

Simulating the Underlying with Options

How to buy stock without buying the stock itself

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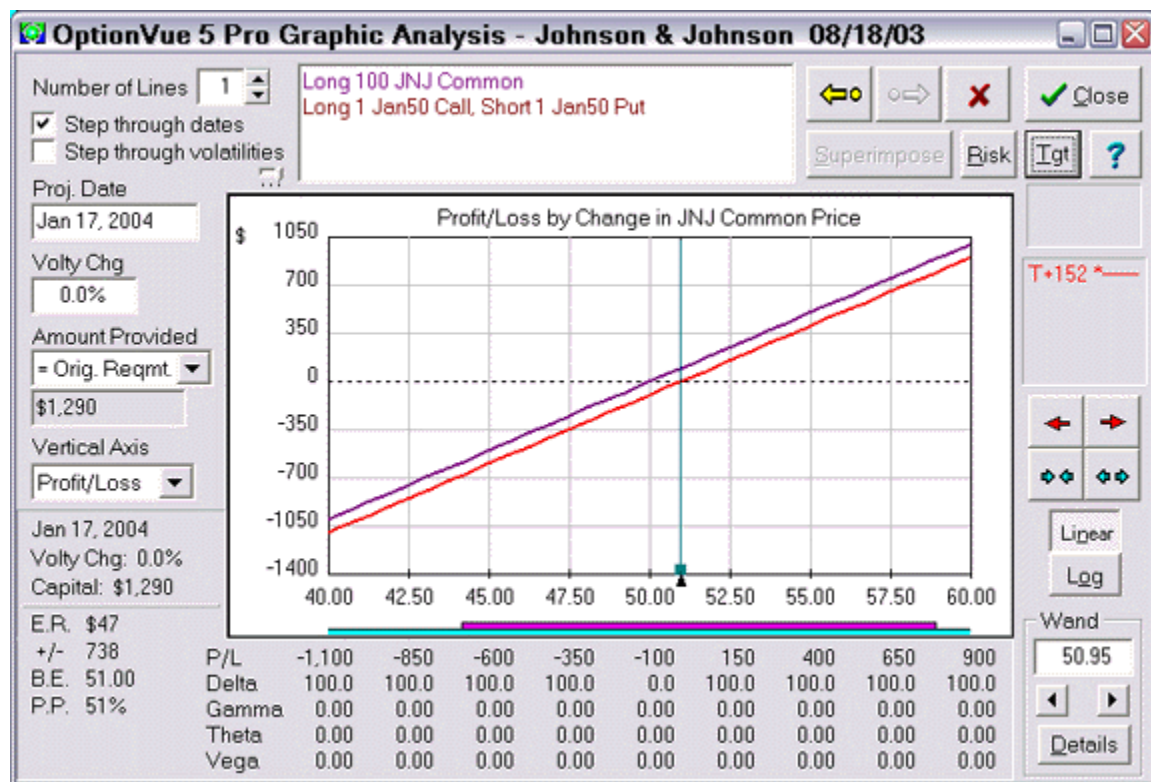
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Did you know there is an option strategy – involving just two options – that behaves exactly like a position in the underlying? It's called a synthetic, because you're "synthesizing" a position in the underlying.

A synthetic is constructed by buying a call and selling a put of the same strike and duration (to simulate being long the underlying), or buying a put and selling a call of the same strike and duration (to simulate being short the underlying).

Since a synthetic performs exactly the same as being long or short the underlying, the question naturally arises: Why do a position with two transactions when you can do it with one? Well, the fact is that the capital requirements for a synthetic can be a lot less than going long or short the stock, even when using maximum margin on the stock.

For example, to purchase 100 shares of Johnson & Johnson common stock (Symbol: JNJ) at the current price of \$50.92 per share would cost \$5,092 in cash cash (or \$2,546 collateral on 50% margin). To buy an at-the-money synthetic would cost a net \$100 cash, plus \$1,190 collateral, for a total of \$1,290. Not only is this a considerable difference in collateral, the cash flow difference means that with the synthetic you get to keep your cash (all but \$100 of it) and use it to earn interest.



The above illustration shows the Johnson & Johnson synthetic long as compared to the long stock position. Notice that the two lines are very close together. The only reason the line for the long stock position runs just above the line for the synthetic is because of dividends. The stock owner collects them, while the owner of a synthetic will not.

You're probably thinking there must be a catch. Is the synthetic riskier? Actually, since the synthetic delivers exactly the same performance as a position in the underlying itself, there is no additional risk in using a synthetic.

There are just two minor "catches". One is the fact, already mentioned, that you miss out on any dividend income. The other is the possibility of early assignment if the short leg goes deep in-the-money. Early assignment is especially likely with a short deep-in-the-money put.

What would happen if you get assigned on that short put? You will now be long the stock (instead of short a put), plus still be long a call option. Since the long call option is far out-of-the-money at this point, it is low priced and has very little delta. So you are essentially just long stock, which is exactly the same in its performance as the original synthetic.

Thus you are not exposed to any sudden risk. There is no urgency to respond immediately in some way following assignment. While the cash flows of the assignment itself do not create a loss for you (or a gain), your collateral requirement will increase, since you now own the stock.

Another advantage of synthetics is that you can use them with assets where there is no tradable underlying, such as indexes. Let's say you

are bullish on the semiconductor industry as a whole. Using the popular Philadelphia Semiconductor Index (\$SOX), you can easily construct a long synthetic, in effect "buying" the index, a trade that could not be done without using options:

