



MPI Quantitative Analysis

Mario H. Aguilar
Director, Client Services, EMEA
February 2011
Markov Processes International
Tel +1 908 608 1558
www.markovprocesses.com

ASSET CLASS ANALYSIS

NORTH AMERICA EQUITY– EUR DENOMINATED FUNDS

Given the large number of North American Equity funds registered for sale in Europe, the analysis is divided into USD and EUR denominated funds. In December, we examined USD denominated funds and found that the best performing 5% of funds had overweight exposures to MSCI EAFE, IT, industrials and materials; while the worst performing 5% had overweight exposures to Cash and MSCI EAFE. This month, the performance of EUR denominated funds is examined and ranked by total performance in an effort to identify the different exposures of the top 5% and bottom 5% funds.

North America Equity EUR denominated funds' performance range from -2.13% to 31.28% over the last 52 weeks (ending January 28, 2010), in EUR terms. The best 5% of the funds outperform the market (pegged to the S&P 500 Index) by approximately 6.4% and the worst 5% underperform by approximately 10.3%. What role do favourable style allocations play? We examine common factors describing the best and worst funds on an aggregate basis. When funds are aggregated in a group, their common factors crystallize and specific bets are diversified away, which provides the basis for such an analysis. Our analysis suggests that not only did the top- and bottom-performing funds, on average, invest in different sectors, but that the bottom performing funds hedged a greater proportion of their exposure to USD (close to 55%) versus 8% for the top funds. The performance of the top 5% was mostly a reflection of timing bets, having overweight exposures to Energy, IT and Consumer Discretionary. The worst performers were hurt by underweight exposure to IT, overexposure to Health Care and the decision to hedge against USD/EUR currency movements. Below we demonstrate that these decisions resulted in negative timing effect on the fund's performance. Using an attribution framework, the impact of each bet on the overall performance is quantified. Please note that our conclusions may change if a different timeframe is used to select the best/worst funds.

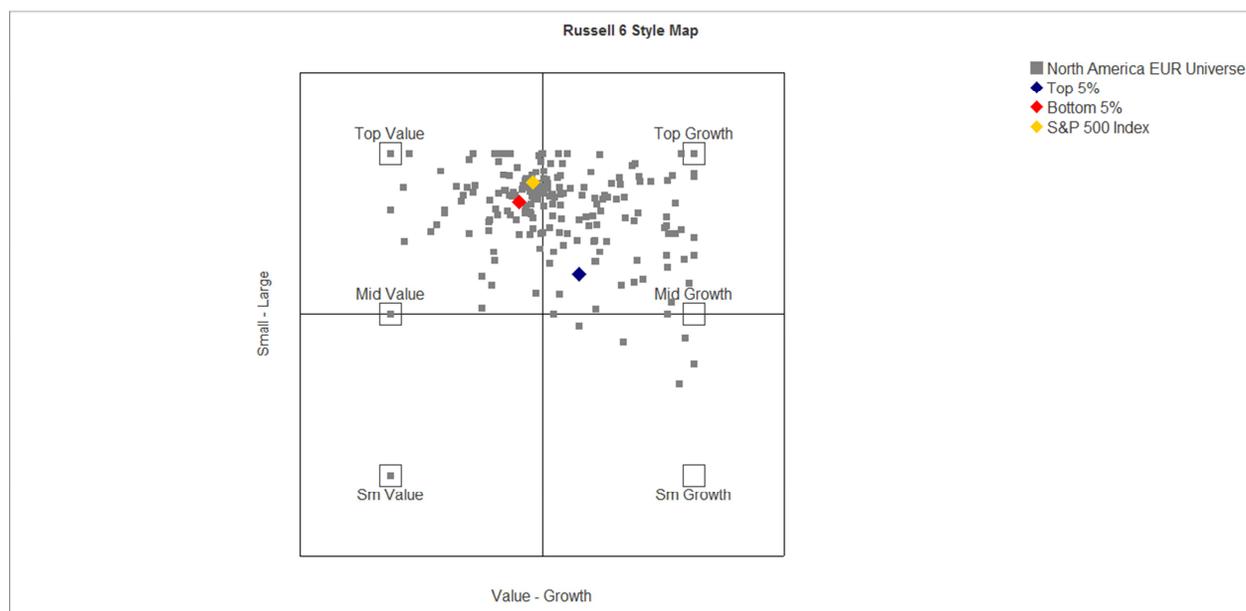
Universe Overview – RBSA Analysis

- The universe is comprised of 159 funds that are classified under Lipper Global: Equity North America, with AUM of at least EUR 10 million and denominated in EUR. Our analysis takes into account the performance of the Primary Share Class, as defined in Lipper Hindsight.
- RBSA analysis of the universe implies that, on average, the funds hedged part of their exposure to the USD. This observation was confirmed by reviewing the strategy, fund description and prospectuses provided by some of the funds in the sample. Given that during

the analysis period the USD appreciated versus the EUR¹, the funds who hedged their exposure were hindered.

