

# **FASB ROA Assumption As of December 2014**

## **Background**

The FASB expected return on assets (ROA) assumption is used by the Pension Plan and Retiree Benefits Plan (the “Plans”) actuary (AonHewitt) in its determination of the annual retirement benefit expense projections. This assumption is a long-term assumption and as such should not be adjusted frequently. The assumption should be monitored annually and changed if the observed returns deviate significantly from the current assumption, or if certain conditions change.

The process Trust Fund Investments uses to evaluate the reasonableness of the expected ROA assumption is to look to multiple data sets when evaluating the current year’s expected return assumption. Generally, those data sets are:

- A “backward looking” historical rolling return analysis using historical returns for a portfolio with an equity & bond asset mix similar to the Plans’, over rolling 10-year, 20-year, 30-year and 40-year periods;
- A “backward looking” 1000 trial monte carlo, over a 30-year horizon, using historical returns, risk and correlations for a portfolio with an equity & bond asset mix similar to the Plans’;
- A “forward-looking” simulation of expected returns for a portfolio with an asset allocation similar to the Plans’ as developed by the Plans’ independent external actuary, AonHewitt.

In addition to different models or capital market return assumptions, additional consideration can include an active management premium, past success relative to expected returns, and other qualitative expectations.

## **Assumption Setting Process for 2014**

The FY 2013 ROA assumption for the Pension Fund is 7.75% and 7.25% for the Retiree Benefits Plan (RBP).

For 2014, the Pension’s approved targeted asset investment mix was unchanged from 2013 and is:

- |                            |                     |                                 |
|----------------------------|---------------------|---------------------------------|
| • 45% public equities      | • 5% private equity | • 10% convertibles              |
| • 5% real asset strategies | • 3% hedge funds    | • 32% fixed income <sup>1</sup> |

## **Historical Rolling Returns**

It has become an acceptable practice in the investment consulting community when developing long-term (i.e. 10 year or greater) forecasts of expected returns, to assume no return premium for international, mid- or small-cap equities and instead let the investment case for these assets reside on the diversification benefits.

In this vein, when examining historical returns to judge the appropriateness of the FASB ROA assumptions, it is reasonable to utilize the S&P 500 returns and US Core Bond Index (Barclays US Aggregate Bond Index) as they provide the longest historical data set – and length of time is deemed more important for this purpose than ‘over engineering’ the process through incorporating sub asset classes with significantly less historical data. The overall exposure to equity/bond beta is by far the more influential factor in determining returns.

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<sup>1</sup> including approximately 50% in alternative fixed income strategies.

For the “backward looking” analyses, a high level 55/45 equity-fixed allocation was utilized for the Pension, reflecting its ‘effective’ equity exposure. A 60/40 target policy mix of stocks and bonds was used for the RBP plan.

The historical rolling return analysis draws on historical market returns from 1926 to 2013.

Summary results for the Pension are:

- The median return over the 79 10-year periods (that is the 10-years ending 12/10, 10-years ending 12/09, etc.) is 8.1%.
- Over 20-year periods, the median of the 69 periods is 8.6%.
- Over 30-year periods, the median of the 59 periods is 8.7%.
- Over 40-year periods, the median of the 49 periods is 9.1%.

Summary results for the Retiree Benefits Plan (RBP) are:

- The median return over the 79 10-year periods (that is the 10-years ending 12/10, 10-years ending 12/09, etc.) is 8.5%.
- Over 20-year periods, the median of the 69 periods is 9.2%.
- Over 30-year periods, the median of the 59 periods is 9.1%.
- Over 40-year periods, the median of the 49 periods is 9.3%.

**Historical Monte Carlo Results**

The monte carlo simulation draws on historical returns, risk and correlations from 1926 through 2013.

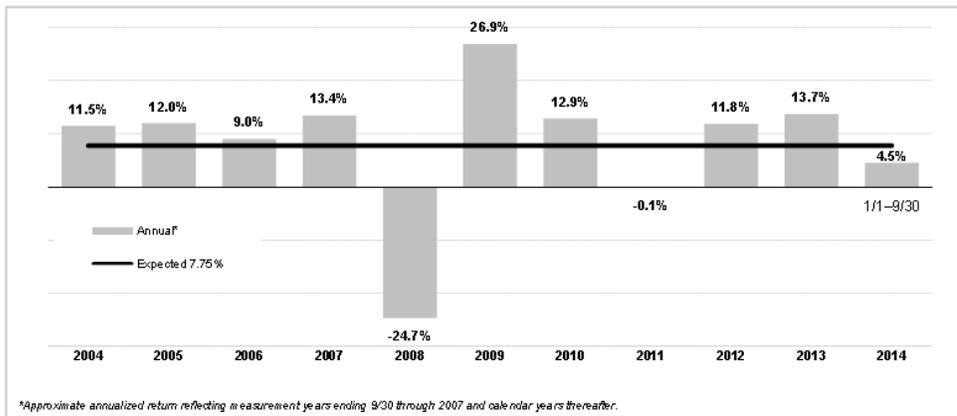
- The simulation’s 50th percentile return is 8.3% for the Pension.
- The simulation’s 50th percentile return is 8.5% for the RBP.

