



Legislative Retirement System Principal Results of Actuarial Valuation as of December 31, 2013

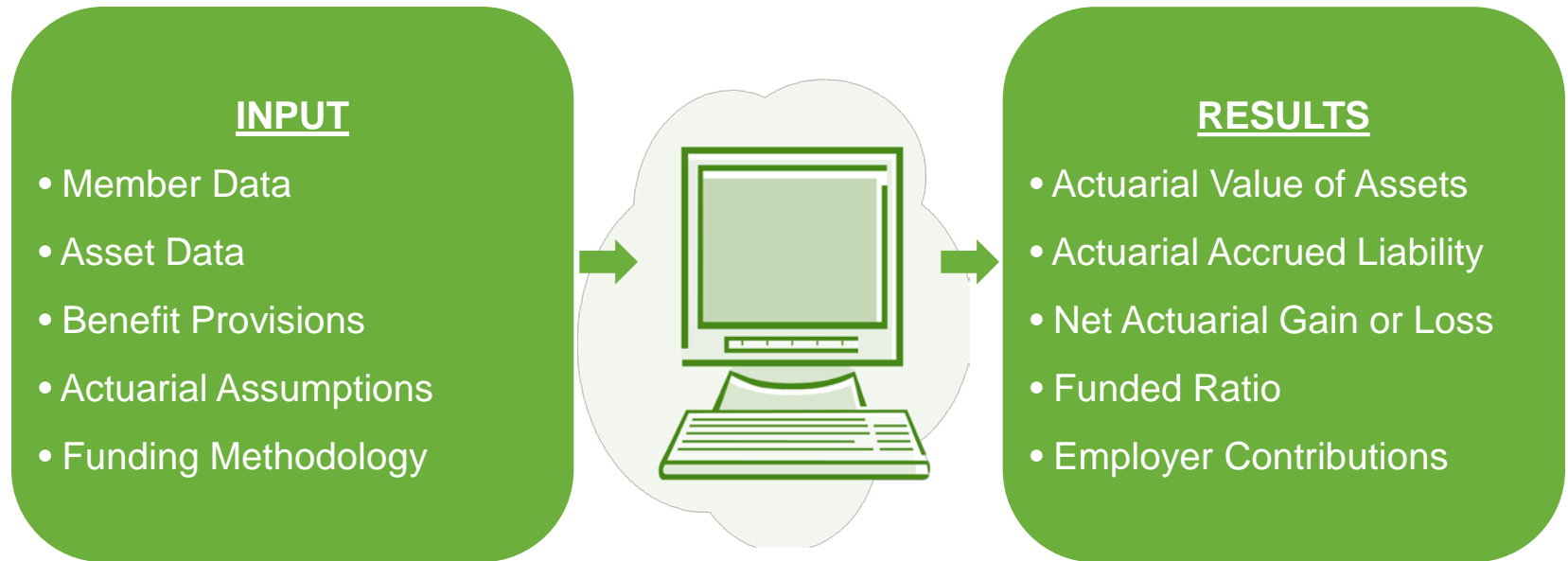
Board of Trustees Meeting
Larry Langer and Mike Ribble
October 23, 2014

Purpose of the Annual Actuarial Valuation

- As of the end of each calendar year:
 - An annual actuarial valuation is performed on LRS
 - The actuary determines the amount of employer contributions to be made to LRS during each member's career that, when combined with investment return and member contributions, such contributions will be sufficient to pay for retirement benefits.
- In addition, the annual actuarial valuation is performed to:
 - Determine the progress on funding LRS,
 - Explore why the results of the current valuation differ from the results of the valuation of the previous year, and
 - Satisfy regulatory and accounting requirements.

The Valuation Process

The following diagram summarizes the inputs and results of the actuarial valuation process.



A detailed summary of the valuation process and a glossary of actuarial terms are provided in Appendix A of the actuarial report.

Key Takeaways

Key results of the December 31, 2013 valuation as compared to the December 31, 2012 valuation were:

- Market value returns of 12.2% compared to 7.25% assumed
- Increase in covered payroll of 2.0% compared to 3% assumed increase
- Unexpected increase in liabilities due to more retirements than assumed
- Recent legislation signed into law including:
 - 1% cost-of-living adjustment
 - Return of contributions with interest to all members who terminate prior to meeting vesting requirements
- No significant changes in actuarial assumptions or funding methodology from the prior year's valuations

When compared to the December 31, 2012 valuation, the above resulted in:

- A lower funded ratio due to more retirements than assumed (119.4% in the December 31, 2013 valuation compared to 123.3% in the December 31, 2012 valuation)
- An employer required contribution rate greater than zero (1.80% for fiscal year ending June 30, 2016 compared to 0.00% for fiscal year ending June 30, 2015)
- Lower projected benefit amounts being accrued by active members



Valuation Input

Valuation Input Membership Data



Number as of	December 31, 2013	December 31, 2012
Active members	170	169
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	94	81
Retired members and survivors of deceased members currently receiving benefits	<u>311</u>	<u>283</u>
Total	575	533
Active Reported Compensation	3,579,277	3,510,220
Active Valuation Compensation	3,743,644	3,740,429
Annual Retirement Allowances	2,436,106	2,079,757

Overall, the active membership has remained relatively stable.

