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EMERGING MARKETS STRATEGY UPDATE: Control of Country Contribution to Tracking Error

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The Parametric Structured Emerging Markets Strategy provides long-term diversified exposure to emerging market equities. Our investment philosophy focuses on broad diversification, systematic rebalancing and careful management of costs and volatility.

In recent years, there have been times when a single country's contribution to tracking error (benchmark-relative risk) increases to such an extent that benchmark-relative returns run the risk of being dominated by the returns of that one country. We plan to modify our strategy in order to reduce the likelihood of this occurrence and to diversify our tracking risk. This move to formally monitor and control individual country contributions to tracking error is part of the evolution of our strategy, and is consistent with past refinements.

BACKGROUND AND DISCUSSION

While we do not manage our Structured Emerging Markets Strategy (SEM) to a specific tracking error target, we do monitor relative risk, and evaluate performance relative to a well-defined benchmark. Our experienced tracking error has usually been between 5% and 6% per year.

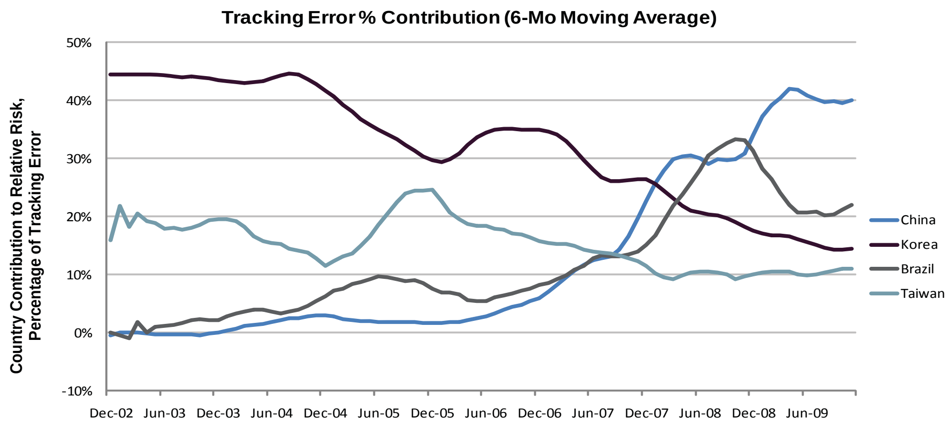
With the ongoing development of the asset class over the last few years, our confidence in formal models' ability to predict tracking-error risk has been increasing. One such predictive risk model is BARRA's Global Equity Risk Model (GEM). Such models allow us to quantify what we have always known – that much of our tracking-error risk can be attributed to our country weights, in particular those with the largest underweights relative to the benchmark.

For our target portfolio, Graph 1 below illustrates the contribution to tracking error of individual countries between 2002 and the end of 2009. The vertical axis measures the proportion of the target portfolio's tracking error that can be attributed to each country. We see that while Korea dominated tracking error for a few years, our underweight to Korea accounted for about 40% of the total tracking error before declining as other countries grew. Our current underweight to China is responsible for about 37% of the tracking error.

Does this matter? Even though, our strategy is very diversified, we are exposed to tracking-error risk in the sense that if the performance of a single country dominates relative performance, other decisions lose relevance compared to this large relative exposure.

We have been monitoring tracking-error risk for some time, and have decided to start to actively control it. Of course, we will still maintain the primary objective of extremely broad diversification in our portfolio. We see this change as the next step in an evolution of our investment management process; it is consistent with previous enhancements and is perhaps indicative of the way we see this process evolving as data and risk models become even more reliable.[1]

GRAPH 1:



Source: Parametric, Factset

RISK-MANAGEMENT PROCESS

The enhancement to our investment process is the following:

1. We have instituted a formal process to monitor tracking error. For each country we sum the contribution to tracking error of the country, and its currency components, and then examine the 6-month moving average. We review this information at our regular Emerging Markets Investment Committee meetings.