**Historical Pension Plan Performance**

The Pension Plan’s observed excess return over its benchmark has ranged from a high of 140 bps to 40 bps over the trailing 10-years. The 3-year rolling average excess return was 40 bps.

Referring to data provided by AonHewitt and reproduced below, the Pension Fund’s actual return has exceeded the 7.75% assumption in 8 of the past 10 years.

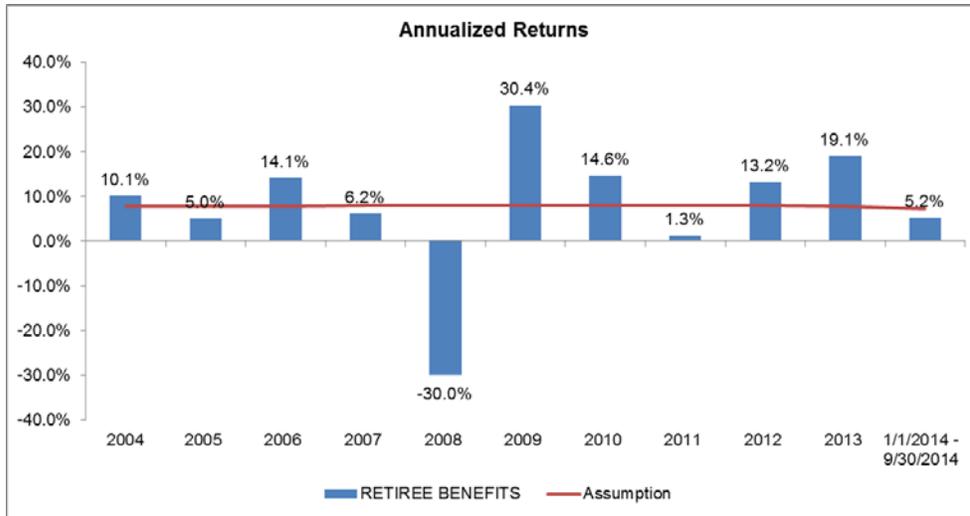
- Historical returns for pension trust by measurement year (dollar-weighted basis)



**Historical Retiree Plan Performance**

AonHewitt provided an analysis of the plan’s historical observed excess return over its benchmark and those results shows a range of outperformance of 40 basis points over the past 7 years. The following is noted with regard to this data: The RBP has had an indexed approach to its equity assets since 2006.

The Retiree Fund’s actual return has exceeded the current 7.25% assumption in 6 of the past 10 years as shown below.



### **Forward Looking Simulation**

The plan’s actuary, AonHewitt, has run a simulation based on the Plans’ asset mix and their capital market assumptions.

#### **Pension**

Based on their 2014 Q4 assumptions, the AonHewitt simulated distribution of possible returns yields a median expected return of 6.9% with a 35<sup>th</sup> / 65<sup>th</sup> range of 7.7% - 6.0%. It is noted that the forward looking simulation results vary over time – for example, based on 2012 Q4 assumptions, the AonHewitt simulated distribution of possible returns yielded a median expected return of 7.1% with a 35<sup>th</sup> / 65<sup>th</sup> range of 7.8% - 6.3%.

#### **Retiree Benefits**

For the RBP, based on their 2014 Q4 assumptions, the AonHewitt simulation yields a median expected return of 6.2%, with a 35<sup>th</sup> / 65<sup>th</sup> range of 7.1% - 5.4%.

### **Summary**

#### **Pension**

The Plan has historically exceeded the 7.75% return assumption in 8 of the past 10 years. The current 7.75% Pension assumption is supported by the range of results from the “backward looking” analyses and the forward-looking projection.

#### **Retiree Benefits**

The Plan has historically exceeded the current 7.25% return assumption in 6 of the past 10 years. The current 7.25% assumption is supported by the range of results from the “backward looking” analyses and the forward-looking projection.