Drosophila Eye Model to Study the Role of Steroid-Responsive Ecdysone Pathway in Alzheimer's Disease

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Fundamentally Based Portfolio Weighting Models: A Multi-Factor Approach

By: John Klingler

Advisors: Dr. Robert Dean & Dr. Trevor Collier

- **Study Purpose:** Determine if a fundamentally-weighted multi-factor model outperforms the market

  - **Weighting Factors:**
    1. Price to Book (P/B)
    2. Price to Sales (P/S)
    3. Price to Earnings (P/E)
    4. Price to Cash Flow (P/CFL)
    5. Earnings Growth (EG)

  - **Weighting Model:**
    Example:
    \[ WP_{Bi} = \frac{Avg. \, P/B}{P/B(i)} \]

    \[ MFW_i = WP_{Bi} + WP_{Si} + WP_{Ei} + WP_{CFLi} + WEGi \]

  - **Weighting Model Adjustments:**
    Original Multi-Factor weighting model adjusted to give higher weight to the Price to Sales factor

- **Periods of Analysis:** 2014

- **Sectors Analyzed:**
  - XLV = Healthcare
  - XLY = Consumer Discretionary
  - XLP = Consumer Staples

<table>
<thead>
<tr>
<th>Sector</th>
<th>Multi-Factor</th>
<th>1st Stage Adj.</th>
<th>2nd Stage Adj.</th>
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<tbody>
<tr>
<td>XLV</td>
<td>$6.1</td>
<td>$6.20</td>
<td>$6.90</td>
</tr>
<tr>
<td>XLY</td>
<td>$5.8</td>
<td>$5.90</td>
<td>$6.20</td>
</tr>
<tr>
<td>XLP</td>
<td>$5.9</td>
<td>$6.00</td>
<td>$6.10</td>
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<tr>
<td>Org. Inv</td>
<td>$5.00</td>
<td>$5.00</td>
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<tr>
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<th>S&amp;P Rtn.</th>
<th>Multi-Factor</th>
<th>1st Stage Adj.</th>
<th>2nd Stage Adj.</th>
<th>3rd Stage Adj.</th>
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<td>XLV</td>
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<td>22.42%</td>
<td>24.28%</td>
<td>36.86%</td>
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<td>XLY</td>
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<td>XLP</td>
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<td>16.55%</td>
<td>17.74%</td>
<td>21.69%</td>
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- **Conclusions**
  1. Multi-Factor model for XLV, XLY, XLP outperforms the market
  2. 1st Stage and 2nd Stage Adj. models also outperform the market
  3. Best model is the 2nd Stage Adj. model
  4. Original investment of $5,000,000 in 2nd Stage Adj. model generates $1.9M in dollar return