2. When a single country's contribution to tracking error exceeds a risk threshold of 30% of total portfolio tracking error for two consecutive quarters, the Committee will either continue to monitor the situation, or increase the weight of the country to reduce its relative risk.

3. When a country's weight is increased, the change will be made in steps of 50% of the initial (unadjusted) target weight, to a maximum of 100% of the country's target, thereby doubling the country's target weight in the portfolio. So, for example, with a target weight of China at 6%, its weight is increased in steps of roughly 3%, to approximately 9% and then 12%.

4. When a country's contribution to tracking (at the unadjusted Tier weight) no longer exceeds the risk threshold for two consecutive quarters, the Investment Committee may reduce that country's weight.

[1]Over the past few years we have developed a Structured International Equity strategy, targeted against the MSCI-EAFE benchmark. (Our track record is now a little over a year in length.) The philosophical goal here is much like that of our SEM strategy: to increase diversification and enhance long-term growth by rebalancing in the presence of volatility and low correlation. For this universe of stocks, data and risk models are more reliable, but correlations are higher too. Our approach expands on SEM by rebalancing at the country-level, the sector level, and also the stock level; and it uses formal risk model estimates of volatility and correlations in an optimization procedure to set the target weights.

BACKTEST SIMULATIONS

What would have been the implications of this process enhancement over the past seven-year period? For Graph 1, portfolio changes would have been triggered for Korea in December 2002 (removed in September 2005), again for Korea in April 2006 (and removed in March 2007), and for China in January 2009. Brazil almost triggered an event in September 2008, but its contribution to tracking error declined quite rapidly, making such action unnecessary.

Table 1 below simulates the performance that we would have experienced at the country level during these years, had we reduced tracking-error risk according to our new process. The new process would have reduced returns slightly. Volatility and experienced tracking error would have been about the same, and turnover would have increased slightly. More importantly however, we believe that unquantifiable and unrealized risks would have been substantially reduced had we made these adjustments.

TABLE 1: Backtest Results (1/1/2003 - 12/31/2009)

	TOTAL RETURN	VOLATILITY	TURNOVER	EXPERIENCED TRACKING ERROR
Current SEM	23.7%	22.9%	9.9%	5.3%
Risk-Managed SEM	23.5%	22.9%	10.3%	5.2%
Difference	-0.2%	0.0%	0.3%	-0.2%

Source: Parametric. Simulated Total Return presented is Net-of-Fees. See page 4 for additonal disclosures.

IMPLEMENTATION: Current Portfolio - March 1, 2010

Table 2 shows current country contributions to tracking error (using the BARRA GEM risk model). The target portfolio's anticipated tracking error is 5.26%. China's target weight in the model is currently 6.06% compared to its benchmark weight of 17.75%, and this exposure contributes 1.54% to tracking error, or 35.67% of total tracking error. This contribution is above the 30% threshold, and China is under review by our Investment Committee. If we increase China's weight from its current target to 8.82%, China's contribution to total tracking error would drop to approximately 24.57%.

It is likely that our Investment Committee may move to increase our model exposure to China. However, any implementation plan for each portfolio will vary, and will depend on actual transactions costs, cash flows, other portfolio rebalancing, along with anticipated changes to the Index.

Table 2: Country Contribution to Tracking Error, top five countries (as of 3/01/10):

		CHINA	BRAZIL	SOUTH KOREA	TAIWAN	UAE
Index	MSCI Emerging Markets Index	17.75%	16.59%	12.62%	10.81%	0%
Current SEM	Target Weight	6.06%	6.06%	6.06%	6.06%	1.52%
	Contribution to Tracking Error	1.54%	0.96%	0.71%	0.30%	0.24%
	% of total Tracking Error	35.67%	22.17%	16.38%	6.92%	5.57%
Risk-Managed SEM	Target Weight	8.82%	5.88%	5.88%	5.88%	1.47%
	Contribution to Tracking Error	0.98%	1.09%	0.80%	0.33%	0.24%
	% of total Tracking Error	24.57%	27.34%	20.24%	8.33%	5.98%

Source: Parametric, MSCI, Barra GEM

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