



Horse Cove Partners LLC

Enhanced Yield Strategy

Suite 120  
1899 Powers Ferry RD SE  
Atlanta, GA 30339  
678-905-5723

[www.horsecovepartners.com](http://www.horsecovepartners.com)

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Profiting from the Art and Science of taking Risk. ®

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## Who is Horse Cove Partners?

- Risk driven investing where return is the by-product
  - “Profiting from the art and science of taking risk.”®
- Rules based investment system that is replicated weekly
  - Sound statistical grounding based on over 65 years of market history
  - Since implied volatility has been almost always higher than realized (actual) volatility, the sellers of volatility have a systemic advantage.
- Senior industry veterans executing an investment process built on more than a decade of institutional experience trading options
- Seek to deliver non-correlated absolute returns
- \$81.66 million of total regulatory assets under management (1/31/2020)
- \$10.07 million in assets under management in Enhanced Yield (1/31/2020)



## Investment Philosophy: Horse Cove Partners (HCP) believes

- Stock option prices generally overestimate actual volatility and are richly priced. Therefore:
  - Option sellers (writers) have an advantage and are generally rewarded for taking risk.
- The stock option writing advantage has been historically persistent and is likely to continue.
- Writing options with strike prices that are far “out of the money” is a reduced risk approach to methodically exploiting this opportunity.
- A disciplined, rules-based risk management system provides opportunity to capture attractive option premiums over time while minimizing the magnitude of infrequent losses.

**Investment Objective:** strive to achieve attractive bond-like returns by capturing out of the money option premiums on the S&P 500.

## Investment Strategy

- Investor capital invested in 90 day US Treasury Bills. (Except in IRA Accounts)
- Write (sell) put options on the S&P 500 each Monday, expiring on the following Friday.
  - T-Bills used as collateral to sell significantly out of the money options. In cash at the close of trading each Friday.
  - No weekend risk. 5 day time exposure.
- A rules based investment discipline determines which option strike price to write.
  - Use current market VIX level to establish strike prices providing an acceptable risk level each week.
- Potential profit is the option premium the market offers each week.
- Cap potential losses by “covering” each short option sold
  - Buy protection with the purchase of an option farther out of the money.
  - No positions written “naked.”

# Active Trade Management

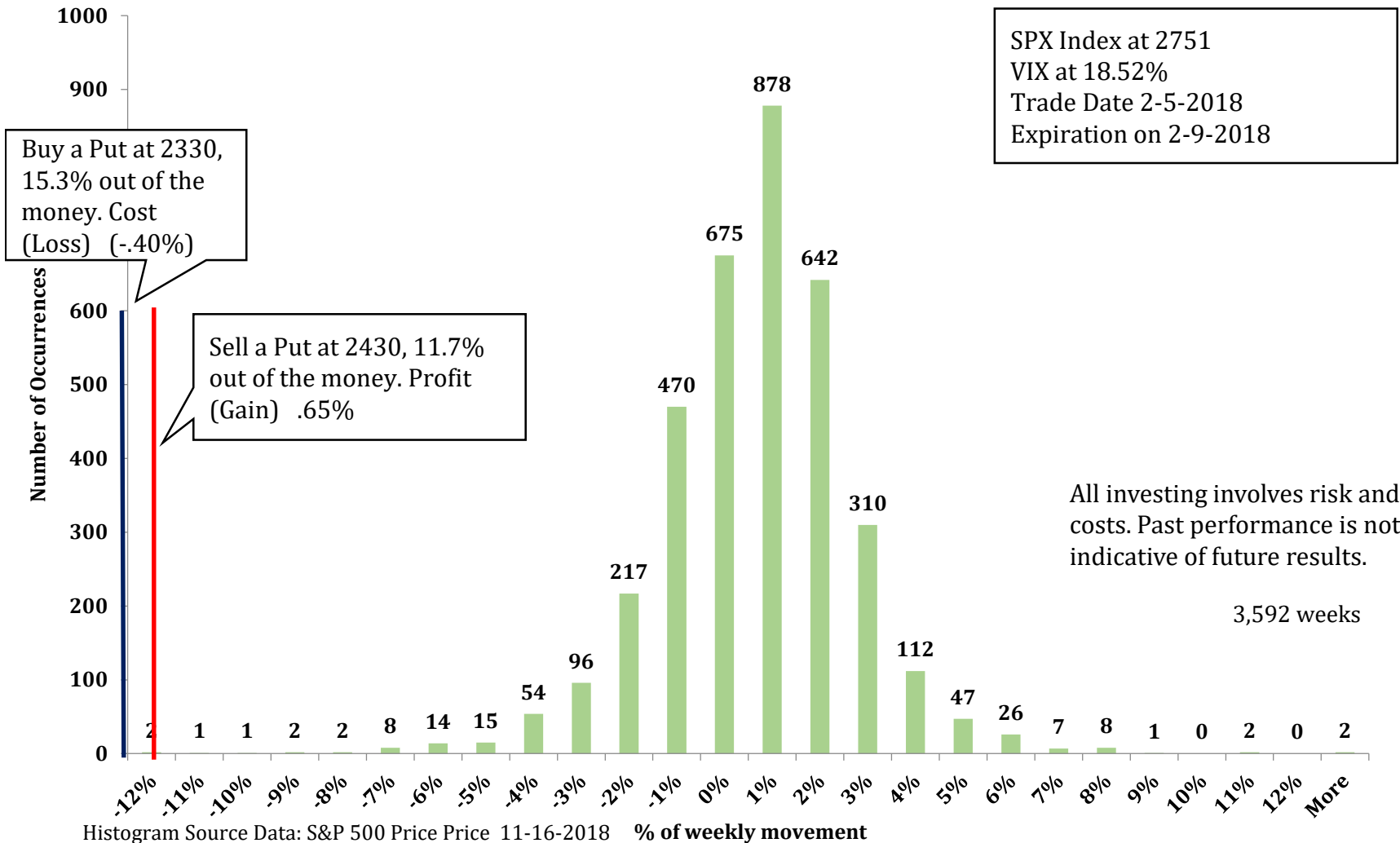
- Reduce event risk associated with writing options on individual stocks
  - Write options only on the broad market (S&P 500 index).
- Write only weekly options expiring the same week on Friday.
- Write put options with a defined statistical risk level (probability of success.)
- Estimate loss probabilities and set strike prices using current market VIX level.  
HCP believes:
  - The VIX is a reliable but high (conservative) estimate of the market's ensuing volatility. (In effect, it overstates the future volatility of the S&P 500).
  - Using the VIX to estimate future volatility is preferred to attempting to forecast market returns or volatility because it helps ensure performance consistency and sustainability.
- Purchase downside risk protection:
  - Cap potential losses by buying protective options.

