REPORT OF THE
JOINT LEGISLATIVE AUDIT
AND REVIEW COMMISSION

Review of the Virginia Retirement System

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 52

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Preface

House Joint Resolution 392 of the 1993 Session requested the Joint Legislative Audit and Review Commission (JLARC) to complete a comprehensive study of the Virginia Retirement System. The study was to focus specifically on the structure and governance of the system, investment practices and performance, and the actuarial soundness of the retirement funds. To complete the study, JLARC staff were assisted by Bear Stearns Fiduciary Services, Inc., and Alexander & Alexander Consulting Group, Inc., who were competitively procured as consultants.

Overall, JLARC staff and the consultants for this study found the Virginia Retirement System to be financially sound and system assets to be well managed. Concerns about the governance of the system were well founded, however. The appointment process for the Board of Trustees, as well as several controversial actions of the trustees, have resulted in perceptions that the VRS Board is not independent in its decisionmaking. Also, qualifications for trustees do not currently reflect the need for investment experience.

To strengthen the independence of the retirement system, this report recommends several actions. First, the Virginia Retirement System should be established as an agency independent of the executive branch. Second, the appointment of trustees should be a shared responsibility of the Governor and the General Assembly. Third, the VRS trust funds should be established as independent trusts in the Constitution of Virginia . Fourth, the structure of advisory committees should be established in law. Finally, the General Assembly should designate a permanent joint legislative commission or committee to carry out continuing oversight of the retirement system.

The investment consultant found the asset allocation for the VRS portfolio to be sound and VRS' investment performance to be acceptable, given the current level of diversification. The managed futures program was found to be a reasonable investment for VRS, although some adjustment of fees is needed.

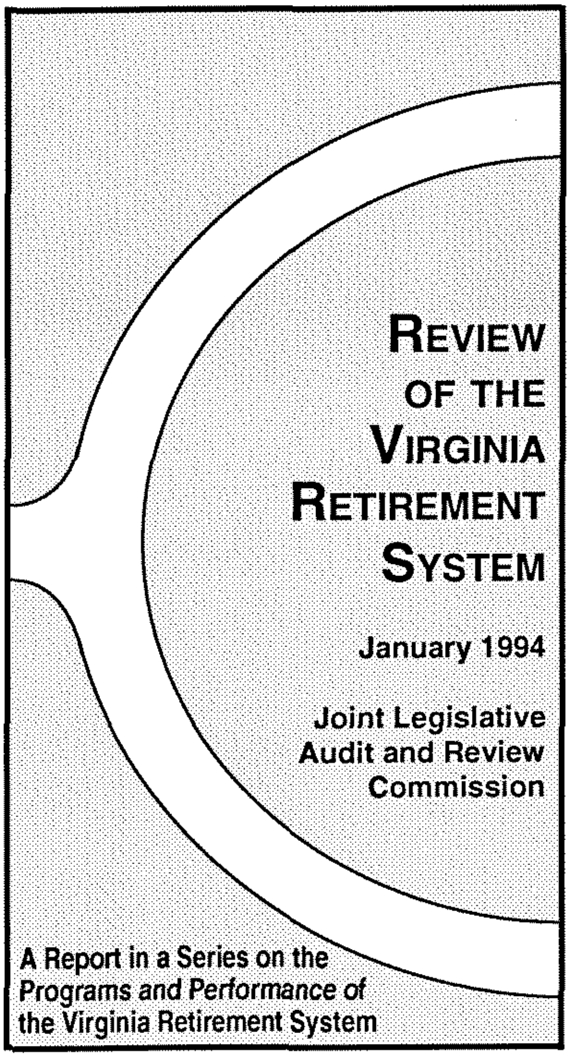
The actuarial consultant found current benefits to be well funded. However, pay-as-you-go funding of cost of living adjustments could cause future increases in contribution rates. This issue will need to be addressed by the General Assembly.

On behalf of the Commission staff, I wish to acknowledge the support and cooperation of the Virginia Retirement System Board of Trustees and staff in the completion of this study.

Philip A. Leone
Philip A. Leone
Director

January 17, 1994

JLARC Report Summary



The Virginia Retirement System (VRS) administers a statewide public employee retirement system which provides defined benefit pension plan coverage for State employees, teachers and non-professional employees of public school boards, and employees of participating political subdivisions. In addition to the State system, VRS administers separate retirement systems for State police officers and judges, a group life insurance program, a deferred compensation program, and a health insurance credit program for eligible State retirees.

Currently 222 State agencies, 146 local school divisions, and 353 political subdivisions participate in the retirement system. In addition, 132 local school divisions include their non-professional employees in the system. At the close of fiscal year 1993, VRS had 259,086 active members, and 86,369 retired members, inactive vested members, and beneficiaries. Total pension fund assets were valued at $15.9 billion. Retirement benefits paid in FY 1993 totaled $667.9 million.

House Joint Resolution 392 of the 1993 Session of the General Assembly directed the Joint Legislative Audit and Review Commission (JLARC) to study the structure, investment policy, and actuarial soundness of the Virginia Retirement System. The impetus for this study grew out of concerns raised about the independence of the VRS and about the soundness of some investment decisions made by the Board of Trustees (Board). To complete the review, JLARC staff examined the structure and governance of the retirement system. In addition, professional investment and actuarial consultants assessed the soundness of VRS investments and funding.

Structure and Governance of the Virginia Retirement System

VRS has experienced tremendous asset and membership growth in recent years. The phenomenon of rapid growth has transformed the management and operation of VRS into one of considerable complexity. Consequently, there are now greater demands on the governing structure of the retirement system.

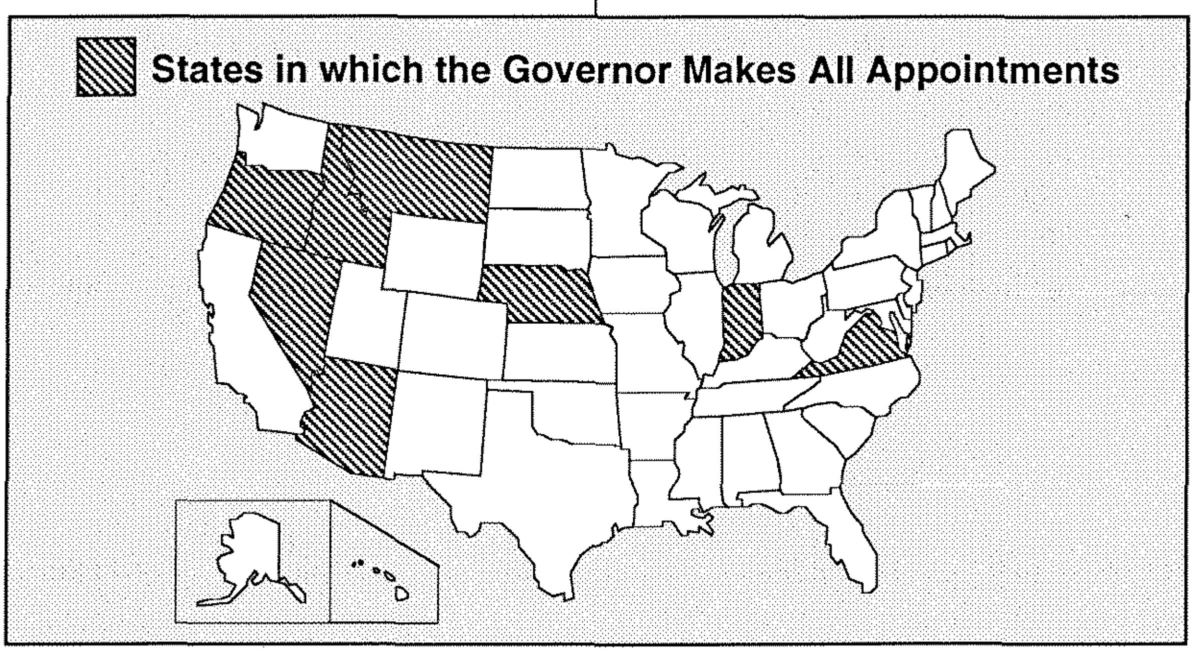
Recently VRS' system of governance has been called into question. Concerns have been raised about the appointment of trustees to the VRS Board, as well as the qualifications for Board membership and the independence of the Board as a governing body. Similar questions have been raised concerning the Board's two advisory committees. Furthermore, several recent Board actions have diverted attention from substantive issues associated with the soundness of the system, and have created a negative public perception of VRS, especially among State and local employees.

All Appointments to VRS Board Are Made by the Governor. Virginia is one of only eight states, all of which have retirement systems with smaller total assets than VRS, in which the Governor has the sole *power to appoint retirement system trustees* (see figure). This has contributed to a perception among VRS members that the Board is not entirely independent of the executive branch in its decisionmaking. Some of the appointments made by recent governors, such as cabinet members, have contributed to this perception. In addition, complete gubernatorial appointment authority does not properly reflect the General Assembly's constitutional responsibility for the retirement system. The appointment of trustees would better reflect the responsibility of the General Assembly and improve the independence of the Board if some trustees were appointed by the Legislature.

Recommendation (1). *The General Assembly may wish to amend Section 51.1-109 of the Code of Virginia to require the General Assembly to appoint some members of the Virginia Retirement System Board of Trustees.*

Qualifications for Trustees Are Inadequate. In recent years, oversight of VRS investments has become the Board's most prevalent, and time consuming responsibility. However, the required qualifications for serving on the VRS Board have not kept pace with this growing responsibility. Current statutory requirements for membership on the VRS Board tend to focus on representation of specific types of VRS members rather than on professional qualifications of the trustees.

According to JLARC's investment consultant, Bear Stearns Fiduciary Services, the issues involved in the area of public pension fund investment require informed judgment and significant expertise at the Board level. Bear Stearns concluded that a



majority of VRS trustees should have experience in the investment of large employee benefit funds.

There are other problematic aspects of the current qualification requirements for Board membership. One trustee, while designated as the political subdivision employee representative, is actually an elected local constitutional officer. Two other trustees are appointed to their positions of employment in State government by the Governor, and serve at his pleasure. This situation promotes a perception of undue gubernatorial influence on the Board, and raises questions about the Board's independence.

Recommendation (2). *The General Assembly may wish to require that a majority of Virginia Retirement System trustees have experience in the direct investment of large funds. Representation for teachers, State classified employees, and local employees should be continued.*

Recommendation (3). *The General Assembly may wish to amend Section 51.1-109 of the Code of Virginia to prohibit elected officials and executive branch appointed officials from serving on the Virginia Retirement System Board of Trustees. However, the State Treasurer could be appointed as an ex-officio, non-voting member.*

Perceptions of Board Actions have Eroded Confidence. Since 1990 the VRS Board has been involved in a series of events which, at least at first glance, call into question the independence of the Board and its ability to effectively govern the system. These recent events have detracted from the public image of VRS. For example, at a public hearing held by JLARC, a member of the Virginia Governmental Employees Association (VGEA) stated that, "in recent years a cloud has been placed over the retirement system by controversial actions of the VRS Board, thus the confidence of the beneficiaries of the system has been eroding."

Among the issues which have raised concerns about the retirement system are the RF&P Corporation acquisition and subsequent appointments to the RF&P board of directors, compliance with the Freedom of Information Act, the Redskins stadium proposal, and public disputes over investment policy. All of these events have left an impression of a Board which is influenced by political considerations, which is unnecessarily secretive, and which is unable to effectively govern the retirement system. While these impressions may not all be based on fact, the perceptions continue to exist among many members of the VRS.

The Role of the Board Chair Needs to Be Redefined. Over a long period of time, the position of chair has acquired a degree of perceived, but not necessarily intended, power and authority. This power and authority appears to stem from the fact that the chair is appointed by the Governor. However, such power is only implied since the chair has no statutory responsibilities. While the Board recently defined the role of the chair as part of its policies and procedures, the stated responsibilities are minimal. The *Code of Virginia* should set out a clear role for the chair to provide leadership for the Board and to communicate on its behalf.

Recommendation (4). *The General Assembly may wish to amend the Code of Virginia to define the role and responsibilities of the chair of the Virginia Retirement System Board of Trustees.*

Strong Chief Investment Officer Needed. The VRS investment staff has grown gradually with the increase in the size and sophistication of the fund. Under the current structure the investment staff is supervised by a chief investment officer (CIO). However, since the departure of the CIO in 1990, that position has been vacant.

Most recently, the Board initiated a search for a CIO. However, according to the revised job description for the position, the CIO seems focused on management of the investment department rather than on substantive investment direction and coordination. Bear Stearns reviewed the plans for the CIO and found that the position may not meet VRS' long-term needs.

Bear Stearns has recommended that the VRS investment department be managed by a CIO who has overall responsibility — under the IAC and the Board of Trustees — for the organization, structure and performance of the VRS investment department and investment portfolio. Bear Stearns also recommends that consideration be given to providing in the *Code of Virginia* for the selection, appointment (possibly via a special employment contract), and new reporting duties for the CIO at the VRS.

Recommendation (5). *The General Assembly may wish to amend the Code of Virginia to establish the position of chief investment officer for the Virginia Retirement System. The duties of the chief investment officer should include coordination of asset allocation; communication with trustees, advisory committees, and the General Assembly; and staff support for the VRS Board of Trustees and its advisory committees.*

Recommendation (6). *The General Assembly may wish to provide for the employment of the chief investment officer by special employment contract which would set out performance and formal reporting requirements. The General Assembly may also wish to require that the appointee to the position be confirmed by the General Assembly. The employment contract should require the chief investment officer to make periodic reports to the General Assembly.*

Structure and Role of the Advisory Committees Can Be Strengthened. The current advisory committee structure, consisting of the investment advisory committee (IAC) and the real estate advisory committee (REAC), appears to be a fairly well-organized and useful system. However, in order to ensure that the advisory committee structure continues to serve VRS well in the future, the committees' role and structure should be formally defined in statute. In addition, because of the importance of the investment advice provided to the Board, the necessary investment-related qualifications for advisory committee membership need to be set out in the *Code of Virginia.*

Recommendation (7). *The General Assembly may wish to amend the Code of Virginia to require the Virginia Retirement System Board of Trustees to formally maintain an Investment Advisory Committee and a Real Estate Advisory Committee. The Code of Virginia should define the general responsibilities of the advisory committees.*

Recommendation (8). *The General Assembly may wish to define in the statute qualifications necessary for membership on the Investment Advisory Committee and the Real Estate Advisory Committee. In addition, the General Assembly may wish to require that a majority of the members of each advisory committee meet such standards.*

Independence of the Trust Fund Could Be Strengthened. The VRS pension trust fund is established exclusively for the benefit of VRS members in section 51.1-102 of the *Code of Virginia.* In addition, the VRS pension plan is a qualified plan under the provisions of the U.S. Internal Revenue Code. As a result, the pension trust fund is exempt from federal taxation on its contributions and investment earnings.

Despite the State statutory language and the IRS restrictions, questions have been raised periodically concerning the long-term ability of the trust funds, and the retirement system, to function solely on behalf of VRS members and retirees. For example, while federal law prohibits transfer of trust fund assets, maintenance of specific contribution levels to ensure the actuarial soundness of the trust funds is not required.

Because of concerns about the adequacy of current statutory language establishing the retirement fund as a trust, a constitutional amendment would provide a means to better define the independence of the fund. A total of 13 states have some sort of constitutional provision concerning the funding of their retirement systems.

Recommendation (9). *The General Assembly may wish to consider amending Article X, Section 11 of the Virginia Constitution to include the following provisions: the VRS retirement funds are independent public trusts, the assets of which are not subject to appropriation by the General Assembly or for use as loans for other State purposes; and the financing of VRS pension benefits shall be based on sound actuarial principles, with employer contributions consistent with the recommendation of the VRS actuary.*

A Proposal for Strengthened Governance. In order to ensure that VRS is properly governed as it grows into the next century, the General Assembly needs to consider a comprehensive restructuring of the retirement system. The restructuring should focus on enhancing the independence of VRS, and imposing more stringent qualifications for Board membership to better reflect the increasing complexity of retirement system investments.

Implementation of a new structure of governance for the Virginia Retirement System as outlined in the body of this report will be a complex task, involving the creation of an independent agency, the transfer of benefit programs to another agency, and the appointment of trustees who meet the new qualifications. In order to most effectively implement the new structure, the current VRS Board should be dissolved on the effective date of the new structure. Consequently, the newly configured Board and agency would constitute a complete replacement to the current system of VRS governance.

Legislative Oversight of the Retirement System

Due to the General Assembly's constitutional mandate to maintain a State retirement system in the best interest of the members, adequate legislative oversight of VRS is essential. However, the General Assembly's ability to provide effective oversight is limited, in large part, because of inadequate communications between VRS and the General Assembly. Without such information, oversight cannot be carried out effectively. To address this problem, a new process for legislative oversight is needed. Specifically, the General Assembly may want to create a permanent oversight commission for the Virginia Retirement System.

Twenty states have some type of oversight entity responsible for monitoring their retirement systems. The structure and responsibilities of these oversight bodies vary. For example, some consist entirely of legislators while others include public members. However, all of these oversight bodies provide their legislatures with independent sources of retirement system information.

Recommendation (10). *The General Assembly may wish to establish a permanent Virginia Retirement System Study Commission to provide ongoing oversight and evaluation of the retirement system. The Commission should be composed of three members from the Senate of Virginia, three members from the House of Delegates, and three qualified professionals appointed by the Governor. To carry out its duties, the commission should have a permanent staff and the authority to hire consultants. Funding for the commission should be from the retirement system trust funds to ensure continuity and independence.*

Recommendation (11). *To ensure an effective system of oversight, the General*

Assembly may wish to establish the following responsibilities for the VRS Study Commission: receive quarterly and annual reports from the Virginia Retirement System on actuarial soundness and investment performance; review and report as necessary on all proposed legislation affecting VRS' structure, investments, or funding prior to the consideration by the standing committees of the General Assembly; prepare and maintain background and other information for use by members of the General Assembly; make an annual report to the General Assembly and the Governor on the status of the retirement system; and conduct special or continuing studies as directed by the General Assembly.

Investment Policies and Performance of the Virginia Retirement System

The investment performance of a public pension plan is of great importance to both plan participants and taxpayers because of the major role investment income plays in overall financing. As a result, it is critical that retirement systems develop and implement fundamentally sound frameworks to govern investment decisionmaking. The importance of this in Virginia is amplified by the rapidly growing size and sophistication of the State's public pension fund.

The consultants hired by JLARC to evaluate the State's retirement system indicate that the investment program and portfolio structure are fundamentally sound and reasonable in almost all major respects from both a procedural and substantive standpoint. There is no cause for concern in either the investment decisionmaking process or in the results of that process. However, the consultants recommended several improvements to the investment program.

Statutory Investment Requirements Need Revision. The type of investment restrictions imposed by the *Code of Virginia* are commonly referred to as "legal lists." These types of restrictions are fairly common, but a review of other states' statutes indicates that at least 32 states impose fewer investment restrictions than Virginia. By enacting this legislation, the General Assembly wanted to articulate and impose standards which would require the VRS Board to act with requisite care and expertise and to prudently construct and oversee a diversified investment portfolio. In its current form, however, the statute fails to achieve these goals and contains many investment restrictions which Bear Stearns found to be ambiguous, inapplicable, or superfluous.

Recommendation (12). *The General Assembly may wish to consider amending the Code of Virginia by adopting a prudent person standard without a legal list, comparable to the standard set forth in the Employee Retirement Income Security Act.*

An Integrated Investment Policy Statement is Needed. The VRS Board is responsible for determining what objectives the fund should seek to attain in order to generate sufficient cash to pay required retirement benefits. However, the system has not adopted an overall "Statement of Investment Policy and Objectives" for the entire fund. Generally speaking, such an investment policy would reduce to writing the basic objectives and the overall framework within which all investment strategies should operate.

Recommendation (13). *The VRS Board of Trustees should adopt a written investment policy statement drawing from the Five Year Plan, the Policies and Procedures Manual, and other appropriate sources.*

Recommendation (14). *Once this policy is adopted, the VRS Board of Trustees should re-evaluate the investment policy statement at least annually and either reaffirm or amend it as appropriate. Periodically re-evaluating the investment policy state-*

ment has the added benefit of compelling the Board, IAC and staff to continually reassess the VRS' investment objectives and the basis for those objectives.

VRS' Asset Allocation Policy Needs a More Thorough Review. Asset allocation is the process of diversifying an investment portfolio among asset classes, (stocks, bonds, cash, real estate, etc.). This is done in order to seek to achieve a particular investment objective, such as consistently earning a specified total return (i.e., income and appreciation). A portfolio's asset allocation is important because it has the single greatest impact on its overall long-term investment performance, far greater than the specific securities held in the portfolio.

Because of this, a portfolio's asset allocation policy should be reviewed and adjusted on a periodic basis as appropriate. However, as an agenda item at VRS' annual retreat this issue does not appear to get the attention it deserves simply because there are already so many other items covered at the meeting.

Recommendation (15). *The VRS Board of Trustees and the IAC should review the asset allocation policy as a formal agenda item for detailed discussion at some point each year in a setting other than the annual retreat.*

Process for Selecting and Terminating Managers Can Be Improved. Investment managers provide money management services for a portion of the fund's assets, for a fee, on a fully discretionary or non-discretionary basis. As of August 31, 1993, the total VRS portfolio was managed by 75 external investment managers. The processes VRS uses for selecting external investment managers generally appear thorough and based on appropriate criteria. However, some reluctance by the Board and IAC to make the difficult choices among several qualified candidates for investment management slots was observed. The consequence of this is a tendency by VRS to hire more than the required number of firms.

Recommendation (16). *VRS should develop procedures to reduce duplication in the hiring and continued retention of managers, enhance the selection criteria for its money managers by adding liability insurance, increase the staff responsible for its domestic equity program, and improve its policies for determining the time period over which a manager must meet required investment objectives.*

VRS Employs Too Many Investment Managers. By comparison to plans reporting in the recent PENDAT survey by the Public Pension Coordinating Council/Government Finance Officer's Association, the VRS employs a high number of investment managers. Compared to a more select group of funds that Bear Stearns surveyed, the VRS also seems to have a large number of managers.

VRS Brokerage Practices Are Reasonable. VRS appears to obtain reasonable value for the soft dollars it expends and appears to pay reasonable commissions for the quality of securities execution it receives. According to an outside study, VRS' average commissions have been below the median cost incurred by other pension funds and the securities prices which brokers have obtained on trades for VRS are reasonable. According to the same study, the VRS' average transaction costs (i.e., commission cost plus execution cost) have been 5.4 cents per share, which is below the median cost of 6.3 cents per share for other surveyed pension funds.

VRS Has Developed A Properly Diversified and Efficient Portfolio. The principle of diversification is essential to the VRS portfolio. Although some newer asset classes (such as managed futures, venture capital, and international investments) taken in isolation are often considered riskier in some respects than conventional stocks and bonds, VRS concluded that these asset classes have certain attributes which, when combined with the stock and bond components, may actually lower the volatility of the total VRS portfolio and raise the expected ratio of return to risk.

The efficiency of the VRS portfolio was tested with computer simulations of various combinations of the ten subclasses of assets used by the VRS. This comparison indicates that the VRS asset allocation is fairly efficient and that the expected returns meet the VRS objectives over the long term. It was also found that VRS' asset allocation appears reasonably structured to produce satisfactory returns at a relatively low level of volatility or risk. However, as compared to the portfolio structure five years ago, the newer asset classes have probably also contributed to returns lower than those of some other public funds on an absolute basis.

Performance Meets Internal Objectives but is Less than Typical Pension Fund. Over the five, three, and one year periods ending June 30, 1993, the VRS has met its own long-term (10-15 years) internal objectives of earning more than the actuarially-assumed rate of return and exceeding the rate of inflation by at least four percent per year. The VRS has not, however, met its short term internal objective of earning at least as much as other large pension funds. VRS' total returns over the past one, three, and five years are slightly below the median returns for a broad sampling of other public funds in the widely-used Trust Universe Comparison Service. In addition, VRS returns fell generally at the low to mid range of returns for a smaller group of public funds selected for comparison by Bear Stearns.

Performance is Comparable to Customized Benchmarks. Since VRS has a diversified, complex portfolio, Bear Stearns devised several customized indices to help evaluate VRS' performance. Bear Stearns calculated the risk-adjusted returns for VRS against the three customized indices over five years. The risk-adjusted returns for the VRS over the five year period ending June 30, 1993, were approximately equivalent to the risk-adjusted returns for the three customized indices over that same period.

VRS' Managed Futures Program Is a Good Diversification Tool. The structure of the VRS managed futures program is novel, and — subject to a few important exceptions — is reasonably well-designed to detect and control risk. Rather than contracting directly with commodity trading advisers ("CTAs") who manage futures portfolios, VRS has hired five registered investment advisors (RIAs) who, in turn, select and monitor a wide variety of CTAs. The criteria for selecting RIAs appear reasonable. However, the process does not include consideration of what, if any, errors and omissions liability insurance each RIA candidate carries. In addition, one RIA had not imposed written guidelines on its CTAs at the time of this review.

Recommendation (17). *VRS staff should review the nature and specificity of the new guidelines recently imposed on CTAs to assure that the staff is satisfied with them.*

Performance of Managed Futures Program Has Met Expectations but Fees are Excessive. The performance of the managed futures program since inception has been largely as expected and satisfactory. However, the fees of the outside consultant are problematic for two reasons. First, the structure or formula for those fees embodies a potential conflict of interest. Second, the absolute total amount of fees paid appears unduly high. To the extent a renegotiation does not achieve sufficient reductions, re-bidding the futures consulting and monitoring contract should occur.

Recommendation (18). *VRS should restructure its fee arrangement with RP Consulting, to base it only in minor part, if at all, on turnover. Instead, the fee should be based on the amount of equity in the program or a flat fee.*

Recommendation (19). *VRS should negotiate a lower fee for its futures contract. If a lower fee cannot be established, VRS should re-bid the contract.*

Actuarial Soundness of the Virginia Retirement System

VRS provides competitive pension benefits to its members. In order to continue providing these same benefits, the pension fund's assets, increased by future contributions, must be sufficient to cover the cost of all future benefits. An important objective of VRS pension funding is to provide benefit security for its active and retired members, so as to ensure that promised benefits will actually be received by VRS members.

The actuarial firm which has served as the VRS actuary since 1980 has provided the VRS Board with competent and responsive actuarial services and advice. Partly as a result of this firm's efforts, accrued retirement benefits are currently adequately funded. However, the funding status of VRS could deteriorate over the long term.

VRS Funding Status Will Decline Over the Long Term. According to 30-year actuarial projections prepared by JLARC's actuarial consultant, Alexander & Alexander, the overall funding status of VRS, as measured by the ratio of assets to liabilities, will decline in coming years. The primary cause of this decline is the pay-as-you-go approach used to cover the cost of the COLA benefit. On the other hand, the value of current accrued retirement benefits is funded to a much greater extent. JLARC's consultant projects that, mainly due to the lack of prefunding of the COLA, total VRS employer contribution rates will increase significantly over the next 30 years.

Criteria for Establishing Funding Target. VRS should achieve the funding target over a reasonable period of time, such as ten years. The period should not be so short as to cause dramatic increases in contribution rates. In addition to establishing a funding target, VRS should examine projections to determine the contribution rates required to meet and maintain the target. VRS should also specify how the funding level will be held within a certain degree of tolerance of the target.

Recommendation (20). *The Virginia Retirement System Board of Trustees should establish a funding target, ensure that its actuarial assumptions and methods are appropriate to achieve the target, and then monitor progress toward the target.*

Recommendation (21). *The Virginia Retirement System Board of Trustees should examine the long-term trends in funding status through the use of open group projections. At the same time, the VRS Board should examine the sensitivity of these projections to the assumptions of future experience.*

Recommendation (22). *The General Assembly, and the Virginia Retirement System Board of Trustees, may wish to consider alternative methods of funding and providing cost of living adjustment benefits.*

Recommendation (23). *The Virginia Retirement System Board of Trustees should identify and consider available options for the funding and provision of pension benefits to ensure that short and long-term costs can be held to acceptable levels.*

Technical Aspects of Actuarial Cost Method Cause Contribution Rates to Increase. The entry age normal cost method is generally accepted and in common use, especially among state retirement systems.

A majority of the state retirement systems use this cost method.

According to Alexander & Alexander, certain technical aspects of the valuation process could result in increased contribution rates even if all assumptions are met exactly. These increases occur even if no changes are made to actuarial methods, assumptions, or plan provisions. In particular, three elements of the cost method application should be modified.

Recommendation (24). *The Virginia Retirement System Board of Trustees should modify the actuarial valuation process as follows:*

- *Recognize the timing lag in determining the employer contribution rate;*
- *Reduce the amortization period for current unfunded accrued liability by two years each biennium; and*
- *Amortize all additional unfunded accrued liability, from plan amendments, actuarial gains and losses, and assumption or method changes, separately over a reasonable period, such as 15 years, from the inception of the additional unfunded liability.*

Actuarial Assumptions Are Currently Reasonable, But Need Long-Term Revision. The current economic and demographic assumptions used by VRS are reasonable, and similar to those used by other state retirement systems. VRS' approach to establishing its assumptions is in line with accepted actuarial practice. However, unidentified sources of actuarial loss in the 1992 experience investigation point to the need to reassess all of the assumptions. In addition, the long-term implications of short-term changes in actuarial assumptions need to be determined prior to implementation.

Recommendation (25). *The Virginia Retirement System Board of Trustees should analyze its economic actuarial assumptions.*

Recommendation (26). *The Virginia Retirement System Board of Trustees should implement the changes in demographic assumptions recommended by Buck Consultants in its 1992 experience investigation.*

Recommendation (27). *The Virginia Retirement System Board of Trustees should ensure that long-term implications of changes in actuarial assumptions are determined prior to implementation.*

Recommendation (28). *The Virginia Retirement System Board of Trustees should analyze the $41.3 million actuarial loss for State employees and the $156.5 million actuarial loss for teachers resulting from "other" causes to determine if any of the reasons for these losses are likely to recur.*

Recommendation (29). *The Auditor of Public Accounts, with the assistance of an independent actuary, should review the Virginia Retirement System's actuarial valuation, including its methodology and assumptions, every five years. The Auditor of Public Accounts should make recommendations to the General Assembly for improvements to the actuarial valuation's methodology and assumptions.*

Table of Contents

COMPANION DOCUMENTS TO THIS REPORT

The research for this study required the combined efforts of JLARC staff and specialized consultants (a listing of consultants is provided on the staff page at end of the report). The consultants' findings are utilized and summarized throughout this report. In addition, two separate companion reports which were prepared by the consultants are available at the JLARC offices:

- *Actuarial Soundness of the Virginia Retirement System,* Alexander and Alexander Consulting Group, December 1993, 63 pages.

- *Report of Findings and Recommendations on Investment Policies and Programs of the Virginia Retirement System,* Bear Stearns Fiduciary Services, Inc., December 1993, 178 pages.

I. Introduction

Public employee retirement systems provide for the financing and disbursement of pension benefits for public sector workers. Although increasing numbers of governments augment their retirement systems with deferred compensation, defined contribution and supplemental retirement programs, the backbone of most government retirement systems is a defined benefit pension plan. Under a defined benefit plan, an employee is entitled to a fixed pension benefit upon attaining a specified age and length of service. Every state has its own state-sponsored retirement system. Some of these plans, as is the case with the Virginia Retirement System (VRS), are operated for the benefit of all public sector employees, including state workers, teachers, and local government employees.

Established on March 1, 1952, the VRS administers a statewide multiple-employer public employee retirement system which provides defined benefit pension plan coverage for all State employees, teachers and non-professional employees of public school boards, and employees of participating political subdivisions. In addition to the State system, the VRS also administers separate retirement systems for State police officers and judges, a group life insurance program, a deferred compensation program, and a health insurance credit program for eligible State retirees.

