

Japan And The Risk Of Ruin

Technical analysis is a terrific tool, as are many technical analysts. A common conceit amongst this crowd is all markets are “just numbers.” This is a profound error as it ignores the different distributions of returns and their bounds; I have identified at other times and in other places no fewer than twelve such differences between commodities and equities.

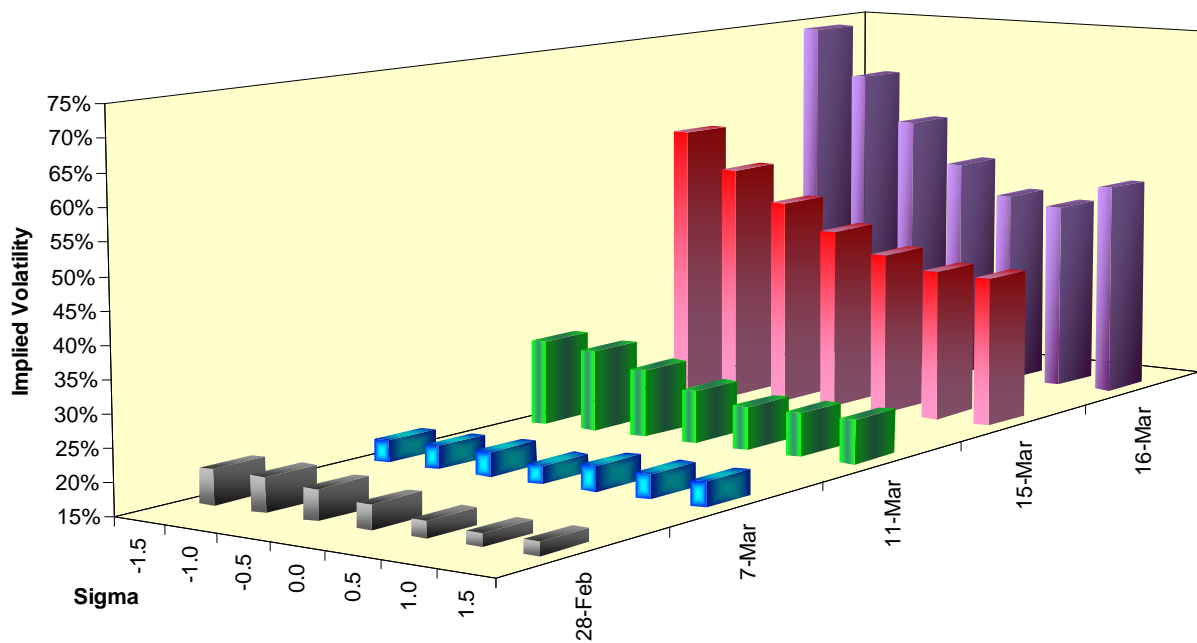
The differences within the equity world are significant as well. It takes no great leap of imagination to see any stock going to zero; firms go bankrupt all too frequently, and as discussed just last year in the case of [BP](#), the progression of their option skews flash telltale signs when the vultures start circling and begin pricing at-the-money put options higher in anticipation of their maximum payoff, the present value of the strike.

Can something similar happen for a national market index? On the surface it seems unlikely an entire market can go to zero, but it is not impossible. Had there been a Carthage Stock Exchange, what would its capitalization have been after the Romans got done with them?

The Case Of Japan

Let’s use the iShares MSCI Japan Fund (EWJ) as a representation of the Japanese national market. The Japanese market had been under modest pressure before the earthquake and tsunami hit on March 10, 2011. Let’s use the modest up-day of February 28, 2011 as the starting point of the analysis and map option volatilities across a range price changes as measured by standard deviation of returns.

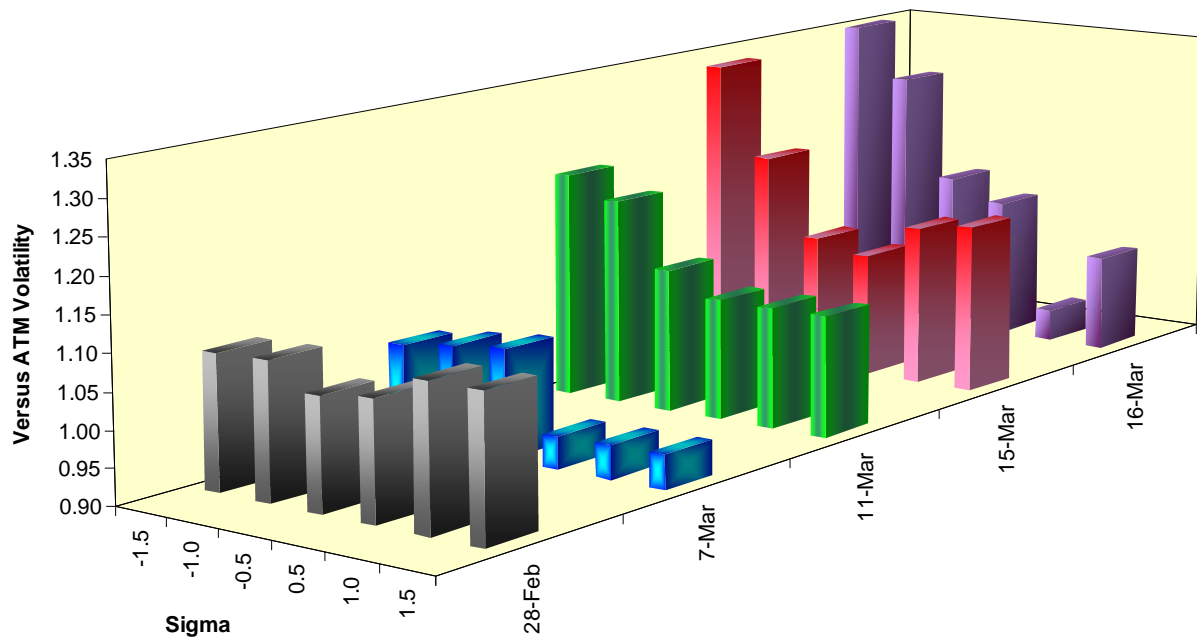
iShares MSCI Japan Volatility At Selected Dates



Volatility rose and rose sharply after the extent of the disaster became apparent; no surprise there. What is noteworthy, however, is how the volatility at the out-of-the-money strikes (-1.5 and -1.0 σ) rose the most on March 15, 2011 and how out-of-the-money call volatility rose on March 16, 2011 to restore a distinct smile to the curve.

We can rearrange the data and display it as multiples of the at-the-money volatility level. If the market were in fact pricing in a risk of ruin for Japan, we would see higher multiples at the 1.0 and 1.5 σ strikes and less panicky buying of out-of-the-money put option protection.

iShares MSCI Japan Volatility Smile



Now, as the Wall Street cliché runs, it is a market of stocks and not a stock market (future archaeologists might get confused as identify Lower Manhattan not as the center of finance, but as the nation's leading source of trite wisdom for every occasion). Therefore we can assume some firms in Japan indeed will go bankrupt as the result of the natural disasters and the Katrina-like failure of manmade systems. These firms' volatility patterns surely will leave the telltale signs of ruin, including higher at-the-money volatility. However, for the Japanese market as a whole, the options market is telling us much of the reaction is preemptive and panicky buying of put options, something that will be overcome in due course and not a stop on the road to zero.