

Assets

- The market value of assets decreased from \$2.14 billion (as of 6/30/15) to \$2.12 billion (as of 6/30/16)
 - Segal determined the investment return was 0.39%, net of investment expenses
- The actuarial value of assets increased from \$2.13 billion (as of 6/30/15) to \$2.23 billion (as of 6/30/16)
 - Investment return of 6.16%, net of investment expenses
 - Actuarial value is 104.9% of market
 - There is a total of \$105 million of deferred net investment losses that will be recognized in future years
- The average annual return on market assets
 - 10-year average is 4.5%
 - 20-year average is 6.4%
- The average annual return on actuarial assets
 - 10-year average is 5.8%
 - 20-year average is 6.7%

Market Value of Assets (\$ in millions)

Fiscal Year Ending June 30, 2016	
Beginning of Year	\$2,142
Contributions:	
• Employer	83
• Member	76
• Service Purchases	3
• Total	162
Benefits and Refunds	(186)
Investment Income (net)	6
End of Year	\$2,124
Rate of Return	0.39%

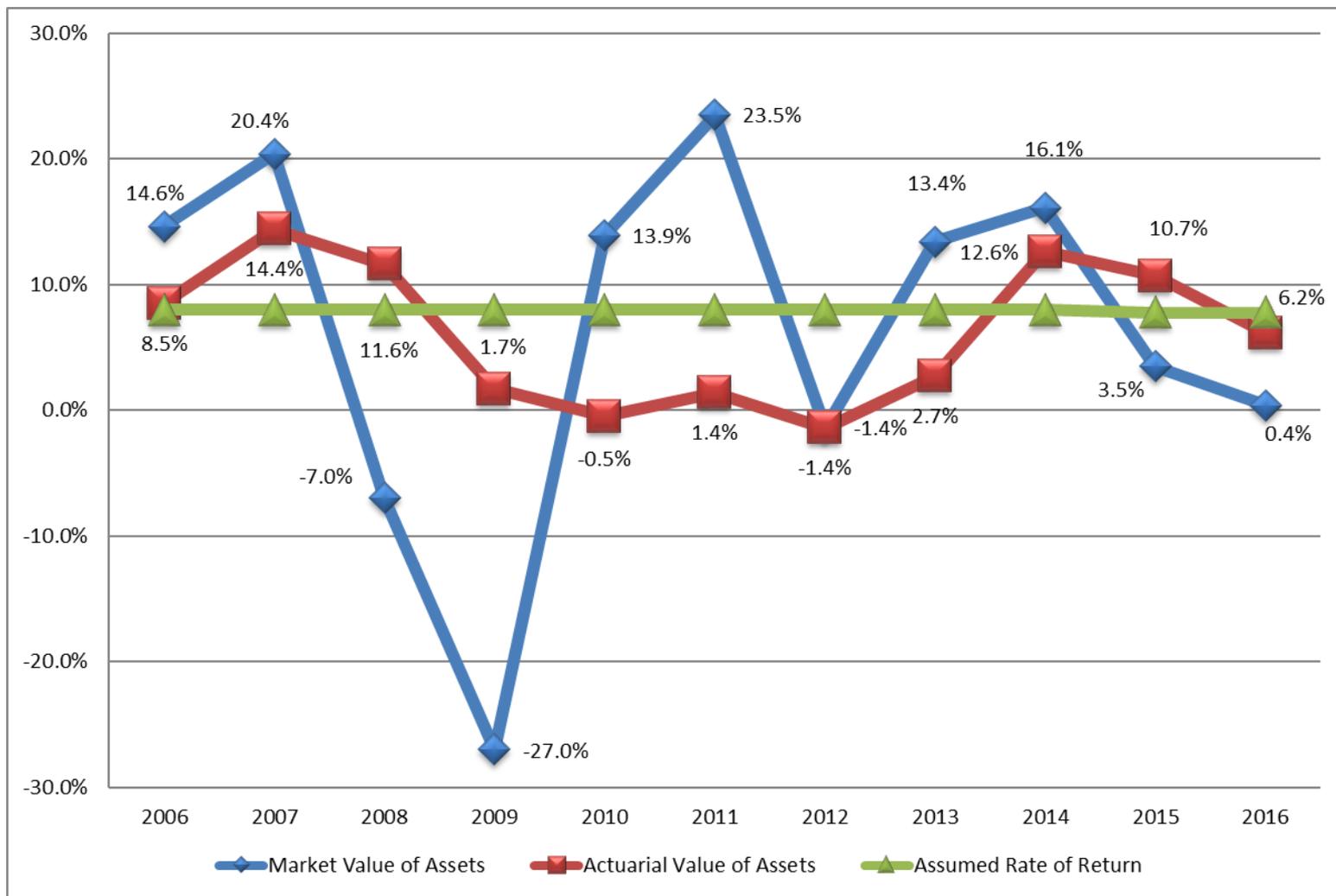
Actuarial Value of Assets (\$ in millions)

1. Market Value of Assets as of June 30, 2015	\$2,142
2. Cash Flow Items for FYE June 30, 2016	(26)
3. Expected Return	<u>165</u>
4. Expected Market Value of Assets (1) + (2) + (3)	\$2,281
5. Actual Market Value of Assets on June 30, 2016	2,124
6. Excess/(Shortfall) for FYE June 30, 2016 (5) – (4)	(157)
Excess/(Shortfall) Returns:	

Year	Initial Amount	Deferral %	Unrecognized Amount
2016	(\$157)	80%	(\$125)
2015	(93)	60%	(56)
2014	147	40%	59
2013	87	20%	17
2012	(159)	0%	<u>0</u>
7. Total			(\$105)

