The alpha and beta of Equity Hedge UCITS funds – Implications for momentum investing

Nabil Bouamara$^1$
Kris Boudt$^2$
Benedict Peeters$^3$
James Thewissen$^1$

$^1$KU Leuven
$^2$Vrije Universiteit Brussel & Vrije Universiteit Amsterdam
$^3$Rego Partners/LuxHedge

R/Finance 2017
1. Embracing the alternatives

UCITS Directive

- Pan-European regulatory framework
  - ‘Undertakings for Collective Investment in Transferable Securities’
  - Product regulation (transparency, investment guidelines, and liquidity)
  - Risk management
  - Regulatory oversight

The Economist (March 2015), “How hedge funds work”
1. Embracing the alternatives

Growth of the market

- Pan-European regulatory framework
- Hedge fund return characteristics in an on-shore regulated vehicle


Source: LuxHedge, September 2016
1. Embracing the alternatives
Manager selection

- Pan-European regulatory framework
- Hedge fund return characteristics in an on-shore regulated vehicle
- Realistic portfolios
  - Adaptive Market Hypothesis (Lo, 2004)
  - Equity hedge UCITS funds
  - Role of talent

![Managerial selection](image)

Top-5 versus Worst-Performers in 2016: Annualized Return
Source: LuxHedge (2016)
2. Fund selection

Unbundling of returns

- **Alpha vs. Beta**
  - Determinants: asset category, direction, and leverage (Fung & Hsieh, 1997).
  - Exposure to style-factor (Brown & Goetzmann, 2003; Jagannathan et al., 2010; Hunter et al., 2014)
  - Exposure to asset-based factors
    - Equity risk factors (Carhart, 1997)
    - Primitive Trend Following Strategy (Fung & Hsieh, 2004)
- From rolling averages to **residual returns** (Blitz et al., 2011)
  - **Hot hands** in fund performance (Hendricks et al., 1993; Ardia & Boudt, 2013; Jagannathan et al.; 2010)
  - Time-variation in alpha (Avramov et al., 2011; Patton & Ramadorai, 2013; Criton & Scaillet, 2014)

\[
\text{Fund Return} = \text{Market Return} + \text{Risk Premia Return} + \text{Alpha Return}
\]

**Replicable by**

- Market Return: (Market Cap Index)
- Risk Premia Return: (Long-Short Risk Premia Indices)
- Alpha Return: (not replicable systematically)

Unbundling of returns (S&P 2016, “The rise of indices if changing the face of investing”)
2. Fund selection

False discoveries

- Decomposition: majority are zero-alpha funds (Barras et al.; 2010)
- Downward correction 37 percent.

Screening plot: out- (black), equal- (lightgrey) and underperformance (darkgrey) of style alpha of Equity Hedge UCITS funds (2010-2016)
3. Short-run persistence
Portfolio sorts using reliable signals

- Positive **autocorrelation** in monthly and quarterly hedge fund returns;
- Shift portfolio allocation to outperforming funds (Fung et al., 2008)
- Adopt a reliable **ranking criterion** that integrates risk premia (Carhart, 2004; Capocci and Hübner, 2004; Blitz et al., 2011)

<table>
<thead>
<tr>
<th>Factor space</th>
<th>Alpha</th>
<th>$t$-statistic</th>
<th>Peer Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer</td>
<td>0.298</td>
<td>0.308*</td>
<td>0.301</td>
</tr>
<tr>
<td>Carhart</td>
<td>0.258*</td>
<td>0.334***</td>
<td>0.374***</td>
</tr>
<tr>
<td>Fung-Hsieh</td>
<td>0.216</td>
<td>0.268***</td>
<td>0.264***</td>
</tr>
</tbody>
</table>

*Measurement error correction

Monthly alphas (%) across ranking criteria and factor models using portfolio sorts (2013-2016)

**Significant risk-adjusted performance when correcting for measurement error.**
3. Short-run persistence
Portfolio sorts using reliable signals

Monthly Returns Analysis

<table>
<thead>
<tr>
<th></th>
<th>Model Portfolio</th>
<th>HFRU Equity Hedge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annualized Return</td>
<td>9.37%</td>
<td>5.71%</td>
</tr>
<tr>
<td>Annualized Volatility (d)</td>
<td>3.95%</td>
<td>5.20%</td>
</tr>
<tr>
<td>Return/Risk</td>
<td>2.37</td>
<td>1.10</td>
</tr>
<tr>
<td>Winning Percent</td>
<td>74.19%</td>
<td>64.52%</td>
</tr>
<tr>
<td>Losing Percent</td>
<td>25.81%</td>
<td>35.48%</td>
</tr>
<tr>
<td>Largest Drawdown</td>
<td>-4.27%</td>
<td>-10.32%</td>
</tr>
</tbody>
</table>

1Y-Rolling risk-return difference vs. HFRU Equity Hedge Index (2013-2016) for Carhart outperformance-sorted portfolio