Semi-Annual VRS Investment Report  
December 2001

As of September 30, 2001, the market value of the VRS pension fund was $34.3 billion. For the one-, three-, five- and ten-year periods, the fund’s performance exceeded established benchmarks for the period ending September 30, 2001. The VRS’ investment returns for the one- and three-year period fell short of the actuarial assumed investment return of eight percent. However, the return of 9.0 percent for the five-year period remains above the assumption.

It has been an extremely volatile year for the equity markets, with returns for the Russell 3000 down almost 28 percent over the last 12 months and non-U.S. markets down 29 percent over the same period. The U.S. economy’s longest period of economic growth ended in the summer of 2001. After 99 consecutive months of growth, third quarter gross domestic product was reported at -1.1 percent. The public equity program continues to be VRS’ largest asset class comprising more than $21.2 billion. In this difficult market environment, VRS’ domestic public equity program exceeded its established performance benchmark for fiscal year to date and the one-year period ending September 30, 2001. However, the program did not exceed the benchmark for the three- and five-year periods. While the passive U.S. equity program slightly outperformed the Russell 3000 program benchmark, the active U.S. program performed in line with the benchmark for the

Profile: Virginia Retirement System Investments

<table>
<thead>
<tr>
<th>Market Value of Assets: $34.3 billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of External Managers:</td>
</tr>
<tr>
<td>Public Equity – 21  Fixed Income – 4</td>
</tr>
<tr>
<td>Number of External Investment Accounts:</td>
</tr>
<tr>
<td>Public Equity – 32  Fixed Income – 7</td>
</tr>
<tr>
<td>Estimated FY 2001 Investment Expenses:</td>
</tr>
<tr>
<td>$109.7 million (29.2 basis points)</td>
</tr>
<tr>
<td>Estimated FY 2001 Investment Department Operating Expenses:</td>
</tr>
<tr>
<td>$6.3 million (1.7 basis points)</td>
</tr>
<tr>
<td>Number of VRS Investment Department Staff: 32 positions (2 vacant)</td>
</tr>
</tbody>
</table>

Investment Policy Indicators (as of September 30, 2001)

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Asset Allocation (% of Total Assets or $ Amount)</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>61.9%</td>
<td>62.0%</td>
<td>76.0%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>25%</td>
<td>24.4%</td>
<td>97.6%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>$2.6 billion</td>
<td>$2.6 billion</td>
<td>92.0%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>$1.6 billion</td>
<td>$1.6 billion</td>
<td>95.0%</td>
</tr>
</tbody>
</table>
The year, as a whole, has been an extremely poor year for equities, as economic activity has deteriorated and corporate earnings have been revised downward. The terrorist strikes on September 11, 2001, accelerated the slowing of the U.S. economy and corporate earnings, but markets appeared to hit near-term bottom on September 21, 2001.

The non-U.S. equity portion of the fund continues to have difficulty in these markets, lagging its benchmark in the one- and three-year periods. However, the non-U.S. equity program outperformed its benchmark for the quarter ended September 30, 2001, and for the five-year period. Sharp declines throughout the world during the period were exacerbated by the tragic events in the United States. Nevertheless, it is fair to say that world markets were already in decline prior to September 11. For example, the Salomon Smith Barney Global ex U.S. Index (US$) fell 10.7 percent in the period prior to the disaster, before declining an additional 4.7 percent in the remainder of the quarter. Currency was once again a major determinant of overall returns during the quarter.

