Covered Call Investing and its Benefits in Today's Market Environment

Covered Call investing has attracted a great deal of attention from investors searching for lower-volatility equity strategies. The risk-reducing characteristics of the covered call strategy have produced superior risk-adjusted returns over time relative to a long only approach. This paper begins by discussing why an investor would allocate to a covered call strategy. The second section of the paper describes three different types of covered call strategies: 1) Passive Index-based, 2) Active Index-based, and 3) Active Single-stock.

Why Covered Call?

- **A Low Volatility Equity Strategy with an Attractive Sharpe Ratio.** Equity investors are exposed to a great deal of volatility within portfolios. Although committed to the growth prospects of the equity asset class, many investors may be willing to trade this volatility for greater return consistency. Due to the income from the sale of call options, which help stabilize returns, covered call strategies have tended to produce lower beta and lower volatility compared to equities. Despite the lower beta, covered call strategies have tended to produce returns similar to equities over the long term, resulting in an improved risk-return profile.
- **Reduced Drawdowns.** Investors often consider the sale of the call option as a form of downside protection. As a result of the call premiums, covered call strategies tend to outperform during bear markets, thus reducing portfolio drawdowns. Investors have realized that equity returns can compound to higher returns over time by minimizing the impact of drawdowns. The downside protection is equal to the upfront call premium received. The amount of downside protection, and the beta of the overall covered call portfolio, can be tailored to client risk tolerances and return objectives.

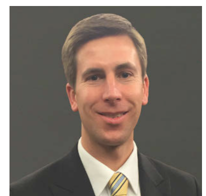
The Basics of Covered Call Investing

A Low Volatility Equity Strategy with an Attractive Sharpe Ratio - Investors have broad familiarity with the S&P 500 Index, as it is the most widely used equity benchmark in the U.S. Imagine taking the S&P 500 Index and selling a one-month, at-the-money call option each month. Continuing to hold the S&P 500 Index and selling an index call option month after month would create what's known as the CBOE S&P 500 BuyWrite Index ("BXM Index"). The BXM Index is the most widely used benchmark for covered call portfolios.

By simply writing call options, investors can change the risk-return characteristics of the equity asset class, creating a more stable return pattern over time. The premium generated from the sale of call options provides an income component that can help to stabilize overall returns, as shown in Figure 1. Equity investors are exposed to a great deal of volatility within portfolios. Although committed to the growth prospects of the equity asset class, many investors may be willing to trade this volatility for greater return consistency.

WRITTEN BY:

Wiley D. Angell
Chief Investment Officer - FAMCO Group,
Senior Portfolio Manager



Sean C. Hughes, CFA
Senior Portfolio Manager

70 West Madison Street
Suite 2400
Chicago, Illinois 60602

Phone: (312) 368-1442

Web: zieglercap.com

Covered call investing presents investors with the opportunity to experience returns correlated to the equity markets with reduced volatility. The call options can reduce the tails of the equity distribution, resulting in outperformance during down markets, but underperformance during strong market rallies. Over a market cycle, covered call strategies have tended to produce equity-like returns with lower beta and lower volatility, resulting in an improved Sharpe ratio. On the risk-return spectrum, covered call tends to lie between fixed income and equity. As shown in Figure 2 below, the BXM has been less risky than equities (SPX), but more risky than bonds (AGG), based on monthly data from 1986-2014.

Reduced Drawdowns - Astute investors have realized that market returns can compound to higher returns over time by minimizing the impact of drawdowns. Investors often consider the income from the sale of the call option as a form of downside protection. As a result of this income, covered call strategies have historically generated impressive results compared to the S&P 500 Index in terms of risk mitigation and volatility reduction, providing reduced drawdowns during bear markets, as shown in Figure 3. The amount of downside protection, and the beta of the overall covered call strategy, can be tailored to client risk tolerances and return objectives. For example, covered call strategies that utilize in-the-money call options tend to provide more downside protection, albeit with less upside return potential (lower risk and lower return relative to the BXM Index).