As of June 30, 1993, 222 State agencies, 146 local school divisions, and 353 political subdivisions participated in the retirement system. In addition, 132 local school divisions included their non-professional employees in the system. At the close of fiscal year 1993, VRS had 259,086 active members, and 86,369 retired members, inactive vested members and beneficiaries. Total pension fund assets were valued at $15.9 billion. Retirement benefits paid in FY 1993 totaled $667.9 million.

House Joint Resolution 392 of the 1993 Session of the General Assembly directed the Joint Legislative Audit and Review Commission (JLARC) to study the structure, investment policy, and actuarial soundness of the Virginia Retirement System. The impetus for this study grew out of concerns raised about the independence of the VRS and about the soundness of some investment decisions made by the Board of Trustee (Board).

As part of the review, JLARC staff examined the structure and governance of the retirement system. In addition, professional investment and actuarial consultants hired to assess the soundness of VRS investments and funding were competitively procured. As part of this evaluation, the investment consultants evaluated the performance of the VRS portfolio and examined the adequacy of investment policies and procedures. The actuarial consultants performed an independent valuation of the retirement system.

Based on these reviews, it appears that VRS investment performance is satisfactory and that the retirement trust fund is well funded. The investment consultant found that the asset allocation for the portfolio was sound, and that VRS returns were generally acceptable given the high degree of diversification which has been achieved. In addition, the managed futures program was found to be a reasonable investment, though some minor improvements in the management of the program are warranted. The actuarial consultant found that current accrued benefits are well funded, but that pay-as-you-go funding of cost of living adjustments could cause contribution rates to increase significantly in the future.

However, while the system is sound, concerns about the governing structure of VRS are at least partially justified. Over the past ten years the size of the retirement fund has grown more than five-fold, with present assets totalling $16 billion. As a result, VRS investments have become increasingly complex. Today, the VRS portfolio consists of a broad array of investments ranging from stocks to real estate to managed futures.

Despite this change, the structure for governance has not been modified to reflect the sophistication of the VRS investment program. For example, the statutory qualifications for trustees do not reflect the growing need for investment expertise on the Board. In addition, the advisory committees which are essential for the evaluation of all VRS investments have not been incorporated in the statutory structure for VRS. And finally, the appointment process has resulted in the appearance that the Board is not independent and may be influenced by political considerations. Moreover, the current structure and appointment process is not consistent with the General Assembly's constitutional responsibility for the retirement system. These findings are discussed in detail in the remaining chapters of this report.

VRS RETIREMENT AND OTHER BENEFITS

VRS exists for the sole purpose of providing its members with benefits at retirement, or upon disability or death. VRS administers four major benefit programs: service retirement, disability retirement, group life insurance, and deferred compensation. The two largest programs, in terms of participation and benefits paid, are service retirement and group life insurance.

Service Retirement

Full retirement benefits are payable to VRS members who attain age 65 with at least five years of service, or who are at least 55 years old with 30 years of service. Members who are at least 55 years old and have at least five years of service credit are eligible to take early retirement with reduced monthly benefits. Approximately $588 million in service retirement benefits were paid in FY 1993. In FY 1993, 71,203 retirees and beneficiaries received benefits. In addition, there were 15,168 inactive employees vested to receive retirement benefits. State employees and teachers constitute the large majority of retirees and beneficiaries (Table 1).

Table 1

VRS Retirees, Beneficiaries, and Vested Inactive Employees - FY 1993

Employee Group	Retirees	Beneficiaries	Vested Inactive Employees
VRS State	25,365	2,193	4,133
VRS Teacher	28,298	710	6,852
VRS Political Subdivision	12,967	971	4,162
SPORS	357	47	14
JRS	197	96	7
Total	67,184	4,017	15,168

Source: Virginia Retirement System.

The service retirement benefit amount is based on age, years of service, and average final compensation (AFC). However, there are some differences in benefits for State police, some local law enforcement officers, and judges. In most cases, the VRS pension benefit is paid monthly for the remainder of the retiree's life. However, there are several alternative methods of receiving retirement benefit payments. Under the basic benefit option, if the retiree dies before he or she receives benefits equal to the amount of accumulated contributions plus interest, the excess amount is paid in a lump sum to the designated beneficiary.

There are also two different "survivor" options. Under the first, the retiree receives a reduced monthly benefit which continues to be paid to the beneficiary upon the death of the retiree. Under the second survivor option, the retiree receives a slightly higher benefit and the beneficiary receives a reduced monthly benefit upon the retiree's death. Finally, the social security option provides the retiree with a more level income prior to becoming eligible for social security, but nothing is payable to the beneficiary upon death of the retiree.

Disability Retirement

Any VRS member who becomes permanently unable, due to mental or physical reasons, to perform his or her present duties receives a monthly benefit payable for life. The VRS disability retirement program provides for regular and work-related disability retirement. In order to be approved for disability retirement, approval must be granted by the VRS Medical Board and the VRS Board of Trustees. The Medical Board is composed of three physicians who are not eligible to participate in the VRS retirement plan.

The monthly disability retirement benefit is equal to the greater of (1) a percentage of AFC (determined by qualification for Social Security Disability Benefits or Worker's Compensation Benefits), or (2) the result of a formula based on the member's highest 36 consecutive months of salary and service. More than $74 million in disability retirement benefits were paid to 9,215 VRS members in FY 1993. Disability retirees were distributed as follows:

VRS State Employees	4,224
VRS Political Subdivision Employees	2,498
VRS Teachers	2,376
SPORS	100
JRS	17

Group Life Insurance

VRS provides life insurance coverage, without the requirement of a medical examination, for active and retired employees. During FY 1993, more than $51 million in claims were paid to 2,601 beneficiaries. Participation in the program is a mandatory condition of employment. Approximately 272,000 active employees and 66,000 retired employees were covered under the program in FY 1993. Individuals covered under the group life insurance program were distributed as follows:

VRS State Employees	119,481
VRS Teachers	129,324
VRS Political Subdivision Employees	86,739
SPORS	1,946
JRS	540

The life insurance benefit for natural death is equal to twice the member's salary rounded to the next highest $1,000. The group life insurance program also provides accidental death and dismemberment coverage for active employees. If the member's death is accidental, the benefit is double the natural death coverage. For the accidental loss of one limb or sight of one eye, the member receives a payment equal to his or her salary rounded to the next highest $1,000. For the loss of two limbs, or the total loss of eyesight, the member receives a payment equal to his or her salary rounded to the next highest $1,000, and then doubled.

A member's life insurance coverage continues after retirement; however, the amount of coverage is reduced by two percent each month until it reaches 25 percent of the original value. Upon retirement, accidental death and dismemberment coverage ceases. Upon termination of employment, all group coverage ceases. However, the individual has the option of converting coverage to an individual policy at non-group rates.

Deferred Compensation

Under this program, salaried State employees may defer receipt of current compensation until a later date. Typically, program participants defer receipt of the income until retirement. Taxation on the deferred income is thereby delayed along with any accrued income from interest, dividends, and any other gains until benefits are paid. In order to receive favorable tax treatment, the income deferred by program participants must remain the property of the Commonwealth of Virginia until such time that benefits are paid. Participants may annually defer the lesser of (1) 25 percent of gross income or, (2) a maximum or $7,500. Plan assets are maintained and invested by the Hartford Life Insurance Company, and by Mellon Bank. As of June 30, 1993, there were 5,948 participants in the program. This included 5,185 members with active or inactive accounts, and 763 individuals who received benefits.

Retiree Health Care Credit

The retiree health care credit program was established by the General Assembly on January 1, 1990. The program provides credits against health insurance premiums for eligible State retirees. VRS has accounting responsibilities for administration of the program. During FY 1993, VRS collected $10.4 million in retiree health care credit contributions from State employers and provided credits of $7.9 million to State retirees. The retiree health care credit fund has a balance of $9.5 million as of June 30, 1993.

ORGANIZATION OF THE VIRGINIA RETIREMENT SYSTEM

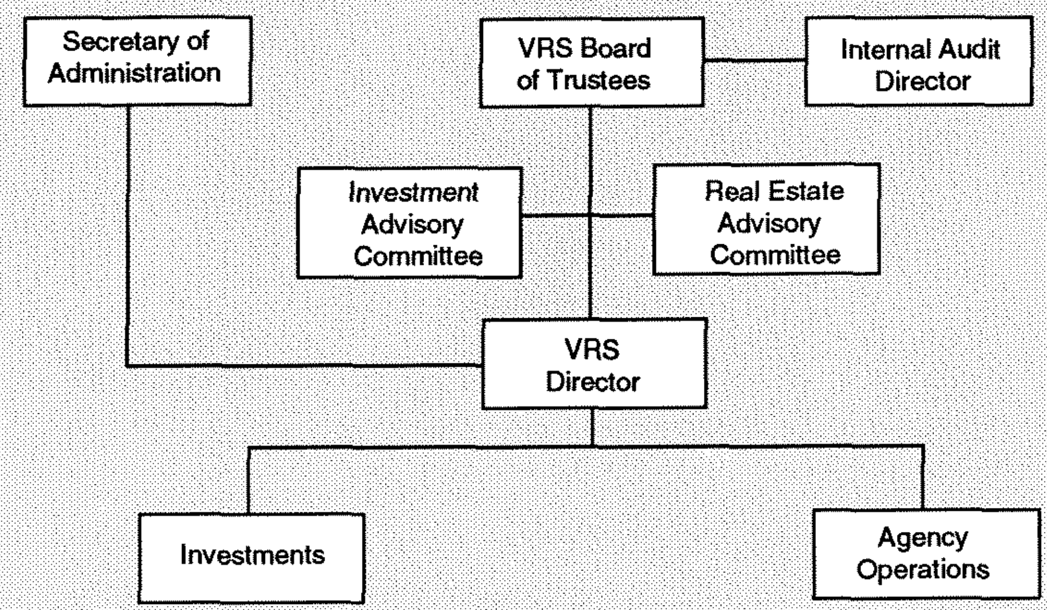
The Virginia Retirement System has been organized as a State agency within the executive branch of State government. A seven-member Board of Trustees appointed by the Governor is responsible for developing policies and procedures to guide the administration of the State's retirement system. The day-to-day management and operation of VRS is the responsibility of the executive director who is appointed by, and serves at the pleasure of the Board. As an executive branch agency, VRS is in the Administration Secretariat. Figure 1 illustrates how the retirement system is organized.

VRS Board of Trustees

Article X, Section 11 of the Virginia *Constitution* states that the General Assembly "shall maintain a state employees retirement system to be administered in the best interest of the beneficiaries thereof and subject to such restrictions or conditions as may be prescribed by the General Assembly." To fulfill this responsibility, the General Assembly has delegated, by statute, responsibility for pension fund assets to a Board of Trustees.

Figure 1

Organization of the Virginia Retirement System



Source: Virginia Retirement System.

Appointment of Trustees. The VRS Board consists of seven members appointed by the Governor, subject to confirmation by the General Assembly. The *Code of Virginia* requires that the Board include: one official within the executive branch of State government, one teacher, one State employee, an employee of a political subdivision participating in the retirement system, and three individuals who are neither teachers, State employees, nor otherwise in the employ of any governmental body. The *Code of Virginia* also requires that all Board appointees have a significant background in one or more of the following fields: finance, accounting, investments, private business, education, or personnel.

Board members are appointed by the Governor for six-year terms with members leaving the Board on a staggered basis. No Board member other than the executive branch official may serve more than two successive six-year terms. The Governor may suspend or remove any member of the Board for malfeasance, misfeasance, incompetence, misconduct, neglect of duty, or conflict of interest.

The chairman of the Board is selected by the Governor, while the vice chairman is elected by the Board itself. The chairman's major function is to set the agenda for and preside over meetings of the Board. In addition, the chairman makes appointments to Board committees subject to Board approval.

Administrative Responsibilities of the Board. Section 51.1-110 of the *Code of Virginia* gives the Board responsibility for a number of functions related to administration of the retirement system. These responsibilities include appointing a director to serve as chief administrative officer, maintaining records of all proceedings, publishing an annual statement of the receipts, disbursements, and current investments of the system, and promulgating necessary regulations and procedures to carry out all statutory provisions related to the system. The Board is also required to employ an actuary, and any other persons and incurring expenditures it deems necessary for the efficient administration of the system.

A key responsibility of the Board is to complete an actuarial investigation of all of the experience under the system at least once each five-year period while completing a periodic review and revision of the actuarial assumptions. The Board is also to complete biennially an actuarial valuation of the assets and liabilities of the system with respect to each employer and to subsequently publish the results.

Investment Responsibilities of the Board. The Board is responsible for the promulgation and monitoring of investment policies, procedures, and practices. It must also ensure that the VRS assets are effectively and properly invested in a manner consistent with the standards set out in the *Code of Virginia*. The management and investment of funds held by the retirement system are arguably the most important statutory responsibilities of the Board. Sound investments help to generate additional funds for benefits to retirees, and reduce the burden of contributions by employers and members. On the other hand, investments which are unsound can place at risk the ability of the retirement system to fund benefits, and might require the expenditure of State general funds.

Recognizing the importance of its responsibility with regard to investments, the VRS Board, with guidance from the General Assembly, has developed a sophisticated system for evaluating the appropriateness of various investments. The process, which has been developed over many years, includes statutory restrictions on the types of investments that are permitted, VRS investment policies and procedures, a five-year investment plan and real estate plan, the use of advisory committees, and administration and supervision of investments by a professional staff.

The process is specifically designed to provide the VRS Board with complete and accurate information about the investments it considers, including expert advice from staff and others. It also provides for the orderly and planned execution of investments in compliance with a well-developed strategy. It is through this process, in part, that the Board carries out its fiduciary responsibilities for investments. The process ensures "due diligence" in the execution of investments.

VRS Advisory Committees

In order to assist and advise the Board in discharging its investment responsibilities, the Board has created two advisory committees: the Investment Advisory Committee (IAC) and the Real Estate Advisory Committee (REAC). Neither of these committees are required by the *Code of Virginia*. Rather, the structure and responsibilities of the committees have evolved over time.

Investment Advisory Committee. The primary purpose of the IAC is to advise the Board on a regular basis concerning matters related to the investment and management of VRS investments other than real estate. The IAC is responsible for evaluating the asset allocation mix, reviewing the performance of in-house and external investment managers, and making recommendations to the Board concerning investments. In evaluating the outside managers of VRS assets, the IAC uses benchmarks or goals that have been set for the managers. This provides an objective standard against which performance can be judged. Evaluations are made on a quarterly basis, with presentations from the external managers and the VRS staff.

The IAC is comprised of at least seven and not more than nine members. Collectively, the overall make-up of the IAC is required to meet the following two requirements: (1) at least two, but no more than three of the members must also be trustees, with at least one of these members being a beneficiary representative; and (2) at least four of the members must be investment professionals (including, but not limited to, persons experienced in stocks, fixed income, derivatives, etc.) with at least one of these four investment professionals being an academic in an investment related field of teaching or research. Each member of the IAC may meet more than one of the aforementioned requirements (e.g. an IAC member may be a trustee and an investment professional).

The chairman of the IAC is appointed by the Board chairman, subject to the approval of the Board. The vice chairman is elected by the members of the IAC. The chairman must also be a member of the Board but may not be the chairman of the Board. The vice chairman of the IAC may be any member of the IAC who is not the chairman of the Board. Each IAC member who is not a member of the Board is appointed for a two-year term and is eligible for re-appointment for up to two additional two-year terms. Such members may not serve on the IAC for more than six consecutive years without at least a one-year break in service. These service limitations do not apply to Board members serving on the IAC. All members of the IAC serve at the pleasure of the Board and may be relieved of their position at any time by a majority vote of the Board.

Real Estate Advisory Committee. The second investment committee is the real estate advisory committee (REAC), which advises the Board on a regular basis concerning matters related to the investment and management of VRS investments in real estate. The REAC performs functions similar to the IAC. Some of the main responsibilities of the REAC include: review, recommend, and update VRS real estate investment guidelines; review the fund's real estate asset mix; examine additional sources of real estate investment income and ways to increase returns on investments; and review the competence and performance of all real estate investment managers. In addition, because real property is involved, at least one member of the committee visits all properties in which VRS may invest. As is the case for the IAC with regard to equity investments, the REAC makes recommendations to the Board concerning all investments related to real estate.

The REAC is appointed by the chairman of the VRS Board, subject to Board approval. Under policies established by the Board, the REAC must be comprised of at least seven and no more than nine members. Collectively, the overall make-up of the REAC must meet the following two Board requirements: (1) at least two, but no more than three of the members must also be members of the Board with at least one of these members being a beneficiary representative; and (2) the remaining members must be real estate professionals or officials from business or government with related experience. Each member may meet more than one of these requirements. The chairman of the REAC is appointed by the Board chairman, subject to the approval of the Board. The vice chairman is elected by the REAC. The chairman of the REAC must be a member of the Board but may not be the chairman of the Board. The vice chairman of the REAC may be any member of the REAC who is not the chairman of the Board.

Each member of the REAC who is not a member of the VRS Board is appointed for a two year term and is eligible for re-appointment for up to two additional two year terms. These term limitations do not apply to the Board members serving on the REAC. By Board policy, all members of the REAC serve at the pleasure of the Board and may be relieved of their position at any time by a majority vote of the Board.

VRS Standing Committees

The VRS Board has also established two standing committees, the audit committee and the administration committee. These committees assist the Board in carrying out its duties in an efficient and effective manner.

Audit Committee. In order to ensure an accurate accounting of VRS financial practices, and to assist the Board in carrying out its duties more effectively, an audit committee has been constituted to monitor compliance with VRS financial standards and objectives. The objectives of the audit committee include the accumulation of pertinent information about audits, the functioning of the system, investment accounting, and related matters. In addition, the committee makes recommendations to the Board for improvements and other needed actions. The committee consists of three Board members and is appointed periodically by the chairman of the Board.

Administration Committee. The purpose of the administration committee is to review administrative issues identified by either the Board or by VRS staff and to make recommendations to the Board related to those issues. Functions of the committee include: reviewing issues related to benefits where the Board has been asked to make a determination; reviewing disability cases brought to the Board; oversight of the accounting and financial reporting functions; and reviewing agency budget proposals and proposed legislation.

In addition, the committee reviews reports and recommendations related to actuarial data and reports and the group life and deferred compensation programs. Finally, the committee is charged with reviewing the administrative policies and procedures of the Board on an annual basis. The committee is composed of three Board members with one serving as chair, all of whom are appointed by the Board chair subject to Board approval.

VRS Staff

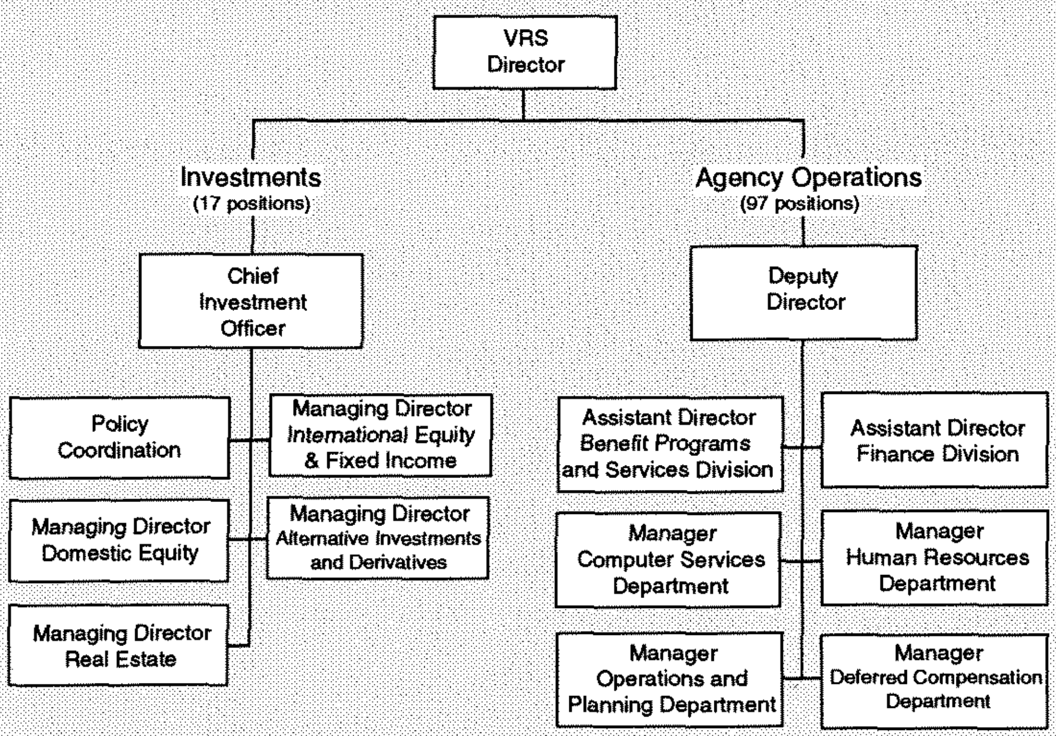
The VRS staff organization is divided into two major functional departments (Figure 2). The investment staff are responsible for the management of the VRS portfolio. Agency operations staff administer the VRS benefits programs and provide overall agency support. Currently, the maximum employment level for VRS is 120 positions.

VRS Investment Staff. The VRS investment program is directed and supervised by the Board, with advice from the advisory committees. The investment program is executed by the professional staff of the VRS investment department. The investment department is comprised of a staff of 17 and is divided internally into four distinct units: domestic equity, international equity and fixed income, alternative investments, and real estate. The investment staff are supplemented by 75 external money managers and several investment consultants.

Prior to 1990, a chief investment officer (CIO) provided executive level management and oversight of the daily operations of the investment department. However, the

Figure 2

VRS Staff Organization



Source: Virginia Retirement System.

CIO position has been vacant for the past four years, and VRS has shifted responsibility for the day-to-day operation of the investment portfolio to the second layer of management in the VRS investment department, the managing directors. There are currently four internal investment managing director positions. These positions include the managing director for: (1) domestic equity; (2) fixed income and international equity; (3) alternative investments and derivatives; and (4) real estate. These managing directors are responsible for the management and oversight of their individual portions of the VRS portfolio. At present, these positions report directly to the VRS director, and indirectly to the appropriate advisory committee.

VRS investment staff are responsible for evaluating external investment managers, searching for new managers, researching and evaluating new investments, and managing those investments administered in-house. Staff report to the advisory committees at each monthly meeting, and periodically report to the Board on matters related to investments. The staff are also a source of in-house expertise for the advisory committees and the Board.

Agency Operations Staff. In order to administer retirement and other benefit programs and services, and to provide overall agency support, VRS currently has 97 administrative and support staff who report to the deputy director. These staff perform functions such as benefit and claims administration, financial management and accounting, data processing, and human resources management. The staff are organized into two divisions, each headed by an assistant director. In addition, there are four free standing departments that are not in any formal division. Those department managers report directly to the deputy director.

The Benefit Programs and Services Division contains three sections: benefit programs, field services, and publications and information. Functions performed by staff in this division include the processing of applications for service retirement, disability retirement, and group life insurance benefits. In addition, staff counsel VRS members and beneficiaries regarding their benefits. Staff in this division also issue various publications for VRS members and employers. This division, which has 36 staff, also initiate monthly benefit payments to VRS retirees and prepares refund vouchers for members.

The Finance Division has five sections: general accounting, investment accounting/operations, purchasing, membership accounting, and employer control. The division provides accounting and financial management services to VRS. In particular, it prepares the annual VRS Component Unit Financial Report. Specific types of accounting services that the department provides include investment, payroll, and membership accounting. This division, which has 32 staff, is also responsible for VRS purchasing.

The Human Resources section, which has three staff, provides human resource management services in support of VRS personnel and assigned projects. For example, this section develops and administers personnel policies, recruits and screens qualified applicants for employment, provides orientation to new employees, and coordinates and manages VRS employee training programs.

The Operations and Planning section, which has six staff, provides VRS with management analysis, records management, electronic document imaging, and word processing services. The section's management analyses focus on areas such as organizational structure, management practices and controls, and operational policies and procedures. This section also maintains the agency's mailroom and stockroom.

The Computer Services section has 17 staff and is responsible for all inter-agency data processing. This section also administers VRS databases, maintains the agency's local area network, and is responsible for systems development and programming.

The Deferred Compensation section, which has just one staff person, is responsible for administering the deferred compensation program. Specific responsibilities of the section include recording keeping and accounting, as well as monitoring the performance of the program's investment managers.

STUDY MANDATE

The 1993 Virginia General Assembly passed House Joint Resolution 392 which directs JLARC to study the Virginia Retirement System. In particular, the mandate for this study directs JLARC to study the structure of the VRS Board of Trustees and its advisory committees; the structure of the VRS pension trust fund; the soundness of VRS investments; and the actuarial soundness of the retirement system.

The impetus for this study grew out of questions which have been publicly raised concerning the day-to-day operations of the Board and some of its investment practices. Specifically, there are questions on whether changes are needed in the structure of the pension fund and the Board itself to ensure VRS' independence as a public trust. In addition, questions persist about both the appropriateness and soundness of the Board's investment practices There are also concerns about the long-term financial ability of the retirement system to provide benefits to its members.

STUDY APPROACH

This study was designed to examine three broad areas: (1) the structure and governance of the Virginia Retirement System, focusing on the independence and effectiveness of the Board of Trustees, the advisory committees, and the VRS trust funds; (2) the investment policy and performance of VRS; and (3) the actuarial soundness, funding policy, and funding adequacy of VRS. Within these areas, the following issues were addressed:

- Is the structure and method of appointing members of the VRS Board of Trustees, and its advisory committees, adequate to ensure independent and effective governance of the retirement system?

- Is the structure of the VRS trust funds adequate to ensure the independence of VRS as a public trust?

- Are the investment policies and procedures of VRS reasonable?

- Has VRS achieved a satisfactory return on its investments?

- Is the current VRS asset allocation structure optimal?

- Has VRS taken the appropriate steps to reduce risk in its portfolio?

- Does VRS appropriately supervise its money managers?

- Are VRS real estate investments sound?

- Are the actuarial methods and assumptions used by VRS adequate to promote sound funding and stable contribution rates for the retirement system?

- What is the current and long-term funding status of the retirement system?

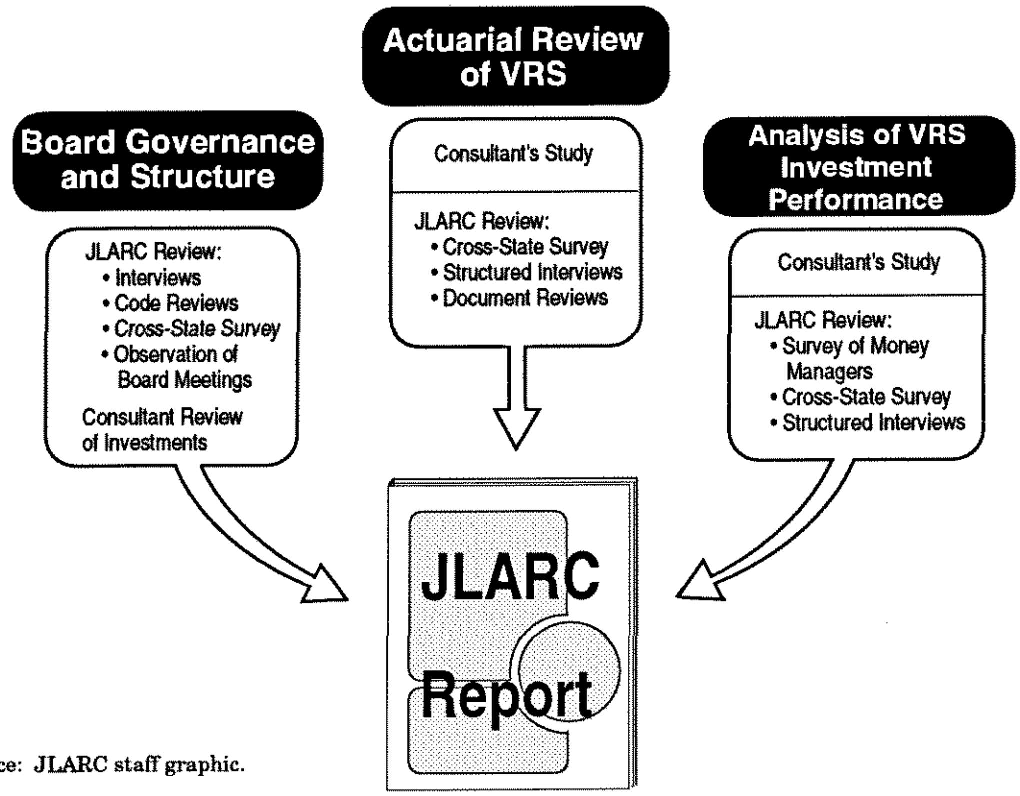
This study did not examine the structure, design, or administration of VRS benefits. Issues concerning benefit eligibility and adequacy, as well as the effectiveness and efficiency of VRS in managing benefit administration and claim processing, were outside the scope of this study. Rather, given the current structure and level of pension and life insurance benefits promised to VRS members, this study examines the adequacy and appropriateness of VRS governance, investments, and funding to ensure provision of those benefits over the long term.

A number of research activities were conducted to examine each study issue. Many of these research activities required the use of sophisticated investment and actuarial analysis. For that reason, JLARC retained the services of Bear Stearns Fiduciary Services, Inc. (Bear Stearns) as an investment consultant. JLARC also retained the services of Alexander & Alexander Consulting Group (Alexander & Alexander) as an actuarial consultant. Both consultants were hired after the completion of a thorough selection process. The selection process included the development of detailed requests for proposals, distribution of the requests for proposals to investment and actuarial consulting firms, evaluation of the proposals, and reference checks on those firms which submitted proposals.

JLARC's consultants performed research and analysis in two of the three study areas (Figure 3). Research activities conducted by JLARC staff were used to examine certain topics not addressed by the consultants, developed information to supplement the consultants' analysis, and enabled JLARC staff to more critically and effectively evaluate the consultants' findings and recommendations. The next section of this chapter provides a brief discussion of some of the activities that were used to address several of these issues.

Figure 3

Overview of Research Plan for the VRS Study



Source: JLARC staff graphic.

Review of VRS Structure and Governance

The general focus of this analysis was on determining whether aspects of structure and governance tended to reduce the independence or effectiveness of VRS as a public trust. Once such aspects were identified, the analysis proceeded to evaluate alternative models of structure, governance and legislative oversight, both for the VRS Board and its advisory committees, as well as for the VRS trust funds.

Structured Interviews. Numerous structured interviews were conducted with a variety of individuals. Interviews included those with VRS Trustees; IAC and REAC members; VRS staff; members of the VRS Review Board; staff from the Department of Planning and Budget, the House Appropriations Committee, and the Senate Finance Committee; and staff of retirement systems and pension review commissions in other states.

These interviews focused on identifying problems, and possible remedies, concerning VRS structure and governance.

VRS/RF&P Subcommittee Public Hearing. On September 13, 1993, the VRS/RF&P Subcommittee of JLARC held a public hearing to receive comments on VRS investment policies and performance, the actuarial soundness of the VRS trust funds, and the soundness of the VRS group life insurance program. Six speakers provided comments on issues ranging from investment performance to the independence of VRS from political considerations.

Mail Survey of Other State Retirement Systems. In order to determine how other state employee retirement systems are structured, a survey was sent to each state. Usable responses were received from 32 states. The survey included questions concerning the structure and appointment of the governing boards and any advisory committees. The survey also contained questions concerning the appointment and responsibilities of the board chairman, the structure of the pension trust fund, and retirement system oversight.

