

McMillan Analysis Corp. (MAC) offers a variety of money management services, all geared towards the use of listed derivatives (primarily options) in individually managed accounts. This document describes our favored approach – the Volatility Capture Total Return account, on margin – which can profit in bullish, sideways, and moderately down markets.

Accounts seeking other approaches – either more aggressive or more conservative – may refer to our other documentation for those strategies.

Advantages of an option account managed by McMillan Analysis Corp

- Individually managed accounts, not combined in a hedge fund or pool
- Institutional, corporate, and individual accounts welcomed
- Applicable to retirement and trust accounts
- Account can be housed at your existing brokerage firm
- Transparency: full disclosure of trading activity in your account
- Quarterly management reports for each account
- Management fee can be performance-based, for qualified accounts
- Not locked in for specific period of time; no withdrawal fees
- Over 35 years of professional experience in the financial markets
- Access to market research prepared by McMillan Analysis Corp.
- Track record available

Why Your Money Is Safe

- Your assets and cash are held at a brokerage firm, not by us
- There is complete transparency; you can view your account at all times
- We only have authority to trade, not to withdraw or transfer funds
- You can compare our reports with the net asset value as reported by your broker

The Volatility Capture Approach

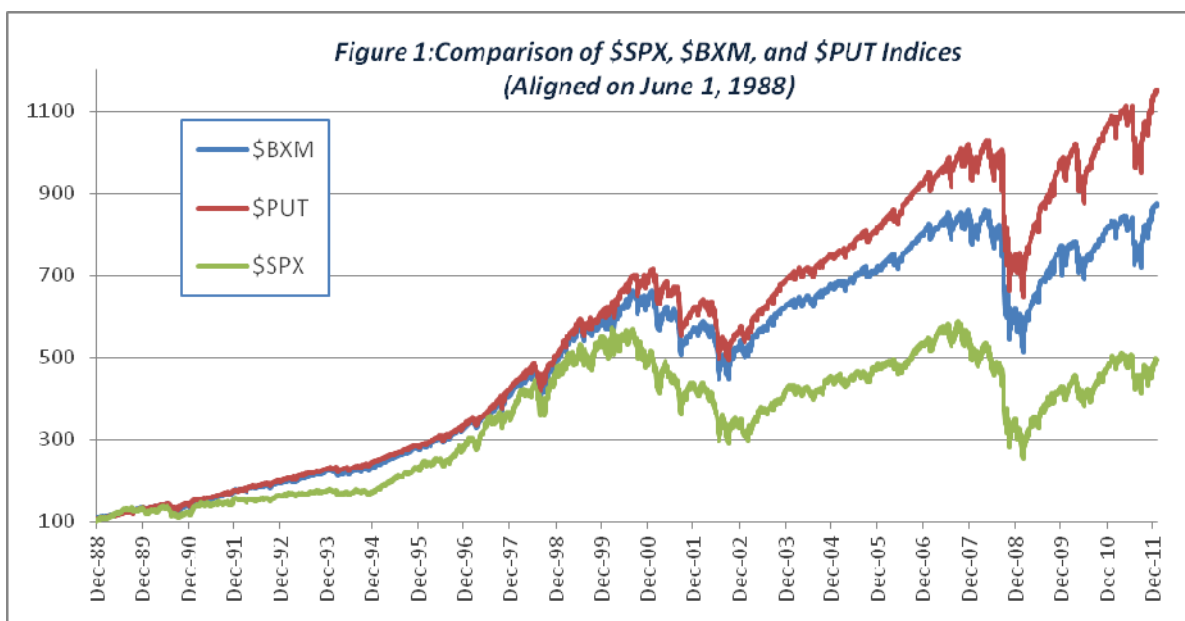
The stock market offers attractive returns over the long term. However, in an uncertain environment, pure exposure to stocks can engender more risk than many investors want. As a result, many sophisticated investors turn to option writing as an excellent way to take advantage of stock returns, while lowering volatility and risk.

An Investor who wants MAC to make all the decisions regarding the account would likely select the Volatility Capture Total Return strategy.