Types of Covered Call Investment Strategies

1) S&P 500 Index with passively managed Index options (the BXM Index)

Although the passively managed covered call strategy of the BXM Index has produced attractive risk-adjusted returns, the strategy has some limitations:

- It is restricted to only one call option (a one-month, at-the-money call option), regardless of the market environment. Market valuations and implied volatility characteristics change throughout the economic cycle. While the one-month contract duration of the BXM tends to optimize the call option's time-value decay in common markets, the BXM is unable to take advantage of spikes across the entire term-structure of implied volatility by opportunistically selling longer duration options. There are periods when a one-month, at-the-money call option is the optimal strategy, but the majority of the time it is not. For example, when implied volatility and call premiums are elevated, it can be advantageous to "lock-in" the elevated call

Figure 1: 12-Month Rolling Returns
December 1996 - December 2016

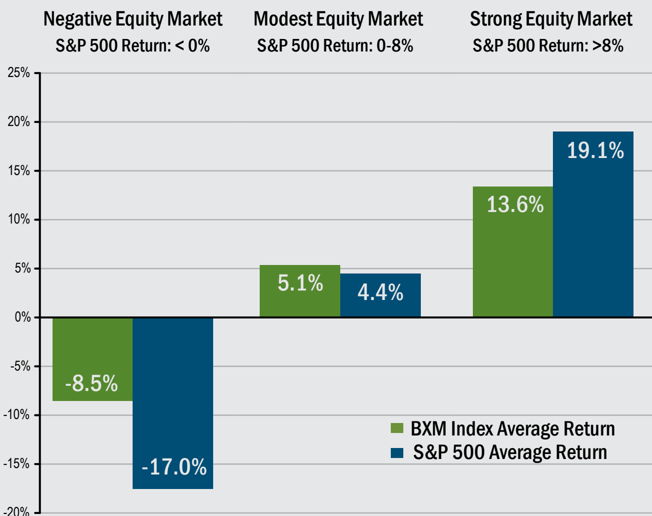
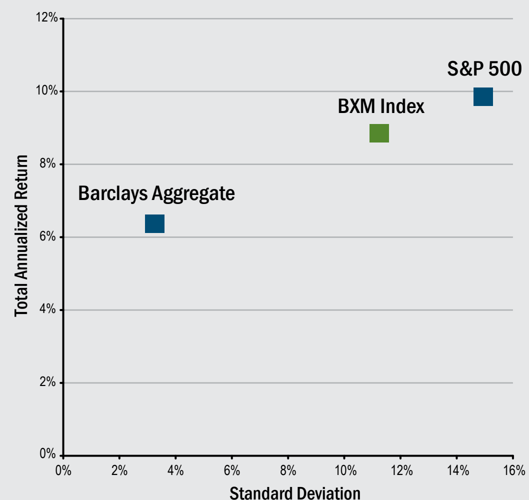


Figure 2: Efficient Frontier
December 1986 - December 2016



Source: Bloomberg. Monthly data.
Past performance is not necessarily indicative of future results. Indices are unmanaged, do not reflect fees and expenses, and are not available as direct investments.

premiums for longer than one month. This can only be done by selling longer-term options, such as a 3, 6, or 12-month call option. The BXM would not be able to make such an adjustment to its call option portfolio.

- Although there are approximately 252 trading days in any given calendar year, the BXM sells call options on only 12 of those days. This creates substantial risk for the BXM. Its returns are overly dependent upon the market characteristics on those 12 days. For example, if call premiums happen to be below average on those 12 days, the BXM will generate lower call income. An active manager, on the other hand, can avoid those below average days and sell more call options during the inevitable periods of higher implied volatility that occur throughout each year. At a minimum, an active manager can sell call options more regularly throughout the year, resulting in a more diversified portfolio.

- Because of the single option strategy, the BXM's entire option portfolio expires at the same time. As the call portfolio approaches expiration, the delta of the entire call portfolio can swing wildly. Although the BXM has an average beta often quoted at two-thirds of the S&P 500, because the BXM utilizes 30-day options, the swings in delta occur every month, leading to an unstable beta in relation to the S&P 500 Index (See Figure 4 below). This major flaw has a simple solution. A more optimal strategy staggers the option expirations throughout the year so the entire portfolio is not expiring at the same time.