Review of Other State Statutes and Constitutions. In order to obtain information concerning the structure of state retirement systems that did not respond to the JLARC mail survey, the statutes and constitutions of all 50 states were examined for relevant pension fund provisions. This also enabled JLARC staff to collect additional information that was not requested by the survey.

Observation at VRS Board and Advisory Committee Meetings. JLARC staff attended all meetings of the VRS Board, the IAC, and the REAC between April and September, 1993. The purpose of attending the meetings was to observe the decision making process of the VRS governing and advisory bodies, and to obtain a better understanding of VRS operations.

Analysis of Secondary Data. A number of secondary data sources were used to obtain additional information on the structure and governance of other state retirement systems. These included the PENDAT database prepared by the Government Finance Officers Association (GFOA) for the members of the Public Pension Coordinating Council. This database was compiled in 1993 using results from a 1992 mail survey of 325 state and local retirement systems. However, five state employee retirement systems did not respond to the GFOA survey, and are not in the database.

Literature Reviews. A number of academic and professional reports concerning public pension fund administration and management were reviewed by JLARC staff. These included the 1992 *Special Report of the Attorney General of Virginia.*

Evaluation of Investment Policy and Performance

One of the key issues in the study was the appropriateness and quality of VRS investments. The majority of the research and analysis concerning VRS investments was performed by Bear Stearns. JLARC staff conducted a mail survey of other state retirement systems, performed a quantitative analysis of VRS investment data, and reviewed VRS investment policies and procedures.

Review of Investment Information. As the first step in its evaluation of VRS investments, Bear Stearns collected a great deal of information concerning the investment policies and performance of VRS. This information was obtained from written policies and procedures, various research reports prepared by VRS staff and others, annual reports from other pension funds, investment industry literature, and surveys conducted by Greenwich Associates, GFOA, and the Trust Universe Comparison System. Bear Stearns also surveyed selected state retirement systems. Responses were obtained from several comparable retirement systems. Bear Stearns met with staff from some of the state retirement systems to discuss the responses.

Structured Interviews. Bear Stearns interviewed many people directly associated with VRS. These included present and former VRS trustees, members of the IAC and REAC, VRS staff, and various VRS consultants. JLARC staff accompanied Bear Stearns on nearly all of the interviews. Bear Stearns also attended meetings of the VRS Board and the two advisory committees. In addition, Bear Stearns met or spoke with a variety of individuals representing various types of financial advisory firms active in different aspects of the pension industry.

Quantitative and Qualitative Analysis of Investments. Finally, Bear Stearns performed quantitative analysis of VRS investment performance and asset allocation data. Qualitative analysis was performed concerning the appropriateness of VRS investment policies and procedures. A detailed description of the Bear Stearns analysis of performance is contained in the Bear Stearns technical report.

Mail Survey of Other States. JLARC staff sent a survey to employee retirement systems in 20 states. These retirement systems were selected due to their comparability to VRS in terms of asset size. The survey contained questions concerning investment management structure, investment policies and procedures, asset allocation, and investment performance. Usable responses were received from 12 states. JLARC also surveyed the remaining 29 state retirement systems concerning the amount and type of their real estate investments. Usable responses were received from 21 states.

Mail Survey to VRS Money Managers. In addition, JLARC surveyed all of the external money managers retained by VRS. This survey, which had a 100 percent response rate, contained questions concerning VRS hiring practices, performance monitoring and performance evaluation. The survey also asked about the quality of VRS investment staff, and the appropriateness of VRS investment policies and procedures.

Analysis of Actuarial Soundness

A significant objective of this study was to determine VRS' financial ability to continue to provide benefits that have been promised to active and retired employees. In order to make this determination, JLARC retained the services of Alexander & Alexander Consulting Group to perform an actuarial review of VRS. JLARC staff also performed research activities in this area, including those designed to determine how VRS compared to other state retirement systems in terms of various actuarial characteristics.

Independent Actuarial Valuation and Projections. Alexander & Alexander performed an independent actuarial valuation of VRS, SPORS, and JRS. This was done in an attempt to duplicate the results of the June 30, 1992 valuation performed by the VRS actuary. Performance of the valuation enabled Alexander & Alexander to critically assess the appropriateness of VRS' actuarial methods and assumptions. Upon completing the valuation, Alexander & Alexander performed 30 year projections of contribution rates and funding status for VRS, SPORS, and JRS. Projections of contribution rates were made using a variety of assumptions concerning COLA funding, investment earnings, salary increases, and employee mortality.

Mail Survey to Other States. In order to collect information on the actuarial policies, practices, and characteristics of other state retirement systems, JLARC staff sent a survey to the employee retirement system in each state. Usable responses were received from 32 states. The survey included questions concerning actuarial assumptions and methods, funding status, and contribution rates.

The PENDAT database prepared by GFOA was used to obtain actuarial data on those states that did not respond to the JLARC survey. Actuarial data for those states that did not respond to either the JLARC survey or the GFOA survey were collected from the annual reports of the respective retirement systems.

Document Reviews. JLARC staff performed extensive reviews of VRS documents, actuarial literature and public pension reports. These included VRS Annual Component Unit Financial Reports, VRS actuarial valuations, the 1992 *Comparative Study of Major Public Pension Plans* by the Wisconsin Retirement Research Committee, the 1980 *Report of the Virginia Retirement Study Commission*, correspondence between the VRS actuary and VRS staff, and annual reports of other state retirement systems.

Report Organization

The remaining chapters in this report present the results of an analysis of the structure and governance of VRS, the soundness of its investments, and the adequacy of pension funding, and the funding and rate structure of the group life insurance program. Chapter II provides a review of VRS structure and governance. Chapter III presents the results of Bear Stearns' analysis of VRS investment policy, procedures, and performance. Finally, Chapter IV presents the results of Alexander & Alexander's evaluation of the actuarial soundness of the VRS pension funds.

II. Governance and Structure of the Virginia Retirement System

Over the past 15 years, VRS has experienced tremendous asset and membership growth. In 1978, the retirement system's assets totaled $1.3 billion and there were more than 209,000 active and 29,500 retired members. By 1993, the assets of VRS had grown to $15.9 billion, with more than 259,000 active and 71,200 retired members, and 15,100 vested, inactive members. This is an increase of 1,100 percent in assets and 141 percent in retired members and beneficiaries. The phenomenon of rapid growth has transformed the management and operation of VRS into one of considerable complexity. Consequently, there are now greater demands on the governing structure of the retirement system.

A strong system of governance is essential for VRS for a number of reasons. First, the large and growing asset levels of VRS make it a complex financial organization which requires competent and proactive leadership. Second, the purpose of VRS is to provide benefits to members of the retirement system. The governing system must operate prudently and effectively in order to safeguard members' assets, and deliver promised benefits. Third, in order to maintain the confidence of the VRS membership, the retirement system must be governed in a manner that is, in both appearance and fact, independent and free of political interference.

This chapter reviews the structure and appointment of the VRS Board and its advisory committees, as well as the independence of the retirement trust funds. In addition, the chapter assesses the need for stronger legislative oversight of VRS consistent with the General Assembly's constitutional mandate. By addressing these issues, the General Assembly can ensure that the system of governance is appropriate and effective.

GOVERNANCE OF THE RETIREMENT SYSTEM

The *Constitution of Virginia* states that "the General Assembly shall maintain a state employees retirement system to be administered in the best interest of the beneficiaries thereof and subject to such restrictions or conditions as may be prescribed by the General Assembly." As a result of this constitutional mandate, the governance of VRS is an important priority of the General Assembly. To implement the constitutional requirement, the General Assembly has delegated governance of the retirement system to the VRS Board of Trustees (the Board.) The General Assembly has set out in statute the general framework in which the Board is to administer the system.

Within the statutory framework prescribed by the General Assembly, the Board sets policy and provides day-to-day leadership and oversight for the retirement system.

This system of governance served the Commonwealth well for many years, because the retirement system was much smaller and less complex than it is today.

Recently, however, VRS' system of governance has been called into question. Questions have been raised concerning the appointment of trustees to the VRS Board, as well as the qualifications for Board membership and the independence of the Board as a governing body. Similar questions have been raised concerning the Board's two advisory committees. Furthermore, several recent Board actions have diverted attention from substantive issues associated with the soundness of the system, and have created a negative public perception of VRS, especially among State and local employees.

In order to restore the confidence of VRS members and retirees, the competence and independence of VRS must be assured. Therefore, modifications to the VRS system of governance are necessary and appropriate at this time. Given the Legislature's constitutional responsibility for the retirement system, the General Assembly should have a greater role in the appointment of VRS trustees. Also, the qualifications of trustees should better reflect the increasingly complex nature of investments considered by the Board. This is true also for the qualifications of members of the two advisory committees which provide investment advice to the Board.

To ensure the true independence of VRS, it should be established as an independent agency, outside of the executive branch. In addition, the retirement fund should be established as an independent trust in the State Constitution. A joint legislative/executive oversight commission should be established to provide the necessary accountability for VRS as an independent agency and trust.

All Appointments to the VRS Board are Made by the Governor

Virginia is one of only eight states, all of which have retirement systems with smaller total assets than VRS, in which the Governor has the sole power to appoint retirement system trustees. This has contributed to a perception among VRS members that the Board is not entirely independent of the executive branch in its decisionmaking. Some of the appointments made by recent governors, such as cabinet members, has strengthened this perception. In addition, complete gubernatorial appointment authority does not properly reflect the General Assembly's constitutional responsibility for the retirement system. The appointment of trustees would better reflect the responsibility of the General Assembly and improve the independence of the Board if some trustees were appointed by the Legislature.

Appointment Methods Used by Other States. It is rare for a state to allow its governor to appoint all of the trustees to the retirement system board. Most states have some type of shared trustee appointment authority (Table 2). In these states, a number of different entities are given at least some trustee appointments. These entities include the state legislature, as well as active and retired members of the retirement system. In addition, many states fill some trustee positions on an ex-officio basis, such as requiring that the state treasurer or comptroller serve on the board.

Table 2

Board of Trustee Appointment Methods Used by Other State Retirement Systems

		Shared Appointment Authority					
State	Governor Appoints All	Governor	Legislature	Active Members	Retired Members	Ex-Officio	Other
Alabama		●		●	●	●	
Alaska		●					●
Arizona	●						
Arkansas		●				●	
California		●	●	●	●	●	●
Colorado				●	●	●	
Connecticut		●				●	●
Delaware		●				●	
Georgia		●				●	●
Hawaii		●		●		●	
Idaho	●						
Illinois				●	●	●	
Indiana	●	●					
Kansas		●	●			●	●
Kentucky		●				●	●
Louisiana				●	●	●	
Maine		●		●	●	●	
Maryland		●				●	●
Massachusetts				●		●	●
Michigan		●				●	
Minnesota		●		●	●		●
Mississippi		●		●	●	●	
Missouri		●	●	●	●	●	
Montana	●						
Nebraska	●						
Nevada	●						
New Hampshire		●	●			●	●
New Jersey		●		●		●	
New Mexico				●	●	●	
North Carolina		●	●			●	
North Dakota		●		●	●	●	●
Ohio				●	●	●	
Oklahoma		●	●			●	●
Oregon	●						
Pennsylvania		●	●			●	
Rhode Island		●		●	●	●	
South Carolina						●	
South Dakota		●		●	●	●	●
Tennessee		●		●		●	●
Texas		●	●	●			●
Utah		●				●	
Vermont				●		●	
VIRGINIA	●						
West Virginia		●				●	
Wisconsin		●		●	●	●	
Wyoming		●				●	
TOTAL	8	31	8	21	15	35	15

Note: The state employee retirement systems of Florida, Iowa, New York, and Washington are not governed by a board of trustees.

Source: JLARC staff analysis of other state retirement system survey data, and other state retirement statutes.

Legislatures in eight states, including North Carolina and Kansas, currently have some trustee appointment authority. For example, in 1993, Kansas reformed its trustee appointment method under which the governor appointed all seven trustees. Under the new method, the governor appoints four trustees, the legislature appoints two, the system members elect two, and the state treasurer serves on an ex-officio basis. There were two reasons for the change. First, the prior board had presided over a questionable series of investments. Second, there were indications that the board had become too politicized as the result of having the governor make all of the appointments.

To some extent in Virginia, as in Kansas, the appointment of all trustees by the Governor has raised questions about the independence of the Board. This perception has been strengthened by the nature of some appointments. Over the past 16 years, appointments to the Board have included two Secretaries of Finance, a Secretary of Administration, the State Treasurer, the State Comptroller, and the director of the Department of Planning and Budget. While members of a Governor's administration cannot form a majority of the Board, their presence and administrative stature gives the appearance that the Board might be influenced by gubernatorial direction.

This is especially a problem when a Governor has appointed a majority of the Board, as is the current situation. Only three of the current seven trustees were not appointed by the present Governor. In fact, three of the past five governors have appointed majorities to the Board during their terms. Because of the make-up of the Board, the next governor can also be expected to appoint a majority to the Board, including the chairman, within six months of taking office.

Control of the appointments of trustees by the Governor is not consistent with the General Assembly's ultimate constitutional responsibility for the retirement system. The constitutional language directing the Legislature to maintain a retirement system gives the General Assembly a unique obligation with regard to governance of the system. It is reasonable to expect that the General Assembly might want some greater level of involvement in the selection of the trustees to whom the Legislature has delegated authority for the system.

Recommendation (1). **The General Assembly may wish to amend Section 51.1-109 of the *Code of Virginia* to require the General Assembly to appoint some members of the Virginia Retirement System Board of Trustees.**

Qualifications for Trustees are Inadequate

In recent years, oversight of VRS investments has become the Board's most prevalent and time consuming responsibility. However, the required qualifications for serving on the VRS Board have not kept pace with this growing responsibility. Current statutory requirements for membership on the VRS Board tend to focus on representation of specific types of VRS members rather than on professional qualifications of the trustees. The growing sophistication of VRS investments warrants a greater level of investment expertise for the Board members.

Current Board Qualification Requirements. Section 51.1-109 of the *Code of Virginia* contains a number of requirements for Board membership. The Board must consist of the following types of individuals:

- one official from the executive branch of State government,
- one teacher,
- one State employee,
- one employee of a political subdivision participating in VRS, and
- three individuals who are neither teachers nor State employees nor otherwise in the employ of any government.

The *Code of Virginia* broadly defines "state employee" and "local employee" by including elected and appointed officials, constitutional officers, and other employees at the State and local level. While these definitions are more likely intended to apply for determining eligibility for retirement system membership, they have been used in qualifying appointees and local elected officials for the Board of Trustees. In addition, the *Code of Virginia* requires that each trustee have a significant background in one or more of the following fields: finance, accounting, investments, private business, education, or personnel.

Problems with the Qualification Requirements. The statutory provisions for Board membership are both vague and of questionable value. Under the current system, it is possible for a person to qualify as a trustee without having any demonstrated investment experience or knowledge of sophisticated retirement systems. Some of the requirements also add to the perception that the Board is influenced by political considerations.

The most significant of the problems relates to the professional expertise or experience of the trustees. For example, since almost all of the Board's actions relate to the consideration of investments, it is not clear how the statutory qualifications in education or personnel relate to the needs of the Board. These qualifications seem only designed to provide for the backgrounds of trustees whose appointments are already required elsewhere in the statute. In addition, the specific type of professional background which constitutes significant experience in "private business" is unclear.

According to JLARC's investment consultant, Bear Stearns Fiduciary Services, the issues and problems involved in the area of public pension fund investment require informed judgment and significant expertise at the Board level. After its review of VRS for JLARC, Bear Stearns concluded that a majority of VRS trustees should have direct experience in the investment of large employee benefit funds.

There are other problematic aspects of the current qualification requirements for Board membership. One trustee, while designated as the political subdivision employee representative, is actually an elected local constitutional officer (Table 3). The

Table 3

Composition of VRS Board of Trustees

Designated Board Seat	Professional Background of Trustees
Political Subdivision Employee	Finance
Executive Branch Official	Personnel
State Employee	Finance, Personnel
Teacher	Education
Non Government Employee	Law
Non Government Employee	Investments
Non Government Employee	Investments

Source: JLARC staff analysis of *Code of Virginia* and VRS data.

fact that this trustee is an elected official may promote the perception of external political influence, and raises questions about the independence of the Board.

Furthermore, two other trustees (the State employee and the executive branch official) are appointed to their positions of employment in State government by the Governor, and serve at his pleasure. As discussed earlier in this report, this situation promotes a perception of undue gubernatorial influence on the Board, and also raises questions about the Board's independence.

Recommendation (2). **The General Assembly may wish to require that a majority of Virginia Retirement System trustees have experience in the direct investment of large funds. Representation for teachers, State classified employees, and local employees should be continued.**

Recommendation (3). **The General Assembly may wish to amend Section 51.1-109 of the *Code of Virginia* to prohibit elected officials and executive branch appointed officials from serving on the Virginia Retirement System Board of Trustees. However, the State Treasurer could be appointed as an ex-officio, non-voting member.**

Perceptions of Board Actions have Eroded Confidence

Since 1990 the VRS Board has been involved in a series of events which, at least at first glance, call into question the independence of the Board and its ability to effectively govern the system. Several of these episodes were covered extensively by the press, and a few were examined in the 1992 report by the Attorney General. As a result of these events, the Board has found itself subject to a degree of public scrutiny that is probably unusual for a state retirement system.

These recent events have detracted from the public image of VRS. For example, at a public hearing held by JLARC, a member of the Virginia Governmental Employees Association (VGEA) stated that, "in recent years a cloud has been placed over the *retirement system* by controversial actions of the VRS Board, thus the confidence of the beneficiaries of the system has been eroding." During that public hearing, a general lack of confidence in the retirement system on the part of VRS members was evident. Other comments from the public hearing included the following:

> The VRS fund is not a trust fund in the truest sense of the term. It is not a truly independent agency, free of the influences of the political agendas and fiscal policies . . . .
>
> * * *
>
> The Board of Trustees should have a greater degree of independence. Greater independence would protect them from the burden of the demands of politics. Therefore, greater independence of the Board of Trustees would protect us, the present and future beneficiaries of the VRS.
>
> * * *
>
> In addition to the salary that school employees receive, their next most valuable economic asset is the vested interest they have in VRS. Consequently, it is only natural that they become concerned and perturbed when matters related to VRS are in the headlines month after month.

Among the issues which have raised concerns about the retirement system are the RF&P Corporation acquisition and subsequent appointments to the RF&P board of directors, compliance with the Freedom of Information Act, the Redskins stadium proposal, and public disputes over investment policy. All of these events have left an impression of a Board which is influenced by political considerations, which is unnecessarily secretive, and which is unable to effectively govern the retirement system. While these impressions may not all be based on fact, the perceptions continue to exist among many members of the VRS.

The Acquisition of the RF&P Corporation. In October 1991, through a complex series of asset transfers and stock purchases, VRS became the owner of the RF&P Corporation (RF&P). The primary assets of RF&P are real estate. Approximately 30 percent of the assets are non-income producing, undeveloped land holdings, with the largest single parcel of undeveloped land being Potomac Yard in Alexandria.

This investment contributed to a public perception that VRS investments are increasingly risky and speculative. Much of the controversy surrounding this investment occurred after the acquisition was completed. Opponents of the investment questioned the decision of the Board to commit VRS to this long-term investment and the potentially high costs associated with the development of RF&P's raw land holdings. However, consultants hired by JLARC to review the RF&P acquisition found that the company could be a sound long-term investment for the VRS.

Much of the poor public perception regarding this investment may have resulted from the failure of VRS to communicate in a timely fashion with the General Assembly and VRS members concerning the rationale for the acquisition, and why it was in the best long-term interests of the retirement system. The RF&P acquisition is evaluated in detail in the JLARC report titled *The Virginia Retirement System's Investment in the RF&P Corporation.*

Concerns about the acquisition were exacerbated with the subsequent appointment of RF&P board members. Prior to the acquisition, the VRS Board had appointed the Board chair and another trustee to the board of directors for RF&P. Subsequent to the acquisition, they were the only two remaining members of the RF&P board. In October 1991, these two directors elected other members of the RF&P board without the knowledge or advice of the rest of the VRS Board. While this action appears to have been within the legal authority of the two directors, VRS Board members strongly objected to the failure to consult them on what they perceived to be a critical operational issue. This episode contributed to a public perception that the VRS chair and another trustee were imposing their will on the Board, and inappropriately wielding a disproportionate amount of influence. It also left the impression that the RF&P directors would be subject to the control of these two VRS Board members.

Virginia Freedom of Information Act (VFOIA). In August 1992, the Circuit Court of the City of Richmond ruled that the chair of the VRS Board violated VFOIA due to her unwillingness to familiarize herself with the statute. The chairman was fined $250 for this violation. The litigation arose from the failure of VRS to notify an individual, who had previously requested written notification, of a VRS Board meeting.

The meeting which prompted the lawsuit was actually that of the Systems Holding Incorporated (SHI) board which is the holding company for the RF&P. All of the VRS trustees attended this meeting, which was called to discuss the hiring of consultants for SHI. However, VRS business was also conducted. The actions of VRS which prompted this litigation may have contributed to a perception that it is unduly secretive in its actions. This perception may have been magnified since the litigation concerned, at least indirectly, matters involving the RF&P.

Redskins Stadium Proposal. In June 1992, Governor Wilder announced a tentative agreement wherein the Washington Redskins would construct a new stadium on land owned by the RF&P at Potomac Yard in Alexandria. However, some of the attempts by VRS to advocate the benefits of the stadium for the system's investment in RF&P proved somewhat counterproductive. In October 1992 the VRS director wrote a letter to all State employees which advocated the stadium proposal as "the best opportunity for an immediate and substantial return on investment for VRS . . . ." However, while this letter was written with the Board's knowledge, it was written before the Board received a report on the proposal from its independent consultant, and before the Board took any action on the proposal.

Despite the fact that the stadium proposal was ultimately withdrawn, the proposal added to the increasingly poor public perception of VRS. First, it created additional concerns about the soundness of the RF&P investment, since the proposal was inconsistent with prior RF&P discussions and preliminary plans regarding the development of Potomac Yard. Second, it may have contributed to a public perception that VRS staff and the VRS Board were improperly influenced by the Governor.

Public Dispute about Investment Policy. Development of consensus and resolution of disputes is an inherent element of a deliberative, policy making process. Members of a policy making body, such as the VRS Board, will often disagree on the merits of alternative strategies or policies in the course of its decisionmaking process. As members of a collegial body, it is important that the VRS trustees develop consensus and resolve disputes internally as a Board.

However, there are recent examples in which this concept of a collegial Board was not upheld by one trustee, who made public his personal disagreements with Board decisions. In one case, VRS used a particular investment strategy as a hedge against extreme market volatility. Although the nature of the strategy requires that it remain confidential, the trustee publicly criticized the Board's use of this approach, claiming it resulted in significant losses.

This public dispute has raised concerns about the Board's ability to maintain the confidentiality of sensitive information concerning investment policy. In addition, the episode has raised questions concerning the credibility of VRS in some sectors of the financial markets. For example, the Board has charged that the trustee opposed to the investment strategy openly discussed it with third parties at an investment seminar, and with the staff of a national investment bank. In addition, the trustee sent a memo concerning the strategy to the Attorney General and the Secretary of Administration, but failed to note the confidential nature of the investment program. For these reasons, following a meeting with its external investment manager in which serious concerns about confidentiality were expressed, the Board obtained from the trustee a promise to maintain the confidentiality of such information in the future.

Another example of an inappropriate public dispute involves appointments to the RF&P Board. As previously noted, when the VRS Board chair and another trustee, acting as RF&P directors, elected new RF&P board members without the knowledge or consent of the VRS Board, the trustees strongly objected. At first, this disagreement was appropriately confined within the Board. However, one trustee made his disagreement with the chair public by alerting the media to the situation. On another occasion, one trustee called publicly for the resignation of two other trustees.

The Role of the Board Chair Needs to be Redefined

Over a long period of time, the position of chair has acquired a degree of perceived, but not necessarily intended, power and authority. This power and authority appears to stem from the fact that the chair is appointed by the Governor. However, such power is only implied since the chair has no statutory responsibilities. While the Board recently defined the role of the chair as part of its policies and procedures, the stated responsibilities are minimal. The *Code of Virginia* should set out a clear role for the chair to provide leadership for the Board and to communicate on its behalf.

Responsibilities and Activities of the VRS Chair. There are no statutory responsibilities for the VRS chair. However, due to the perceived authority resulting from the gubernatorial appointment, recent chairs have taken it upon themselves to expand their roles. In response to recommendations contained in the 1992 Special Report of the Attorney General of Virginia, the Board formally defined the role of the chair. The chair's defined role is to set the agenda for, and preside over, meetings of the Board. In addition, the chair makes appointments to Board committees subject to Board approval.

Questions have been raised concerning whether the activities of the present chair, as currently defined, extend beyond the role established for the position. While the management styles of individual trustees may differ without any consequence to the retirement system, special access to staff or information on the part of the chair may affect the proper functioning of the Board as a whole. However, neither JLARC staff nor JLARC's investment consultant could identify any evidence which suggests that the activities of the current chair are inappropriate in any way. On the other hand, questions concerning the appropriateness of the chair's activities point to the need for a more explicit definition of the chair's responsibilities.

Recommendation (4). **The General Assembly may wish to amend the *Code of Virginia* to define the role and responsibilities of the chair of the Virginia Retirement System Board of Trustees.**

Strong Chief Investment Officer Needed

The VRS investment staff has grown gradually with the increase in the size and sophistication of the fund (with the exception of 1989-91 when the size of the staff first increased, then decreased, dramatically). Under the current structure the investment staff is composed of a chief investment officer (CIO), four managing directors, one policy coordinator at the managing director level (the Special Assistant for Policy Coordination) and four full-time and one part-time assistants.

The investment department and the managing directors are organized according to the type of investment programs under each managing director's jurisdiction. Thus, one managing director is responsible for management of all domestic equity securities in the VRS portfolio, whether managed by external managers or by the VRS internal asset management operation. Another managing director is responsible for all domestic and international fixed income securities, international equities, cash management and the relationship with the VRS custodian. The third has responsibility for the alternative investments and the managed futures program. The fourth managing director oversees the real estate investment program.

In prior years, the investment staff reported to the CIO. However, since the departure of the CIO in 1990, that position has been vacant. Following the initial vacancy in 1990, the Board commenced a search for a replacement who would have the same duties as the prior CIO. The Board's attempt to find a replacement was unsuccessful. Subsequently, the Board reorganized the investment department of VRS to create four managing director positions. Under that reorganization, the four managing directors technically report to the VRS Director although most of their dealings are with the IAC.

Most recently, the Board initiated the process to hire a CIO in the investment department. However, according to the revised job description of the new CIO position, that person's duties now appear more administrative than substantive investment direction and coordination. The Board's reported rationale for this approach was that the system of four managing directors working directly with the IAC appeared to be working well, and therefore, ought to be left alone. However, the Board believed that someone to administer and coordinate the investment department would be helpful. Hence, the Board redefined the CIO position and commenced a search in late 1992. The position was filled effective January 1, 1994.

Bear Stearns reviewed the plans for the CIO as a part of this study and found that the revised position may not meet VRS' long-term needs. In the current structure, the performance of the CIO and the staff of the investment department would be reviewed and evaluated by the VRS Director. Bear Stearns reports that this could present the Board and the IAC with a problem. The Director position does not appear to require substantive investment expertise; rather, the Director is responsible for the efficient and proper operation of the overall system. Thus, the Director position does not require the substantive investment expertise that would facilitate proper evaluation of investment matters.

Based on its review of the VRS investment program, Bear Stearns has recommended that the VRS investment department be managed by a CIO who has overall responsibility — under the IAC and the Board of Trustees — for the organization, structure and performance of the VRS investment department and investment portfolio. The CIO's functions should thus include:

- overall coordination of asset allocation for all asset classes and subclasses within each class;

- facilitation of communication among staff, trustees, advisory committees, and possibly outside groups (e.g. participants, the General Assembly, the press); and

- enhancement of the Board's ability to reach decisions rather than avoiding difficult cases (e.g., hiring only one — not numerous candidates — for one investment manager slot; terminating managers for poor or non-conforming performance).

Bear Stearns also recommends that consideration be given to providing in the *Code of Virginia* for the selection, appointment (possibly via a special employment contract), and new reporting duties for the CIO at the VRS. The VRS chief investment officer is for all practical purposes the individual who would have primary responsibility for the oversight of the investment of $16 billion in State assets. Therefore, the General Assembly may want to consider requiring that in addition to the normal reporting relationship of the CIO to the VRS Board and the IAC, the CIO would also periodically present a formal report to the General Assembly. This report could include a review of the assets of VRS, the growth of those assets since the prior report, the VRS asset allocation, significant changes, if any, in that allocation, the investment performance of the overall fund since the last report and any other aspects of the fund's operations which the VRS deems to be important.

Recommendation (5). **The General Assembly may wish to amend the *Code of Virginia* to establish the position of chief investment officer for the Virginia Retirement System. The duties of the chief investment officer should include coordination of asset allocation; communication with trustees, advisory committees, and the General Assembly; and staff support for the VRS Board of Trustees and its advisory committees.**

Recommendation (6). **The General Assembly may wish to provide for the employment of the chief investment officer by special employment contract which would set out performance and formal reporting requirements. The General Assembly may also wish to require that the appointee to the position be confirmed by the General Assembly. The employment contract should require the chief investment officer to make periodic reports to the General Assembly.**

Structure and Role of the Advisory Committees Can Be Strengthened

Due to the rapid growth in the amount of VRS assets and the increased complexity of investment operations, the Board's need for sophisticated, objective, and prudent investment advice has never been greater. The Board cannot possibly attend to every detail of every VRS investment on its own. Advisory committees, therefore, are now a critical and essential part of the investment process.

The current advisory committee structure, consisting of the investment advisory committee (IAC) and the real estate advisory committee (REAC), appears to be a fairly well-organized and useful system. However, in order to ensure that the advisory committee structure continues to serve VRS well in the future, the committees' role and structure should be formally defined in statute. In addition, because of the importance of the investment advice provided to the Board, the necessary qualifications for advisory committee membership need to be set out in the *Code of Virginia*. In particular, the number of members with professional investment and real estate expertise on the committees should be increased.

Advisory Committees Are Not Required or Defined by Statute. Neither the IAC nor the REAC is required by the *Code of Virginia*. While VRS has developed extensive policies and procedures concerning the structure and responsibilities of the two advisory committees, none of these aspects have been incorporated into statute. Retirement systems in some other states, such as Tennessee and Maryland, have codified their advisory committees, and vested them with specific statutory responsibilities. The lack of a statutory mandate for the VRS advisory committee structure raises questions concerning its long term permanence and continuity.

Professional Expertise of Committees Could Be Increased. The members of both advisory committees serve on a part time basis. As a result, in order to provide the VRS Board with appropriate advice, advisory committee members must rely on VRS staff to provide in-depth analysis of various issues. Therefore, it is critical that advisory committee members have significant investment management expertise. Only with such expertise can committee members adequately analyze, and decide whether to recommend to the VRS Board, the particular investments or programs proposed for VRS by staff or consultants.

According to JLARC's investment consultant, Bear Stearns, a majority of the members of the IAC and the REAC should have substantial expertise in investment management. However, the two advisory committees currently lack that level of expertise. A majority of the seats on each advisory committee are held by individuals without professional experience in either investments or real estate.

In meetings observed by JLARC staff and Bear Stearns, the expert members, with significant experience in investments or real estate, provide the most input during committee meetings, and provide the greatest amount of scrutiny to the recommendations of VRS staff, consultants, and external managers. The non-experts, by comparison, appear to play a very minor role in the committees' decisionmaking. The inclusion of a majority of non-experts on the Board's advisory committees does not appear to provide any benefit to VRS, and may not serve the best interests of VRS members.

