

# Focus on Derivatives

## The Good the Bad and the Ugly – Market Lore and Overwriting?

The original title for this article was going to be “Myths About Covered Call Selling”, except a Google search on the title returned 319,000 results. Apparently, I’m not the first to think about this. After rummaging through many of the results to see if I could add something to the discourse I was honestly shocked at most of what I read. Apparently, the bar is quite low to fashion yourself as an options expert. Even those who have worked in the investment business seem to be uninformed. They typically use Wall Street/Bay Street “wisdom” or folklore in place of evidence based facts. There are a couple of worthwhile articles but overall, the literature is heavily tilted towards inducing investors to trade options as opposed to providing information to help them do it properly.

The following are some of the more common examples I found of misinformation masquerading as market wisdom.

### 1. “It’s easy to do.”

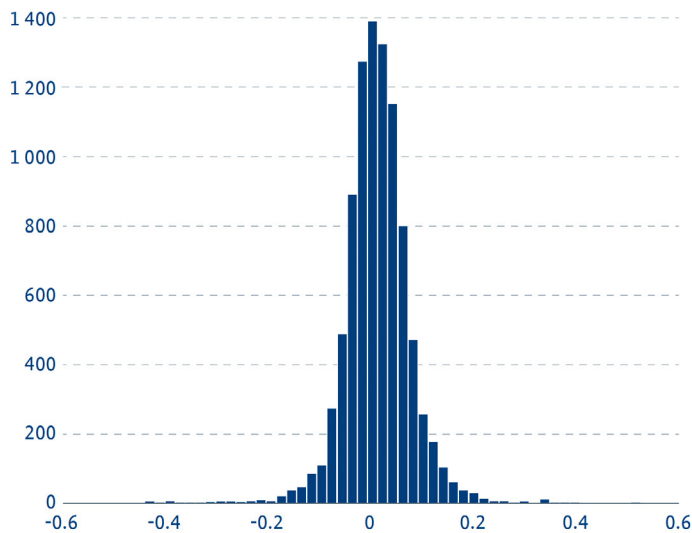
This is true, it is easy to do. Open an account, sell options. Brain surgery is also easy to do with a saw and a sharp knife. Doing it skillfully, however, is a whole other matter. If you don’t fully understand what you are doing you might want to think twice about doing it because easy is not synonymous with good. If you subscribe to any of the points that follow, then it’s time to roll up your sleeves and advance your option education.

### 2. “I’d be happy to sell it there.” / “I’d be happy to buy it there.”

No, you probably won’t. When a stock is trading at \$30 it’s easy to say that you’d be happy to sell it at \$32 AT THAT MOMENT IN TIME. Immediate profits always sound good, but the payoff on your options trade is not immediate and a lot can happen between now and expiry. Rest assured that the glow from imagining a \$2.00 profit will quickly dissipate when your assignment notice comes with the stock trading \$8 higher than the strike. The same also applies to cashsecured puts. You might be inclined to say “I’m happy to own it at \$28”. It sounds nice but the problem is that you’ve sold your decision making ability and are at the mercy of the market until expiry. If you had not written a put, and an event happens before expiry (strike, lawsuit, bad earnings etc...), you can evaluate the situation and decide what to do at that time. However, when you’ve sold a put, you no longer have the ability to re-evaluate the situation – you sold that right. This is especially critical in situations where a security undergoes a price gap.

If you don’t think that the stock you’re writing options on can make big moves, please consider a stodgy old Canadian blue chip like BCE. The following is a histogram of the one month price change that has been realized by BCE over the past 10 years. I suspect that it’s a lot wider than many would expect.

## Histogram - BCE Monthly Price Changes



### 3. “Covered calls have unlimited losses.”

With covered calls and cash-secured puts, there is a cap on your losses as the security cannot go below zero (that said, I’m sure many people never thought interest rates could go below zero...). What we do have with these strategies is “unlimited” opportunity cost. Unlimited implies that with the covered call, the stock could have an infinite move and you will have missed out on all price movement greater than the strike plus the premium received. That said, and I didn’t check, but I’m pretty sure that no stock has ever gone to infinity (or beyond). If no stock has ever gone to infinity, in the history of the capital markets, then you can safely assume that it’s far less likely for it to happen during the limited time frame that your option is in existence. Bad things can still happen, just not infinitely bad. By the way, it might be a good idea to get a handle on just how bad things can get before executing a trade (i.e. see the histogram above).