Overall, the passive BXM does not have a diversified option portfolio. Actively managed call option strategies are able to choose a broader array of exercise prices and expiration dates, thereby creating a more diversified call option portfolio relative to the passive, single-option strategy of the BXM.

2) S&P 500 Index with actively managed Index options

To avoid the problems associated with the BXM Index, covered call investors can utilize S&P 500 Index investing with actively managed Index call options. This option strategy can include additional expiration dates and exercise prices, moving one step closer to a more diversified call option portfolio. However, this strategy limits the covered call investor to a single underlying security, the S&P 500 Index. While this may reduce stock selection risk, it also limits call premiums. Historically, call premiums on the S&P 500 Index tend to be quite low, particularly for short-term options, when compared to higher premium

Figure 3: Reduced Drawdowns

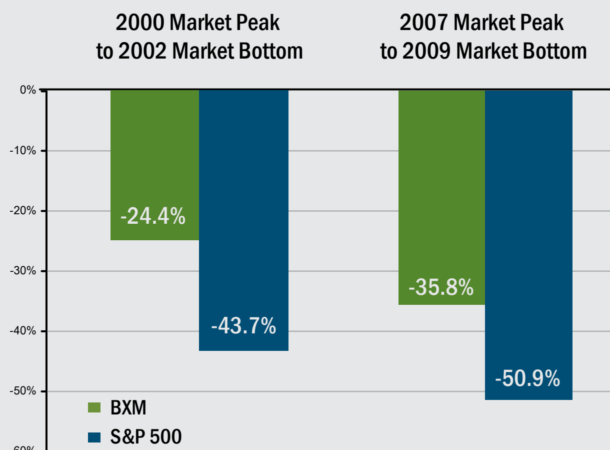
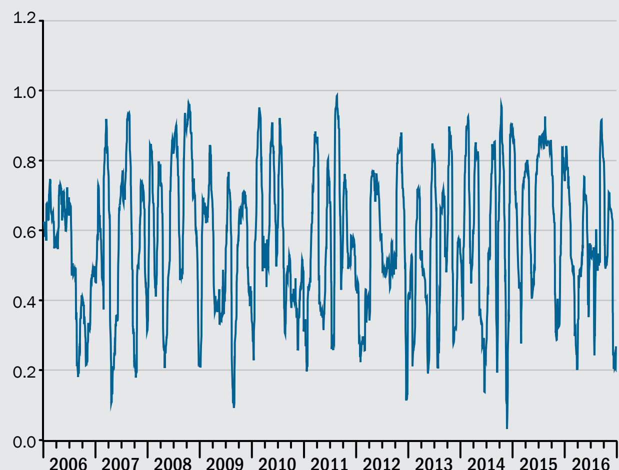


Figure 4: BXM Beta to S&P 500 (Rolling 30-Day)



Source: Bloomberg. Figure 3 is based on monthly data. Figure 4 is based on daily data.
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individual stock call options (See Figure 5). Due to the lower income, Index call options tend to produce only minimal downside protection.