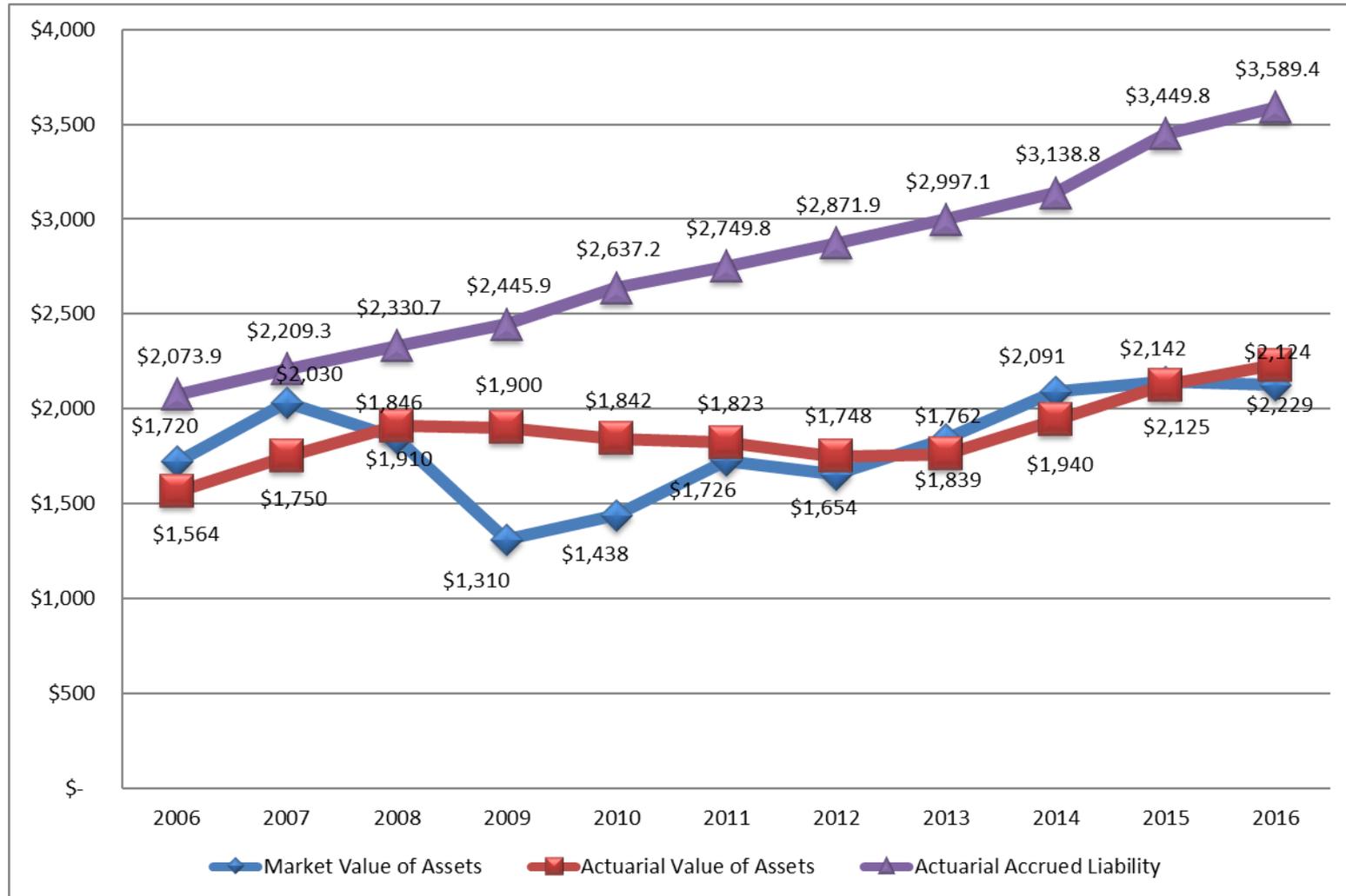
8. Actuarial Value of Assets as of June 30, 2016 (5) - (7)	\$2,229
9. Actuarial Value of Assets as a % of Market Value of Assets	104.9%

Asset Returns



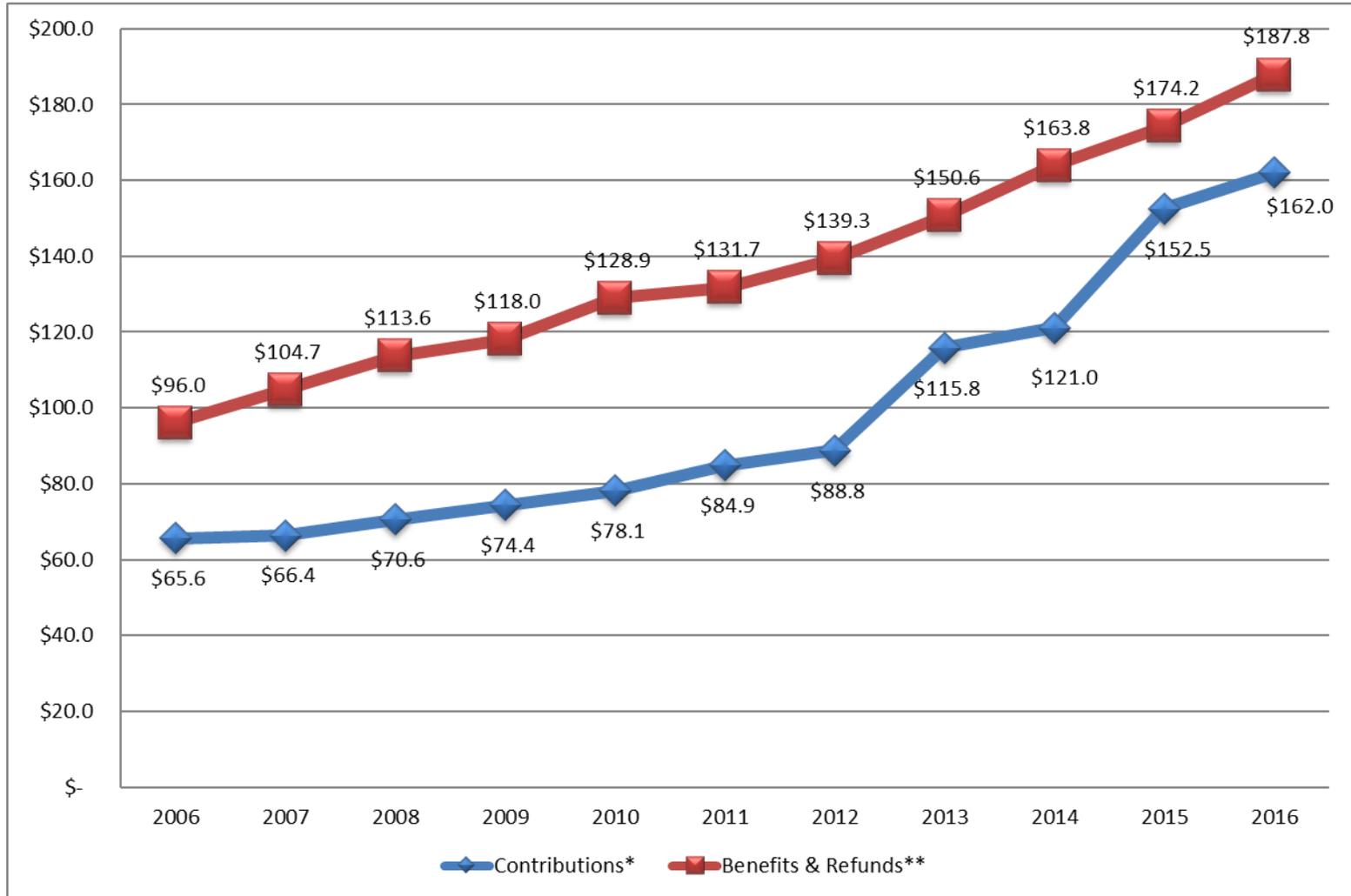
Market and Actuarial Values of Assets Compared to Actuarial Accrued Liability

