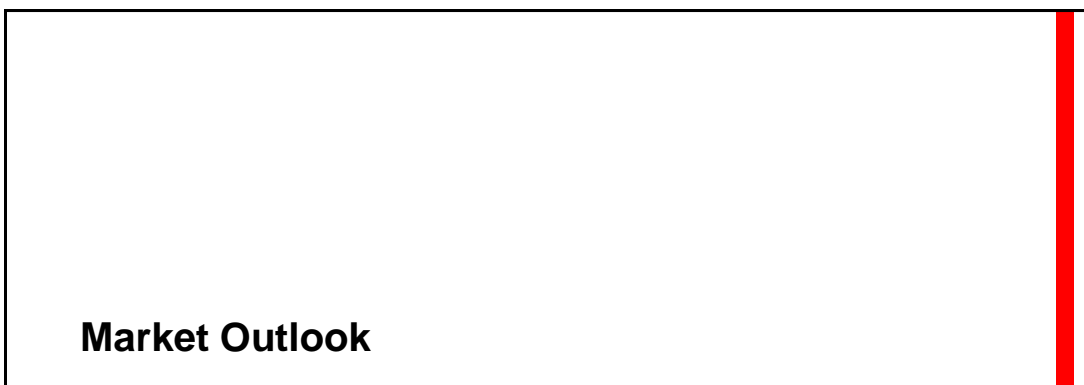




# Beyond Smart Beta Applying Purity to ESG

January 2017

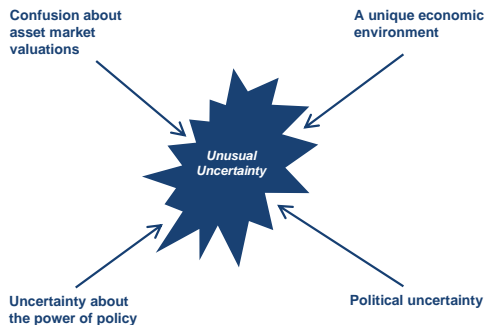
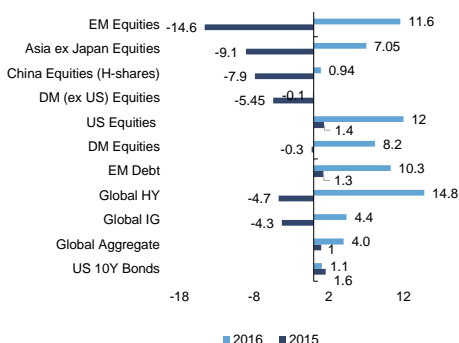
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# Market Outlook



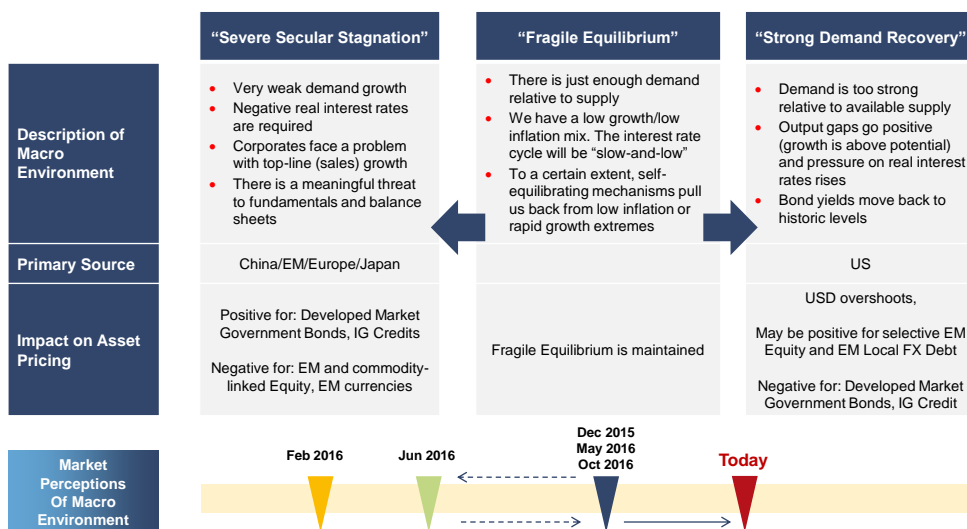
## What has happened last year and what comes next? As always, what you buy and when matters



- 2015 was a tough year for asset allocators. But 2016 was been much better, with occasional episodic volatility (China worries, global growth concerns, Brexit, US presidential elections)
- Variability in asset performance reminds us that "what" we buy and "when" we buy it is the key investment decision

