Development of the Long-Term Care Recommended Discount Rate

The approach used to determine the recommendation for a Long-Term Care (LTC) discount rate assumption took into account both short and long term expectations as well as reflected the expected cash flows for the LTC fund.

The first step in this approach was to derive market return assumptions for each asset class for the first 10 years. The investment office worked closely with many external consultants in generating consensus on expected returns for the various asset classes. The decision was made to use ten years of select rates, since we are within the first year of adopting new capital market assumptions. This is a change from the prior revision of the discount rate where we used nine years of select rates since it had been over a year since the capital market assumptions had been adopted.

The second step in this approach was to derive market return assumptions for each asset class for years 11 and beyond. The actuarial office worked closely with investment staff to develop an approach to derive these market return assumptions. There was a common agreement that expected return for years 11 and beyond should be higher than what is expected for the next 10 years, but lower than historical returns. Projected future geometric returns were derived from adjusted historical geometric returns for the relevant asset classes since 1926. The adjustments made were for Price/Earnings expansion, bond yield revaluations and period adjustments for inflation.

Below is a table that shows both the expected geometric return for the first 10 years and the expected geometric return for years 11 and beyond.

Time Period	Expected Geometric Return
First 10 Years	4.21%
Years 11 and Beyond	6.67%

For purposes of choosing a discount rate assumption for the actuarial valuation, we adopted a method that blends the short term and long term expected geometric returns. These rates were blended to create a level discount rate that closely models the cash flow of the select-and-ultimate investment returns scenario. It was determined that a discount rate of 5.32 percent would be the appropriate level rate and then this rate was rounded down to the nearest quarter percent giving the final rate of 5.25 percent.