- Over the past 52 weeks, RBSA average exposures to different style/capitalization factors showed that the majority of funds in the universe are mostly tilted toward a blend of Large Caps. The bottom performing funds fall very close to the rest of their peers in terms of exposures, while the top funds favor mid cap stocks with a heavier tilt to growth.

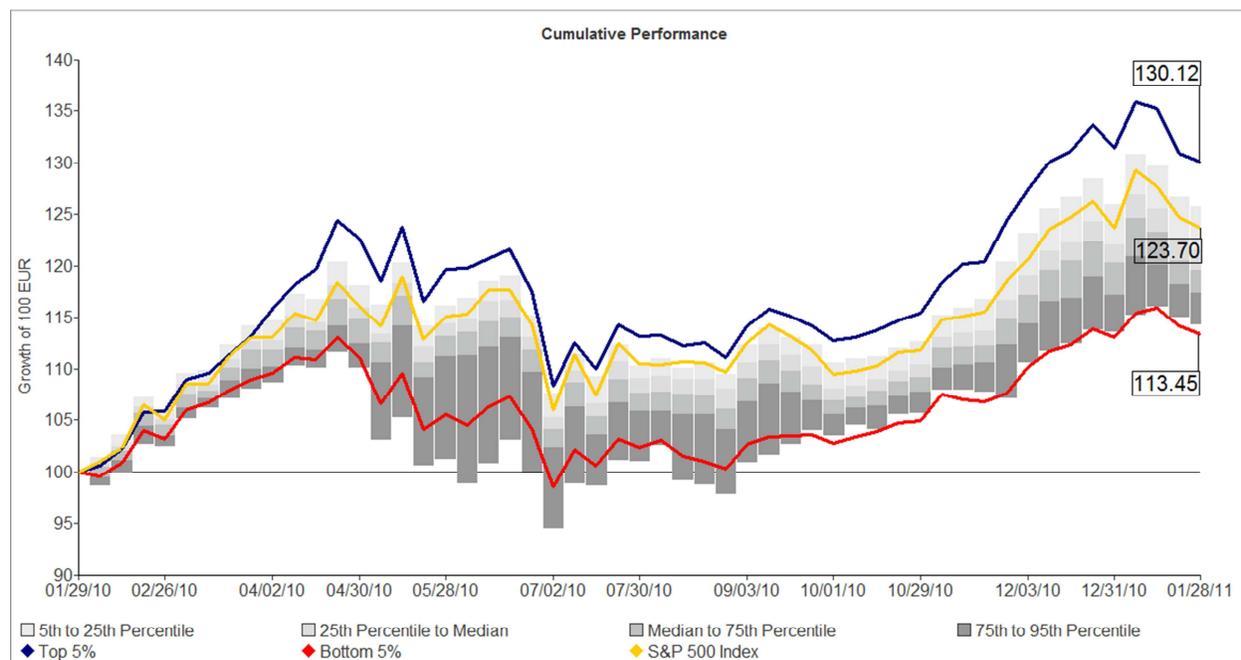
Chart 1: Style-Capitalization Map



Selection of Top/Bottom Fund Groups

- Based on the universe of 159 funds, the total annualized performance is calculated during the last 52 weeks to rank the funds. Using the top 5% (8 funds) and bottom 5% (10 funds) equally weighted, daily rebalanced portfolios are created to try to identify why, on average, one group performed better in terms of style exposures.
- As shown below, not surprisingly, the top 5% of funds outperform its peers, benchmark and bottom 5%. Over the analysis period, the top 5% group returns approximately 6.4% above the S&P 500 Index while the bottom 5% group returns 10.2% below the index.