The number of retired members and survivors of deceased members currently receiving benefits increased by 9.9% from the previous valuation date. The increase in retiree population reflects more retirements than assumed.

A detailed summary of the membership data used in this valuation is provided in Section 3 and Appendix B of the actuarial report.

Valuation Input

Asset Data: Market Value of Assets

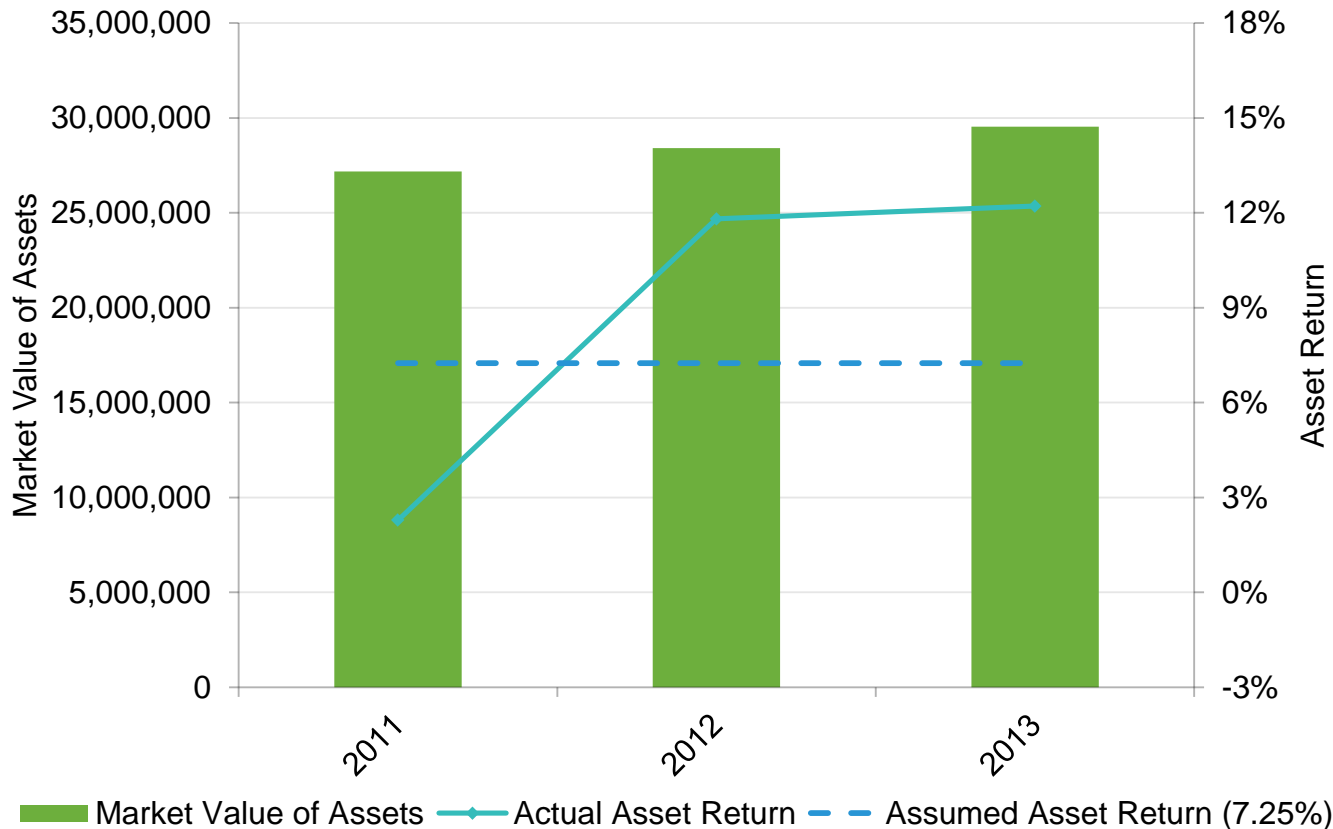


Asset Data as of	December 31, 2013	December 31, 2012
Beginning of Year Market Value of Assets	\$28,414,270	\$27,183,483
Contributions	236,553	252,250
Benefit Payments	(2,442,691)	(2,122,629)
Investment Income	<u>3,333,487</u>	<u>3,101,166</u>
Net Increase/(Decrease)	1,127,349	1,230,787
End of Year Market Value of Assets	\$29,541,619	\$28,414,270
Estimated Net Investment Return on Market Value	12.21%	11.81%

The Market Value of Assets is \$29.5 million as of December 31, 2013 and \$28.4 million as of December 31, 2012. The investment return for the market value of assets for calendar year 2013 was 12.21%.

The market value of assets is provided in Section 4 of the actuarial report.

