

Calendar Volatility Setups

Using calendar spreads to trade low volatility

Steve Lentz

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Back in December of 2003, when I originally drafted this article, an unusual volatility situation presented itself. Initially, many stocks had options trading at all-time low implied volatility (IV) levels, and a vast number had IV percentile rankings below 10%. At OptionVue Systems, we refer to such chains as being "inexpensive". IV percentiles above 90% would define an option chain as being "expensive".

Second, statistical volatility (SV) levels were also at or near all-time lows and often stayed beneath the IV levels. This presented a situation we call "overvalued": the circumstance when IV is at a higher level than SV. It is possible for options to be both inexpensive and overvalued. In fact, a great many option chains were in that condition.

Take a look at Figure 1 below, and notice how this Survey format picks the 100 option chains that have the Highest IV to SV ratios. These were the most "overvalued" option chains back in December.

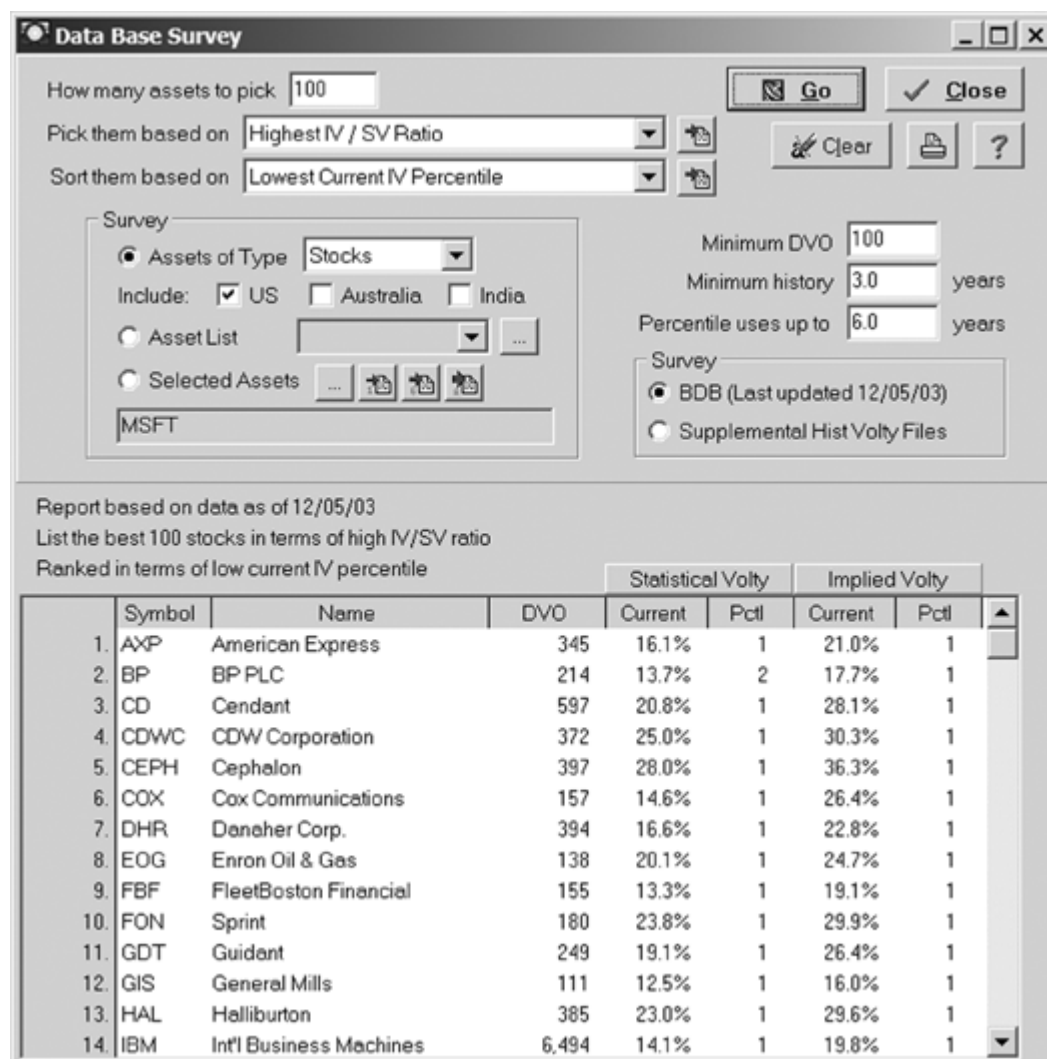


Figure 1

These 100 most overvalued option chains were sorted in order of the Lowest Current IV Percentiles, meaning that we wanted the inexpensive chains to appear first. The results were very interesting. At the time, 31 option chains had IV percentile rankings of just 1%, and 61 had IV percentile rankings under 10%. This was significant because it not only spoke of the overall market environment but it also presented interesting option trading opportunities.

