Brief: Considerations Used in Setting the Investment Return Assumption in the N.C. State and Local Retirement Plans

Synopsis:

- In January 2016, the state and local retirement boards adopted 12 actuarial assumptions to use for the next five years.
- An investment return assumption of 7.25% was adopted, which is consistent with actuarial standards of practice and extensive modeling performed, including current and projected interest rates and rates of inflation; historic and projected investment returns for individual asset classes; and historic investment returns of the state and local pension funds.
- Because low interest rates and volatile investment markets are likely to increase the volatility of employer contribution rates and incentivize excessive investment risk, both the state and local retirement boards adopted an additional policy to mitigate this volatility, called the "Employer Contribution Rate Stabilization Policy."
- This combination of conservative actuarial assumptions and risk-mitigating rate-setting policies provides a fiscally sound set of decisions that will ensure the continued success of the state and local retirement systems.

Brief:

- Funding a pension benefit requires the use of projections, known as *actuarial assumptions*, about future events.
- Actuarial assumptions fall into one of two broad categories: demographic and economic.
    - *Demographic assumptions* pertain to a pension plan's membership, such as changes in the number of working and retired plan members; when members will retire; and how long they'll live after they retire.
    - *Economic assumptions* pertain to such factors as the rate of wage growth and the future expected investment return on the fund's assets, also known as the discount rate or interest rate assumption.
- As with other actuarial assumptions, projecting public pension fund investment returns requires a focus on the long-term in order to establish an effective investment return assumption.
    - Some critics of current public pension investment return assumption levels say that current low interest rates and volatile investment markets require public pension funds to take on excessive investment risk to achieve their investment return assumption.
    - Because investment earnings account for a majority of revenue for a typical public pension fund, the accuracy of the assumption has a major effect on the plan's finances and actuarial funding level.
    - An investment return assumption that is significantly wrong in either direction will cause a misallocation of resources and unfairly distribute costs amongst generations of taxpayers:
        - An assumption that is set too low will overstate liabilities and costs, causing current taxpayers to be overcharged and future taxpayers to be undercharged.
        - An assumption set too high will understate liabilities, undercharging current taxpayers, at the expense of future taxpayers.
- The North Carolina State and Local Retirement Plans follow guidelines set forth by state law *(§§ 135-6(l),(m),(o), and 128-28(m),(o), and (p))* and the Actuarial Standards Board to set and review actuarial assumptions, including the investment return assumption. We review their actuarial assumptions every five years, pursuant to state statute.
- Actuarial Standards of Practice No. 27 (Selection of Economic Assumptions for Measuring Pension Obligations) (ASOP 27) prescribes the considerations in setting an investment return assumption.
    - As described in ASOP 27, the process for establishing and reviewing the investment return assumption involves consideration of various financial, economic, and market factors, and is based on a very long-term view, typically 30 to 50 years.
    - A primary objective for using a long-term approach in setting public pensions' investment return assumption is to promote stability and predictability of cost to ensure intergenerational equity among taxpayers.
- The North Carolina State and Local Retirement Plans operate over long timeframes and manage assets for members whose involvement with the plans may span more than half a century.

