Global Market Report

The Mid Cap Effect

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What Makes Mid Caps Unique?

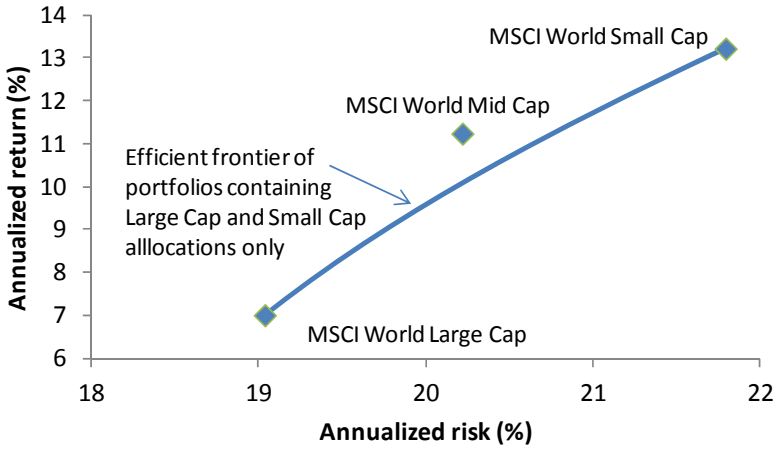
Mid cap stocks populate the middle of the capitalization spectrum of each market. An accepted rule of thumb defines US mid caps as stocks with market capitalizations between USD 2bn and USD 10bn; however, this is not the most appropriate definition globally. By contrast, MSCI Mid Cap Indices target the middle 15 percent of each market's float-adjusted market capitalization.[1] Mid cap stocks are often under-represented in investor portfolios[2] and can offer a distinct set of potential benefits—the higher growth potential of smaller companies with the strength and stability offered by large cap companies.

Figure 1 illustrates that the MSCI World Mid Cap Index lies above the efficient frontier of portfolios containing allocations to MSCI World Large Cap and MSCI World Small Cap Indices during the period from October 2008 to October 2012. This means that a portfolio containing a global mid cap allocation would have achieved higher risk adjusted returns over the last four years, relative to a portfolio invested only in global large cap and small cap stocks.

[1] More specifically, MSCI Standard Indices cover all investable large and mid cap securities. They target approximately 85 percent of each market's free float adjusted market capitalization. MSCI Mid Cap Indices are part of the standard indices; they include all investable mid cap securities and target approximately 15 percent of each market's float-adjusted market capitalization.

[2] For example, see Mid Cap Stocks—Wall Street's Best Kept Secret, ING Investment Management White Paper, March 2010.

Figure 1: MSCI World Mid Cap index and the efficient frontier of portfolios containing allocations to global large cap and small cap stocks (October 2008-October 2012).



Note: Risk and return are measured in USD terms.

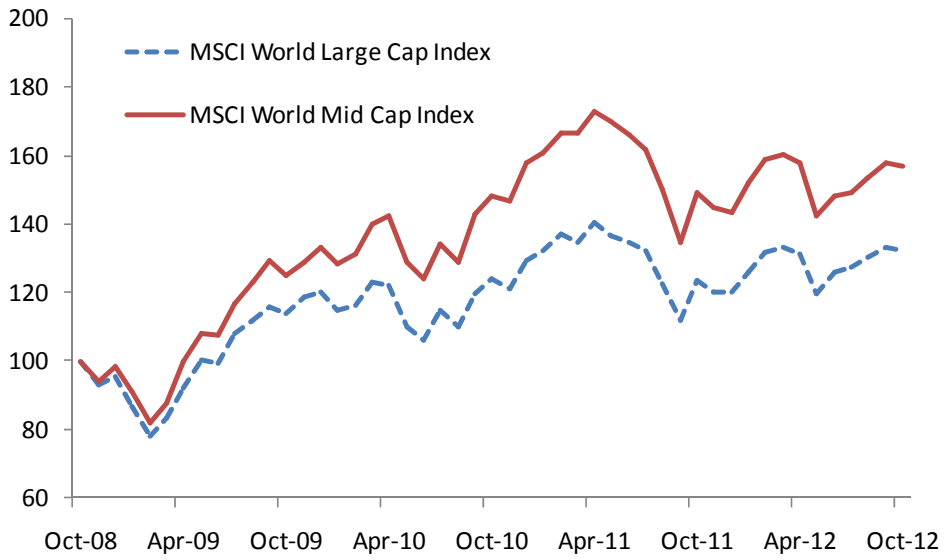
In recent weeks, some market observers have pointed to a number of recent global trends that have historically been supportive of mid cap performance. These trends include low interest rates, decreasing investor risk aversion, significant amounts of cash on the balance sheets of large companies, and well-funded private equity firms.[3] In this environment, mid caps provide security of principal relative to small caps, but better growth prospects relative to large caps. As pointed out by *Principal Global Equities* last month mid cap stocks have tended to be prime targets for acquisition by deep-pocketed large cap companies and often command take out premiums.[4]

Figure 2 illustrates the performance of MSCI World Large Cap and MSCI World Mid Cap Indices since the financial crisis of 2008. We see that both large and mid cap stocks have recovered substantially from their lows in March 2009; at the same time, we also observe that mid cap stocks have significantly outperformed large caps.