Table 1

<table>
<thead>
<tr>
<th>Program/Performance Objective</th>
<th>Fiscal Year to Date</th>
<th>Prior 1 Year</th>
<th>Prior 3 Years</th>
<th>Prior 5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fund</td>
<td>-8.7%</td>
<td>-16.0%</td>
<td>5.8%</td>
<td>9.0%</td>
</tr>
<tr>
<td>VRS Performance Benchmark</td>
<td>-9.8%</td>
<td>-16.9%</td>
<td>4.4%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total U.S. Equity</td>
<td>-15.5%</td>
<td>-26.7%</td>
<td>1.9%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Russell 3000</td>
<td>-15.6%</td>
<td>-27.9%</td>
<td>2.5%</td>
<td>9.3%</td>
</tr>
<tr>
<td>Total Non-U.S. Equity</td>
<td>-14.7%</td>
<td>-31.5%</td>
<td>0.7%</td>
<td>-2.1%</td>
</tr>
<tr>
<td>Salomon BMI Global ex U.S.</td>
<td>-14.9%</td>
<td>-29.0%</td>
<td>1.5%</td>
<td>-2.8%</td>
</tr>
<tr>
<td>Total Fixed Income</td>
<td>4.5%</td>
<td>13.2%</td>
<td>6.6%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Lehman VRS Custom</td>
<td>4.6%</td>
<td>13.0%</td>
<td>6.4%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Total Private Equity</td>
<td>0.4%</td>
<td>-17.1%</td>
<td>31.6%</td>
<td>32.0%</td>
</tr>
<tr>
<td>Russell 3000 plus 250 Basis Points</td>
<td>-13.1%</td>
<td>-25.4%</td>
<td>5.0%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Total Real Estate</td>
<td>0.9%</td>
<td>11.0%</td>
<td>9.8%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Blend of NCREIF and NAREIT Indexes</td>
<td>0.6%</td>
<td>11.0%</td>
<td>12.1%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

Source: JLARC staff analysis of VRS data.

The impact of VRS’ private equity program on the total fund’s performance continues to be substantial. As of September 30, 2001, the market value of the program was $2.6 billion. VRS invests in private equity to accomplish two primary objectives – to provide enhanced returns relative to the public equity program and to diversify the overall retirement fund. While private equity can provide higher returns, it also has higher risks, is less liquid than public equity, and typically has higher fees than the traditional asset classes. Since inception in 1989, the program has generated positive cash flow of $1.002 billion with $125 million of that total in calendar year 2001 (through October). However, as anticipated, the program has entered a period in which cash outflows are exceeding inflows. This year the higher risk is readily apparent as the private equity program returned −17.1 percent for the one-year period ending September 30, 2001. Longer term, however, the private equity program continued to greatly exceed its benchmark for the one-, three-, and five-year periods. Similarly, the annualized rate of return since the inception of the program was 28 percent, exceeding its benchmark for the period by 7.5 percent.
Both the Real Estate and Fixed Income programs provided necessary fund diversification, with positive returns of 11 percent and 13.2 percent respectively for the one-year period and both outperforming equities over the three-year period. Fixed Income achieved its mission of holding up significantly better than equities in a sharp down market. Additionally, the Fixed Income program has exceeded its benchmarks in the one-, three-, and five-year periods.

While the effects of September 11, 2001, have certainly been significant, they appear to be limited to certain industries such as airlines and insurance companies. The U.S. equity market as a whole has recovered, but still has a way to go to get back to the highs reached in March of 2000. Table 2 below shows the equity and bond market returns over various time frames from the high in March 2000 through November 27, 2001.

While there is still a lot of uncertainty in the equity markets, October ended with positive returns in both the U.S. and non-U.S. markets. Fixed income continued to perform well until early November, and has retraced about two percent since then. Over the last year, the Federal Reserve has continually lowered short-term interest rates. However, it is unlikely that rates will continue to be cut at the same tempo experienced over the last year. Real estate has performed relatively well this year, but a soft economy will likely impact the commercial real estate market. While the returns in the private equity market are not expected to continue at the same rate or magnitude as experienced in the late nineties, the program is designed to create spreads over the public markets and has done so in the current fiscal year to date.

Lastly, the investment staff received Board approval to change from a monthly rebalancing of the portfolio to a two percent target rebalance policy. The objective of the policy is to minimize both the risk relative to VRS’ strategic mix and the transaction costs associated with trading to maintain the strategic exposure. VRS research indicates that the new rebalancing policy should have relatively little expected effect on the return risk of the fund over the long term, but should save substantial time and slightly improve return due to lower transaction costs. In addition, VRS staff expect that instead of having to rebalance 12 times per year, they will probably need to rebalance only two or three times.

<table>
<thead>
<tr>
<th>Table 2</th>
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<tbody>
<tr>
<td><strong>Equity and Bond Market Returns Over Key Time Frames</strong></td>
</tr>
<tr>
<td><strong>Through November 27, 2001</strong></td>
</tr>
<tr>
<td>Russell 3000</td>
</tr>
<tr>
<td>Non U.S. (SSBGxUS)</td>
</tr>
<tr>
<td>Lehman Aggregate</td>
</tr>
<tr>
<td>Source: VRS Investment Department staff.</td>
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On the Internet:  http://jlarc.state.va.us