- Consider the case of a newly hired public school teacher who is 25 years old. If this pension plan member makes a career out of teaching school, he or she may work for 35 years, until age 60, and live another 25 years, until age 85.
    - The State Retirement System will receive contributions for the first 35 years and then pay out benefits for another 25 years. During the entire 60-year period, the plan is investing assets on behalf of this member.
    - To emphasize the long-term nature of the investment return assumption, for a typical career employee, more than one-half of the investment income earned on assets accumulated to pay benefits is generated after the employee retires.
- The investment return assumption is established through a process that considers factors such as economic and financial criteria; the plan's liabilities; and the plan's asset allocation, which reflects the plan's capital market assumptions, risk tolerance, and projected cash flows.
- Actuarial Standards for setting an investment return assumption recommends consideration of a range of specified factors, including current and projected interest rates and rates of inflation; historic and projected returns for individual asset classes; and historic returns of the fund itself. The investment return assumption reflects a value within the projected range.
- Investment Return Assumption – Considerations used by Boards of Trustees of the North Carolina State and Local Retirement Systems:
    - Use expected rates of return by asset class based upon accepted industry practice
    - Determine aggregate real return for plan's target asset allocation policy
    - Recent investment performance is driven by economic and capital market factors that may or may not persist over the longer-term economic and capital market cycles
    - Actuarial Standards of Practice allow for the inclusion of a margin of conservatism
        - All else being equal, a lower investment return assumption is easier to achieve and has a higher likelihood of securing the benefits by increasing contributions
    - Historically, the North Carolina State and Local Retirement Plans have been on lower end of the range of assumptions selected by state retirement systems and currently have the fourth-lowest assumption among statewide plans.
    - Many states are incrementally lowering their investment return assumptions, but most of those states currently have higher investment return assumptions than North Carolina.
- Investment Return Assumption – assessing the likely investment returns
    - The current investment return assumption of 7.25% is consistent with the results of state's most recent Asset/Liability Modelling Study (ALM Study)
    - By way of sensitivity analysis, the ALM Study results were tested by lowering the equity risk premium by an additional 100 basis points over 30 years. With this change, the State and Local Retirement Systems are still projected to annually earn close to the 7.25% actuarial assumed rate of return.
    - In the low-return environment projected for at least the next 10 years, investment flexibility, active management, cost-effectiveness, and risk management become increasingly important.
- Inflation – Decision points used by Boards of Trustees of the North Carolina State and Local Retirement Systems:
    - Modeling considerations for the inflation estimate:
        - Short-term calibration to current economic conditions
        - Intermediate calibration to inflation forecasts
        - Long-term calibration to inflation forecasts and historical average inflation
    - Data points for the inflation estimate:
        - 3.32%: 100-year average of 1915 through 2014
        - 2.15%: Survey of Professional Forecasters – 3rd Quarter of 2015
        - 2.0%-3.4%: 2014 & 2015 Social Security Trustees Report
        - 3.25%: Average rate used by peer public retirement systems
        - 3.00%: Buck Consultants standard assumption
    - 3.00% General and wage inflation rate selected by the Boards of Trustees of the North Carolina State and Local Retirement Systems

- Investment Return Assumption – Nominal and Real Investment Returns used by Boards of Trustees of the North Carolina State and Local Retirement Plans:
  - The current assumption of 7.25% is expected to be achieved on average at least 60% of the time over time horizons of 20 years and beyond. In the next 20 years, earning 7.25% is less likely to occur.
  - Actuarial standards of practice suggest the use of an investment return assumption that falls within the 40th and 50th percentile of projected investment returns based on the long term asset allocation. (Choosing a higher percentile builds a measure of conservatism into the assumption.)
  - Based on the above criteria, the 7.25% investment return assumption is appropriate for the North Carolina State and Local Retirement Systems.
  - As further indication of the sensitivity of contributions to changes in the assumption, a 7.00% assumed investment return would represent a 25% increase in the annual required contribution rate for the Teachers' and State Employees' Retirement System (TSERS) with a corresponding increase in the amount of funds the General Assembly would need to appropriate to meet the Annual Required Contribution (ARC).
  - 7.25% rate was selected by the Boards of Trustees of the North Carolina State and Local Retirement Systems based on the following components:
    - 3.00% General and Wage Inflation
    - 4.25% Real Rate of Return
    - Therefore, 3.00% General and Wage Inflation plus the 4.25% Real Rate of Return, equals a Nominal Rate of Return of 7.25%, which is used as the investment return assumption of the systems.
- Contemplating All Actuarial Assumptions as a Package – of the 12 assumptions chosen by the Board of Trustees this year, five may be considered slightly or very conservative, with the remaining seven being neutral. None are considered aggressive.
  - **Conservative**: Denotes that the recommended assumption results in a contribution in the next few years that is higher than what would be required using the median assumption or method used by peers and/or indicated in the observations of the experience review.
    - The Boards chose conservative assumptions for Mortality Projections, Investment Return, Merit Pay Increases, Active Employment Terminations, and Amortization Method.
  - **Neutral**: Denotes that the recommended assumption results in a contribution in the next few years that is consistent with what would be required using the median assumption or method used by peers and/or indicated in the observations of the experience review.
    - The Boards chose neutral assumptions for Service Retirement, Disability Retirement, Inflation, Leave Conversions, Productivity Growth, Asset Valuation Method, and Actuarial Cost Method.
  - **Aggressive**: Denotes that the recommended assumption results in a contribution in the next few years that is lower than what would be required using the median assumption or method used by peers and/or indicated in the observations of the experience review
    - The Boards chose no aggressive assumptions
- Employer Contribution Rate Stabilization Policies – in recognition of the criticism that current low interest rates and volatile investment markets may incentivize public pension funds to take on excessive investment risk to achieve their investment return assumption if they don't increase contribution rates, in addition to the conservatively–tilted 12 actuarial assumptions and core funding policy, the Trustees also adopted Board policies that will reduce the volatility of employer contribution rates by increasing the rates in predictable increments for the next five years.
  - The Board of the Local Governmental Employees' Retirement System (LGERS) adopted a policy that will increase the contribution rates by 25 basis points of payroll per year for the next five fiscal years with the following additional adjustments, if applicable:
    - (1) if the underlying ARC for a given fiscal year is 50% higher than the scheduled employer contribution rate for that fiscal year, the scheduled employer contribution rate for the current and future fiscal years increases by 50 basis points;

