A Look at the Liquidity Factor in GEM2 | December 2008

MSCI Barra RESEARCH BULLETIN

Introduction

Liquidity is one of four new factors added to the newly released version of the Barra Global Equity Model (GEM2). The Liquidity factor is a low volatility factor which has seen persistent positive returns over the last decade. In this Research Bulletin (the third in a series focusing on GEM2), we take a deeper look at the factor, its definition, its performance, and its explanatory power in different time periods.

The GEM2 Liquidity Factor: Definition and Performance

The Liquidity factor in GEM2 captures the excess return premium of liquid stocks relative to their less liquid counterparts, all else being equal. Liquidity is captured by three descriptors in the model-share turnover at the monthly, quarterly and annual frequencies.[1] Turnover is measured as the ratio of volume (shares traded) to the number of shares outstanding. This definition of liquidity in GEM2 is one that reflects the amount of trading activity for individual stocks. Unlike other definitions of liquidity, such as market liquidity (the ease with which a trading partner, on the other side of a trade, can be found for a given order), our definition reflects more broadly that aspect of a firm's tradability which is not captured by the market cap (the GEM2 Size factor). Figure 1 shows the cumulative returns of the GEM2 liquidity factor alongside the MSCI World Index.

Figure 1: Cumulative Return to GEM2 Liquidity

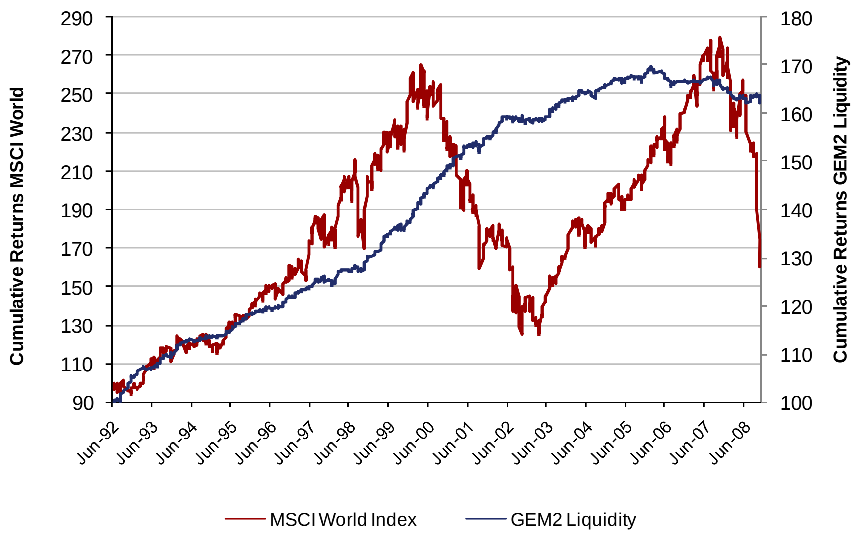


Figure 1 shows the positive persistent return exhibited by the GEM2 liquidity factor for the better part of the last decade, even during the bear market of 2000-2003. In fact, the premium earned by liquid stocks is among the most persistent styles among the GEM2 set of style characteristics. Only the well-known Value premium has a higher return-to-risk ratio.

Table 1 summarizes the performance of the eight style factors in GEM2 using weekly data over the period June 1, 1992 to October 20, 2008. The table highlights Liquidity's high return-risk ratio relative to the other factors. Moreover, it is among the group of lower volatility factors.

[1] For more details, please refer to Jose Menchero, Andrei Morozov and Peter Shepard, "The Barra Global Equity Model (GEM2)", MSCI Barra Model Insights (September 2008).

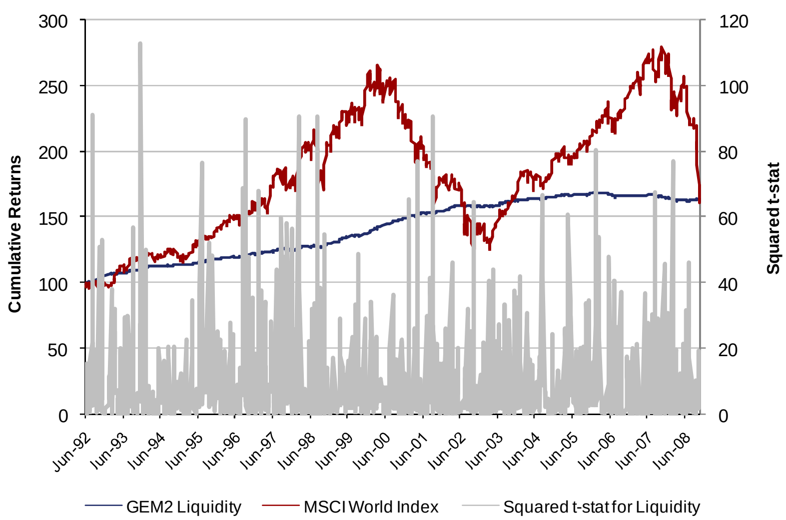
Table 1: Return-Risk Characteristics of GEM2's Style Factors

	Annualized Return	Annualized Risk	Return-Risk Ratio
Value	4.71%	1.64%	2.87
Liquidity	2.93%	1.48%	1.98
Momentum	5.20%	3.32%	1.57
Size	0.89%	2.25%	0.40
Growth	0.45%	1.26%	0.36
Size-Nonlinearity	0.46%	1.45%	0.32
Financial Leverage	-0.41%	1.52%	-0.27
Volatility	-3.12%	5.97%	-0.52

Periods of Significance

Risk model specification requires a blend of choosing factors which are meaningful in explaining the cross-section of returns, as well as identifying factors which provide insight into the characteristics of the investor's portfolio. Among the four new style factors added to GEM2, Liquidity is among the less important factors in explaining the cross-section of returns, surpassing only the Leverage factor in importance. The percentage of weeks in which the Liquidity factor has a t-stat with an absolute value greater than 2 is 53% over the January 1997 to October 2008 period. The squared t-stats for GEM2 Liquidity (weekly) are shown in Figure 2.

