MBA Student Investment Management Fund

Final Presentation

April 2021
MBA SIM Fund Team

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Investment Thesis and Methods
Investment Thesis

Equity of a firm with debt in its capital structure is analogous to a call option written on the assets of the firm.

<table>
<thead>
<tr>
<th></th>
<th>High Default Option</th>
<th>Low Default Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Valuation (e.g. DCF)</td>
<td>Misvalued</td>
<td>Appropriate Valuation</td>
</tr>
<tr>
<td>Valuation with Default Option</td>
<td>Appropriate Valuation</td>
<td>Appropriate Valuation</td>
</tr>
</tbody>
</table>

Portfolio Construction: Inputs & Assumptions

Model Inputs

- Current liabilities
- Long-term liabilities
- Revenue
- Fixed Costs
- Volatility
- Risk-free rate
- COGS
- WAAC
- CAPEX
- Depreciation
- Leverage
- SIC Code

Model Equity Value

<table>
<thead>
<tr>
<th>SG&amp;A</th>
<th>Proxy for fixed costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIC Codes</td>
<td>Used to calculate industry averages for Depreciation &amp; CAPEX</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>Equals WACC</td>
</tr>
</tbody>
</table>
Exposures
Sector Weighting Comparison - April 2021

SIM FUND PORTFOLIO
- Basic Materials: 5%
- Consumer Cyclical: 13%
- Financial Services: 15%
- Industrial: 9%
- Energy: 2%
- Communication Services: 10%
- Healthcare: 15%
- Real Estate: 3%
- Consumer Defensive: 6%

RUSSELL-3000
- Basic Materials: 2%
- Consumer Cyclical: 12%
- Financial Services: 14%
- Industrial: 10%
- Energy: 3%
- Communication Services: 11%
- Real Estate: 4%
- Consumer Defensive: 6%
- Healthcare: 14%
- Utilities: 0%
## Sector Weighting Comparison - April 2021

<table>
<thead>
<tr>
<th>Asset</th>
<th>Russell 3000</th>
<th>Portfolio</th>
<th>Number of Stocks</th>
<th>Allocation per equity</th>
<th>Average Market Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Materials</td>
<td>2.44%</td>
<td>2.31%</td>
<td>3</td>
<td>0.8%</td>
<td>$2.7B</td>
</tr>
<tr>
<td>Consumer Cyclical</td>
<td>12.05%</td>
<td>11.62%</td>
<td>12</td>
<td>1.0%</td>
<td>$2.7B</td>
</tr>
<tr>
<td>Financial Services</td>
<td>12.47%</td>
<td>12.03%</td>
<td>11</td>
<td>1.1%</td>
<td>$2.5B</td>
</tr>
<tr>
<td>Consumer Defensive</td>
<td>6.76%</td>
<td>6.51%</td>
<td>7</td>
<td>0.9%</td>
<td>$2.6B</td>
</tr>
<tr>
<td>Healthcare</td>
<td>14.45%</td>
<td>13.92%</td>
<td>6</td>
<td>2.3%</td>
<td>$2.1B</td>
</tr>
<tr>
<td>Communication Services</td>
<td>10.51%</td>
<td>10.13%</td>
<td>5</td>
<td>2.0%</td>
<td>$2.9B</td>
</tr>
<tr>
<td>Energy</td>
<td>1.91%</td>
<td>1.81%</td>
<td>3</td>
<td>0.6%</td>
<td>$1.7B</td>
</tr>
<tr>
<td>Industrials</td>
<td>9.15%</td>
<td>8.82%</td>
<td>9</td>
<td>1.0%</td>
<td>$3.3B</td>
</tr>
<tr>
<td>Technology</td>
<td>23.70%</td>
<td>22.84%</td>
<td>13</td>
<td>1.9%</td>
<td>$2.4B</td>
</tr>
</tbody>
</table>
Performance and Attribution
Performance

Total Return

<table>
<thead>
<tr>
<th>Fund</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIM Fund</td>
<td>26.49%</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>12.88%</td>
</tr>
<tr>
<td>Russell 3000</td>
<td>13.32%</td>
</tr>
<tr>
<td>Russell 2000</td>
<td>24.76%</td>
</tr>
<tr>
<td>AVUV</td>
<td>31.29%</td>
</tr>
</tbody>
</table>
Market Cap Attribution - Russell 3000

Average Weight Difference

Small Cap: 40.10%
Mid Cap: 17.6%
Large Cap: -31.86%
Not Classified: 0.66%

Attribution Effects

Total Attribution: 3.12, -0.12, 4.11
Allocation: Blue
Dilution: Red
Currency: Green
Market Cap Attribution - AVUV

Average Weight Difference

-25.15%
-19.07%
-8.95%
-4.82%
-2.52%
-0.32%

Attribution Effects

-4.39
-2.52
-0.32
2.34

Total Attribution
Allocation
Selection
Currency

MBA Student Investment Management Fund
Arizona State University

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Sector Attribution - Russell 3000

Average Weight Difference

<table>
<thead>
<tr>
<th>Sector</th>
<th>Average Weight Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Technology</td>
<td>-2.89%</td>
</tr>
<tr>
<td>Utilities</td>
<td>-0.42%</td>
</tr>
<tr>
<td>Energy</td>
<td>-0.48%</td>
</tr>
<tr>
<td>Energy</td>
<td>-0.48%</td>
</tr>
<tr>
<td>Consumer Discretionary</td>
<td>0.02%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>0.00%</td>
</tr>
<tr>
<td>Consumer Staples</td>
<td>-0.88%</td>
</tr>
<tr>
<td>Not Classified</td>
<td>0.91%</td>
</tr>
<tr>
<td>Communication Services</td>
<td>-1.31%</td>
</tr>
<tr>
<td>Health Care</td>
<td>1.64%</td>
</tr>
<tr>
<td>Finance</td>
<td>2.37%</td>
</tr>
</tbody>
</table>

Attribution Effects

- Total Attribution
- Abnormal
- Selection
- Currency

-1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5 4

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Sector Attribution - Russell 2000
Sector Attribution - AVUV
Unusual Security Specific Exceptions
Unusual Activity/Security Specific Exceptions

● Archegos Capital Management/Viacom
  ○ Held Both VIACA and VIAC
  ○ Sold Off in Droves - Recoup a Fraction of the Losses
  ○ Heavily Affected our Communications Allocations

● We Decided to Hold
  ○ Results to Date
Key Takeaways
Key Takeaways

● Investment Management Process

● Tested Out the Investment Hypothesis

● Implementation of Investment Model

● Understanding of Limitations

● Address Challenges in Investment Management
Thank You!

Questions?
Unusual Activity/Security Specific Exceptions

- Viacom
  - Oversight
  - Prices now VIACA ($46.04) and VIAC ($41.11)
  - VIACA (Class A Shares)-Voting Shares
  - VIAC (Class B Shares)-Nonvoting Shares
  - Holding both doubled our company specific exposure
Performance & Attribution

Seed Date: 12/9/2020
Performance - Russell 3000
Performance - Russell 2000

Portfolio: LTIP MBA SIM
Benchmark: iSHARES RUSSELL 2000 VALUE ETF (IWN US)
Start Date: 12/6/2020
End Date: 4/12/2021
Currency: USD

Total Return %

LTIP MBA SIM: 26.4947
iSHARES RUSSELL 2000 VALUE ETF (IWN US): 24.7657
Performance - AVUV

Portfolio: LTP MBA SIM
Benchmark: AVANTIS US SMALL CAP VALUE (AVUV US)
Start Date: 12/9/2020
End Date: 4/12/2021
Currency: USD

Total Return %