Recommendation (7). **The General Assembly may wish to amend the *Code of Virginia* to require the Virginia Retirement System Board of Trustees to formally maintain an Investment Advisory Committee and a Real Estate Advisory Committee. The Code of Virginia should define the general responsibilities of the advisory committees.**

Recommendation (8). **The General Assembly may wish to define in the statute qualifications necessary for membership on the Investment Advisory Committee and the Real Estate Advisory Committee. In addition, the General Assembly may wish to require that a majority of the members of each advisory committee meet such standards.**

Independence of the Trust Fund Could be Strengthened

The VRS pension trust fund was established exclusively for the benefit of VRS members. Section 51.1-102 of the *Code of Virginia* states that:

> The assets of the retirement systems administered by the Board are trust funds and shall be used solely for the benefit of members and

beneficiaries and to administer the retirement systems and shall not be subject to appropriation by the General Assembly.

In addition, the VRS pension plan is a qualified plan under the provisions of the U.S. Internal Revenue Code. As a result, the pension trust fund is exempt from federal taxation on its contributions and investment earnings. In order to maintain its qualified status, numerous requirements must be met. One of the most important requirements is that no assets be withdrawn from the plan by the plan sponsor. A loss of the qualified plan status, with the resultant adverse tax consequences, would be harmful to the financial condition of the fund. As a result, the State's desire to maintain the tax exempt status provides substantial protection to existing pension trust fund assets.

Despite the State statutory language and the IRS restrictions, questions have been raised periodically concerning the long-term ability of the trust funds, and the retirement system, to function solely on behalf of VRS members and retirees. For example, while federal law prohibits transfer of trust fund assets, maintenance of specific contribution levels to ensure the actuarial soundness of the trust funds is not required.

Some of the concerns about the independence of VRS stem from structural characteristics of the trust fund and the State's appropriations process. Through the Appropriations Act, the General Assembly and the Governor may impose whatever restriction or condition they wish on VRS. For example, the Act can be used to effectively set employer contribution rates at whatever level desired. This creates the opportunity to reduce or suspend State contributions to VRS. Such reductions may be counter to actions taken by the VRS Board and its actuary. To the extent that the Board is not allowed to implement its funding policy, the independence and soundness of the trust fund may be weakened.

Because of concerns about the adequacy of current statutory language establishing the retirement fund as a trust, a constitutional amendment would provide a means to better define the independence of the fund. The extent to which the fund is made independent should be based on a number of explicit policy decisions including:

- Should VRS funding take priority over other State commitments?
- Should specific VRS funding levels be required?
- Should pension benefits be accorded constitutional protection?
- Should the ultimate discretion of the General Assembly to consider VRS funding within the context of the State's overall financial condition be maintained?

Constitutional Provisions in Other States. A total of 13 states have some sort of constitutional provision concerning the funding of their retirement systems. These constitutional provisions include the following:

Michigan's constitution establishes payment of pension benefits as a contractual obligation of the sponsoring governmental entities which shall not be diminished or impaired. The constitution also requires that benefits arising due to service rendered in each year be funded during that year. This provision was an attempt to rectify policies which permitted sizable deficiencies to accrue in the state's retirement systems.

* * *

The Texas constitution requires that the financing of benefits must be based on sound actuarial principles. In addition, the assets of all retirement systems are required to be held in trust for the benefit of members and may not be diverted.

* * *

Georgia's constitution requires the General Assembly to define funding standards which will assure the actuarial soundness of any public employee retirement system, and to control legislative procedures so that no retirement legislation will be passed without concurrent provisions for funding in accordance with the defined funding standards.

* * *

The constitution of North Carolina prohibits the General Assembly, as well as any public officer, from using public employee retirement funds for any purpose other than system benefits, administrative expenses, and refunds. Furthermore, retirement system assets shall not be applied, diverted, loaned to, or used by the state or any state agency.

* * *

Nevada's constitution defines the funds of the public employees retirement system to be trust funds, and requires that they not be used for any other purposes.

While some of the provisions in other states may not be appropriate in Virginia, they illustrate the range of options available to the General Assembly.

Alternatives for Amending the Virginia Constitution. At a minimum, several amendments to Article X, Section 11 of the Virginia *Constitution* would be appropriate if the General Assembly wishes to strengthen the independence of the VRS trust fund. First, all of the VRS trust funds could be defined as independent public trusts in the *Constitution*. The assets of the independent public trusts could be used only for the benefit of VRS members and beneficiaries. Specified financial practices, such as low interest loans to the Commonwealth without the approval of the VRS Board of Trustees, could be prohibited. Second, the *Constitution* could require employer contributions that are based on the valuation performed by the VRS actuary, and that are consistent with sound actuarial principles.

Additional provisions could also be considered. For example, VRS benefits could be defined as a contractual obligation of the State, which shall not be diminished or impaired. In addition, the *Constitution* could require that no retirement legislation be passed by the General Assembly without concurrent provisions for funding in accordance with defined funding standards.

Recommendation (9). **The General Assembly may wish to consider amending Article X, Section 11 of the Virginia *Constitution* to include the following provisions: the VRS retirement funds are independent public trusts, the assets of which are not subject to appropriation by the General Assembly or for use as loans for other State purposes; and the financing of VRS pension benefits shall be based on sound actuarial principles, with employer contributions consistent with the recommendation of the VRS actuary.**

A Proposal for Strengthened Governance

In order to ensure that VRS is properly governed as it grows into the next century, with probable assets of $20 to $30 billion, the General Assembly needs to consider a comprehensive restructuring of the retirement system. The restructuring should focus on enhancing the independence of VRS, and imposing more stringent qualifications for Board membership to better reflect the increasing complexity of retirement system investments. Several basic goals should guide the restructuring effort. Specifically, the General Assembly should:

- strengthen the retirement system's actual and perceived independence from the executive branch of State government;
- strengthen the retirement fund as an independent trust;
- increase legislative involvement in Board appointments, but retain a strong gubernatorial role;
- balance the representation of VRS member groups with strong investment and actuarial experience in making Board appointments;
- keep the size of the Board and its advisory committees at a reasonable number of members;
- alleviate any perception of undue external political influence on the Board's operations and decision making; and
- maintain Virginia's tradition of private citizen governing boards.

To implement the recommendations of this report, a proposal for restructuring the system of governance for VRS is suggested below. This proposal meets the basic goals for the restructuring and provides a system of governance which recognizes the Legislature's constitutional responsibility for the retirement system.

Restructuring Should Enhance VRS Independence. The first and most important goal for the restructuring of VRS should be to strengthen its independence. To achieve this goal, a number of actions are necessary. First, VRS should be established as an independent State agency. As noted earlier, it is currently part of the executive branch, and is within the Administration Secretariat. This tends to promote a perception that VRS is not sufficiently independent of the Governor. The chief investment officer would serve as the head of the new agency.

The single focus of the independent agency should be on the investment of retirement system funds. Consequently, administration of VRS benefits should be transferred to an executive branch agency within the Administration Secretariat. One possibility, for example, would be to create a new employee benefits agency to assume responsibility for the administration of pension benefits, life insurance benefits, and all other benefit programs currently administered by VRS and the Department of Personnel and Training. The legislative Workforce Commission is currently studying such an alternative. Investment and actuarial functions would remain with VRS.

Second, the VRS retirement fund should be established as an independent trust in Article X, Section 11 of the *Constitution*. The independent status of the trust would help to ensure that adequate funding is available for benefits under the system. Such a change could also be critical in restoring confidence in the retirement system.

Third, the Governor's complete control over appointments to the VRS Board should be reduced. While the Governor should continue to have a strong role in appointing trustees, complete control of the process further contributes to a perception of excessive gubernatorial influence. Therefore, to provide some balance to the appointments, the Board should be expanded to nine members, and the General Assembly should elect three trustees. The Governor should appoint six members to the new, enlarged, VRS Board. The sharing of appointments by the legislative and executive branches would be more consistent with VRS' independent status. Elected and appointed State and local governmental officials should be prohibited from serving on the Board as trustees. Such a prohibition will help the Board develop and maintain a much needed perception of political independence and nonpartisanship. However, the State Treasurer could be added as an ex-officio, non-voting member of the Board because of the Treasury Department's extensive investment activities.

Fourth, as an independent agency, the Board should elect its own chairman. Virginia is one of only eight states in which the governor selects the chairman. The current arrangement would be inappropriate for VRS as an agency independent of the executive branch. A chairman selected by the Board would promote the independence of the Board in its decision making. The General Assembly may also want to require that the chairmanship be rotated on a two-year basis.

Finally, VRS trustees should be removed from the Board only for cause. Currently, the Governor may suspend or remove any trustee for cause, such as malfeasance or misconduct. The *Code of Virginia* does not prescribe any limitations or conditions on the Governor's power to determine that sufficient cause exists for removal.

With VRS as an independent agency, however, it would be inappropriate for the Governor to have sole authority to remove trustees. Instead, it might be more consistent with VRS' independent status to have trustees removed by order of a court of record upon petition by the Governor or the General Assembly. This would further enhance the independence of the Board.

Restructuring Should Strengthen Trustee Qualification Requirements. Given the growing complexity of the retirement system, a majority of VRS trustees should have extensive professional qualifications, especially direct investment or actuarial experience. However, the VRS membership should continue to be represented on the Board. Therefore, in restructuring the Board, statute should require that six VRS trustees have at least five years of investment or actuarial experience, while three trustees should be vested VRS members who represent teachers, classified State employees, and classified employees of political subdivisions without further requirement as to professional background or experience. The Governor's six appointments should include the three membership representatives and three qualified professionals. The General Assembly should appoint the other three professionals.

The Board's two advisory committees should also be appointed by the Board based on specific professional qualifications in the areas of investments and real estate. According to JLARC's investment consultant, the IAC and REAC should both consist of seven members. The IAC should be structured in statute as follows:

- A minimum of four individuals elected by the VRS Board of Trustees, who are not themselves trustees, and who have a minimum of five years experience in the direct management or investment of the assets of employee pension plans having more than $500 million in assets;

- A minimum of two members of the VRS Board of Trustees, elected by a vote of the Board.

The REAC should be similarly structured:

- A minimum of four individuals elected by the VRS Board of Trustees, who are not themselves trustees, and who have a minimum of five years experience in the direct management or investment of the real estate assets of employee pension plans having more than $500 million in assets;

- A minimum of two members of the VRS Board of Trustees, elected by a vote of the Board.

Implementation of the New Governing Structure. Implementation of a new structure of governance for the Virginia Retirement System will be a complex task, involving the creation of an independent agency, the transfer of benefit programs to another agency, and the appointment of trustees who meet the new qualifications. In order to most effectively implement the new structure, the current VRS Board should be dissolved on the effective date of the new structure. Consequently, the newly configured Board and agency would constitute a complete replacement to the current system of VRS governance.

Replacement of the current structure is important for several reasons. First, it would facilitate the appointment of trustees by both the Governor and the General Assembly, as well as the election of a new chairman by the Board. Second, it would clearly signify the independent status of the new Board. This in turn would begin the process of restoring the confidence of the VRS membership.

Since the new Board would be completely independent, the General Assembly and the Governor will need to develop stronger oversight capabilities to monitor VRS. The next section examines oversight and accountability of the retirement system.

LEGISLATIVE OVERSIGHT OF THE RETIREMENT SYSTEM

Due to the General Assembly's constitutional mandate to maintain a State retirement system in the best interest of the members, adequate legislative oversight of VRS is essential. If the retirement system is established as an independent agency, oversight will become more important. However, the General Assembly's ability to provide effective oversight is limited, in large part, because of inadequate communications between VRS and the General Assembly. Legislative concerns over recent high-profile VRS investments in the RF&P Corporation and in managed futures have resulted from the lack of timely, comprehensive information from VRS. Without such information, oversight cannot be carried out effectively. To address this problem, a new process for legislative oversight is needed. Specifically, the General Assembly may want to create a permanent oversight commission for the Virginia Retirement System.

Legislative Oversight Should be Implemented by Permanent Commission

The complexity of VRS investment and funding practices makes it difficult for the full General Assembly, or any of its standing committees, to effectively perform an oversight function. This obstacle to effective oversight could be addressed by a permanent legislative oversight commission for the retirement system. The current Virginia Retirement System Review Board is inadequate to provide effective oversight.

VRS Review Board Does Not Provide Effective Oversight. The VRS Review Board is responsible for evaluating all proposed changes in the VRS. However, it is not specifically charged with any responsibility or authority to monitor and evaluate the retirement system on an ongoing basis. The *Code of Virginia* establishes the following duties for the Review Board:

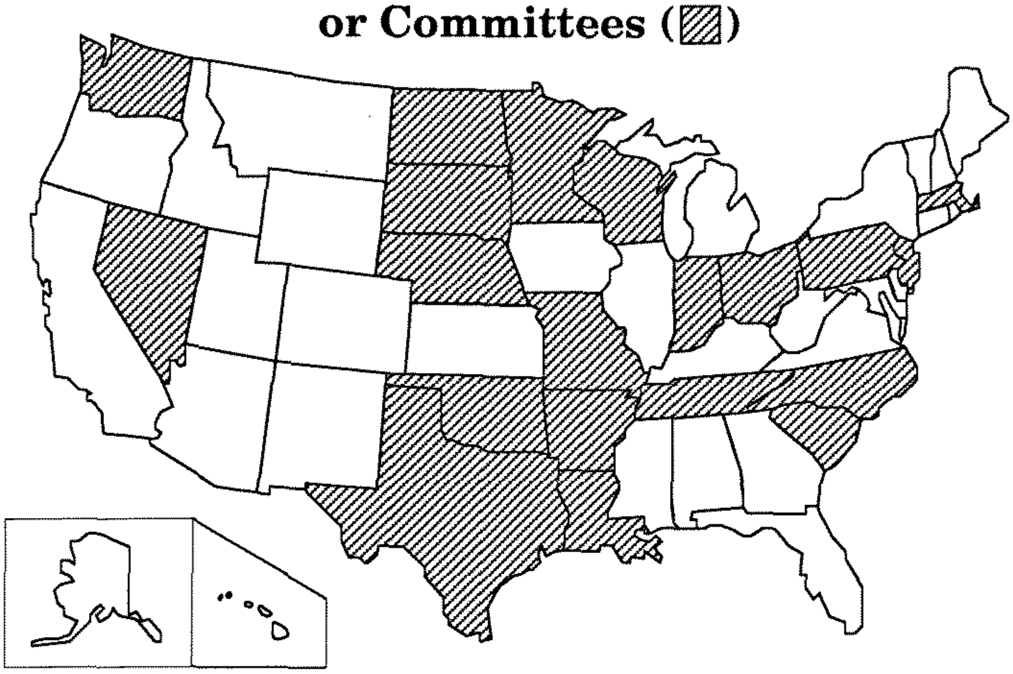
Review and evaluate all proposed changes in the Virginia Retirement System and other retirement systems administered by the board of trustees. In evaluating proposed changes, the Review Board shall determine the actuarial impact, financial impact, and legal sufficiency of the proposed change and the comparability of such change to the provisions of other retirement systems and promptly submit its findings to the General Assembly.

For a number of reasons, the Review Board is not capable of providing the type of oversight needed. First, despite statutory language requiring the Review Board to review "all proposed changes" to the system, its actual role has been fairly minimal. Historically, its role has been strictly that of reviewing retirement legislation introduced in the General Assembly. In addition, the scope of the Review Board's activities are too narrow to allow for effective oversight. Legislative oversight of VRS should be proactive in addressing issues which affect public employee retirement systems in general, and VRS in particular.

Oversight Bodies Used in Other States. Twenty states have some type of oversight entity responsible for monitoring their retirement systems (Figure 4). The structure and responsibilities of these oversight bodies vary. For example, some consist entirely of legislators while others include public members. However, all of these oversight bodies provide their legislatures with independent sources of retirement system information. Examples of these permanent commissions include:

Figure 4

States which Have Oversight Commissions or Committees (▨)



Source: JLARC staff analysis.

Minnesota's Legislative Commission on Pensions and Retirement consists of five members of the house and five members of the senate. The commission reviews all retirement legislation, studies retirement systems and makes recommendations concerning benefits, funding, and overall pension policy. The commission, which has 3.25 staff and a $500,000 annual budget, submits a biennial report to the legislature.

* * *

The Ohio Retirement Study Commission consists of 14 members: three members of the house, three members of the senate, three retirement system members, and the executive directors of the five state retirement systems. The commission is bipartisan. The general purpose of the commission is to advise and inform the legislature on all retirement system matters. This includes review of all retirement legislation, review of laws governing the administration and financing of public pension funds, and issuing an annual report. The commission has five staff, its own consulting actuary, and an annual budget of $462,000 funded by the retirement trust funds.

* * *

Wisconsin has two oversight committees: the Joint Survey Committee on Retirement Systems (JSCRS) and the Retirement Research Committee (RRC). The JSCRS consists of six legislators and four non-legislators. The non-legislators include an actuary, an attorney, the secretary of employee trust funds, and a public member appointed by the Governor. The JSCRS analyzes all retirement legislation prior to referral to committee. The analysis focuses on the bill's cost, desirability as a matter of public policy, and impact on actuarial soundness.

The RRC consists of all JSCRS members, plus nine additional employer and employee members. The RRC reports to the legislature on various topics related to public employee retirement. The RRC and the JSCRS have the same staff, consisting of three individuals with an annual budget of $170,000.

Proposed Legislative Oversight Commission for VRS. The General Assembly needs to enhance its oversight capabilities relative to VRS. The creation of a new legislative commission, with statutory responsibilities and adequate staffing, would provide that capability. The commission's membership should consist of legislators, as well as non-legislators appointed by the Governor. For example, the commission could have three members from the House of Delegates, three from the Senate, and three additional members appointed by the Governor. The non-legislative members could provide the commission with necessary professional expertise. These members should be required to have at least five years of investment or actuarial experience.

The commission could be staffed by the Division of Legislative Services (DLS) or with its own professional staff which receives administrative support from DLS. In addition to its own staff, the commission should have adequate funding to hire consultants for special studies. The commission should also retain an actuary for periodic reviews of the pension trust fund. Funding for the commission should be drawn from the various retirement system trust funds for which the commission would have oversight responsibilities.

Recommendation (10). **The General Assembly may wish to establish a permanent Virginia Retirement System Study Commission to provide ongoing oversight and evaluation of the retirement system. The Commission should be composed of three members from the Senate of Virginia, three members from the House of Delegates, and three qualified professionals appointed by the Governor. To carry out its duties, the commission should have a permanent staff and the authority to hire consultants. Funding for the commission should be from the retirement system trust funds to ensure continuity and independence.**

Components of Effective Oversight

An effective system of oversight for VRS should focus on several key areas, each of which should be the responsibility of the VRS Study Commission. The commission should evaluate on a periodic basis:

- the overall structure and functioning of the retirement system;
- the impact of investment performance on employer contributions;
- the actuarial soundness of the VRS trust funds; and
- the adequacy of communication between VRS and the legislative and executive branches.

Structure of System. The VRS Study Commission should evaluate the overall structure and functioning of VRS on a periodic basis. This type of evaluation could focus on items such as the composition and operations of the Board of Trustees and its advisory committees, the impact of VRS benefit design changes on the soundness of the system, VRS staffing levels, and financial management of the system. As the retirement system grows, the commission could recommend changes to the system as necessary.

Investment Performance. The VRS Study Commission should have a complete understanding of how VRS investments perform, provide diversification for VRS assets, and impact required employer contributions. The commission should not dictate investment decisions to the VRS Board. Rather, it should report its findings regarding VRS investments to the General Assembly, the Governor, and the VRS Board of Trustees. The purpose should be to ensure that each of these key participants in the policy process understands the risks and potential benefits of VRS investments. To carry out this function, the commission should have the authority to hire investment consultants and to conduct investment performance studies.

Actuarial Soundness. Recent questions concerning the group life insurance program provide an example of the General Assembly not having access to adequate actuarial information. Although responsible for administering the program, VRS has failed to effectively communicate with the General Assembly concerning the program's funding policy and status. As a result, the General Assembly has not been able to monitor the program using the best possible information. This has led to some misperceptions of the program, most notably over how the program is funded and the adequacy of premiums. Funding of the group life program is evaluated in detail in the JLARC report titled *Review of the State's Group Life Insurance Program for Public Employees.*

The General Assembly should have an independent assessment of the actuarial soundness of all the VRS pension trust funds, and the group life insurance trust fund, on a periodic basis. The VRS Study Commission could perform this assessment with the assistance of a professional actuary. This type of review will provide the General Assembly with the actuarial information necessary to make informed decisions concerning all aspects of VRS funding. Such an assessment should take place, at a minimum, once every four years. The commission might also want to retain an actuary on a continuing basis to evaluate the information provided by the VRS actuary.

Communication with VRS. The primary communication between VRS and the General Assembly currently occurs during the legislative session, at the staff level, as retirement system legislation is considered. The majority of such legislation typically involves specific changes to the benefit structure of the system. Therefore, it appears that adequate communication between trustees and the Legislature on matters of investment and funding policy is not currently occurring on a consistent basis. To address this problem, a formal mechanism is needed for VRS to report to the General Assembly. The VRS Board recently adopted a communications plan apparently designed to improve communications with the General Assembly, but by itself this effort is inadequate.

The General Assembly may want to require that VRS make periodic reports to the VRS Study Commission. Among the reports which should be made are quarterly and annual investment performance reports and an assessment of the actuarial soundness of the system. The commission should also be given authority to request information from the VRS chief investment officer and the VRS actuary. The commission should be required to make an annual report to the General Assembly and the Governor.

Recommendation (11). **To ensure an effective system of oversight, the General Assembly may wish to establish the following responsibilities for the VRS Study Commission: receive quarterly and annual reports from the Virginia Retirement System on investment performance and annual reports on actuarial soundness; review and report as necessary on all proposed legislation affecting VRS' structure, investments, or funding prior to the consideration by the standing committees of the General Assembly; prepare and maintain background and other information for use by members of the General Assembly; make an annual report to the General Assembly and the Governor**

on the status of the retirement system; and conduct special or continuing studies as directed by the General Assembly.

III. Investment Policies and Performance of the Virginia Retirement System

This chapter is a summary of research completed for the Joint Legislative Audit and Review Commission by Bear Stearns Fiduciary Services, Inc. A copy of Bear Stearns' full report is available upon request from JLARC.

The investment performance of a public pension plan is of great importance to both plan participants and taxpayers because of the major role investment return plays in the overall financing of a retirement system. As a result, it is critical that policy making boards for retirement systems develop and implement fundamentally sound frameworks to govern investment decisionmaking. The importance of this in Virginia is amplified by the rapidly growing size and sophistication of the State's public pension fund. As of June 30, 1993, the VRS investment portfolio had a total market value of $15.9 billion.

The consultant hired by JLARC, Bear Stearns Fiduicary Services, Inc., to evaluate the State's retirement system indicates that the investment program and portfolio structure are fundamentally sound and reasonable in almost all major respects from both a procedural and substantive standpoint. There is no cause for concern in either the investment decisionmaking process or in the results of that process.

Still, Bear Stearns did find problems in the State statutes which govern the pension fund investment activities, as well as a number of specific VRS investment policies and procedures that could be enhanced. The changes proposed by Bear Stearns would be designed to further reduce risk in the pension fund, trim expenses, and increase the likelihood of higher net investment returns on both an absolute and risk-adjusted basis.

With regard to State legislation for the pension fund, currently, the *Code of Virginia* sets forth the standards and restrictions governing investment of VRS assets. In its current form, however, the statute contains many investment restrictions which are ambiguous, inapplicable, or superfluous.

In terms of investment policies, Bear Stearns indicates that the current Board of Trustees has developed an extensive written set of policies and procedures to govern its investment program. While reasonably comprehensive and well-structured in most regards, the written materials still omit an integrated investment policy statement. In addition, there is some question as to whether the Board clearly re-evaluates its asset allocation policies on an annual basis.

A key factor influencing the long-term performance of any pension fund is the actual asset allocation of the portfolio. Presently, the VRS' strategic (long-term) asset allocation targets are 60 percent equities, 30 percent fixed income, nine percent real estate, and one percent managed futures. According to the results of the computer analysis performed by Bear Stearns, this asset allocation is efficient and the expected returns meet the VRS objectives and control total portfolio risk over the long term.

Moreover, asset classes such as alternative investments, international stocks, and managed futures added to the portfolio in recent years, have improved the pension fund's efficiency relative to five years ago and can also be expected to cushion VRS against the impact of possibly adverse financial markets in the future. The performance of the portfolio over the last five years has been acceptable given the high degree of diversification which has been achieved. In addition, the managed futures program was found to be reasonable though some minor problems in the management of the program were detected.

However, VRS could improve the fund's performance and lower expenses through improved management of its external money managers. Although determining the optimal number of external managers for a pension portfolio is a very judgmental matter, presently, the VRS appears to employ too many external managers and some of these active managers have underperformed.

This chapter presents a summary of Bear Stearns findings and recommendations concerning the structure and performance of VRS' investment program. A more detailed version of the Bear Stearns report, including the findings summarized for this chapter is available at JLARC.

THE INVESTMENT PROGRAM OF THE VIRGINIA RETIREMENT SYSTEM

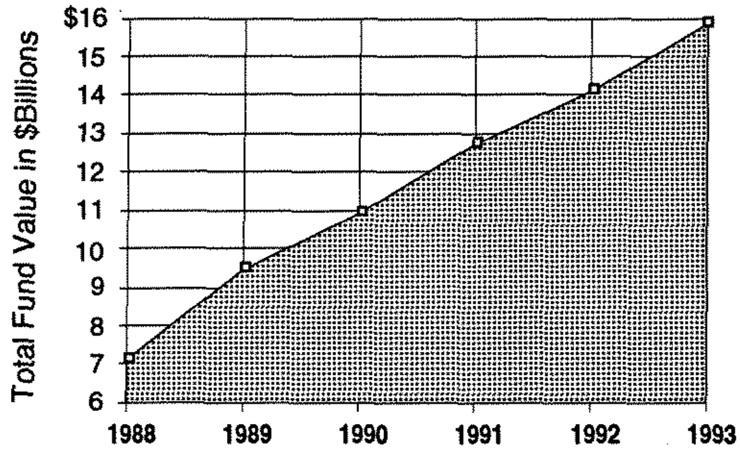
In 1971, the VRS pension fund had approximately $1.1 billion in assets for about 30,000 retirees and beneficiaries. Twenty-two years later, the assets of the pension fund have increased to $15.9 billion for more than 345,000 active members, retirees, and inactive but vested beneficiaries. This growth in pension fund assets was especially rapid between FY 1988 and FY 1993 (Figure 5). In FY 1988, the assets of the fund were valued at $7 billion. Five years later, these assets had more than doubled to just under $16 billion.

All VRS assets either originate as, or are purchased with, VRS revenue. A substantial factor enhancing the growth of the pension fund has been an increase in the size of the State's work force and the related pension fund revenue in the form of employer and employee contributions. In fact, prior to FY 1986, contributions from employees and employers constituted the majority of VRS revenue. However, in recent years — since FY 1990 — investment earnings have exceeded contributions (Figure 6).

The general investment activities of the VRS are governed first by Title 51.1 - Chapter 1, Article 3 of the *Code of Virginia*. The General Assembly passed this legislation as a part of its oversight responsibility for the system which is mandated by the State *Constitution*. This statute basically consists of a prudent man rule and a list of assets in which the VRS may and may not invest.

Figure 5

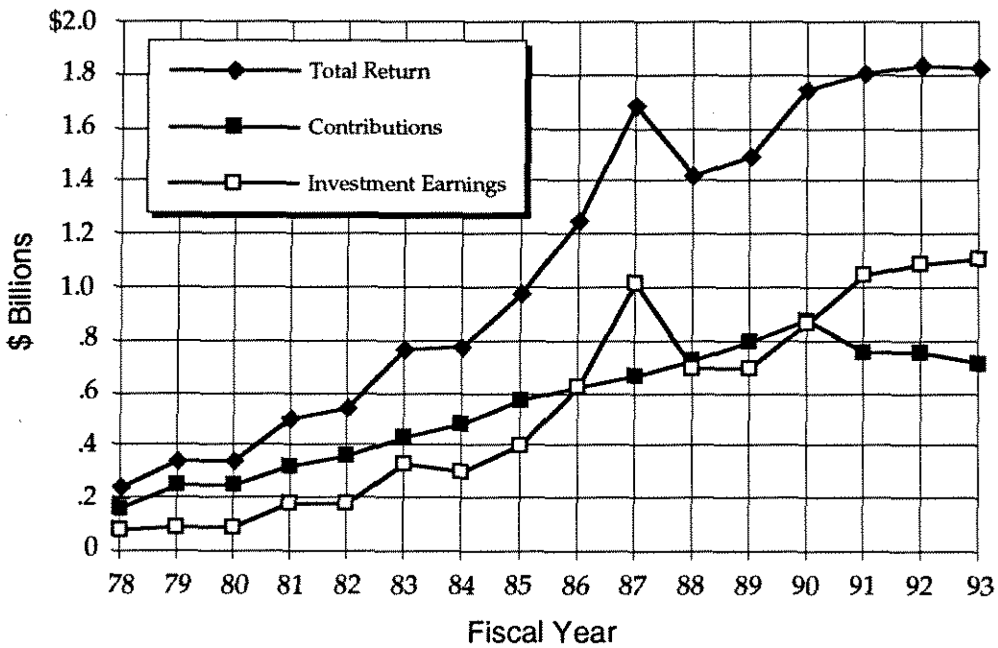
VRS Total Fund Growth FY 1988 - FY 1993



Source: Virginia Retirement System.

Figure 6

Investment Earnings and Contribution Components of Pension Fund Revenue



Source: JLARC staff analysis of VRS data.

The $15.9 billion investment portfolio is also governed by a complex set of policies and procedures and executed by the professional staff of the State's retirement system under the general direction of the Board of Trustees. To administer this system and manage its assets, VRS employs a professional investment staff of eight and an internal asset management department. The primary responsibility of the managing directors, however, is to supervise the investment activities of 75 external money managers and the internal asset management department hired by the Board of Trustees.

VRS Uses Operating Policies and Procedures to Guide Its Investment Program

The Board of Trustees has developed a broad range of operating policies and procedures for investments. These are set out in two manuals: *Policies and Procedures Manual* and *Managed Futures Program Manual.* The VRS staff manages the investments in accordance with these policies and procedures. VRS states that the policies allow for more effective administration of the investment program and that they are necessary "to enable VRS to keep pace with the changing investment environment" and to "insure that guidelines are in place for the proper monitoring of the VRS investments."

Policies and procedures have been established on the following investment related topics: due diligence; management of the domestic equity program; the alternative investment program; the total fixed income and international equity program; derivative strategies; real estate; the managed futures program; money managers; soft dollars; minority business; proxy voting; the code of ethics and the standards of professional conduct for the VRS investment department; asset allocation; compliance; and consultant review.

The VRS due diligence policies are some of the most important with regard to safeguarding the fund's assets. These policies require that the VRS investment staff constantly monitor and measure the progress and performance of its investments and investment managers. This review process commences upon the search for an investment manager and concludes only when the specific investment has been terminated and eliminated from the VRS portfolio.

Five Year Investment Plan. VRS' five-year investment plan provides the strategic direction for all the investment activities of both internal and external fund managers. The plan is usually presented, discussed, and approved at the annual VRS retreat. The retreat provides the opportunity for the Board, members of the IAC and REAC, and VRS investment staff to meet, discuss, and formalize the plan.

Typical elements of the retreat include educational sessions, presentation of research findings on new or existing investments, a discussion of the fund's performance over the previous five years, and the presentation of the five year investment plan. During the presentation of the plan, goals and objectives are detailed for each asset class as well as the various strategies that will be employed to seek those goals and objectives.