[3] See http://seekingalpha.com/article/999121-the-case-for-small-and-mid-cap-stocks-in-2013.

[4] The Best of Both Worlds: Opportunities in U.S. Mid-Cap Equities, Principal Global Equities, November 2012.

Figure 2: Performance of global large cap and mid cap equities since October 2008 (in USD).



Modeling the Mid Cap Effect

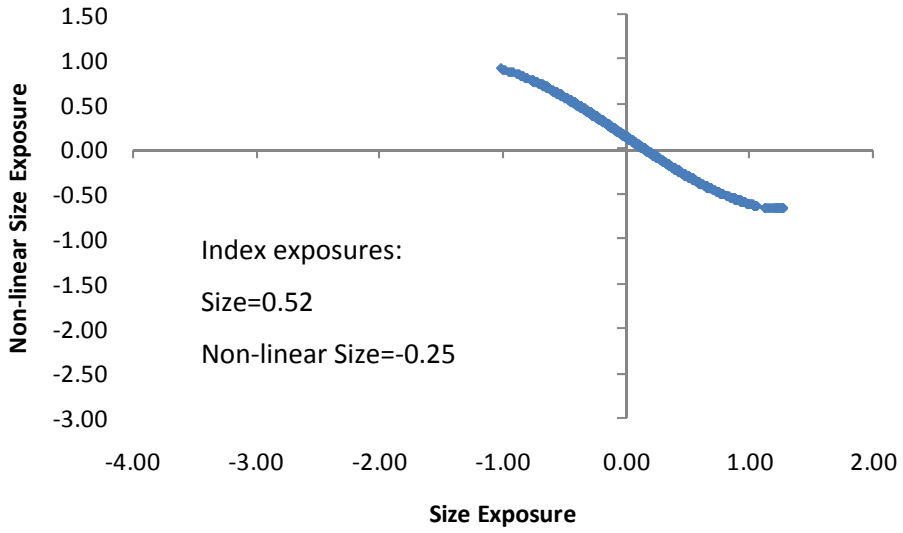
To account for the unique characteristics of mid cap stocks, the Barra Equity models typically include a style factor called Non-linear Size. This factor provides an additional dimension to the size profile of a company. A detailed description of the calculation of Non-linear Size factor exposure and the estimation of its return is given in the Barra Global Equity Model (GEM2) Research Notes.

Figure 3 illustrates how stocks in MSCI World Large Cap, Mid Cap and Small Cap Indices project on the exposures to Size and Non-linear Size factors as of November 26, 2012. While there is some overlap between Indices, we see that large cap stocks tend to have a positive exposure to Size and a negative exposure to Non-linear Size on this date. As we move into the mid cap segment, stocks tend to have a positive exposure to Non-linear Size and a negative exposure to Size on this date. Small cap stocks span both positive and negative exposures to Non-linear Size and have a negative exposure to Size on this date. Index level exposures confirm on this date that the combination of mildly negative Size exposure and positive Non-linear Size exposure picks up the performance associated with the mid cap segment.

It is also worth noting a more technical point: the regression in the GEM2 model is weighted by the square root of market capitalization. Therefore, regression weights give more prominence to large cap stocks. This, in turn, implies that the return of the Non-linear Size factor can be intuitively interpreted as capturing the return difference between the mid cap stocks and the overall market, net of all other factors in the model.

Figure 3: Size and Non-linear Size exposures by MSCI index (November 26, 2012).