¹ According to rates provided by Oanda.com: If an investor converted EUR 100 on Feb. 1, 2010 to USD, kept the equivalent USD in Cash until Jan. 28, 2011, when they were converted back to EUR, they would have obtained EUR 101.15 in exchange. This simple strategy would've provided a 1.15% return, assuming no transaction costs.

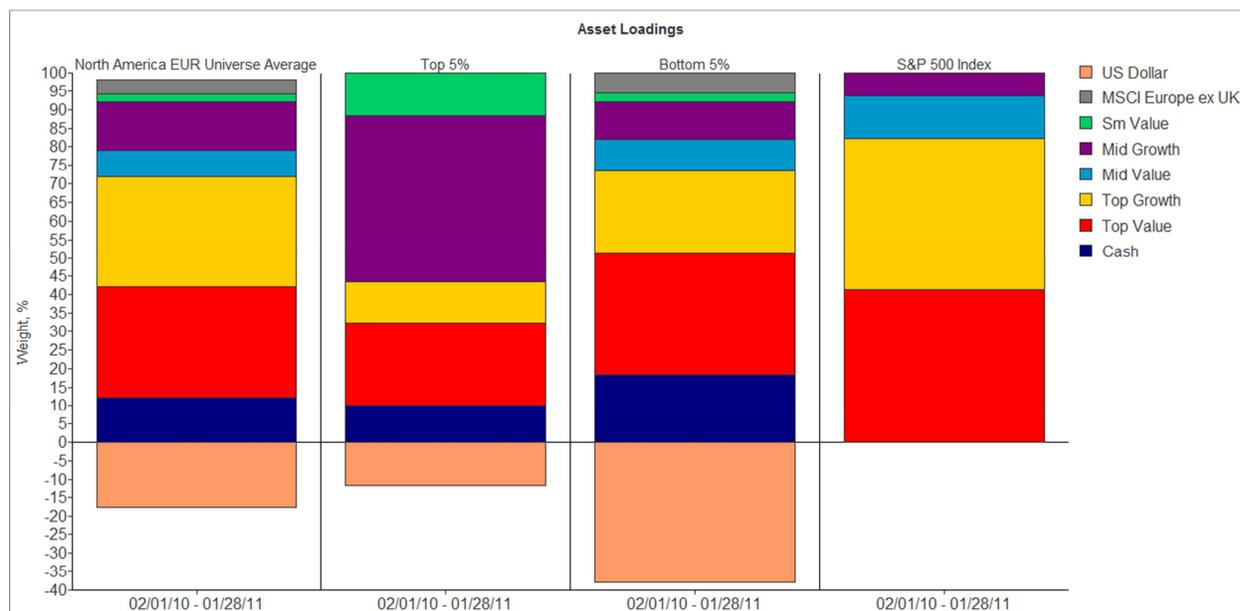
Chart 2: Cumulative Performance Chart

Created with mpil Style

Returns-Based Style Analysis Highlights

- Using Style Capitalization factors, the first RBSA analysis demonstrates that the top 5% have significant style exposure to Mid Growth and Small Value, when compared to the benchmark. The top funds display a hedging exposure to USD that is close to 12%. This is smaller than that of their overall peer group (18%) and bottom managers (38%). Exposure to the majority of USD/EUR movements allowed the top funds to benefit from favourable movements over the past 52 weeks, although the appreciation of the USD is foregone for about a tenth of their portfolio.
- The bottom funds' decision to hedge a higher portion of their exposure to USD was damaging in two ways: 1. by decreasing their performance due to the cost of their hedging positions and 2. By not taking full advantage of the appreciation of the USD versus the Euro. Large Cash exposure also caused the funds to underperform the benchmark, especially since all indices generated positive returns during the past 52 weeks, performance that was not fully captured by the funds.
- The bottom funds in the universe display exposure to European equities (proxied by the MSCI Europe ex UK Index). A brief overview of their strategies, descriptions and prospectuses show that some of the funds allow for small portions of their holdings to be outside of North America, mainly Europe.