\$ Millions



Contributions vs. Benefits and Refunds

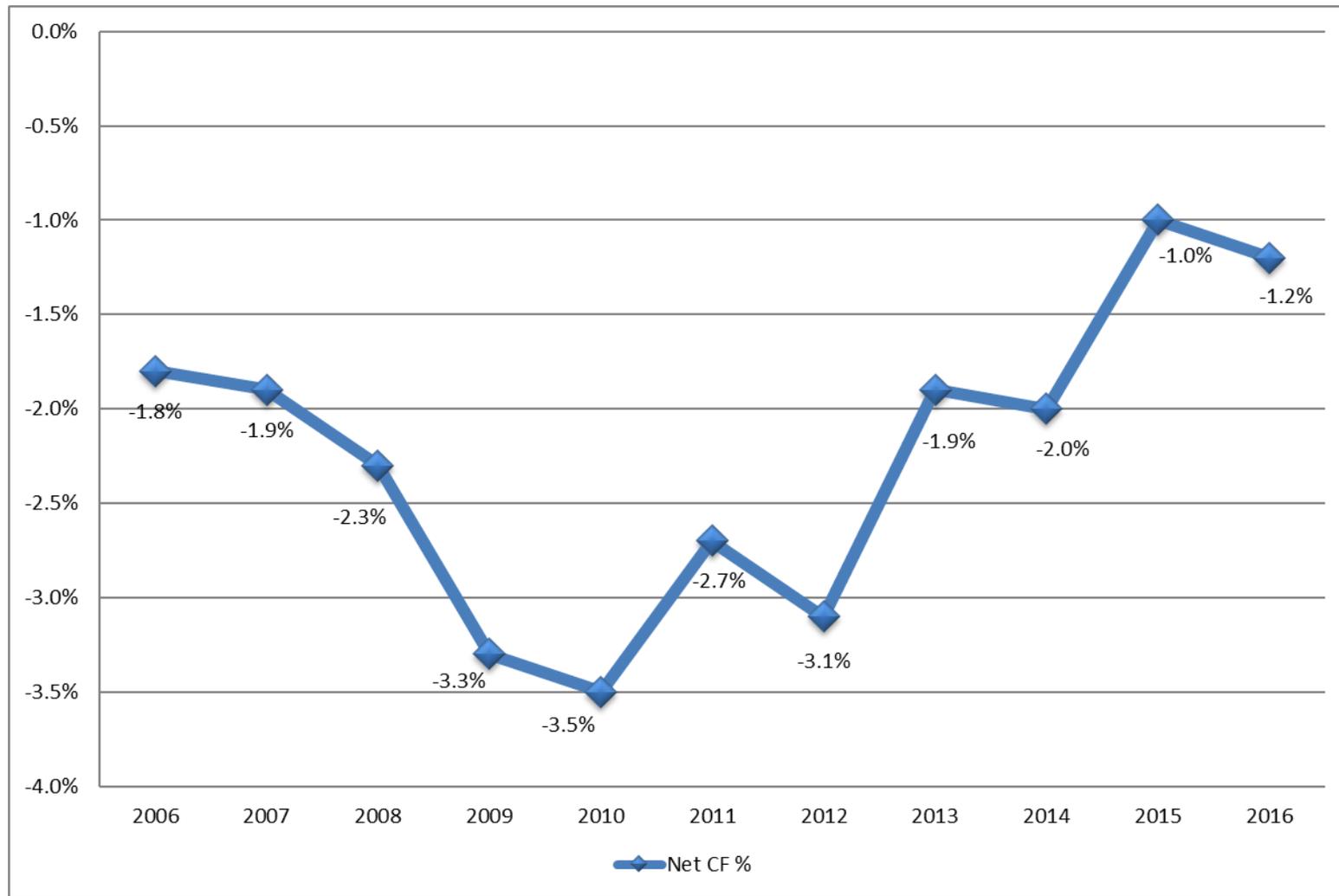
\$ Millions



* Includes member and employer contributions, and service purchases

** Includes administrative expenses

Net Cash Flow as a % of Market Value



Valuation Results (\$ in millions)

	July 1, 2016	July 1, 2015
Actuarial Accrued Liability:		
• Active Members	\$1,523	\$1,490
• Inactive Members	90	85
• Retirees and Beneficiaries	<u>1,976</u>	<u>1,875</u>
Total	\$3,589	\$3,450
Actuarial Assets	<u>2,229</u>	<u>2,125</u>
Unfunded Accrued Liability	\$1,360	\$1,325
Funded Ratio	62.1%	61.6%