- Today's environment is characterised by "unusual uncertainties"
- This creates a risk of high, episodic volatility in financial markets
- The good news is that this can create an opportunity for investors who have conviction and are willing to be contrarian and active
- We believe that exploiting tactical opportunities is key to success in the low return world

## The Fragile Equilibrium How does the market perceive risk today?



Source: HSBC Global Asset Management, Global Investment Strategy

## Equity Capability



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### Capturing Equity Beta

Capabilities: Key strategy building blocks

Traditional Beta (Passive)	Smart Beta/Alternative Weighting Schemes			Traditional Alpha (Active)
Cap-Weighted Beta	Multi-Factor	Fundamental	Lower Volatility	Active Fundamental Stock Selection
	Multi-Factor Funds	Economic Scale Indexation (ESI)	Volatility Focus Funds	
<ul style="list-style-type: none"> <li>• Worldwide</li> <li>• World</li> <li>• Europe</li> <li>• Europe ex UK</li> <li>• UK</li> <li>• US</li> <li>• Canada</li> <li>• Japan</li> <li>• Emerging Markets               <ul style="list-style-type: none"> <li>– BRIC</li> </ul> </li> <li>• Asia Pacific ex Japan               <ul style="list-style-type: none"> <li>– China</li> <li>– Korea</li> <li>– Taiwan</li> <li>– Malaysia</li> <li>– Indonesia</li> </ul> </li> <li>• Russia</li> <li>• Turkey</li> <li>• South Africa</li> <li>• Latin America</li> <li>• Brazil</li> <li>• Mexico</li> <li>• Real Estate</li> </ul>	<ul style="list-style-type: none"> <li>• Full suite of geographic constructs               <ul style="list-style-type: none"> <li>• Global</li> <li>• Regional</li> <li>• Country</li> </ul> </li> <li>• Customisable to client investment universe constraints and risk requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Full suite of geographic constructs               <ul style="list-style-type: none"> <li>• Global</li> <li>• Regional</li> <li>• Country</li> </ul> </li> <li>• Index structure</li> </ul>	<ul style="list-style-type: none"> <li>• Full suite of geographic constructs               <ul style="list-style-type: none"> <li>• Global</li> <li>• Regional</li> <li>• Country</li> </ul> </li> <li>• Customisable to client investment universe constraints and risk requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Full suite of geographic constructs               <ul style="list-style-type: none"> <li>• Global</li> <li>• Regional</li> <li>• Country</li> </ul> </li> <li>• Portfolio construction strategies               <ul style="list-style-type: none"> <li>• Core</li> <li>• Income</li> <li>• Small cap</li> <li>• Real estate</li> <li>• Thematic</li> </ul> </li> </ul>

Note:

1. Proposed launch of strategies (Pure factors). Please note that the products implementing the strategies described above may not be authorised/registered for sale in your country.  
Source: GSBC Global Asset Management data as at 31 March 2016. \* Includes HSBC ESI Worldwide ETF

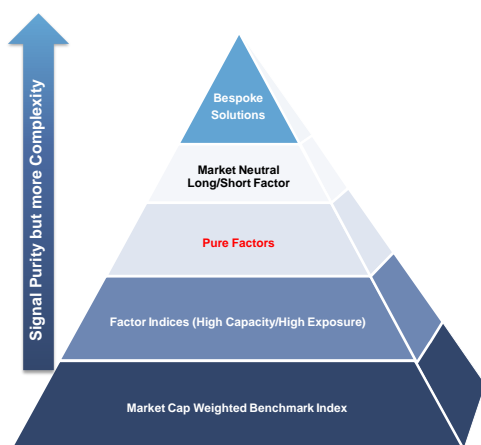
# Factor Investing Purity is a virtue...



