Semi-Annual Investment Report
December 2003

The market value of the VRS pension fund was $35.7 billion as of September 30, 2003. The return for the fiscal year-to-date is 3.8 percent, and 18.6 percent for the one-year period ending September 30, 2003. The fund’s performance was generally in line with established benchmarks for the one-, three-, five- and ten-year periods ending September 30, 2003. However, with the exception of the one-year and ten-year periods ending September 30, 2003, the VRS’ investment return during these periods continued to fall short of the actuarially assumed investment rate of return of 8 percent.

The public equity program continues to be VRS’ largest asset class, comprising 65.5 percent of the portfolio. As signs of an economic recovery become more visible, the U.S. equity markets continue to advance. In contrast to the returns reported in the July 2003 VRS Semi-Annual report, the U.S. equity market has produced positive returns for the fiscal year-to-date, as well as the one-, and five-year periods ending September 30, 2003. However, the three-year period ending September 30, 2003, produced a negative return. In the fourth quarter of calendar year 2003, a portion of the U.S. large cap active program will be transitioned to an active large cap global program, which VRS staff believes will serve to improve relative large cap performance.

### Profile: Virginia Retirement System Investments (as of September 2003)

<table>
<thead>
<tr>
<th>Market Value of Assets:</th>
<th>$35.7 billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of External Managers:</td>
<td>Public Equity – 24, Fixed Income – 6</td>
</tr>
<tr>
<td>Number of External Investment Accounts:</td>
<td>Public Equity – 24, Fixed Income – 6</td>
</tr>
<tr>
<td>Number of VRS Investment Department Staff:</td>
<td>34 authorized positions (3 vacant)</td>
</tr>
<tr>
<td>FY 2003 Investment Expenses:</td>
<td>$94.8 million (27.4 basis points)</td>
</tr>
<tr>
<td>FY 2003 Investment Department Operating Expenses:</td>
<td>$6.3 million (1.8 basis points)</td>
</tr>
</tbody>
</table>

### Investment Policy Indicators (as of September 30, 2003)

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Asset Allocation (% of Total Assets)</th>
<th>Asset Allocation (% of Asset Class)</th>
<th>Type of Management (% of Asset Class)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Actual</td>
<td>Domestic</td>
</tr>
<tr>
<td>Public Equity</td>
<td>66.0%</td>
<td>65.5%</td>
<td>73.1%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>22.0%</td>
<td>22.0%</td>
<td>96.9%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>1.3%</td>
<td>1.3%</td>
<td>96.9%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>5.9%</td>
<td>5.9%</td>
<td>84.1%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>4.4%</td>
<td>4.4%</td>
<td>97.0%</td>
</tr>
</tbody>
</table>
For the fiscal year-to-date, and the one-, three-, and five-year periods ending September 30, 2003, the non-U.S. equity program outperformed the U.S. program. As such, it served as an important diversifier for the program and the fund. Like the U.S. program, in the fourth quarter of calendar year 2003, VRS’ active non-U.S. large cap exposure will begin to be transitioned into an active global large cap exposure, a move which VRS staff believes will better capture the global sector effect and allow for improved large cap relative performance. VRS staff decisions in the third quarter of calendar year 2003 to overweight its emerging markets and small cap exposures added 14 and 21 basis points of value, respectively, to the total non-U.S. programs’ performance.

The fixed income program exceeded its benchmark and generated positive returns (6.2 percent, 9.0 percent, and 6.8 percent respectively) for the one-, three-, and five-year periods ending September 30, 2003. In addition, the fixed income staff has been working to identify and assess credit-related strategies that may offer attractive risk/reward profiles relative to other assets in the VRS portfolio.

The private equity program did not meet its benchmark for the fiscal year-to-date, as well as the one-, and three-year periods ending September 30, 2003. However, the program substantially exceeded its benchmark for the five-year period ending September 30, 2003. In addition, as of June 30, 2003, the since-inception annualized internal rate of return for the private equity program was 23.8 percent. As such, the private equity program exceeded its benchmark of the Russell 3000 plus 2.5 percent by 4.1 percent.

The VRS real estate program outperformed its benchmark for the one- and three-year periods ending September 30, 2003. However, the program lagged behind its benchmark for the fiscal year-to-date and the five-year period ending September 30, 2003. At the
beginning of October 2003, the REIT portfolio had grown to $529 million from about $407 million a year earlier. These holdings comprised 32 percent of VRS’ $1.6 billion real estate program. Despite deteriorating real estate fundamentals, REIT prices were rising. In light of this valuation uncertainty and the fact that this growth had resulted in the program being over the 30 percent target for core real estate, VRS decided to sell $150 million of the REIT portfolio and lock in the profits.

Currently, VRS is looking to restructure the real estate program and is conducting a real estate advisor search. Three finalists, all with different strategic visions for the program, were selected and will make presentations to the Investment Advisory Committee (IAC) and the VRS Board at the December 2003 meeting.

**Hedge Fund Update**

The purpose of creating a separate allocation to the hedge fund program is to further diversify the portfolio in an effort to avoid potential large losses from significant negative movements in the public equity and fixed income markets. The hedge fund program seeks broad diversification across hedge fund managers and hedge fund styles. As of November 1, 2003, all of the assets under management in the program consist of hedge fund investments selected and monitored with the assistance of two fund advisors (Ivy Asset Management and CAMG/Rock Creek).

It is anticipated that direct hedge fund investments made by VRS staff will be made during the fourth quarter of 2003 and the first quarter of 2004. Such direct investments are likely to comprise 25 percent of the total program.

