MBA Student Investment Management Fund

Final Presentation

April 2023
Investment Thesis
Our Strategy - Combined Value Metric Portfolio
<table>
<thead>
<tr>
<th>Name</th>
<th>E/P</th>
<th>FCF/P</th>
<th>EBITDA/EV</th>
<th>B/P</th>
<th>Sum</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED STATES STEEL CORP</td>
<td>9</td>
<td>20</td>
<td>3</td>
<td>16</td>
<td>48</td>
<td>1</td>
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<tr>
<td>EAGLE BULK SHIPPING INC</td>
<td>18</td>
<td>37</td>
<td>22</td>
<td>154</td>
<td>231</td>
<td>2</td>
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<tr>
<td>MR COOPER GROUP INC</td>
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<td>2</td>
<td>184</td>
<td>8</td>
<td>231</td>
<td>3</td>
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<tr>
<td>LUMEN TECHNOLOGIES INC</td>
<td>44</td>
<td>42</td>
<td>124</td>
<td>28</td>
<td>238</td>
<td>4</td>
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<tr>
<td>RESOLUTE FOREST PRODUCTS</td>
<td>72</td>
<td>54</td>
<td>31</td>
<td>86</td>
<td>243</td>
<td>5</td>
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<tr>
<td>TAYLOR MORRISON HOME CORP</td>
<td>45</td>
<td>58</td>
<td>83</td>
<td>63</td>
<td>249</td>
<td>6</td>
</tr>
<tr>
<td>GENCO SHIPPING &amp; TRADING LTD</td>
<td>38</td>
<td>139</td>
<td>27</td>
<td>54</td>
<td>258</td>
<td>7</td>
</tr>
<tr>
<td>FULGENT GENETICS INC</td>
<td>78</td>
<td>77</td>
<td>1</td>
<td>128</td>
<td>284</td>
<td>8</td>
</tr>
<tr>
<td>LAREDO PETROLEUM INC</td>
<td>7</td>
<td>50</td>
<td>13</td>
<td>229</td>
<td>299</td>
<td>9</td>
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<tr>
<td>BERRY CORP</td>
<td>67</td>
<td>78</td>
<td>24</td>
<td>144</td>
<td>313</td>
<td>10</td>
</tr>
</tbody>
</table>
Current Portfolio Breakdown

- Current Portfolio
  - 50 Securities
    - Average Mkt Cap: $9.04B
  - Sectors
    - Aligned w/ Russell 3000 Sector Weights
  - Under/Overweight Sectors +/- 7.5%
Current Portfolio Breakdown

**Russell 3000 Sector Weights**
- Materials: 3%
- Information Technology: 24%
- Utilities: 3%
- Financials: 14%
- Energy: 5%
- Health Care: 4%
- Communication: 7%
- Consumer Discretionary: 10%
- Industrials: 10%
- Real Estate: 3%

*Weights as of 4/24*

**MBA Sim Fund Sector Weights**
- Materials: 10%
- Information Technology: 18%
- Energy: 12%
- Communication: 4%
- Health Care: 8%
- Industrials: 13%
- Financials: 17%
- Consumer Discretionary: 17%
- Cash: 1%

*Weights as of 4/24*
Rebalancing Process

Step 1: Ranked securities based on four value metrics

Step 2: Used Python script to determine trades

Step 3: Conducted news checks on securities new to our portfolio

Step 4: Submitted trades
### Turnover Overview

“*If the new ranks are within 50 points of the prior rank, then leave alone and keep old security in our new portfolio. If the ranks are outside of a 50 point difference, then swap the security.*”

<table>
<thead>
<tr>
<th>Rebalance</th>
<th>Portfolio Turnover Ratio</th>
<th># of Securities Replaced</th>
<th>Trading Costs Incurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebalance 1</td>
<td>1.4%</td>
<td>0</td>
<td>$125</td>
</tr>
<tr>
<td>Rebalance 2</td>
<td>2.5%</td>
<td>1</td>
<td>$260</td>
</tr>
<tr>
<td>Rebalance 3</td>
<td>18.7%</td>
<td>9</td>
<td>$509</td>
</tr>
<tr>
<td>Rebalance 4</td>
<td>11.6%</td>
<td>4</td>
<td>$573</td>
</tr>
</tbody>
</table>
Key Moments
On Feb 7th, Lumen Technologies reports 4th quarter earnings and sinks over 20% after offering disappointing guidance.