Last year, the equity markets ascended very gradually with just a few bumps along the way. Thus, statistical volatility (SV) generally declined across the board. In addition, equity options tend to have declining IV levels when prices ascend, and the months leading up to December were no exception.

We found ourselves at a point in market history where a remarkable number of option chains were both "overvalued" and "inexpensive" at the same time. IV levels had declined to historically low levels, but not so low that they reflected the true volatility of the underlying stocks.

But how would we trade in this environment? In some cases, the answer may be calendar spreads.

Calendar Spreads Reviewed

Calendar spreads represent the epitome of why traders should consider options as a trading vehicle. Not only can this approach create wonderful reward to risk ratios, but high probability opportunities constantly present themselves to the calendar spread trader. In addition, this method allows the option trader to exploit probable movements in implied volatility (IV).

Calendar spreads involve the sale of options in a near month, and the purchase of options in a farther month. Typically, both legs are opened at the same strike price and with the same number of contracts. Variations, though, involve ratio strategies and also using different strikes or "diagonal" spreads. Calendar spreads are net "long" option premium positions since you are spending more money for the farther-out options than you are taking-in for the sale of the near-month options.

Increasing IV

Since calendar spreads involve net "long" premium, one advantage to this approach is that it exploits increasing implied volatility levels. Figure 2 below shows a volatility chart for IBM as of December, 2004. Study this chart and note how IV historically tends to rise after it hits an all-time low.

