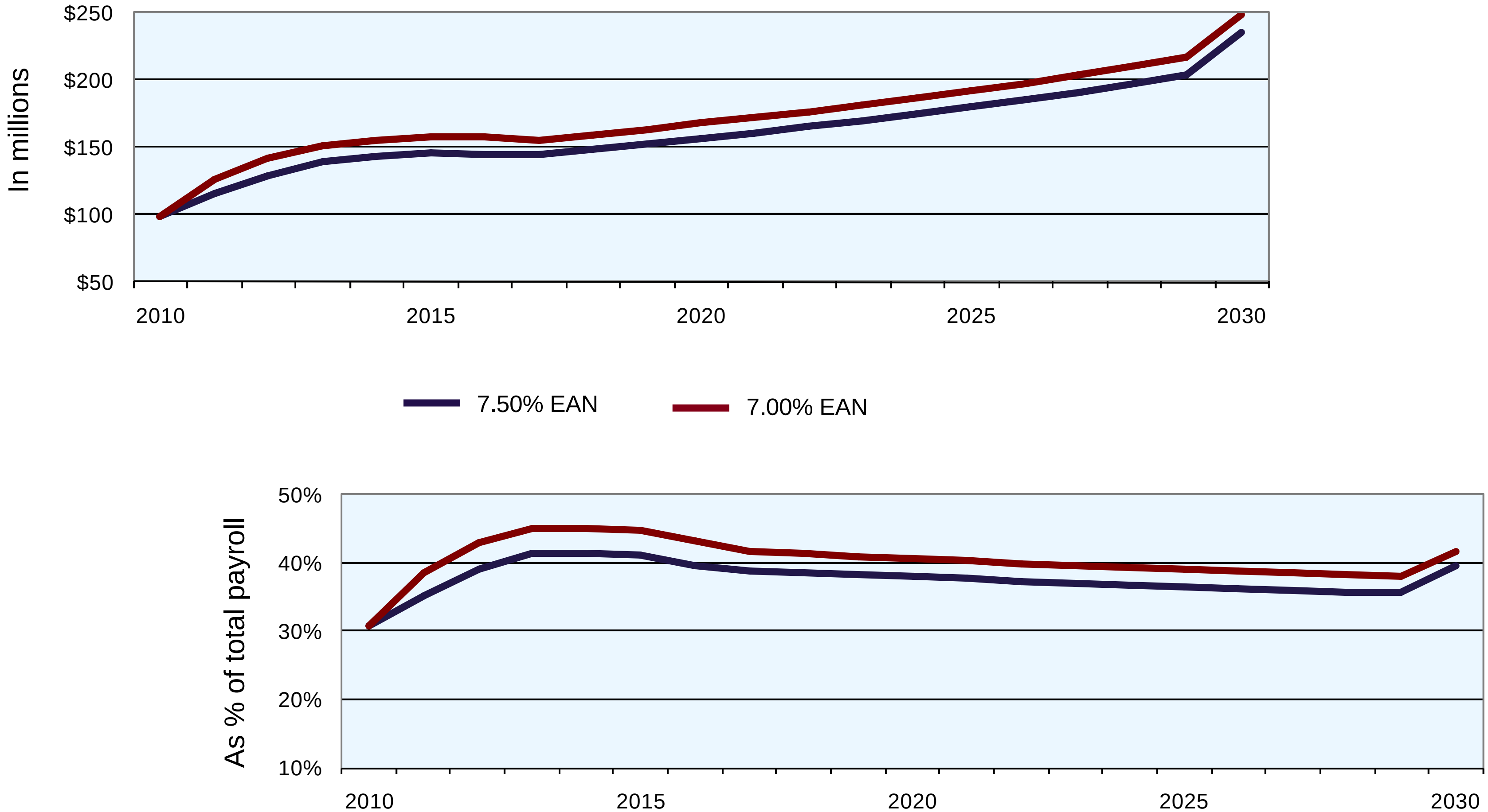
Projected Contributions - - Open Plan



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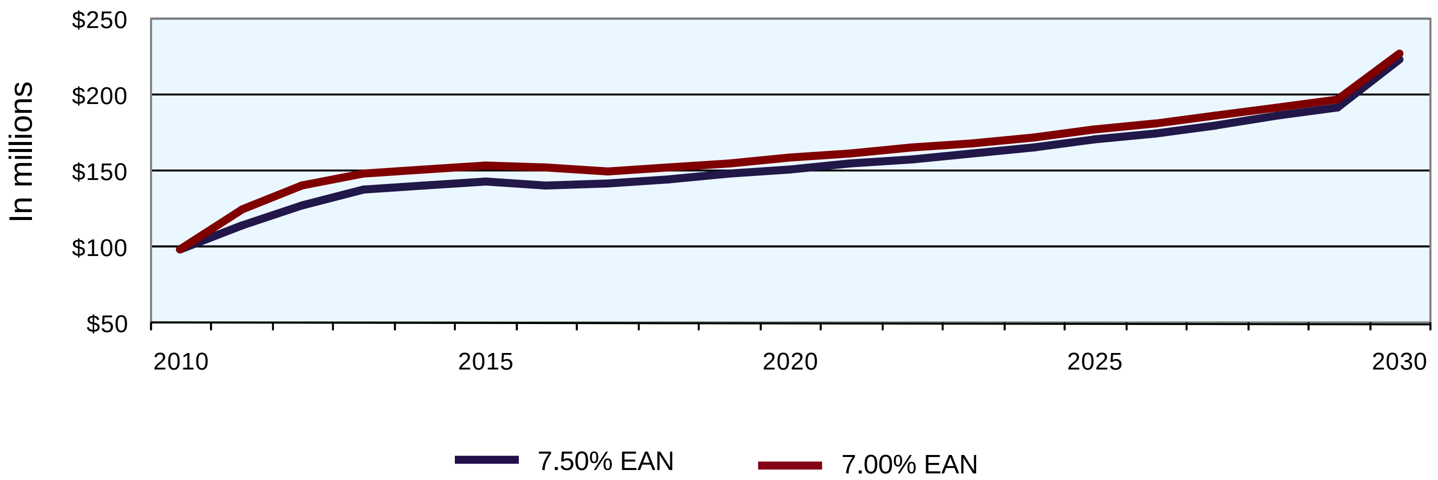
