Whither Hedge Fund Replication?

December 2009
(1) Replicator Performance Comparison
(2) Market Context
(3) TrueBeta Performance Summary
(4) TrueBeta methodological and performance details
Perfection of means and confusion of ends seem to characterize our age.

Albert Einstein
Replicator Returns vs. the HFRI Composite and the S&P 500
March 2008 – May 2009

Source: Nils S. Tuchschmid et. al., 25th September 2009, How do hedge fund clones manage the real world?
Correlations with the HFRI Composite
March 2008 – May 2009

Source: Nils S. Tuchschmid et. al., 25th September 2009, How do hedge fund clones manage the real world?
What purpose should be served by hedge fund replication?
Market Context

Institutional investors poised to drive change in the hedge fund market.

- Increasing allocations to hedge funds
- Investors are beginning to blur the line between hedge funds and traditional asset classes
Market Context cont.

• As in other asset classes, a structured investment process requires an investable performance benchmark
  – Essential for alpha/beta separation
  – Likely growth in index investing as process matures

• Existing investable hedge fund indices do not adequately capture broad index performance

• Existing replication products only partially meet investors' requirements for a good benchmark
  – Representative
  – Investable
  – Independent
  – Transparent
TrueBeta Proposition Summary

Single-minded focus on replicating the returns of the hedge fund universe.

- A transparent and investable benchmark
- 0.93 correlation with the HFRI index out of sample
- The only factor based replication strategy with a fully transparent methodology
Performance Summary
TrueBeta Composite

Cum. May 2004 - October 2009

TrueBeta performance with 1.5X Leverage, After Fees (1.65%); HFRX performance before HFR fees
TrueBeta Performance High-lights

- TrueBeta is highly correlated with the non-investable HFRI index, and closely represents the risk characteristics of the HFRI index over time.

- TrueBeta significantly outperforms the HFRX index, both in terms of returns and risk characteristics.

- Although TrueBeta tends to under-perform the HFRI target index, factoring in the upward biases of broad hedge fund indices (approx. 3-4% per annum), TrueBeta delivers comparable performance.

HFRI and HFRX data by Hedge Fund Research, Inc. (HFR)
HFRI is HFR's Fund-Weighted Composite Index
HFRX is HFR's Investable Equal Weighted Strategies Index
TrueBeta methodological and performance details
Methodology

- Building block approach with an equal weighted composite based on five underlying strategy indices

- Equity Hedge
- Event Driven
- Macro
- Relative Value Arbitrage
- Emerging Markets
Monthly trading signals are generated using a multi-factor regression model with a twelve month rolling window.

The factors are major market indices, screened for liquidity and statistical relevance:

- S&P 500
- FTSE 100
- MSCI Emerging Markets
- US 10 Year Note
- Euro Bund
- Yen
- Euro
- Gold
- Crude Oil
The TrueBeta Process

Monthly trading signals are generated using a multi-factor regression model with a twelve month rolling window:

- **Factors (Market Indexes)**
- **HFR Strategy Indexes**
- **Factor Returns End Month**

**Monthly Regression Beg. Month**

- **Factors (Market Indexes)**
- **HFR Strategy Indexes**

**Monthly Re-balancing Beg. Month**

- **Factor Weights Beg. Month**
- **TrueBeta Strategy Replicators**
- **Equal Weighted Composite**
- **Current TrueBeta Performance**
Back-Testing Methodology

A rigorous, out of sample methodology ensures reliable back-tests:

- The model is run separately, ex-ante for each individual month in the back-testing period, determining the factor weights going into the month.
- Daily performance is computed with factor returns for the month following the model run.
## Historical Performance