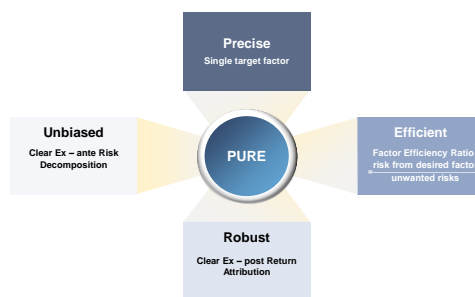
## Building Factor Exposures

Creating an exposure which represents a “pure” exposure

### Factor Indices ‘Pyramid’



### Pure Factor Targeting



### Our Objective

A factor approach which offers a client insights about the impact of different constraint settings and therefore offers something valuable - a set of levers which can be finely tuned to tailor the factor solution

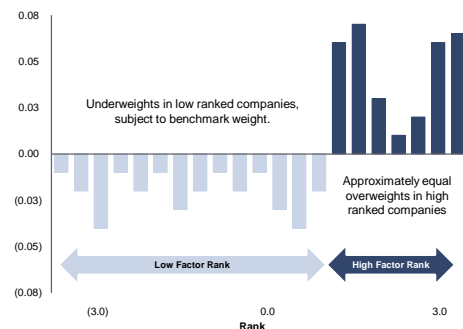
Source: HSBC Global Asset Management. For illustrative purposes only.

The objective is indicative only and is not guaranteed in any way. HSBC Global Asset Management accepts no liability for any failure to meet these targets.

## Multi-Factor Equity Strategy

### Pure factor portfolio construction

#### Active Weight (%)



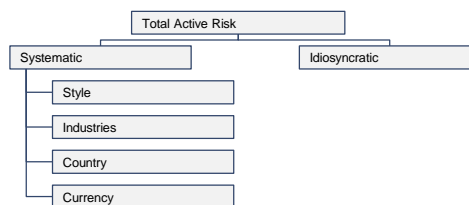
#### Simple linear optimisation process

- A covariance matrix is not required, the aim is to maximise exposure to a select factor and minimise incidental factors
- Results of optimisation are transparent
- Each trade produced by the optimiser is to maximise exposure subject to a set of constraints

Source: HSBC Global Asset Management.

Simulated data is shown for illustrative purposes only, and should not be relied on as indication for future returns. Simulations are based on Back Testing assuming that the optimisation models and rules in place today are applied to historical data. As with any mathematical model that calculates results from inputs, results may vary significantly according to the values inputted. Prospective investors should understand the assumptions and evaluate whether they are appropriate for their purposes. Some relevant events or conditions may not have been considered in the assumptions. Actual events or conditions may differ materially from assumptions.

#### Total Return Decomposition



#### Process

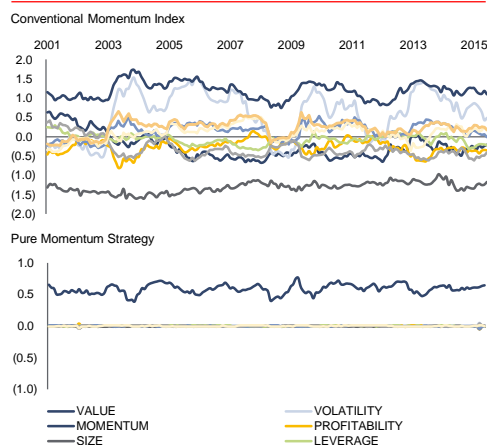
This involves two steps :

- Identify factors with a risk premium
  - Maximise the exposure to the relevant factor, capturing as much of the intended risk premium as possible
- Focus on portfolio construction
  - Try to neutralise unintended factor exposures to minimise other sources of risk

## Multi-Factor Equity Strategy

### Factor efficiency – avoiding unintended risk

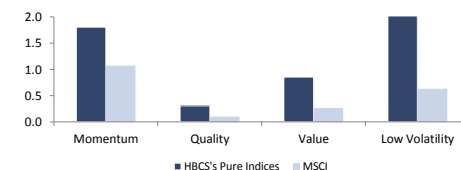
#### Active Factor exposures



#### Example of pure momentum

- Raw momentum exhibits significant bias to small caps and high volatility stocks. This unintended exposure could prove problematic for performance and risk.
- Our efficient momentum strategy is by construction immunised from such exposure
- 'Pure' momentum eliminated most of unintended exposures to other sources of risk at the cost of having less exposure to the raw momentum factor
- It is possible that the 'pure' momentum index could be generating less returns. However it is much less subject to unexpected shocks from unknown sources

