Executive Summary

Amid uncertainty in the markets and investor desire for lower volatility, investors may want to consider a covered call strategy as a way to manage downside equity risk. In this paper, we review the construction of a covered call strategy and its historical performance. We also explore the incorporation of a covered call strategy with other asset class exposures within a total portfolio and describe how it may be utilized in today’s investment environment.
Construction of a Covered Call Strategy

A covered call strategy, or “buy-write” strategy as it is sometimes called, involves the sale of call options in conjunction with holding an equity investment. To construct this strategy, a security is purchased and a call option is immediately sold (written) against that security or a related index. The investor receives a premium for the option, and is then obligated to deliver the underlying investment (or the difference in value) if the share price rises above the strike price of the option. If the price does not rise to this level, the option expires and the investor who sold the call retains the option premium.

Exhibit 1: Expected Payoff of a Hypothetical Covered Call Strategy

In the example above, the time horizon of the expected payoff is determined by the expiration of the call. In the studies referred to in this paper, the time horizon is one month and all calls written are at-the-money (meaning at a strike price that is equivalent to the current price of the underlying security or index). If in the course of one month, the return of the market is higher than the call premium (as a percentage of the underlying value), the covered call strategy should underperform an equity only investment. If the market return is less than that of the call premium, the strategy should outperform by an amount up to that of the call premium. The examples referenced are hypothetical and do not represent the performance of any fund.

Portfolio Impact

A covered call strategy is an alternative to a long-only equity investment. Exhibit 2 displays how this strategy may impact a portfolio in different market environments.

Exhibit 2: Potential Portfolio Impact in Different Market Environments

<table>
<thead>
<tr>
<th>S&amp;P 500 (or other index) Direction</th>
<th>Call Option Exercised?</th>
<th>Net Portfolio Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising</td>
<td>Yes</td>
<td>Collect option premium, but lose upside beyond call strike price</td>
</tr>
<tr>
<td>Flat</td>
<td>No</td>
<td>Collect option premium, enhancing returns</td>
</tr>
<tr>
<td>Falling</td>
<td>No</td>
<td>Collect option premium, enhancing returns</td>
</tr>
</tbody>
</table>

In a flat or falling market, the strategy may enhance returns due to a consistent collection of call premiums. As call options expire, new options are written and additional premiums would be collected. However, in a sharply rising market environment, the call options being sold may reduce upside participation as the options are exercised by the purchaser and the full benefits of equity participation would not be realized.
During times of market uncertainty, this strategy has the potential to provide investors with the ability to maintain equity exposure while "cushioning" the downside risk. When there is little market movement (and thus, low market returns), the strategy may continue to provide consistent returns via the call premiums. The trade-off is clear. Investors must be willing to sacrifice a portion of the upside in sharply rising equity markets to enjoy the benefits of this strategy.

**Historical Analysis**

The Chicago Board Options Exchange (CBOE) introduced the first index based on an S&P 500 covered call strategy. The CBOE S&P 500 BuyWrite Index (the “BXM”) is a benchmark index designed to show the hypothetical performance of a portfolio that engages in a covered call strategy using S&P 500 Index call options. The BXM is the most broadly quoted benchmark for index call-writing strategies. The BXM uses a rules-based methodology that buys the S&P 500 and sells a one-month, at-the-money call option on the S&P 500 on the third Friday of each month (the option expiration date). The historical return series for this Index began in July 1986. Exhibit 3 charts the performance of the BXM versus the S&P 500 Index (S&P 500).

![Exhibit 3: Growth of a Hypothetical $10,000 Investment](image)

Source: Zephyr StyleADVISOR®

Performance data quoted represents past performance which is no guarantee of future results. Such performance does not represent the performance of any Touchstone Fund. Indices do not charge management fees or expenses and no such fees or expenses were deducted from performance shown. Indices are unmanaged. Investing in an index is not possible.