Despite the drop, due to diversification constraints contributed loss is only 4 BPS.
Key Moment - March 2023 Banking Failures
Portfolio Results
Benchmark Selection

1. iShares Russell 3000 ETF
2. iShares Focused Value ETF
3. Fidelity Value Factor ETF
4. Shadow Portfolio
<table>
<thead>
<tr>
<th></th>
<th>iShares Russell 3000</th>
<th>iShares Focused Value</th>
<th>Fidelity Value Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td># of securities</td>
<td>2,628</td>
<td>41</td>
<td>131</td>
</tr>
<tr>
<td>Assets under Management</td>
<td>$10.6B</td>
<td>$20.3M</td>
<td>$462.4M</td>
</tr>
<tr>
<td>Expense Ratio</td>
<td>0.20%</td>
<td>0.25%</td>
<td>0.29%</td>
</tr>
</tbody>
</table>
Shadow Portfolio

Portfolio Breakdown
1. Same Universe (Mkt Cap > $600M)
2. Top 50 Ranked Securities
3. No Cash Holdings

| Portfolio v. Shadow Portfolio |  
|------------------------------|-----------------|
| Same                         | 80%             |
| Different                    | 20%             |
Benchmark Factor Characteristics

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>B/P</th>
<th>E/P</th>
<th>FCF/P</th>
<th>EBITDA/EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sim Fund Portfolio</td>
<td>1.09</td>
<td>0.23</td>
<td>0.41</td>
<td>0.26</td>
</tr>
<tr>
<td>Russell 3000</td>
<td>0.27</td>
<td>0.05</td>
<td>0.07</td>
<td>0.04</td>
</tr>
<tr>
<td>iShares Value</td>
<td>0.76</td>
<td>0.15</td>
<td>0.22</td>
<td>0.15</td>
</tr>
<tr>
<td>Fidelity Value</td>
<td>0.40</td>
<td>0.08</td>
<td>0.11</td>
<td>0.08</td>
</tr>
<tr>
<td>Shadow Portfolio</td>
<td>1.08</td>
<td>0.26</td>
<td>0.47</td>
<td>0.33</td>
</tr>
</tbody>
</table>
Portfolio Vs. Russell 3000

MBA Student Investment Management Fund
Arizona State University
Portfolio Vs. Fidelity Value Factor ETF

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Portfolio Vs. iShares Focused Value ETF
Portfolio Vs. Shadow Portfolio
Shadow Portfolio Vs. Russell 3000
Thank You!

Questions?
Appendix - Attribution vs Benchmarks

Allocation Breakdown vs. Benchmarks

Russell 3000: -11.59
iShares Focused Value: -9.8
Fidelity Value Factor: -10.38

-14 -12 -10 -8 -6 -4 -2 0 2 4 6 8 10 12 14
Allocation % Selection %
Appendix - Sector Attribution vs Russell 3000

Sector Attribution Breakdown vs. Russell 3000

- Information Technology: -4.13
- Financials: -0.61
- Consumer Discretionary: -0.69
- Industrials: -1.79
- Energy: -0.06
- Materials: -2.17
- Health Care: -3.14
- Communication Services: -0.08
- Not Classified: -0.17
- Consumer Staples: -0.05
- Utilities: 0.19

Allocation Effect % vs. Selection Effect %
## Forward Looking Benchmark Characteristics