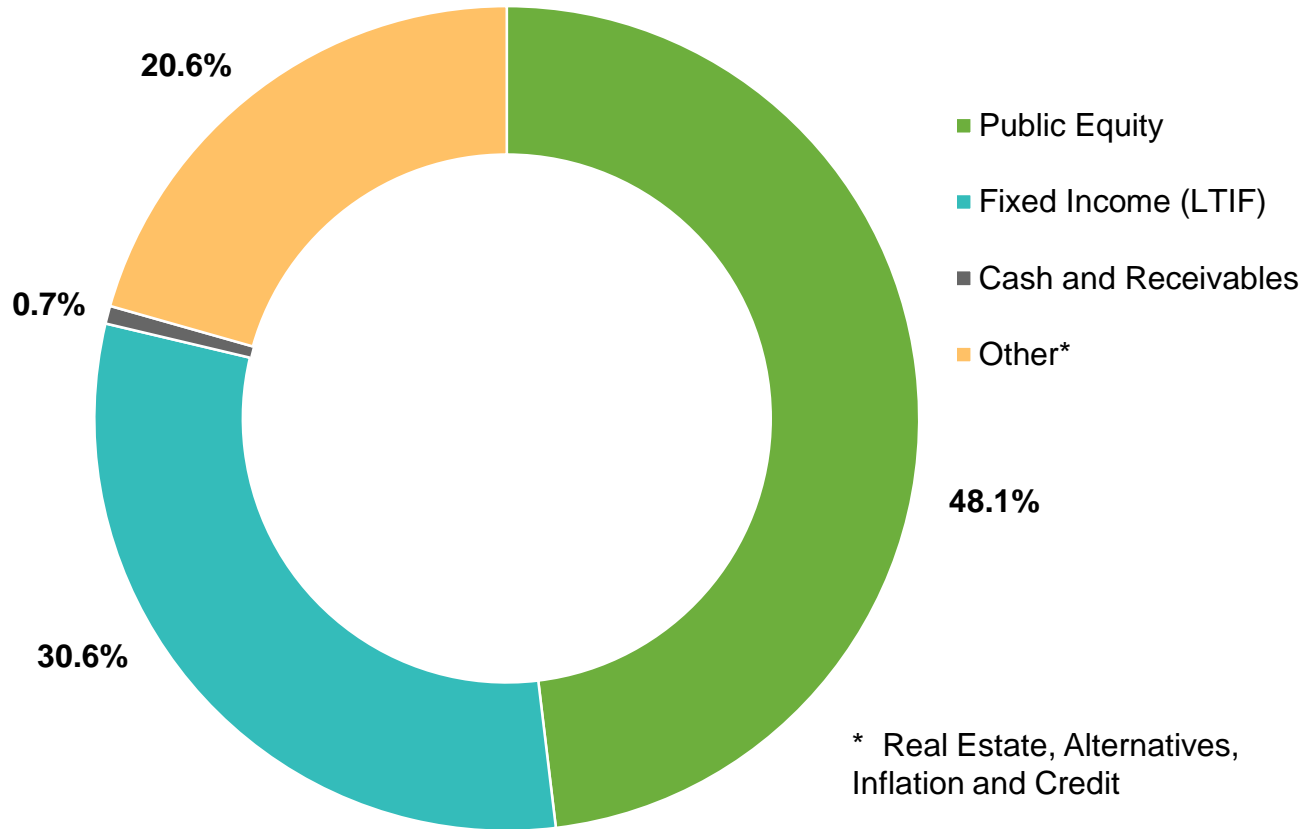
Asset Data: Market Value of Assets and Asset Returns



Returns were more than the 7.25% assumed rate of return, resulting in lower contributions and higher funded ratio than anticipated, all else being equal.

A detailed summary of the market value of assets is provided in Section 4 of the actuarial report.

Asset Data: Allocation of Investments by Category



Based on historical market returns, the current asset allocation, the current investment policy, and the expectation of future asset returns, as reviewed in the last experience study, the 7.25% discount rate used in this valuation is reasonable and appropriate.

The discount rate will be reviewed at the next experience study to be presented to the Board in October 2015.

A detailed summary of the market value of assets is provided in Section 4 of the actuarial report.

Valuation Input Benefit Provisions



Benefit provisions are described in North Carolina General Statutes, Chapter 120.

Significant changes to the benefit provisions from the prior year's valuation were:

- 1% cost-of-living adjustment at July 1, 2014
- Return of contributions with interest to all members prior to meeting vesting requirements

Most Public Sector Retirement Systems in the United States have undergone pension reform where the benefits of members (current retirees and active or future members) have been reduced.

Because of the well-funded status of LRS due to the legislature contributing the actuarially required contribution, benefit cuts have not been needed in North Carolina. Instead, we have seen a modest expansion of benefits this past year based on sound plan design.

A detailed summary of the benefit provisions is provided in Appendix C of the actuarial report.

Valuation Input Actuarial Assumptions

- Demographic (future events that relate to people)
 - Retirement
 - Termination
 - Disability
 - Death
- Economic (future events that relate to money)
 - Interest rate – 7.25% per year
 - Salary increase – 7.50% per year
- There were no significant changes in actuarial assumptions from the prior year's valuation.



The next experience study will be prepared as of December 31, 2014 and presented to the Board in October 2015. This policy of reviewing assumptions every five years is a best practice.

A detailed summary of the actuarial assumptions and methods is provided in Appendix D of the actuarial report.

Valuation Input Funding Methodology



The Funding Methodology is the payment plan for LRS and is composed of the following three components:

- Actuarial Cost Methods allocate costs to the actuarial accrued liability (i.e. the amount of money that should be in the fund) for past service and normal cost (i.e. the cost of benefits accruing during the year) for current service.
 - The Board of Trustees has adopted Projected Unit Credit as its actuarial cost method
- Asset Valuation Methods smooth or average the market value returns over time to alleviate contribution volatility that results from market returns.
 - 20% of market value plus 80% of the expected actuarial value

A detailed summary of the actuarial assumptions and methods is provided in Appendix D of the actuarial report.