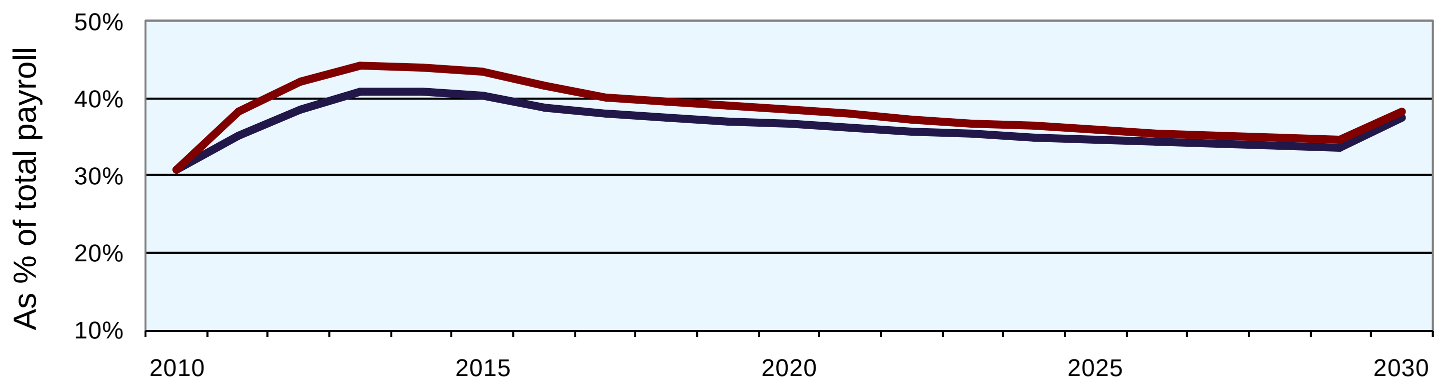
Projected Contributions - - Closed Plan (including the 15.5% DC plan for new entrants)





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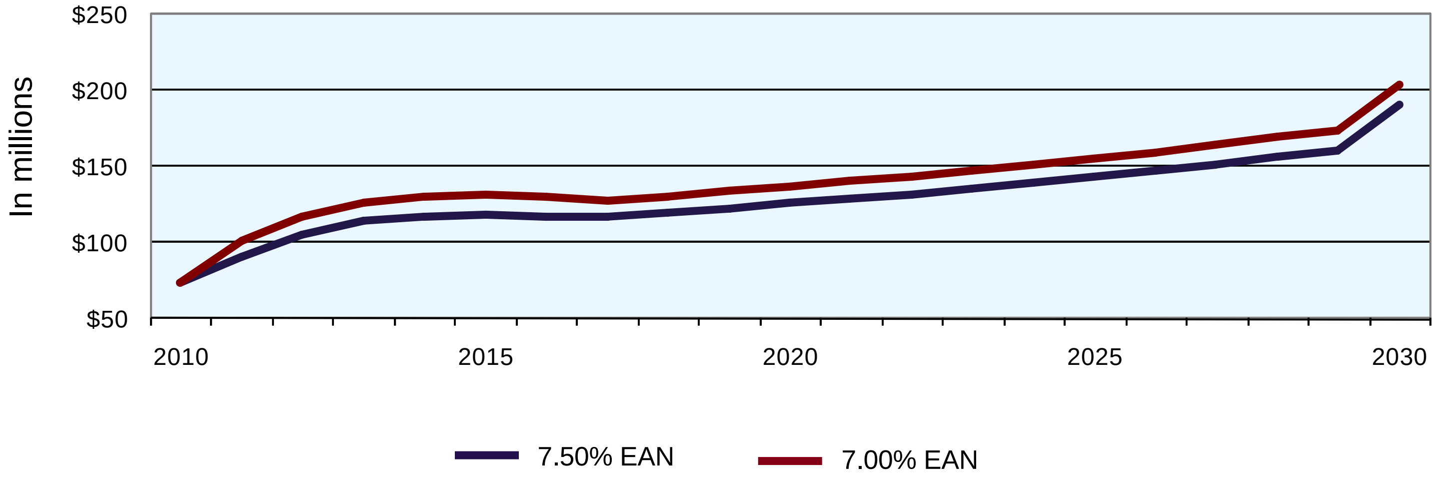