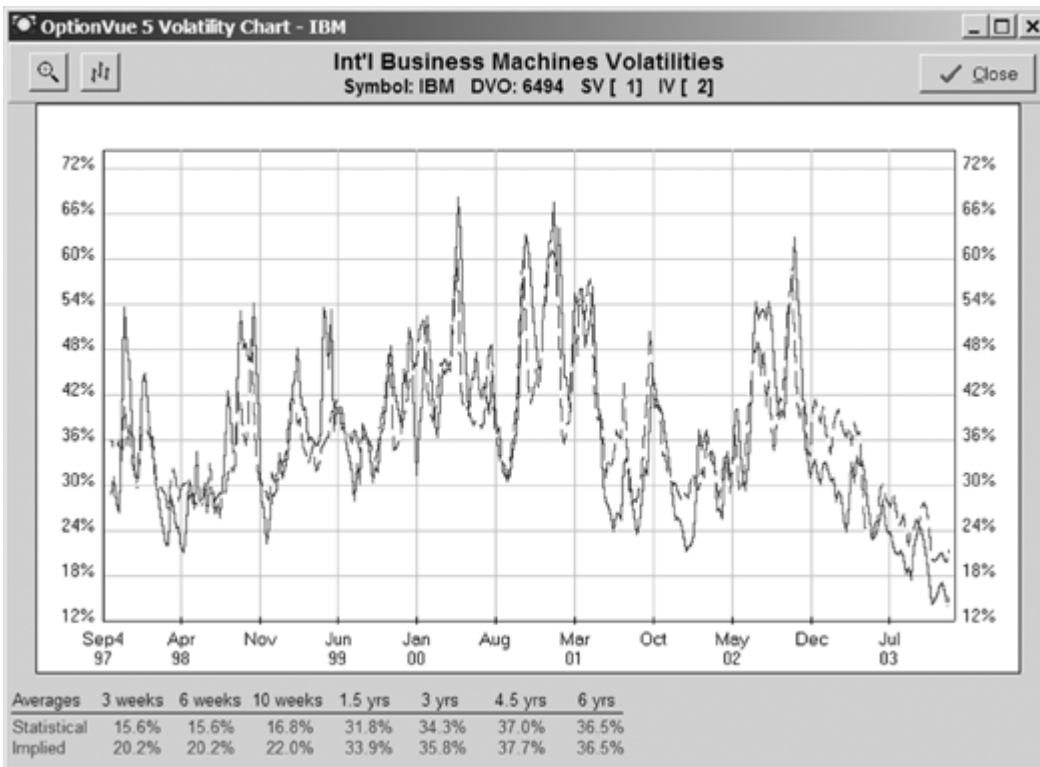


Figure 2

Until recently, IBM's IV levels would increase after dipping below 30. This "reversion to the mean" effect is well known throughout the option trading community. Whenever, IV gets to an extreme level, it tends to reverse course and go back towards its long-term average.

Last year, however, has proven difficult for volatility-based traders that bank on this phenomena. In the above chart, notice how IV hit 30 and just kept declining. Springtime straddle buyers had obviously not done well since time decay had worn down their positions as they patiently waited for IV to rise.

Nevertheless, the likelihood remained that IV will eventually reverse course and head upward once again. While we waited, however, calendar spreads could make money in time decay rather than yield it. This represents only one more advantage to this method.

An Example

Let's take a look at an example from the list of candidates in Figure 1. Those assets with an IV percentile ranking of 1% were all listed in alphabetical order. Subsequently, those with a 2% IV percentile were all ranked in their alphabetical order and so on. IBM's high DVO (dollar volume of options traded) stands out and represented a higher liquidity level.

For purposes of illustrating a calendar spread, we assumed a neutral price outlook for IBM's stock and subsequently proposed a trade in the at-the-money put options shown in Figure 3.