Actuarially Determined Contribution

	For the Year Beginning	
	July 1, 2016	July 1, 2015
Normal Cost Rate	12.04%	11.63%
Member Rate	<u>11.75%</u>	<u>11.75%</u>
Employer Normal Cost Rate	0.29%	-0.12%
Amortization of UAAL	<u>12.93%</u>	<u>13.16%</u>
Actuarially Determined Contribution	13.22%	13.04%
Employer Rate	12.75%	12.75%
Contribution Sufficiency/(Deficiency)	(0.47%)	(0.29%)

Net Pension Liability (\$ in millions)

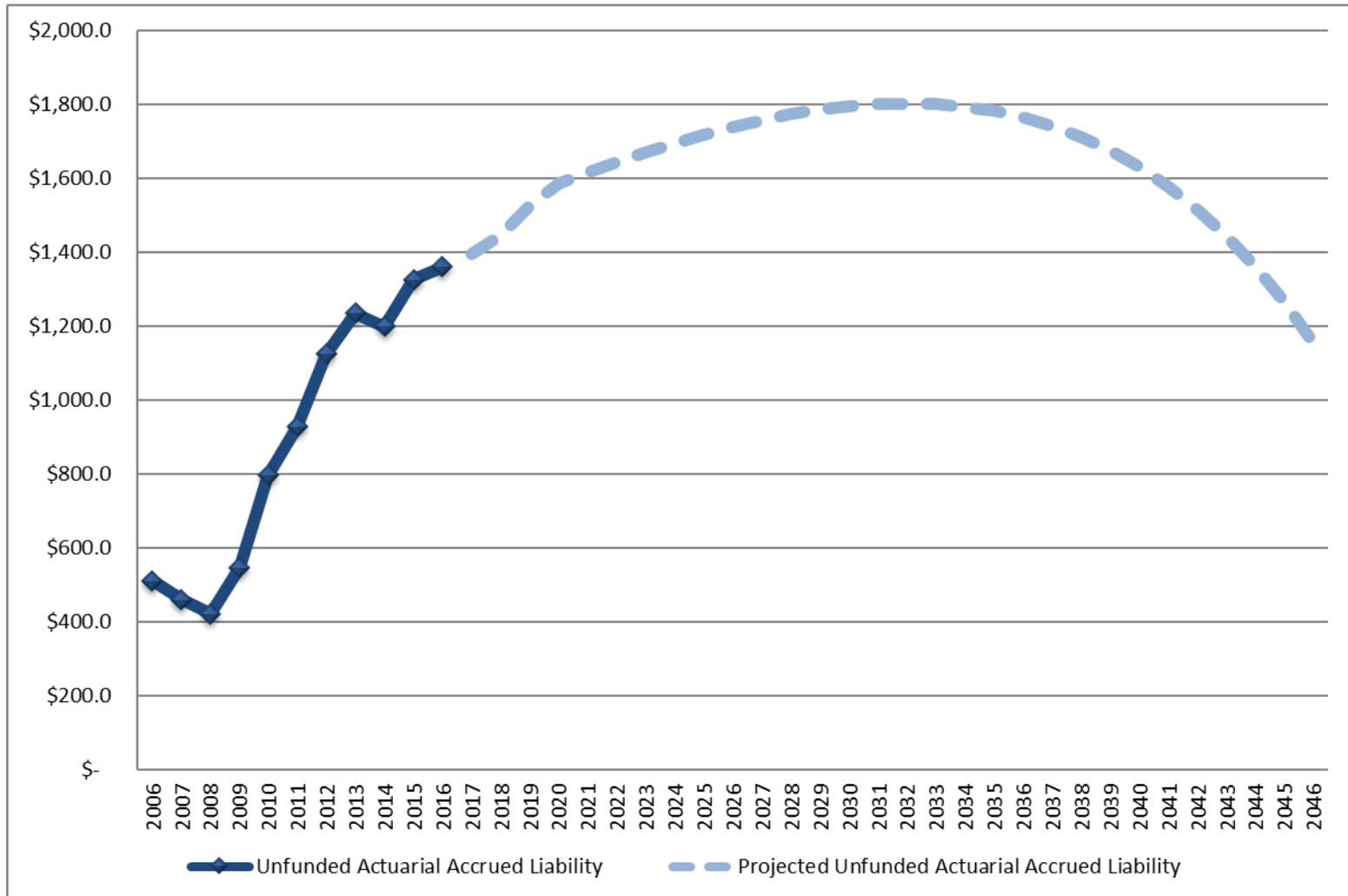
Collective TFFR	June 30, 2016	June 30, 2015
Total Pension Liability at 7.75%	\$3,589	\$3,450
Fiduciary Net Plan Position (i.e., MVA)	2,124	2,142
Net Pension Liability (NPL)	1,465	1,308
Sensitivity to changes in discount rate		
<ul style="list-style-type: none"> • 1% decrease (6.75%) 	\$1,900	\$1,728
<ul style="list-style-type: none"> • Current discount rate (7.75%) 	1,465	1,308
<ul style="list-style-type: none"> • 1% increase (8.75%) 	1,103	957

Valuation Results – Comments

- The actuarial accrued liability increased from \$3.45 billion (as of 6/30/15) to \$3.59 billion (as of 6/30/16)
- The unfunded actuarial accrued liability (UAAL) increased from \$1.32 billion to \$1.36 billion
- The funded ratio on an AVA basis increased from 61.6% to 62.1%
 - On a market value basis, the funded ratio decreased from 62.1% to 59.2%
- The actuarially determined contribution (ADC) increased from 13.04% of payroll to 13.22% of payroll
 - This increase was primarily due actual investment experience less than expected
 - Results in a contribution deficiency of 0.47% when compared to 12.75% employer contribution
 - The effective amortization period is 29 years

