

MONTREAL EXCHANGE

Covered Calls: Managing Risk Exposure and Generating Value During Volatile Times



Key facts on covered calls

This strategy consists of writing a call that is covered by an equivalent long stock position. It represents a simple way for investors to manage their short-term risk exposure, allowing them to earn premium income (i.e. the money received from writing the calls) in return for part of the stock's upside potential until expiration of the call. This article discusses selected historical examples and how the strategy can be deployed to achieve different investment goals.

This strategy may be best viewed as:

- A partial stock hedge that does not require additional up-front payments
- A good exit strategy for a particular stock

Covered calls are usually put in place by investors:

- With a neutral or bearish view of the market who seek protection from some of stock's downside
- Who want to collect a premium on options on stocks experiencing a high volatility

The Montréal Exchange (MX) has published a guide¹ for investors interested in learning more about how the strategy works. MX also provides a Covered Call Screener² for optimal selection of strike and expiration for investors who are ready to start implementing this strategy.

Defining option expirations and moneyness according to the scenario

A covered call strategy can be adjusted according to the scenario that the investor forecasts or expects to face in the near future. More importantly, by selecting from among different expirations and strikes, investors can adapt their covered call strategy to better suit their beliefs and investment objectives. To demonstrate the full potential of this strategy, the following examples show how a covered call strategy compares to simply buying and holding ("BH") the underlying asset (a stock), using different combinations of strikes and expirations. Each coloured segment of the covered call charts represents a roll of the strategy where the investor holds a long position on the underlying asset (i.e. the stock) and a short covered position on the call.

To facilitate comparison across different examples, instead of using the option's strike, we convert it to moneyness.³

Therefore, investors who expect a significant drop on the stock's price would be better served by an ITM option to mitigate their losses, while investors who are afraid of underperforming during a bull market rally would be better served by an ATM or OTM option.

Examples:

In all the following examples, buy and hold strategy (BH) and covered call strategy (CC) returns are applied to a base 100 to facilitate comparison of results over the historical series.

Generating income with volatile stocks

Our first example, spanning from 2015 until the end of 2018, demonstrates how a covered call strategy can be used to extract income from stocks experiencing high volatility. Option prices are strongly affected by the volatility of the underlying asset, so Suncor, because of its volatility over this period, could have been considered by an investor wishing to generate income using derivative instruments.

1 Source: https://www.m-x.ca/f_publications_en/options_strat4_en.pdf

2 Source: https://m-x.ca/marc_options_info_calc_en.php

3 Moneyness is usually defined as $\frac{\text{Strike price}}{\text{Stock's closing price}}$ and presented as a %. Hence, a call that has a moneyness of 5% out-of-the-money (OTM) has a strike that is 5% above the stock's current price. Conversely, a call that has a moneyness of 5% in-the-money (ITM) has a strike that is 5% below the stock's current price.