Funding Methodology (continued)



- Amortization Methods determine the payment schedule for unfunded actuarial accrued liability (i.e. the difference between the actuarial accrued liability and actuarial value of assets)
 - Payment level: the payment is determined as a level dollar amount, similar to a mortgage payment
 - Payment period: an eight-year open
- There were no significant changes in actuarial assumptions or funding methodology from the previous valuation.

When compared to other Public Sector Retirement Systems in the United States, the funding policy for LRS is quite aggressive in that the policy pays down the pension debt over a much shorter period of time (8 years) compared to the national average of around 24 years. As such it is a best practice in the industry.

A detailed summary of the actuarial assumptions and methods is provided in Appendix D of the actuarial report.



Valuation Results

Valuation Results

Actuarial Value of Assets



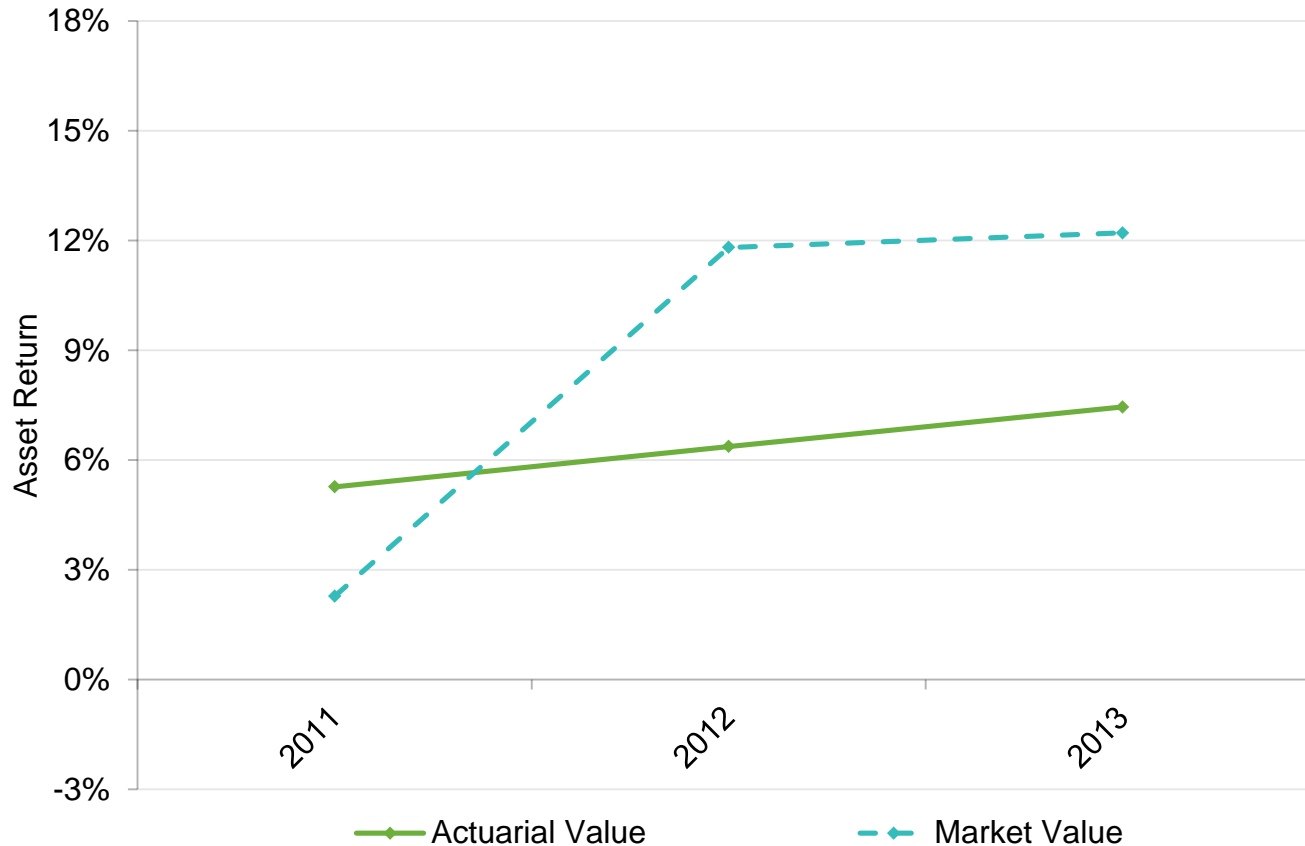
Asset Data as of	December 31, 2013
(a) Beginning of Year Actuarial Value of Assets	\$29,415,872
(b) Contributions	236,553
(c) Benefit Payments	<u>(2,442,691)</u>
(d) Net Cash Flow: (b) + (c)	(2,206,138)
(e) Expected Investment Return: [(a) x 7.25%] + [(d) x 3.625%]	2,052,678
(f) Expected End of Year Actuarial Value of Assets: (a) + (d) + (e)	29,262,412
(g) End of Year Market Value of Assets	29,541,619
(h) Excess of Market Value over Expected Actuarial Value of Assets: (g) – (f)	279,207
(i) 20% Adjustment toward Market Value of Assets: (h) x 20%	55,841
(j) End of Year Actuarial Value of Assets: (f) + (i)	29,318,253
(k) Estimated Net Investment Return on Actuarial Value	7.45%

The actuarial value of assets smooths investment gains/losses, resulting in less volatility in the employer contribution.

