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## ASSET CLASS ANALYSIS

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### EUROZONE BONDS

Eurozone Bond<sup>1</sup> funds' performance ranges from -8.11% to 3.23% over the last 52 weeks (ending April 29, 2011), in EUR terms. On average, the best 5% of the funds outperform the market (pegged to the Markit iBoxx Euro Sovereigns Eurozone Index) by approximately 2.8% and the worst 5% underperform by approximately 2.9%. During this period, the bottom funds display a higher volatility than the top funds, having outperformed their peers in Q3 and part of Q4 2010, before ending 2010 in the red after losing more than a 7% over the last 2 months of the year.

We examine duration factors describing the best and worst performing 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 the top and bottom funds, on average, had exposures to different duration factors that help explain their very diverse performance. 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 286 funds that are classified under Lipper Global: Bond Eurozone, 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 by Lipper.
- Using MPI's Locally Weighted Regression (LWR) algorithm, we run Returns Based Style Analysis (RBSA) using mpi Stylus Pro to estimate the average exposures using weekly observations for the period from May 3, 2010 ending on April 29, 2011. We use Markit iBoxx Euro Sovereigns Eurozone indices as Style Factors.
- The average RBSA style loading shows that the peer universe is diversified with exposures across all maturities as well as an overall average exposure to Euribor 3 Month Index of close to 25%.

#### Selection of Top/Bottom Fund Groups

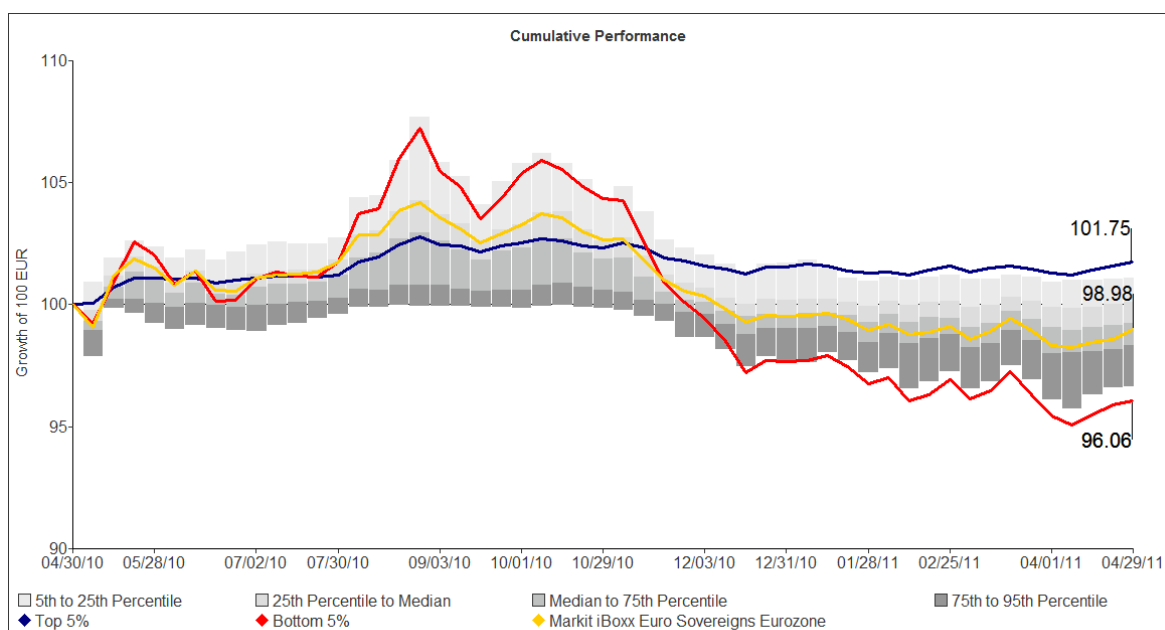
- Based on the universe of 286 funds, the total annualized performance is calculated during the last 52 weeks to rank the funds. Using the top 5% (13 funds) and bottom 5% (15 funds) equally weighted, daily rebalanced portfolios are created to try to identify why, on average, one group performed better in terms of style exposures.

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<sup>1</sup> Eurozone Bond funds, as classified by Lipper Global, are "Funds with the primary objective to invest in fixed income securities issued by Governments or Supranational Agencies of member countries of the European Monetary Union and denominated in Euro." Source: Lipper Global Classification, Definitions document.