This is the favored approach to investing for our managed accounts at MAC. It combines the benefits of writing options with strategies designed to protect downside risk. We feel that this approach offers the best balance between risk and reward, in order to produce steady returns in rising, flat, or even modestly bearish markets.

The basic concept of option writing is a proven investment technique that is generally considered to be conservative. It can be implemented as “covered call writing” or, alternatively, “naked put writing” – which is the equivalent strategy to covered call writing.

The Chicago Board Option Exchange (CBOE) has created certain benchmark indices so that investors can compare covered call writing (\$BXM), naked put selling (\$PUT), and the performance of the S&P 500 Index (\$SPX). Figure 1 compares these indices, with all three aligned on June 1, 1988.



Strategy Overview

It is clear that naked put writing (\$PUT) is the superior performer of these benchmark indices. For this reason, naked put writing is the central strategy that we employ in our Volatility Capture approach. Naked puts are written on the broad-based stock market (the \$SPX Index) as well as on certain individual stocks within the S&P 500 Index itself.

However, you will also notice that all three benchmark indices suffer sharp losses during bear markets. So we have added two strategies that are designed to ameliorate the negative effects of a market decline. The first is a “put ratio spread,” which also involves naked puts, but at levels far below current market prices, and the second is to “buy volatility,” through the purchase of Volatility Index (\$VIX) call options.

The blend of these three strategies produces positive returns in rising markets (although a roaring bull market will outperform our conservative strategies on the upside), sideways markets, and modestly declining markets. Even in a severely declining market – such as October 2008 or May 2010 – the volatility component will offset most losses.

We call this approach “Volatility Capture” for two reasons: 1) because we are generally selling out-of-the-money broad-based index (SPY) puts; those puts are traditionally overpriced, so we are *capturing* that high volatility by selling it. 2) We are *buying* volatility in the form of \$VIX calls, as protection, thus enabling us to *capture* a panic-driven increase in volatility.

Background

MAC has been operating put selling strategies for some time, but as volatility rose in the 2007-2008 time period, the increase in option premiums and skews in \$SPX and related options made the put ratio spread a most attractive alternative. So, in 2009, we began to lessen our emphasis on writing puts on individual equity positions and instead switched to the SPY put ratio spreads as a major portion of the strategy.

Further studies that were performed in 2010 confirmed that the sale of weekly SPY puts and the purchase of \$VIX calls would round out the strategy for a performance much more in line with a conservative approach – not so exposed to downside market movements.

The following two sections detail Theoretical Performance and Actual Performance. The Theoretical Performance is updated through the end of 2010. Because actual accounts were trading the strategy at that time, the Actual Performance statistics are used thereafter.

Theoretical Performance

When the Volatility Capture strategy on margin was defined, including the weekly put sales and the volatility hedge, we back-tested the strategy to July, 2007. The reason that date was chosen was because that was when \$VIX finally lifted out of its very low levels, thereby enabling a steep enough volatility skew to warrant using the put ratio spread strategy. In addition, the rise in volatility at that time produced weekly option premiums that were viable for sales as well. Prior to that time, volatility was so low that option sales were of questionable value.

Certain assumptions were made, based mostly on the risk to be taken, and not necessarily based on optimizing performance. These assumptions include placing 50% of the account in SPY put ratio spreads, 20% of the account in weekly SPY put sales, and then buying enough \$VIX calls to hedge the SPY put ratio spreads. We used the following criteria for the \$VIX hedge: 6 calls, three strikes out-of-the-money, were purchased to hedge each \$100,000 of net asset value of portfolio net worth that was to be protected.

Table 1: Theoretical Volatility Capture Performance Summary

Year	Yearly %	% gain to date	\$SPX
2007 YTD	16.20%	16.20%	-2.30%
2008	27.50%	48.10%	-38.50%
2009	24.20%	84.00%	23.50%
2010	39.00%	155.80%	12.80%

Table 1 shows a summary of the theoretical account performance by year, compared with the S&P 500 Index (\$SPX).