In theory, this discussion of the five year plan includes a reexamination of its existing asset allocation policy. This policy is typically reviewed once a year at the retreat by the Board with the assistance of VRS investment staff, the IAC, and perhaps outside consultants. The reason that the Board's asset allocation decision is so critical is that more than any single investment decision, the long-term performance of the pension fund is affected by the allocation of fund assets to broad classes of investments.

VRS Asset Allocation. Many studies of the relative performance of long-term investment portfolios have found that the vast majority of a portfolio's long-term performance results from asset allocation decisions. In effect, the decision to invest in stocks for example as opposed to bonds or real estate has more influence on a portfolio's total return than does the selection of individual securities or properties.

The primary objective of the Board's adoption of an asset allocation policy is to establish a target asset mix that seeks to accumulate the highest level of assets over the long-term, within acceptable and prudent risk boundaries and statutory requirements. The asset allocation policy must also recognize the concomitant term structure of claims on the assets by VRS pension beneficiaries. The asset allocation structure the Board has adopted to meet this primary objective is outlined in Figure 7.

The first level of allocation is among major types of investments: 60 percent in equities, 30 percent in fixed income, nine percent in real estate, and one percent in managed futures. Of the 60 percent in equities (common and preferred stocks plus "alternative" investments), 50 percent is allocated to passive investments (such as the S&P 500 index) and 50 percent to active investments.

The active and passive investments are further allocated so that 41.5 percent is in domestic investments and 8.5 percent is in international markets. For the fixed income investments, 90 percent must be in domestic securities with the remaining ten percent in global securities. Real estate investments are also further allocated by type and geographical location.

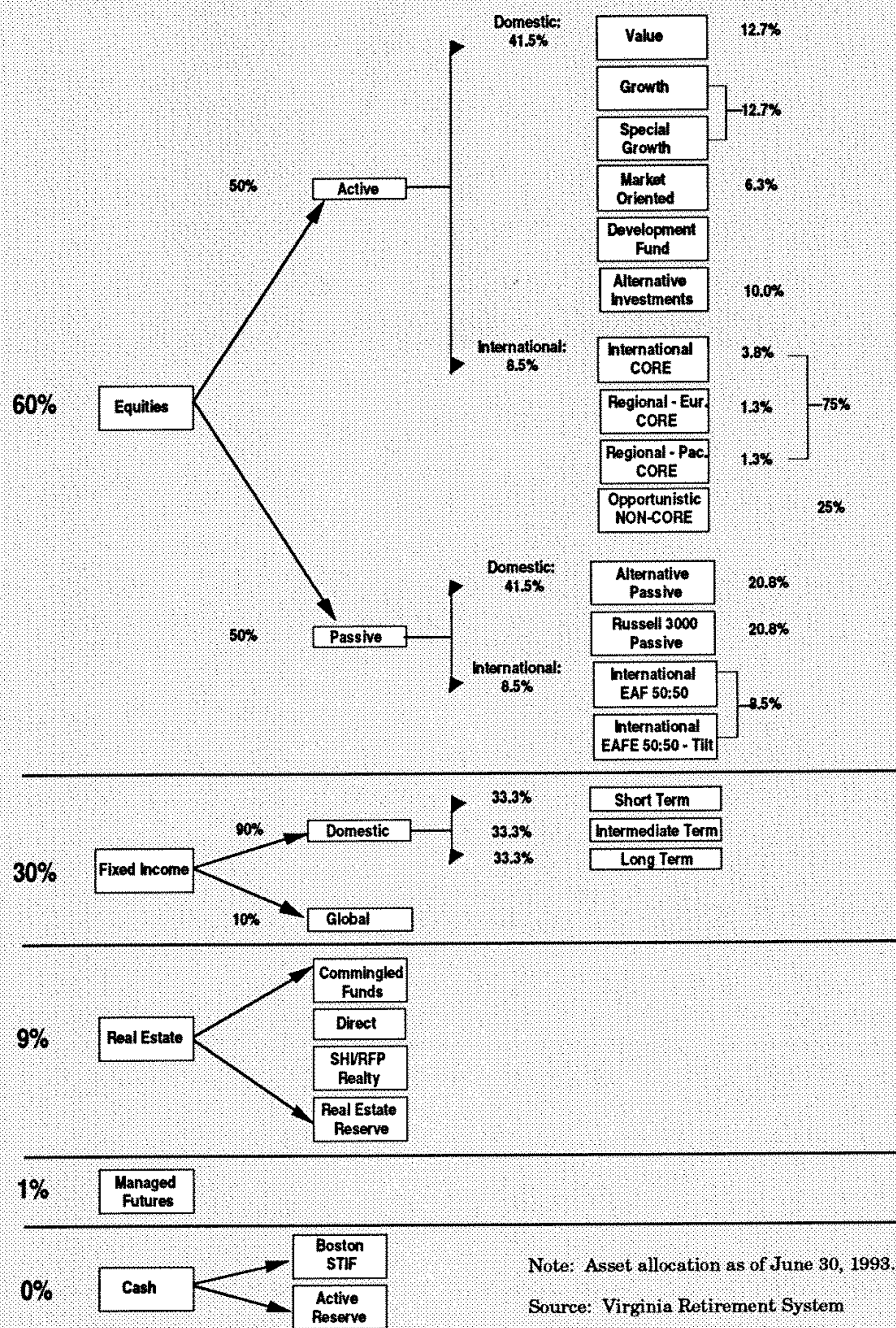
Implementation of the Investment Program

The VRS investment program is directed and supervised by the Board, with advice from the advisory committees. As discussed previously, the responsibilities of the Board of Trustees include making decisions concerning the investment of pension fund assets. The Board is assisted in this process through advice it receives from members of two different advisory committees. VRS investment staff, external money managers, and consultants perform the tasks necessary to implement the investment program.

Responsibilities of VRS Staff. Although final investment decisions are made by the Board of Trustees, the actual implementation or execution of these decisions is the responsibility of VRS' professional investment staff. In the last ten years, the size of VRS' professional staff has increased by 66 percent from nine in 1983 to 15 in 1993. Under the current structure, the investment staff is composed of a chief investment officer (CIO),

Figure 7

VRS Asset Allocation Policy



Note: Asset allocation as of June 30, 1993.

Source: Virginia Retirement System

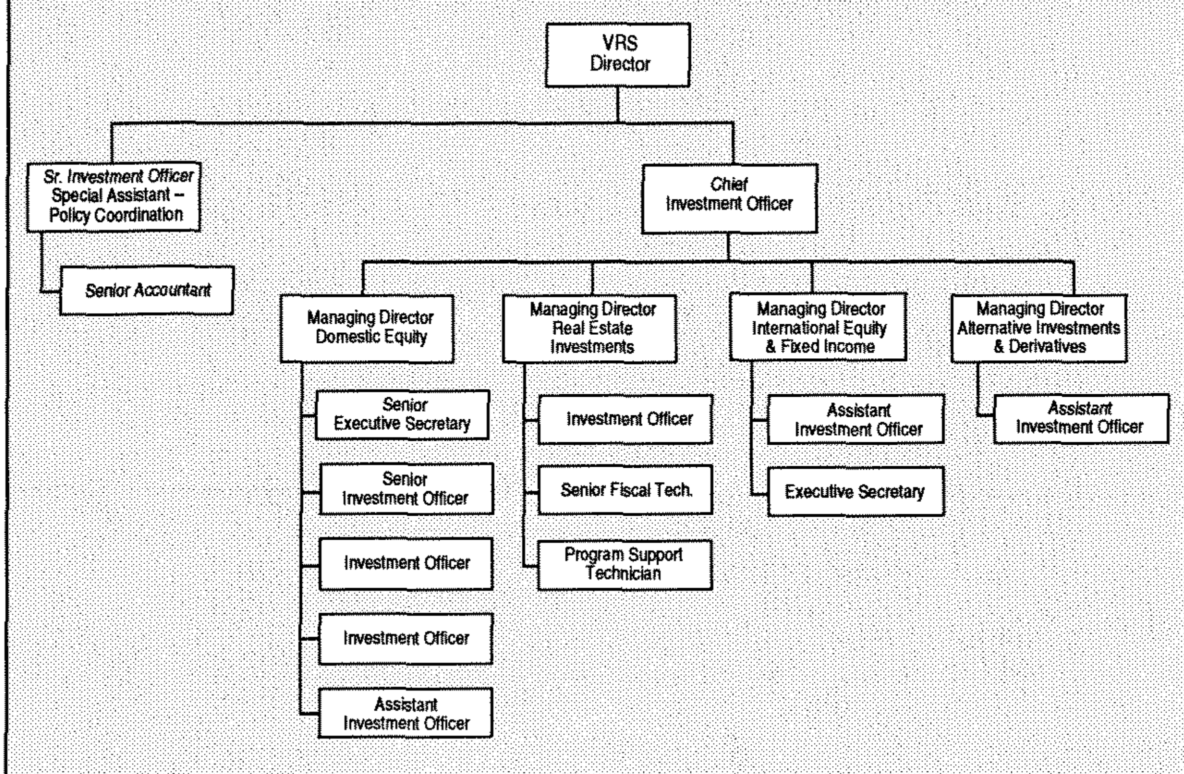
four managing directors, one policy coordinator, and four full-time and one part-time assistants.

The investment department and the managing directors are organized according to the type of investment programs under each managing director's jurisdiction (Figure 8). These four distinct units are: (1) domestic equity, (2) international equity and fixed income, (3) alternative investments, and (4) real estate. In theory, a chief investment officer (CIO) provides executive level management and oversight of the daily operations in each of these units. However, as noted in Chapter II, this position has been vacant since 1990. As a result, the four managing directors report directly to the VRS director, and indirectly to the appropriate advisory board.

VRS professional staff are responsible for evaluating external investment managers, searching for new managers, researching and evaluating new investments, and managing those investments administered in-house. Staff report to the advisory committees at each monthly meeting, and periodically report to the Board on matters related to investments. The staff are also a source of in-house expertise for the advisory committees and the Board.

Figure 8

Investment Department of the VRS



Source: Virginia Retirement System.

Use of Investment Consultants. VRS employs investment consultants to provide a broad range of services to assist in the management of the plan's assets. Consulting services are utilized to obtain the best available assistance to augment the expertise of internal VRS staff as well as to provide specialized service beyond the capabilities of the VRS staff, investment committees, and Board. VRS commonly uses consultants to assist on a wide variety of projects including investment manager search and selection, performance evaluation, risk analyses, and asset allocation studies. As of FY 1993, VRS paid fees to eleven consultants. Excluding its managed futures program, fees paid to investment consultants in FY 1993 totaled $789,794.

Use of External Money Managers. The majority (approximately 96 percent) of the VRS portfolio is managed by external managers. In FY 1992, VRS reported that it employed 87 external money managers who controlled more than $13.4 billion in assets (market value). The average manager controlled approximately $154 million. These external money managers were spread among the following types of investments:

- common stock — 40 managers controlling more than $7.2 billion;
- managed futures — three managers controlling $100 million;
- affiliates — one manager controlling $533 million;
- alternative equities — 18 managers controlling $624 million;
- fixed income — eight managers controlling over $4.1 billion;
- short-term investments — three managers controlling at least $390 million; and
- real estate — 14 managers controlling $384 million.

INVESTMENT POLICIES AND PROCEDURES

The *Code of Virginia* provides the basic framework for VRS' investment of retirement trust funds. Sections 51.1-114 through 51.1-124 of the *Code of Virginia* specifically authorize and limit several types of investments. According to the most important provisions, VRS assets may be invested in: (1) first deeds of trust on residential property (up to 20 percent of fund assets), (2) bonds of foreign and domestic corporations, (3) publicly traded stocks of foreign and domestic corporations valued at cost (up to 60 percent of fund assets), (4) U.S. and Canadian government securities, (5) real estate, and (6) up to five percent in any "prudent" investment not specifically authorized. VRS investments are also specifically exempted from the requirements of the Public Procurement Act.

By enacting this legislation, the General Assembly presumably wanted to articulate and impose standards which would require the VRS Board to act with requisite care and expertise and to prudently construct and oversee a diversified investment portfolio. In its current form, however, the statute fails to achieve this goal and contains many investment restrictions which are ambiguous, inapplicable, or superfluous. The General Assembly may want to consider alternatives to the current restrictions.

To implement the investment program within the general framework provided by law, the VRS Board of Trustees has developed an extensive written set of policies and procedures. These policies address, among other issues, the important process of asset allocation, the selection monitoring, and termination of investment managers, the implementation of its alternative investment program, the management of soft dollars, and the procurement and use of outside consultants.

In most regards, VRS policies and procedures are reasonably comprehensive and well-structured. VRS employs a number of methods for evaluating the portfolio's asset allocation policy. In addition, VRS has documented procedures in place for monitoring the managers who implement its asset allocation policies. In other key areas of its investment program — alternative investments, real estate acquisitions, brokerage practices, and internal compliance — VRS' policies appear reasonable and sufficiently detailed in most cases.

Still, VRS can improve its investment policies and procedures in a number of these areas. Specifically, the written policies still omit an integrated investment policy statement defining the framework within which all of its investment strategies should operate. Also, the Board of Trustees should regularly and systematically re-evaluate its asset allocation policy at a setting other than the Board's annual retreat to ensure that this issue is fully discussed.

Finally, the VRS Board of Trustees appears reluctant, in some cases, to make difficult choices in selecting among several qualified candidates for investment management slots as well as terminating certain managers for under performance or qualitative reasons. Currently, VRS staff is developing guidelines to help resolve this problem.

Statutory Investment Requirements Need Revision

The type of investment restrictions imposed by the *Code of Virginia* are commonly referred to as "legal lists." These types of restrictions are fairly common, but a review of other states' statutes indicates that at least 32 states impose fewer investment restrictions than Virginia. A recent survey of state and local government employee retirement systems by the Public Pension Coordinating Council/Government Finance Officer's Association indicates that many systems are not subject to legal lists but are required to follow the prudent person rule, which requires that investments be made with the care, skill, and diligence of a prudent individual.

The *Code of Virginia* requires a form of a prudent person standard in addition to its legal list restrictions. Section 51.1-116 of the *Code of Virginia* requires the Board of Trustees to:

> exercise the judgment of care under the circumstances then prevailing, which men of prudence, discretion, and intelligence exercise in the management of their own affairs, not in regard to speculation but in regard to the permanent disposition of their funds, considering the probable income as well as the probable safety of their capital.

By enacting this legislation, the General Assembly wanted to articulate and impose standards which would require the VRS Board to act with requisite care and expertise and to prudently construct and oversee a diversified investment portfolio. In its current form, however, the statute fails to achieve these goals and contains many investment restrictions which are ambiguous, inapplicable, or superfluous.

An example of an ambiguous restriction is the primary investment restriction in the statute (Section 51.1-116), which limits the VRS to investing no more than 60 percent of total assets "at cost" in stocks "traded on foreign or domestic exchanges." This language leaves unclear whether the total exposure to equity investment (as opposed to debt) may exceed 60 percent if the excess is attributable to either (1) capital appreciation, (2) instruments that are not publicly traded (e.g., private placements such as venture capital), or (3) instruments that are not "stocks", including equity derivative securities such as options, futures and swaps.

The aforementioned standard of care imposed by the current statute on the VRS Board is not appropriate to this situation. Pursuant to Section 51.1-116, the statute imposes the standard of care "which men of prudence, discretion, and intelligence exercise in the management *of their own affairs* not in regard to speculation but in regard to the permanent disposition of their funds, considering the probable income as well as the probable safety of their capital" [emphasis added].

Considerations relevant to the investment portfolio of an individual may differ considerably from those relevant to a large institutional portfolio created to provide benefits for hundreds of thousands of people, with benefit obligations extending over decades. Thus a more appropriate standard for VRS would refer to management of similar matters regarding pension fund investments. A more appropriate standard also would require consideration of income and capital appreciation from investments.

The General Assembly could better accomplish its goals by amending the *Code of Virginia* to impose a prudent person standard, without a legal list, comparable to that set forth in the federal pension statute for private employee benefit plans (Employee Retirement Income Security Act — "ERISA"). ERISA's prudence standard does not include any legal list of what particular investments are or are not permissible.

A prudent person standard, without a legal list would provide the flexibility needed to accommodate modern portfolio theory and new investment instruments, but only insofar as prudent. It would certainly not expose the VRS funds to a greater degree of risk than is currently permitted. A modern prudence standard without a legal list would also be consistent with the provisions governing a large number of other state retirement systems across the country.

If such a standard is adopted, the General Assembly may also want to consider the recommendations discussed in Chapter II of this report. These would include requirements that a certain minimum number of Board members be experienced pension fund investment management and/or advisory professionals, and that the IAC and REAC be permanent components of the VRS investment structure and include a minimum number of experienced investment management and/or advisory professionals. Enactment and implementation of these recommendations would help assure that the VRS portfolio would be managed prudently.

Recommendation (12). **The General Assembly may wish to consider amending the *Code of Virginia* by adopting a prudent person standard without a legal list, comparable to the standard set forth in the Employee Retirement Income Security Act.**

Investment Policies Extensive but an Integrated Policy Statement is Needed

The primary purpose of an employee benefit plan such as the VRS is to pay retirement benefits. The State and participating local governments each year contribute a certain amount of cash on behalf of their employees, which the VRS in turn invests and (hopefully) grows to pay those employees' retirement benefits. The VRS Board is responsible for determining what objectives the fund should seek to attain in order to generate sufficient cash to pay the required retirement benefits.

However, the system has not adopted an overall "Statement of Investment Policy and Objectives" for the entire fund. Generally speaking, such an investment policy would reduce to writing the basic objectives and the overall framework within which all investment strategies should operate. In short, the investment policy should serve as the "constitution" which provides the basic boundaries and direction for the entire program.

At a minimum, the investment policy statement should address the following aspects of the investment program:

- legal and structural basis for the fund;
- identification of the fiduciaries;
- general lines of authority and delegation;
- process for determining asset allocation/diversification of the portfolio;
- performance objectives;
- broad cash flow requirements;
- trusteeship or custody of assets;
- general investment guidelines; and
- prohibited investments and strategies.

Many of the components of an investment policy statement are contained in three separate VRS documents: the "Five Year Plan," the "Investment Policies and Procedures Manual," and the "Administrative Policies." The Investment Policies and Procedures Manual sets forth the performance objectives for the different asset classes and sub-asset classes. The Administrative Policies discuss the lines of authority among the Board, REAC, IAC and staff. However, articulating and collecting the major elements in one comprehensive document is essential to formulating and communicating the "constitution" to all Board members, committee members and staff as well as participants, the legislature, and various observers.

Recommendation (13). **The VRS Board of Trustees should adopt a written investment policy statement drawing from the Five Year Plan, the Policies and Procedures Manual, and other appropriate sources.**

Recommendation (14). **Once this policy is adopted, the VRS Board of Trustees should re-evaluate the investment policy statement at least annually and either reaffirm or amend it as appropriate. Periodically re-evaluating the investment policy statement has the added benefit of compelling the Board, IAC and staff to continually reassess the VRS' investment objectives and the basis for those objectives.**

VRS' Asset Allocation Policy Needs A More Thorough Review

Asset allocation is the process of diversifying an investment portfolio among asset classes, (stocks, bonds, cash, real estate, etc.). This is done in order to seek to achieve a particular investment objective, such as consistently earning a specified total return (i.e., income and appreciation). A portfolio's asset allocation is important because it has the single greatest impact on its overall long-term investment performance, far greater than the specific securities held in the portfolio.

Because of this, a portfolio's asset allocation policy should be reviewed and adjusted on a periodic basis as appropriate. VRS employs a number of methods for evaluating and periodically adjusting the portfolio's overall mix of asset classes. However, based on a review by Bear Stearns, there is some question as to whether the Board and the IAC formally and clearly re-evaluate this subject annually, as they are supposed to do at the retreats.

The main value of periodically reviewing the asset mix is that the Board, IAC, REAC, and staff are forced to review whether the portfolio's structure appears well-geared to meeting the fund's objectives. However, as an agenda item at VRS' annual retreat this issue does not appear to get the attention it deserves simply because there is already so much ground to cover at that meeting.

Recommendation (15). **The VRS Board of Trustees, the IAC, and REAC should review the asset allocation policy as a formal agenda item for detailed discussion at some point each year in a setting other than the annual retreat.**

Process for Selecting and Terminating Managers Can Be Improved

Investment managers provide money management services for a portion of the fund's assets, for a fee, on a fully discretionary or non-discretionary basis. As of June 30, 1993, the total VRS portfolio was managed by 75 external and an internal asset management department. Given the sheer number of managers in the VRS program and the fact that oversight is spread among at most eight people on the investment staff, it is imperative that the VRS have careful, consistent and documented procedures in place to properly monitor these managers. Currently, many of the appropriate procedures exist but need fine-tuning.

The processes VRS uses for selecting external investment managers generally appear thorough and based on appropriate criteria. However, some reluctance by the Board and IAC to make the difficult choices among several qualified candidates for investment management slots was observed. The consequence of this is a tendency by VRS to hire more than the required number of firms.

Bear Stearns reviewed VRS' documentation generated in compliance with the monitoring process, including the investment manager guidelines. In the investment management business, such guidelines are an attempt to prevent managers from engaging in unauthorized investment strategies, purchasing certain unacceptable securities, or straying from their role within the overall asset allocation.

The guidelines for the VRS domestic fixed income and international equity programs are sufficient and reasonably thorough; however, the guidelines for the domestic equity program do not consistently contain fully developed criteria regarding each manager's investment style. Staff is currently developing such guidelines (through the "Benchmark" program), which will help resolve this problem.

Bear Stearns also perceived some difficulties by the Board and IAC in making decisions to terminate investment managers for underperformance or for deviating from their respective investment disciplines. As discussed below, these difficulties apparently contribute to VRS probably having too many external investment managers.

One cause for the failure to terminate some managers (when termination probably is warranted) is the lack of sufficiently specific investment guidelines for equity managers in particular. Without guidelines that clearly set forth the investment objectives and the time frame within which those objectives must be achieved, it is difficult to determine when a manager should be terminated. As mentioned above, the staff is currently developing guidelines that should help resolve this problem for the domestic equity program.

With respect to its policies and procedures for selecting, monitoring, and terminating investment managers, the following changes could improve VRS' program:

- In the manager search process, when manager finalists are presented to the IAC and Board, the staff should recommend, as it has on a few but not all searches, how many managers it believes need to be hired and the IAC and Board should seek to make decisions accordingly.

- The manager selection criteria do not include consideration of liability insurance each investment manager candidate carries. Such liability insurance would provide coverage in favor of VRS for losses resulting from the negligence or bad faith of a manager, to the extent the manager's own net worth proves insufficient.

- If the VRS is to maintain the current structure of a large number of domestic equity managers, serious consideration should be given to increasing the staff devoted to the domestic equity program. To the extent asset management responsibility is shifted from external firms to in-house management, enhancing the staff would also be required, in order to prudently perform such in-house functions.

- The current policies and procedures only vaguely define the time period over which a manager must meet its investment objectives in terms of "reasonable time horizons" or "market cycles." Reasonable time horizons should be defined in both the manager guidelines and the policies and procedures, to a rolling or moving three year period. Also, VRS should place on a "watch list" any manager that falls short of its objectives over the specified time period. This could assist in making decisions about whether to terminate certain managers and thus, might help reduce the total number of managers. Thereafter, every *six months* the Board and IAC should be obligated either to reaffirm continued retention of that manager or to terminate the manager.

Recommendation (16). **VRS should develop procedures to reduce duplication in the hiring and continued retention of managers, enhance the selection criteria for its money managers by adding liability insurance, increase the staff responsible for its domestic equity program, and improve its policies for determining the time period over which a manager must meet required investment objectives.**

Alternative Investment Program Policies are Reasonable and Detailed

VRS classifies certain domestic private equity securities within the overall portfolio as "alternative investments." These include for example, investments in venture capital companies and leveraged buyouts (i.e., not the usual, liquid, publicly traded securities held in the majority of the domestic equity portfolio). The policies and procedures regarding the alternative investment program (including venture capital and other non-publicly traded equity securities) are generally reasonable and detailed.

However, some measures should be adopted to minimize the potential for undue personal or political influence regarding a very narrow range of alternative investments, i.e., direct VRS investments in limited partnerships with a Virginia-based general partner. Also, if as has been proposed, the level of direct investing by the Board in particular venture capital companies is to increase, greater staffing will be necessary.

VRS' Real Estate Program is Generally Satisfactory but Requires Some Adjustments

The structure and processes of the VRS real estate program are satisfactory in many regards. In other regards, they could become more effective and better suited to the nature and scope of the real estate program if several further steps were taken.

The Real Estate Advisory Committee (REAC) functions as an advisory panel for the Board concerning real estate. A distinctive feature of the VRS real estate program is that rather than delegating investment decisionmaking authority to external real estate investment management firms, the Board retains such authority, albeit with advice and analysis from REAC and staff.

VRS is not alone in reserving to the Board decisions over proposed real estate investments; other large pension funds with sizable real estate portfolios do the same. However, as long as VRS keeps decisionmaking authority at the Board level, rather than delegating it to external investment managers, the roles played by the REAC and staff will remain critical.

If the VRS Board is to continue making decisions over particular, proposed real estate investments, the effectiveness and resources of the staff must be enhanced. This is necessary to provide the Board the requisite level of critical, objective analysis for decisions regarding proposed investments in particular properties and the structure and diversification of the real estate portfolio. Alternatively, if such additional staff is not hired, VRS should obtain the needed assistance from a qualified consultant.

VRS Brokerage Practices Are Reasonable

The VRS, like many other large public pension funds, engages in a limited amount of "directed brokerage" and "soft dollar" transactions. Such transactions consist of using brokerage commissions to pay not only for the execution and clearance of securities transactions, but also, in part, for information, services, and equipment which are helpful to investment decisionmaking regarding VRS assets.

VRS appears to obtain reasonable value for the soft dollars it expends and appears to pay reasonable commissions for the quality of securities execution it receives. According to an outside study for the calendar year ending December 31, 1992, VRS' average commissions have been below the median cost incurred by other pension funds and the securities prices which brokers have obtained on trades for VRS are reasonable. According to the same study, the VRS' average transaction costs (i.e., commission cost plus execution cost) have been 5.4 cents per share, which is below the median cost of 6.3 cents per share for other surveyed pension funds.

Nevertheless, Bear Stearns recommends that VRS more closely monitor the usage of soft dollars by external investment managers to assure that such commissions sufficiently benefit the VRS. This could be accomplished by adding questions in this regard to the survey already distributed each year by VRS to each manager under its manager monitoring program.

Internal Compliance Policies Are Reasonably Designed and Implemented

VRS has instituted an internal compliance procedure to ensure that the staff complies with all appropriate investment policies. A member of the VRS investment staff, the Special Assistant for Policy Coordination, who reports directly to the Board and the VRS Director, is charged with implementing this policy. On a quarterly basis, this staff member meets with each managing director to review whether the managing director's department has complied with all of the written due diligence and monitoring procedures. Semi-annually, this staff member reports the results of the review to the Board. Based on Bear Stearns' review, this internal compliance function appears to be reasonably designed and operated.

VRS' ASSET ALLOCATION AND INVESTMENT PERFORMANCE

Asset allocation is the process of diversifying an investment portfolio among different asset classes (stocks, bonds, real estate, etc.) in an effort to achieve a particular investment objective, such as a certain level of total return at a relatively low level of risk. Asset allocation has a more fundamental and significant impact on investment performance than other decisions — far more significant, for example, than which investment managers are selected and which securities they buy and sell.

The current VRS asset allocation appears reasonably structured to produce satisfactory returns at a relatively low level of volatility or risk. The portfolio is designed to capture most of the gains in a strong upward market but to provide significant protection against losses in down markets.

The actual performance of the pension fund has been acceptable, given VRS efforts to diversify the portfolio. Specifically, VRS has met its long-term internal objective of earning more than the actuarially assumed rate of return and exceeding the rate of inflation by at least four percent each year.

However, over the last five years VRS has not met its short term objective of earning as much as other large pension funds, based on the available (though analytically imperfect) data. The basic reasons for this are probably that: (1) the other funds maintained a larger percentage of their portfolios in bonds over recent years, while the bond market was strongly upward, and (2) the VRS portfolio was more diversified, with significant exposure to alternative investments and international stocks, as explained below.

Asset Allocation Should Be Based on Principle of Diversification

One of the keys to asset allocation is the selection and mixture of asset classes whose differing types of expected investment performance are not highly correlated. Another key principle in asset allocation is that a whole portfolio may be superior to the sum of its parts. In other words, when certain asset classes are effectively combined in a single portfolio, the overall balance of return vs. risk may be more attractive than any of those asset classes in isolation.

When the proper asset classes are efficiently combined, the expected risk (volatility) decreases, the ratio of return to risk increases and, in some instances, even the absolute returns may increase for the total portfolio. Therefore, most trustees wisely choose to diversify their portfolios among various acceptable asset classes to achieve an acceptable return while controlling risk.

Determining the appropriate asset balance of stocks, bonds, cash equivalents, real estate, etc. for a particular institutional investor is not an exact science. However, with the assistance of computer modeling techniques and appropriate assumptions about the risk and return of different asset classes, proper asset allocation analysis can increase the probability of meeting long term investment objectives. The method currently used among sophisticated pension funds to determine an appropriate asset allocation takes into account four factors:

- the ascertainable, historical performance of specific asset classes;
- the volatility of returns (which is how investment professionals commonly define risk) of such asset classes;
- the correlation of the performance of each specific asset class relative to other asset classes; and
- the pension fund's particular actuarial condition (such as its funded status and the demographic characteristics of its participant population), its cash flow projections and liquidity needs.

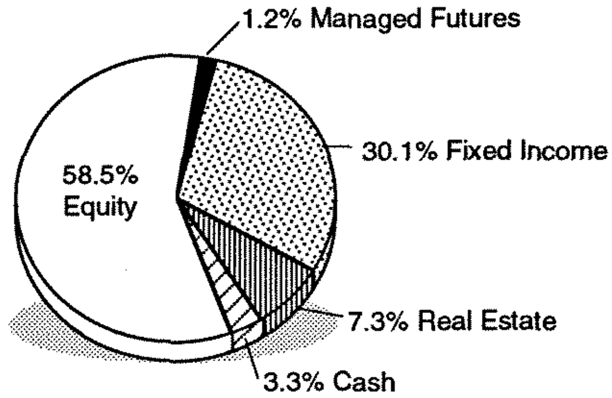
This method has enabled pension funds to formulate an asset allocation based upon the expected returns and expected risks for each type of asset based on its past performance.

VRS Has Developed a Properly Diversified and Efficient Portfolio

Figure 9 illustrates VRS' actual asset allocation as of June 30, 1993. The 60 percent target for equities is influenced by a theoretical ceiling imposed by the General Assembly. The VRS sets the balance of its asset allocation around this equity maximum. The VRS also breaks each asset class down into active/passive and sub-styles.

Figure 9

VRS Actual Asset Allocation As of June 30, 1993



Source: Virginia Retirement System.

The principle of diversification is essential to the VRS portfolio. Although some newer asset classes (such as managed futures, venture capital, and international investments) taken in isolation are often considered riskier in some respects than conventional stocks and bonds, the VRS concluded that these asset classes have certain attributes which, when combined with the stock and bond components, may actually lower the volatility of the total VRS portfolio and raise the expected ratio of return to risk.

The efficiency of the VRS portfolio was tested by running computer simulations of various combinations of the ten subclasses of assets used by the VRS. The computer was programmed to combine these asset classes to maximize return and minimize risk, to list the ten most efficient combinations of asset classes and finally, to compare them to the actual VRS portfolio. The essential results of this comparison indicate that the VRS asset allocation is efficient (i.e., VRS is reasonably compensated for its risk) and that the past returns more than satisfied the fund's actuarial objectives.