- On a cumulative basis, over the period analyzed, the top 5% of funds outperform its peers, benchmark and bottom 5%. The top 5% group returns approximately 2.8% above the Markit iBoxx Euro Sovereigns Eurozone Index while the bottom 5% group returns 2.9% below the index. The overall market sell-off of peripheral European Sovereign Debt<sup>2</sup> during Q4 2010 appears to have had stronger effects on the performance and volatility of the bottom funds. During Q3 2010, the bottom funds had a short period of strong over performance, which turned into underperformance within a matter of weeks, eventually dropping 7.8% by the end of 2010 from the peak reached in late August.
- The top funds display a stable performance, with very low volatility throughout this period. It seems that the sovereign bond sell-off had little impact on the performance of the top funds' portfolio.

**Chart 1: Cumulative Performance Chart**



Created with mpil Stylus Chart 4/29/11

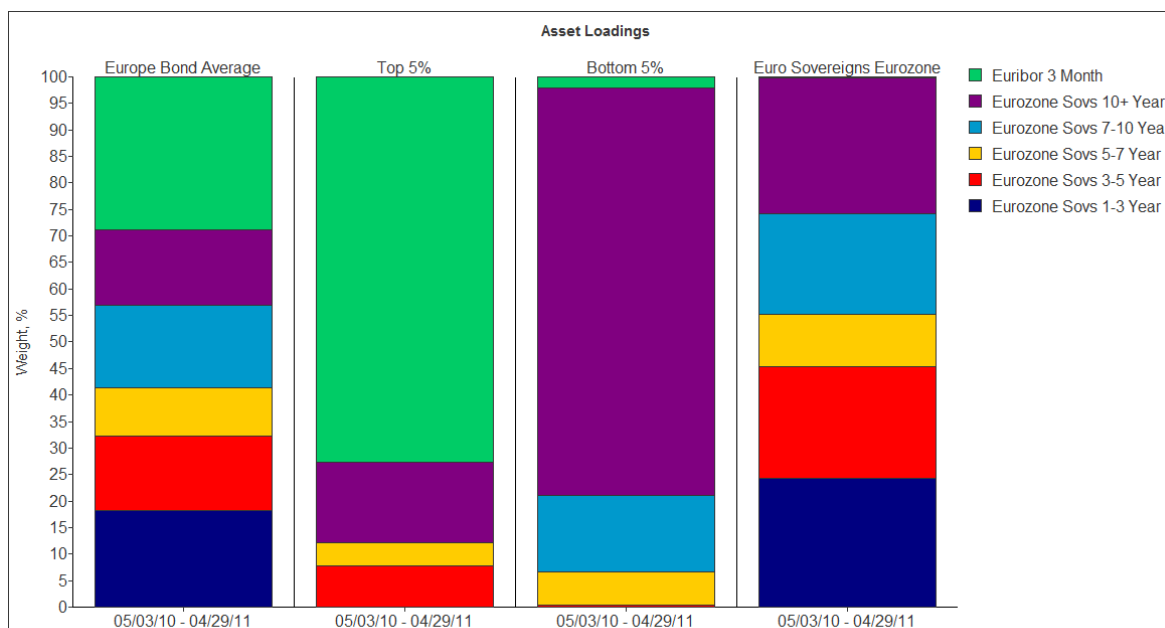
### Returns-Based Style Analysis Highlights

- Using sovereign fixed income indices over various maturities as factors, our RBSA analysis, as depicted by Chart 2, demonstrates that both top and bottom funds are very concentrated but with different style exposures. The top funds' portfolio shows an exposure of over 70% to short-term instruments, represented by the Euribor 3 Month Index while the bottom funds' portfolio appears to be predominantly exposed to long-term instruments. Given that prices of long duration bonds are more sensitive to interest rate changes than prices of short duration bonds, the bottom fund returns turn volatile when renewed sovereign debt fears move market interest rates.

<sup>2</sup> Although initially affecting the value of bonds issued by countries such as Greece and Ireland, the sell-off in late 2010 also triggered losses in bonds issued by Spain, Belgium and Italy.