Figure 2: Theoretical Volatility Capture vs. \$SPX

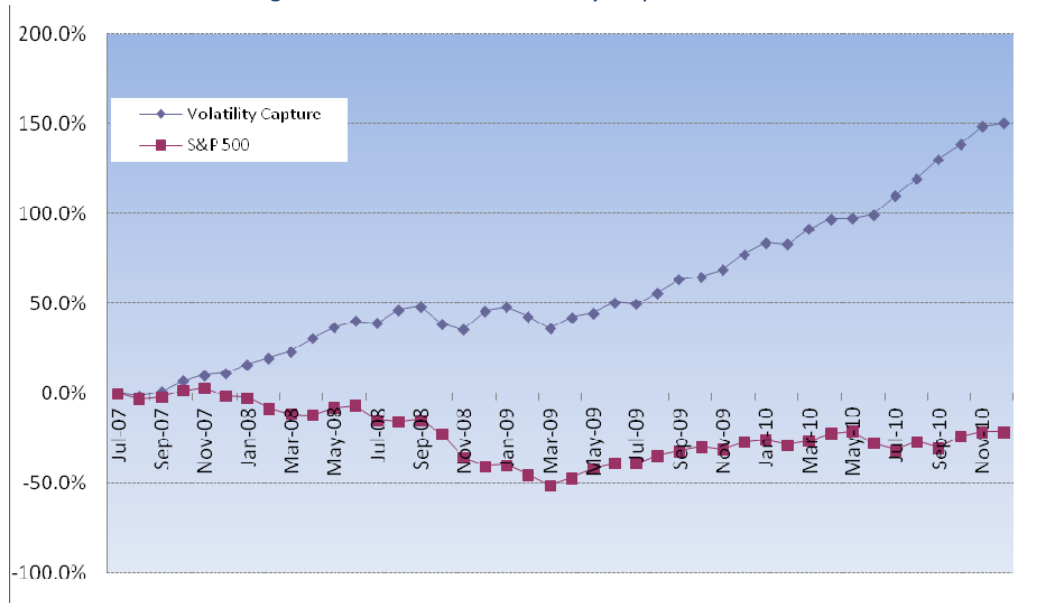
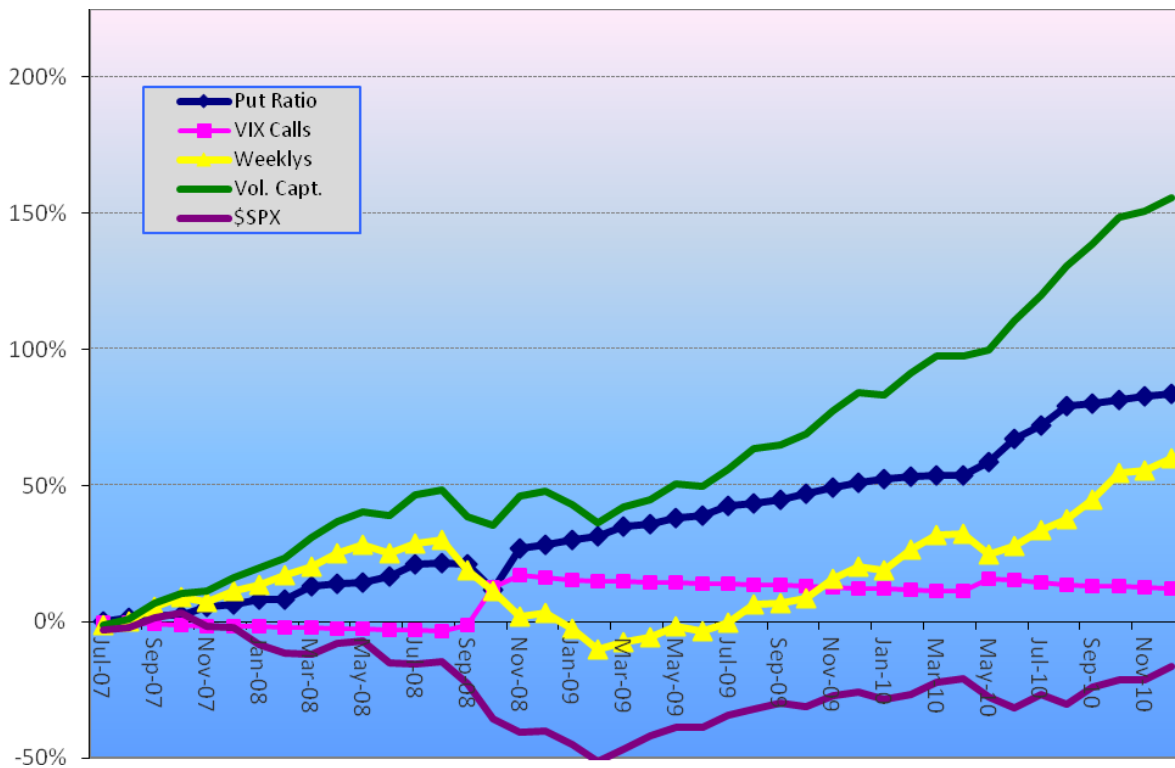