Higher than expected returns in 2009, 2010, 2012 and 2013 resulted in a \$0.1 million asset gain recognition this year (item (i)).

The Actuarial Value of Assets is provided in Section 4 of the actuarial report.

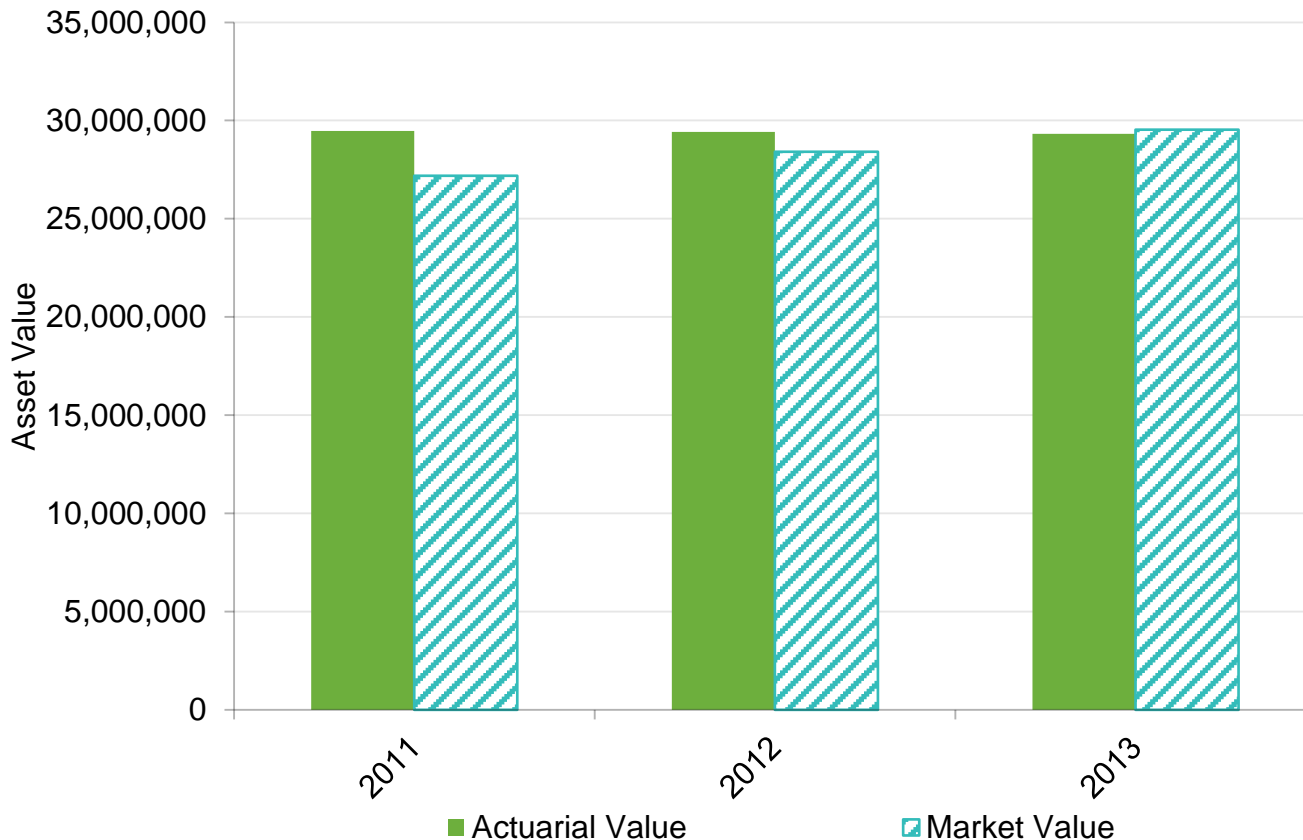
Asset Returns: Actuarial Value and Market Value



The actuarial value of assets smooths investment gains and losses.

A detailed summary of the Actuarial Value of Assets is provided in Section 4 of the actuarial report.