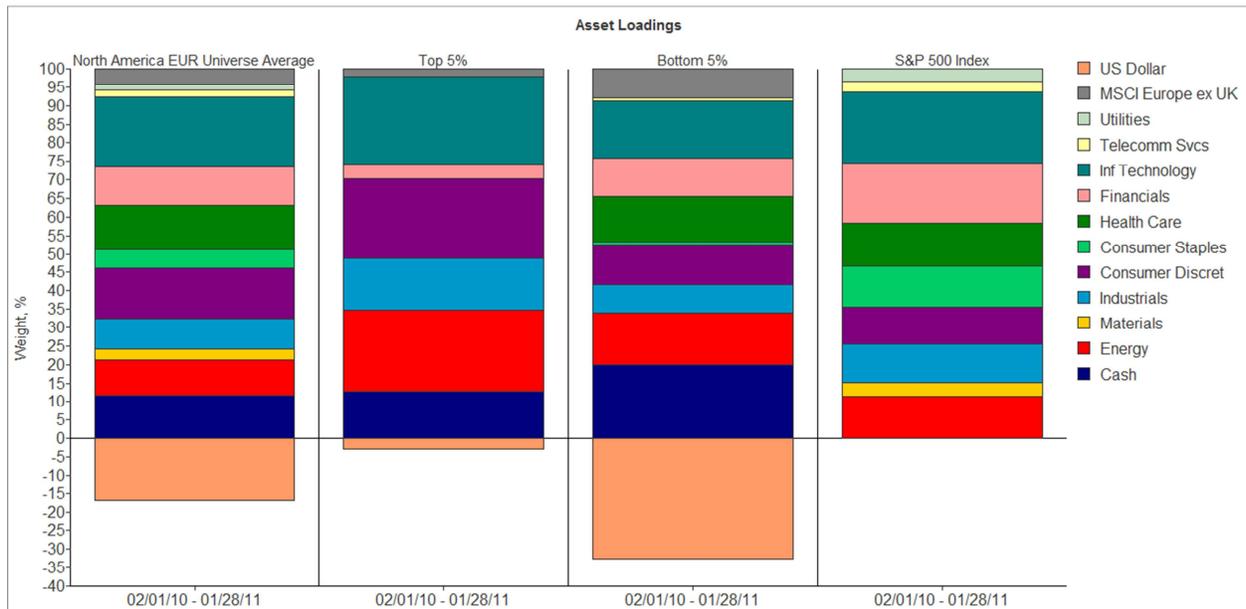
Chart 3: Asset Loadings – Style/Capitalization factors



Created with mpil 20/10

- The second analysis, focused on Industry Sectors, confirms the style/capitalization study's findings as both groups hedge their currency exposures, with the bottom 5% hedging close to 33% of their exposure. The analysis also shows that the top funds are minimally exposed (3%) to European equity. The difference in the exposures to MSCI Europe ex UK for both analyses should be taken with a grain of salt. Both groups invest part of their portfolio in Europe which is confirmed by reviewing the holdings-based country breakdown provided in their factsheets. Due to the nature of the RBSA model itself, the results imply that an exposure exists but cannot give an exact value of this exposure.
- The top 5% have overweight exposure to IT, Consumer Discretionary, Industrials and Energy and underweight exposure to Consumer Staples and Health Care. These decisions, in conjunction, provide positive timing and selection returns.
- On the other hand, the bottom 5% underweight exposures to IT, Financials and Industrials, coupled with overexposure to Cash and reliance on USD hedging reduced their performance and contributed to their negative returns in excess of the benchmark.