MSCI World Large Cap



MSCI World Mid Cap

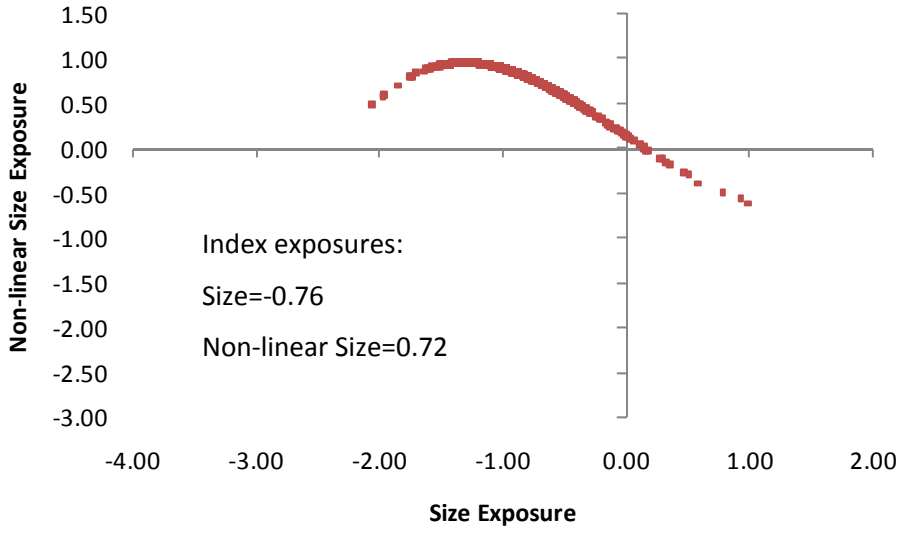


Figure 3: Continued.

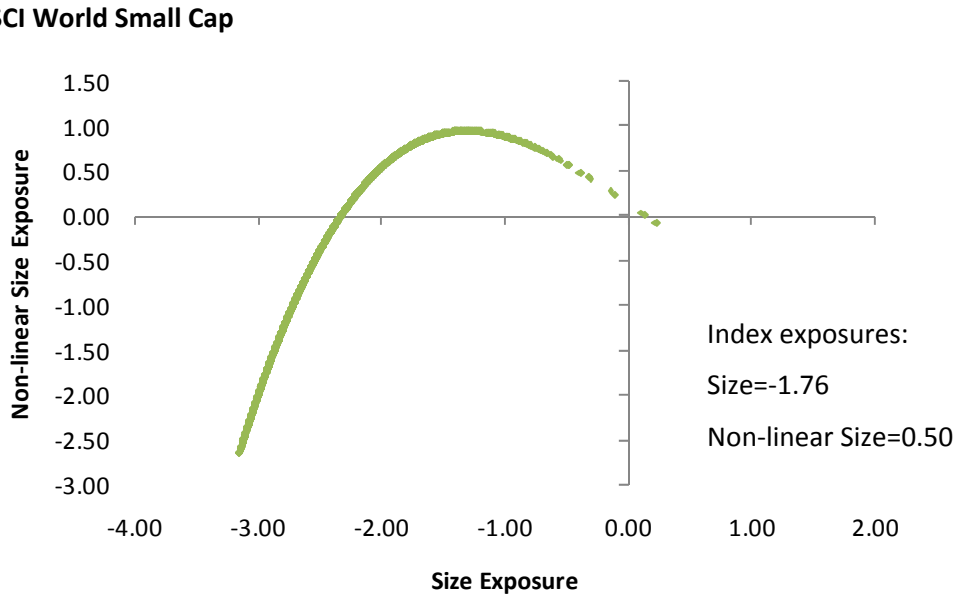
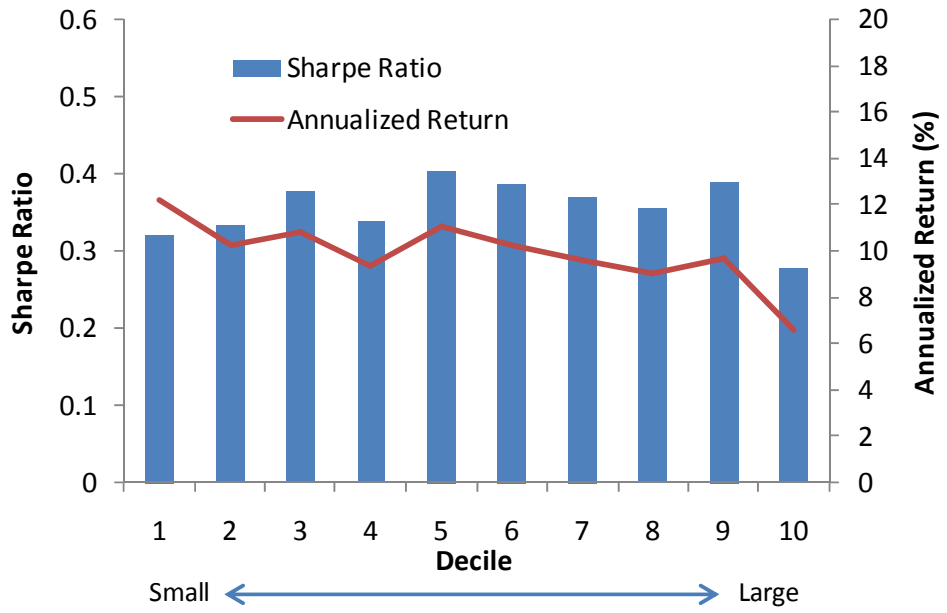


Figure 4 presents evidence of non-linear returns to firm size as observed in equities. To create this plot, we split the MSCI ACWI IMI Index into 10 decile portfolios, using exposure to the GEM2 Size factor. These portfolios are rebalanced monthly and their risk and returns are calculated for the four year period of October 2008—October 2012. Although small caps outperformed large caps during this period, the outperformance has not been linear. In fact, on the basis of risk adjusted returns, the middle deciles showed the best performance during this period.