### 4. “Covered call writing and cash-secured put writing underperform.”

Sometimes they do, sometimes they don’t. This is really no different than any investment strategy. I have yet to hear of a strategy that works across all asset classes, and assets within those classes, at all times. Option overwriting is no different; you have to pick your spots.

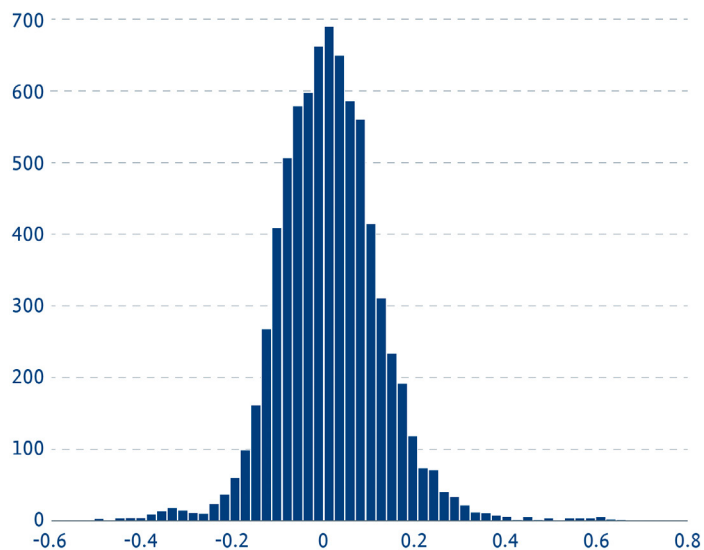
Also consider that under or out-performance isn’t quite as clear as you may think. The return of an investment is not the only way to look at performance. Performance is straightforward when comparing returns but the amount of volatility that was required to produce the return should also be taken into account. For example, if the compound annual growth rate (cagr) of ABX over a specified period is 8% with 16% volatility, and a one month covered call strategy over the same time frame generates a cagr of 7.2% with volatility of 10%, then yes, the covered call underperformed by 0.8%. That said, this misses an important consideration as it also had 37.5% less volatility. By comparing the Sharpe ratio (risk-free rate excluded) for both strategies, we see that owning the stock alone generated a Sharpe of 0.50 (8%/16%) while the covered call had a Sharpe of 0.72 (7.2%/10%). This is another way of saying that the covered call generated more return per volatility. If leverage is applied to the covered call strategy, to bring the volatility up to the same level as the long stock position, it would have outperformed on a return basis with the same volatility. In this case the return would have been 11.52% (0.72 \* 16%).

### 5. “Covered calls provide downside protection.”

No, they don’t. If your house burns down and your insurance company pays you 1% of the value of your house and you feel like you were protected, then yes they do. For everyone else, they don’t. Premiums for one month options can be around 1% of the securities value (depending on a wide range of variables) and that’s scant protection considering the wide range of outcomes that could be experienced over a one month time frame.

The following graph shows the distribution of one month price changes that ABX has had over the past 20 years. Similar to the BCE histogram in #2 above, it’s probably wider than most investors would expect. Receiving 1% in premium doesn’t provide much protection for enduring a 40+% sell off...