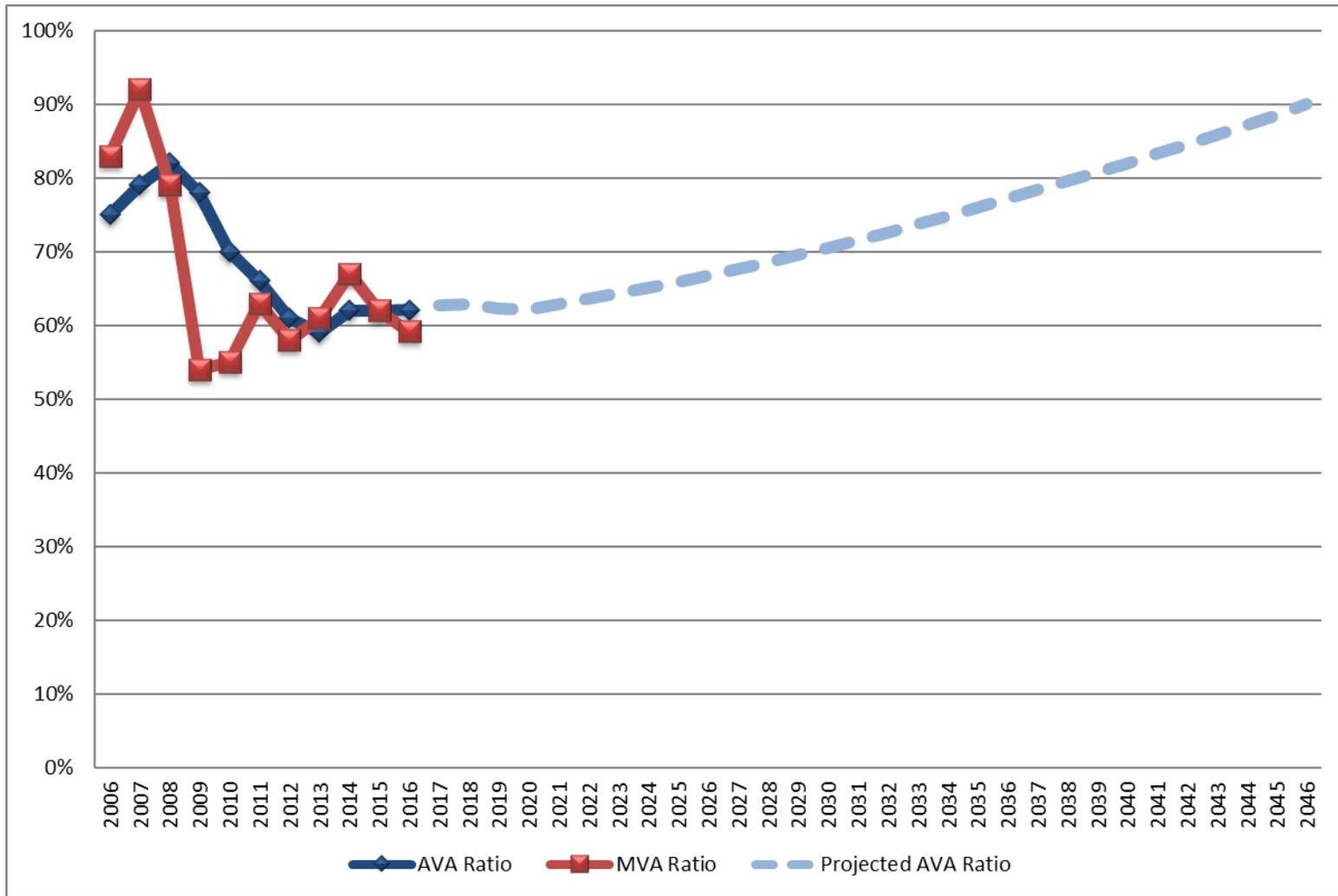
Unfunded Actuarial Accrued Liability

\$ Millions



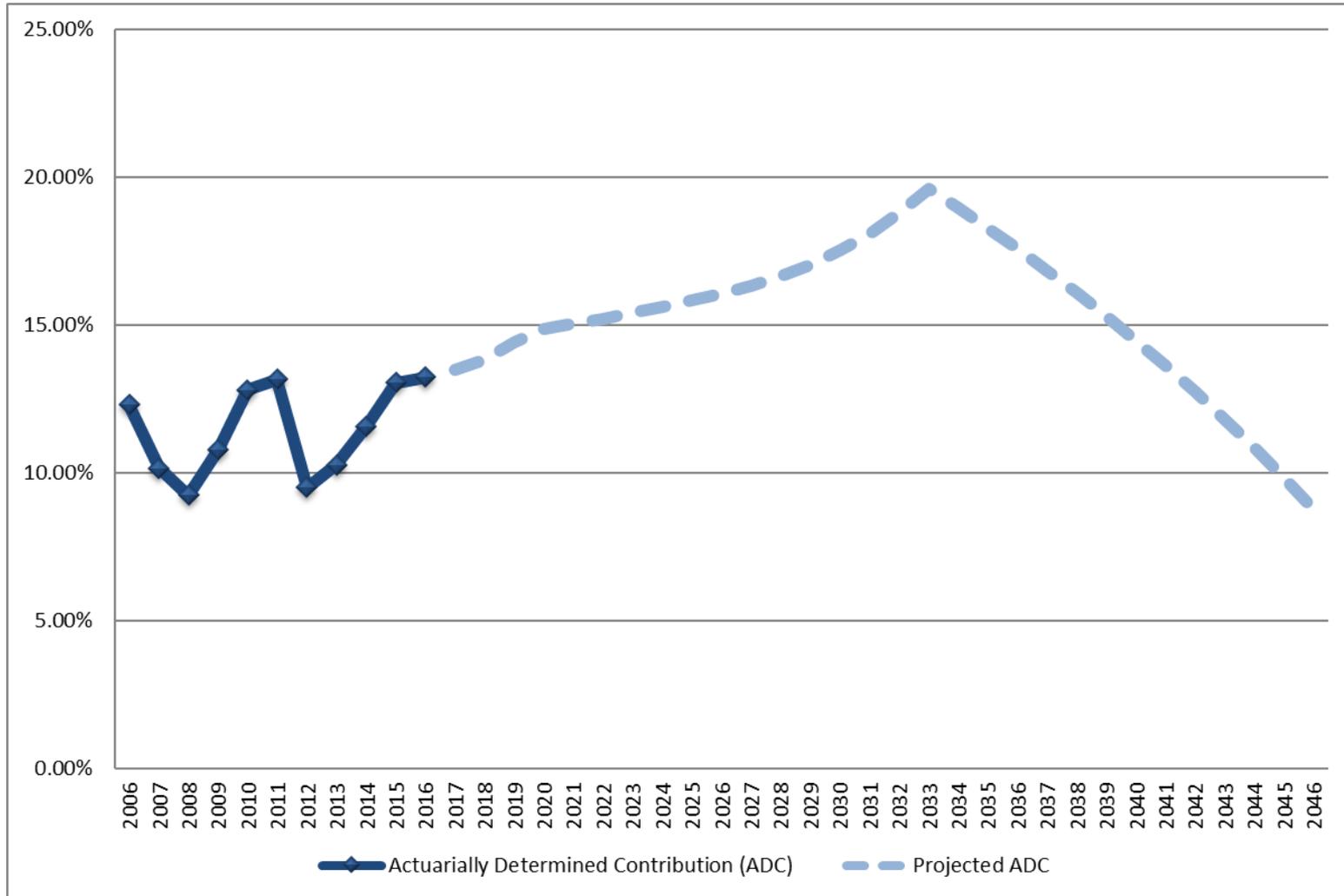
Projection based on all assumptions, including 7.75% investment return, realized as expected

