

# Barra Global Equity Model (GEM2 S/L)

The GEM2 global multi-factor model is an investment decision support tool designed to help fund managers construct and manage global equity portfolios. Available in a short (S) and a long-term version (L), it extends the Barra Multiple-Horizon Model range to global equity funds.

## Product Highlights

GEM2 is the latest Barra global multi-factor equity model. It provides a foundation for investment decision support tools via a broad range of insightful analytics for developed and emerging market portfolios. With its extensively researched, intuitive fundamental factors, GEM2 identifies independent sources of global equity returns that are common across a broad set of securities and estimates their associated risks.

## The GEM2 S/L model versions provide:

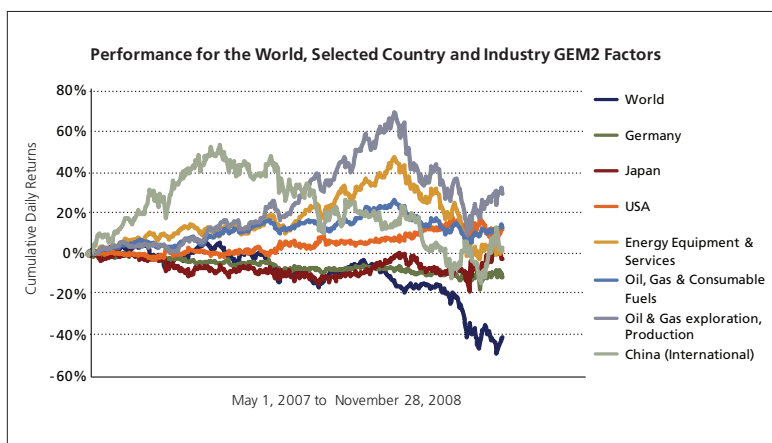
**Improved accuracy** of risk forecasts and increased explanatory power over GEM. New style factors have been added to, and a new specific risk model is used in, GEM2.

**An intuitive structure** that accommodates different investment processes in developed vs. emerging markets. The GEM2 design incorporates a World factor, and does not impose a hierarchy to country and industry factors.

Unlike many other risk models, GEM2 has been specifically developed for global equity portfolio management and construction. GEM2 leverages the decades of experience that MSCI Barra has in developing and maintaining global equity multi-factor models and indices, and offers important enhancements over GEM, which is utilized by hundreds of institutional fund managers worldwide.

**Greater responsiveness** to markets dynamics. The GEM2 S/L covariance matrices are built with weekly-frequency data, and use shorter half-lives than GEM.

**Comprehensive market coverage.** The estimation universe has been expanded, and takes advantage of data maintained to construct MSCI indices.

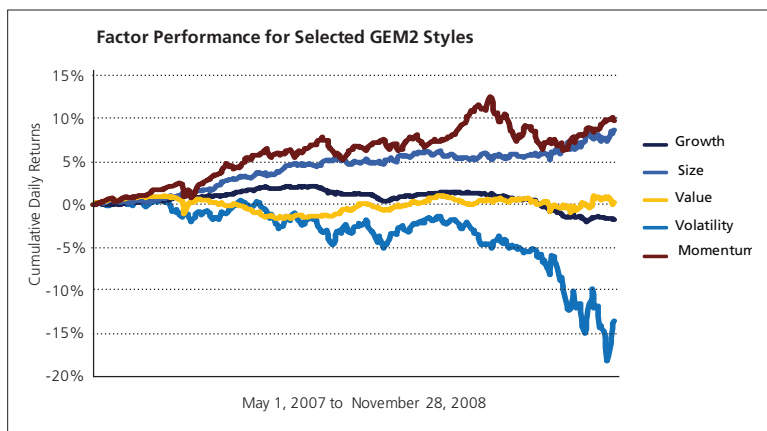


This chart provides cumulative return information for several GEM2 factors. The World factor reflects the overall negative performance of global markets over the period shown (May 1, 2007 to November 28, 2008). It also shows that the China and USA country factors have outperformed relative to the World factor, with very different levels of volatility, while the Japan and Germany country factors have underperformed over the same period.

The chart also shows that Oil & Gas Exploration, Production stocks have performed better than other industries in the Energy sector, but have also been more volatile. The use of the Global Industry Classification Standard (GICS®) is one of the many new features in GEM2.

