Sample problem for final: # 5.

Billy Hill manages a $100 million equity portfolio for Silverman Bags, Inc. His equity portfolio has an average Beta of 1.50. During the past year, returns for his portfolio and the market were:

<table>
<thead>
<tr>
<th>Actual return</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill portfolio:</td>
<td>10.0%</td>
</tr>
<tr>
<td>S&amp;P 500:</td>
<td>7.0%</td>
</tr>
<tr>
<td>Riskless return:</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

a) Calculate Jensen’s alpha measure for Billy Hill’s portfolio.

\[
\alpha = r_p - \left[ r_f + \beta (r_m - r_f) \right]
\]

\[
= 10\% - \left[ 3\% + 1.5 (7\% - 3\%) \right] = 10\% - 9\% = 1.0\%
\]

b) Did he have good timing?

Billy beat the market by 3%.

He chose 150% of the market risk, and the market beat the riskless rate by 4%.

He had good timing, which added 2% to his return.