Funded Ratios



Projection based on all assumptions, including 7.75% investment return, realized as expected

Actuarially Determined Contribution (ADC)



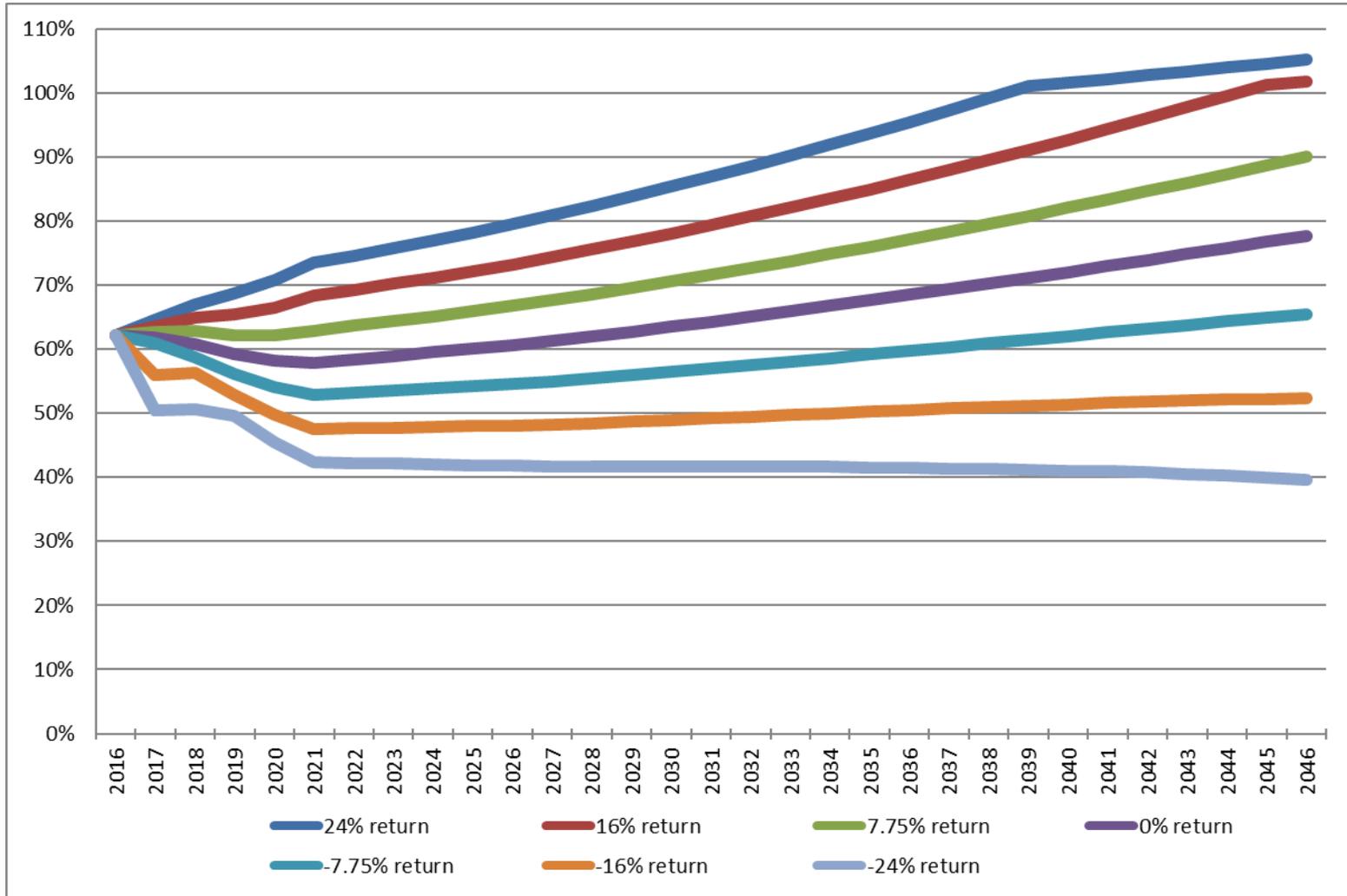
- Prior to 2005, the ADC calculation was based on a 20-year open amortization period.
- From 2005 - 2012, the calculation of the ADC was based on a 30-year open level percentage of payroll amortization.
- Beginning in 2013, the period is 30-year closed. In 2033, when the remaining period reaches 10 years, it is assumed to operate as 10-year open
- * 2012 and 2013 reflect the actuarial present value of contribution increases effective July 1, 2014.

