Event Based Strategy

MBA Student Investment Management Fund

May 1, 2020
MBA SIM Fund Members

Carlos Dias de Aguiar  
Julia Akselrud  
Joaquin Borras Marti  
Louise Hardman  
Sarah Patterson  
Mrinal Widge  
Mayan Zeitlin
Event-Based Strategy

Hartzmark & Solomon, 2013
The Dividend Month Premium

Two Event-based Theories

Bessembinder & Zhang, 2015
Predictable Corporate Distributions & Stock Returns
Capturing Event Based Returns

- **Expected Price Increase**
- **Expected Price Decrease**

- **Buy**
- **Announcement Date**
- **Ex-Date**
- **Sell**

1 Day before and 1 Day after the announcement date for expected price increase.
1 Day before and 1 Day after the ex-date for expected price decrease.
Implementation

1. Predicted announcement dates
2. Predicted dividend increases

3. Selected securities to maximize cash investment over time:
   - Priority 1: Dividend increase with Double Date Verification (DDV)
   - Priority 2: Dividend increase only
   - Priority 3: DDV only
   - Priority 4: No dividend increase or DDV

4. Weighted securities to achieve sector neutrality over time
Announcement Date Prediction Accuracy

Announcement Date Accuracy

Buy Date Accuracy

*Data excludes 6 stocks that suspended or cancelled dividends due to COVID-19*
Dividend Prediction Accuracy

More companies announced dividend increases than expected

*Data excludes 6 stocks that suspended or cancelled dividends due to COVID-19
Trading Costs

Pre-Pandemic Snapshot  
(as of 2/25/20)
- Total Commission Costs: $2,824.53
- Total Spread Costs: $671.85
  - Avg round trip per security: $4.05
- Total Transaction Costs: $3,496.38
  - ~58 bps of portfolio

Final Portfolio  
(as of 4/24/20)
- Total Commission Costs: $4,828.12
Average Sector Exposure

Portfolio: Actual  Russell 3000: Target

- Consumer Staples: 11.04% 10.07%
- Information Technology: 24.66% 24.87%
- Financials: 14.79%
- Industrials: 12.05% 12.38%
- Consumer Discretionary: 8.55% 8.51%
- Health Care: 16.11% 13.64%
- Energy: 3.61% 5.25%
- Communications: 6.45% 6.01%
- Materials: 2.69% 2.87%
- Real Estate: 0.04% 0.08%
- Utilities: 0.02% 0.05%

12/6/2019
COVID-19 has created a liquidity crisis that directly impacts the underlying hypothesis of the dividend premium strategy

• Companies are delaying or suspending dividends to hoard cash
  – ~300 companies withdrew financial guidance
  – ~175 companies suspended stock buybacks or dividends

Mid-March Adjustments:
• Sold securities after 5 business days if they did not announce as expected
• Stopped buying new securities April 3, sold according to strategy until April 24
  – This eliminated ~1/4 of planned buys
• Remaining securities sold April 24
Value Invested

The portfolio consisted of the Event Driven Strategy plus investment in the Russell 3000 to manage cash

- Chart shows divest decision once team evaluated unfavorable market
Overall Performance

Russell 3000 Cumulative Daily Return
Strategy Cumulative Daily Return
Cumulative Account Returns

5/1/2020
Volatility increased as a result of COVID-19

<table>
<thead>
<tr>
<th></th>
<th>Account</th>
<th>Russell 3000</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-0.10%</td>
<td>-0.09%</td>
<td>0.02%</td>
</tr>
<tr>
<td>Std Dev</td>
<td>2.94%</td>
<td>3.08%</td>
<td>5.42%</td>
</tr>
<tr>
<td>Variance</td>
<td>0.09%</td>
<td>0.09%</td>
<td>0.29%</td>
</tr>
</tbody>
</table>
Cumulative Returns (Account vs. VIG)

*VIG - Vanguard Dividend Appreciation ETF
Trade Performance

Average HPR

- ~65% negative returns
- ~35% positive returns

5/1/2020
Performance Attribution – Dividend Surprise

Dividend Surprise (comp. to Bloomberg prediction)

- Positive: 11%
- Negative: 12%
- No Surprise: 77%

<table>
<thead>
<tr>
<th>Dividend Surprise</th>
<th>Security Count</th>
<th>Mean Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>28</td>
<td>-10.20%*</td>
</tr>
<tr>
<td>No Surprise</td>
<td>173</td>
<td>-5.48%</td>
</tr>
<tr>
<td>Positive</td>
<td>24</td>
<td>-5.99%</td>
</tr>
</tbody>
</table>

