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Stress Financial Conclusions and Market/Sector
Price Movement 2001-2012
By: Brandon Capicotto
Advisors: Dr. Bob Dean & Dr. Trevor Collier

Brandon Capicotto
Standards Presentation

Study Objectives:
• To study the statistical relationship between the Kansas City Financial Stress Index (KCFSI) and S&P sector prices.

Research Approach:
• Univariate regression analysis

Model Specification:
SPY_t=a+b(KCFSI_t)
S_i=a+b(KCFSI_i)
SPY=S&P500 ETF
S_i=Sector ETF’s
i=The i th Sectors
t=Time in months
KCFSI=Kansas City Financial Stress Index

Time Periods:
• 2001-2012
• 2003-2007
• 2009-2012

Hypothesis:
• Market and sector prices inversely related to with KCFSI: b<0

Conclusion:
01-12 Period: Slope coefficient have right sign and statistically significant
• R^2’s relatively low, highest for XLY: 34%
09-12 Period: Slope coefficient have right sign and statistically significant
• R^2’s range from .50-.75, highest for XLF: 75%
03-07 Period: Majority of slope coefficients are positive and statistically significant
• R^2’s quite low, little or no explanatory power

Summary: Hypothesis that b<0 held true for 01-12 & 09-12.
• Persistent declining negative values for KCFSI during 03-07 period results in positive slope coefficients. Does not violate original hypothesis.
• All 3 periods analyzed suggest KCFSI has predicator capabilities. Weakest explanatory power in 03-07 period.

Regression Results:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Intercept</th>
<th>Slope</th>
<th>T-Stat</th>
<th>R-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>120.3825</td>
<td>-1.5000</td>
<td>81,941.85</td>
<td>0.203185</td>
</tr>
<tr>
<td>XLY</td>
<td>53.4982</td>
<td>-3.0071</td>
<td>71,175.78</td>
<td>0.316165</td>
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<tr>
<td>XLE</td>
<td>52.1054</td>
<td>0.25165</td>
<td>51,612.43</td>
<td>0.002936</td>
</tr>
<tr>
<td>XLF</td>
<td>23.8342</td>
<td>-3.11795</td>
<td>59,508.24</td>
<td>0.275052</td>
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<tr>
<td>XLV</td>
<td>51.61645</td>
<td>-1.553417</td>
<td>59,508.24</td>
<td>0.212122</td>
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<tr>
<td>XLI</td>
<td>50.92288</td>
<td>-1.80395</td>
<td>64,069.63</td>
<td>0.159318</td>
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<tr>
<td>XLB</td>
<td>31.27531</td>
<td>-1.155903</td>
<td>52,882.68</td>
<td>0.045678</td>
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<td>XLK</td>
<td>22.08277</td>
<td>-1.205165</td>
<td>64,855.68</td>
<td>0.137382</td>
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<tr>
<td>XLU</td>
<td>30.79003</td>
<td>-0.887782</td>
<td>56,657.42</td>
<td>0.005427</td>
</tr>
<tr>
<td>IYJ</td>
<td>23.1473</td>
<td>-1.587866</td>
<td>69,568.67</td>
<td>0.222846</td>
</tr>
</tbody>
</table>

Note: The regression results are presented above in tabular form, showing the intercept, slope, T-statistic, and R-squared values for each sector. The results indicate a significant relationship between KCFSI and sector prices, with higher R-squared values observed in the 09-12 period compared to 01-12 and 03-07 periods.
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