#### Factors efficiency ratios

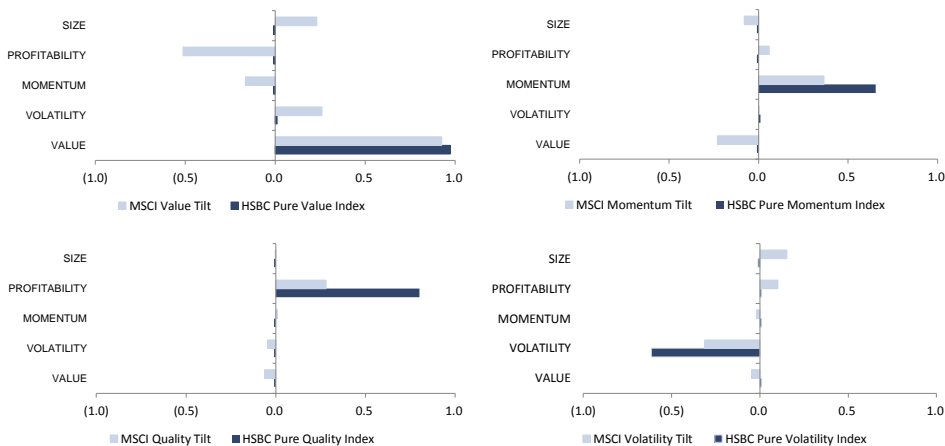


Source: HSBC Global Asset Management FactSet, Worldscope, IBES, Bloomberg. Data period LHS graphs 31/07/2001- 31/12/2015, RHS graph as of 31/12/2015. Simulated data is shown for illustrative purposes only, and should not be relied on as indication for future returns. Simulations are based on Back Testing assuming that the optimisation models and rules in place today are applied to historical data. As with any mathematical model that calculates results from inputs, results may vary significantly according to the values inputted. Prospective investors should understand the assumptions and evaluate whether they are appropriate for their purposes. Some relevant events or conditions may not have been considered in the assumptions. Actual events or conditions may differ materially from assumptions.

## Pure Factor Indices: Clarity of Ex Ante Risks

### Potential to eliminate unintended exposures

- Exposure comparison against MSCI Enhanced/Factor Tilt Indices shows that HSBC Pure Factor Strategies have higher exposures to the target factor premiums for all four factor strategies (as of December 2015)



Source: HSBC Global Asset Management, FactSet, Worldscope, IBES, Bloomberg. Data as of December 2015. Simulated data is shown for illustrative purposes only, and should not be relied on as an indication for future returns. Simulations are based on Back Testing assuming that the optimisation models and rules in place today are applied to historical data. As with any mathematical model that calculates results from inputs, results may vary significantly according to the values inputted. Prospective investors should understand the assumptions and evaluate whether they are appropriate for their purposes. Some relevant events or conditions may not have been considered in the assumptions. Actual events or conditions may differ materially from assumptions.

## Applying Purity to ESG

### Case Study 1: European Client Solution

### Case Study 2: Customised Outcome



## Case Study 1: European Client Solution



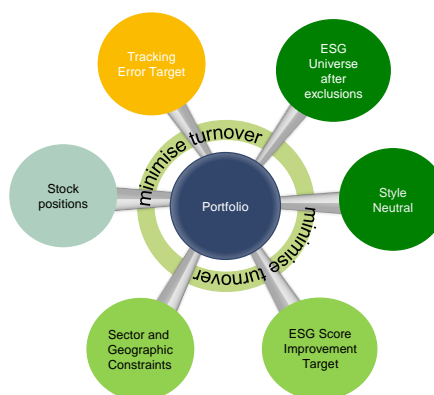
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### Customised ESG solution Investment process

#### Process Overview

- Using HSBC ESG Scores we want to illustrate our capability for delivering customised ESG solutions
- Portfolio management involves ongoing monitoring of constraints :
  - Ex-ante tracking error < 1%
  - ESG Universe
  - ESG Profile Improvement – target ESG outperformance (Score)

#### Constraints



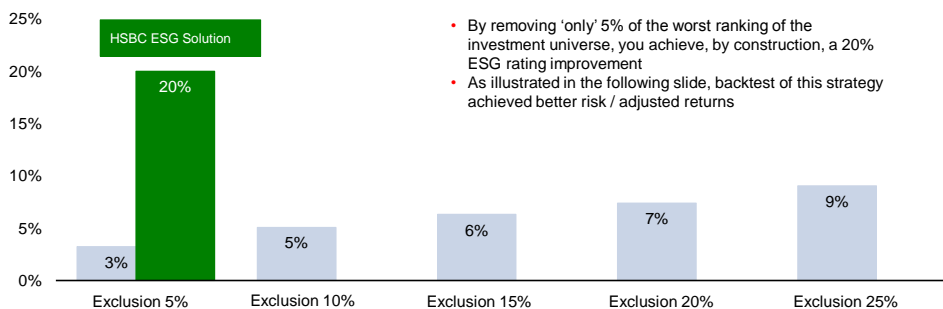
- The portfolio construction aims to satisfy all constraints with the lowest possible turnover

Source: HSBC Global Asset Management, December 2016. For illustrative purposes only. Representative overview of the investment process, which may differ by product, client mandate or market conditions. Any targets are indicative only and are not guaranteed in any way. HSBC Global Asset Management accepts no liability for any failure to meet these targets.

