Defining and Demystifying Smart Beta: Implications for Active Management

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Agenda

• Smart beta around the world

• From theory to reality

• Managing factors in an integrated investment program
Which of the following best describes your organization:

1. Have a smart beta strategy
2. Have evaluated smart beta but did not allocate
3. Currently evaluating or plan to evaluate
4. Do not plan to evaluate
Sample size for $10B+ for Europe is 19 and below preferred threshold of 30

Source: FTSE Russell – 2015 Global Survey Findings from asset owners
What?

Low Volatility and Value are the most used strategies as part of a smart beta combination.

What type of smart beta strategies are you using? (Combination of strategies)

- Low volatility: 54%
- Value: 51%
- Fundamental: 31%
- Multi-factor combination: 29%

- Minimum variance: 26%
- Momentum: 26%
- High quality: 20%
- Maximum diversification: 17%
- Equal weight: 17%
- Risk parity: 17%
- Dividend/income/yield: 11%
- Defensive: 3%
- Other (please specify): 11%

Segment = Have smart beta allocation, AND using 2 or more strategies.

Source: FTSE Russell – 2015 Global Survey Findings from asset owners
Do you consider smart beta strategies to be:

1. Active investment management

2. Passive investment management
### Why?

What investment objective initiated the evaluation of smart beta strategies?

<table>
<thead>
<tr>
<th>Objective</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Return enhancement</td>
<td>52%</td>
</tr>
<tr>
<td>Risk reduction</td>
<td>52%</td>
</tr>
<tr>
<td>Improve diversification</td>
<td>40%</td>
</tr>
<tr>
<td>Provide specific factor exposure</td>
<td>24%</td>
</tr>
<tr>
<td>Cost savings</td>
<td>16%</td>
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<tr>
<td>Income generation</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

Multi-pick; Segment = Have smart beta allocation, Evaluated and decided not to implement, Currently evaluating smart beta

Source: FTSE Russell – 2015 Global Survey Findings from asset owners

*Smart beta adoption is not a replacement for passive*
Evolution of Factors

**Capital Asset Pricing Model (1960s)**
- Market Beta $\beta$

**Fama-French Three Factor Model (1990s)**
- The market, company size and valuation
- Market $\beta$
- Size $\beta$
- Value $\beta$

**Today’s Multi-Factor Model Proliferation**
- Numerous models seek to explain a range of style, fundamental and geographic factors that drive returns
- Trading
- Yield
- Size NonLin
- Leverage
- Value
- Volatility
- EY
- Er Var
- Value
- Momentum
- Size
- Growth

*An improvement in explanatory power and a loss of simplicity*
Factor beta is being further refined into risk focused beta and return focused beta.
Research illustrates structural and behavioral drivers for risk premia.
A Multitude of Potential Factors

Source: ISI based on S&P 500 Unconstrained Index using ISI's quantitative research factor definitions to the group the underlying index constituents. As of December 31, 2014.
Smart Beta Challenges: Drawdowns

Rolling 1-year returns for momentum factor 1973-2013

- Returns can be volatile
- Underperformance can be prolonged
- Timing can make a big difference

Source: MSCI Barra US Equity Risk Model

The magnitude and timing of risk factor impact varies
Are you prepared to short or leverage?

Q1-Universe and Q1-Q5 compounded total return indices. Monthly rebalancing with monthly forward returns. Stock universe is MSCI World, data from 12/31/1997 through 12/31/2014. All factors ranked universe relative. Forward returns are capped at the stock level, +/- 75%/month. Quality = Last year Cash Flow from Operations minus Last Year's Net Income) / Average Assets.