3) Single-Stocks with actively managed single-stock call options

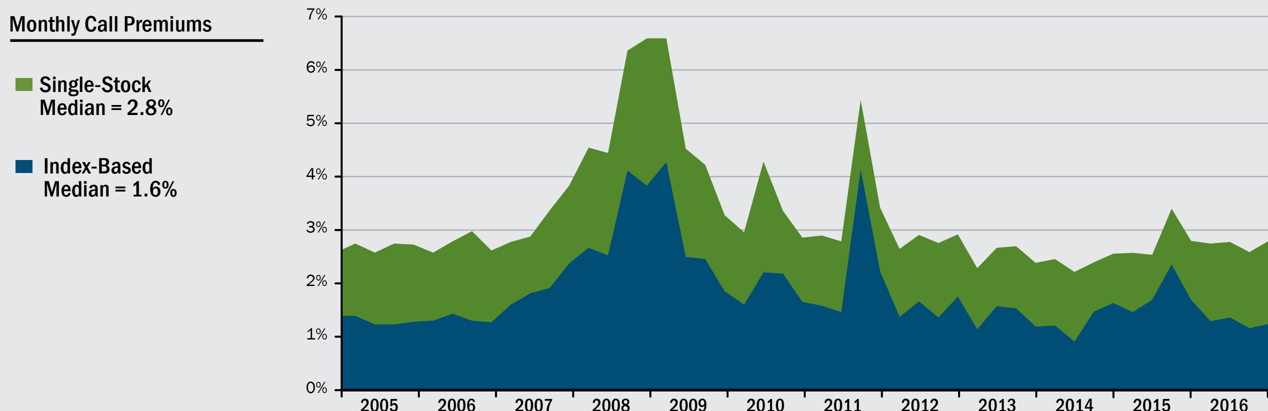
Up to this point, the paper has focused on index-based covered call strategies, where an investor holds the S&P 500 Index and writes index call options for income and downside protection. Now let's consider a covered call strategy in which the investor owns a portfolio of 30-50 individual equities and sells call options on those individual securities. What are the differences?

- **Higher Premiums -** Call option premiums on single-stocks tend to be consistently higher than Index-based premiums. Individual equities have inherently richer call option premiums because the S&P 500 Index's broad diversification reduces the overall implied volatility of the Index call options. This provides single-stock option sellers enhanced premium generation compared to Index managers. Over the past ten years, single-stock call premiums have been consistently higher than index-based call premiums, as shown in Figure 5. This tailwind is a compelling reason to choose single-stock covered call over Index-based solutions.

- **More Call Option Candidates -** While Index-based managers are limited to one underlying security, single stock covered call managers have many underlying securities and, as a result, many more call option candidates. Expanding the universe of call options creates opportunities for an actively managed portfolio of single-stocks to generate alpha by scouring the entire volatility term structure of each equity to find call options with attractive premiums. By definition, there will be many more attractive call options when there are more underlying securities. Investing in an Index-based covered call strategy is like searching for a new car at a dealership with only 10 cars for sale, whereas a single-stock covered call portfolio is more like a dealership with 1,000 or more cars for sale. There will be many more cars with attractive characteristics and prices to choose from at the 1,000 car dealership. This greater spectrum of potential call options provides more opportunities for single stock covered call strategies to add alpha.

- **Greater Flexibility -** When call premiums on the S&P 500 are below average, Index managers are not able to switch to a different underlying security. They are stuck with the S&P 500 Index. In contrast, single-stock covered call mangers have the flexibility to invest in a different underlying security with higher call premiums. This is an additional source of alpha for single stock covered call managers.

Figure 5: Single-Stock Call Options Tend to Provide Consistently Higher Premiums



Source: Bloomberg

Past performance is not necessarily indicative of future results. Indices are unmanaged, do not reflect fees and expenses, and are not available as direct investments. Analysis based on quarter-end implied volatility data for the S&P 500 Index and its single stock constituents with call options. This analysis is comparing one-month, at-the-money call premiums.

Conclusion

Covered call strategies have attracted a great deal of attention from investors searching for lower-volatility equity returns. By selling call options, investors can reduce the risk profile of the equity asset class, thereby creating a more consistent return pattern over time. As a result, covered call strategies have historically produced superior risk-adjusted returns relative to the S&P 500 Index.

Actively managed single-stock covered call strategies can provide significant benefits relative to Index-based strategies. Index options tend to generate lower call premiums, which results in less downside protection. Index managers also have a limited number of call options to choose from, being limited to only one underlying security. The single-stock covered call strategy can provide a greater spectrum of potential call options, with flexibility to switch to more attractive underlying securities. Single-stock call options also typically generate more premium, making it a compelling choice for investors.

ZIEGLER CAPITAL MANAGEMENT, LLC

70 West Madison Street | Suite 2400 | Chicago, IL 60602
www.zieglercap.com

CONTACT US

312-368-1442
letters@zieglercap.com

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