*Statistically significant at 95% confidence level
Performance Attribution – Daily Returns

DAILY RETURNS AROUND ANNOUNCEMENT DATE
(DAY_TO_DAY_TOT_RETURN_NET_DVDS)
Performance Attribution – Daily Returns

DAILY RETURNS AROUND EX-DATE
(DAY_TO_DAY_TOT_RETURN_NET_DVDS)
Key Takeaways

1. Dividend premium strategy demands access to high quality, reputable data.
2. Active management is required to stay abreast of expected announcements.
3. High trading costs erode returns.
4. Bear markets diffuse strategy as companies delay or cancel dividends to manage cash.
5. COVID-19 transformed a strategy that was seemingly easy to execute into one that lacked a valid underlying thesis and needed constant attention.
6. Awareness & agility is required to respond to market changes quickly and maintain confidence in the fund.
Thank you!

Questions?
Corporate distribution events tend to occur at regular intervals and the market reacts positively to their announcement.

<table>
<thead>
<tr>
<th>Probability of Dividend Increase</th>
<th>Unconditional Probability</th>
<th>One Prior Event (t-12)</th>
<th>Two Prior Events (t-12, t-24)</th>
<th>Three Prior Events (t-12, t-24, t-36)</th>
<th>Four Prior Events (t-12, t-24, t-36, t-48)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.18%</td>
<td>32.9%</td>
<td>55.3%</td>
<td>62.7%</td>
<td>66.8%</td>
</tr>
</tbody>
</table>

➢ The market fails to appreciate the degree to which these distribution events can be forecast.

5-day CAR: 1.18%
Price pressure from dividend-seeking investors in the lead-up to ex-day creates large abnormal returns.

<table>
<thead>
<tr>
<th>Abnormal Returns</th>
<th>Abnormal Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Announcement Day</td>
<td>12 bps</td>
</tr>
<tr>
<td>Predicted Announcement Day</td>
<td>3 bps</td>
</tr>
<tr>
<td>Ex-day</td>
<td>26 bps</td>
</tr>
<tr>
<td>Interim Period</td>
<td>17 bps</td>
</tr>
<tr>
<td>Total (Holding Period)</td>
<td>= 58 bps</td>
</tr>
</tbody>
</table>

➢ Significant reversals (-72 bps) occur in the 40 days after ex-day
Appendix

Sample of Average Industry Neutrality Over Time

SECTOR: Consumer Discretionary

Allocation  Min Target  Max Target

0%  2%  4%  6%  8%  10%  12%  14%  16%

## Security Weighting

<table>
<thead>
<tr>
<th>Security Sector</th>
<th>Weighting</th>
<th>Trading Amount per Security</th>
<th>Total Securities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Staples</td>
<td>10.07%</td>
<td>$ 35,000</td>
<td>25</td>
</tr>
<tr>
<td>Information Technology</td>
<td>24.87%</td>
<td>$ 36,000</td>
<td>28</td>
</tr>
<tr>
<td>Financials</td>
<td>16.27%</td>
<td>$ 7,000</td>
<td>126</td>
</tr>
<tr>
<td>Industrials</td>
<td>12.38%</td>
<td>$ 7,000</td>
<td>76</td>
</tr>
<tr>
<td>Consumer Discretionary</td>
<td>8.51%</td>
<td>$ 10,000</td>
<td>60</td>
</tr>
<tr>
<td>Health Care</td>
<td>13.64%</td>
<td>$ 27,500</td>
<td>19</td>
</tr>
<tr>
<td>Energy</td>
<td>5.25%</td>
<td>$ 42,000</td>
<td>6</td>
</tr>
<tr>
<td>Communication Services</td>
<td>6.01%</td>
<td>$ 21,000</td>
<td>11</td>
</tr>
<tr>
<td>Real Estate</td>
<td>0.08%</td>
<td>$ 21,000</td>
<td>0</td>
</tr>
<tr>
<td>Materials</td>
<td>2.87%</td>
<td>$ 21,000</td>
<td>22</td>
</tr>
<tr>
<td>Utilities</td>
<td>0.05%</td>
<td>$ 21,000</td>
<td>0</td>
</tr>
</tbody>
</table>