

BP Option Skews And Its Risk Of Ruin

You always hear when you are a hammer, the whole world looks like a nail, which begs the question what the world looks like to a screwdriver. But we do know what the world looks like to equity option traders with volatility smiles and skews; at normal times and during normal circumstances, we expect volatility at lower strikes (“moneyness” less than 100%) to be higher than that of higher strikes (moneyness greater than 100%). This occurs with regularity both at the single-name levels and at the index level where measures such as the VIX rise when the S&P 500 falls, and vice-versa.

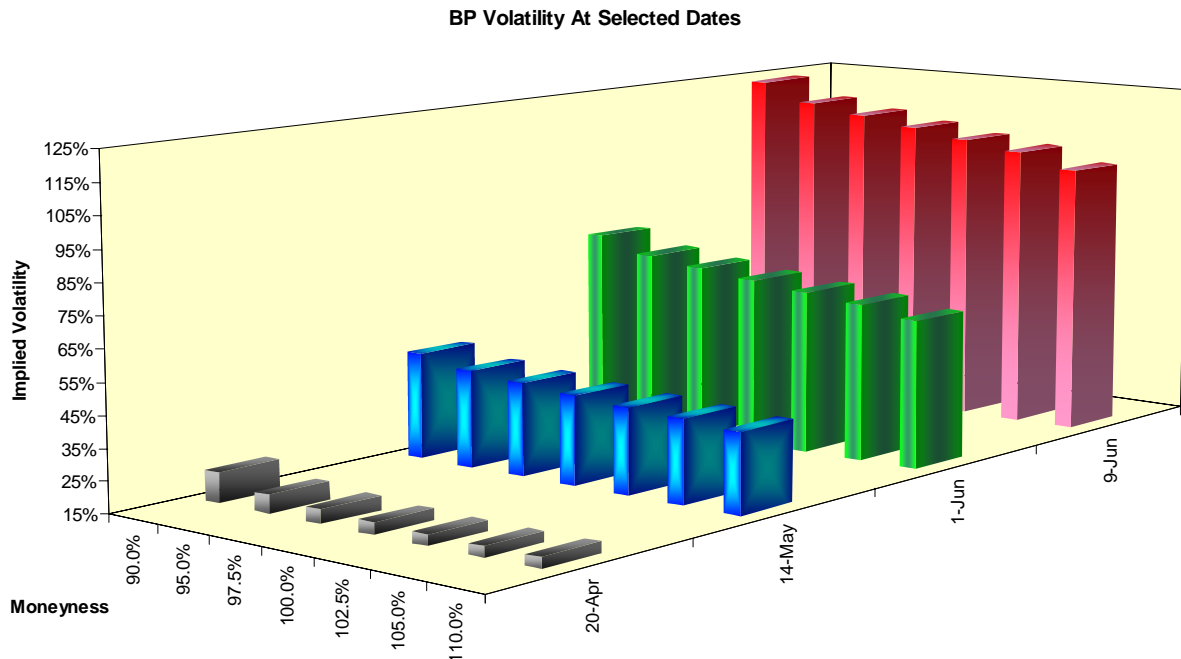
We also expect volatility to have a smile, or pattern of higher volatility as we move away from the at-the-money or 100% moneyness strike. Armed with these expectations, we can make certain inferences whether options are pricing in a greater risk of a firm disappearing from the scene. If this is the case, we should expect to see greater than normal volatility at the 100%+ moneyness strikes as put option buyers become willing to forego the greater leverage of the out-of-the-money strikes in return for a rising probability of the options with greater intrinsic value expiring at their maximum of [present value of strike less premium paid].

As an aside, this is one of the major differences between stocks and commodities and why you should not treat them as one and the same: Try though you may, you cannot force corn or copper into bankruptcy. Stocks can and do start singing in Monty Python’s choir eternal.

And in a second aside, which uses up my allotted maximum for one week, the credit default swaps of a firm in trouble not only rise with its equity volatility in these cases, but the forward curve of CDS costs inverts; short-dated CDS cost more than their longer-dated counterparts. In the case of BP, these CDS are priced in euros, which means the successful buyer of CDS protection on BP would get paid in euros; you are free to sort out the implications of this absurdity for yourself.

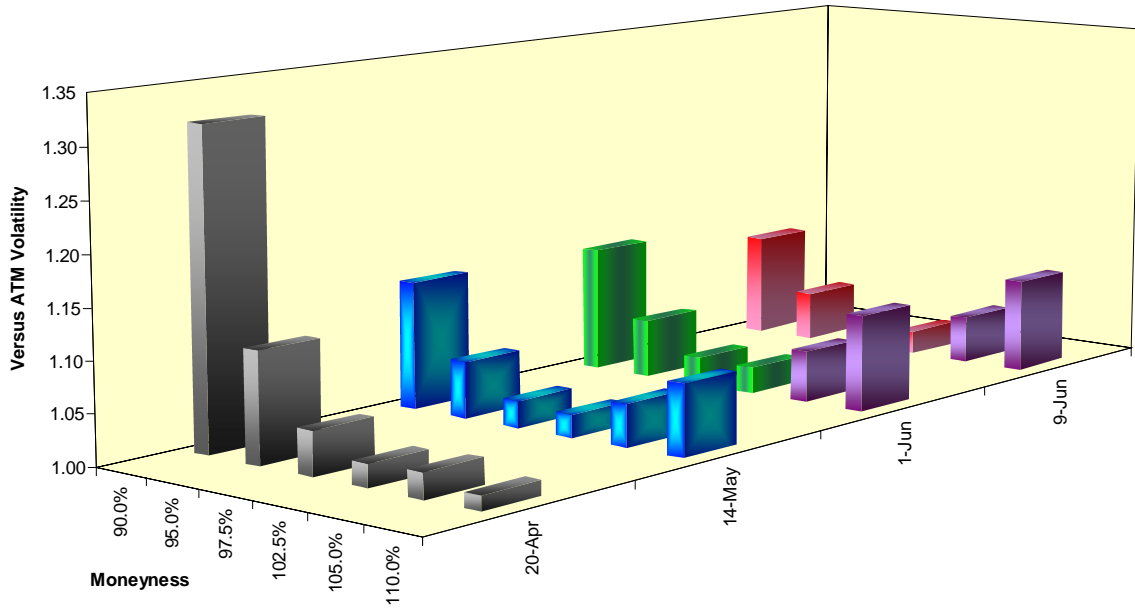
BP History

If we map BP volatility at a succession of dates including the April 20, 2010 explosion of the Deepwater Horizon rig and three gap-down days thereafter, we see the rising volatility skewed toward the sub-100% strikes we expect.



If we now rearrange the very same data to a smile map where each strike’s volatility is taken as a ratio of the 100% moneyness strike, we see a second pattern. The relative volatility of the 105% and 110% moneyness strikes starts to increase; by the time we get to the June 1st and June 9th gap-down days, these volatilities have increased well beyond their starting values (highlighted in violet data points).

BP Volatility Smile



The market is pricing in the risk of ruin here just as it has for firms such as Transocean and, earlier in the year, for Goldman Sachs. The financial crisis of 2008 produced a series of such events, including astonishingly high volatility readings for firms such as Morgan Stanley and Citigroup still with us.

BP will be out of the woods according to option traders when the 100%+ moneyness levels decline to normal in relation to also-declining ATM volatility levels. That is one way of looking at it. The other way is it will be out of the woods when the U.S. and British governments decide who pays what to whom and what will be left over as a functioning corporate entity. What does the world look like when you are a politician?