## Histogram - ABX Monthly Price Changes

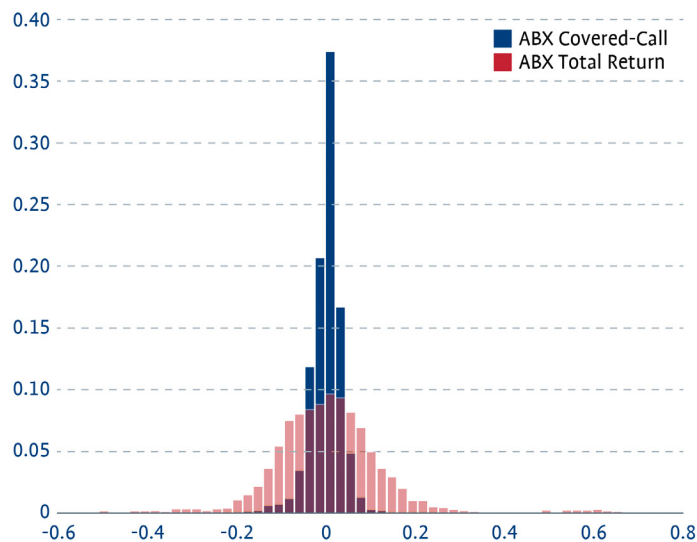


### 6. “Covered calls always underperform because they clip off the big wins.”

This can be true but it does not tell the whole story. Yes, you will lose out on some big winners by engaging in the strategy, but you are also compensated for this possibility by receiving an up-front premium. What you’ve really accomplished by selling a call is changing your return distribution vs owning the stock alone. When faced with the choice of writing a covered call, vs simply owning the stock, you should understand the differences between the return distributions of each strategy.

The graph below shows the one month return distribution for a covered call strategy on ABX superimposed on the one month return distribution for ABX total return (including dividends). The covered call strategy has a much more peaked and narrow distribution than the underlying security alone. This basic shape is somewhat typical of covered call strategies but keep in mind that the each security will have its own unique distribution.

## Histogram - Monthly % change in Strategy



### 7. “90% of options expire worthless.”

This is usually cited as a reason to engage in overwriting. The premise being, how can you lose when the thing you sell expires worthless 90% of the time? This is just silly. I don’t know where this often quoted concept came from, but the question was posed to the CBOE in June 2011. Their answer was that 10% of options are exercised, 55% to 60% are closed prior to expiration, and 30% to 35% expire worthless. Common sense should prevail here. If you still need convincing try the following: take a look at an option chain, and in particular the distribution of open interest for both puts and calls. Next, see if you can create a scenario where the settlement price of the stock at expiry will result in 90% worthless options.

## 8. “Overwriting is an income strategy.” “Getting paid to wait.”

These statements are lumped together, not just because they are equally wrong, but because they both imply that selling options is some kind of money printing machine. This is marketing fluff – plain and simple. Let’s look at a true income strategy (owning a government bond) and then compare. When you pay \$100 for a government bond that pays 2% interest, you have loaned the government money until maturity and will receive \$1 every six months. On the accounting books, the government has a liability and you have an asset that generates income. When you sell an option, the tables are turned. You have effectively borrowed an amount equal to the premium and have an undefined liability that needs to be paid off at expiry. With a regular loan, you are required to pay back the principal. With option selling, you get to keep all or some of the premium/principal in the best case scenarios, or you have to pay back many times the principal in the worst case scenarios.

Another way to look at this is to compare selling options to insurance. Insurance companies do not book the premium received as income when they sell a policy. There is a liability on the other side of the premium that they need to recognize (house burning down, death, car accident etc...).

Receiving an upfront payment in exchange for an unknown, potentially open-ended liability is a strategy; it’s just not an income strategy.

## 9. “Options with the highest annual returns are the best ones to sell”

Not necessarily. The reason that there are high annual returns on these options is because the implied volatilities are “high”. In order to trade this strategy you would need to sort all the options in your defined universe from highest to lowest implied volatility, and then, only select those with the highest implied volatility. Unfortunately, doing this ignores the fact that volatility for each security is specific to that security. Option market makers don’t blindly assign implied volatilities to a security; there is a rationale behind the values. To trade this concept, you’d have to believe that selling options on Valeant (VRX) is always superior to selling options on Royal Bank (RY).

As well, there are a variety of factors that can lead to higher implied volatilities for one security compared to another such as: pending earnings, potential strikes, legal settlements, FDA decisions, takeover talk etc. A blanket statement such as the above is dangerous because it ignores all the variables that go into the price of an option.

