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## ASSET CLASS ANALYSIS

### JAPAN EQUITY

Japan equity funds' performance ranges from -21.04% to 3.64% over the last 52 weeks (ending March 31, 2011), in JPY terms. The best 5% of the funds outperform the market (pegged to the Daiwa DSI-1 Total Index) by approximately 9.2% and the worst 5% underperform by approximately 8.5%; however, both groups of funds' cumulative performances are negative during this period. Given that the effects of the March 11 earthquake on performance are included in this period, we decided to analyze how the top and bottom performers' style allocations change after the events of March 11.

We examine industry sector 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 focused on very different industry sectors prior to March 11, but in the following weeks, the bottom funds' style exposures changed and appeared to be closer to those of the top funds. Please note that our conclusions may change if a different timeframe is used to select the best/worst funds.

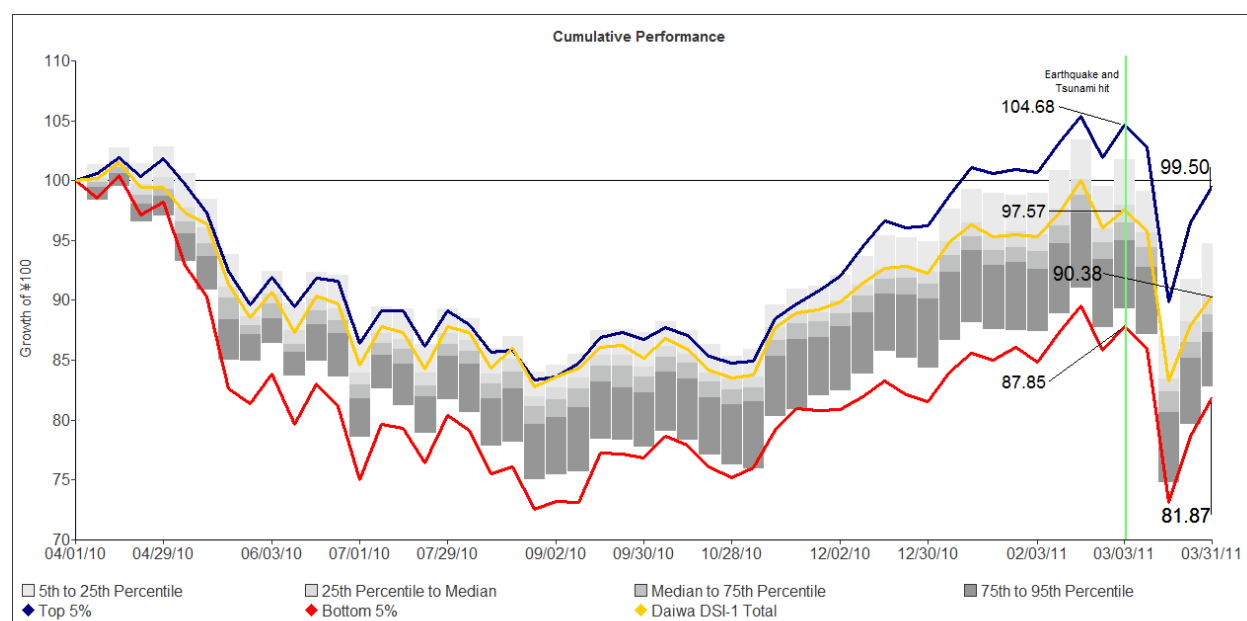
#### Universe Overview – RBSA Analysis

- The universe is comprised of 289 funds that are classified under Lipper Global: Equity Japan, with AUM of at least EUR 10 million and denominated in JPY, EUR, GBP, CHF, SEK and USD. Our analysis takes into account the performance of the Primary Share Class, as defined by Lipper.
- Using MPI's proprietary and patented Dynamic Style Analysis (DSA) engine, we run Returns Based Style Analysis (RBSA) using mpi Stylus Pro to estimate the average exposures using weekly observations for the period from April 2, 2010 ending on March 31, 2011. We use Daiwa DSI-1 Industry Indices as the Style Factors.
- The average DSA style loadings show that the peer universe is diversified with exposures across all industries as well as an overall average Cash or Cash equivalents (which we refer to as Cash for convenience) exposure of close to 10%. The funds in the peer group are mostly exposed to Manufacturing and Financials, which make up close to 55% of the total exposures.

