Undergraduate Student Investment Management Fund

Semi-Annual Presentation
Friday, April 20, 2012
Fund Members

Fund Managers
- Michael Cohn
- Steven Kutos
- Rima Reddy
- Jenna Hoppe
- Ajay GnanaSambanthan
- Jonathan Lozano
- Kenneth Qian

Fund Analysts
- Michael Ham
- Aaron Baker
Investment Goals

• Diversification
• Humility in incorporating views
• Reduce sensitivity to input data
  – Resampling vs. static MVO
  – Increasing Correlations
  – Different methods to estimate volatility
Asset Allocation Structure

INTRODUCTION
ASSET ALLOCATION
REBALANCING
PERFORMANCE
OPPORTUNITY
COSTS
SUCCESSION
QUESTIONS

High-Level MVO

US Equity
Fixed Income
Ex-US Equity
REITs
Commodities

Low-Level MVO

B-L

Constructed Basket
Undergraduate SIM Fund
Student Investment Management Fund

INTRODUCTION

ASSET ALLOCATION

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Ex-US Equity
Commodities
Fixed Income
US Real Estate
US Equity

Return

Risk

MVO

MVO

MVO

.51 .05 .19 .05 .2

.507 .032 .19 .05 .22

.49 .049 .19 .05 .22

MVO

MVO

MVO

Ex-US Equity
Commodities
Fixed Income
US Real Estate
US Equity
Selected Asset Classes

• Equity (Black-Litterman Model)
  — Ability to incorporate our own sector views
  — Lessen the historical returns bias

• Commodities
  — Low correlation, diversification
  — Basket of stocks with high commodity exposure

• Fixed Income
  — Selected a intermediate Government/Credit ETF

• REITs
  — Additional diversification, attractive investment

• International Equity
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Broad Allocation

US Equity 50%

Int. Equity 21%

Fixed Income 19%

Commodities 5%

REIT 5%

International Allocation

EU 38%

EM 29%

Canada 9%

Japan 9%

Australia 9%

Israel 9%

NZ 9%

HK 9%

Singapore 1%
Reasons for Rebalancing

- Accumulated cash dividends of $8,000
- Fixed Income weight below optimal
  - Down to 17.4% from 20%
- Updated view on consumer discretionary
Consumer Discretionary

- Consumer confidence increasing
- Unemployment declining
- Positive environment for cyclical sectors
- No longer saw a reason to underweight
  - removed view
Case Study – Hecla Mining

• Base and precious metal business lines
  – Discovery/Exploration
  – Development/Production

• Two operational mines
  – Greens Creek (Alaska)
  – Lucky Friday (Idaho)

• Market Capitalization (mm): $1,193
• Average Volume (mm): 6.34
Case Study – Hecla Mining

• Two deaths occurred at Hecla’s Lucky Friday mine in 2011
  – One of deepest mines in US
  – Safety failures blamed for deaths

• Mine Safety & Health Administration shut down Lucky Friday for one year
  – 2012 silver production estimates reduced by 20%
Case Study – Hecla Mining

• Mine closure news release (Jan. 11th):
  – Stock price plunged 21%
  – Trading volume spiked 885%
Case Study – Hecla Mining

• Correlation to gold index remained favorable post mine closure
  – Commodity exposure maintained

• Investment horizon: 3-5 years
  – Passive strategy

• P/E of 8.16 vs. industry P/E ~13.50

Do not sell Hecla Mining
## Performance metrics

<table>
<thead>
<tr>
<th></th>
<th>Holding Period Return</th>
<th>Annualized Return</th>
<th>Volatility</th>
<th>Sharpe Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduates</td>
<td>6.29%</td>
<td>14.38%</td>
<td>16.35%</td>
<td>0.825</td>
</tr>
<tr>
<td>Constrained BM</td>
<td>7.31%</td>
<td>17.27%</td>
<td>12.50%</td>
<td>1.31</td>
</tr>
<tr>
<td>Russell 3000</td>
<td>10.48%</td>
<td>23.07%</td>
<td>17.46%</td>
<td>1.31</td>
</tr>
<tr>
<td>World Equity</td>
<td>5.90%</td>
<td>13.28%</td>
<td>16.01%</td>
<td>0.77</td>
</tr>
<tr>
<td>Non-Rebalanced</td>
<td>6.50%</td>
<td>14.84%</td>
<td>16.37%</td>
<td>0.85</td>
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</tbody>
</table>
Fund Performance

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MSCI World  Russell 3000  Portfolio  Custom Benchmark  Benchmark
Fund Performance

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SIM Fund
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Commodities
International
US Equity
Fixed Income
REIT
Portfolio

16
Opportunity Costs

Views expressed on U.S. sectors

Our Portfolio

No Views
Views Expressed on U.S. sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Ticker</th>
<th>Return</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Utilities</td>
<td>VPU US</td>
<td>0.38%</td>
<td>Neutral</td>
</tr>
<tr>
<td>Telecom</td>
<td>VOX US</td>
<td>3.21%</td>
<td>Neutral</td>
</tr>
<tr>
<td>Industrials</td>
<td>VIS US</td>
<td>9.04%</td>
<td>Overweight</td>
</tr>
<tr>
<td>Healthcare</td>
<td>VHT US</td>
<td>12.10%</td>
<td>Neutral</td>
</tr>
<tr>
<td>Information Tech</td>
<td>VGT US</td>
<td>14.15%</td>
<td>Overweight</td>
</tr>
<tr>
<td>Financials</td>
<td>VFH US</td>
<td>13.18%</td>
<td>Underweight</td>
</tr>
<tr>
<td>Energy</td>
<td>VDE US</td>
<td>-0.74%</td>
<td>Overweight</td>
</tr>
<tr>
<td>Consumer Staples</td>
<td>VDC US</td>
<td>8.95%</td>
<td>Neutral</td>
</tr>
<tr>
<td>Consumer Disc.</td>
<td>VCR US</td>
<td>13.97%</td>
<td>Underweight - Neutral</td>
</tr>
<tr>
<td>Materials</td>
<td>VAW US</td>
<td>5.21%</td>
<td>Neutral</td>
</tr>
</tbody>
</table>
Succession Planning

- Training for new members
  - Bloomberg, Portfolio Theory, Asset Pricing
- Problems we encountered
- Hand-over portfolio
New Members

Aaron Baker
Kenneth Qian
Dakota Boyd
Shane Carlin
Charlotte DeMocker
Andrew Farber
Lorne Forcum
Sean Gormley
John Happe

Troy Hebert
Clayton Jenners
Dylan King
Kai (Edwin) Lam
Jaesung Lee
Leo Panopoulos
Adrian Reiter
Brian Wright
Yili Yu
Questions?