## 10. “Always let your options expire worthless if they are out of the money”

This concept comes from “Back to the Future” because I’m not really sure how you’re supposed to know if an option is going to expire in or out of the money. Even with hours or minutes left to expiry, it’s never a sure thing. That said, I think this statement is trying to advocate that if there are a few days left to expiry, and you have an out-of-the-money option, you should just let it expire. There isn’t a hard and fast rule with this but in general, I wouldn’t leave a short option position on the books that I wouldn’t initiate at the current price. In other words, if you wouldn’t sell a 5 cent option, does it make sense to maintain a short option position that is valued at 5 cents? The decision to buy back or let expire depends on many factors. Some of these are:

- Opportunity cost:

If you have an excellent option selling strategy, the expiring out-of-the-money option is effectively dead money on the books and will still be consuming capital. It might be best to buy back and initiate a position that is a better use of capital.

- Transaction costs:

These can add up very quickly and eat into your returns.

- Proximity to the strike and time to expiry:

An option that is 10% out-of-the-money with 10 minutes left in the trading day probably won’t hurt you. A 10% out-of-the-money option with three months to expiry is a different story.

- Volatility:

Looking at two stocks, both equidistant from a strike, the stock with the highest volatility will have a greater probability of crossing the strike.

All in all, let experience be your guide. The odds of Apple being taken over are minimal. However, I’ve seen smaller stocks receive a takeover bid just after the close on an option expiry. Investors who were short calls and thought they dodged a bullet because the stock closed below the strike got a surprise Monday morning when their assignment notice arrived and the stock was trading 20% higher.

## 11. “Options trading is a zero sum game”

This is usually stated as a reason not to use option strategies; how can you make money when there is a loser for every winner? The reality here is that this depends on how the parties to the trade manage their respective positions. If you buy a stock from me, you're long and I'm short. It's definitely a zero sum game for the two of us. With options, you can sell a call to a market maker who, because they are trading volatility, will “delta hedge” their position with the underlying security. Both the seller and the buyer of the option can profit in this case. For example, imagine a cash-secured put writer who sells a \$50 put on a \$50 stock for \$0.50. If the stock closes at exactly \$55 on expiry, the option seller is a winner and gets to keep the \$0.50. If the market maker who bought the put option hedged their risk by buying the stock, they could also profit from the same trade. Assuming the option was 50 delta on the trade date and (for simplicity sake) the hedge was held until expiry, the market maker would have made \$2.00  $((\$55 - \$50) * 0.5) - \$0.50$ . In other words, the market maker would have taken a 50% position in the security and made \$2.50  $(50% * \$5.00)$ . Subtracting out the premium paid leaves \$2.00  $(\$2.50 - \$0.50)$ . Both parties to the trade profit. Options aren't like stocks where you can take certificates and stuff them in a safety deposit box. The short life span of options necessitates that volatility traders use different position management techniques such as delta hedging and gamma scalping. These different techniques mean that both sides to a trade can potentially profit or loss.

Also consider that the options market is a place where totally different views are expressed. In the stock market if you buy a stock you are expressing a bullish view and a bearish view when you sell. Presumably, the person (or computer) on the other side of the trade has an opposing view of the stock. In the options market, a covered call seller is expressing a view on the stock (won't go higher than the strike) while the party on the other side of the trade (a market maker) is expressing a volatility view. The options market is a unique place where directional views meet volatility views; it can't be neatly packaged up as a zero sum game.



John Ley is a derivative trader with over 25 years' experience in the capital markets across multiple institutions, geographic locales and product lines. Most recently John was a Managing Director in Global Equity Derivatives and Institutional Equities at TD Securities. Clifton Capital Management Inc. (CCMI) was founded by John to bring together his derivative experience with cutting edge derivative back-testing and analysis technology. CCMI assists Portfolio Managers with derivative overlays, the creation of new products and volatility management. John believes in data driven decisions and analysis which is reflected in CCMI's motto, “fact not fiction”.

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