## Selection of Top/Bottom Fund Groups

- Based on the universe of 289 funds, the total annualized performance is calculated during the last 52 weeks to rank the funds. Using the top 5% (15 funds) and bottom 5% (18 funds) equally weighted, daily-rebalanced portfolios are created to try to identify why, on average, one group performed better than the other in terms of style exposures.
- Unsurprisingly, the top 5% of funds outperform their peers, benchmark and the bottom 5%. Over the analysis period, the top 5% group returns approximately 9.2% above the Daiwa DSI-1 Total Index while the bottom 5% group returns 8.5% below the index. The negative effects of the earthquake can be clearly seen, with the funds and the benchmark dropping over 15% in a week before recovering partial ground by the end of the month.

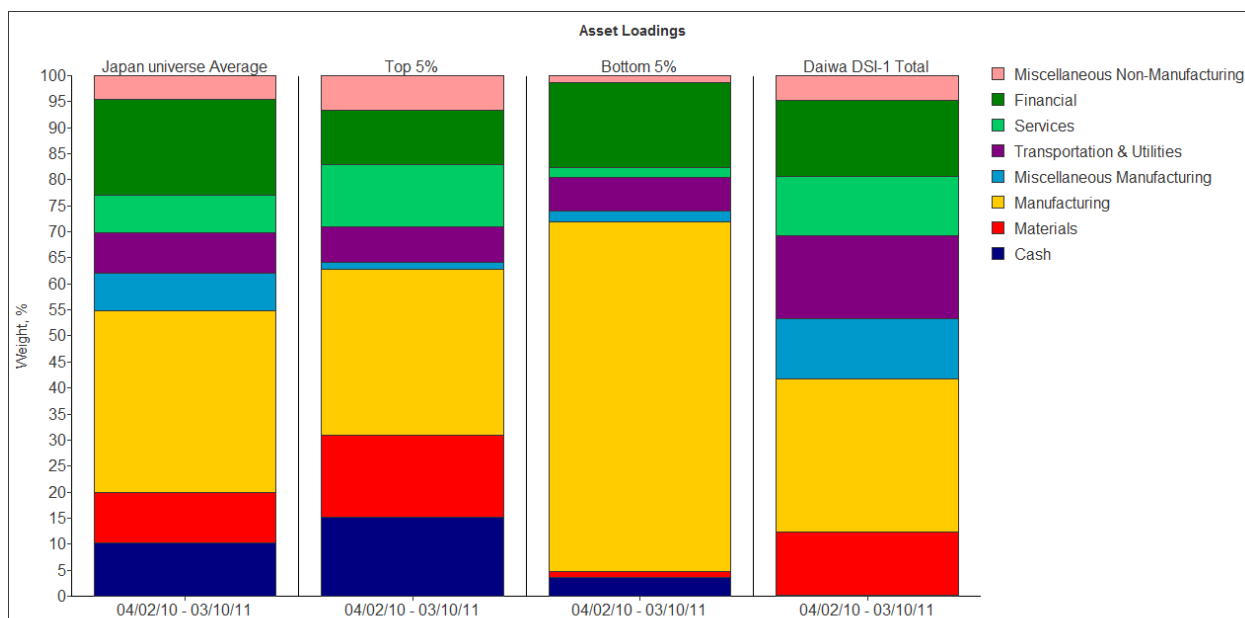
**Chart 1: Cumulative Performance Chart**



## Returns-Based Style Analysis Highlights

- Given the large impact of the March 11<sup>th</sup>, 2011 events on the Japanese financial markets, we decided to first conduct our performance analysis on the period ending March 10<sup>th</sup>, 2011. Using industry sector indices as factors, our DSA analysis demonstrates that the top funds are more diversified, with exposures to all sectors, including Cash. The top funds outperformed through being overexposed to Cash and Materials, while being underexposed to Financials and Transportation & Utilities.