## HSBC ESG customised solution Integrated ESG Target

- Exclusion is a blunt way to improve ESG characteristics – as demonstrated by blue bars below
- We can achieve significant ESG improvement by implementing the ESG exposure improvement target within the portfolio construction optimisation – green bar below

### Average ESG Improvement



- By removing 'only' 5% of the worst ranking of the investment universe, you achieve, by construction, a 20% ESG rating improvement
- As illustrated in the following slide, backtest of this strategy achieved better risk / adjusted returns

Source: HSBC Global Asset Management, December 2016. Simulated data is shown for illustrative purposes only, and should not be relied on as indication for future returns. Simulations are based on Back Testing assuming that the optimisation models and rules in place today are applied to historical data. As with any mathematical model that calculates results from inputs, results may vary significantly according to the values inputted. Prospective investors should understand the assumptions and evaluate whether they are appropriate for their purposes. Some relevant events or conditions may not have been considered in the assumptions. Actual events or conditions may differ materially from assumptions. Past performance is not a reliable indication of future returns.

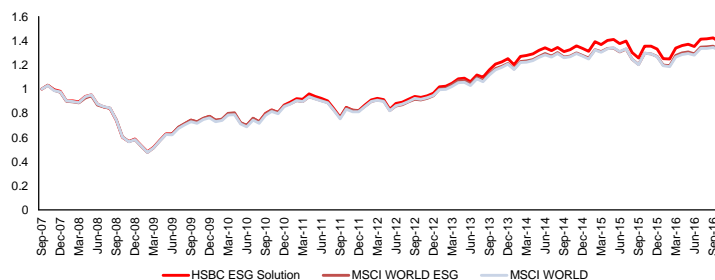
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## HSBC ESG customised solution Backtest result

The proprietary solution outperformed its market cap benchmark and the off the shelf index solution without breaching tracking error budget

It achieved market beta of 1 with higher risk-adjusted return and lower drawdown

	HSBC ESG Solution	MSCI World ESG	MSCI World
<b>Annualized Return</b>	3.90%	3.30%	3.30%
<b>Annualized Vol</b>	17.40%	17.10%	17.10%
<b>Sharpe Ratio</b>	0.18	0.15	0.15
<b>TE</b>	1.00%	1.07%	
<b>Beta</b>	1	1	
<b>Maximum Drawdown</b>	-53.39%	-53.89%	-53.65%



Source: HSBC Global Asset Management, December 2016. For illustrative purposes only. Representative overview of the investment process, which may differ by product, client mandate or market conditions. Any targets are indicative only and are not guaranteed in any way. HSBC Global Asset Management accepts no liability for any failure to meet these targets.

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## Case Study 2: Customised Outcome



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### Sustainable enhanced value equity

#### Focus on constraints

HSBC/ETIS

**Objective: Minimise turnover whilst satisfying all the below constraints**

#### Styles exposure

1. Value (Historic value, Current value, Risk-adjusted value and Forward value)
2. Other factor biases: Quality, Momentum and Size

#### Carbon objective (Trucost data)

1. Coal reserves exposure < 50% of MSCI World
2. Oil/Gas reserves exposure < 100% MSCI World
3. Total emissions exposure < 100% MSCI World

#### Governance Criteria and exclusions

1. Use of proprietary ESG ranking system (Visualizer)
2. Exclusion of Cluster Munitions and Anti-Personal Landmines stocks

#### Geographic

Developed World exposure with constraints on regions (+/-10% MSCI World) and countries (+/-5% MSCI World Index)

#### Sector

No extreme deviation against MSCI World, however higher deviation accepted for Energy and Materials

#### Single stock and minimum holding

1. Minimum holdings weight ca. 0.1% - 0.15%
2. Single stocks constraints +/- 0.2% of MSCI World Index

Source: HSBC Global Asset Management as at 19 February 2016. For illustrative purposes only. Any targets are indicative only and are not guaranteed in any way. HSBC Global Asset Management accepts no liability for any failure to meet these targets.

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