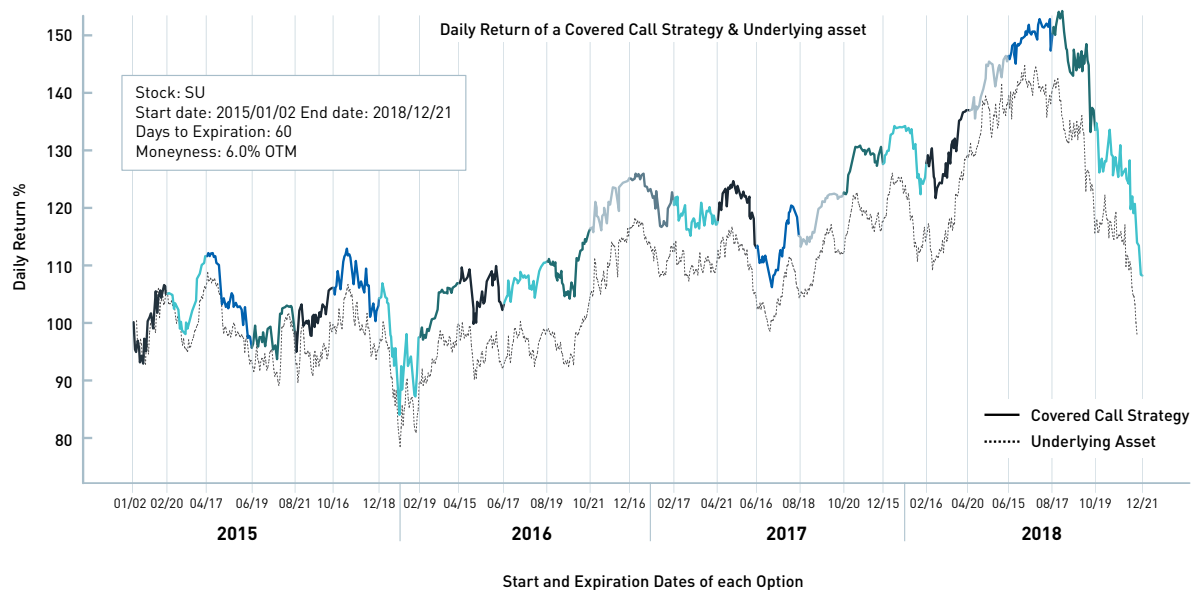
Suncor Energy (“SU”) is Canada’s largest energy firm. In 2015 it reported gross proved and probable reserves of 7.6 billion barrels of oil equivalent. Its financial review⁴ presents a company in a volatile industry, with net income that fell 26% from 2017 to 2018, only to bounce back 86.3% from Q1 2018 to Q1 2019.

This uncertainty is reflected in the stock’s daily annualized volatility of 25% on the period.⁵

Figure 1 presents a covered call strategy deployed during a 4-year period using 6% OTM options with a 60-day expiration.⁶

FIGURE 1

	Average return	Return on the period	Volatility	Sharpe	Minimum return	Maximum return	Value at risk (VaR)	MAX DrawDown
Buy and hold strategy for underlying asset	0.0001	-0.0273	0.2507	-0.1089	-0.0668	0.0633	-0.0264	0.3418
Covered call strategy	0.0002	0.0826	0.211	0.3916	-0.0669	0.0604	-0.0226	0.2976



In this example, not only is the volatility of the covered call strategy 16% less than that of owning the stock (i.e. 25% vs. 21%), the covered call strategy has a positive return of 8% on the period, while the stock finished the period in the red (i.e. -3%).

Additionally, the covered call strategy achieves this positive return with a maximum drawdown (the return, from peak to trough, during the period) that is 13% lower than the buy and hold alternative (i.e. 34.18% vs. 29.76%) without significantly sacrificing its maximum return (i.e. 6.33% for the buy and hold vs. 6.04% for the covered call).

This example should reinforce the idea that writing calls on stocks with high volatility can generate a significant improvement on several different risk metrics, even when the market is trending upward.

⁴ Source: Bloomberg, June 18, 2019

⁵ Source: Toronto Stock Exchange (TSX)

⁶ Source: Montréal Exchange (MX)

Generating income in a sideways market

Our last example involves BlackBerry Limited, a Canadian multinational company specializing in enterprise software and the Internet of things.

Formerly known as Research In Motion (RIM), the company's sales peaked at almost \$20 billion in 2011 before dropping to less than \$4 billion in 2015. At the end of 2015, BlackBerry launched Android smartphones, starting a transition period from its former business model.

All this uncertainty is reflected in the stock's dynamic, presented in Figure 3. Although the stock price barely moved in the period from 2015 to mid-2017 (-4% across the entire period), an annualized daily volatility of more than 40% indicates the market's doubts over the company's future. This uncertainty is reinforced by a maximum drawdown of almost 50%.