- A brief analysis into the top 10 holdings of the funds, within the top 5% portfolio, show large exposure to very short term debt instruments and to cash or cash equivalents. The same analysis into the bottom 5% portfolio shows that these funds are exposed to long term debt instruments. This brief holdings based analysis further confirms the results of our returns based style analysis.
- As expected, the benchmark displays no exposure to cash or cash equivalents, proxied by the Euribor 3 Month Index. Comparing the portfolios' and benchmark's exposures helps us understand the sources of excess performance for the top and bottom portfolios.

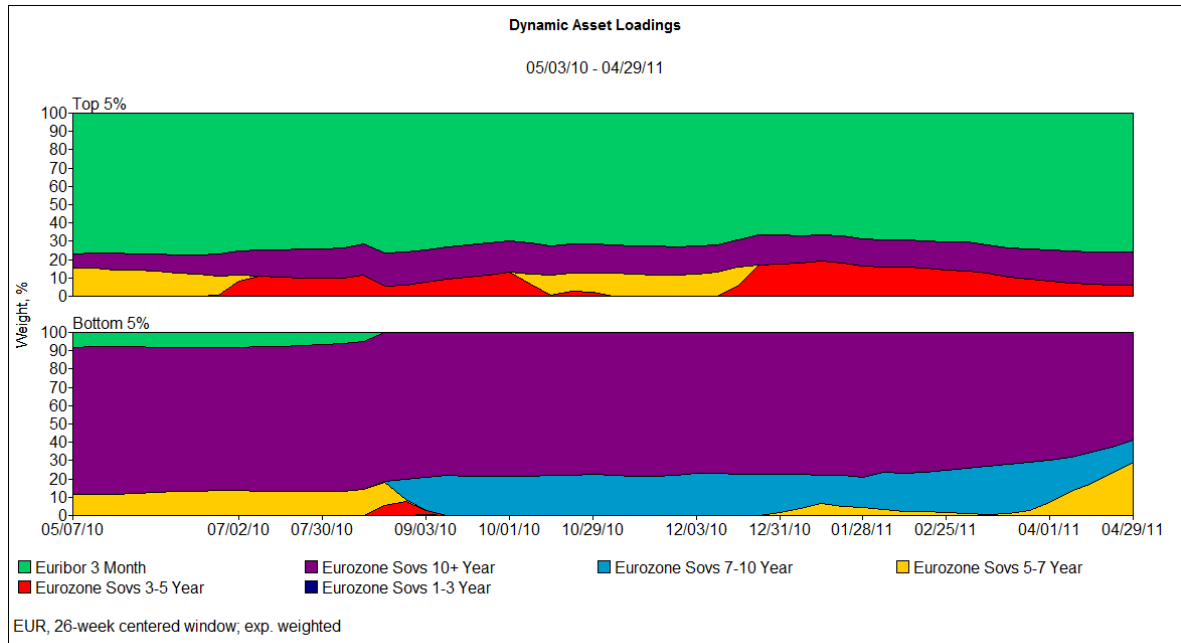
**Chart 2: Universe, Funds', and Benchmark Average Asset Loadings – Maturity factors**



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The results of a dynamic RBSA analysis can provide insight on where the difference in volatility patterns lies; is it a result of market movements or can be attributed to abrupt changes in style exposures? As shown in Chart 3, the dynamic style exposures are very stable. The top funds' exposure to the Euribor 3 Month Index was consistently over 70% throughout the period analyzed; while the bottom funds' exposure to Sovereigns 10Yr+ was consistently over 80%. This allows us to conclude that the volatility of the bottom funds is a result of market movements, particularly of the price movements of long duration bonds, and not of variations in the style exposures.

