Holding-Based vs. Returns-Based Style Analysis

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Two Methods of Style Analysis

• Holdings-Based
  – Direct examination of portfolio holdings
  – Average information 3 months old
  – Expensive, requires substantial database

• Returns-Based
  – Statistical analysis of historical total returns
  – Average information 18 months old
  – Low cost, requires minimal database
Only with Portfolios...
Holdings Analysis: Ownership Zones
## Holdings Analysis: Stock Intersection

<table>
<thead>
<tr>
<th>Portfolio Manager</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New Portfolio</td>
<td>Import Export</td>
<td>Combine</td>
<td>Rename Delete</td>
<td>Print</td>
<td>Alerts</td>
</tr>
<tr>
<td>Remove</td>
<td>Definitions</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Portfolios: -M*401k</td>
<td>Views: + Stock Intersection</td>
<td>Set this view as default</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Holdings Table

<table>
<thead>
<tr>
<th>% of Net Assets</th>
<th>Underlying Stocks - Holding</th>
<th>Ticker Symbol</th>
<th>% of Portfolio Net Assets</th>
<th>Market Value ($)</th>
<th>Holding Portfolio Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.76</td>
<td>Vanguard 500 Index</td>
<td>VFINX</td>
<td>0.94</td>
<td>$107.06</td>
<td>03-31-2002</td>
</tr>
<tr>
<td>2.75</td>
<td>Harbor Capital Appreciation</td>
<td>HACAX</td>
<td>0.37</td>
<td>$42.36</td>
<td>03-31-2002</td>
</tr>
<tr>
<td>2.20</td>
<td>Vanguard 500 Index</td>
<td>VFINX</td>
<td>0.75</td>
<td>$85.34</td>
<td>03-31-2002</td>
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<td>3.06</td>
<td>Harbor Capital Appreciation</td>
<td>HACAX</td>
<td>0.41</td>
<td>$47.13</td>
<td>03-31-2002</td>
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<td>2.26</td>
<td>Vanguard 500 Index</td>
<td>VFINX</td>
<td>0.77</td>
<td>$87.67</td>
<td>03-31-2002</td>
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<tr>
<td>2.75</td>
<td>Harbor Capital Appreciation</td>
<td>HACAX</td>
<td>0.37</td>
<td>$42.36</td>
<td>03-31-2002</td>
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<td>2.09</td>
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<td>VFINX</td>
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<td>3.14</td>
<td>Harbor Capital Appreciation</td>
<td>HACAX</td>
<td>0.42</td>
<td>$48.37</td>
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</tr>
</tbody>
</table>
Holdings Analysis: Stock Popularity

Two mid-cap growth funds, one conventional, one more exotic

<table>
<thead>
<tr>
<th>Fund</th>
<th>Widely Held</th>
<th>Less Widely Held</th>
<th>Rarely Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetta</td>
<td>94%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Van Wagoner Emerging Growth</td>
<td>19%</td>
<td>52%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Legend:
- **Widely Held**
- **Less Widely Held**
- **Rarely Held**
Example: Holdings-Based Analysis

T. Rowe Price Mid-Cap Growth

2000 Holdings

1997 Holdings

Legend:
- Cash
- Bond
- Foreign
- Large Growth
- Large Value
- Mid Growth
- Mid Value
- Small Growth
- Small Value
Example: Returns-Based Analysis

T. Rowe Price Mid-Cap Growth
Errors in Predicting 2000 Holdings

Asset Classes of 586 U.S. Stock Funds – Mean Absolute Deviations
Errors in Predicting
2000 Returns-Based Results

Asset Classes of 586 U.S. Stock Funds – Mean Absolute Deviations
The Holdings-Based Advantage

• Timeliness
  – 12-month old portfolio fresher than a “brand new” returns-based style analysis

• Accuracy
  – 12-month old portfolio on average more accurate than a “brand new” returns-based style analysis

• Precision
  – The better the inputs, the better the forecasts
Resources


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