Figure 2 shows the relative net asset value of the Theoretical Portfolio vs. \$SPX, with both benchmarked to the same starting point in July 2007. From Figure 2, you can see that the Theoretical Performance had two modest draw downs (losses) in late 2008 and early 2009, even though both years finished with a positive performance overall.

Appendix A contains detailed data on the performance, by month, of each of the three individual strategies within the Volatility Capture strategy. Figure 3, below, is a graphical display of the same data as shown in Appendix A. Note that each of the three components – SPY put ratio spreads, SPY weekly put sales, and \$VIX call purchases – have actually made money, in total, since the July 2007 inception date. One might be surprised that \$VIX call purchases, which are in the portfolio to act as a hedge against a sharp market drop, have actually netted a profit overall. This is because the severe market drops and concomitant increases in \$VIX in October 2008 and May 2010 were so large that the \$VIX call profits in those months overcame the losses in all of the other months combined.

Figure 3: Breakdown of Returns on Component Parts



The highest and lowest lines in Figure 3 (Total Volatility Capture Profit and \$SPX) are the same as shown in Figure 2. The other three lines show the performance, by month, of each of the three component parts of the Volatility Capture Portfolio. The sum of those three lines is equal to the top line – total theoretical profit.

Figure 3 provides more details on the performance. At the right-hand side of the graph, you can see that the SPY put ratio (blue line) was the largest profit area, although SPY weekly put sales (yellow line) were not far behind. The weekly SPY put sales (yellow line) profit graph most closely resembles the \$SPX (lowest line on chart). In a sense, this is the “market component” of the Volatility Capture

strategy. Perhaps of more interest is the performance in the bear market of late 2008 and early 2009. In October 2008, there were losses in both of the put strategies, but the profits from owning the \$VIX calls offset the SPY put ratio spread losses, as intended. In early 2009, the market declined slowly and \$VIX didn't spike upward, so it was unable to counter the losses at that time.

As noted above, Theoretical Performance is only shown until the end of 2010. After that, Actual Performance is a more reliable statistic.

Actual Account Performance

McMillan Analysis Corp. has been managing individual accounts since 2001. Since the beginning of 2011, margin accounts in the Total Return Program have been actively engaged solely in the Volatility Capture Strategy: SPY put ratio spreads, SPY weekly put sales, and long \$VIX calls (with an occasional hedged volatility spread as well).

2012 was an excellent year for the strategy, as the average account made 16.15% after fees, with no losing months. The steady returns have continued in 2013 with gains in 11 of the 12 months.