Figure 2: Periods of Significance for GEM2 Liquidity



One natural question is whether the periods in which the Liquidity factor is significant correspond to particular market developments. In times of market duress, investors may sell their more liquid names as they reposition into other asset classes. An unexpected upward pop in markets may favor liquid stocks if investors are looking for quick and low cost equity exposure. In Figure 2, we observe certain critical weeks including those ending August 24, 1998 ("Russian Ruble crisis") and August 13, 2007 ("August Meltdown"). Table 2 shows the returns to the market (MSCI World

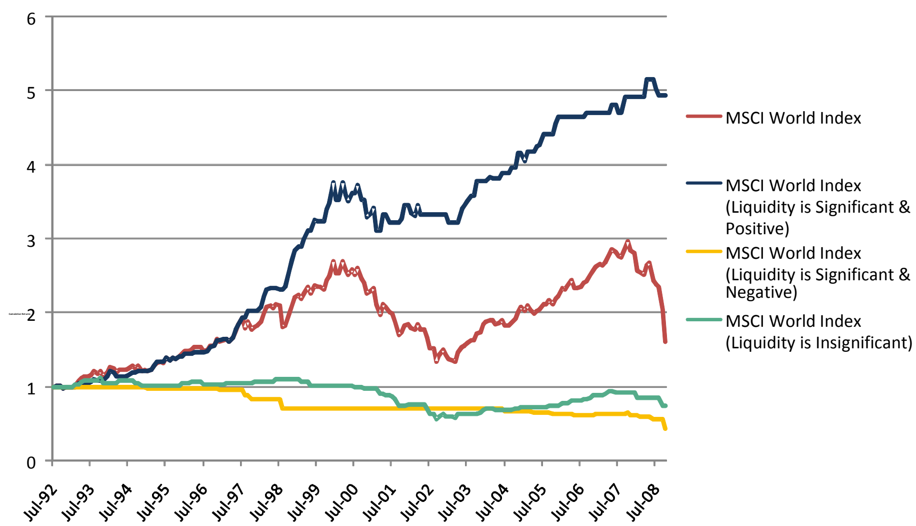
Index) and the eight GEM2 style factors during times when the Liquidity factor is significant (absolute t-stat > 2.0). The monthly regression results (weekly results are shown in Figure 2) are used in Table 2 when testing for significance.

Table 2: Temporal Significance of the Liquidity Factor (Annualized Average Returns Shown)

	MSCI World Index	Growth	Liquidity	Size Non-Linearity	Size	Value	Leverage	Volatility	Momen-tum
Whole Period, 6/92 – 10/08	4.03%	0.07%	3.38%	-0.42%	-0.02%	4.71%	-0.48%	-2.50%	4.09%
Significant and Positive	19.06%	0.60%	7.58%	-0.35%	-0.46%	5.10%	0.04%	3.04%	3.36%
Significant and Negative	-37.02%	-1.14%	-5.42%	-0.01%	1.20%	2.56%	-2.57%	-11.92%	7.65%
Insignificant	-4.27%	-0.32%	0.10%	-0.68%	0.21%	4.91%	-0.51%	-7.59%	3.74%

When the Liquidity factor is significant and earns a positive return, the market tends to do extremely well (averaging 19% returns). When the Liquidity factor is significant and earns a negative return, the market performs extremely poorly (averaging -37% returns). The market's performance when the Liquidity factor is not significant is much more muted but on average negative. This same pattern is also mirrored by the Volatility factor suggesting that the two factors may be positively correlated and liquid stocks tend to also be high beta stocks. In fact, the correlation between Volatility and Liquidity has been positive on average, 0.38 over the 1992-2008 timeframe. To highlight this, Figure 3 shows the results of a modified return series where the MSCI World Index return is used when Liquidity is significant and zero if otherwise.

Figure 3: Market Performance and Significant Periods for GEM2 Liquidity



Going long the MSCI World Index only in months in which Liquidity is significant and positive yields a nearly 500% return between 1992 and 2008 compared to the 161% return for the actual index. The same exercise when Liquidity is significant and negative yields a 56% loss.

Conclusion

Here, we discuss some preliminary observations on the behavior of the GEM2 Liquidity factor. This factor reflects the return to stocks with higher trading activity net of the effect of other common factors including market cap. We see that the factor has earned a sizable and persistent premium over the last decade, and is among the lower volatility factors. We also find evidence that the market is subject to larger-than-average movements in periods in which the factor is statistically significant. That is, the liquidity factor return tends to be statistically significant when the market moves up or down in a meaningful way.

Earlier Research Bulletins in GEM2 Series:

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