Next, the current VRS asset mix was compared to the asset mix of five years ago to see if the addition of newer asset classes (venture capital, managed futures, international) and particular subclasses (small stocks, mid-sized stocks, etc.) improved or impaired the portfolio's efficiency. This analysis — again accomplished through computer simulation — demonstrated that the current portfolio is more efficient because it has a lower expected risk and a higher expected return relative to each unit of risk. Table 4 shows the risk and risk-adjusted returns.

Based on these findings, VRS' asset allocation appears reasonably structured to produce satisfactory returns at a relatively low level of volatility or risk. However, as compared to the portfolio structure five years ago, the newer asset classes such as international equities, managed futures, and alternative investments have probably also

Table 4

VRS Asset Mix Comparison

	Portfolio as Currently Structured (as of June 30, 1993)	Portfolio as Structured 5 Years Ago (as of June 30, 1988)
Risk (standard deviation)	5.45	5.80
Risk Adjusted Return	1.39	1.23

Source: Bear Stearns analysis of VRS data.

contributed to returns lower than those of some other public funds on an absolute basis regardless of how well they protect against the possible impact of downward markets.

The extent of investment by VRS in these nontraditional asset classes (except managed futures) is within the range for a select group of other large public pension funds, although generally near the higher end of the range. The allocation to managed futures —though only 1 percent of the total portfolio — is not common compared to most other public funds because most such funds do not allocate any assets to this category. The nature and sufficiency of the managed futures program is discussed separately in the next section of this chapter which focuses on investment performance.

Investment Performance Meets Internal Objectives

Bear Stearns calculated the investment performance of the total VRS portfolio and each of the major asset classes for the one, three and five year periods ending June 30, 1993. A review of how this investment performance relates to VRS' stated policy mix of assets, various market indices and the expected investment performance of other public funds over the same time periods was also performed. Because the VRS is a long term investor and because longer-term patterns are more meaningful than short-term results, the data for the five year period is more instructive than for the shorter periods.

Absolute and Risk Adjusted Returns Compared to Internal Objectives. Over the five, three, and one year periods ending June 30, 1993, the VRS has met its own long term (10-15 years) internal objectives of earning more than the actuarially-assumed rate of return of eight percent and beating the rate of inflation by at least four percent per year. Thus, VRS has achieved compound annual net returns of 11.1 percent, 9.7 percent, and 11.5 percent for those periods, respectively. Over the long term, meeting these objectives should improve the funded status of the VRS (i.e., the relationship between the assets and the VRS' long term benefit obligations), all other things being equal.

To determine whether the VRS met its goal of matching the returns of other large pension funds, its performance was ranked against the median returns for the sampling of certain other public funds in the widely-used Trust Universe Comparison Service (TUCS), compiled and maintained by Wilshire Associates of Los Angeles, California. The VRS returns were also compared against those of a smaller group of public funds selected by Bear Stearns.

Both of these comparisons — the publid fund returns reported by TUCS and the returns of the select public funds identified by Bear Stearns — suffer limitations. For instance, many of the other funds have maintained substantially different asset allocations from VRS over the relevant periods. Also, the value of most of the funds in the TUCS universe is substantially smaller than that of the VRS. Thus, these comparisons are not definitive.

Subject to these and other caveats, however, the comparisons indicate that VRS' returns were below the TUCS public fund median for the several periods considered and were generally at the low to mid range of the more select group of public funds.

VRS Total Returns Are Slightly Less than Selected Benchmarks

While performance comparisons are of interest, ranking VRS against only the absolute annual compound returns of other plans — without considering other factors such as asset allocation and risk — provides an incomplete and possibly inaccurate picture. To get a more complete picture of the VRS performance, the investment performance of the VRS from several other perspectives should be considered.

One very common approach for evaluating pension fund performance is to compare such performance to commonly-cited indices of stocks and bonds such as the S&P 500, an appropriate Index and indices representative of other asset classes. Each such index consists of a defined pool of commonly-traded securities or other assets. As such, each index indicates what a common, broadly representative portfolio of a certain type would have earned over a given time period (although generally without taking investment management fees or transactions costs into account). Thus, it serves as a benchmark for evaluating the performance of a particular investor who invested in the U.S. market.

Since VRS has a diversified, complex portfolio, Bear Stearns devised the following customized indices to help evaluate VRS' performance:

- A combination and weighting of indices which approximates the actual VRS portfolio (called the "Policy Index") — 55% S&P 500 Stock Index 6% European, Australian, Far East ("EAFE") (international stocks)/30% Lehman Aggregate Bond Index/9% Russell/NCREIF Property (real estate) Index/5% T-bills (i.e., cash equivalents);

- A combination that approximates the typical portfolio of larger public pension funds ("the Typical Public Fund Index") — 46% S&P 500 Stock Index/4% EAFE (international stock)/40% Lehman Aggregate Bond Index/5% Russell/NCREIF Property Index/5% T-bills; and

- A combination based on the statutory maximum level of common stocks for the VRS (60% of the portfolio) ("the Theoretical Maximum Index") — 60% S&P 500 Stock Index and 40% Lehman Aggregate Bond Index.

Many other combinations of indices could have been constructed for comparative purposes (e.g. using a small capitalization stock index, a futures index, etc.). The selection of these three combinations was guided by the fact that an essential objective of this review was to compare the VRS to its own policy targets, to common benchmarks, and to the returns expected by a typical portfolio of a large public pension fund. Table 5 shows total returns of the VRS compared to the three "Customized Indices" over various time periods.

Table 5

Comparison of VRS Performance

	Annual Compound Return			
Period Ending June 30, 1993	VRS Actual (Net)	Policy Index 50/6/30/9/5	Typical Public Fund Index 45/40/5/5	Theoretical Maximum Index 60/40
5 years	11.1%	11.1%	11.6%	13.2%
3 years	9.7	9.4	10.4	12.0
1 year	11.5	11.2	11.7	13.5

Source: Bear Stearns analysis of VRS data.

The focus of any comparison of absolute returns should be placed on the five year actual returns for the policy index combination because this most closely approximates the target allocation for the VRS portfolio. On an absolute (vs. risk adjusted) basis, the VRS net actual returns equalled the Policy Index combination. Moreover, the returns of the Policy Index and other "Customized Indices" are not reduced by investment management fees for transaction costs, while the VRS return is net of such charges.

Although the above comparisons are useful, they do not fully consider risk and therefore are not sufficient comparisons standing alone. Another way to measure performance takes into account both absolute returns and risk, so that a truer comparison can be made between how the VRS portfolio and each of the Customized Indices performed. This is the so-called "risk-adjusted return."

Bear Stearns calculated the risk-adjusted returns for VRS against the three Customized Indices over five years. Greater details on the methods used to adjust the returns for risk are presented in the comprehensive Bear Stearns report. The risk-adjusted returns for the VRS over the five year period ending June 30, 1993, were as shown in Table 6. This analysis shows that on a risk adjusted basis the VRS performed respectably, especially considering that the Customized Indices do not reflect any

Table 6

VRS Risk-Adjusted Returns

Period Ending June 30, 1993	VRS	Policy Index 55/30/5/10	Typical Public Fund 50/40/5/5	Theoretical Maximum Index 60/40
5 years	.58%	.74%	.76%	.70%

Source: Bear Stearns analysis of VRS data.

deduction for fees or costs. The risk adjusted return for the Typical Public Fund is higher primarily because it reflects a greater allocation in bonds.

The comparison against the Theoretical Maximum (60/40) Index indicates that the highest return the VRS could have expected was 13.2 percent over the last five years. However, VRS portfolio was more diversified and more defensive than the 60/40 Index. In other words, relative to a 60/40 allocation, the VRS portfolio gave up some returns in rising markets but was positioned to outperform (lose less) in falling markets. The last five years have not witnessed any major sustained declines in stocks and bonds and therefore, it is reasonable to expect the total VRS portfolio to underperform over this period. A truer indication of the soundness of the current VRS investment program will emerge over a full market cycle, including both rising and falling markets.

Performance of Particular Asset Classes Have Varied

Surveying the investment performance of specific asset classes of the overall VRS portfolio led to several conclusions. A summary of these conclusions is presented below for each asset class.

Domestic Equity Portfolio. Equities or stocks are the most significant portion of the VRS portfolio, constituting up to 60 percent of the portfolio. As of June 30, 1993, the domestic equities represented about $7.8 billion. The performance data for the VRS domestic equities are shown Table 7. These returns for VRS reflect the reduction for manager fees (ranging from approximately 0.45 percent to 1 percent) whereas the returns for the S&P 500 — as a theoretical benchmark — are not reduced by management fees.

The performance of the overall domestic equity program has been respectable in terms of both absolute and risk adjusted returns (i.e., taking volatility into account). Those returns fall short of the internal objective of beating the broad market and over a full market cycle, but the five year period did not constitute a full market cycle.

Half of the domestic equity portfolio is "passively" managed, i.e., the manager buys, holds, and sells securities parallel with the representation of such securities in a

Table 7

Performance of Domestic Equities

Period Ending June 30, 1993	Annual Compound Return VRS	Annual Compound Return S&P 500	Risk Adjusted Returns VRS	Risk Adjusted Returns S&P 500
5 years	13.6%	14.2%	.57%	.57%
3 years	11.5	11.5	.42	.47

Source: Bear Stearns analysis of VRS data.

particular index, such as the S&P 500 Stock Index or the Wilshire 5000 Stock Index. (The S&P 500 has traditionally been the equity benchmark to meet or exceed because it has been widely considered representative of the broad U.S. stock market.). Many pension funds have decided to adopt passive management because history has shown the difficulty of consistently exceeding the indices with active management, net of fees. Moreover, the fees for passive management are significantly lower than for active management.

The passive portion of the VRS domestic equity portfolio is invested in the S&P 500 Stock Index. Returns from the passive portion of the domestic equity portfolio have been satisfactory and the level of passive equity strategies utilized by VRS is within a range common for public pension funds.

International and Alternative Equities. The international equity and alternative equity programs have been in place for less than five years and as of June 30, 1993 were valued at $955.9 million and $598.9 million, respectively. The international and alternative programs constitute approximately 10 percent and 6 percent of the equity allocation, respectively.

These asset classes significantly underperformed the 11.5 percent return of the S&P 500 over the last three years. However, the programs have performed acceptably relative to their respective applicable benchmarks. The programs also have added to the portfolio's overall diversification and reduction of risk.

Since both programs are new, they do not have a long enough track record to place great significance on a comparison of their returns against applicable benchmarks. Nevertheless, the performance of the VRS international equity program was compared to the broadest and most common international stock index, the Morgan Stanley European, Australian, Far East ("EAFE") Index. Over the three years ending June 30, 1993, the VRS did very well, with an annual compound return of 1.1 percent compared to the EAFE return of 0.3 percent. In addition, the risk-adjusted return was 0.05 percent greater than the EAFE.

Alternative investments as a rule are difficult to measure for performance purposes because the individual investments are generally not publicly traded and therefore, accurate prices are generally not available. Only when these investments are sold, mature or become publicly traded, can accurate pricing and thus, performance measurement occur. Furthermore, in the early years of an alternative investment program, start-up expenses are incurred while most investments are still carried at cost — a combination of factors that may cause low or negative initial returns. Based on information supplied by the fund's custodian, Boston Safe, a return for the alternative investment program was calculated of 3.85 percent for the three year period ending June 30, 1993. It is too early in the life of the alternative investment program to definitively evaluate its results.

Fixed Income. The fixed income portfolio as of June 30, 1993 was valued at $4.78 billion, representing 30 percent of the total portfolio. VRS did not start investing in international fixed income until June 1993. The fixed income portfolio outperformed the Lehman Aggregate Bond shown in Table 8.

Table 8

VRS Fixed Income Investment Performance

	Annual Compound Return		Risk Adjusted Returns	
June 30, 1993	VRS (Net)	Lehman Aggregate	VRS (Net)	Lehman Aggregate
5 years	11.4%	11.3%	1.02%	1.14%
3 years	12.6	12.2	1.64	1.74

Source: Bear Stearns analysis of VRS data.

Real Estate. The total real estate portfolio, including the RF&P Corporation was valued at slightly over $1 billion as of June 30, 1993, (based on information from the custodian, Boston Safe), representing 6.5 percent of the total VRS portfolio. According to Bear Stearns' calculations, over the past five years ending June 30, 1993, of the return of 0.47 percent on the real estate portfolio fell short of its internal objective four percent, net of inflation and fees, but exceeded the industry benchmark (0.47 percent Russell/ NCREIF Property Index).

Compared to the performance of stocks and bonds, the VRS real estate returns (and those of the real estate indices) have been poor over the past five years. However, including real estate within the asset allocation continues to be reasonable for purposes of diversification.

VRS' Managed Futures Program Is a Good Diversification Tool

A *futures contract* is an agreement to buy or sell a specific amount of a financial instrument or commodity at a predetermined price at a specific, future date. Institutional investors commonly use futures for certain purposes, such as hedging risk and facilitating quick, low-cost adjustments in asset allocation. A third use of futures, however — as a distinct asset class, called "managed futures" — is far less common. About one percent of the VRS' total assets is allocated to managed futures as a distinct asset class.

Reasons for Adopting a Managed Futures Program. A major reason in support of including managed futures in a portfolio is that historically their returns have exhibited a low correlation to other asset classes, such as stocks and bonds. Therefore, *it is reasonable in theory to expect* managed futures to diversify the overall portfolio and reduce overall risk. Historical and academic research also supports the expectation that managed futures will earn a reasonable risk-adjusted, gross return in their own right.

The process by which VRS decided to adopt its managed futures program appears to have been reasonable. Considerable emphasis was put on how to implement a program with sufficient risk controls and limitations on cost. The most difficult aspect of adopting a managed futures program is the practical, not theoretical, ability to control costs and risks. This is a subject examined in considerable detail for this study and is discussed below.

Structure and Risk Controls. The VRS has allocated approximately $180 million (slightly over one percent of the total portfolio) to "managed futures". According to the 1992 Greenwich Associates survey, only one percent of all public pension funds and three percent of all corporate funds use managed futures. Additionally, according to Greenwich, 12 percent of all surveyed public funds with assets above $1 billion that do not currently use managed futures would consider doing so.

The structure of the VRS managed futures program is novel, and — subject to a few important exceptions — it seems reasonably well-designed to detect and control risk. Rather than contracting directly with commodity trading advisers ("CTAs") who manage futures portfolios, VRS has hired five registered investment advisors (or "pool operators") who, in turn, select and monitor a wide variety of CTAs.

The reasons for hiring five registered investment advisors ("RIAs") are two-fold. First, so many different pools provide VRS broad diversification across the futures markets. Second, using several pools mitigates against the risks of "overcapacity," i.e., where one or more CTAs or RIAs takes on more in assets than they can effectively invest and monitor. The decision to retain five separate RIAs is reasonable only if the program grows substantially from the current allocation of one percent of total VRS assets, which is expected.

The criteria for selecting RIAs appear reasonable, with one minor exception. The process does not include consideration of what, if any, errors and omissions liability insurance each RIA candidate carries. Such liability insurance would provide coverage in favor of VRS for losses resulting from the negligence or bad faith of an RIA, to the extent the RIA's own net worth proves insufficient.

VRS has also hired a sophisticated outside managed futures consultant, RP Consulting, to assist in structuring, implementing and monitoring the program. Both the RIAs (pool operators) and outside consultant to VRS monitor daily activity by the CTAs. However, the written guidelines setting forth the criteria for monitoring the RIAs which are in place fail to address several matters. Additionally, relying on a spot-check, some errors in the consultant's reports were detected and some subjects which should be — but thus far are not — routinely monitored.

The VRS program includes two specific, essential systematic risk controls. These are: (1) a limitation on the amount that can be placed on deposit for the purchase or sale of futures, i.e., a maximum "margin to equity" ratio of 30 percent and, (2) a limitation on the losses allowed before the termination of an RIA is required, i.e., a 22.5 percent maximum "drawdown" limitation. Both limitations appear to be reasonable, in relation to similar practices elsewhere in the managed futures industry. These limitations are contractually imposed on the RIAs. The RIAs in turn generally impose detailed written guidelines on the CTAs. However, one RIA had not imposed written guidelines on its CTAs at the time of this review.

Recommendation (17). **VRS staff should review the nature and specificity of the new guidelines recently imposed on CTAs to assure that the staff is satisfied with them.**

Performance of Managed Futures Program Has Met Expectations

The performance of the managed futures program since inception has been largely as expected and satisfactory.

The highlights of the performance record — reported in Table 9 — are as follows:

- The returns have exhibited a low correlation relative to the securities markets and real estate (S&P 500 Index, Lehman Government/Corporate Bond Index, and Russell NCREIF). Thus, the program is helping diversify the overall VRS portfolio.

- The returns have approached the S&P 500 on an absolute basis. The return objective is to exceed the S&P 500 over a 4 year cycle, but a full 4 year cycle has not yet been completed.

- The returns have exceeded the S&P 500 on a risk-adjusted basis.

- The returns have exceeded an appropriate industry index, MAR Fund/Pool Equal Weighted Index.

Table 9

Performance of the Managed Futures Program

	VRS Managed Futures	S&P 500	Lehman Govt/Corp Bond Index	Russell NCREIF	CPI	MAR Fund/ Pool Equal Weighted
Total Return	9.84	10.38	13.04	-4.80	2.92	6.58
Risk Adjusted Return	1.03	0.94	3.12	-2.39	6.21	0.54

Source: Bear Stearns analysis of VRS data.

The total fees and costs associated with the managed futures program were evaluated from several perspectives and found to be reasonable in most regards, including fees to the pool operators, CTAs, and futures brokers. Although the total fees (approximately 3 percent annually relative to the value of the assets managed) appear relatively high compared to active management of a conventional securities portfolio, compared to industry norms for managed futures, these fees are reasonable.

However, the fees to the outside consultant are problematic for two reasons. First, the structure or formula for those fees embodies a potential conflict of interest. In the managed futures industry, commissions are typically evaluated from several perspectives, including the average cost per "round turn," i.e., per complete purchase and sale transaction. The fee arrangement between VRS and RP provides for a payment of $3 to RP for each round turn in the managed futures program. This creates a potential conflict of interest because it could be argued that RP might be motivated first — when assisting VRS with selection of RIAs — to recommend RIAs with high turnover patterns, and second — when assisting VRS with monitoring of RIAs and CTAs — not to criticize those with high turnover.

Second, the absolute total amount of fees paid appears unduly high. Since March 1993, monthly fees to RP have averaged approximately $175,000, which equates to approximately $2.1 million per year. Without the responsibility (or potential liability) of asset management and given the fact that RP's services overlap to some extent with the monitoring and accounting provided by the RIAs, this fee appears high.

Notwithstanding these fees, the net returns of the managed futures program — net of all costs and fees, including RP's — still appear reasonable. Nevertheless, the program could benefit from a lower negotiated fee. To the extent a renegotiation does not achieve sufficient reductions, re-bidding the futures consulting and monitoring contract should occur. In addition, over time it may also be possible to narrow the scope of the consultant's function.

Recommendation (18). **VRS should restructure its fee arrangement with RP Consulting, to base it only in minor part, if at all, on turnover. Instead, the fee should be based on the amount of equity in the program or a flat fee.**

Recommendation (19). **VRS should negotiate a lower fee for its futures consulting contract. If a lower fee cannot be established, VRS should re-bid the contract.**

VRS Investment Fees Are Reasonable

Investment management fees are the largest part of the VRS investment expenses. Evaluating the reasonableness of the fees VRS pays its investment managers is interrelated with other subjects, such as the number of managers, the overall asset allocation (i.e., the types of assets the managers are managing) and the degree of external vs. internal (staff) asset management. In 1993, investment manager fees totaled $45.9 million. Calculated as a percentage of VRS assets, this amount comes to about 0.29 percent (Table 10).

Table 10

Investment Manager Fees for 1993 (in Basis Points)

Year	VRS	Public Fund Avearge
1988	21 b.p.	21.4 b.p.
1989	19	25.6
1990	20	27.2
1991	21	24.8
1992	28	28.8
1993	29	Not available

Source: Bear Stearns analysis of VRS data.

The total annual investment manager fees that VRS has paid over the past five years appear reasonable in the aggregate, as compared with other surveyed public pension funds. The levels paid for management of specific asset classes, including equities, fixed income, alternatives, real estate and managed futures, also appear reasonable.

In fiscal year 1993, the VRS paid a total of $789,794 to eleven consultants (apart from the managed futures programs), compared to $315,073 paid to three consultants in 1988. However, as a percentage of the assets, the cost of consultants to the VRS has not significantly changed. Given the level of sophistication of the VRS investment program, the fund's use of specialized consultants and the amount of fees paid to them generally appear reasonable, with certain caveats regarding the managed futures program which have already been discussed.

Consultants can act as an extension of the in-house staff when time or specialized expertise are critical. They can also add value by providing a "second opinion" or an additional analytical approach to problems.

VRS Employs Too Many Investment Managers

There is no formula or definitive way to determine the exact number of managers that any particular pension fund should utilize. Determining how many managers is appropriate is a judgmental question; there are no bright lines.

By comparison to plans reporting in the recent PENDAT survey by the Public Pension Coordinating Council/Government Finance Officer's Association, the VRS employs a high number of investment managers. Compared to a more select group of funds that Bear Stearns surveyed, the VRS also seems to have a large number of managers. The VRS total is 79 external and five internal managers. (If the manager manages more than one account within a particular investment class (e.g., equities) that manager is counted as just one manager but if the manager manages accounts in different asset classes (e.g., fixed income and equities) the manager is counted as a different manager for each asset class.)

Retaining a large number of managers may generate unduly high levels of investment management fees. The fee structure for the investment industry generally uses a declining rate fee schedule based on the size of the account; consequently in percentage terms a small account generally costs more than a large account.

The VRS is paying investment management fees of about 0.29 percent on the total portfolio, which is in line with other public funds. If the number of equity managers were reduced, say, to 20 from the existing 37, and assuming this reduction lowered the marginal rate of fees by 5 to 10 basis points, through aggressive fee negotiations by staff, annual total investment management fees would drop by about $4.3 to $8.7 million. However, the long term value to the total portfolio of true diversification among managers particularly in adverse markets, may in theory exceed that amount, although such value is difficult to quantify.

Another critical question, on a practical level, is whether VRS can actually monitor such a large stable of managers sufficiently to maintain efficient diversification and avoid duplication of style. In order to get some measure of the degree of duplication, two styles within the equity structure and one in the fixed income structure were statistically tested. The test involved comparing the performance of managers against others within their style to determine their correlation to one another.

Statistical tests for this study revealed relatively low correlation among the six managers that qualify as "value style" managers. This means these managers were not redundant and provided reasonable diversification within the value sector. However, the correlation of the managers in the "special growth" equity sector and the intermediate term fixed income managers were significantly closer, suggesting a relative lack of diversification.

Other non-quantitative factors further support Bear Stearns' judgment that VRS probably employs too many managers. As noted above, an unwillingness by the Board and IAC on some occasions to make sufficiently selective decisions on appointment and termination of managers was detected during the course of this review. An additional relevant consideration is that several other large pension funds have found it cost effective to replace many of their external managers with a more developed in-house asset management function, overseen by a chief investment officer.

In addition to the recommendations discussed regarding the policies and procedures for terminating managers, the following is presented as a strategy for streamlining VRS' external management program.

1. On an annual basis, the staff and IAC should review the statistical correlation of the investment managers. If the correlation is above an agreed-upon threshold, the IAC should consider recommending that the Board terminate an appropriate number of duplicative managers.

2. When deciding whether to terminate managers, the Board should consider how each such manager has performed relative to other managers following the same investment style ("peer comparisons").

3. Assuming the VRS hires a new CIO, the Board should consider whether and how to shift more asset management in-house.

IV. Actuarial Soundness of the Virginia Retirement System

This chapter is a summary of research findings and recommendations prepared for JLARC by Alexander and Alexander Consulting Group, Inc. The full report of Alexander & Alexander Consulting Group is available upon request from JLARC.

VRS provides competitive pension benefits to its members. In order to continue providing these same benefits, the pension fund's assets, increased by future contributions and investment earnings, must be sufficient to cover the cost of all future benefits. An important objective of VRS pension funding is to provide benefit security for its active and retired members, so as to ensure that promised benefits will actually be received by VRS members.

The actuarial firm which has served as the VRS actuary since 1980 has provided the VRS Board with competent and responsive actuarial services and advice. Partly as a result of this firm's efforts, accrued retirement benefits are currently adequately funded. However, projections show that the funded status of the State employees, teachers, police, and judges systems will all decline gradually over the next 30 years unless experience is more favorable than the actuarial assumptions, the contributions are increased, or the benefits are changed. Also, certain technical aspects of the valuation process should be modified.

VRS is similar to a majority of state retirement systems in that it provides an annual cost-of-living-allowance (COLA) which is essentially automatic. VRS funds the COLA benefit on a pay-as-you-go basis. The use of this funding method results in steadily increasing employer contribution rates over the long term. The fact that the COLA is required by the *Code of Virginia*, but not prefunded through inclusion with other retirement benefits in the actuarial valuation, means that future VRS employer contributions will increase gradually but significantly over time. The issue of prefunding COLA benefits merits serious consideration by the VRS Board of Trustees and the General Assembly, especially in view of a proposed standard by the Governmental Accounting Standards Board (GASB).

The results of an actuarial analysis performed by JLARC's actuarial consultant, Alexander & Alexander Consulting Group, are presented in this chapter. For the first time, the General Assembly has conducted a comprehensive actuarial examination of VRS. After presenting an overview of the actuarial policies and practices currently used by VRS, the discussion focuses on two main areas. First, the current and long-term funding status of VRS is assessed. In particular, the chapter analyzes the long-term funded status and cost implications of the pension plan, under both current funding policies and a contribution policy that anticipates future COLAS. Second, the most recent actuarial valuation of VRS is examined. The chapter provides recommendations for improving the actuarial valuation process.

VRS ACTUARIAL POLICY AND PRACTICE

Proper funding of VRS is vital to both the long term financial viability of the system, and to the continued confidence of VRS members and beneficiaries. The Board is responsible for establishing the funding policy of the retirement system. Within the context of a funding policy, the Board makes a fundamental financial decision concerning the pension trust fund: How much money should be set aside during an employee's years of service in order to provide the full amount of promised pension benefits during retirement? In order to make that decision, the Board relies on an actuarial valuation performed by its actuary.

An actuarial valuation is a mathematical process which, using a set of assumptions and cost methods, and taking into consideration the value of plan assets, measures the expected value of future pension benefits. The valuation assigns the expected value of benefits to a specific time period in order to determine a contribution schedule that will accumulate sufficient assets to cover the cost of benefits. Finally, the valuation also makes adjustments to recognize unanticipated actuarial gains or losses.

The funding status of VRS has been examined by the General Assembly in the past. The last comprehensive review took place in the late 1970's. While some potential problems were identified, the studies concluded that VRS was funded on an actuarially sound basis. Currently, VRS uses several different approaches to assess the adequacy of the retirement system's funding. The funding status of VRS can vary significantly depending on the measures and criteria used.

VRS Pension Funding Policy Requires Stable Contribution Rates

VRS has three sources of pension trust fund revenue: employer contributions, employee contributions, and investment earnings. The VRS funding policy provides for periodic employer contributions at actuarially-determined rates that will remain relatively level over time as a percentage of payroll, and that will accumulate sufficient assets to meet the cost of all basic benefits when due. However, the funding policy does not provide guidance concerning what level of funding is actually appropriate.

Statutory Requirements. The *Code of Virginia* requires that the employer contribution rate be determined in a manner so as to remain relatively level from year to year. In addition, the *Code of Virginia* requires that each employer contribute an amount equal to the sum of the normal contribution, any accrued liability contribution, and any supplementary contribution. The normal contribution covers the pension liability assigned to the current year. The accrued liability contribution covers a portion of the liability accumulated in prior years. The supplementary contribution pays for the cost of living adjustment (COLA) benefit.

The *Code of Virginia* requires the VRS Board to perform, on a biennial basis, an actuarial valuation of the assets and liabilities of the retirement system with respect to each employer. The valuation calculates the required employer contribution rates. The

VRS Board must have an analysis of actuarial gains and losses performed in conjunction with the valuation.

VRS Actuary. VRS employs an actuarial firm, Buck Consultants, Inc., to perform the actuarial valuation and the analysis of actuarial gains and losses, and to serve as a technical consultant to the Board. The actuary performs the valuation using liability and asset data provided by VRS. The actuary tests the data's consistency and reasonableness. While the actuary does not verify the data at its source, the data are verified by the Auditor of Public Accounts.

Statute Does Not Require Specific a Funding Level. Virginia has no statutory requirement that a certain level of funding be maintained. For example, VRS is not required to have assets equal to 100 percent of its liabilities. The actual level of funding is established by the Board and the General Assembly, based on the recommendation of the actuary. Unlike private sector pension plans, which are subject to funding standards prescribed by ERISA, public employee retirement systems are not subject to federal funding standards. However, according to many pension experts, some ERISA funding principles may be used by retirement system boards as a model for establishing funding policy. Although the ERISA requirements are extremely complex, their essential premise is that all pension plan liabilities must be covered by pension plan assets, together with future contributions.

VRS Funding Policy Is Implemented Through an Actuarial Valuation

The biennial actuarial valuation by the VRS consultant serves as the means to implement VRS funding policy. The valuation establishes employer contribution rates for the next biennium. The actuary's recommended contribution rates are reviewed by the Board, and subject to its approval. The most recent actuarial valuation was completed as of June 30, 1992. There are four main components to the actuarial valuation: the cost method, the actuarial assumptions, the amortization method and period, and the asset valuation method.

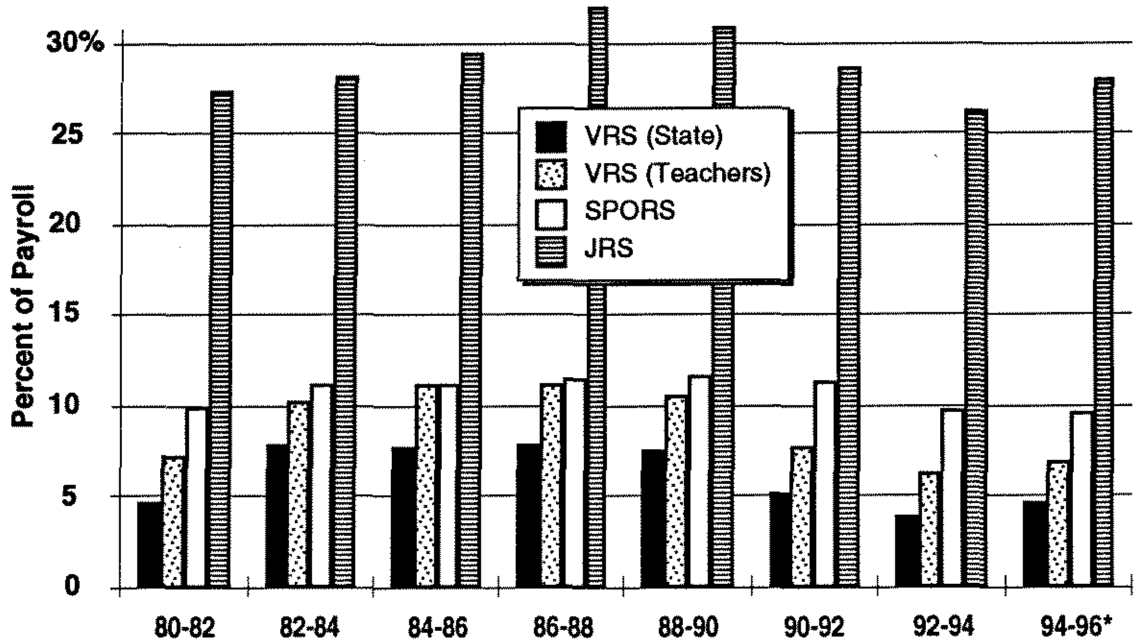
Actuarial Cost Method. VRS develops employer contribution rates using the entry age normal cost method for both normal costs and amortization of the unfunded actuarial accrued liability. This method is regarded as relatively conservative, since it generally requires more funding in the earlier years of an employee's period of service than alternative cost methods.