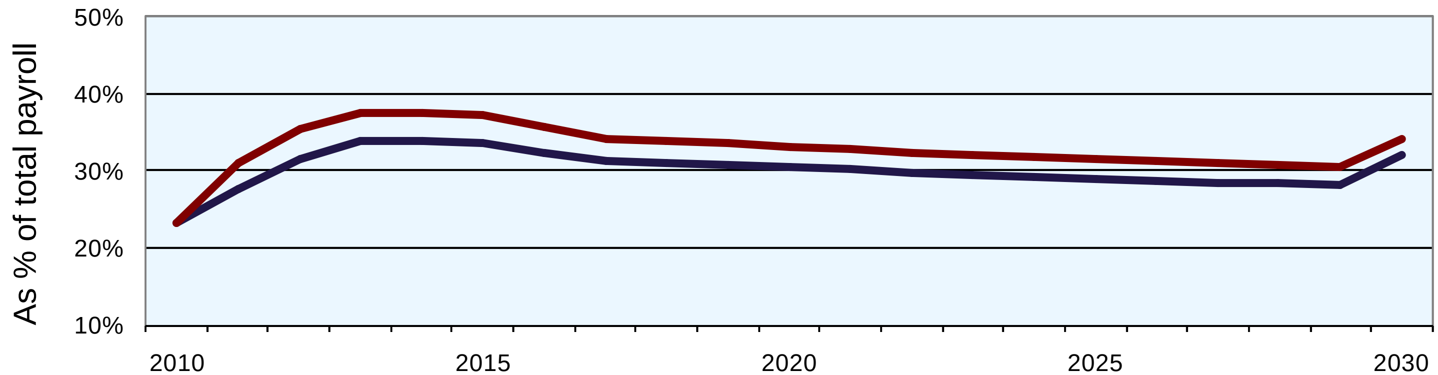
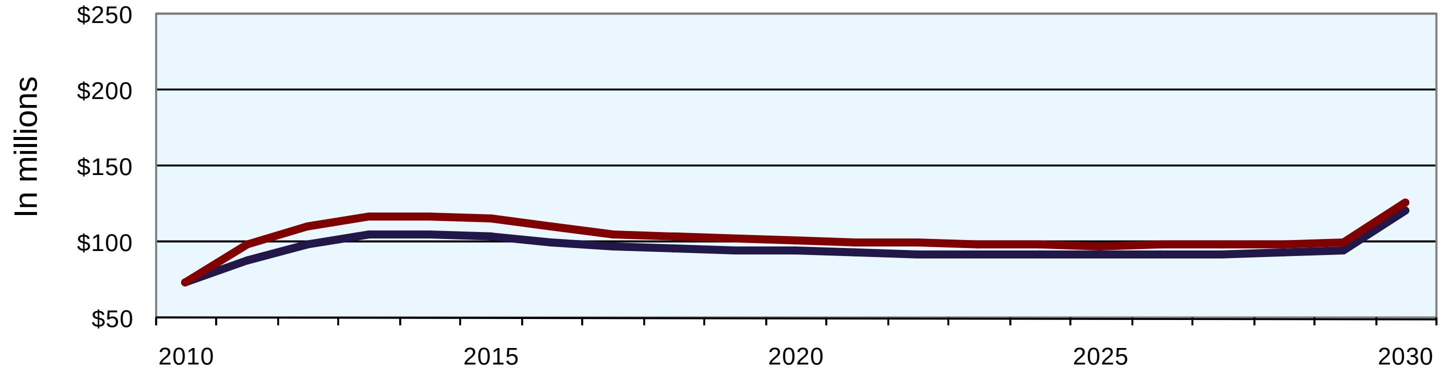
Projected Employer Contributions - - Open Plan

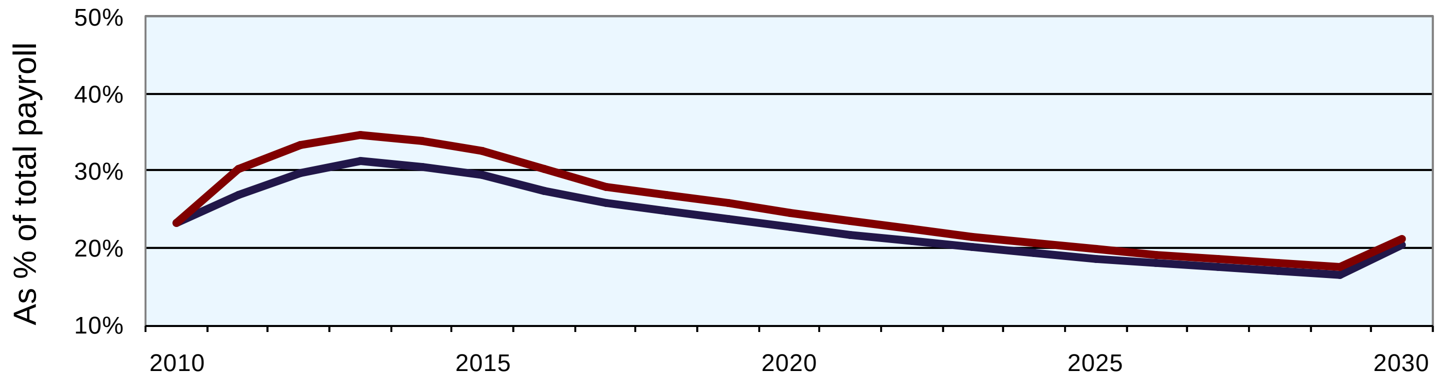




Projected Employer Contributions - - Closed Plan (including employer portion of the 15.5% DC plan for new entrants)



7.50% EAN   7.00% EAN



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