Historically, the risk-adjusted returns of a covered call strategy, as represented by the BXM, have been greater than a long-only strategy. In 2004, Ibbotson Associates released a major study assessing the “investment properties of the covered-call investment strategy embodied in the CBOE S&P 500 BuyWrite (BXM) Index.” The study reviewed risk-adjusted returns of the BXM versus the S&P 500 from June 1988 through March 2004. The study looked at a number of risk-adjusted return measures such as the Sharpe Ratio as well as considering measures that adjust for non-normal return distributions. The study showed that “the BXM Index had slightly higher returns and significantly less volatility than the S&P 500 over a time period of almost 16 years, despite the fact that covered calls have a truncated upside in the short term.” Exhibit 4 (next page) illustrates the historical risk-reward relationship of the BXM and S&P 500 over a longer time period, from July 1, 1986 through December 31, 2017. The results are similar to those found in the Ibbotson study. During this extended time period the BXM trailed the S&P 500 (8.96% versus 10.28% annualized, respectively), though the volatility, as measured by Standard Deviation, remained significantly lower (10.6% for the BXM versus 14.9% for the S&P 500).
To evaluate how the BXM has acted in different market conditions, we reviewed rolling 12-month total return data on the BXM and S&P 500. The data included a total of 319 return observations. We sorted the data into three market environments: Down Markets represented by 12-month rolling returns of less than 0%; Moderately Rising Markets represented by 12-month rolling returns between 0% and 12%; and Sharply Rising Markets represented by 12-month rolling returns of greater than 12%. The results are shown in Exhibit 5.

Exhibit 5: Average of Rolling 12-Month Returns  
S&P 500 Index vs. BXM Index  
(July 1, 1986 – December 31, 2017)

Source: Zephyr StyleADVISOR®*  

As demonstrated in the chart above, the data reflects how the BXM strategy has historically outperformed in down, flat, and moderately rising markets and trailed the S&P 500 in strong up markets.

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As mentioned previously in this paper, the buy-write strategy methodology of the BXM involves writing at-the-money calls with one month to expiration. The monthly call premium received by the call seller is the main driver of the risk profile of this covered call strategy. The previously mentioned 2004 Ibbotson study found that historically (1988 through 2004), the call premium written on the S&P 500 has averaged 1.7% a month. More recently, as depicted in Exhibit 6, the S&P 500 call premiums have been even more compelling. The monthly call premium from January 2005 through December 2017 averaged 1.71% (a time period over which the average monthly return for the S&P 500 was 0.76%) displayed in Exhibit 6.

Exhibit 6: Monthly Call Premium
(January 1, 2005 – December 31, 2017)

Source: Chicago Board Options Exchange

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It is important to note that while a covered call strategy will reduce downside risk relative to the benchmark, it will not prevent losses. Investors who cannot tolerate a downside event should consider other investment options. The premium income generated by a covered call strategy will only serve to mitigate downside events — not eliminate them completely. As an example, in 2008 the S&P 500 dropped 37.0% while the BXM was down 28.7%. The decline in the BXM was certainly less than the S&P 500, but still significant.

### Covered Calls within a Total Portfolio

Many investors incorporate a covered call strategy into a total portfolio with other asset class exposures. In 2006 Callan Associates, Inc. released a study that re-evaluated and built upon the research conducted by Ibbotson Associates in 2004 looking at the risk and return characteristics of the CBOE S&P 500 BuyWrite Index relative to a long-only investment in the S&P 500. The study covered the period from June 1988 through August 2006. Within the study the authors evaluated the benefits of adding the BXM to a typical diversified investor portfolio. They note that in addition to the positive risk-adjusted returns, the BXM is less than perfectly correlated with the S&P 500 “as the return pattern is modified by the income stream from the call writing and the truncated returns on the upside.” The Callan study looked at the impact on a balanced portfolio’s risk and return profile when substituting a 10% BXM weight in place of large cap domestic equities. Ibbotson studied the impact of adding the BXM to three different portfolio allocations — conservative, moderate, and aggressive — over the 1988 to 2006 time period. The study found that “in all three portfolios, return is essentially unchanged while risk is reduced, improving the risk-adjusted return as measured by the Sharpe Ratio.” Downside risk, as measured by the Standard Deviation of returns below zero, was also reduced by adding the BXM to the three portfolio allocations.
Applications of a Covered Call Strategy for Today’s Investor

A covered call strategy, as implemented by a methodology similar to the BXM, can be a way to reduce the volatility of a long only equity portfolio. Covered call strategies are often thought of as a trade-off; selling upside equity return potential to help mitigate downside events. A covered call strategy will not prevent losses. How would one incorporate a covered call strategy in today’s market environment?

From a tactical standpoint an investor may want to introduce a covered call strategy to manage equity risk following a strong run in the market. For example, consider that the current bull market has lasted almost 7 years and returned over 200% (on a price basis), through December 31, 2015. Most market strategists believe the stock market will provide more modest returns and greater volatility going forward. Given this mixed outlook, a covered call strategy may enable investors to trade some equity risk through premium income generation without completely moving out of equities. In a white paper entitled Finding Alpha via Covered Index Writing published in the Financial Analysts Journal in 2006, the authors evaluated the BXM and other similar strategies over the 15 year period from 1990 to 2005. In the conclusion the authors stated that “against the backdrop of an outlook for moderate to weak equity market returns and slowly rising interest rates, the historical track record of overwriting strategies in similar environments is quite compelling. In periods of cyclically low interest rates, strategies with a steady cash flow are favored.”