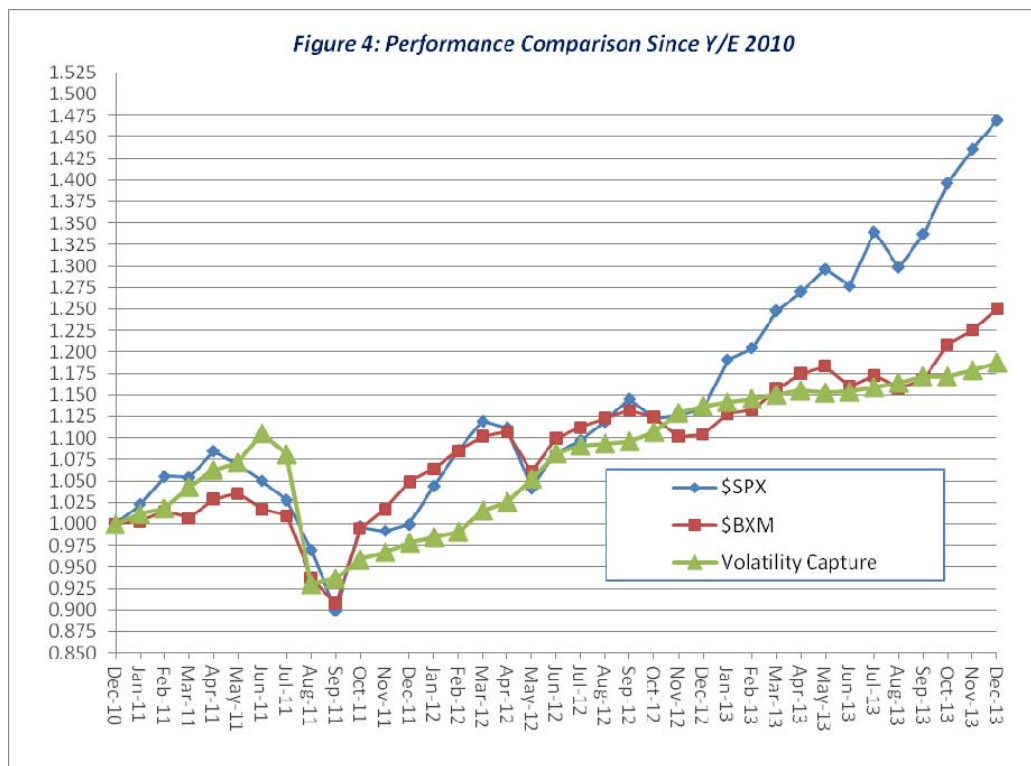


Figure 4 shows the performance of a typical account. The accompanying Table 2 (next page) shows the individual monthly data for that account, along with the monthly performance of two of the benchmark indices – \$SPX and the \$BXM. Our performance is far less volatile than the broad market.

Notice how the green line does not rise or fall nearly as dramatically as the red or the blue line – reflecting the fact that option writing strategies are less volatile than the broad stock market itself.

Table 2: Actual Monthly Returns: Volatility Capture on Margin and Benchmark Indices