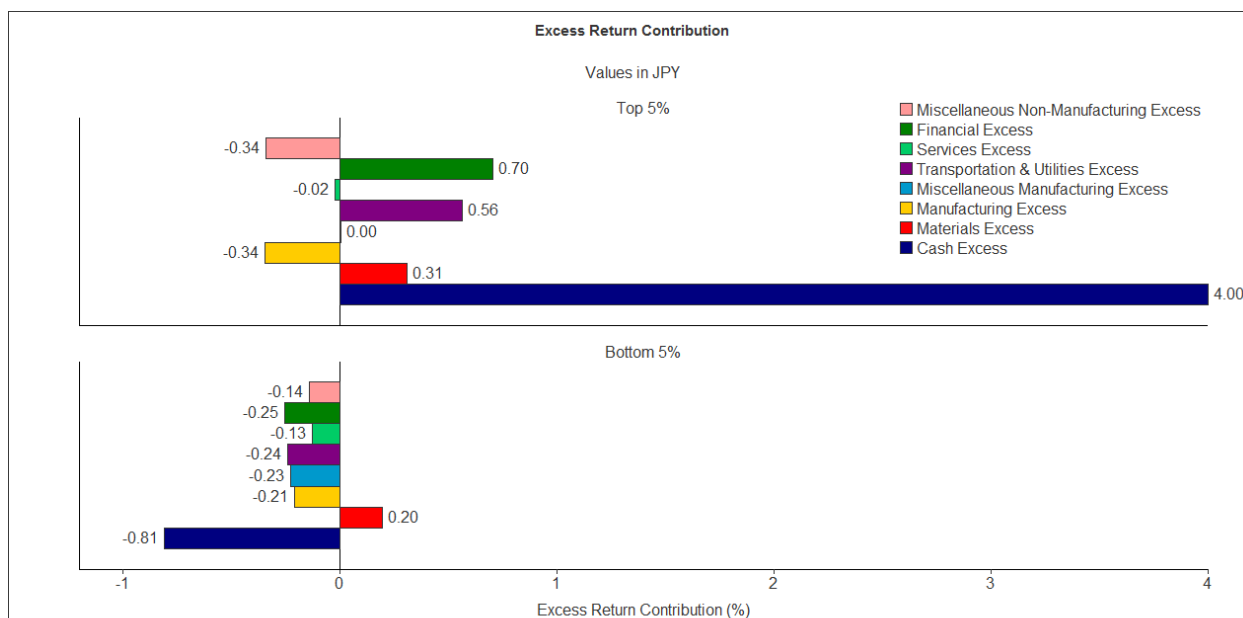
**Chart 2: Universe, Funds, and Benchmark Average Asset Loadings – Industry factors**



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- Style attribution analysis can clarify if over- and under-exposures to different styles (versus the benchmark) aided or hindered the funds. It is worth noting that although the exposure averages may show that the top and bottom funds were over- or under-weighting the same sectors, their dynamic and rolling historical style exposure may have been significantly different. The top funds overexposure to Cash was consistently over 10% throughout the period analyzed, increasing to approximately 15% in the weeks leading to March 11, which helped them avoid a worse drop in their performance after this date. On the other hand, the bottom funds had an increased exposure to Cash during the last 10 weeks of 2010, with no exposure in the weeks leading to March 11, suggesting that they were fully invested when the earthquake hit, which hurt their performance.
- The top funds' overexposure to Materials and underexposure to Transportation & Utilities and Financials also added to their performance. The bottom funds' under- and over-weight exposures to each sector, except to Materials, seem to have hindered their performance. The conflicting results for the exposure to Materials between the top and bottom funds can be explained by the dynamics of their rolling historical style behaviour over the period analyzed, similar to what happens with the exposure to Cash.