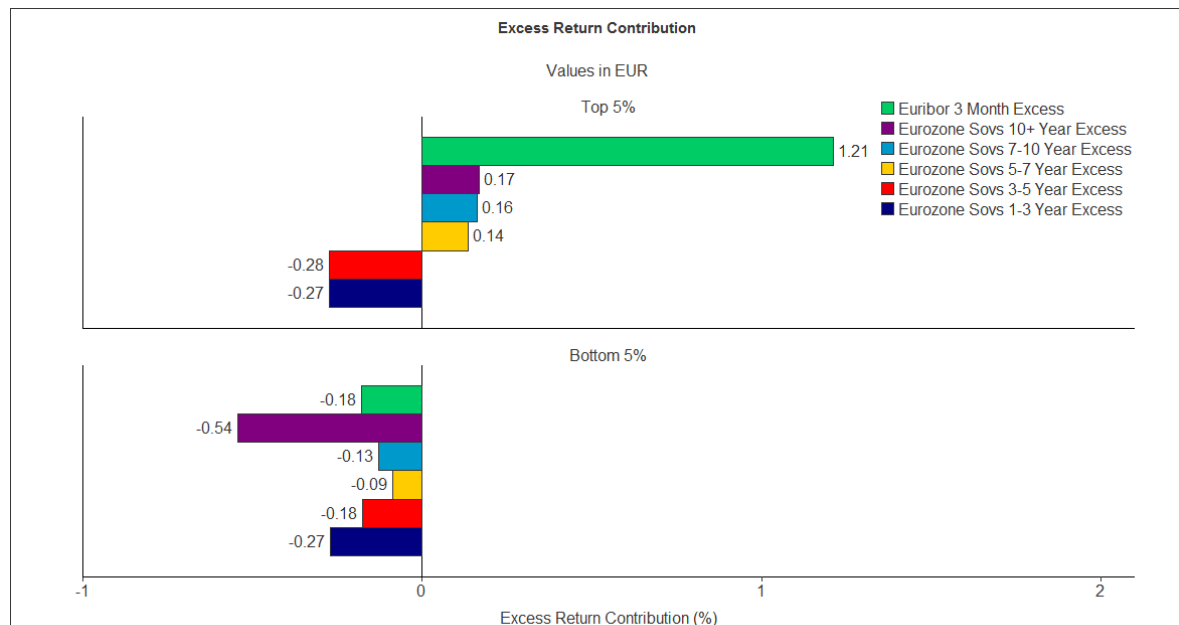
**Chart 3: Universe, Funds', and Benchmark Dynamic Asset Loadings – Maturity factors**



Created with mpil Style (Data Edge)

- Style attribution analysis can clarify if over- and under-exposures to different styles (versus the benchmark) aided or hindered the funds. As depicted by Chart 4, the top funds' overexposure to Euribor 3M and underexposure to the 5Yr+ factors added to their performance, while underexposure to short term sovereigns appears to have deducted from their overall performance. The bottom funds' under- and over-weight exposures to all factors seem to have hindered their performance with overexposure to Sovereigns 10Yr+ being the largest contributor to underperformance.

**Chart 4: Excess Return Contribution**



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- The top funds display positive selection and timing returns of 1.60% and 1.14%, respectively. The bottom funds show the opposite, with both measures equal to -1.56% and -1.39%, for selection and timing, respectively.
- The diversification effects of blending a large number of funds together in an equally-weighted portfolio result in high explanatory power with R-Squared values of close to 71% for the top 5%; 97% bottom 5%; 67% for the peer group average; and 99.99% for the benchmark, giving credibility to the statistical exposures identified in this analysis.

## **Conclusions**

During a period of turmoil in the Eurozone's sovereign debt market, a small group of funds managed to generate positive, albeit small, excess performance. An RBSA analysis of the best managers illustrates that the top performers were exposed to very short term debt, proxied by the Euribor 3M Index. This exposure helped the top funds avoid the market volatility and losses stemmed from holding long duration instruments (which suffered the worst losses from the broad market sell-off). On the other hand, the bottom funds had the wildest swings in performance. Being exposed to long term sovereign securities, they incurred losses when the quality of their holdings deteriorated along with the creditworthiness of the issuing countries.

## 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: Bond, Geographical Focus: Eurozone, Lipper Global Category: Bond Eurozone, AUM: minimum EUR 10 Million, Denominated in EUR.
- **Number of funds analyzed:** 286
- **Date interval:** Last 52 weeks starting on May 3, 2010 and ending on April 29, 2011
- **RBSA Model:** Locally Weighted Regression
- **Currency:** EUR
- **Analysis frequency:** Weekly (with compounded daily data)
- **Cash proxy (Risk Free Rate):** Euribor 3 Month Index
- **Benchmark:** Markit iBoxx Euro Sovereigns Eurozone TR
- **Style factors:** Markit iBoxx Euro Sovereigns Eurozone factors – 1-3 Year, 3-5 Year, 5-7Year, 7-10 Year, 10+ Year
- **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.

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