GEM2 also isolates the common returns from global styles. Style factors explain a significant amount of relative performance, particularly with country-neutral and sector-neutral investment strategies.

The chart on the right shows that, with all other things being equal, large-cap and value-tilted stocks performed relatively well during the period, while stocks with higher price volatility did not. Momentum exhibits the highest cumulative performance across the five factors, with relatively high volatility. Four new styles have been added to GEM2: Growth, Liquidity, Financial Leverage and Size Non-linearity, joining the Value, Volatility, Momentum and Size factors.



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Portfolio Risk Analysis

Global equity managers can use GEM2 to gain a detailed understanding of the risks they are taking across countries, industries, styles (also called risk indices) and currencies over short- or long-term investment horizons. By analyzing their international equity strategies using GEM2, managers can confirm that their investment views are being reflected in both their portfolio stock weights and risk allocation.

Risk Decomposition		
	Risk (% Std Dev)	Contribution (% Active Risk)
Market Timing	0.00	0.00
Risk Indices	3.30	34.39
Momentum	0.13	0.05
Volatility	3.05	29.37
Value	0.14	0.06
Size	0.28	0.24
Size Nonlinearity	0.08	0.02
Growth	0.14	0.06
Liquidity	0.64	1.27
Financial Leverage	0.07	0.01
RI Covariance*2	N/A	3.30
+ Industries	2.02	12.83
+ Country	1.41	6.22
+ Currency	0.79	1.96
World Equity	0.00	0.00
Covariance *2	N/A	29.23
Asset Selection	2.21	15.37
Active	5.64	
Benchmark	10.82	
<b>Total</b>	<b>14.97</b>	

This table shows a sample analysis attributing portfolio risk relative to a global benchmark.

The GEM2 risk decomposition shows that the highest single contributing factor to active risk (also called tracking error) is Volatility. As shown previously, this global style factor exhibits a negative cumulative return over the May 2007-November 2008 period.

If, for example, the manager has no view that this factor will outperform, he or she can take action to reduce the portfolio's exposure to it.

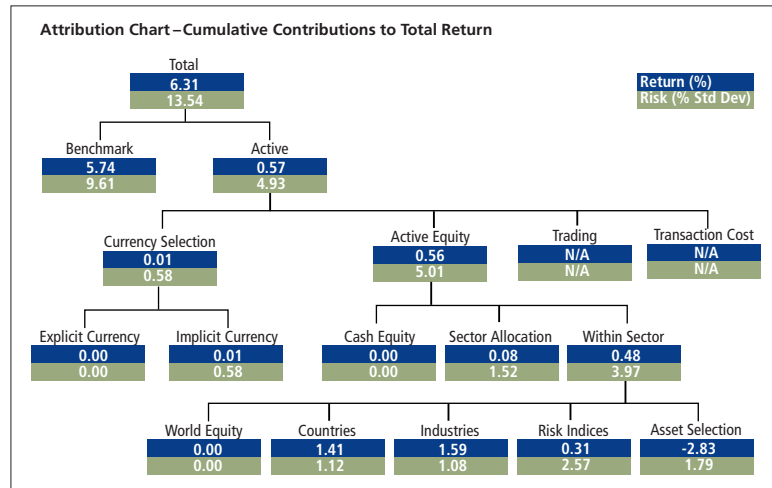
Performance Attribution

GEM2 helps global equity managers understand the factors that contributed to their past performance. Portfolio managers can use the global multi-factor framework, and run performance contribution or attribution analyses according to their investment process.

This chart shows a GEM2 performance attribution analysis for a sector allocation strategy.

The analysis shows that the manager's industry choices within each sector have been paying off (+1.59%), while individual stock picks have not (-2.83%).

The consistent risk and return framework allows managers to demonstrate whether past investment choices paid off, and how they differ from their current risk allocations.



About MSCI Barra

MSCI Barra is a leading provider of investment decision support tools to investment institutions worldwide. MSCI Barra products include indices and portfolio risk and performance analytics for use in managing equity, fixed income and multi-asset class portfolios.

The company's flagship products are the MSCI International Equity Indices, which are estimated to have over USD 3 trillion benchmarked to them, and the Barra risk models and portfolio analytics, which cover 56 equity and 46 fixed income markets. MSCI Barra is headquartered in New York, with research and commercial offices around the world. Morgan Stanley, a global financial services firm, is the controlling shareholder of MSCI Barra.

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