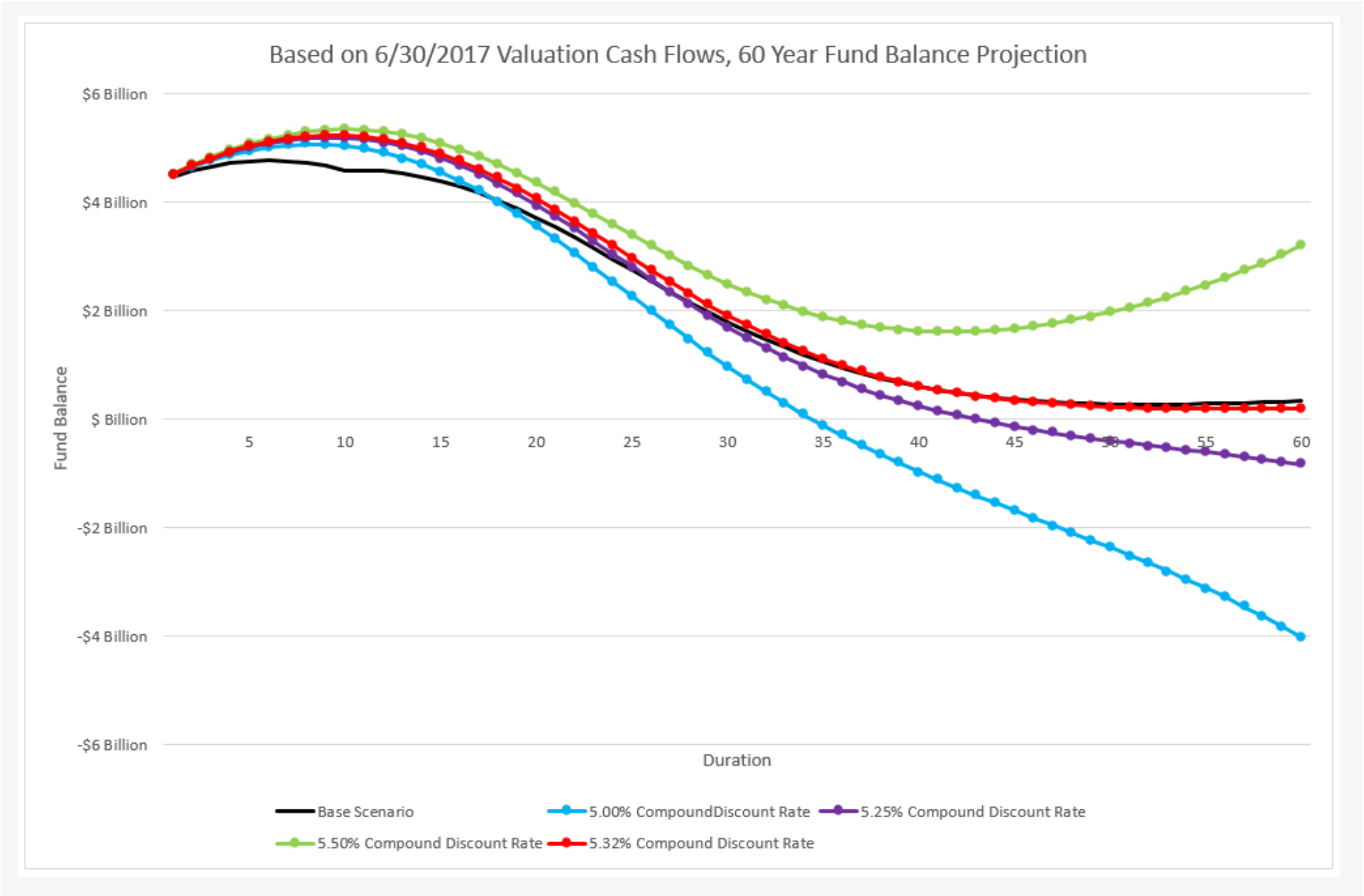
Based on 6/30/2017 Valuation Cash Flows

Key Financial Information of Scenarios:

Discount Rate Scenario	Blended Discount Rate	Peak Fund Balance (in billions)	Date of Peak Fund Balance	Date Fund Balance Exhausts	Date of Minimum Fund Balance
Base Scenario: 4.21% Discount Rate for the first ten years 6.67% Discount Rate for the last fifty years	N/A	$4.765	9/2022	N/A	9/2068
5.00% Discount Rate (blue line)	5.00%	$5.065	9/2024	11/2050	11/2050
5.25% Discount Rate (purple line)	5.25%	$5.191	9/2025	5/2059	5/2059
5.32% Discount Rate (red line)	5.32%	$5.230	11/2025	N/A	12/2071
5.50% Discount Rate (green line)	5.50%	$5.337	9/2026	N/A	1/2058

Comparison of Values to Base Scenario:

Discount Rate Scenario	Difference of Fund Balance to Base Scenario at: Peak Fund Balance	End of Year 5	End of Year 10	End of Year 20	End of Year 60
Base Scenario: 4.21% Discount Rate for the first ten years 6.67% Discount Rate for the last fifty years	0.00%	0.00%	0.00%	0.00%	0.00%
5.00% Discount Rate (blue line)	6.29%	4.12%	9.85%	-4.05%	-1280.92%
5.25% Discount Rate (purple line)	8.93%	5.45%	13.12%	6.49%	-345.11%
5.32% Discount Rate (red line)	9.74%	5.83%	14.05%	9.55%	-40.88%
5.50% Discount Rate (green line)	11.99%	6.80%	16.47%	17.61%	836.66%


Based on 6/30/2017 Valuation Cash Flows, 60 Year Fund Balance Projection
$6 Billion
$4 Billion
$2 Billion
$ Billion
-$2 Billion
-$4 Billion
-$6 Billion
Fund Balance
5
10
15
20
25
30
35
40
45
55
60
Duration
Base Scenario
5.00% CompoundDiscount Rate
5.25% Compound Discount Rate
5.50% Compound Discount Rate
5.32% Compound Discount Rate