Actuarial Value of Assets: Compared to Market Value



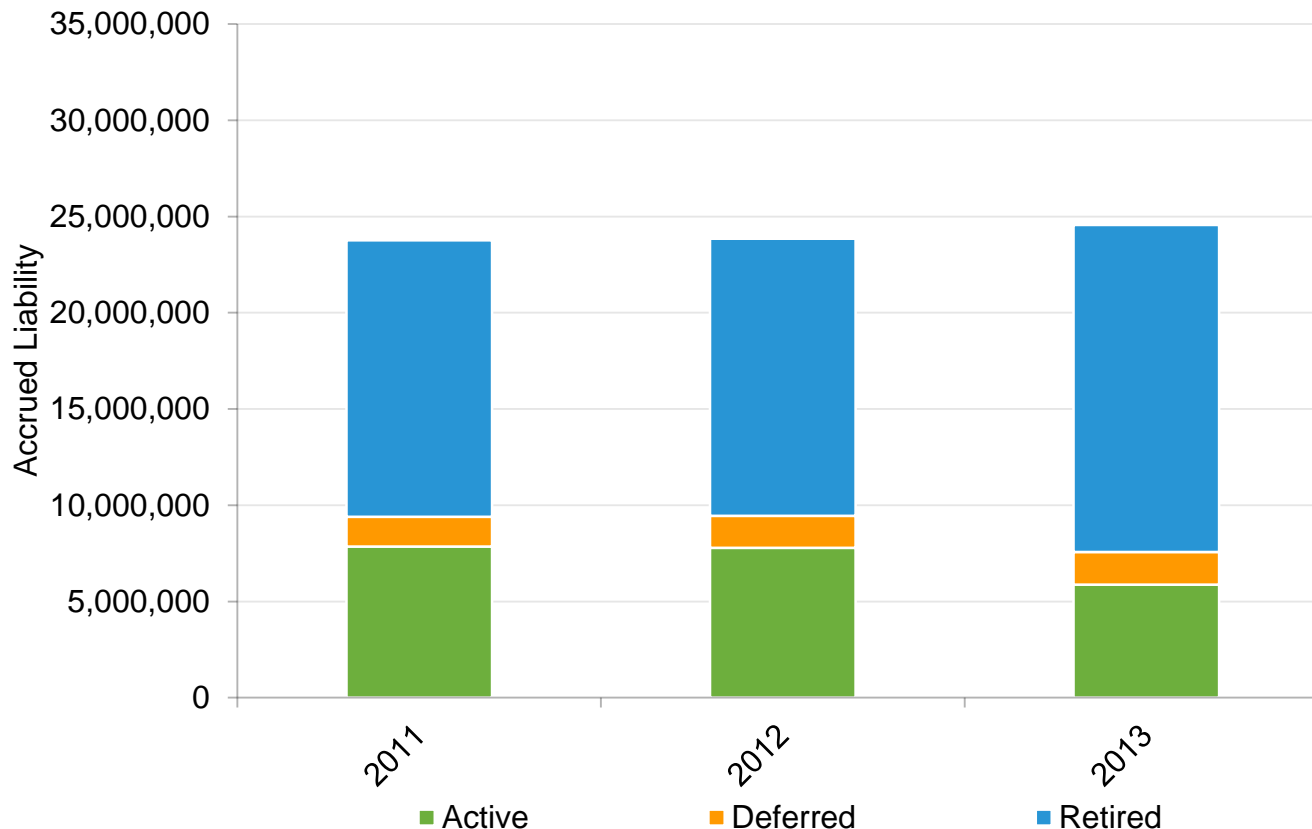
For the first time in several years, the market value of assets is higher than the actuarial value of assets, which is used to determine employer contributions. This indicates that there are unrecognized asset returns to be recognized in future valuations, which will mitigate the impact of asset returns that are less than the assumed return of 7.25%.

As a result, the upward pressure on contributions that we have seen since the Great Recession has been reversed, as seen in the projections of potentially higher funded ratios and lower employer contributions later in this report.

A detailed summary of the Actuarial Value of Assets is provided in Section 4 of the actuarial report.

Valuation Results

Actuarial Accrued Liability (AAL)