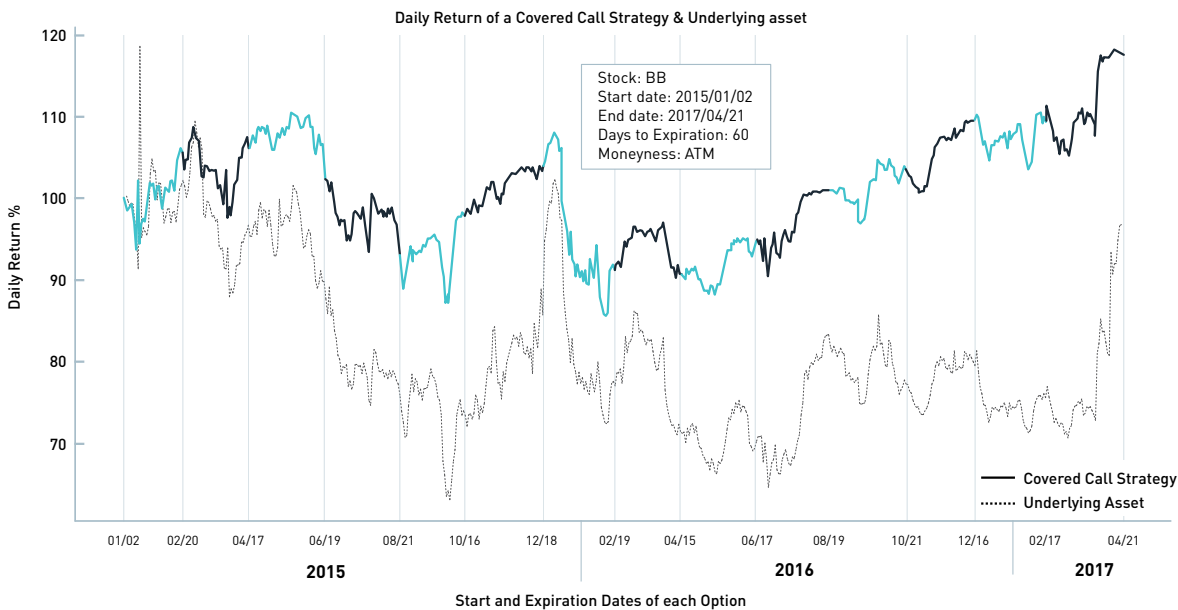
All these characteristics (i.e. a stock caught in a sideways drift and high volatility) represents an interesting scenario for deploying a covered call strategy to generate income due to the richness of the option's premium. In fact, in this example, if we compare the results of deploying a systematic at-the-money (ATM) 60-day call writing strategy with the BH strategy, the results accumulated after 2-1/2 years are significant. Not only is the CC strategy profitable (17.79% vs. -3.61%), it achieves this result with half the volatility of the BH strategy (20.92% vs. 41.25%).

Not only is the CC strategy profitable (17.79% vs. -3.61%), it achieves this result with half the volatility of the BH strategy (20.92% vs. 41.25%).

This example shows how selling rich options (i.e. options with a high premium due to the high volatility of the underlying asset) can be a profitable strategy throughout a sideways market.

FIGURE 3

	Average return	Return on the period	Volatility	Sharpe	Minimum return	Maximum return	Value at risk (VaR)	MAX DrawDown
Buy and hold strategy for underlying asset	0.0003	-0.0361	0.4125	-0.0875	-0.1957	0.2948	-0.0314	0.464
Covered call strategy	0.0004	0.1779	0.2092	0.8502	-0.077	0.0911	-0.0184	0.003



Conclusion

In moments of high uncertainty (i.e. high volatility), a savvy investor can use a covered call strategy to either extract revenue from the market or partially protect a position. If the investor believes that the underlying asset will begin a moderate upward trend, using an OTM covered call may produce good results. On the other hand, if the investor believes that the stock will continue to move sideways, using an ATM covered call may deliver better results. Finally, an investor who wants to reduce the potential losses on a position during a downward trend could consider an ITM covered call strategy.

These selected examples demonstrate the mechanics of deploying a systematic covered call strategy. Investors willing to delve deeper into the world of options will strongly benefit from learning when to use different variations of the covered call strategy to optimize their investments.

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