Currently, approved hedge fund investment strategies are equity long/short (48%), equity market neutral (16%), and event driven (36%). VRS staff anticipates that over time the hedge fund investment mandate may be expanded to include additional strategies, such as multi-strategy and early stage hedge fund investments.

The VRS Board has authorized the commitment of three percent of VRS’ assets under management to the hedge fund program. Based upon current plan size, the amount allocated to the program will be approximately $1.1 billion. As of November 1, 2003, $500 million of the hedge fund investments have been made. An additional $250 to $300 million is expected to be invested in the hedge fund program by January 1, 2004. An additional $300 to $350 million is expected to be invested in the hedge fund program during the first quarter of calendar year 2004.

**Risk Management Update and Public Equity Program Changes**

VRS has recently initiated a project to enhance its total fund risk management capabilities. The goal is to further develop the ability to examine risk at any level within the fund using multiple types of risk measures. More thorough risk analysis will enhance the fund’s decision-making, and help maximize the amount of return obtained relative to the amount of risk taken in the investment portfolio.
For example, VRS staff recently recommended and received approval from the Investment Advisory Committee on the adoption of a global risk budget for the public equity program. As noted previously, instead of thinking about the U.S. and non-U.S. programs separately, the new approach will concentrate on the total equity program. This will permit the hiring of external managers that have global mandates. Further, instead of focusing exclusively on adding value through manager selection, investment staff will also attempt to add value at times by tilting the program by factors such as size (large versus small), style (growth versus value), geographic (e.g., U.S. versus non-U.S. or Asia versus Europe), economic (e.g., developed versus emerging markets), country (e.g., Japan versus Germany), and sector (e.g., health care versus technology). Finally, more active management will be used in less efficient markets, such as small cap equities or emerging market equities.

The search for attractive opportunities will be done using a risk budget-constrained approach. The risk budget allows staff to take 200 basis points of projected tracking error in the total public equity program over time. However, the projected tracking error may vary within a range of 0 basis points (i.e., all passive) to a maximum of 400 basis points, depending on the opportunities available at the time. There will be times when opportunities to add value are greater. In such cases, active strategies (including, the selection of style, size, country, etc.) will be employed, which can result in a portfolio that looks significantly different than the benchmark, and the maximum risk budget of 400 basis points might be used. In contrast, when fewer opportunities are available, then the portfolio will be managed closer to the benchmark. The amount of passive versus active management will also be influenced by the magnitude of opportunities to add value over the program benchmark. However, the amount of active management will be restricted by the risk budget and the amount of overall risk that is being used to add value in the program.

**Rebalancing Policy Update**

According to VRS policy, the Board of Trustees establishes the long-term asset allocation for the total fund and certain minimum and maximum constraints for individual asset classes. The Board relies on the Chief Investment Officer (CIO), and the recommendation of the Investment Advisory Committee to determine allocations within ranges further to initiate rebalancing of the fund.

The Board of Trustees recently amended the rebalancing policy, most notably by not requiring the CIO to rebalance the fund back to strategic targets as long as each asset class remains within the following ranges:

<table>
<thead>
<tr>
<th>Program</th>
<th>Range</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Equity</td>
<td>40 to 50%</td>
<td>45.75%</td>
</tr>
<tr>
<td>Non-U.S. Equity</td>
<td>14 to 20%</td>
<td>17.00%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>20 to 25%</td>
<td>22.00%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>5 to 8%</td>
<td>7.00%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>4 to 8%</td>
<td>5.00%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>1.5 to 5%</td>
<td>3.00%</td>
</tr>
<tr>
<td>Cash</td>
<td></td>
<td>0.25%</td>
</tr>
</tbody>
</table>
If, during the month, the market value weight of the fixed income or total public equity asset classes varies by more than two percent from their respective targets, the CIO is to consider rebalancing at the current two percent threshold and is required to report to the VRS Board any decision not to rebalance at the next scheduled meeting. However, the CIO must rebalance if the total public equity or fixed income programs reach the minimum or maximum of their approved ranges unless it is determined by the CIO, the chair of the VRS Board, and the chair of the IAC not to do so. On a quarterly basis, the VRS staff reports the current allocations of every asset class, in market value terms and as a percentage of the total fund, and the deviation of every asset class relative to policy guidelines, in market value terms to the IAC.

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**JLARC Reports on the Virginia Retirement System**

*The Virginia Retirement System’s Investment in the RF&P Corporation*, December 1993  
*Review of the Virginia Retirement System*, January 1994  
*Review of the State’s Group Life Insurance Program for Public Employees*, January 1994  
*The VRS Investment Program*, March 1995  
*The VRS Disability Retirement Program*, March 1995  
*The 1991 Early Retirement Incentive Program*, May 1995  
*Semi-Annual VRS Investment Report No. 4*, September 1995  
*Semi-Annual VRS Investment Report No. 5*, May 1996  
*Semi-Annual VRS Investment Report No. 8*, May 1997  
*Semi-Annual VRS Investment Report No. 9*, December 1997  
*Semi-Annual VRS Investment Report No. 12*, July 1999  
*VRS Biennial Status and Semi-Annual Investment Report No. 13*, December 1999  
*Semi-Annual VRS Investment Report No. 15*, December 2000  
*Semi-Annual VRS Investment Report No. 16*, July 2001  
*Semi-Annual VRS Investment Report No. 17*, December 2001  
*Biennial Status and Semi-Annual VRS Investment Report No. 18*, July 2002  
*Semi-Annual VRS Investment Report No. 19*, December 2002  
*Semi-Annual VRS Investment Report No. 20*, July 2003  
*Semi-Annual VRS Investment Report No. 21*, December 2003
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