What is the return on an investment that costs $1,000 and is sold after 1 year for $1,100?

- **Dollar return:**
  \[ \text{Received} - \text{Invested} = \$1,100 - \$1,000 = \$100. \]

- **Percentage return:**
  \[ \frac{\text{Return}}{\text{Invested}} = \frac{\$100}{\$1,000} = 0.10 = 10\%. \]

What is investment risk?

- Typically, investment returns are not known with certainty.
- Investment risk pertains to the probability of earning a return less than that expected.
- The greater the chance of a return far below the expected return, the greater the risk.

Assume the Following Investment Alternatives

<table>
<thead>
<tr>
<th>Economy</th>
<th>Prob.</th>
<th>T-Bill</th>
<th>HT</th>
<th>Coll</th>
<th>USR</th>
<th>MP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recession</td>
<td>0.10</td>
<td>8.0%</td>
<td>22.0%</td>
<td>28.0%</td>
<td>10.0%</td>
<td>-13.0%</td>
</tr>
<tr>
<td>Below avg.</td>
<td>0.20</td>
<td>8.0</td>
<td>-2.0</td>
<td>14.7</td>
<td>-10.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Average</td>
<td>0.40</td>
<td>8.0</td>
<td>20.0</td>
<td>0.0</td>
<td>7.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Above avg.</td>
<td>0.20</td>
<td>8.0</td>
<td>35.0</td>
<td>-10.0</td>
<td>45.0</td>
<td>29.0</td>
</tr>
<tr>
<td>Boom</td>
<td>0.10</td>
<td>8.0</td>
<td>50.0</td>
<td>-20.0</td>
<td>30.0</td>
<td>43.0</td>
</tr>
</tbody>
</table>

Which stock is riskier? Why?

Probability distribution

- **Stock X**
- **Stock Y**

What is unique about the T-bill return?

- The T-bill will return 8% regardless of the state of the economy.
- Is the T-bill riskless? Explain.

Do the returns of HT and Collections move with or counter to the economy?

- **HT** moves with the economy, so it is positively correlated with the economy. This is the typical situation.
- **Collections** moves counter to the economy. Such negative correlation is unusual.
Got questions?  
Get answers!!

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