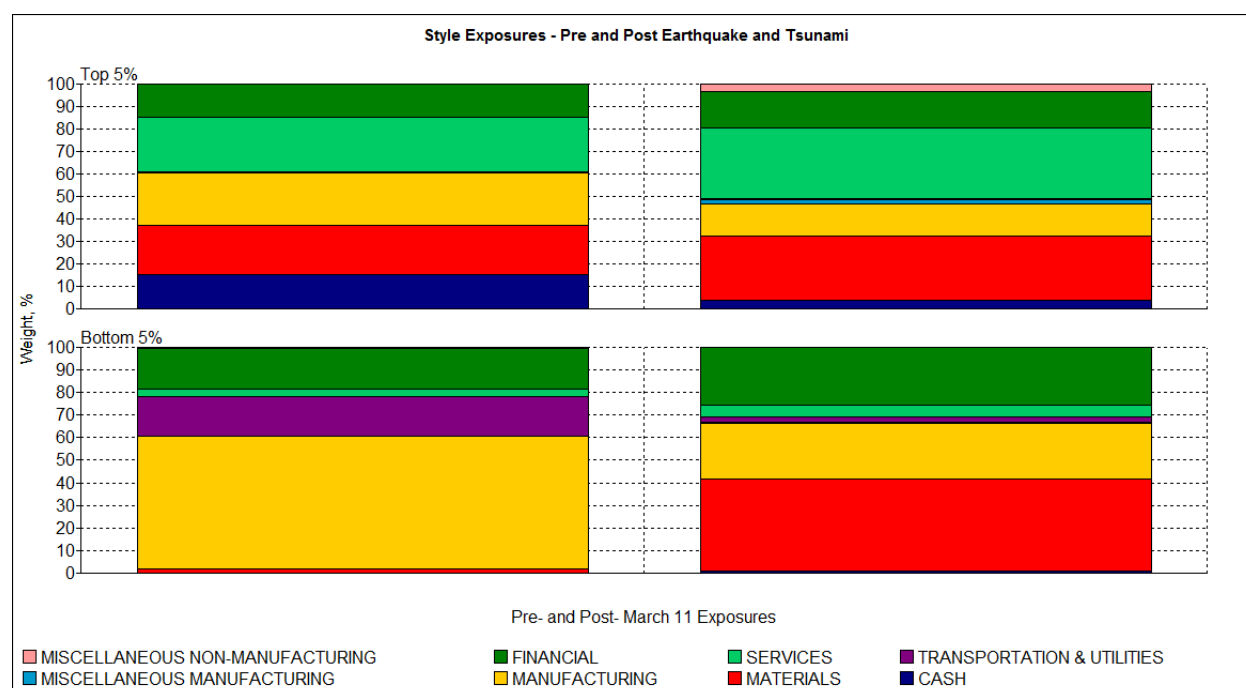
**Chart 3: Excess Return Contribution**



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- The top funds display positive selection and timing returns of 1.92% and 4.99%, respectively. The bottom funds show the opposite, with both measures equal to -8.17% and -1.79%, for selection and timing, respectively.
- In order to gain insight as to the changes in style exposures that were triggered by the effects of events of March 11, we run an additional analysis that takes into account the observations up to March 31 and compare the exposures from the periods before and after March 11. Following this date, the top funds display a smaller exposure to Cash and Manufacturing together with an increased exposure to Materials, Services, and Financials.
- On the other hand, the bottom funds' exposures show a marked change after March 11. Prior to this date, the funds were mostly exposed to Manufacturing, Financials, and Transportation & Utilities. Post-March 11, the funds suddenly display exposures to Materials, larger exposure to Financials, and markedly reduced exposures to Manufacturing and Transportation & Utilities.

**Chart 4: Funds' Average Asset Loadings Pre and Post March 11 – Industry factors**



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- Post March 11, the bottom funds appear to have shifted their portfolio in favour of the same industries as those of the top funds, with the exception of Services. Whether this will mean that their performance going forward will be similar, we cannot know. What we can infer is that the top and bottom funds, on average, seem to be betting on industries that are expected to experience an increase in demand as Japan begins to reconstruct, such as Materials.
- 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 90% for the top 5%, and 89% for the bottom 5%, for the analysis run until March 10; when including the three additional weekly observations until March 31, the R-Squared increases to close to 94% for the top funds, and 92% for the bottom funds, giving high credibility to the statistical exposures identified in these analysis.

## Conclusions

Prior to the earthquake of March 11, 2011, the exposures and style behaviour of the top and bottom funds were very different. The top funds displayed diversified exposures and generated excess returns by managing their exposures to Cash, Materials, Financials, and Transportation & Utilities. The March 11 earthquake did impact their performance and also changed their style exposures, mostly by reducing their Cash exposure and increasing their exposures to Services and Materials. However, their style was stable overall. The bottom funds' style loadings show a marked change from before to after the earthquake, with funds increasing their exposures to industries that might see an increased demand for their products, such as Materials, while dropping industries that could take longer to recover, such as Manufacturing.

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The shockwaves of the earthquake on the financial markets distort the RBSA results based on Sharpe's original methodology. In this article we used MPI's proprietary and patented Dynamic Style Analysis (DSA) model, which allows us to estimate meaningful exposures during times of shocks by minimizing the distorting effects of a single unsystematic event.

## 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: Japan, Lipper Global Category: Equity Japan, AUM: minimum EUR 10 Million, Denominated in in JPY, EUR, GBP, CHF, SEK and USD
- **Number of funds analyzed:** 289
- **Date interval:** Last 52 weeks starting on April 2, 2010 and ending on March 31, 2011
- **RBSA Model:** MPI's patented Dynamic Style Analysis DSA engine
- **Currency:** JPY
- **Analysis frequency:** Weekly (with compounded daily data)
- **Cash proxy (Risk Free Rate):** Bank of Japan Short term Money Market Rate/Call Rates, Uncollateralized Overnight (Daily)
- **Benchmark:** Daiwa DSI-1 Total Index
- **Style factors:** Daiwa DSI-1 Industry factors – Materials, Manufacturing, Miscellaneous Manufacturing, Transportation & Utilities, Services, Financials, and Miscellaneous non-manufacturing
- **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 (R<sup>2</sup>):** 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 (PR<sup>2</sup>):** 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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