"Implementation Shortfall"
Smart Beta ETFs & Past Performance

Smart-Beta ETFs¹
Correlation Between the Relative Return in Prior Quarter and Net New Money in the Subsequent One²
2007 Through Q1 2015

Source: Strategic Insight Simfund, Empirical Research Partners Analysis. ¹ Based on underlying securities held being U.S.-listed.² Relative return is equally-weighted return of all ETFs in each category less the S&P 500 return. Relative net new money flow is the net flow into all ETFs in each category as a percent of start-of-period assets less that for all ETFs.
Past & Future Performance

U.S. Equity and Alternatives ETFs¹
Correlation Between Relative Return in Prior Quarter and Relative Return in Subsequent Quarter²
2007 Through Q1 2015

Source: Strategic Insights, Empirical Research Partners Analysis. ¹ Based on underlying securities held being U.S.-listed.
² Relative return is equally-weighted return of all ETFs in each category less the S&P 500 return.

Beware of backward looking bias
Smart Beta ETFs Investment Horizon

U.S. Smart Beta ETFs
Average Monthly Turnover by Quarter¹
2007 Through Mid-Q2 2015

Source: Empirical Research Partners Analysis. ¹ Monthly turnover computed as dollar value traded during month divided by the market capitalization. Quarterly turnover is average of monthly turnover over the quarter.
The Power Of A Multi-Factor Model

Annualized Cumulative Returns (1997-2014)

Source: MSCI World Index from 12/31/1997 to 12/31/2014; Quality = Last year Cash Flow from Operations minus Last Year’s Net Income) / Average Assets; Momentum = 12M – 1M Momentum; Allocations to Factor Returns combines the return streams of the five factors in an asset allocation approach with monthly rebalancing (12m minus 1m Momentum; Trailing Earning/Price; Book/Price; Return on Equity; Quality). Multi-Factor Model is a composite of all of the factor returns; the mean monthly return is compounded to an annual return.
The Benefit Of Combining Factor Based Approach With Fundamental Research

Hypothetical annualized stock returns by MFS ratings – Feb 1995 – June 2015 (in USD). Past performance is no guarantee of future results. All annualized returns of MFS 1,2 and 3 rated stocks: 10.2%

Period represents entire data set for stored MFS stock level ratings. Analysis assumes buy and hold with a monthly rebalance. Each month MFS calculates the equal weighted average of the monthly returns of all stocks rated 1,2 or 3 at the prior month end. The monthly returns are then linked and annualized. No transaction costs are assumed in this analysis.

Percent (%)

<table>
<thead>
<tr>
<th>Buy rated stocks</th>
<th>Sell rated stocks</th>
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<tr>
<td><strong>Buy</strong></td>
<td><strong>Sell</strong></td>
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<tr>
<td>Buy rated stocks</td>
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<td>-1.4</td>
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<td>-5.9</td>
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<td>11.6</td>
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Clear alpha benefit from combining fundamental and quantitative research
Different Approaches Benefit From Different Environments

Fundamental median manager return (%) minus quantitative median manager return (%)

Relative Return %

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<tr>
<td>Result</td>
<td>-0.8</td>
<td>-2.9</td>
<td>-4.8</td>
<td>-4.8</td>
<td>1.5</td>
<td>5.8</td>
<td>4.3</td>
<td>4.3</td>
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<td>-0.8</td>
<td>2.0</td>
<td>2.0</td>
<td>4.8</td>
<td>4.8</td>
<td>-0.7</td>
<td>-0.5</td>
<td>-1.6</td>
</tr>
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</table>

Past performance is no guarantee of future results.

Source: eVestment. Based on monthly returns. Products in large-cap U.S. core equity universe. Products are then split into those that identified themselves as having a "fundamental" approach or a "quantitative" approach.
Time Arbitrage Opportunity

MSCI World total returns dispersion around the mean return (2010-2015)

Lengthening time horizon creates greater alpha opportunities

Sources: FactSet and MFS research. MSCI World holdings as of 31 March 2010. Forward total cumulative returns around the mean in USD from 31 March 2010 to 31 March 2015; 10th to 90th percentile range.
Considerations For Investors

• Factor investing involves active decisions

• Move from theory to implementation is complex and behavioural biases can be challenging

• Combining multiple factors with traditional fundamental analysis can create a more robust alpha stream while reducing risk overall

• Factor framework can also assist in better understanding your existing managers' exposures and where alpha is coming from
Thank You!

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