The actuarially determined employer contribution rates have varied somewhat over the last few years (Figure 10). The actuarially determined rates for the 1992-94 biennium are:

VRS (State employees)	3.98 percent
VRS (teachers)	6.36 percent
VRS (political subdivisions)	1.10 to 31.24 percent (varies)
SPORS	9.83 percent
JRS	26.41 percent

Figure 10

VRS Employer Contribution Rates



*Recommended.

Source: JLARC analysis of VRS data.

The statutory employee contribution rate is five percent of creditable compensation. More than 75 percent of participating employers pay the member contributions for their employees. Contributions from members and employers decreased by nearly $35 million, or 4.6 percent from FY 1992 to FY 1993. Member and employer contributions provided 39 percent of total pension fund revenues in FY 1993, compared to 41 percent in fiscal year 1992. In FY 1993, employer contributions totaled $367 million, and employee contributions totaled $351 million.

The *Code of Virginia* requires VRS to pay an annual COLA based on specified increases in the U.S. consumer price index for urban consumers. The COLA benefit equals the first three percent of the annual increase in CPI, plus one-half of any additional increase up to seven percent. This effectively caps the annual COLA at five percent.

The contribution rates necessary to support the COLA are not determined on an actuarial basis. VRS funds the COLA, which retirees qualify for in their second year of retirement, on a pay-as-you-go approach. This means that the cost of the COLA due in the current biennium is paid for by a supplemental employer contribution. Funds necessary to pay COLAs that will be due in future years are not set aside in advance.

Actuarial Assumptions. All of the important variables needed to calculate the true cost of an employee's pension benefit are unknown at the time contributions are made to the pension fund. In order to perform the actuarial valuation, the actuary makes a number of assumptions about key economic and decremental variables. The two most important economic assumptions in computing the employer contribution rate are the rate of investment earnings, and the rate of salary increase. VRS currently uses an eight percent investment earnings assumption, and a 5.48 percent average salary increase (inflation component) assumption. The merit component of the salary increase assumption differs for each employee group and varies with age.

Some of the decremental assumptions, which concern the number of individuals who leave VRS, used by the actuary vary slightly for VRS, SPORS, and JRS. The assumptions may also vary within each system by sex and age. The assumptions vary further within VRS by type of employee. For example, some of the assumptions for State and political subdivision employees are slightly different from those for teachers.

The *Code of Virginia* requires the VRS board to have performed, at least once every five years, an actuarial investigation of all the experience under the retirement system. Pursuant to that investigation, the VRS board must periodically revise the actuarial assumptions used in computing the employer contribution rate. Buck Consultants last performed the investigation for VRS as of June 30, 1992.

Amortization Method and Period. Inevitably, the actual experience of a retirement system will not exactly match all of its actuarial assumptions. As a result, a retirement system may experience both positive actuarial experience (gains) and negative actuarial experience (losses). VRS recognizes these gains and losses as subtractions and additions to the unfunded accrued liability.

According to the *Code of Virginia*, VRS must amortize, or systematically eliminate, the unfunded accrued liability within 40 years. The choice of an amortization period, within the parameters established by the *Code of Virginia*, is a policy decision of the VRS Board. The current policy of the VRS Board, as reflected in the 1992 valuation, is to amortize the unfunded liability, as a level percentage of compensation, within 28 years.

Asset Valuation Method. VRS values its plan assets using the modified market method. This approach reflects the value of the asset if it was sold on the valuation date, while also smoothing the effects of temporary market fluctuations over a period of several years. The use of the modified market approach was mandated by the General Assembly in the 1992 Appropriation Act. Prior to this, VRS used the book valuation method. As of July 1, 1992, all employer contributions must be based on actuarial valuations utilizing the modified market method of asset valuation. VRS revised the actuarial valuation utilizing market value as of July 1, 1990. In subsequent years, equity investments and fixed income investments not intended to be held to maturity must be valued for actuarial purposes using the expected value form of the modified market method.

Monitoring of VRS Funding Status

During the 1970's, a series of legislative studies concerning VRS funding resulted in a number of important findings. For example, the unfunded liability was found to be large and increasing. In addition, the studies found that the COLA was not funded in advance on an actuarial basis. However, the reports confirmed the overall actuarial soundness of VRS.

According to the VRS actuary, today the system is still adequately funded and operating on an actuarially sound basis. Assuming that contributions will continue to be made to the system in the future, the actuary states that the continued sufficiency of the fund to provide benefits can be safely anticipated.

Whether a retirement system is adequately funded is, to a large extent, a matter of interpretation. VRS uses a number of different measures to monitor and report its funding status. The apparent funding status of VRS depends significantly on the choice of measures and criteria for evaluating funding status.

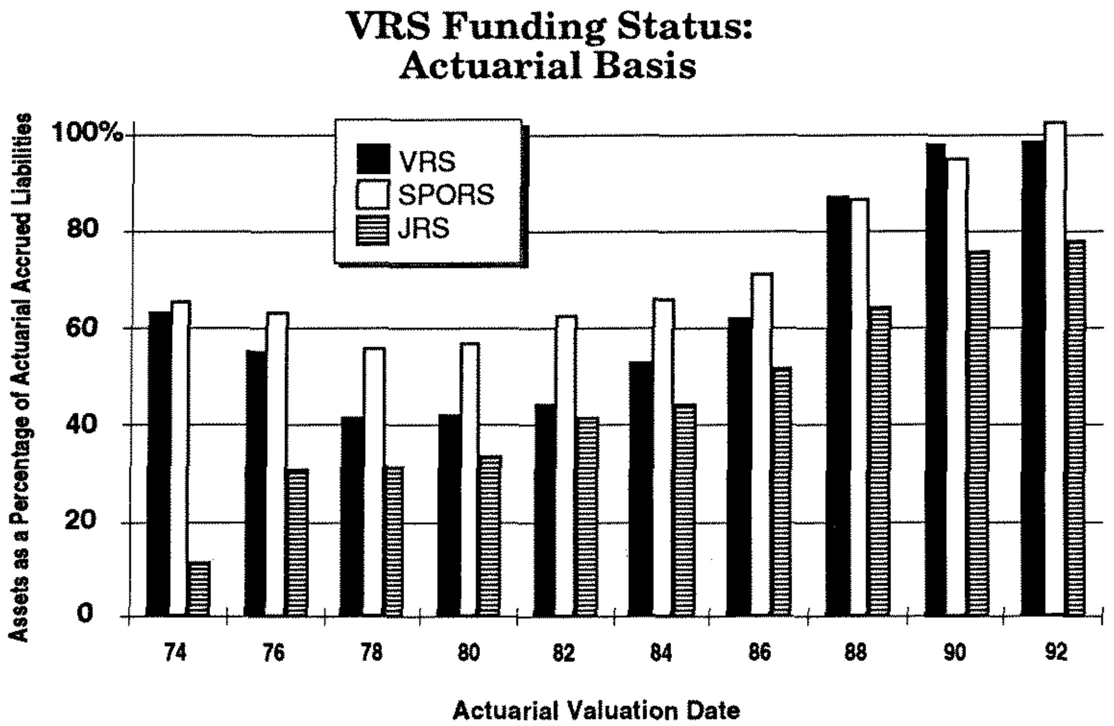
Prior General Assembly Studies of VRS Funding. A 1978 JLARC report, *Management Review - Virginia Supplemental Retirement System*, found that the future actuarial soundness of VRS could be affected by a number of factors. First, the unfunded liability had grown steadily. Second, the chosen amortization method did not reduce the unfunded liability quickly enough. Third, the COLA was not funded in advance on an actuarial basis. Finally, the report found that the VRS funding practices were not conducive to stable employer contribution rates and could, over time, weaken the actuarial soundness of VRS. On the other hand, the report concluded that there was no evidence to suggest that VRS could not meet its obligations.

The Virginia Retirement Study Commission, in a 1980 report, criticized the pay-as-you-go funding method used for the COLA. According to the report, the costs of the COLA were being deferred to the future. The commission recommended that the State phase in, over three bienniums, actuarial funding for the COLA.

Actuarial Funding Ratio. According to the 1992 actuarial valuation, the ratio of valuation assets to actuarial accrued liabilities was 98.1 for VRS, 102.1 for SPORS, and 77.7 for JRS. These funding ratios represent the amount of system assets, valued using the actuarial asset valuation method in use during each respective valuation, as a percentage of VRS benefit liabilities, excluding the value of COLA benefits, calculated using the entry age normal method. VRS funding status, as indicated by these ratios, experienced rapid improvement between FY 1978 and FY 1992 (Figure 11).

Pension Benefit Obligation Funding Ratio. All state and local governments are required by the Governmental Accounting Standards Board (GASB) to disclose this measure in their annual financial reports. This GASB requirement has been in place since 1988. This ratio represents the amount of retirement system assets, valued using the system's actuarial asset valuation method, as a percentage of benefit liabilities calculated using the projected unit cost method. These liabilities include both current and anticipated COLA benefits. According to this measure, VRS funding status is

Figure 11



Source: JLARC staff analysis of VRS data.

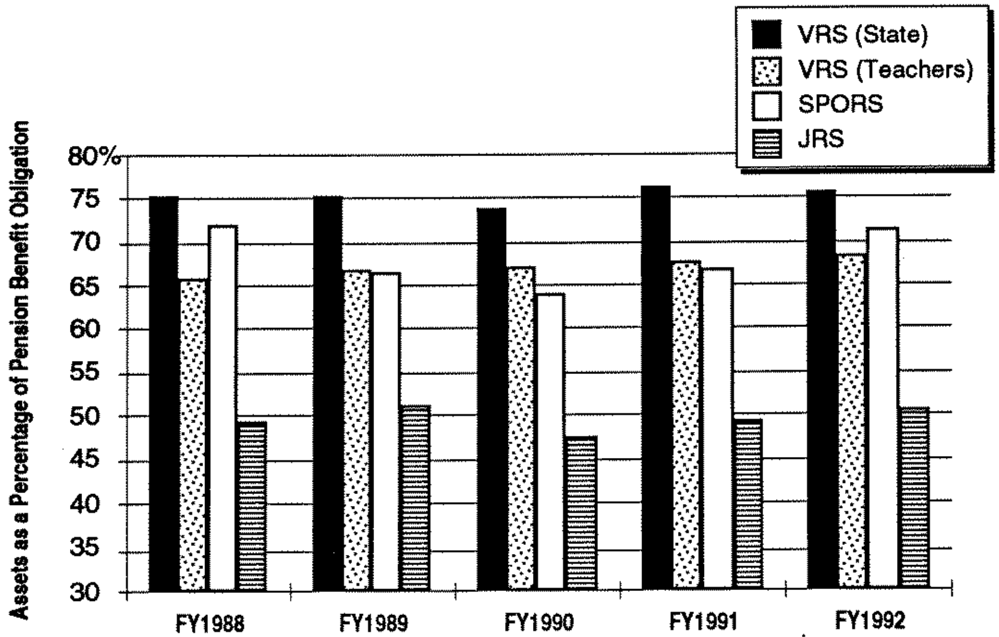
weaker, by approximately 25 percentage points, than it is according to an actuarial funding ratio. Moreover funding status has been relatively consistent, with no significant improvement, since FY 1988 (Figure 12).

Solvency Test. The progress of a retirement system in accumulating assets to pay benefits when due can also be measured by examining the extent to which assets accumulated for benefits cover (1) active member contributions to the system, (2) liabilities for future benefits to retirees and beneficiaries, and (3) liabilities for the employer-financed portion of service already rendered by active members. The VRS annual report contains the results of a solvency test for measuring funding status on this basis. According to VRS, available assets fully cover the liabilities for member contributions and for future benefits to retirees and beneficiaries. VRS reports that it has made rapid progress, since FY 1980, in covering liabilities for the employer-financed portion of service already rendered by active members. According to the 1992 actuarial valuation, the asset-covered percentage of liability for the employer-financed portion of service already rendered by active employees is 96.4 for VRS, 103.7 for SPORS, and 49.25 for JRS.

Ratio of Assets to Benefit Payments. Another way of evaluating funding status is to compare the amount of assets available for benefit payments, to the total amount of benefit payments and administrative expenses (Figure 13). Generally, the larger the ratio the stronger the funding. Using this measure, VRS funding has improved tremendously since FY 1981. However, this ratio declined significantly in FY 1992.

Figure 12

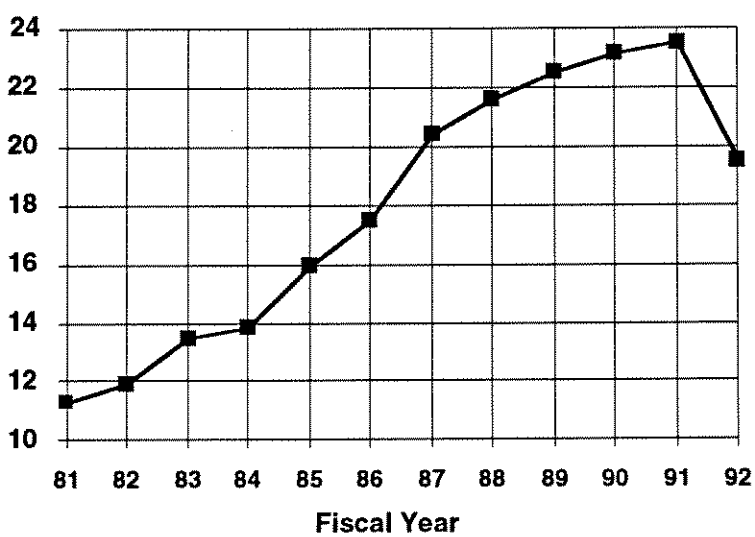
VRS Funding Status: GASB Basis



Source: JLARC staff analysis of VRS data.

Figure 13

Ratio of VRS Assets to Benefits Paid



Notes: Book value of assets. Benefits paid includes VRS administrative expenses.

Source: JLARC staff analysis of VRS data.

Unfunded Accrued Liability. A pension fund's benefit obligation may exceed the current assets, plus the value of future normal cost payments. This condition is known as an unfunded accrued liability. An unfunded liability does not necessarily mean that a retirement system does not have enough money to pay its current obligations. Rather, it is a comparison of the liability that the actuarial valuation method assigns to past service to the value of the actuarial assets.

The funding status of a retirement system can be evaluated by examining the unfunded accrued liability, both in absolute terms and as a percentage of payroll. The unfunded liability of VRS increased from $890 million in FY 1978 to nearly $1.3 billion in FY 1989. However, upon the recent adoption of modified market asset valuation, the unfunded liability was reduced drastically. As of June 30, 1992, the unfunded liability was $276.5 million. The unfunded liability has also decreased as a percentage of annual active member payroll: 3.8 percent for VRS, while SPORS had a negative unfunded liability. However, the percentage was still large, 94.5 percent, for JRS.

EVALUATION OF VRS FUNDING STATUS

In recent years, evaluation of the adequacy of VRS funding has focused on the sufficiency of assets to cover current pension liabilities. In other words, if the VRS pension plan were terminated, are there sufficient assets to pay benefits promised to present active and retired employees? On this basis, VRS appears to be well funded.

This traditional approach to evaluating VRS funding status has several shortcomings. First, it is not appropriate to assume that VRS, or any other state employee retirement system, will terminate. VRS is intended to be an ongoing, long-term endeavor. For that reason, the projected future funding status of the system should be examined. Second, ratios of assets to liabilities ignore the maturity of the employee group and pension plan. An adequate ratio for one group of employees may be inadequate for another, older group. Finally, a large and growing source of liability, the COLA, has been excluded from some analyses of VRS funding status. When all of these factors are taken into consideration, VRS funding status will be reduced.

JLARC's consultant, Alexander & Alexander, analyzed VRS funding status and employer contribution rates through a series of 30 year actuarial projections. Based on the analysis, the consultant determined that, primarily because the COLA is not prefunded, the funding status of VRS will worsen over the long term. In particular, Alexander & Alexander reached the following conclusions:

- VRS funding status will deteriorate gradually and steadily over the next 30 years for all employee groups, even if all actuarially determined contributions are made timely and fully;

- Required VRS employer contribution rates will increase gradually but markedly over the next 30 years; and

• These changes will be a source of instability for VRS.

In recent years, it has been common for funding status evaluations to place strong emphasis on comparisons with other state retirement systems. However, no two state retirement systems are alike. There are major differences in their actuarial methods and assumptions, asset valuation techniques, and demographics. All of these differences make meaningful comparisons questionable, at best, and typically invalidate the results of the analysis.

This section provides a framework for a useful evaluation of VRS funding. Pension experts have identified four elements that should serve as the basis for an effective pension funding policy:

• an asset accumulation target;
• a contribution schedule related to the target;
• an actuarial methodology designed to keep funding on target; and
• a method for funding unanticipated experience.

VRS should focus on its own funding requirements, policies, and practices, and what they mean in light of its future contribution rates.

VRS *Funding* Status Will Decline Over the Long Term

According to 30-year actuarial projections prepared by Alexander & Alexander for JLARC, the overall funding status of VRS, as measured by the ratio of assets to liabilities, will decline in coming years (Table 11). The primary cause of this deline is the pay-as-you-go approach used to cover the cost of the COLA benefit. On the other hand, the value of current accrued retirement benefits, excluding the COLAs, is funded to a much greater extent.

Table 11

Long-Term Funding Status of VRS

Employee Group	Initial Funding Status	Final Funding Status
State Employees	75.4%	61.5%
Teachers	66.0%	57.8%
State Police	72.0%	55.7%
Judges	49.4%	45.0%

Note: Funding status is measured as the ratio of the book value of assets to the projected benefit obligation. Funding status is projected from 1988 to 2022.

Source: Alexander & Alexander Consulting Group analysis of data provided by Buck Consultant's Inc.

COLA Benefits Are Not Adequately Funded. VRS funds COLA benefits on a pay-as-you-go basis. Using this method, the employer contribution to pay for COLA benefits is equal to the amount of COLA increases in a given year. Despite the fact that VRS assumes, for GASB disclosure purposes, that it will pay an annual COLA of 3.5 percent, the cost of future COLAs is not prefunded on an actuarial basis as a level percentage of payroll. In comparison, many other state retirement systems do prefund their COLA benefits (Table 12).

Table 12

COLA Funding Methods Used by State Retirement Systems

State	Prefund	Pay-As-You-Go	No COLA
Alaska	●		
Arkansas	●		
California	●		
Colorado	●		
Florida	●		
Georgia		●	
Idaho	●		
Illinois	●		
Iowa			●
Kansas	●		
Kentucky		●	
Maryland	●		
Minnesota			●
Mississippi		●	
Nevada	●		
New Hampshire		●	
New Jersey	●		
New York		●	
North Carolina		●	
Ohio	●		
Oklahoma		●	
South Carolina		●	
South Dakota	●		
Tennessee	●		
VIRGINIA		●	
Washington	●		
Wisconsin			●
Wyoming	●		
Total	16	9	3

Note: Iowa, Minnesota, and Wisconsin provide a dividend if investment earnings exceed a specified target.

Source: JLARC staff telephone interviews with staff from other state retirement systems.

Experts in the public pension field believe pay-as-you-go funding has several disadvantages. For example, should the State's ability to make continued supplementary contributions become impaired, current and prospective retirees may find that payment of their COLAs is postponed or reduced. In addition, pay-as-you-go funding requires the State to match the amount of its supplemental contribution to the exact amount of annual COLA payments, which may in fact vary significantly from year to year. Furthermore, pay-as-you-go funding precludes the possibility of additional income from the investment of plan assets. Finally, pay-as-you-go funding is inconsistent with the concept of intergenerational equity. Under this concept, all pension costs should be allocated over generations of taxpayers according to the advantages they receive from employee service. This does not occur with pay-as-you-go funding.

According to JLARC's consultant, pay-as-you-go funding means that employer contributions will increase in the future as additional COLA benefits are granted. These rates will increase to levels that may be beyond the ability of the State and its political subdivisions to continue to fund.

Proposed GASB Standard Prohibits Pay-As-You-Go COLA Funding. GASB recently issued a proposed standard which identifies acceptable actuarial cost methods for public pension funds. All of the acceptable methods, including entry age normal, are based on accrual accounting. Specifically, all of these methods are designed to provide funding for pension benefits during the time period in which the benefits are earned. Paragraph 22 of the GASB exposure draft explicitly prohibits pay-as-you-go-funding. There is no exception for COLA benefits. Therefore, unless the GASB exposure draft is changed, the COLA benefit provided by VRS would become subject to one of the accepted actuarial cost methods as soon as the standard is adopted.

Current Retirement Benefits are Well-Funded. VRS has sufficient assets to cover nearly 100 percent of the accrued service retirement benefits earned by, and owed to, current active and retired VRS State employees, teachers, State police, and political subdivision employees. However, the Judicial Retirement System is an exception. Current retirement benefits for judges are not as well funded (Table 13).

Table 13

Funding Status of Current Accrued Retirement Benefits

Retirement System	Aggregate Accrued Liabilities	Valuation Assets	Funding Status
VRS	$13,325,525,000	$13,073,894,000	98.1%
SPORS	165,936,000	169,470,000	102.1%
JRS	127,781,000	99,316,000	77.7%

Note: Funding status is measured as the ratio of valuation assets to aggregate accrued liabilities.

Source: Virginia Retirement System.

Employer Contribution Rates Increase Gradually but Markedly Over Time

JLARC's consultant projects that, mainly due to the lack of prefunding of the COLA, total VRS employer contribution rates will increase gradually but significantly over the next 30 years. The projected growth in contribution rates is summarized in Table 14.

Table 14

Growth in VRS Employer Contribution Rates

Employee Group	Initial Rate - 1992	Final Rate - 2022
State Employees	5.06%	13.66%
Teachers	7.44%	19.52%
State Police	11.09%	21.48%
Judges	31.89%	47.95%

Source: Alexander & Alexander Consulting Group analysis of data provided by Buck Consultants, Inc.

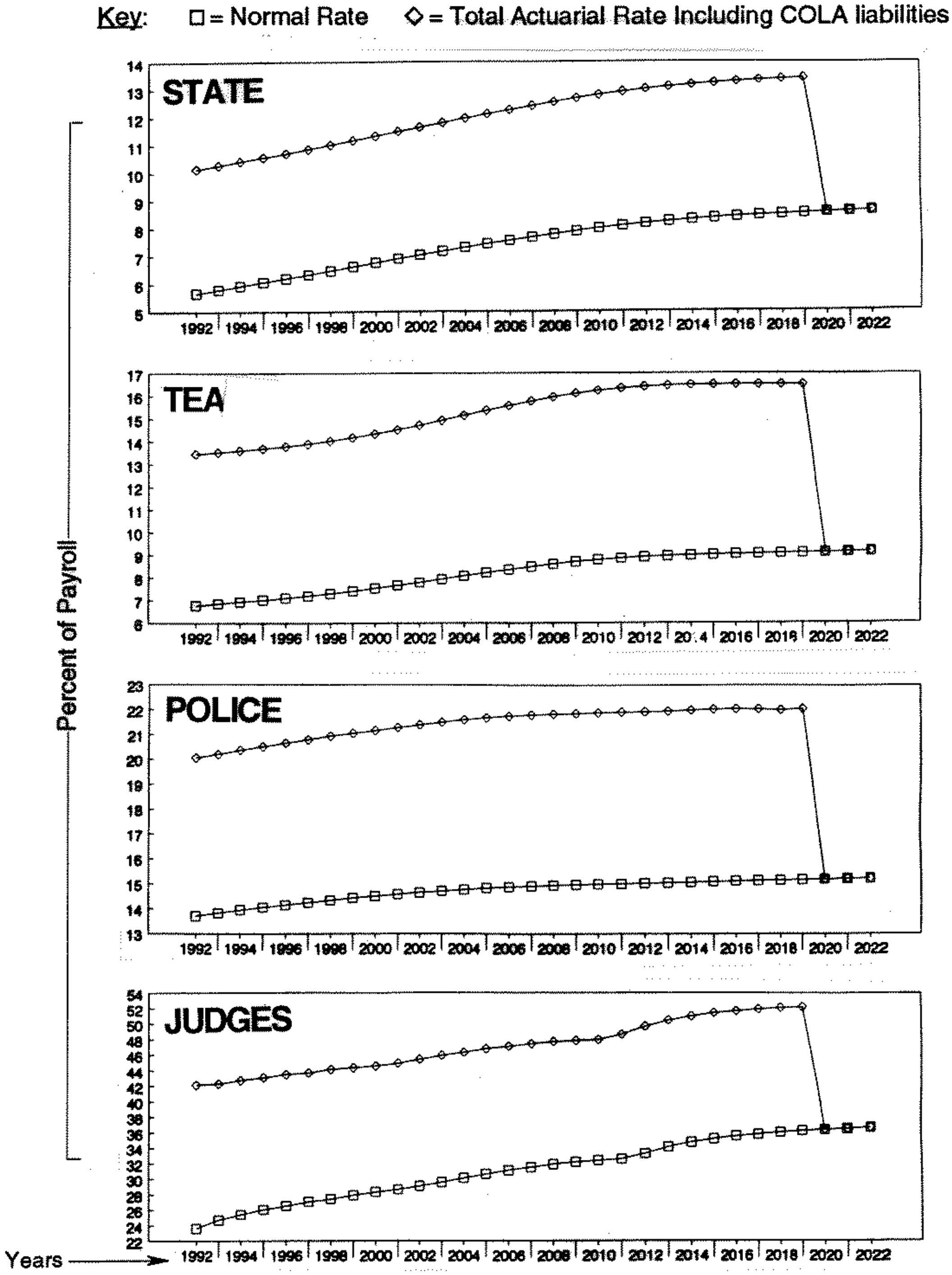
Prefunding COLA Will Require Significant Rate Increases. As previously discussed, COLA benefits are funded on a pay-as-you-go basis. Alexander & Alexander determined the total employer contribution rate that would be needed in order to begin prefunding the COLA on actuarial basis using the entry age normal method. According to the consultant, there would need to be a large, and immediate, increase in the rate for all employee groups in order to begin prefunding the COLA. The contribution rates would then increase gradually, but steadily, throughout most of the next 30 years. However, by the 28th year the cost of the COLA benefit would be fully amortized, permitting a large decrease in the contribution rate (Figure 14).

Since prefunding the COLA would entail such significant increases in contribution rates, it may be appropriate to consider alternative methods of financing and providing the COLA. For example, VRS could change to another accepted actuarial cost method. The General Assembly could also revise the *Code of Virginia* to modify the structure and design of the COLA benefit.

Contributions for Non-COLA Benefits Also Increase Over Time. The entry age normal cost method should, if all assumptions are met, produce contributions that remain level as a percentage of payroll over the long term. However, JLARC's consultant determined that employer contribution rates will continue to increase gradually over the next 30 years. Specifically, the contribution needed to cover the cost of service retirement benefits earned in the current and prior years will continue to grow (Table 15). According to JLARC's consultant, this upward rate trend is the result of three aspects of the valuation process, which are discussed later in this chapter.

Figure 14

Projection of Employer Contributions Allowing for Advanced Funding of COLAs



Note: COLA benefits are amortized over 28 years beginning in 1992. After they are funded, contribution rate drops to the normal cost rate, which includes prefunding of future COLAs.

Source: Alexander & Alexander Consulting Group.

Table 15

Growth in Employer Contribution Rates for Non-COLA Retirement Benefits

Employee Group	Initial Contribution Rate-1992	Final Contribution Rate - 2022
State Employees	3.56%	5.78%
Teachers	5.19%	7.83%
State Police	8.99%	9.59%
Judges	24.32%	31.62%

Source: Alexander & Alexander Consulting Group analysis of data provided by Buck Consultants, Inc.

Comparisons with Other State's Retirement Systems Are Problematic

In the past few years, several national studies have compared the funding levels of state retirement systems. These studies rank state systems from best-funded to worst-funded. The rankings are typically based on one of the following types of measures:

- ratio of assets to liability;
- amount of unfunded accrued liability;
- unfunded accrued liability as a percentage of payroll; or
- ratio of assets to benefits paid.

However, such comparative rankings are highly questionable. There are inherent differences in the way that systems compute liabilities and assets. In addition, there are differences in retirement system demographics (Tables 16 and 17). As a result, data from such studies, while popular, are not really useful in analyzing the funding status of any one state retirement system.

Different Plan Maturity Levels. The maturity of both the employee group and the pension plan has implications for the appropriate ratio of assets to liabilities. For example, if all plan participants were retired, a plan would need a high ratio of assets to liabilities because no future contributions would be forthcoming. Conversely, any new plan that granted past service would appear by this measure to be in dire financial condition, even if the ability of the employer and employees to make all required contributions was beyond question.

Plan maturity also influences the proper ratio of assets to benefits paid. If an employee group were young with no retirees, the ratio could be infinite without the plan being considered over funded. Conversely, a group consisting of all retirees would need a high ratio of assets to benefit payments.

Different Actuarial Methods and Assumptions. The actuarial methods used by a retirement system greatly influence the appropriate funding status. For

Table 16

Comparative Funding Status and Actuarial Practices of State Retirement Systems

State	Actuarial Funding Ratio	Actuarial Cost Method	Asset Valuation - Equities	Asset Valuation- Fixed Income	Investment Earnings Assumption
Indiana	159.8%	Entry Age	N/A	Mod. Market.	7.5%
South Dakota	127.0%	Entry Age	Market	Market	8.00%
New York	125.0%	PUC	Market Avg.	Book	8.75%
West Virginia	119.5%	Attained Age	Market	Market	7.5%
Iowa	117.0%	Aggregate	Market Avg.	Book	6.5%
Maryland	110.3%	Entry Age	Market Avg.	Market Avg.	7.5%
New Hampshire	108.0%	Open Group Aggregate	Market Avg.	Market Avg.	9.00%
Arizona	107.7%	PUC	Market Avg.	Market Avg.	8.00%
Arkansas	103.2%	Entry Age	Original Cost	Book	7.75%
Texas	102.6%	Entry Age	Market Avg.	Book	8.5%
North Dakota	100.9%	Entry Age	Market Avg.	Market Avg.	8.00%
Oregon	100.6%	Entry Age	Market	Market Avg.	8.00%
Delaware	100.2%	PUC	Market	Market	8.5%
VIRGINIA	**97.6%**	**ENTRY AGE**	**MOD. MARKET**	**BOOK**	**8.00%**
North Carolina	94.2%	Entry Age	Original Cost	Original Cost	7.5%
Kentucky	93.2%	Entry Age	Mod. Market	Mod. Market.	8.00%
Wisconsin	92.0%	Frozen Initial. Liability	Book	Book	8.00%
California	91.4%	Entry Age	Mod. Market	Mod. Market	8.75%
Colorado	91.3%	Entry Age	Mod. Market	Mod. Market.	8.5%
Alaska	91.2%	PUC	Market	Market	8.75%
Hawaii	90.5%	Entry Age	Original Cost	Original Cost	8.00%
Wyoming	90.3%	Entry Age	Mod. Market	Mod. Market.	8.00%
Pennsylvania	90.3%	Entry Age	Market Avg.	Market Avg.	6.5%
Kansas	88.6%	PUC	Original Cost	Original Cost	8.00%
Missouri	86.9%	Entry Age	Market Avg.	Market Avg.	8.5%
Tennessee	85.0%	Frozen Initial Liability	Market Avg.	Book	8.00%
Minnesota	83.6%	Entry Age	Mod. Market	Mod. Market.	8.5%
Georgia	82.8%	Entry Age	Original Cost	Book	7.5%
Ohio	81.0%	Entry Age	Mod. Market	Mod. Market.	7.75%
Michigan	80.4%	Entry Age	Market Avg.	Market Avg.	10.00%
Utah	80.3%	Entry Age	Market Avg.	Market Avg.	8.00%
South Carolina	77.1%	Entry Age	N/A	Book	8.00%
Oklahoma	76.5%	Entry Age	Original Cost	Original Cost	7.5%
Rhode Island	76.3%	Frozen Initial Liability	Market	Market	8.00%
New Mexico	73.2%	Entry Age	Mod. Market	Mod. Market	8.00%
Alabama	70.8%	Entry Age	Book	Book	8.00%
Nevada	70.4%	Entry Age	Market	Market	8.00%
Idaho	64.9%	Entry Age	Market Avg.	Book	8.00%
Massachusetts	64.3%	Entry Age	Market	Market	8.00%
New Jersey	63.9%	Entry Age	Market Avg.	Market Avg.	8.75%
Mississippi	63.2%	Entry Age	Book	Book	8.00%
Montana	62.1%	Entry Age	Mod. Market	Mod. Market.	8.00%
Florida	60.0%	Entry Age	Mod. Market	Mod. Market.	8.00%
Illinois	58.5%	PUC	Original Cost	Original Cost	8.00%
Louisiana	55.1%	PUC	Mod. Market	Mod. Market.	8.25%
Connecticut	51.3%	PUC	Market Avg.	Market Avg.	8.5%
Maine	50.6%	Entry Age	Mod. Market	Mod. Market.	8.00%
Washington	39.0%	Aggregate	Market Avg.	Market Avg.	7.5%
Vermont	Not Reported	Not Reported	Not Reported	Not Reported	8.5%

Note: Nebraska, which has a defined contribution plan, is not included. Defined contribution plans are always considered to be 100 percent funded.