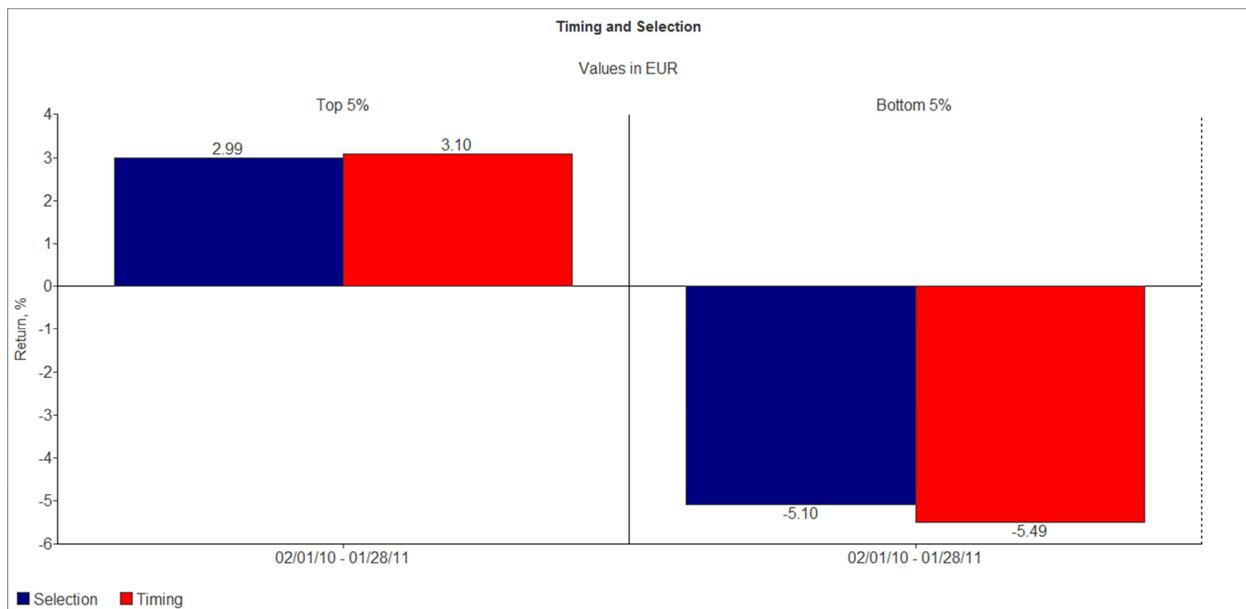
Chart 4: Asset Loadings – Industry Sectors



Created with vpi SpA

- As a group, the top 5% display strong selection and timing returns, whereas the bottom 5% show the opposite. Selection and timing returns represent components of excess benchmark performance.

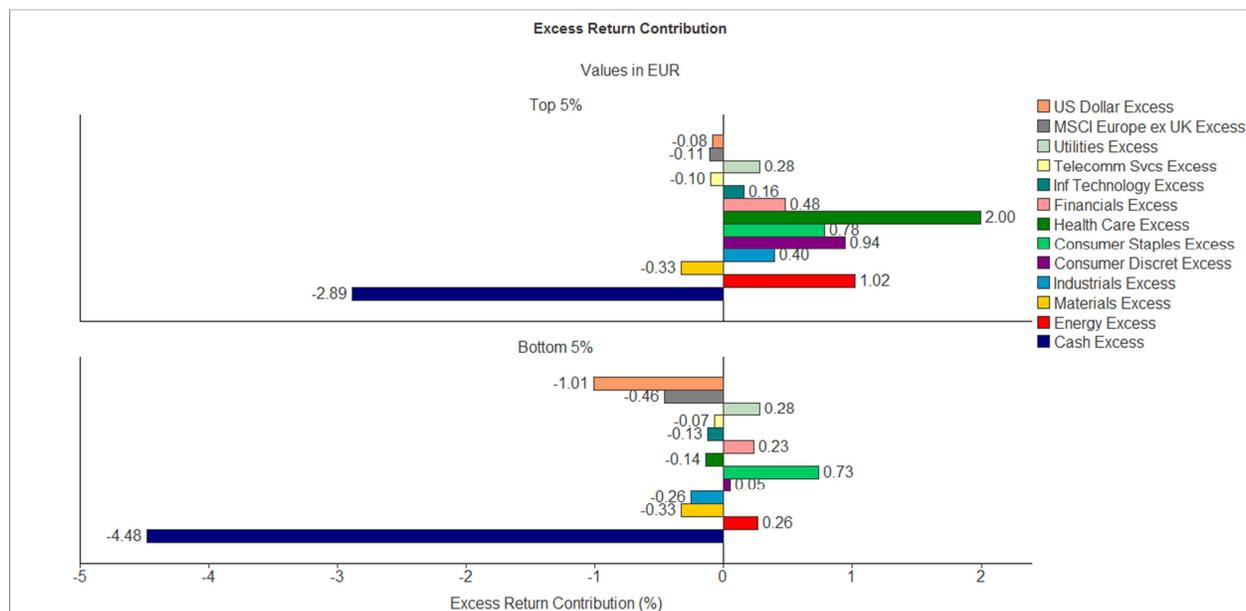
Chart 5: Timing and Selection Returns



Created with vpi SpA

- Attribution analysis can clarify if decisions to over- and under-weight different styles (versus the benchmark) aid or hinder the funds. For the top 5%, the exposure to Cash and European equity, underweight exposure to Telecom, Materials, and hedging position to the dollar subtracted from their performance (versus the benchmark). The decisions to over- or underweight the rest of the sectors is beneficial. The best bet appears to have been a decision to steer clear from Health Care.
- The bottom 5% were clearly hurt by over-reliance on hedging and a large cash position. However, their decisions with regards to Utilities, Financials, Consumer Staples and Energy aided the funds.