Month	\$SPX	\$SPX %	\$BXM	\$BXM %	Vol Cap NAV	Vol Cap Monthly %
Jan-11	1286.12	2.26%	819.70	0.33%	1.0112	1.12%
Feb-11	1327.22	3.20%	829.13	1.15%	1.0185	0.72%
Mar-11	1325.83	-0.10%	823.10	-0.73%	1.0431	2.42%
Apr-11	1363.61	2.85%	840.70	2.14%	1.0622	1.83%
May-11	1345.20	-1.35%	845.96	0.63%	1.0712	0.85%
Jun-11	1320.64	-1.83%	830.71	-1.80%	1.1059	3.24%
Jul-11	1292.20	-2.15%	824.64	-0.73%	1.0807	-2.28%
Aug-11	1218.80	-5.68%	765.89	-7.12%	0.9307	-13.88%
Sep-11	1131.42	-7.18%	741.38	-3.20%	0.9362	0.59%
Oct-11	1253.30	10.77%	812.26	9.56%	0.9582	2.35%
Nov-11	1246.96	-0.51%	831.02	2.31%	0.9676	0.98%
Dec-11	1257.60	0.85%	857.46	3.18%	0.9786	1.14%
2011 Total		0.00%		4.95%		-2.14%
Jan-12	1312.41	4.36%	869.30	1.38%	0.9850	0.65%
Feb-12	1365.68	4.06%	886.40	1.97%	0.9912	0.63%
Mar-12	1408.47	3.13%	900.20	1.56%	1.0150	2.40%
Apr-12	1397.91	-0.75%	904.91	0.52%	1.0250	0.99%
May-12	1310.33	-6.27%	866.76	-4.22%	1.0523	2.66%
Jun-12	1362.16	3.96%	898.44	3.65%	1.0828	2.90%
Jul-12	1379.32	1.26%	908.92	5.34%	1.0905	0.71%
Aug-12	1406.58	1.98%	917.53	6.57%	1.0933	0.26%
Sep-12	1440.67	2.42%	925.17	7.58%	1.0965	0.29%
Oct-12	1412.16	-1.98%	918.43	8.48%	1.1076	1.01%
Nov-12	1416.18	0.28%	900.00	7.69%	1.1299	2.01%
Dec-12	1426.19	0.71%	902.09	5.52%	1.1366	0.59%
2012 Total		13.41%		5.21%		16.15%
Jan-13	1498.11	5.04%	921.90	2.20%	1.1412	0.40%
Feb-13	1514.68	1.11%	925.60	0.40%	1.1450	0.33%
Mar-13	1569.19	3.60%	945.60	2.16%	1.1506	0.49%
Apr-13	1597.57	1.81%	959.90	1.51%	1.1559	0.46%
May-13	1630.74	2.08%	966.80	0.72%	1.1524	-0.30%
Jun-13	1606.28	-1.50%	948.00	-1.94%	1.1537	0.11%
Jul-13	1685.73	4.95%	958.30	1.09%	1.1586	0.42%
Aug-13	1632.97	-3.13%	946.20	-1.26%	1.1640	0.47%
Sep-13	1681.55	2.97%	953.72	0.79%	1.1712	0.62%
Oct-13	1756.54	4.46%	987.90	3.58%	1.1717	0.04%
Nov-13	1805.81	2.80%	1001.12	1.34%	1.1787	0.60%
Dec-13	1848.36	2.36%	1021.68	2.05%	1.1875	0.75%
2013 Total		29.60%		13.26%		4.48%
Total		46.97%		25.05%		18.75%

In August, 2011, the stock market dropped sharply, so the SPY put ratio spreads suffered a loss. For the first time, either in the theoretical back-testing or the actual trading, the volatility hedge (long VIX calls) did *not* keep pace with a dramatic, sudden break in the broad stock market (in February and

March, 2009, VIX did not rise even as the stock market fell, but that was from a much higher level, and did not involve a sharp breakdown in \$SPX). As a result, the managed accounts had losses about equal to the broad market (\$SPX or SPY). This demonstrates a risk that is always present – that VIX may not actually keep pace with a falling stock market. In recent research, we have developed more refined techniques designed to combat this problem, but it could always exist, since there is no physical link between movements in \$VIX futures and the \$SPX Index.

Strategies for Cash Accounts

These strategies cannot be fully employed in cash accounts, because the required investment is different. In a cash account, when one sells a put, he must set aside cash equal to the full value of the striking price of the put. This lowers returns substantially, and often doesn't justify the strategy. Weekly SPY put sales *are* viable in a cash account, though. They can return 9% to 12% annually in a cash account. Moreover, the purchase of volatility calls as protection, and the purchase of a hedged volatility spread can be used in a cash account. However, SPY put ratio spreads are not useable in cash accounts.

Futures options in IRA accounts

Cash-based IRA accounts are allowed to open a futures account. In that case, the Volatility Capture strategy *can* implement the strategy using S&P 500 futures (e-mini S&P 500 futures) options. The performance results would normally be in line with a regular margin account. We have several accounts that are operating in this manner at the current time.

