

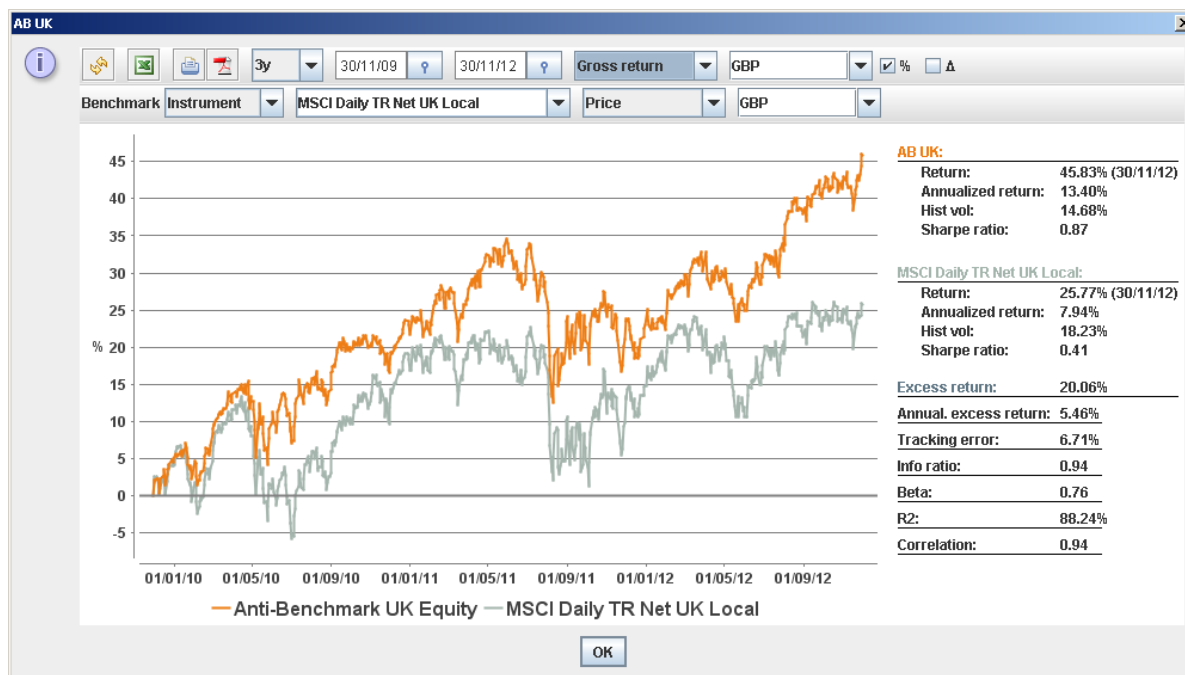
## Diversification Update at 30/11/2012

TOBAM's Diversification Ratio (DR) <sup>1</sup> measures to what extent a portfolio is diversified. The DR <sup>2</sup> (square of the diversification ratio) measures the number of effective degrees of freedom to which a portfolio is exposed. As the table shows, the "broad market" indices leave diversification on the table. In addition to a snapshot of each market's DR <sup>2</sup> , the table shows the DR <sup>2</sup> of a well-diversified portfolio, and the fraction of available diversification used by the index.		DR <sup>2</sup> - Index diversification	DR <sup>2</sup> - Maximum diversification	% diversification used by index
	MSCI EMU	2.04	5.94	34%
	MSCI US	2.78	7.96	35%
	MSCI UK	2.37	3.95	60%
	MSCI Japan	2.64	8.84	30%
	MSCI World	3.20	10.05	32%
	MSCI Australia	2.34	5.06	46%
	MSCI Canada	3.42	7.56	45%
	MSCI Emerging	4.03	8.16	49%

## UK Equities: how diversification can add value in a bull market

Though the UK equity market (the MSCI UK) has proved resilient year to date, returning 9.50% through November 30, the Most Diversified Portfolio for UK Equities, the Anti-Benchmark UK portfolio, has significantly outperformed the MSCI UK market cap-weighted index by maximizing diversification, returning 18.52% while reducing volatility by 20%.

