However unpredictable the timing of the massive correction of the past 3 weeks might have been, the potential for losses on precisely the scale observed has been visible to our statistical analysis for many weeks.

Omega Metrics® Multi-Day Loss Predictions and Market Corrections

Nobody could have expected the incredible boom in the Chinese equity markets to continue uninterrupted. In the past three weeks the Shanghai Composite Index has dropped by over 28%, with a 23% loss in the 10 days of trading to 3 July 2015.

Omega Analysis' advances in statistical technology allow risk measurements of unprecedented accuracy in financial data series.They have made the risk of significant daily losses and large drawdowns in the Shanghai Composite Index plainly apparent for several months now.

Risk Predictions and Daily Returns

The daily Omega Metrics Value at Risk (VaR) and Expected Shortfall (ES) measured from short samples of historic data have a high degree of predictive power out of sample. Over extended time periods, VaR breaches are in excellent agreement with the target frequency and ES breaches are consistent with the (time varying) tail model's predicted frequency. Because it is breached relatively rarely, ES can be used to size market exposures with confidence.

The 1 in 100 day VaR for the Shanghai Composite Index *doubled* between January and mid May of this year–as did the Expected Shortfall. While the largest single day losses since then have been VaR breaches, none of them has come close to exceeding the ES level, which has been above 8.7% since the beginning of May.

Multi-Day Risk Measurement

Single day losses do not tell the whole story of course. It has been the accumulation of many daily losses, only a few of which were VaR breaches, combined with weak gains, that produced the headline collapse over the past three weeks.

Naive rules for extending daily VaR and ES to multiple day periods are inadequate for predicting such losses.

Our fundamental advances in probability and statistics have allowed Omega Analysis to extend to 5, 10 and 15 day periods the same out of sample predictive power which Omega Metrics VaR and ES provide for daily returns.

The 1 in 100 day VaR and ES levels for each of these periods also rose dramatically *in advance of* the recent large losses.

By the end of May the ES level for 10 day returns on the Shanghai Composite Index had reached 17.4%. The subsequent 10 days produced a loss of just over 18%.

The ES level for 15 day returns was already 20% by the beginning of May. By the end of June it had reached 23%.

So however unpredictable the timing of the massive correction of the past 3 weeks might have been, the potential for losses on precisely the scale observed has been visible to our statistical analysis for many weeks.

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