Evaluating Private Equity
Investment Performance

Committee on Investments/
Investment Advisory Committee

May 2, 2006
The Issue/Question

- Why do we use the actual returns of Private Equity as its benchmark in an evaluation of Total Fund performance?

An Example of a Total Fund Benchmark*:

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Allocation (%)</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Equity</td>
<td>55.0%</td>
<td>Russell 3000 ex Tobacco</td>
</tr>
<tr>
<td>International Equity</td>
<td>7.0</td>
<td>MSCI World ex US</td>
</tr>
<tr>
<td>Domestic Fixed Income</td>
<td>28.0</td>
<td>Lehman Aggregate</td>
</tr>
<tr>
<td>TIPS</td>
<td>5.0</td>
<td>Lehman TIPS Index</td>
</tr>
<tr>
<td>Public Real Estate</td>
<td>5.0</td>
<td>Dow Jones Wilshire REIT Index</td>
</tr>
<tr>
<td>Private Equity</td>
<td>5.0</td>
<td>Actual PE Return</td>
</tr>
</tbody>
</table>

* Hypothetical

Short Answers:

- Private equity must be evaluated separately, using a variety of methods and benchmarks
- There is no good benchmark for short term evaluation
- A bad benchmark will distort the Total Fund’s value-added performance.
Considerations

✧ Private equity is unique:
  - Contributions (drawdowns) and withdrawals (distributions) – controlled by investment manager
  - Interim portfolio valuations – difficult to obtain and highly uncertain
  - Internal Rate of Return (IRR) – recommended performance metric
  - Investment performance dependent on time – J curve effect
  - Investment benchmarks correlated with short term performance – None available

✧ Other asset classes:
  - Contributions (drawdowns) and withdrawals (distributions) – controlled by fund sponsor
  - Interim portfolio valuations – easy to obtain and relatively accurate
  - Time Weighted Return (TWR) – recommended performance metric
  - Investment performance independent of time
  - Fair and appropriate investment benchmarks – readily available
Consequences

- Specifying an inappropriate PE benchmark, uncorrelated with PE short term performance will cause significant and misleading distortions in the evaluation of Total Fund’s value-added performance
  - Lack of an appropriate PE benchmark for short term evaluations
  - Only available quarterly performance metric (TWR), imperfect measure of PE performance – only shows effects of cash flows, not change in economic value

- Specifying actual PE performance as the PE benchmark in a Total Fund evaluation eliminates these potential evaluation distortions and allows a fair and ongoing evaluation of the Total Fund performance
  - No impact of PE value-added performance – positive or negative
  - PE value-added performance is evaluated – off line

- Private equity performance evaluation is best accomplished in separate, off-line evaluations using a variety of industry methods and techniques that recognize the unique characteristics of PE
Private Equity Performance Evaluation

- Employ industry standard metrics (Internal Rate of Return, or IRR’s) to evaluate performance of individual funds; aggregate fund performance based on vintage year

<table>
<thead>
<tr>
<th>Vintage Year</th>
<th># Funds</th>
<th>Commitment</th>
<th>Contributions</th>
<th>Distributions</th>
<th>NAV</th>
<th>Vintage Yr IRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>4</td>
<td>350,000,000</td>
<td>(285,169,787)</td>
<td>261,183,126</td>
<td>155,283,004</td>
<td>9.61%</td>
</tr>
<tr>
<td>1998</td>
<td>2</td>
<td>46,000,000</td>
<td>(46,000,000)</td>
<td>54,337,342</td>
<td>14,807,924</td>
<td>30.34%</td>
</tr>
<tr>
<td>1999</td>
<td>9</td>
<td>170,000,000</td>
<td>(147,112,905)</td>
<td>29,333,660</td>
<td>76,125,023</td>
<td>-11.56%</td>
</tr>
</tbody>
</table>

- Use fund and peer group IRR’s for staff evaluation and compensation

<table>
<thead>
<tr>
<th>Vintage Year</th>
<th>Vintage Yr IRR</th>
<th>Benchmark IRR - Venture Economics</th>
<th>Excess Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>9.61%</td>
<td>6.00%</td>
<td>3.61%</td>
</tr>
<tr>
<td>1998</td>
<td>30.34%</td>
<td>2.80%</td>
<td>27.54%</td>
</tr>
<tr>
<td>1999</td>
<td>-11.56%</td>
<td>-6.20%</td>
<td>-5.36%</td>
</tr>
</tbody>
</table>
Compare long-term time weighted returns of the PE program to various market indexes – presented in quarterly performance reports.

Rolling 3 Year Compound Returns of Venture Capital vs. S&P 500 lagged 3 quarters

- CA VC
- VE VC
- UCRP VC
- S&P 500
Recommendation:

- For evaluation of Total Fund performance versus policy asset allocation
  - Continue to use actual returns as the Private Equity benchmark in the quarterly Total Fund evaluation
  - Continue to include longer term comparisons of rolling 3-5 year PE returns with select market indexes in performance reports

- For evaluation of Private Equity program performance
  - Continue to do off-line, using a variety of available evaluation standards
  - Consider new evaluation methods as appropriate

- Continue to provide Private Equity program data to Committee members
  - IRR, vintage year, and peer group performance