Chart 6: Excess Return Contribution



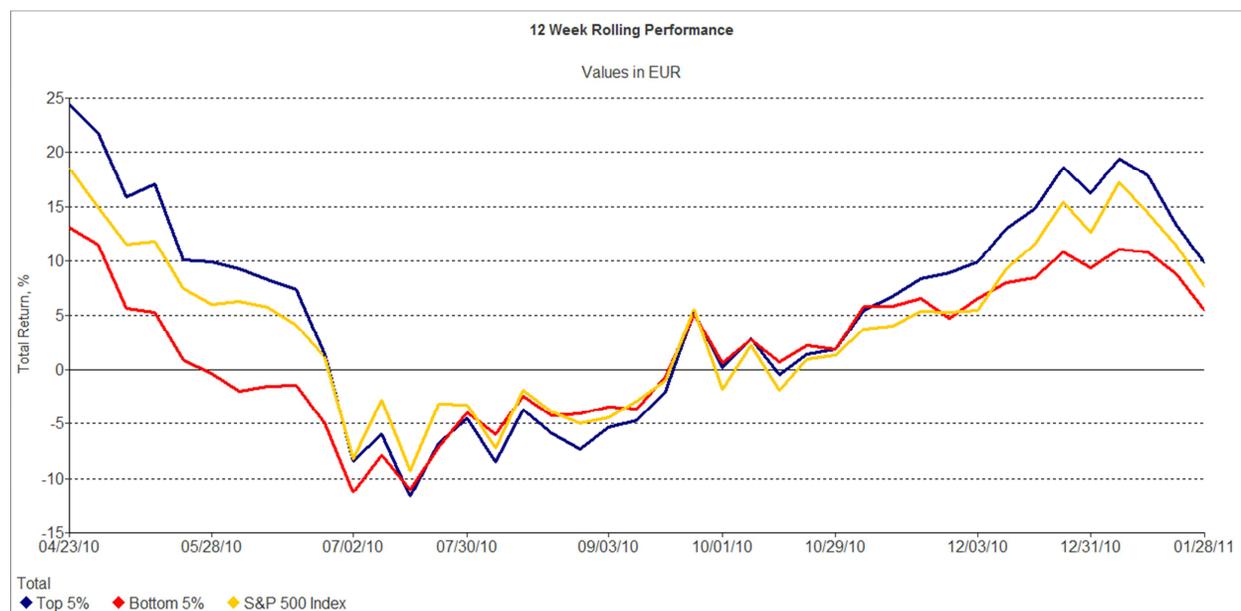
- The diversification effects of blending a large number of funds together in an equally-weighted portfolio result in high explanatory power for both analysis with R-Squared values of close to 91% (for the top 5%) and 96% (for the bottom 5%).

Rolling Risk/Return Analysis

- On a rolling 12 week basis, the performance of the top 5%, bottom 5%, and benchmark show very different dynamics over the past 52 weeks. There were periods when the top funds clearly dominated, others when the benchmark proved to yield better performance, and some where the bottom funds over performed. As displayed in the second chart below, this volatility is captured in a higher standard deviation.

- Although one group did not consistently outperform the other or the benchmark, in aggregate, the top funds strong performance during the first 5 months of the analysis allowed them to end the 52 weeks on top.

