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Capture Ratio Analysis and The Materials Sector XLB: A Performance Review for 2010-2015

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Weighting Strategies for Materials Stocks

By: Nick Jacobs
Advisor: Dr. Robert Dean & Dr. Trevor Collier

Study Purpose:
• Develop Capture Ratio Weighting Strategies for XLB Sector

Weighting Model:

\[ W_i = \frac{U_i/D_i}{\sum U_i/D_i} \]

\[ UWi = \frac{U_i}{\sum U_i} \]

\[ DWi = \frac{D_i}{\sum D_i} \]

Where:
• \( W_i \) = % invested in ith stock
• \( U_i/D_i \) = Up/Down Capture Ratio
• \( U_i \) = Upside Capture Ratio
• \( D_i \) = Downside Capture Ratio


Sector Analyzed:
• XLB = Materials Sector

Conclusions:
• XLB Up Down Capture Ratio outperforms both the XLB Sector and SPY for both time periods
• Upside Capture Ratio outperforms both XLB and SPY
• Downside Capture Ratio outperforms both XLB and SPY
• Downside Capture Ratio provides maximum performance

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Up/Down Capture Ratio</td>
<td>120%</td>
<td>102%</td>
</tr>
<tr>
<td>Upside</td>
<td>103%</td>
<td>93%</td>
</tr>
<tr>
<td>Downside</td>
<td>125%</td>
<td>106%</td>
</tr>
<tr>
<td>XLB US Equity</td>
<td>43%</td>
<td>26%</td>
</tr>
<tr>
<td>SPY US Equity</td>
<td>81%</td>
<td>77%</td>
</tr>
</tbody>
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Table 1: XLB Cumulative Returns