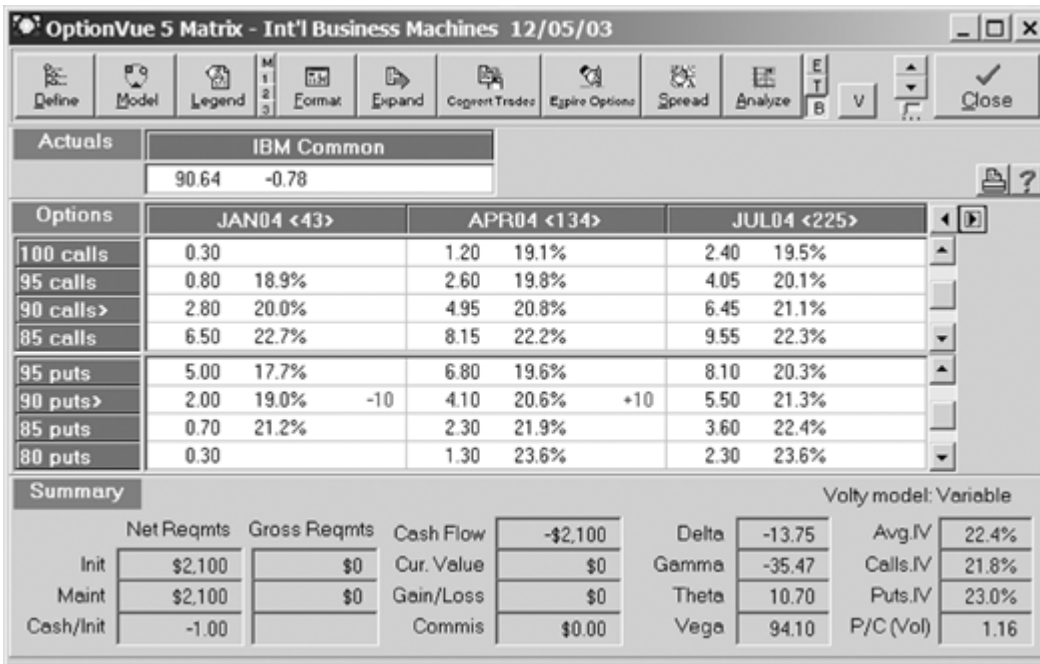


Figure 3

The above OptionVue 5 Matrix displays the market price for each option as well as the implied volatility of that price. In our proposed trade, we sold the near-month (Jan 04) 90 puts and then bought the same strike puts in a more distant month (April 04). As summarized below the Matrix, this trade cost us \$2100 (\$2000 credit against the \$4100 debit).

Also, take a look at the greek values for this position. The position theta was 10.70, meaning that the first days' time decay yielded a positive \$10.70 to the trader. Also, the position vega was 94.10, meaning that if IV went up just 1%, then the trader earned \$94.10 on this factor alone. So, our trader began this trade by being paid time premium while waiting for IV to increase...a much more comfortable scenario for some traders.

Figure 4 displays the Graphic Analysis screen for this trade.

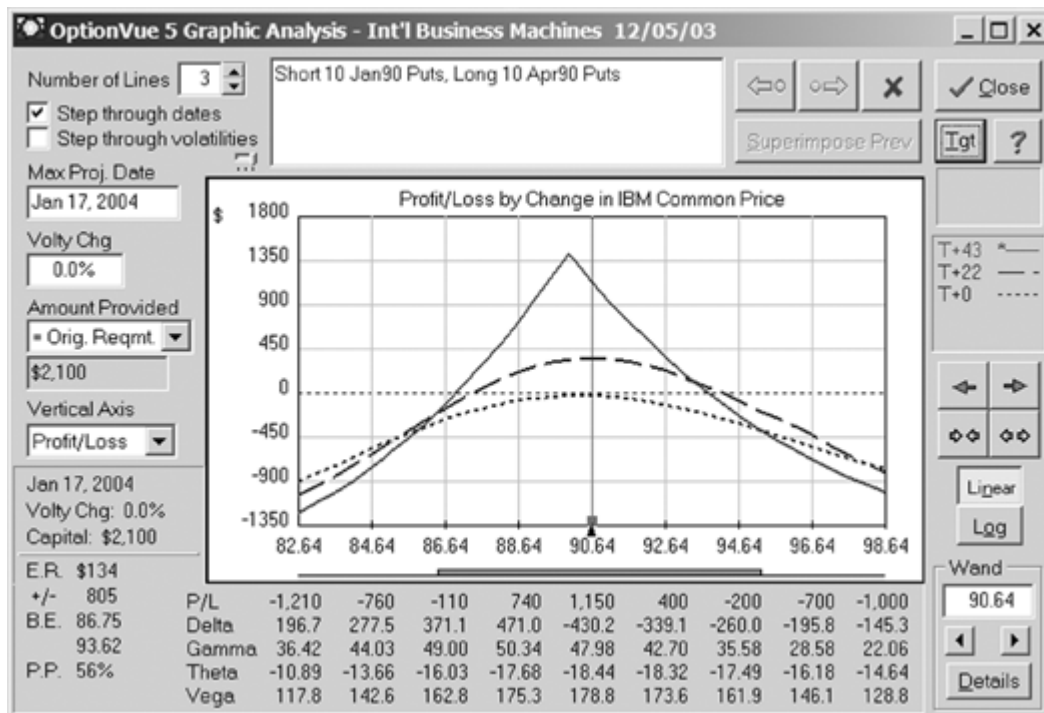


Figure 4

The overvalued nature of these options resulted in a 56% probability of profit. The very low statistical volatility (SV) created a narrow bell curve such that the breakeven points for this trade were almost out to the borders of first standard deviation defined by the purple line under the X-axis. A higher SV figure would widen the standard deviation borders and thus lower the probability of profit.