Table 3: Actual Monthly Returns: Volatility Capture on Futures and Benchmark Indices

Month	\$SPX	\$SPX %	\$BXM	\$BXM %	Vol Cap NAV	Vol Cap Monthly %
Dec-12	1426.19	0.71%	902.09	5.52%	1.0113	1.13%
2012 Total		13.41%		5.21%		1.13%
Jan-13	1498.11	5.04%	921.90	2.20%	1.0185	0.71%
Feb-13	1514.68	1.11%	925.60	0.40%	1.0257	0.71%
Mar-13	1569.19	3.60%	945.60	2.16%	1.0348	0.89%
Apr-13	1597.57	1.81%	959.90	1.51%	1.0509	1.56%
May-13	1630.74	2.08%	966.80	0.72%	1.0424	-0.81%
Jun-13	1606.28	-1.50%	948.00	-1.94%	1.0946	5.01%
Jul-13	1685.73	4.95%	958.30	1.09%	1.0997	0.47%
Aug-13	1632.97	-3.13%	946.20	-1.26%	1.1134	1.25%
Sep-13	1681.55	2.97%	953.72	0.79%	1.1225	0.82%
Oct-13	1756.54	4.46%	987.90	3.58%	1.1232	0.06%
Nov-13	1805.81	2.80%	1001.12	1.34%	1.1342	0.98%
Dec-13	1848.36	2.36%	1021.68	2.05%	1.1469	1.12%
2013 Total		29.60%		13.26%		13.41%
Total		46.97%		25.05%		14.69%

Summary

The Volatility Capture Strategy – as comprised of SPY put ratio spreads, weekly SPY put sales, and a hedge with long \$VIX calls – has a strong performance track record, via back-testing, and in actual performance. The strategy is designed to profit if the broad stock market rises, trades sideways, or falls modestly. It may not keep pace on the upside with a swiftly rising broad market. The greatest risk is that a sharp drop in the stock market would cause losses on the puts that were sold, but with the volatility protection in place, the Volatility Capture Strategy usually is superior to the broad market, even in that case.

We have been recommending these strategies in our publications *The Option Strategist* and *The Daily Strategist*, using actual prices and marks-to-market, and they have performed equally well there. The actual accounts that we are currently managing (as margin total return accounts) have been transferred to this strategy, as have certain of the strategies – where applicable – for cash-based total return accounts.

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Appendix: Monthly Returns & Quantities, by component, for Volatility Capture Strategy

