Student Investment Management Fund

Spring 2021 Presentation
SIM Fund Team B

Fund Manager
Jacob Robinson

Fund Analysts
Paul Resczenko
Von Brady
Jacob Wilson
Albert Zatonskiy
Logan Saker
Mina Girgis
Rishab Kohli
Strategy
Portfolio Strategy

Target Universe
Selecting the Investable Universe

Target Investable Universe: ~ 3,000 Stocks
Trading Volume 1 Day Ago 50,000+ Shares
Market Cap $500 Million+
Country of Domicile: United States
Common Equities Only
Total Universe of Securities

Building & Rebalancing the portfolio requires an initial screening in Bloomberg to reduce the universe of securities to a manageable level, removing any that fall outside of ASU Charter Requirements.
The resulting numerical figure will be added to the Value and Momentum factors, producing the final ranking used to select the highest 65 stocks for the portfolio.

Cash-based operating profitability

\[ \text{Cash-based operating profitability} = \text{Operating profitability} + \text{Decrease in accounts receivable (RECCH)} + \text{Decrease in inventory (INVCH)} + \text{Increase in accounts payable and accrued liabilities (APALCH)}. \]
Scoring and Ranking

Scores

All stocks are scored & sorted by Sector

Ranks

Top 65 ranked are selected
Portfolio Turnover and Sector Concentration
Turnover by Month

Portfolio Turnover

- Jan: 22%
- Feb: 30%
- Mar: 38%

Number of Trades: Red
Turnover Ratio: Yellow
Current Size Concentration

MARKET CAP CONCENTRATION (INVESTMENT VALUE)
- Large Cap: 11%
- Mid Cap: 40%
- Small Cap: 49%

COUNT OF STOCKS BY MARKET CAP
- Large Cap: 9
- Mid Cap: 25
- Small Cap: 11
Performance
Cumulative Performance
Factor Contribution

US:US Market: 15.11
Value:US Value: 12.78
Size:US Size: 2.53
Profit:US Profit: 0.98
Momentum:US Momentum: -3.34
Utilities Comparison

SIM Fund Team B vs Utilities

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>SIM Fund Team B</td>
<td>28.60%</td>
</tr>
<tr>
<td>I-Shares Utilities ETF</td>
<td>7.62%</td>
</tr>
<tr>
<td>SIM Team B With Utilities</td>
<td>28.83%</td>
</tr>
</tbody>
</table>
Challenges Faced

QEP – QEP Resources

CXP – Columbia Property Trust

Rebalance issues

Cash Management
Thank You
APPENDIX
Example

- Stock - Netgear Inc. (NTGR)
- CBOP Ratio = 0.03
- P/B Ratio = 1.45
- YTD Return = 26.40%

\[
\text{Score} = \frac{\text{CBOP}(Profitability Weight)}{P} + \frac{\text{Value Weight}}{B} + \text{YTD Return (Momentum Weight)}
\]

\[-0.37 = 0.03(0.5) + 1.45(-0.3) + 0.264(0.2)\]

The highest 65 stocks according to score are ranked and selected after controlling for sector exposure.
Exclude if any of the following are true for a particular stock:

<table>
<thead>
<tr>
<th>Exclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Based Operating Profitability Ratio or Free Cash Flow to Equity Ratio cannot be calculated.</td>
</tr>
<tr>
<td>Return on Equity $\leq$ 0%</td>
</tr>
<tr>
<td>Exchange Traded Funds (ETFs)</td>
</tr>
<tr>
<td>Free Cash Flow to Equity Ratio $&lt; 0$</td>
</tr>
<tr>
<td>Price to Book Ratio $= 0$</td>
</tr>
<tr>
<td>YTD Return $&lt; -20%$ or $= 0%$</td>
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Old slides
Investment Thesis

Value + Profitability + Momentum
Cash-Based Operating Profitability

- CBOP is a stronger predictor of future returns than profitability alone.
- Hedge against unprofitable value stocks.
- CBOP is expected to result in higher Sharpe ratios.

\[ y = \beta_{MKT} \text{MKT} + \beta_{RMW} \text{RMW}_{cbOP} + \beta_{HML} \text{HML} + \beta_{UMD} \text{UMD} + \epsilon \]

Source: Ball et al., Journal of Financial Economics
\[ y = \beta_{MKT}MKT + \beta_{HML}HML + \beta_{RMW}RMW_{cbOP} + \beta_{UMD}UMD + \epsilon \]
Momentum

YTD Returns

\[ y = \beta_{MKT} MKT + \beta_{RMW} RMW_{cbOP} + \beta_{HML} HML + \beta_{UMD} UMD + \epsilon \]
Portfolio Development & Implementation Process

Phase 1
- Source data from Bloomberg: Accounting and Stock Returns

Phase 2
- Input stock data into Portfolio Model
- Calculate Cash Based Operating Profitability Ratio
- Calculate YTD Returns & Price/Book Ratio

Phase 3
- Apply Factor Weights & Rank Stocks
- Sort by Sector, Weight Stocks, & Invest in top 65 Stocks according to Rank

Rebalance Monthly
Required Stock Data: Bloomberg

**Value**
- Ticker
- Price/Book Ratio
- Stock Price
- Common Equity
- $ Free Cash Flow: Current Quarter
- Market Cap

**Cash-Based Operating Profitability**
- Sector
- Free Cash Flow to Equity Ratio
- Δ Accrued Expenses: Quarterly
- Return on Equity: ROE
- Operating Profit: Current Quarter
- Δ Accounts Payable: Quarterly
- Δ Accounts Receivable: Quarterly
- Δ Inventories: Quarterly

**Momentum**
- Total Return %: 1-Year
- Total Return %: YTD
- Sharpe Ratio: YTD
Sector Weights

1. Assign weights based on stock rank
2. Compare current weights to charter requirements
3. Reduce evenly all stocks within sector to adhere to charter requirements
4. Add back to stocks in sectors below limits
5. Final sector weights
<table>
<thead>
<tr>
<th>Stock Range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1-10</td>
<td>~3%</td>
</tr>
<tr>
<td>#11-37</td>
<td>~1.5%</td>
</tr>
<tr>
<td>#38-65</td>
<td>~1%</td>
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</tbody>
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