Moreover, this trend has proven consistent over the past three years: even with a Beta of 0.76 over the period, the Most Diversified Portfolio outperformed the cap-weighted index by over 2000 bps (+5.46% annualized) while reducing volatility by 20%:

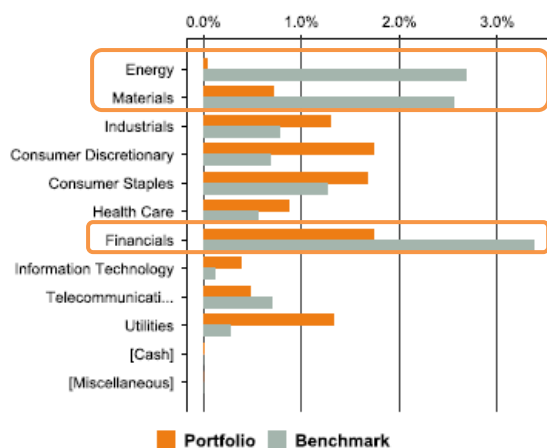


<sup>1</sup>TOBAM's Diversification Ratio measures a portfolio's or index's diversification. It is supported by original research and is based on a mathematical definition of diversification. TOBAM's "Anti-Benchmark" Most Diversified Portfolio<sup>®</sup> maximizes this Diversification Ratio. Maximizing diversification within a universe of securities provides a result closer to the true market risk premium from that universe. "Maximum Diversification<sup>®</sup>" and "MaxDiv<sup>®</sup>" are registered trademarks of TOBAM.

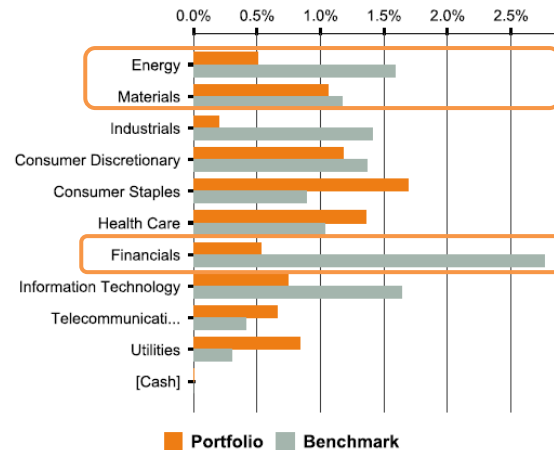
## The MSCI UK equity index: a concentrated market in terms of risk drivers...

The following graph breaks down the risk contributors for the MSCI UK index and for the corresponding Most Diversified Portfolio, the Anti-Benchmark UK portfolio (AB UK). The MSCI UK benchmark is dominated by a handful of large multinational players in the Energy & Materials and the Financials sector, an exposure that translates to significant risk concentration in these sectors. This characteristic is also apparent across global equity and emerging equity markets:

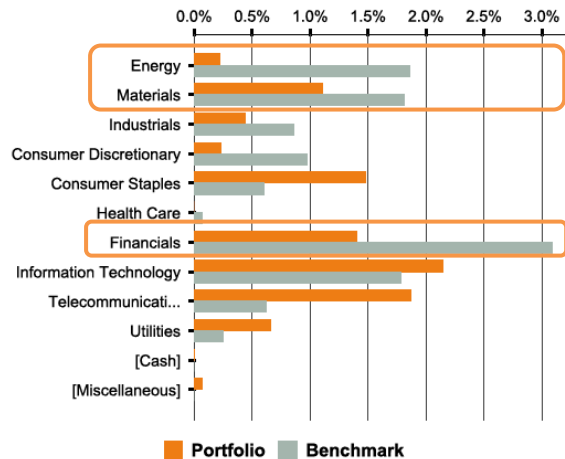
### UK Equities (AB UK & MSCI UK) Sources of volatility – 30.11.2012