Figure 4: Performance of size decile portfolios (October 2008 – October 2012).



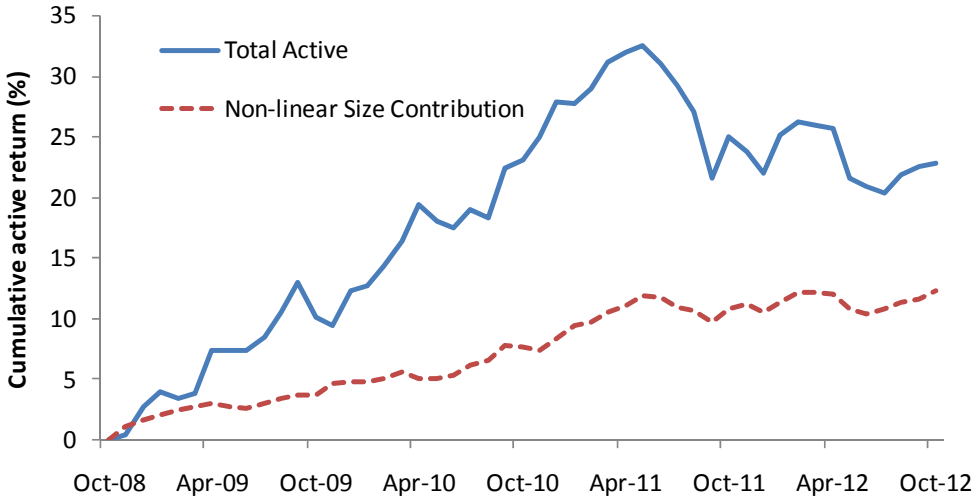
Further evidence of the importance of the mid cap effect is illustrated in Table 1 and Figure 5. During the four years since the financial crisis, the Non-linear Size factor had the second best risk-adjusted performance of all the style factors in the GEM2 model, eclipsed only by Value.

Table 1: Performance of global style factors, October 2008-October 2012.

	Cumulative return	Annualized return	Annualized volatility	Sharpe Ratio
Value	18.47	4.24	1.88	2.25
Non-linear Size	7.17	1.71	1.18	1.45
Growth	3.58	0.86	1.06	0.82
Volatility	-0.14	-0.03	7.42	0.00
Momentum	-1.96	-0.48	5.39	-0.09
Size	-0.95	-0.23	1.44	-0.16
Leverage	-2.97	-0.74	1.80	-0.41
Liquidity	-3.09	-0.77	1.11	-0.69

Figure 5 shows the cumulative active return of MSCI World Mid Cap against MSCI World Large Cap from October 2008-October 2012. We see that global mid caps outperformed large caps by 23 percent during this period. The Non-linear Size factor contributed roughly 12 percent to this performance.

Figure 5: Cumulative active performance of MSCI World Mid Cap benchmarked to MSCI World Large Cap.



Conclusion

Banz (1981) was the first to document the so-called size or small-firm effect. He illustrated that average annual returns are consistently higher on portfolios of small cap firms relative to large cap firms in the US market. Subsequently, his findings were confirmed for other markets.

In this report we illustrated how in recent years the relationship between the firm's size and its returns has been richer than the linear structure proposed by Banz. Mid cap stocks have a unique blend of characteristics of both large and small capitalization companies during the observed period. They have offered impressive risk-adjusted performance during the last four years.

The global mid cap effect is captured in the Barra Global Equity model (GEM2) through the Non-linear Size factor. We have seen this factor during the observed period capturing the return difference between mid cap stocks and the overall market, net of the other factors. Mid cap stocks have tended to have a positive exposure to Non-linear Size and a negative exposure to the Size factor during this period. We have shown that since the global financial crisis of 2008, the impressive performance of global mid caps was attributed to, in large part, their exposure to Non-linear Size. Monitoring the exposure to this factor may provide investors with a fresh view of the mid cap effect in their portfolios.

References

Banz, R., 1981. "The Relationship between Return and Market Value of Common Stock," Journal of Financial Economics, vol. 9: 3-18.

Menchero, J., Morozov, A. and P. Shepard, 2008. "The Barra Global Equity Model (GEM2) Research Notes," MSCI White Paper.

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[1] *As of June 30, 2011, based on eVestment, Lipper and Bloomberg data.*