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Quadrennial Actuarial Audit of the Virginia Retirement System

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Plans reviewed

- June 30, 2009 actuarial valuations
  - VRS Pension Benefits (including selected local governments)
  - Health Care Credit Program
  - Group Life Insurance Program
  - Virginia Sickness and Disability Program (VSDP)
- Last audit completed on June 30, 2005 valuations

Scope of review

- Actuarial cost methods
- Actuarial asset valuation methods
- Actuarial assumptions
- Actuarial reports
- Data review
- Review of actuarial computations

Key findings

- VRS Pension Trust Funds, Health Insurance Credit Program, Group Life Insurance Program, and Virginia Sickness and Disability Program
  - Work is performed in accordance with generally accepted actuarial principles and practices using reasonable actuarial assumptions and methods
- Work performed by fully qualified actuaries meeting the qualification standards of the American Academy of Actuaries

VRS Pension Trust Funds – Audit comments

- Actuarial assumptions
  - Sufficient detail not provided for the change in methodology regarding the salary scale assumption review for State employees and Teachers
  - Service-related death assumption is not indicated in assumptions section, but appears to be used in valuation
- Actuarial reports
  - Local government reports contain a few assumption modifications that are omitted in the summaries of actuarial assumptions
  - Actuarial experience study report is not presented in sufficient detail to be able to form an opinion on all of the report conclusions. Specifically, no detail is shown on analysis for State Police, Law Officers, Judicial, or Political Divisions

VRS Pension Trust Funds – Audit comments (cont.)

- Actuarial computations
  - Summary of actuarial assumptions in valuation reports do not mention service-related death assumptions, but factors are applied in computations
  - A few discrepancies were found relating to Teacher withdrawal and retirement rates that were used in valuation versus rates disclosed in report

Comments on Assumed Investment Rate of Return

- Mercer analyzed assumption based upon fund asset allocation and capital market assumptions developed by Mercer Investment Consulting (MIC) as well as internally by VRS
- Surveys of large public retirement systems indicates an average investment return assumption of approximately 8%

Asset allocation and expected returns as of 6/30/2009

Asset class	Allocation	MIC return	VRS return
Domestic equity	22.0%	8.36%	7.50%
Non-US equity	14.7%	8.16%	7.50%
Emerging Equity	2.9%	8.38%	10.50%
Fixed income	26.8%	4.86%	5.50%
Credit strategies	9.0%	6.00%	7.50%
Convertibles	3.9%	6.80%	7.50%
Real estate	10.0%	7.34%	8.00% (public) 7.00% (private)
Private equity	10.7%	9.59%	10.00%

Expected return results

Percentile	MIC assumptions	VRS assumptions
25%	5.99%	5.60%
40%	6.98%	6.53%
50%	7.58%	7.09%
60%	8.18%	7.64%
75%	9.17%	8.57%

VRS expected return assumption of 7.5% falls just below the 50^{th} percentile using MIC assumptions. VRS capital market assumptions provide a slightly lower expected return

Group Life Insurance Program

- Actuarial assumptions

  Best actuarial practice would be to perform a separate valuation study of the Accidental Death & Dismemberment (AD&D), life insurance and Waiver of Premium (WOP) experience periodically to assure that experience patterns and unique valuation issues are appropriately identified and addressed

Virginia Sickness and Disability Program (VSDP)

- Actuarial assumptions
  - Periodic actuarial valuation should also be performed on disability program due to unique benefit features which are not part of retirement studies
  - Actual VRS claims termination experience should be used to modify the base claims termination rates for the valuation if the 87CGDT table is to be utilized. A policy should be established for periodically updating the termination rates experienced by VRS claimants and making the changes in the valuation table
  - Expense for claims adjudication and administration for open claims should be included in the valuation and explicitly identified
  - Liability for those members in waiting period is not a standard actuarial calculation used by LTD insurers and should be periodically reviewed to determine consistency of results produced versus those employed by group LTD insurers
  - Table that determines "offsets for active members" should be further explained and periodically reconciled to actual experience to justify long term use

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