<table>
<thead>
<tr>
<th></th>
<th>TrueBeta</th>
<th>HFRI</th>
<th>HFRX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cum. May 2004 - October 2009</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>0.93</td>
<td>-</td>
<td>0.90</td>
</tr>
<tr>
<td>Compound Return</td>
<td>16.65%</td>
<td>37.07%</td>
<td>0.32%</td>
</tr>
<tr>
<td>Annualized Return</td>
<td>2.84%</td>
<td>5.90%</td>
<td>0.06%</td>
</tr>
<tr>
<td>Annualized Stdev</td>
<td>8.15%</td>
<td>7.11%</td>
<td>6.44%</td>
</tr>
<tr>
<td>VAR 95%</td>
<td>-13.40%</td>
<td>-11.70%</td>
<td>-10.60%</td>
</tr>
<tr>
<td>Information Ratio</td>
<td>0.35</td>
<td>0.83</td>
<td>0.01</td>
</tr>
<tr>
<td>Ann. Tracking Error</td>
<td>3.05%</td>
<td>-</td>
<td>3.51%</td>
</tr>
<tr>
<td>Skewness</td>
<td>-1.17</td>
<td>-1.12</td>
<td>-2.94</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.86</td>
<td>2.69</td>
<td>12.97</td>
</tr>
</tbody>
</table>

Performance with 1.5X Leverage, After Fees
## Rolling 12 Months

<table>
<thead>
<tr>
<th>Rolling 12 Months</th>
<th>TrueBeta</th>
<th>HFRI</th>
<th>HFRX</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>0.92</td>
<td>-</td>
<td>0.78</td>
</tr>
<tr>
<td>Compound Return</td>
<td>6.06%</td>
<td>14.00%</td>
<td>4.67%</td>
</tr>
<tr>
<td>Annualized Return</td>
<td>6.06%</td>
<td>14.00%</td>
<td>4.67%</td>
</tr>
<tr>
<td>Annualized Stdev</td>
<td>8.58%</td>
<td>7.52%</td>
<td>5.02%</td>
</tr>
<tr>
<td>VAR 95%</td>
<td>-14.11%</td>
<td>-12.37%</td>
<td>-8.25%</td>
</tr>
<tr>
<td>Information Ratio</td>
<td>0.71</td>
<td>1.86</td>
<td>0.93</td>
</tr>
<tr>
<td>Ann. Tracking Error</td>
<td>3.83%</td>
<td>-</td>
<td>5.26%</td>
</tr>
<tr>
<td>Skewness*</td>
<td>-0.22</td>
<td>0.18</td>
<td>-1.02</td>
</tr>
<tr>
<td>Kurtosis*</td>
<td>-1.07</td>
<td>-0.1</td>
<td>0.69</td>
</tr>
</tbody>
</table>

*less meaningful short term

Performance with 1.5X Leverage, After Fees
TrueBeta Proposition Summary

The first independently managed replication offering available to all market participants. A transparent and investable benchmark.

- 0.93 correlation with the HFRI index out of sample
- The only factor based replication strategy with a fully transparent methodology
- Based on liquidity-screened futures and ETFs; Daily liquidity
- Available for separate account execution
- Licensing and white label options

TrueBeta LLC:
Rabbe Ekholm
Founder & CEO
O: 203 992-5134
C: 203 962-3734
rabbe.ekholm@true-beta.com

Media Contacts:
Mary Beth Kissane
Walek & Associates
O: 212 590-0536
mbkissane@walek.com

Jon Schubin
Walek & Associates
O: 212 590-0529
C: 518 937-1880
jschubin@walek.com
This material is for informational purposes only, and is not an offer or recommendation to buy or sell or a solicitation of an offer to buy or sell any security or instrument or to participate in any particular trading strategy. Further, none of the information and material is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Historical data and analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction.

All right, title and interest in all content contained herein is the exclusive property of TrueBeta LLC. You may not modify, copy, distribute, transmit, display, perform, reproduce, publish, create derivative works from, transfer, or otherwise use in whole or in part any information obtained from TrueBeta without TrueBeta LLC's prior written approval.

TrueBeta LLC, the TrueBeta logo, and all other marks and logos used herein are trademarks and/or service marks of TrueBeta LLC. The names of other actual companies and third-party products or services mentioned herein may be the trademarks or service marks of their respective owners. You are prohibited from using any marks for any purpose without the written permission of TrueBeta LLC or such third party which may own the marks.