Projection based on all assumptions, including 7.75% investment return, realized as expected

Sensitivity Projections

- Projections of estimated funded ratios for 30 years
 - Based on FY16 investment return scenarios ranging from -24% to +24%
 - Assumes Fund earns 7.75% per year in FY17 and each year thereafter
 - Additional projections assuming Fund earns 6.75% or 8.75% per year every year
 - Administrative expenses increase by 2.75% each year
 - All other experience is assumed to emerge as expected
- Includes contribution rates from HB 1134
 - Member rate is 11.75% for FY16 and thereafter
 - Employer rate is 12.75% for FY16 and thereafter
 - Increases “sunset” back to 7.75% once the funded ratio reaches 100% (based on actuarial assets)

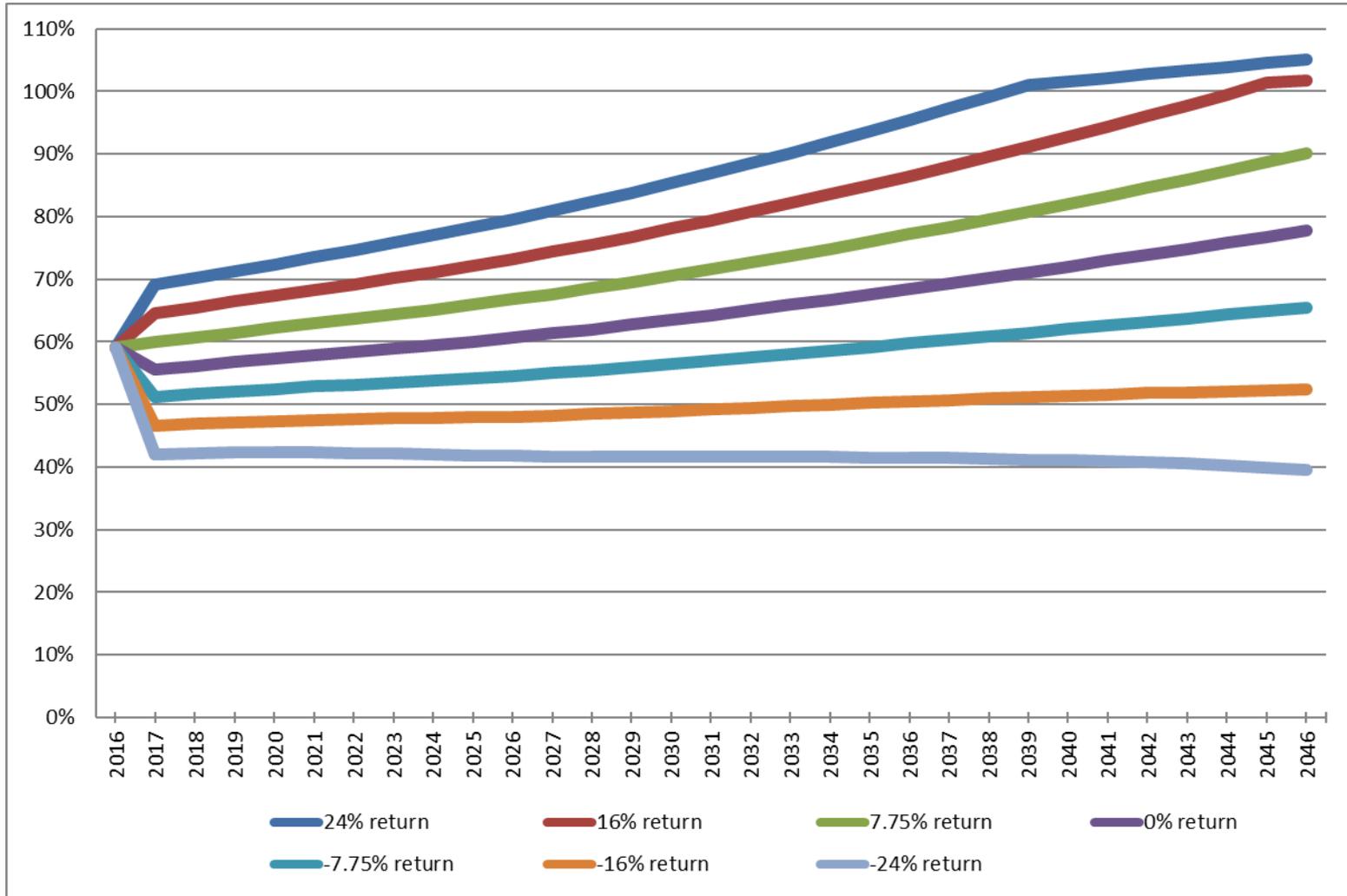
Projected Funded Ratios (AVA Basis)



Projected Funded Ratios (AVA Basis)

Valuation Year	24% for FY2017	16% for FY2017	7.75% for FY2017	0% for FY2017	-7.75% for FY2017	-16% for FY2017	-24% for FY2017
2016	62%	62%	62%	62%	62%	62%	62%
2017	64%	64%	63%	62%	61%	56%	51%
2018	67%	65%	63%	61%	59%	56%	51%
2019	69%	66%	62%	59%	56%	53%	50%
2020	71%	67%	62%	58%	54%	50%	46%
2021	73%	68%	63%	58%	53%	47%	42%
2026	80%	73%	67%	61%	55%	48%	42%
2031	87%	79%	72%	64%	57%	49%	42%
2036	95%	86%	77%	68%	60%	50%	41%
2041	102%	94%	83%	73%	63%	52%	41%
2046	105%	102%	90%	78%	65%	52%	40%

Projected Funded Ratios (MVA Basis)



Projected Funded Ratios (MVA Basis)

Valuation Year	24% for FY2017	16% for FY2017	7.75% for FY2017	0% for FY2017	-7.75% for FY2017	-16% for FY2017	-24% for FY2017
2016	59%	59%	59%	59%	59%	59%	59%
2017	69%	65%	60%	56%	51%	47%	42%
2018	70%	66%	61%	56%	52%	47%	42%
2019	71%	66%	61%	57%	52%	47%	42%
2020	72%	67%	62%	57%	52%	47%	42%
2021	73%	68%	63%	58%	53%	47%	42%
2026	80%	73%	67%	61%	55%	48%	42%
2031	87%	79%	72%	64%	57%	49%	42%
2036	95%	86%	77%	68%	60%	50%	41%
2041	102%	94%	83%	73%	63%	52%	41%
2046	105%	102%	90%	78%	65%	52%	40%