As highlighted in the Ibbotson study, historically a covered call strategy, as represented by the BXM, provided investors with equity-like returns with much lower volatility. This longer term perspective highlights the advantage of a strategic approach to using a covered call strategy. A retiring investor may serve as a good example. Retirement can significantly change an investor’s risk tolerance. Retired investors move from a position of growing their nest egg to harvesting it. This puts them in a difficult position. They still desire equity–like investments for asset growth and inflation protection, but are less tolerant of downside market volatility. A covered call strategy could be a favorable solution for individuals willing to sacrifice some upside potential from a pure equity position for the reduction in downside risk and reduced volatility.

Conclusion

Numerous studies have highlighted the benefits that a covered call strategy may provide to an investor’s portfolio. As we have illustrated in this paper, covered call strategies may be employed in an effort to reduce portfolio volatility and downside risk relative to a long only equity approach. Additionally, a covered call strategy is expected to have its strongest relative performance in times of market decline or uncertainty — the very times in which investors are most concerned about their portfolios. It should be noted that in order to enjoy these benefits, investors must be willing to sacrifice some of the upside in the strongest bull markets. For the investor who sees the benefit to this trade-off, a covered call strategy may be a beneficial addition to his or her portfolio.

- This material should not be considered as investment advice or a recommendation of any particular security, strategy or investment product. There are no assurances that any strategy or investment approach will meet its objective.
- A covered call option writing strategy may not be suitable for all investors; writing covered call options limits the potential appreciation that could be realized on the underlying equity securities in rising markets, increases the portfolio’s risk of loss and subjects the portfolio to additional costs and/or fees.
- Information contained in this paper is derived from sources Touchstone believes are reliable, but accuracy cannot be guaranteed. Charts, graphics and formulas included are for illustrative purposes only.
- Index performance is not indicative of fund performance. Investing in an index is not possible.
**Risk Measures:**

**Alpha** is the portion of a fund's total return that is unique to that fund and is independent of movements in the benchmark.

**Standard Deviation** is a measure of how closely a fund's return moves above or below its average. It is a measure of total risk including both market and security-specific risks.

**Sharpe Ratio** is a measure used to determine a fund's reward per unit of risk. It is calculated by dividing annualized returns less the risk-free rate by annualized Standard Deviation.

**Index Descriptions:**

**CBOE S&P 500 BuyWrite Index (BXM)** tracks the performance of a hypothetical buy-write strategy on the S&P 500 Index. The BXM is a passive total return index based on (1) buying an S&P 500 stock index portfolio, and (2) “writing” (or selling) the near-term S&P 500 Index “covered” call option, generally on the third Friday of each month. The SPX call written will have about one month remaining to expiration, with an exercise price just above the prevailing index level (i.e., slightly out of the money). The SPX call is held until expiration and cash settled, at which time a new one-month, near-the-money call is written.

**S&P 500 Index** is a group of 500 widely held stocks and is commonly regarded to be representative of the large capitalization stock universe.

**Sources:**


A Word About Risk

The Fund invests in equities which are subject to market volatility and loss. The Fund invests in stocks of large-cap companies which may be unable to respond quickly to new competitive challenges. The Fund invests in stocks of small- and mid-cap companies, which may be subject to more erratic market movements than stocks of larger, more established companies. The Fund is involved in short selling which may result in additional costs associated with covering short positions and a possibility of unlimited loss. The Fund invests in covered call options, and index and ETF call options which may result in limited gains and illiquidity for the option or for the security. Premiums generated from these options typically result in tax consequences. The Fund invests in derivatives such as forward currency exchange contracts, futures contracts, options and swap agreements. Derivatives can be highly volatile, illiquid and difficult to value, subject to counterparty and leverage risks and there is risk that changes in the value of a derivative held by the Fund will not correlate with the Fund’s other investments. Leverage can create an interest expense that may lower the Fund’s overall returns. There can be no guarantee that a leveraging strategy will be successful. Gains or losses from speculative positions in a derivative may be much greater than the original cost and potential losses may be substantial. When the Fund has a cash balance, any market upswing may adversely affect the Fund’s performance. The Fund may experience higher portfolio turnover which may lead to increased fund expenses, lower investment returns and higher short-term capital gains taxable to shareholders. Current and future portfolio holdings are subject to risk. The advisor engages the sub-advisor to manage the Fund’s portfolio; the sub-advisor’s judgment may impact the Fund’s performance.

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