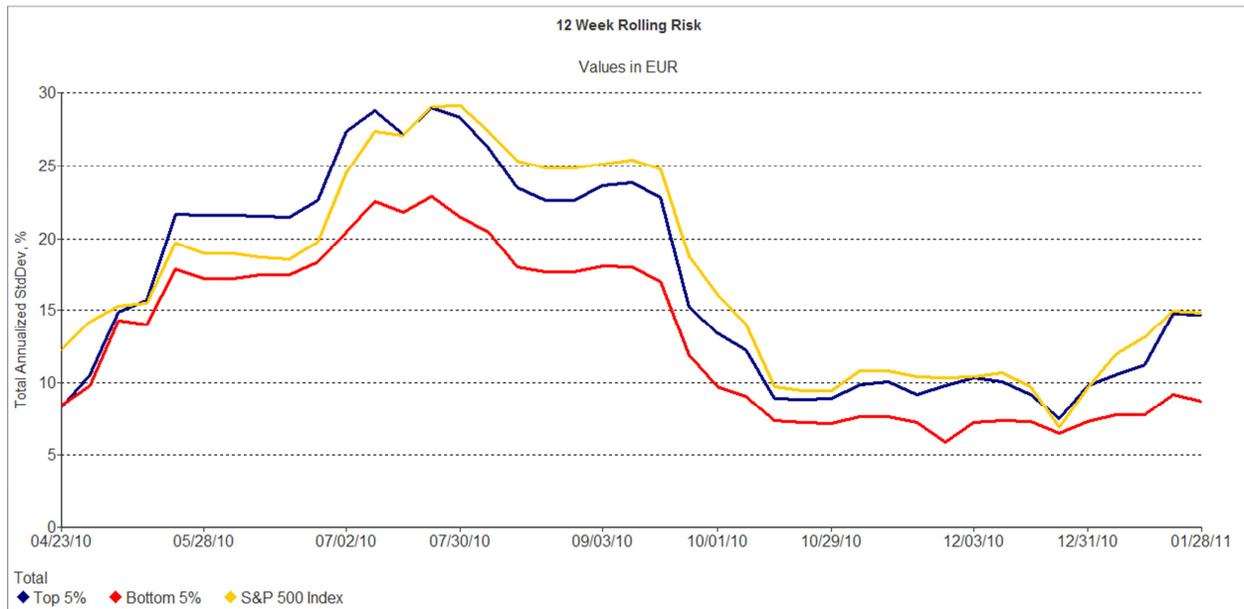
Chart 7: 12 Week Rolling Performance



Created with mpil Style

- The first half of the period clearly displays a higher volatility, which leveled off beginning in October 2010. The bottom 5% have a lower volatility than the top 5%, however both track the movements of the benchmark. Overall, the annualized standard deviation of the top funds is 17.55, for the bottom 5% it is 13.51, and for the benchmark it is 17.78. In terms of risk-adjusted performance, as defined by the Information Ratio, the top 5% clearly dominated the bottom 5%, with an IR of 1.09 versus -1.30.