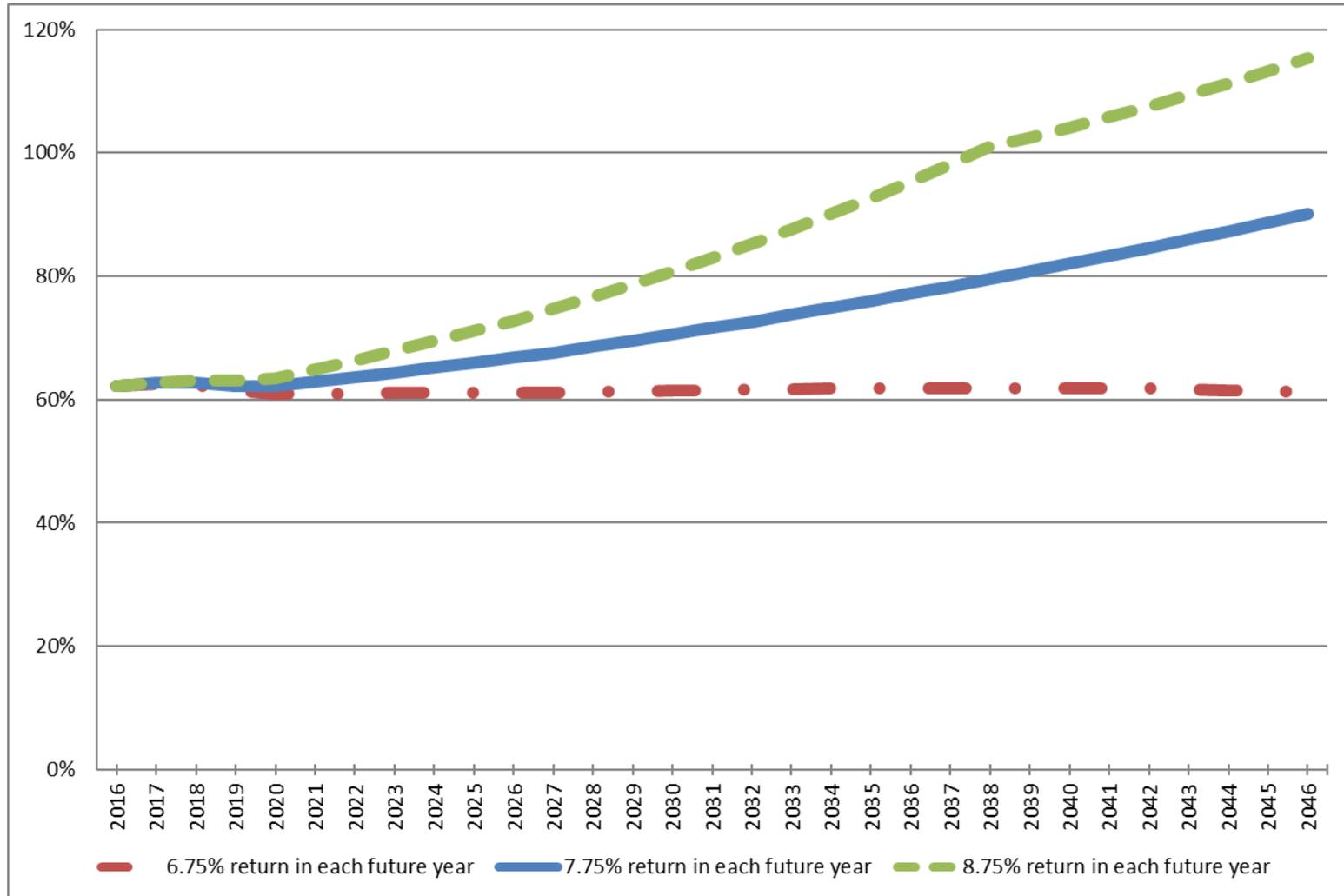
Projected Margin (AVA Basis)

Valuation Year	24% for FY2017	16% for FY2017	7.75% for FY2017	0% for FY2017	-7.75% for FY2017	-16% for FY2017	-24% for FY2017
2016	-0.47%	-0.47%	-0.47%	-0.47%	-0.47%	-0.47%	-0.47%
2017	-0.06%	-0.37%	-0.70%	-1.01%	-1.32%	-3.09%	-4.99%
2018	0.48%	-0.27%	-1.04%	-1.77%	-2.49%	-3.42%	-5.45%
2019	0.76%	-0.43%	-1.65%	-2.80%	-3.95%	-5.17%	-6.36%
2020	1.20%	-0.42%	-2.10%	-3.68%	-5.25%	-6.93%	-8.56%
2021	1.95%	-0.13%	-2.27%	-4.28%	-6.29%	-8.43%	-10.51%
2026	2.83%	-0.19%	-3.30%	-6.22%	-9.14%	-12.25%	-15.27%
2031	4.41%	-0.37%	-5.29%	-9.92%	-14.55%	-19.47%	-24.25%
2036	9.18%	2.31%	-4.77%	-11.43%	-18.09%	-25.18%	-32.05%
2041	4.33%	8.09%	-0.81%	-9.16%	-17.51%	-26.41%	-35.03%
2046	5.57%	4.19%	4.04%	-6.52%	-17.09%	-28.34%	-39.25%

* The projected margin is based on a 30-year closed period starting July 1, 2013. Once the period declines to 10 years remaining, the projected margin is based on a 10-year open period.

** If an overfunding exists, the surplus is amortized over a 30-year open period.

Projected Funded Ratios (AVA Basis) Actual Returns +1% or -1% of Assumed



Projected Funded Ratios (AVA Basis) Actual Returns +1% or -1% of Assumed

Valuation Year	6.75% Return in Each Future Year	7.75% Return in Each Future Year	8.75% Return in Each Future Year
2016	62%	62%	62%
2017	63%	63%	63%
2018	62%	63%	63%
2019	61%	62%	63%
2020	61%	62%	64%
2021	61%	63%	65%
2026	61%	67%	73%
2031	62%	72%	83%
2036	62%	77%	95%
2041	62%	83%	106%
2046	61%	90%	115%