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>P/B</th>
<th>P/E</th>
<th>P/FCF</th>
<th>EV/EBITDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sim Fund Portfolio</td>
<td>0.97</td>
<td>10.1</td>
<td>5.23</td>
<td>5.82</td>
</tr>
<tr>
<td>Russell 3000</td>
<td>12.78</td>
<td>24.06</td>
<td>149.21</td>
<td>12.35</td>
</tr>
<tr>
<td>iShares Focused Value</td>
<td>1.48</td>
<td>9.06</td>
<td>6.44</td>
<td>8.34</td>
</tr>
<tr>
<td>Fidelity Value Factor</td>
<td>10.06</td>
<td>16.04</td>
<td>363.37</td>
<td>11.56</td>
</tr>
<tr>
<td>Shadow Portfolio</td>
<td>0.95</td>
<td>8.31</td>
<td>4.19</td>
<td>5.10</td>
</tr>
</tbody>
</table>
Appendix - Standard Deviation

![Standard Deviation Protection](chart.png)

- Fidelity Value Factor
- iShares Focused Value
- Sim Fund Shadow Portfolio
- iShares Russell 3000
- Sim Fund

Standard Deviation %
Data Dictionary

- **CapEx**
  - Bloomberg Function: `TRAIL_12M_CAP_EXPEND` - Calculated by adding Capital Expenditures from the statement of cash flows for the last four quarters, two semi annuals, or annual.

- **OCF (in M)**
  - Bloomberg Function: `TRAIL_12M_CASH_FROM_OPER` - Calculated by adding cash from operations from the statement of cash flows for the last four quarters, two semi annuals, or annual.

- **Manual FCF**
  - Manually calculated as CapEx (in M) + OCF (in M)

- **BBG FCF**
  - Bloomberg Function: `TRAIL_12M_FREE_CASH_FLOW` - Calculated by adding Free Cash Flow for the last four quarters, two semi-annuals, or annual.
Data Dictionary - Continued

- **Current Shares Outstanding**
  - Function in Bloomberg: BS_SH_OUT - All of the shares of a corporation that have been authorized, issued, purchased, and held by investors as of period end date.

- **Current Shares Price**
  - Bloomberg Function: PX_LAST - Last price for the security

- **True Current Cap**
  - Manually calculated as current shares outstanding X current share price

- **TTM_EPS**
  - Bloomberg Function: TRAIL_12M_EPS - Sum of the most recent 12 months, four quarters, two semi annuals, or annual earnings per share (EPS)

- **Manual P/E**
  - Manually calculated as current share price/TTM EPS

- **BBG P/E**
  - Bloomberg Function: PE_RATIO - Ratio of the price of a stock and the company’s earnings per share.
Appendix

Data Dictionary - Continued

● Manual FCF/P
  ○ Manually calculated as (Manual FCF * 1000000)/True Current Cap

● BBG FCF/P
  ○ Bloomberg Function: PX_TO_FREE_CASH_FLOW - Valuation metric that compares a company’s market price to its level of training 12 month free cash flow per share. Calculated as Last Price / Trailing 12 Month FCF Per Share

● TTM EBITDA (In M)
  ○ Bloomberg Function: TRAIL_12M_EBITDA - Calculated by adding EBITDA for the last four quarters, two semi annuals, or annual as determined by Primary Periodicity.

● Current EV (in M)
  ○ Bloomberg Function: CURR_ENTP_VAL - Calculated as Market Capitalization + EV Components

● Manual EBITDA/EV
  ○ Manually calculated as TTM EBITDA/Current EV
Data Dictionary - Continued

● **BBG EBITDA/EV**
  ○ Bloomberg Function: CURRENT_EV_TO_T12M_EBITDA - Enterprise value as a percentage of trailing 12 month earnings before interest, taxes, depreciation, and amortization (EBITDA). Calculate as Current Enterprise Value / (Trailing 12 Month EBITDA + EBITDA Annualization Transition Adjustment for Operating Lease)

● **Book PS**
  ○ Bloomberg Function: BOOK_VAL_PER_SH - Measured used by owners of common shares in a firm to determine the level of safety associated with each individual share after all debts are paid accordingly. Units: Actual Calculated as Total Common Equity / Number of Shares Outstanding

● **Manual P/B**
  ○ Manually calculated as Current Share Price/Book PS

● **BBG P/B**
  ○ Bloomberg Function: MARKET_CAPITALIZATION_TO_BV - Measure of the relative value of a company compared to its market value. Unit: Actual. Calculated as Market Capitalization / Book Value