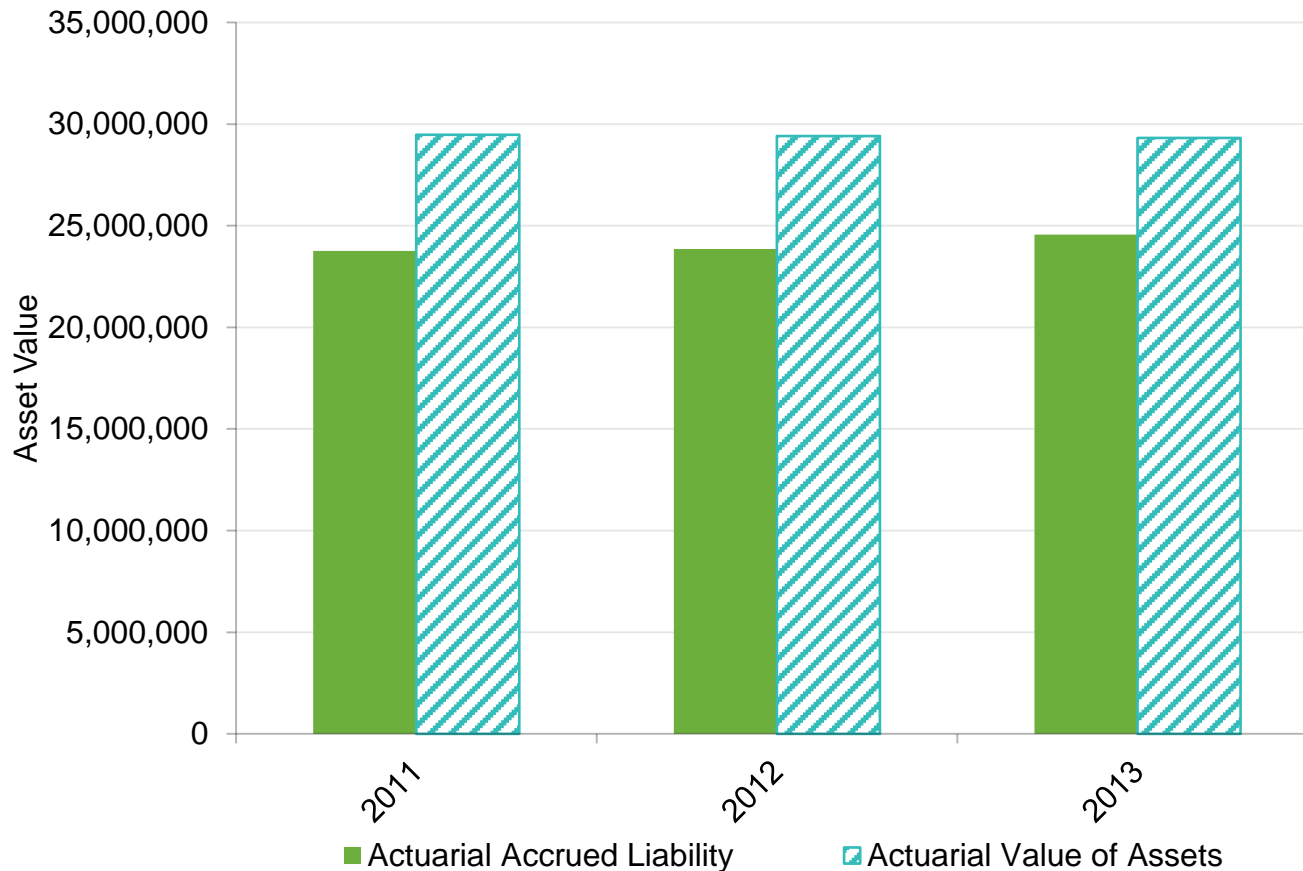
The AAL increased from \$23.9 million to \$24.6 million during 2013. LRS is an open plan, which means that new members enter the plan each year. In an open plan, liabilities are expected to grow from one year to next as more benefits accrue and the membership approaches retirement.

The AAL was \$0.3 million higher than expected prior to legislative changes, which resulted in a demographic loss of \$0.3 million during 2013. Legislation increased the AAL by \$0.1 million.

A detailed summary of the AAL is provided in Section 5 of the actuarial report.

Valuation Results

Actuarial Accrued Liability (AAL) and Actuarial Value of Assets (AVA)