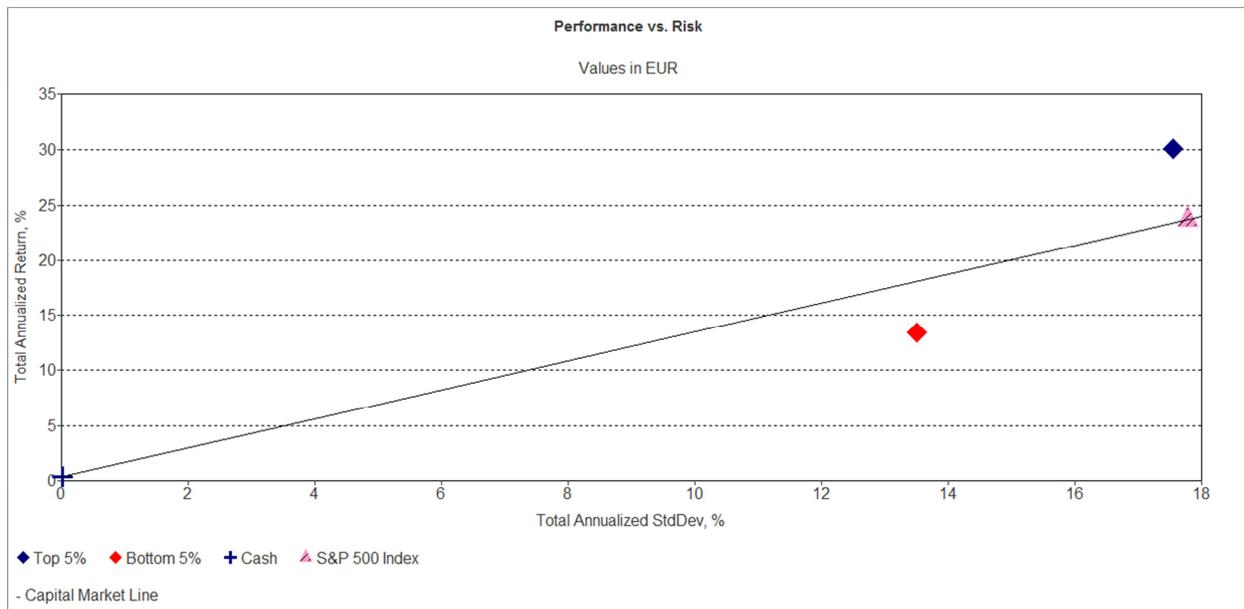
Chart 8: 12 Week Rolling Risk



Created with mpil SpA

- A comparison with the Capital Market Line shows that on a risk-adjusted basis, the top 5% clearly provide a higher return per unit of risk than the benchmark. The bottom 5% fall below the line, displaying an inadequate return for the level of risk they are exposed to. In terms of the Sharpe Ratio, the top funds provide a higher unit of return per unit of extra risk equal to 1.57 versus 0.98 for the bottom funds.

Chart 9: Capital Market Line



Created with mpil SpA

Conclusions

It is worth noting that exposure to short-term fixed income (Cash) had the most negative impact on the performance for both top and bottom funds. Cash exposure could be explained as actual holdings in cash in bank, notes, bonds, etc. or, possibly, the use of derivatives to hedge equity exposure. The Universe analysis shows that in fact, all funds in the category had such Cash exposure. While the top funds managed to overcome this impact by investing in sectors with superior performance and being exposed to USD/EUR movements, the bottom funds further hindered their performance by hedging their USD exposure during the period when USD appreciated vs. EUR.

UNIVERSE DEFINITIONS & ASSUMPTIONS

- **Database provider:** Lipper, a Thomson Reuters Company
- **Registered for sale countries:** Austria, France, Germany, Italy, Netherlands, Offshore, Spain, Sweden, Switzerland, and the UK
- **Filters:** share class, at least 1 year of performance history, Asset Type: Equity, Geographical Focus: North America, Lipper Global Category: Equity North America, AUM: minimum EUR 10 Million, Denominated in EUR
- **Number of funds analyzed:** 171
- **Date interval:** Last 52 weeks starting on February 1, 2010 and ending on January 28, 2011
- **Currency:** EUR
- **Analysis Frequency:** Weekly (with compounded daily data)
- **Cash proxy (Risk Free Rate):** EONIA Index
- **Benchmark:** S&P 500 Index
- **Style factors:** Russell 6 Indices: Top 200 Value and Growth, Mid Cap Value and Growth, and Russell 2000 Value and Growth; MSCI Europe ex UK; S&P 500 Sector Indices – Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. The rate of appreciation/depreciation of the USD vs. EUR is used as a hedge instrument.
- **Analysis performed with mpi Stylus Pro™**

Style Return: Return of the Best Fit Portfolio for the Manager Series, where the holdings of the portfolio are the Style Indices.

Selection Return: Calculated as the Manager's Return subtracted by the Style Return. This is an indication of the Manager's Selection or Stock Picking abilities.

Timing Return: Calculated as the Manager's Style Return subtracted by the Benchmark's Style Return. This indicates whether the Manager's decisions, to over or under weight the style holdings, as compared to the benchmark, added to the portfolio's return or not.

Style R Squared (R²): Measure of the model's power in describing the Manager's past behaviour in terms of style. The higher the Style R Squared value, the better the model's explanatory power.

Predicted Style R Squared (PR2): Measure of the model's power in predicting the Manager's future behaviour in terms of style. The higher the Predicted Style R Squared value, the better the model's predictive power.

Style Map: Graphic representation of the results of the Style Analysis. The series being analyzed are mapped onto a Cartesian plane, in which the X and Y axis represent exposures to different Styles and Sizes.

Asset Loadings: Weights of the Style Indices, as holdings, of the Style Portfolio, as calculated by mpi Stylus Pro.

[Markov Processes International, LLC \(MPI\)](#) is a global provider of investment research and technology solutions. MPI's analytical tools and methodologies are employed by the finest institutions and financial services organizations to enhance their investment research, reporting, data integration and content distribution. MPI offers the most advanced platform available to analyze hedge funds, mutual funds, portfolios and other investment products, as well as asset allocation and portfolio optimization tools.

MPI's Stylus Pro software is utilized by alternative research groups, hedge fund of funds, family offices, institutional investors, consultants, private banks, asset managers, diversified financial services organizations as well as marketing, product development and IT departments around the world. MPI also offers solutions for investment advisors and private wealth professionals. For more information on past MPI research articles visit <http://markovprocesses.com/company/research.htm>