### Global Equities (AB World & MSCI World) Sources of volatility – 30.11.2012



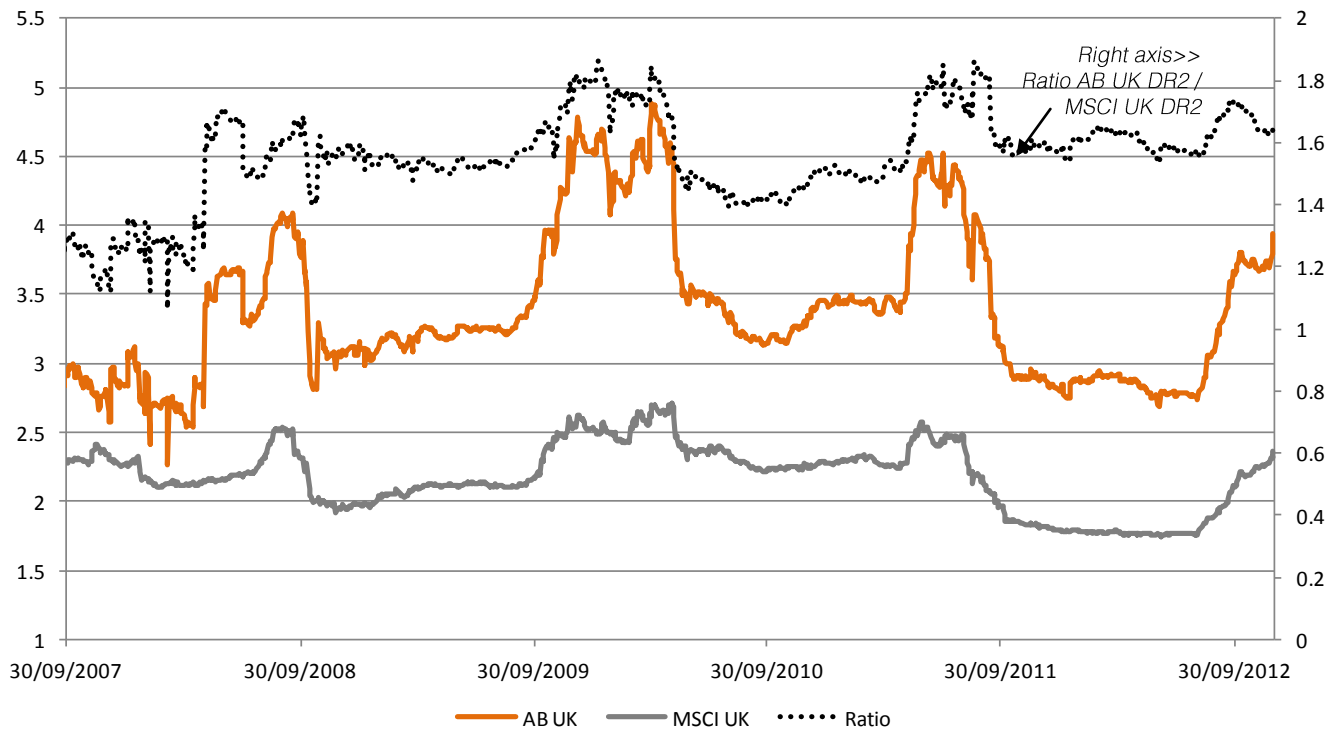
### Emerging Markets Equities (AB EM & MSCI EM) Sources of volatility – 30.11.2012



## ...and a long-term diversification advantage...

These disparate risk exposures translate into a diversification advantage for the Most Diversified UK portfolio. Over time, the DR<sup>2</sup>s for the cap-weighted index and the AB UK portfolio (which correspond to the number of independent degrees of freedom in the portfolio), indicate that the “broad market” index leaves diversification on the table. Regardless of whether the market is characterized by rising or falling correlations, the AB UK portfolio remains twice as diversified as the cap-weighted index:

### Diversification Ratios Squared\* – AB UK vs. MSCI UK

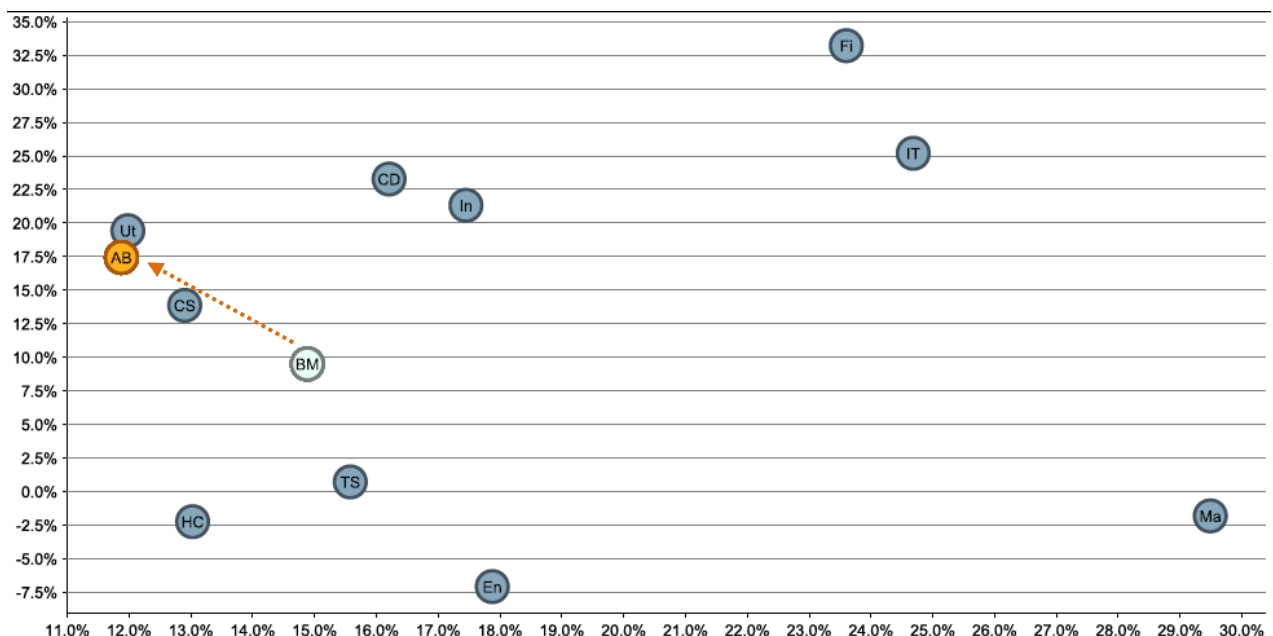


\*The DR<sup>2</sup> (square of the diversification ratio) measures the number of effective degrees of freedom to which a portfolio is exposed.

## ... to add value while reducing volatility

By allocating across the sectors that are the most diversifying, the AB UK portfolio has enhanced performance while maintaining a lower overall volatility than any of the individual sectors in the benchmark. Moreover, the AB portfolio avoids the benchmark's bets, which allows it to outperform even when certain benchmark bets are rewarded. As a case in point, even though the AB has held a significant underweight in the Financials sector, which outperformed all other sectors year to date, the portfolio still managed to outperform the index by a large margin, tapping into diversification from other sources across the UK economy:

### Risk/Return Sectors year to date as of 30.11.2012 MSCI UK index (BM) and AB UK strategy



*Sector Risk & Return: The Ex-post percentage Returns and Annualized Volatilities YTD as of 30/11/2012. The Anti-Benchmark UK strategy (AB) and MSCI UK Index (BM) are represented, along with the following GICS MSCI Sectors: Consumer Discretionary (CD), Consumer Staples (CS), Energy (EN), Financials (FN), Health Care (HC), Industrials (IN), Information Technology (IT), Materials (MT), Telecom Services (TS) and Utilities (UT). The Volatilities are estimated using daily data over the full year. Returns are in GBP.*

## For more information

TOBAM is an asset management company offering innovative investment capabilities whose aim is to maximize diversification. TOBAM's flagship Anti-Benchmark® strategies, supported by original research and a mathematical definition of diversification, provide clients with diversified core equity exposure, both globally and in domestic markets. FTSE also publishes the FTSE TOBAM Maximum Diversification Index Series based on the Anti-Benchmark equity portfolio construction methodology. The company manages over \$2.7 billion via its Anti-Benchmark strategies for institutional clients worldwide. Its team includes seventeen financial professionals.

## Contacts:

### Head of Business Development

Christophe Roehri  
+33 1 53 23 41 60  
[Christophe.Roehri@tobam.fr](mailto:Christophe.Roehri@tobam.fr)

### Business Development

Laura Vu Thien  
+33 1 53 23 41 65  
[Laura.VuThien@tobam.fr](mailto:Laura.VuThien@tobam.fr)

### Client Service

Elizabeth Breden  
+33 1 53 23 41 56  
[ClientService@tobam.fr](mailto:ClientService@tobam.fr)

### TOBAM Marketing Partners

#### Global Distribution - Amundi

Astrid Gambihler  
+33 1 76 37 85 35  
[astrid.gambihler@amundi.com](mailto:astrid.gambihler@amundi.com)

#### Nordics - Paxstone Capital LLP

Kasper Kemp Hansen  
+45 36 95 97 00  
[kasper.hansen@paxstone.com](mailto:kasper.hansen@paxstone.com)

#### Canada - Investeam

Nancy Nightingale  
+1 416 860 9490  
[nancy.nightingale@investeam.ca](mailto:nancy.nightingale@investeam.ca)

#### Australia & NZ - Phoenix Capital Advisory Ltd.

Mark Jackson [mark.jackson@phoenixcap.com.au](mailto:mark.jackson@phoenixcap.com.au)  
Matthew Wormald [matt.wormald@phoenixcap.com.au](mailto:matt.wormald@phoenixcap.com.au)  
+612 8705 5473

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