Show Me the Money

The real payoff would occur if IV rose during the course of the ensuing 43 days. In the Volty Change window, a modest 5% increase would dramatically affect all aspects of this trade as shown in Figure 5 below.

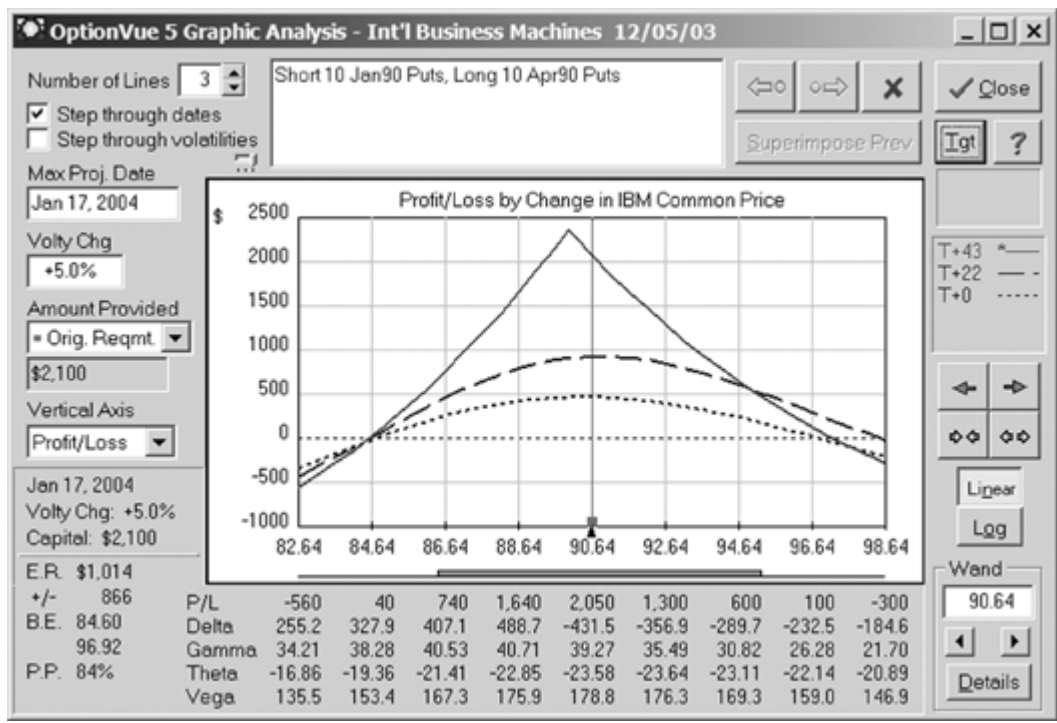


Figure 5

If the implied volatility of the option prices rose by just 5% in 43 days, then the probability of profit would rise to 84% and the maximum gain for this trade would rise to over \$2000 as well. Not too bad if the stock price just channeled along. Of course, highly dramatic moves in either direction would present a drag on profits, and any seasoned trader would watch the position to manage and limit any such losses.

Variations on the calendar spread include using out-of-the-money (OTM) put options if you are bearish instead of neutral, and out-of-the-money call options if you are bullish. Some neutral traders might also try modeling a "dual" calendar spread which requires placing a calendar spread in both the OTM calls and OTM puts.

Whatever calendar spread approach you use, just remember that increasing IV will help your position immensely, and it helps when the stock's SV is low and stays low. Good luck.