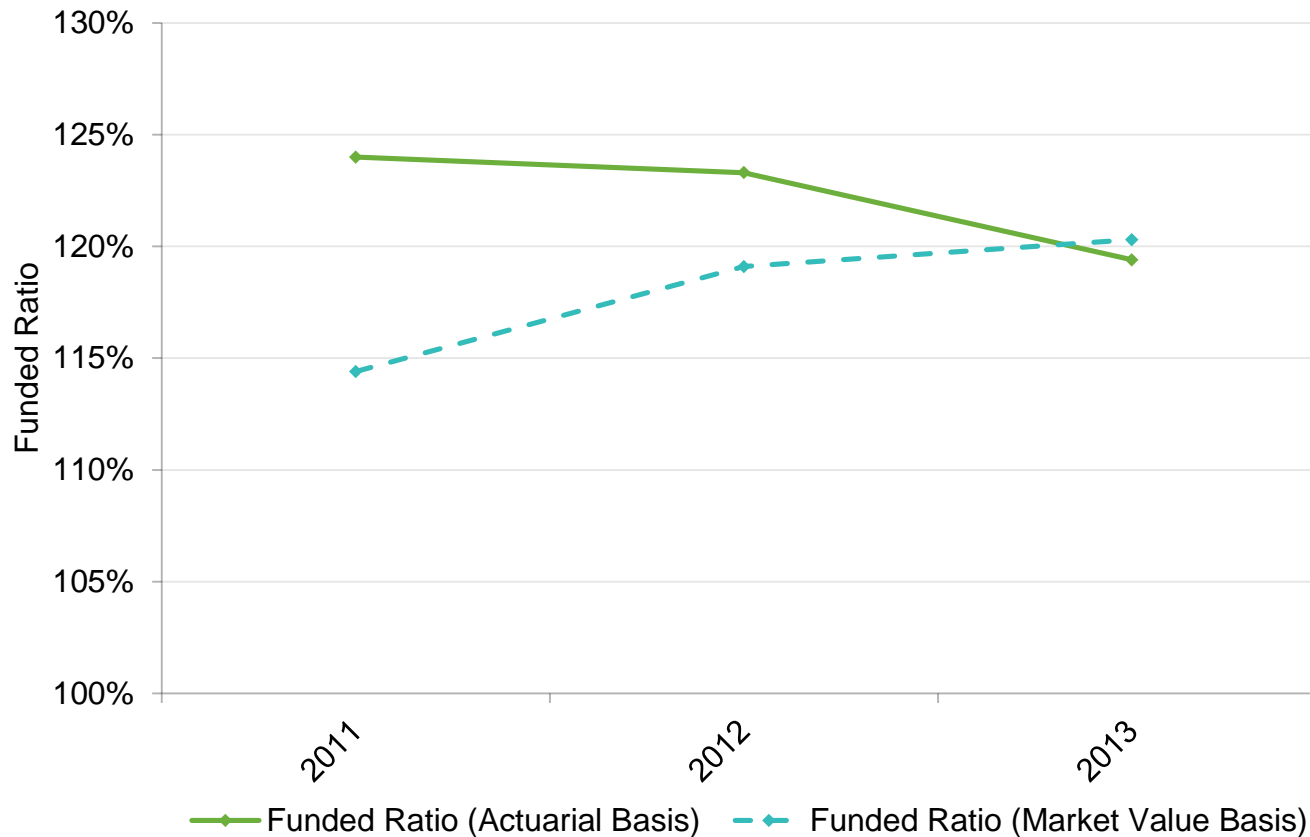


AVA is the basis used for computing contributions to alleviate contribution volatility.

The difference in the AAL and the AVA is the amount of pension debt (to be paid off in 8 years).

A detailed summary of the AVA is provided in Section 4 of the actuarial report, and a detailed summary of the AAL is provided in Section 5 of the actuarial report.

Funded Ratio: AAL Divided by AVA



The ratio of assets to liabilities shows the health of the plan on an accrued basis.

The funded ratio on an actuarial basis decreased from 123.3% at December 31, 2012 to 119.4% at December 31, 2013.

Valuation Results

Net Actuarial Gain or Loss



Reconciliation of Unfunded Actuarial Accrued Liability Since the Prior Valuation (in Millions)

Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2012	\$ (5.6)
Normal Cost during 2013	1.1
Reduction due to Actual Contributions during 2013	(0.2)
Interest on UAAL, Normal Cost, and Contributions	(0.4)
Asset (Gain)/Loss	(0.1)
Actuarial Accrued Liability (Gain)/Loss	0.3
Impact of Legislative Changes	<u>0.1</u>
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2013	\$ (4.8)

The accrued liability loss of \$0.3 million means that the unfunded actuarial accrued liability was \$0.3 million higher than we would have expected based on the assumptions.

The primary source of the accrued liability loss was more retirements in 2013 than assumed.

The asset gain of \$0.1 million means that the asset valuation method resulted in a recognition of \$0.1 million of deferred asset gains.

The net actuarial gain/(loss) is provided in Section 5 of the actuarial report.

Valuation Results

Employer Required Contribution



Valuation Date Contribution for Fiscal Year Ending	December 31, 2013 June 30, 2016	December 31, 2012 June 30, 2015
Normal Cost	22.03%	21.59%
Disability Benefit	0.55%	0.65%
Accrued Liability*	<u>(20.78)%</u>	<u>(22.24)%</u>
Preliminary Annual Required Contribution (ARC)	1.80%	0.00%
Impact of Legislative Changes**	N/A	<u>0.00%</u>
Final Employer ARC	N/A	0.00%

Even though no contribution has been required in recent years, benefits are accruing at the Normal Cost rate (22.03% as a result of the December 31, 2013 valuation).

We expect that the contribution holiday is over for the foreseeable future and the contribution rate will trend towards the 22.03% Normal Cost rate. The potential for rapid increases is quite high and should be expected.

- * If the accrued liability contribution was based on the amortization of the unfunded accrued liability over an eight-year period, the total employer ARC for fiscal year ending 6/30/2015 would have been less than \$0, which is not allowed under GASB 25/27. Therefore, the accrued liability contribution was set such that the total ARC equals \$0.
- ** The legislative changes increased the ARC for fiscal year ending 6/30/2015 by 0.64% of payroll. However, this increase does not increase the ARC for fiscal year ending 6/30/2015 above zero.

The employer required contribution rates are provided in Section 6 of the actuarial report.

Reconciliation of the Change in the Annual Required Contribution



Fiscal year ending June 30, 2015 Preliminary ARC (based on December 31, 2012 valuation)	(2.06)%
Impact of Legislative Changes	<u>0.64%</u>
Fiscal year ending June 30, 2015 Final ARC	(1.42)%
Change Due to Demographic (Gain)/Loss	3.35%
Change Due to Investment (Gain)/Loss	(0.25)%
Change Due to Member Contributions Less than Expected	<u>0.12%</u>
Fiscal year ending June 30, 2016 Preliminary ARC (based on December 31, 2013 valuation)	1.80%

Demographic loss primarily due to more retirements in 2013 than assumed.

Investment gain is a recognition of deferred asset gains.

A detailed summary of the employer required contribution rates is provided in Section 6 of the actuarial report.

Key Takeaways

Key results of the December 31, 2013 valuation as compared to the December 31, 2012 valuation were:

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- Lower projected benefit amounts being accrued by active members

Key Takeaways

LRS is well funded compared to its peers. This is due to:

- Stakeholders working together to keep LRS well-funded since inception
- A history of appropriating and contributing the recommended contribution requirements
- Assumptions that in aggregate are more conservative than peers
- A funding policy that aggressively pays down unfunded liability over an 8-year period
- An ad hoc cost-of-living adjustment that supports the health of the system
- Modest changes in benefits when compared to peers

Continued focus on these measures will be needed to maintain the solid status of LRS well into the future.

Certification

The results were prepared under the direction of Michael Ribble and Larry Langer who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. These results have been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about them.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law.

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Questions?

THANK YOU