Volatility Capture Total Return Strategy on Margin; Theoretical Performance

DATE	PUT RATIO SPREADS		VIX CALL BUYS		WEEKLY PUT SALES		MODEL PORTFOLIO		
	SPY qty	Monthly %	VIX qty	Monthly %	Weeklys Qty	Monthly %	NAV	Monthly %	YTD%
Jul-07	23.00	0.1%	3.00	-0.11%	8.00	-1.3%	\$98,632.60	-1.4%	-1.4%
Aug-07	24.00	1.4%	3.00	-0.38%	9.00	1.4%	\$101,010.40	2.4%	1.0%
Sep-07	24.00	1.0%	3.00	-0.34%	9.00	5.2%	\$106,922.20	5.9%	6.9%
Oct-07	24.00	0.1%	3.00	-0.28%	9.00	3.3%	\$110,248.60	3.1%	10.2%
Nov-07	25.00	2.5%	3.00	-0.29%	9.00	-1.3%	\$111,279.10	0.9%	11.3%
Dec-07	26.00	0.9%	3.00	-0.13%	10.00	3.6%	\$116,172.30	4.4%	16.2%
Jan-08	28.00	1.5%	3.00	-0.19%	10.00	1.7%	\$119,609.70	3.0%	3.0%
Feb-08	30.00	0.3%	4.00	-0.20%	11.00	3.1%	\$123,418.90	3.2%	6.2%
Mar-08	32.00	3.9%	4.00	-0.19%	12.00	2.3%	\$130,822.90	6.0%	12.6%
Apr-08	35.00	0.6%	4.00	-0.11%	13.00	4.0%	\$136,734.60	4.5%	17.7%
May-08	34.00	0.5%	4.00	-0.16%	13.00	2.2%	\$140,188.40	2.5%	20.7%
Jun-08	35.00	1.7%	4.00	-0.14%	13.00	-2.4%	\$138,969.90	-0.9%	19.6%
Jul-08	38.00	3.0%	4.00	-0.22%	14.00	2.6%	\$146,459.50	5.4%	26.1%
Aug-08	40.00	0.4%	4.00	-0.16%	15.00	1.0%	\$148,262.50	1.2%	27.6%
Sep-08	40.00	-0.3%	4.00	1.52%	15.00	-7.6%	\$138,743.50	-6.4%	19.4%
Oct-08	42.00	-6.7%	4.00	9.90%	15.00	-5.5%	\$135,514.90	-2.3%	16.6%
Nov-08	49.00	11.2%	4.00	3.29%	18.00	-6.8%	\$145,957.46	7.7%	25.6%
Dec-08	57.00	1.0%	4.00	-0.44%	21.00	0.9%	\$148,141.36	1.5%	27.5%
Jan-09	58.00	1.1%	4.00	-0.62%	21.00	-4.0%	\$142,976.96	-3.5%	-3.5%
Feb-09	61.00	0.9%	4.00	-0.35%	23.00	-5.3%	\$136,158.56	-4.8%	-8.1%
Mar-09	65.00	2.6%	4.00	-0.25%	24.00	2.2%	\$142,243.56	4.5%	-4.0%
Apr-09	63.00	0.8%	4.00	-0.13%	24.00	1.1%	\$144,818.16	1.8%	-2.2%
May-09	58.00	1.3%	4.00	-0.08%	22.00	2.8%	\$150,671.76	4.0%	1.7%
Jun-09	58.00	0.7%	5.00	-0.18%	22.00	-1.1%	\$149,824.36	-0.6%	1.1%
Jul-09	57.00	2.4%	4.00	-0.16%	21.00	1.9%	\$156,063.76	4.2%	5.3%
Aug-09	56.00	0.4%	5.00	-0.13%	21.00	4.5%	\$163,507.76	4.8%	10.4%
Sep-09	56.00	0.8%	5.00	-0.11%	21.00	0.2%	\$164,938.56	0.9%	11.3%
Oct-09	55.00	1.5%	5.00	-0.12%	20.00	1.1%	\$168,922.76	2.4%	14.0%
Nov-09	57.00	1.2%	5.00	-0.24%	21.00	4.1%	\$177,571.84	5.1%	19.9%
Dec-09	57.00	1.2%	5.00	-0.25%	21.00	2.7%	\$183,998.14	3.6%	24.2%
Jan-10	58.00	0.6%	6.00	-0.20%	22.00	-0.8%	\$183,219.74	-0.4%	-0.4%
Feb-10	60.00	0.5%	5.00	-0.14%	22.00	4.1%	\$191,457.74	4.5%	4.1%
Mar-10	61.00	0.4%	6.00	-0.19%	23.00	2.8%	\$197,307.94	3.1%	7.2%
Apr-10	59.00	0.0%	6.00	-0.17%	22.00	0.2%	\$197,373.94	0.0%	7.3%
May-10	58.00	2.4%	6.00	2.45%	22.00	-3.7%	\$199,603.14	1.1%	8.5%
Jun-10	64.00	4.3%	6.00	-0.36%	24.00	1.5%	\$210,311.94	5.4%	14.3%
Jul-10	72.00	2.2%	6.00	-0.34%	27.00	2.7%	\$219,883.62	4.6%	19.5%
Aug-10	70.00	3.3%	7.00	-0.38%	26.00	1.9%	\$230,580.62	4.9%	25.3%
Sep-10	77.00	0.5%	7.00	-0.18%	29.00	3.1%	\$238,424.72	3.4%	29.6%
Oct-10	74.00	0.4%	7.00	-0.15%	27.00	4.0%	\$248,690.52	4.3%	35.2%
Nov-10	74.00	0.6%	7.00	-0.17%	28.00	0.3%	\$250,531.32	0.7%	36.2%
Dec-10	75.00	0.4%	8.00	-0.18%	28.00	1.9%	\$255,785.32	2.1%	39.0%

Results	yr%	% gain to date
end 07	16.2%	16.2%
end 08	27.5%	48.1%
end 09	24.2%	84.0%
end 10	39.0%	155.8%

Input variables:		
% in put rto	% in wklys	VIX c/\$50000
0.5	0.2	3