        - (2) if the underlying ARC for a given fiscal year is 50% lower than the scheduled employer contribution rate for that fiscal year, the scheduled employer contribution rate for the current and future fiscal year decreases 50 basis points;
        - (3) law enforcement rates will be 75 basis points higher than general employee rates;
        - (4) if the General Assembly grants any additional COLA beyond the amount of COLA approved by the Board, increases the multiplier for active employees, or changes the benefit structure in a way that has a cost to the system, the schedule of contributions for the current and future fiscal years will be increased by the cost of the additional COLA, increased multiplier or other benefit enhancement; and
        - (5) the cost of any allowable COLA granted by the Board under the authority allowed by statute will not impact the scheduled contribution rates.
    - As a result of the LGERS stabilization policy, the contribution rate for the first year under the five-year policy will be 86 basis points of payroll higher than it would have been without the policy.
        - By comparison, lowering the investment return assumption to 7.00% from 7.25% would have required an increase of 211 basis points of payroll above the minimum ARC.
        - By implementing the LGERS Stabilization policy to the next fiscal year, the contribution rate is the same as it would have been if the investment return assumption had been lowered to 7.15%.
        - The planned incremental increases in the contribution rate for the next five years may make it possible for the Board to decrease the investment return assumption after the next experience review with only a minimal contribution rate increase.
    - The Board of TSERS adopted a policy that will ensure that recommendations to the General Assembly of employer contribution rates will be no less than 35 basis points of payroll greater than the appropriated contribution from the prior fiscal year for the next five years, with the following bounds:
        - (1) contributions may not be less than the ARC determined using the assumptions adopted by the Board, including an investment return assumption of 7.25%; and
        - (2) contributions may not be greater than the ARC determined using the assumptions adopted based on the experience study but using an investment return assumption equal to the long-term Treasury bond yield.
    - As a result of the TSERS stabilization policy, the contribution rate for the first year under the five year policy will be 103 basis points of payroll higher than it would have been without the policy.
        - By comparison, lowering the interest rate assumption to 7.00% from 7.25% would have required an increase of 234 basis points of payroll above the minimum ARC.
        - By implementing the TSERS Stabilization policy to the next fiscal year, the contribution rate is the same as it would have been if the investment return assumption had been lowered to 7.15%.
        - To a lesser extent than under the LGERS Employer Contribution Rate Stabilization policy, the planned incremental increases in the contribution rate for the next five years may make it possible for the Board to decrease the TSERS investment return assumption after the next experience review with only a minimal contribution rate increase.

- This brief quotes extensively from the text of "NASRA Issue Brief: Public Pension Plan Investment Return Assumptions," which may be found online at http://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf
- This brief also relies on the experience review presentations for the State & Local Retirement Systems developed by Buck Consultants and presents to the Boards of Trustees on October 22, 2015. The reports may be found online at https://www.nctreasurer.com/ret/Board%20of%20Trustees/8PresentationTSERSExperienceReviewAsOf12312014.pdf and https://www.nctreasurer.com/ret/Board%20of%20Trustees/12PresentationOnTheLGERSExperienceReviewAsOf12312014.pdf
- Further details on the Employer Contribution Rate Stabilization policies may be found in the materials presented to the Boards of Trustees on January 21, 2016. Online at: https://www.nctreasurer.com/ret/Board%20of%20Trustees/15_SS3_AnalysisofStabilizationofEmployerContributionRatesForTSERS.pdf and https://www.nctreasurer.com/ret/Board%20of%20Trustees/9_LS2_AnalysisOfStabilization_EmployerContributionRatesForLGERS.pdf