Source: JLARC staff analysis of data collected from: (1) JLARC mail survey of other state retirement systems, (2) GFOA survey of other state retirement systems, and (3) annual reports of other state retirement systems.

Table 17

Comparative Funding Status (GASB Basis) of State Retirement Systems

State	PBO Funding Ratio	Asset Value Basis	Active/Retired Employee Ratio	Salary Inflation Assumption
Washington	149.0%	Market	3.0	5.5%
North Dakota	123.5%	Market	5.0	5.0%
Arkansas	119.0%	Book	3.8	5.0%
South Dakota	117.4%	Market	2.8	6.0%
Pennsylvania	114.1%	Market	1.2	4.0%
Iowa	112.0%	Book	2.6	5.5%
Texas	110.3%	Book	4.9	4.5%
Colorado	107.5%	Market	4.5	5.5%
Indiana	107.5%	Book	3.8	6.5%
Kentucky	106.0%	Book	3.0	5.0%
Tennessee	105.6%	Book	2.8	7.0%
Arizona	104.7%	Book	2.6	5.0%
West Virginia	104.7%	Market	1.9	Not Reported
Alabama	103.8%	Book	3.9	5.8%
Delaware	103.8%	Book	2.2	5.0%
Oregon	102.2%	Book	2.3	6.0%
New York	101.6%	Book	3.0	5.0%
Wyoming	101.5%	Market	3.0	4.5%
Kansas	101.1%	Book	2.9	5.0%
Missouri	100.6%	Book	3.7	5.0%
North Carolina	100.6%	Book	3.9	6.5%
Wisconsin	100.0%	Market	2.8	5.6%
Minnesota	94.0%	Book	4.0	6.5%
Ohio	93.0%	Book	3.2	5.25%
New Hampshire	92.0%	Market	2.0	5.0%
Alaska	91.2%	Market	3.5	5.0%
Georgia	91.2%	Book	3.9	5.2%
California	89.8%	Book	2.5	4.5%
Utah	87.3%	Book	9.7	5.0%
New Jersey	85.8%	Market	3.6	Not Reported
Michigan	81.9%	Book	2.2	5.0%
Oklahoma	81.9%	Book	3.1	6.0%
Vermont	81.2%	Market	2.8	5.5%
Nevada	80.0%	Book	4.3	5.0%
Montana	77.8%	Book	2.6	6.5%
Maryland	77.7%	Book	2.9	5.0%
New Mexico	75.0%	Book	3.4	5.0%
Hawaii	73.9%	Book	2.5	5.0%
South Carolina	73.3%	Book	4.0	4.0%
VIRGINIA	**72.2%**	**BOOK**	**3.6**	**4.0%**
Idaho	71.5%	Book	3.1	5.75%
Florida	70.5%	Market	4.6	7.0%
Mississippi	69.4%	Book	3.8	5.0%
Rhode Island	67.8%	Market	1.9	4.5%
Massachusetts	66.5%	Market	2.2	6.0%
Illinois	58.5%	Book	2.0	5.0%
Louisiana	57.4%	Book	2.7	4.25%
Connecticut	54.1%	Market	1.9	Not Reported
Maine	34.4%	Market	2.3	6.0%

Notes: Nebraska, which has a defined contribution retirement system, is not included. A defined contribution plan is always considered to be 100 percent funded. Funding Status Ratios are based on 1991 actuarial valuations.

Source: JLARC staff analysis of: (1) data collected in JLARC survey of other state retirement systems, (2) data collected in GFOA survey of other state retirement systems, and (3) annual reports of other state retirement systems.

example, the unfunded accrued liability is a function of the actuarial cost method. Under the aggregate actuarial cost method, which is accepted by GASB, there is never any unfunded liability: Therefore, if VRS were to be judged solely by its unfunded accrued liability, it could change to the aggregate cost method and instantly appear to be very well funded.

Actuarial assumptions also influence the amount of unfunded accrued liability. A state retirement system using conservative assumptions might have a larger unfunded liability than another state which uses more aggressive assumptions. For this reason, some plan sponsors use the projected benefit obligation, the reporting of which is required by GASB, as a funding standard. The projected benefit obligation is more comparable from plan to plan because states calculate it on roughly the same basis.

Criteria for Establishing Funding Target

To the extent that VRS' funding status will be compared to that of other state retirement systems, the funding target should be based on GASB accounting measures of benefit liability rather than on actuarial funding measures of liability. For example, a funding target could be that assets should attain a level of 70 percent of PBO over the next ten years, and should then remain at between 68 and 72 percent of PBO. Accounting measures tend to be more comparable because they are calculated using similar methods and assumptions.

VRS should achieve the funding target over a reasonable period of time, such as ten years. The period should not be so short as to cause dramatic increases in contribution rates. In addition to establishing a funding target, VRS should examine projections to determine the contribution rates required to meet and maintain the target. VRS should also specify how the funding level will be held within a certain degree of tolerance of the target.

Recommendation (20). **The Virginia Retirement System Board of Trustees should establish a funding target, ensure that its actuarial assumptions and methods are appropriate to achieve the target, and then monitor progress toward the target.**

Recommendation (21). **The Virginia Retirement System Board of Trustees should examine the long-term trends in funding status through the use of open group projections. At the same time, the VRS Board should examine the sensitivity of these projections to the assumptions of future experience.**

Recommendation (22). **The General Assembly, and the Virginia Retirement System Board of Trustees, may wish to consider alternative methods of funding and providing cost of living adjustment benefits.**

Recommendation (23). **The Virginia Retirement System Board of Trustees should identify and consider available options for the funding and**

provision of pension benefits to ensure that short and long-term costs can be held to acceptable levels.

REVIEW OF 1992 VRS ACTUARIAL VALUATION

The biennial actuarial valuation and the quadrennial actuarial experience investigation, performed by Buck Consultants, serve as the means for implementing and refining the funding policy of VRS. The total actuarial liability measurements by Buck Consultants were matched by JLARC's consultant within three percent of Buck's recommended rates. Differences in contribution rates for the 1994-1996 biennium are attributable to differences in the actuarial systems of Buck and Alexander & Alexander. JLARC's consultants do not find these differences to be material.

However, according to JLARC's consultant, certain aspects of the actuarial methodology will cause future gradual contribution rate increases for VRS, even when COLA benefits are excluded. When these increased contribution rates are added to the increased rates for COLA benefits, the total increase in recommended contribution rates will be quite material.

This section discusses revisions that should be made in certain aspects of VRS actuarial practice. These aspects include the calculation of benefit liability, development of actuarial assumptions, and amortization of unfunded accrued liability.

Technical Aspects of Actuarial Cost Method Cause Contribution Rates to Increase

The entry age normal cost method is generally accepted and in common use, especially among state retirement systems. A majority of the state retirement systems use this cost method. The entry age normal method generally produces normal costs that are a level percentage of payroll over time, provided that the entry age distribution of active participants remains constant and that actuarial assumptions are met. Past service costs under this method are generally amortized either on a level-dollar basis, or as a level percentage of payroll over a fixed time period. VRS uses the level percentage of payroll method.

According to JLARC's consultant, Alexander & Alexander, certain technical aspects of the valuation process could cause contribution rates to increase even if all assumptions are met exactly. These increases occur even if no changes are made to actuarial methods, assumptions, or plan provisions. In particular, three aspects should be modified.

Lag Between Determination and Implementation of Rates. The VRS employer contribution rates determined in the June 30, 1992 actuarial valuation will not apply to payroll until the 1994-96 biennium. In the meantime, the rates determined in the 1990 valuation apply. To the extent that contribution rates have declined, this method creates an additional reduction in contribution rates because the new lower rates will not apply for two years.

Conversely, when rates have increased, the method postpones their recognition for two years, thereby creating another contribution rate increase. As previously discussed, since COLA benefits are funded on a pay-as-you-go basis, the general trend for contribution rates is upward. Therefore, the two-year delay in recognition of new, higher contribution rates will perpetuate the pattern of increasing contribution rates.

Amortization Period for Unfunded Liabilities is Too Long. During the last three VRS actuarial valuations, Buck Consultants used 30, 29, and 28 year amortization periods, respectively, for the unfunded past service liability. However, by reducing the remaining period by only one year for every biennium, the amortization period is actually extended to twice the stated period. At this rate, for example, the $1 billion in unfunded accrued liability calculated in the 1988 actuarial valuation will be amortized over 60 years (Table 18). This procedure creates lower contribution rates in early years and higher rates in later years. Furthermore, a 60-year amortization period is not in compliance with Section 51.1-145 of the *Code of Virginia*, which allows a maximum amortization period of only 40 years.

Table 18

Amount of Unfunded Accrued Liability Determined from 1988 Actuarial Valuation

Employee Group	Unfunded Liability Including COLA Benefits	Unfunded Liability Not Including COLA Benefits
State Employees	$1,817,000,000	$250,000,000
Teachers	3,400,000,000	752,000,000
State Police	56,000,000	16,000,000
Judges	91,000,000	32,000,000
Total	5,364,000,000	1,050,000,000

Source: Alexander & Alexander Consulting Group analysis of data provided by Buck Consultants, Inc.

Amortization Period for Unfunded Liability Will Eventually be Too Short. In addition, as the amortization period shrinks, employer contribution rates become unstable because new actuarial gains and losses are funded over a shorter time period. For example, because COLA benefits are causing contributions to increase and since the two-year lag previously discussed delays the time the increased contributions are made, the shorter amortization period will increase the contribution rates even more.

There is no written provision in the *Code of Virginia* or in VRS policies and procedures that will stop this gradual reduction of the amortization period at some future date. If the reduction continues without change, the amortization period will eventually become so short that contribution rates will become extremely volatile. Taken to the extreme, if the amortization period declines to one year, all of the additional liability associated with any change in plan benefits, actuarial assumptions or actuarial methods will have to be funded completely in one year.

Accordingly, it would be reasonable and appropriate to consider maintaining separate accounting records for existing, and newly created, unfunded accrued liabilities. The existing amounts could continue to be amortized as previously scheduled, with the period declining by two years each biennium. However, new unfunded accrued liabilities should be amortized over a reasonalbe period, such as 15 years.

Recommendation (24). **The Virginia Retirement System Board of Trustees should modify the actuarial valuation process as follows:**

- **Recognize the timing lag in determining the employer contribution rate;**
- **Reduce the amortization period for current unfunded accrued liability by two years each biennium; and**
- **Amortize all additional unfunded accrued liability, from plan amendments, actuarial gains and losses, and assumption or method changes, separately over a reasonable period, such as 15 years, from the inception of the additional unfunded liability.**

Employer Contributions for 1994-96 are Insufficient

JLARC's consultant determined employer contributions, using Buck Consultants' methodologies and assumptions (Table 19). The total contribution amount ex-

Table 19

Difference in Recommended Employer Contributions and Contribution Rates for 1994-96 Biennium

	State Employees	Teachers	State Police	Judges	25 Political Subdivisions
Alexander & Alexander*	$107,330,000 (4.72%)	$204,852,000 (7.20%)	$5,585,000 (10.61%)	$8,978,000 (29.80%)	$33,382,000 (varies)
Buck Consultants	$108,012,000 (4.75%)	$195,178,000 (6.86%)	$5,101,000 (9.69%)	$8,463,000 (28.09%)	$31,922,000 (varies)
Difference	$682,000 (-0.03%)	$9,674,000 (0.34%)	$484,000 (0.92%)	$515,000 (1.71%)	$1,460,000 (varies)

*Represents AACG calculation using Buck Consultants' methodology.

Source: Alexander & Alexander Consulting Group.

ceeded this determination by Buck Consultants by $11 million, i.e., by 3.3 percent of the total contribution. These differences are due to differences in the actuarial systems of the two consultants, and JLARC's consultants do not find the differences to be material.

Actuarial Assumptions Are Currently Reasonable, But Need Long-Term Revision

The current economic and demographic assumptions used by VRS are reasonable, and similar to those used by other state retirement systems. VRS' approach to establishing its assumptions is in line with accepted actuarial practice. However, unidentified sources of actuarial loss in the 1992 experience investigation point to the need to reassess all of the assumptions. In addition, the long-term implications of short-term changes in actuarial assumptions need to be determined prior to implementation.

Economic Assumptions Reasonable, and Consistent with Other States. According to JLARC's consultant, the economic assumptions used by VRS are neither conservative nor aggressive. In an average time period, actual VRS experience should come close to the assumed investment earnings and salary increase. Furthermore, VRS' economic assumptions are similar to those used by other large public and private pension funds (Table 20).

Improvements Needed in Investment Earnings Assumption. Development of economic assumptions, particularly the investment earnings assumption, should involve both the VRS actuary and the investment advisors. For example, if the projected

Table 20

Comparison of VRS Economic Actuarial Assumptions with Average Assumptions Used by Other Pension Funds

	Mean	Deviation	Assumption	(Below) Mean
Investment Return				
JLARC Survey	8.07%	.56%	8.0%	(.1)
A&ACG Client Database	8.48%	1.18%	8.0%	(.4)
Fortune 100 Firms	8.38%	.53%	8.0%	(.7)
Salary Scale				
JLARC Survey	5.24%	.71%	5.48%	.3
A&ACG Client Database	5.25%	.92%	5.48%	.3
Fortune 100 Firms	5.85%	.91%	5.48%	.3

Source: Alexander and Alexander Consulting Group analysis of the following data: (1) 1993 JLARC staff survey of state employee retirement systems; (2) 1992 A&ACG survey of client actuarial assumptions; and (3) 1992 Fortune 100 companies survey of actuarial assumptions.

economic outlook calls for low rates of investment return, low COLAs, and low rates of salary increase, the actuary can provide cash flow projections based on this outlook. The investment advisors can restructure the assets to maximize return in this environment consistent with liquidity and other constraints. In other words, actuarial and investment work must be coordinated to best serve the needs of VRS. However, JLARC's consultant concludes that VRS actuarial and investment professionals are currently working independently of one another. Better coordination is needed between the two disciplines.

VRS Experience Analysis is Incomplete. Buck Consultants' analyses of VRS actuarial experience, conducted in 1988 and 1992, compared each individual actuarial assumption with actual VRS experience. However, the analysis of actuarial gains and losses did not isolate the individual decremental actuarial assumptions.

Actuarial Losses Likely if Decremental Assumptions Not Revised. The VRS experience studies do indicate a need to update the assumptions, as Buck Consultants has recommended. According to JLARC's consultant, the aggregate affect of the decrements indicates that future actuarial losses are likely to occur if the decremental assumptions are not revised. The main reason for this appears to be that the number of early retirements, especially those where unreduced benefits were paid, exceeds expectations.

According to analysis performed by Buck Consultants, there was a total actuarial loss of $94 million for State employees, and a total actuarial gain of $41.4 million for teachers, between June 30, 1990 and June 30, 1992. The decremental assumptions contributed an $8.6 million loss for State employees and a $32.5 million gain for teachers.

Large Unidentified Source of Actuarial Loss Requires Analysis. Buck Consultants' gain and loss analysis shows a $41.3 million loss for State employees, and a $156.5 million loss for teachers, due to "other" causes. This source of loss is larger than any other, with the exception of the early retirement incentive program for State employees. Therefore, this actuarial loss should be analyzed to determine if any of its components are likely to recur.

Proposed GASB Standards Will Require Modified Assumptions. The GASB proposal requires that, if the interest rate (investment earnings) assumption exceeds the inflation portion of the salary scale assumption by less than 1.5 percentage points or more than four percentage points, the reason for using the interest rate must be disclosed. For each VRS employee group, the difference is within the permissible range.

However, guidance for other assumptions is less specific. According to GASB, the assumptions are to be measured against the experience of the covered group. Each assumption should independently be the best estimate that can be made, rather than having some conservative and some aggressive assumptions. With this proposal in mind, VRS' decremental assumptions should be refined on a regular basis to reflect experience more closely.

***Recommendation (25).* The Virginia Retirement System Board of Trustees should analyze its economic actuarial assumptions.**

***Recommendation (26).* The Virginia Retirement System Board of Trustees should implement that changes in demographic assumptions recommended by Buck Consultants in its 1992 experience investigation.**

***Recommendation (27).* The Virginia Retirement System Board of Trustees should ensure that long-term implications of changes in actuarial assumptions are determined prior to implementation.**

***Recommendation (28).* The Virginia Retirement System Board of Trustees should analyze the $41.3 million actuarial loss for State employees and the $156.5 million actuarial loss for teachers resulting from "other" causes to determine if any of the reasons for these losses are likely to recur.**

***Recommendation (29).* The Auditor of Public Accounts, with the assistance of an independent actuary, should review the Virginia Retirement System's actuarial valuation, including its methodology and assumptions, every five years. The Auditor of Public Accounts should make recommendations to the General Assembly for improvements to the actuarial valuation's methodology and assumptions.**

Employer Contributions are Sensitive to Experience

As was previously discussed, the projected trend for future employer contribution rates is upward. However, JLARC's consultant has determined employer contribution rates can vary significantly based on the experience of the retirement system as compared to its actuarial assumptions. For example, if the actual rate of investment return exceeded the eight percent assumed rate of return, contribution rates would tend to decrease. Table 21 summarizes how employer contribution rates change with varying experience.

Table 21

Effect of Actuarial Experience on VRS Contribution Rates

Type of Actuarial Experience	Effect on Contribution Rates
Investment return rate increased to ten percent	Gradual substantial decline
Investment return rate decreased to ten percent	Gradual substantial increase
Workforce increases by one percent per year	Gradual decline
Employee turnover increases by ten percent	Small reduction
Mortality decreases by ten percent	Moderate increase
Salaries increased by two percent	Gradual substantial increase

Source: Alexander & Alexander Consulting Group.

Biennial Valuations are Sufficient

As previously mentioned, Buck Consultants performs an actuarial valuation for VRS every two years. Most other state retirement systems perform their actuarial valuations on an annual basis. However, according to JLARC's consultant, a biennial valuation is appropriate for VRS. Because of the large size of the VRS membership, actuarial experience is highly stable. In the absence of a special event, such as an early retirement incentive program or a significant reduction in the workforce, the calculation of pension benefits should follow a predictable pattern over time. Therefore, the actuarial valuation does not need to be performed more frequently than once every two years.

Asset Valuation Method Is Reasonable and Appropriate

The 1992 Appropriations Act required that VRS adopt the modified market asset valuation method. The asset valuation techniques currently used by VRS are consistent with the modified market method.

VRS is currently using a smoothed market value method, which phases in gains and losses by recognizing 20 percent of them each year. The June 30, 1992 valuation shows the development of modified market asset values. The valuation calculates the expected asset values, based on eight percent returns on the assets and net cash flows. The valuation then adds 20 percent of the excess of actual market asset value over expected asset value, to derive the modified market value of assets.

Appendix A

House Joint Resolution No. 392
1993 Session

Requesting the Joint Legislative Audit and Review Commission to study the structure and investment policy of the Virginia Retirement System.

WHEREAS, Article X, Section 11 of the Constitution of Virginia requires the General Assembly to maintain a state employees retirement system to be administered in the best interest of the beneficiaries and subject to the restrictions and conditions prescribed by the General Assembly; and

WHEREAS, the Virginia Retirement System holds assets in excess of $14 billion and provides retirement benefits for thousands of retired state employees, local government employees, public school teachers, and state and local law enforcement officers; and

WHEREAS, the Virginia Retirement System is administered by a Board of Trustees which is solely responsible for administration of the system; and

WHEREAS, it is essential that members and participating employers have continued confidence in the ability of the Virginia Retirement System to properly manage assets to ensure adequate funding for retirement benefits; and

WHEREAS, concerns have been raised about the independence of the Virginia Retirement System and about the soundness of investments made on its behalf; and

WHEREAS, the Joint Legislative Audit and Review Commission last completed a comprehensive review of the Virginia Retirement System in 1978; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Joint Legislative Audit and Review Commission be requested to conduct a study of the Virginia Retirement System, focusing on (i) the structure of the retirement system fund and alternative fund structures which will ensure its independence as a public trust; (ii) the structure and appointment of the Board of Trustees; (iii) the structure and appointment of the advisory committees on investments and real estate; (iv) the organizational relationships between the Virginia Retirement System and the subsidiary corporations created to manage assets and the appropriateness of the structure for the RF&P Corporation; (v) the soundness of investments, especially the acquisition and continuing ownership of the RF&P Corporation; and (vi) the actuarial soundness of the retirement system.

To assist the staff in this review, the Commission may employ any investment, real estate, or actuarial consulting services it deems necessary. Expenses for such services shall be partially funded from a separate appropriation for the Commission in the amount of $250,000. The Commission may request the participation of other members of the General Assembly and individuals knowledgeable in retirement systems in the conduct of this review.

The Virginia Retirement System shall make available to the Commission all information which shall be necessary for the completion of this review. The Auditor of Public Accounts shall provide assistance as requested by the Commission. The Commission shall complete its work in time to submit its recommendations to the Governor and the 1994 Session of the General Assembly as provided in the procedures of the Division of Automated Legislative Systems for the processing of legislative documents.

Appendix B

Agency Responses

As part of an extensive data validation process, the major agencies involved in a JLARC assessment effort are given an opportunity to comment on an exposure draft of the report. This appendix contains the Virginia Retirement System's response to this report. Appropriate technical corrections resulting from the written comments have been made in this version of the report.

COMMONWEALTH *of* VIRGINIA

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December 13, 1993

Mr. Philip A. Leone, Director
Joint Legislative Audit and Review Commission
Suite 1100, General Assembly Building
Richmond, Virginia 23219

Dear Phil:

I have enclosed the VRS' response to Chapter II of JLARC's Review of the Virginia Retirement System. If you have any questions, please don't hesitate to contact me.

Sincerely,

Herb Alcox

Herbert B. Alcox, Jr.
Director

:dkm

REVIEW OF THE VIRGINIA RETIREMENT SYSTEM

VRS RESPONSE

The Board of Trustees and staff of the Virginia Retirement System (VRS) have reviewed Chapter II of the Joint Legislative Audit & Review Commission's (JLARC) exposure draft, Review of the Virginia Retirement System.

Although we have some specific observations related to these recommendations, as well as general comments about the report, we find most of the eleven (11) formal recommendations set forth in Chapter II of the draft to be reasonable and constructive.

We agree on the need and desirability for ongoing communications between the VRS board and the General Assembly as emphasized in the report. The board has always provided all written reports required by the General Assembly in accordance with present statutes and has done so meeting the highest professional standards. In addition, the VRS has made presentations on request to the General Assembly's fiscal committees. VRS board meetings are open to the public, and VRS staff has been proactive in inviting fiscal committee staff to attend. Special invitations have been sent to both fiscal committee chairs as well as their staffs to attend the annual VRS board retreats.

Related to this is the JLARC recommendation that the General Assembly confirm the CIO and enact statutory reporting requirements for this officer. While the VRS agrees that it has a responsibility to report to the General Assembly on a periodic basis, reporting requirements might be more appropriately defined in the administrative policies of the Board of Trustees as opposed to specific statutory requirements. If other recommendations by JLARC are adopted, specifically those dealing with a "new" board structure, the qualifications of board members and the qualifications of the CIO, then it appears that the additional requirements that the CIO be confirmed by the General Assembly might be unnecessary. The board has a fiduciary and legal responsibility to employ a CIO who, at a minimum, meets the qualifications set forth by the General Assembly.

The JLARC report also suggests that the General Assembly may wish to consider a "new" board structure by increasing the number of members and changing the method of appointment and composition of the board. JLARC recommends this because of a perceived lack of confidence in the board by VRS members and retirees as well as a concern by those constituents about the long-term security of their benefits. The VRS is in touch with its membership, and we strongly believe that there has been no material erosion of confidence among its membership in the Virginia Retirement System. However, if a new board structure is approved by the General Assembly, VRS recommends that a transition period be considered and that any new board structure be phased in over a period of time so that critical continuity is retained.

The JLARC report also recommends the creation of a permanent study commission to oversee the VRS and correctly observes that such commissions now exist in several states. We suggest, however, that it might be prudent for the General Assembly to study this issue further to determine what specific roles such commissions fulfill in the states which now have them and how efficiently and cost effectively these commissions function.

Our final comment relates to a JLARC proposal regarding the organization of VRS. JLARC suggests that one method of enhancing VRS' independence is to separate the investment function from the administrative function. The investment function would constitute what is currently the VRS, while the administrative function would be absorbed into a separate agency administering all employee benefits for state employees.

As an alternative, VRS suggests that it remain intact but become an independent agency. We strongly believe that splitting the functions of the present agency would be detrimental to VRS' constituencies and therefore not in the best interest of the Commonwealth.

There are several valid reasons for this recommendation.

* First, the separation of investments and administration would not necessarily assure VRS' independence.

* Second, the VRS administers benefits for other than state employees. In fact, state employees account for only 35 per cent of VRS membership, and state retirees or their survivors make up only about 39 per cent of all VRS annuitants.

* Third, there are certain relationships between the investment and administrative functions that provide economies of scale that might not be available under separate agencies. For example, the current master custodian not only provides custody of securities, short-term cash investments and performance measurement but also provides accounting information for administrative purposes. While input from investments certainly relates to establishing the actuary's earnings assumption, information related to members, their account balances, etc., that the actuary uses in establishing his other assumptions is maintained by the administrative arm of VRS.

* Fourth, the functions performed by VRS go beyond those provided to state employees by the Department of Personnel & Training (DPT). For the most part, DPT contracts with outside vendors for the benefits it administers, i.e. health insurance and flexible benefit arrangements. VRS, on the other hand, actually

administers benefits by maintaining records related to eligibility and preparing monthly payment authorizations.

* Finally, VRS board activities are not limited solely to investment and funding issues. The board has broad statutory responsibilities and authority related to benefits. While the Code is specific in many areas, in other areas it requires interpretation and policy determinations with long-term implications that are more appropriately made by a qualified Board of Trustees. This has been recognized by the VRS board, which has established a standing Administrative Committee to advise it on such issues.

While all this is not an exhaustive list of reasons why VRS should remain intact as a single agency, regardless of its place in the overall organization of the Virginia state government, it points to some possible pitfalls in dividing VRS as suggested in the JLARC report. We would hope that the General Assembly would study this issue more thoroughly and weigh the advantages against the disadvantages of such a separation before taking any action.

Again, VRS finds the formal JLARC recommendations to be collectively constructive. We look forward to a continuing positive relationship with the General Assembly and its component staffs. We are available to provide whatever information the General Assembly feels it needs to fulfill its responsibilities.

JLARC Staff

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Recent JLARC Reports

Progress Report: Regulation of Child Day Care in Virginia, January 1989
Interim Report: Status of Part-Time Commonwealth's Attorneys, January 1989
Regulation and Provision of Child Day Care in Virginia, September 1989
1989 Report to the General Assembly, September 1989
Security Staffing in the Capitol Area, November 1989
Interim Report: Economic Development in Virginia, January 1990
Review of the Virginia Department of Workers' Compensation, February 1990
Technical Report: Statewide Staffing Standards for the Funding of Sheriffs, February 1990
Technical Report: Statewide Staffing Standards for the Funding of Commonwealth's Attorneys, March 1990
Technical Report: Statewide Staffing Standards for the Funding of Clerks of Court, March 1990
Technical Report: Statewide Staffing Standards for the Funding of Financial Officers, April 1990
Funding of Constitutional Officers, May 1990
Special Report: The Lonesome Pine Regional Library System, September 1990
Review of the Virginia Community College System, September 1990
Review of the Funding Formula for the Older Americans Act, November 1990
Follow-Up Review of Homes for Adults in Virginia, November 1990
Publication Practices of Virginia State Agencies, November 1990
Review of Economic Development in Virginia, January 1991
State Funding of the Regional Vocational Educational Centers in Virginia, January 1991
Interim Report: State and Federal Mandates on Local Governments and Their Fiscal Impact, January 1991
Revenue Forecasting in the Executive Branch: Process and Models, January 1991
Proposal for a Revenue Stabilization Fund in Virginia, February 1991
Catalog of Virginia's Economic Development Organizations and Programs, February 1991
Review of Virginia's Parole Process, July 1991
Compensation of General Registrars, July 1991
The Reorganization of the Department of Education, September 1991
1991 Report to the General Assembly, September 1991
Substance Abuse and Sex Offender Treatment Services for Parole Eligible Inmates, September 1991
Review of Virginia's Executive Budget Process, December 1991
Special Report: Evaluation of a Health Insuring Organization for the Administration of Medicaid in Virginia, January 1992
Interim Report: Review of Virginia's Administrative Process Act, January 1992
Review of the Department of Taxation, January 1992
Interim Report: Review of the Virginia Medicaid Program, February 1992
Catalog of State and Federal Mandates on Local Governments, February 1992
Intergovernmental Mandates and Financial Aid to Local Governments, March 1992
Medicaid Asset Transfers and Estate Recovery, November 1992
Medicaid-Financed Hospital Services in Virginia, November 1992
Medicaid-Financed Long-Term Care Services in Virginia, December 1992
Medicaid-Financed Physician and Pharmacy Services in Virginia, January 1993
Review Committee Report on the Performance and Potential of the Center for Innovative Technology, December 1992
Review of Virginia's Administrative Process Act, January 1993
Interim Report: Review of Inmate Dental Care, January 1993
Review of the Virginia Medicaid Program: Final Summary Report, February 1993
Funding of Indigent Hospital Care in Virginia, March 1993
State/Local Relations and Service Responsibilities: A Framework for Change, March 1993
1993 Update: Catalog of State and Federal Mandates on Local Governments, June 1993
Evaluation of Inmate Mental Health Care, October 1993
Review of Inmate Medical Care and DOC Management of Health Services, October 1993
Local Taxation of Public Service Corporation Property, November 1993
Review of the Department of Personnel and Training, December 1993
Review of the Virginia Retirement System, January 1994
The Virginia Retirement System's Investment in the RF&P Corporation, January 1994
Review of the State's Group Life Insurance Program for Public Employees, January 1994