



Teachers' and State Employees' Retirement System of North Carolina

Adoption of Proposed Assumptions as Set in December 31, 2014
Experience Reviews

Board of Trustees Meeting
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January 21, 2016

Proposed Assumptions

On October 22, 2015, Buck Consultants presented the “Investigation of Demographic and Economic Experience Five-Year Period from January 1, 2010 – December 31, 2014” for the following systems:

- Teachers’ and State Employees’ Retirement System
- Consolidated Judicial Retirement System
- Legislative Retirement System
- National Guard Pension Fund

Experience review resulted in proposed changes to the following:

- Demographic Assumptions
- Economic Assumptions
- Funding Methods

Subsequent to the October meeting proposed demographic assumptions were adjusted to reflect mortality projection scale MP-2015, released by the Society of Actuaries on October 8, 2015

- Buck believes that the new basis is a reasonable assumption to adopt and that the combined package of revised assumptions remains appropriate for use going forward.

Key Takeaways - TSERS

Assumption	Observed Experience Relative to Expectations	Recommendation	Impact on Costs
1. Mortality	Fewer Deaths	Decrease Rates and Update Mortality Improvement Projection Scale	Significant Increase
2. Service retirement	Fewer Retirements	Decrease Rates	Slight Decrease
3. Disability retirement	Small Group	No Change	N/A
4. Termination from active employment	Fewer Terminations	Decrease Rates	Slight Decrease
5. Leave conversions at retirement	Varies by Group	Varies by Group	Immaterial
6. Investment return	Current Assumption Reasonable	No Change	N/A
7. Merit pay increases	Lower Increases	Decrease Rates	Significant Decrease
8. Inflation	Current Assumption Reasonable	No Change	N/A
9. Productivity growth	Current Assumption Reasonable	No Change	N/A
10. Amortization method	Current Assumption Reasonable	No Change	N/A
11. Actuarial cost method	Current Assumption Reasonable	No Change	N/A
12. Asset valuation method	Not Transparent or Predictable	5-year Smoothing	Slight Increase

Notes:

1. The mortality assumption was the source of the largest increase in costs. While we did observe fewer deaths than expected over the past few years, the increase in costs was driven more by the increase in mortality improvements suggested by national studies
6. The current investment return assumption of 7.25% remains reasonable
7. The merit increase assumption was the source of the largest decrease in costs as salaries continued to fall short of the long-term assumptions

Overall, the net impact on liabilities was an increase

Key Takeaways - CJRS

Assumption	Observed Experience Relative to Expectations	Recommendation	Impact on Costs
1. Mortality	Fewer Deaths	Decrease Rates and Update Mortality Improvement Projection Scale	Significant Increase
2. Service Retirement	Fewer Retirements	Decrease Rates	Slight Decrease
3. Disability Retirement	Low Creditability	No Change	N/A
4. Termination from active employment	N/A	N/A	N/A
5. Leave conversions at retirement	N/A	N/A	N/A
6. Investment return	Current Assumption Reasonable	No Change	N/A
7. Merit pay increases	Lower Increases	Decrease Rates	Significant Decrease
8. Inflation	Current Assumption Reasonable	No Change	N/A
9. Productivity growth	Current Assumption Reasonable	No Change	N/A
10. Amortization Method	Current Assumption Reasonable	No Change	N/A
11. Actuarial Cost Method	Inconsistent to Other Systems	Move to Entry Age	Increase
12. Asset Valuation Method	Not Transparent or Predictable	5-year Smoothing	Slight Decrease

Notes:

1. The mortality assumption was the source of the largest increase in costs. While we did observe fewer deaths than expected over the past few years, the increase in costs was driven more by the increase in mortality improvements suggested by national studies
6. The current investment return assumption of 7.25% remains reasonable
7. The merit increase assumption was the source of the largest decrease in costs as salaries continued to fall short of the long-term assumptions

Overall, the net impact on liabilities was an increase

Key Takeaways - LRS

Assumption	Observed Experience Relative to Expectations	Recommendation	Impact on Costs
1. Mortality	Fewer Deaths	Decrease Rates and Update Mortality Improvement Projection Scale	Significant Increase
2. Service Retirement	Fewer Retirements	Decrease Rates and Vary by Age	Significant Decrease
3. Disability Retirement	Low Creditability	No Change	N/A
4. Termination from active employment	More Terminations	Add Rates	Significant Decrease
5. Administrative expenses	No Provision	1% of Payroll	Increase
6. Investment return	Current Assumption Reasonable	No Change	N/A
7. Merit pay increases	Lower Increases	Decrease Rates	Significant Decrease
8. Inflation	Current Assumption Reasonable	No Change	N/A
9. Productivity growth	Current Assumption Reasonable	No Change	N/A
10. Amortization Method	Inconsistent to Other Systems	Change to 12-year	Slight Decrease
11. Actuarial Cost Method	Inconsistent to Other Systems	Move to Entry Age	Increase
12. Asset Valuation Method	Not Transparent or Predictable	5-year Smoothing	Slight Increase

Notes:

1. The mortality assumption was the source of the largest increase in costs. While we did observe fewer deaths than expected over the past few years, the increase in costs was driven more by the increase in mortality improvements suggested by national studies
2. The service retirement assumption had largest decrease in costs as rates that varied based on age were developed. Prior assumption does not vary by age (100% retirement assumed at age 65)
4. The termination assumption results in a large decrease in costs. Prior valuation had no assumed termination rates
6. The current investment return assumption of 7.25% remains reasonable
7. The merit increase assumption was a large decrease source of decrease in costs as salaries continued to fall short of the long-term assumptions

Overall, the net impact on liabilities was an increase

Key Takeaways – National Guard

Assumption	Observed Experience Relative to Expectations	Recommendation	Impact on Costs
1. Mortality	Fewer Deaths	Decrease Rates and Update Mortality Improvement Projection Scale	Significant Increase
2. Service Retirement	Fewer Retirements	Decrease Rates	Significant Decrease
3. Disability Retirement	Low Creditability	No Change	N/A
4. Termination from active employment	More Terminations	Add Rates	Significant Decrease
5. Administrative expenses	No Provision	Prior Year's Expenses	Increase
6. Investment return	Current Assumption Reasonable	No Change	N/A
7. Merit pay increases	N/A	N/A	N/A
8. Inflation	Current Assumption Reasonable	No Change	N/A
9. Productivity growth	N/A	N/A	N/A
10. Amortization Method	Current Assumption Reasonable	No Change	N/A
11. Actuarial Cost Method	Current Assumption Reasonable	No Change	N/A
12. Asset Valuation Method	Not Transparent or Predictable	5-year Smoothing	Slight Increase

Notes:

1. The mortality assumption was the source of the largest increase in costs. While we did observe fewer deaths than expected over the past few years, the increase in costs was driven more by the increase in mortality improvements suggested by national studies
2. The service retirement assumption results in a large decrease in costs as rates were decreased due to fewer retirements than expected
4. The termination assumption results in a large decrease in costs as rates that varied based on age were developed
6. The current investment return assumption of 7.25% remains reasonable

Overall, the net impact on liabilities was an increase