## Ongoing Risk Management

- HCP establishes its initial option positions the same way each week, however, we do not passively wait to see what happens once positions are established.
- Instead, throughout the week, we monitor the probability that our short option positions will expire out of the money. Model is adjusted for current market levels and days remaining to expiration.
  - If probability drops to approximately one standard deviation probability of success, we start taking defensive action to reduce the risk by buying back the short Put.
- We may also remove or reduce initial positions when faced with large uncertainties or binary outcome events. (Brexit) We never increase initial positions and risk based on forecasts or expectations.
- Result: we have never let an option go beyond its strike price (into the money) before exiting the position.
  - We call this taking small intelligent losses to reduce the risk of large losses.

# Initial Trade and Risk Control Example

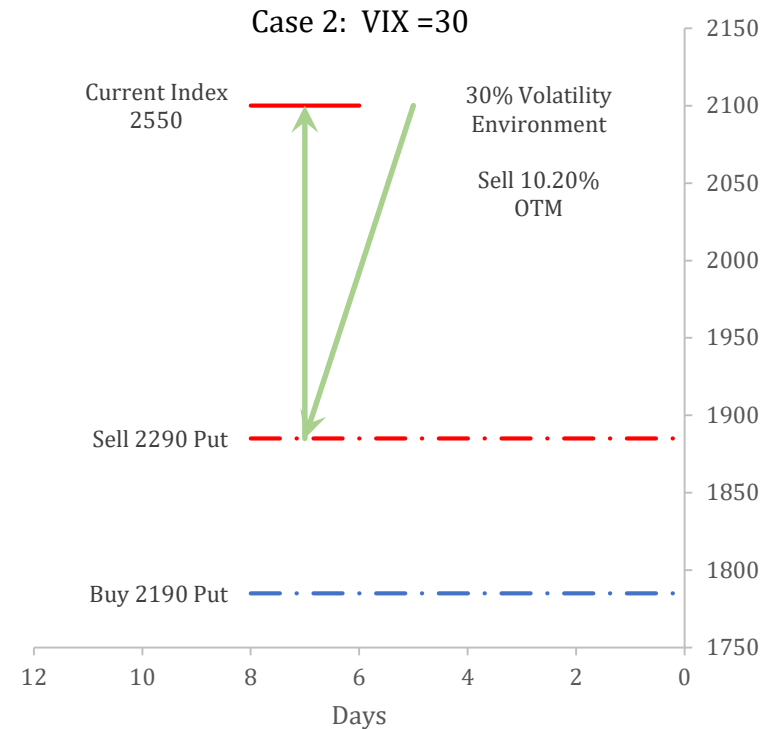
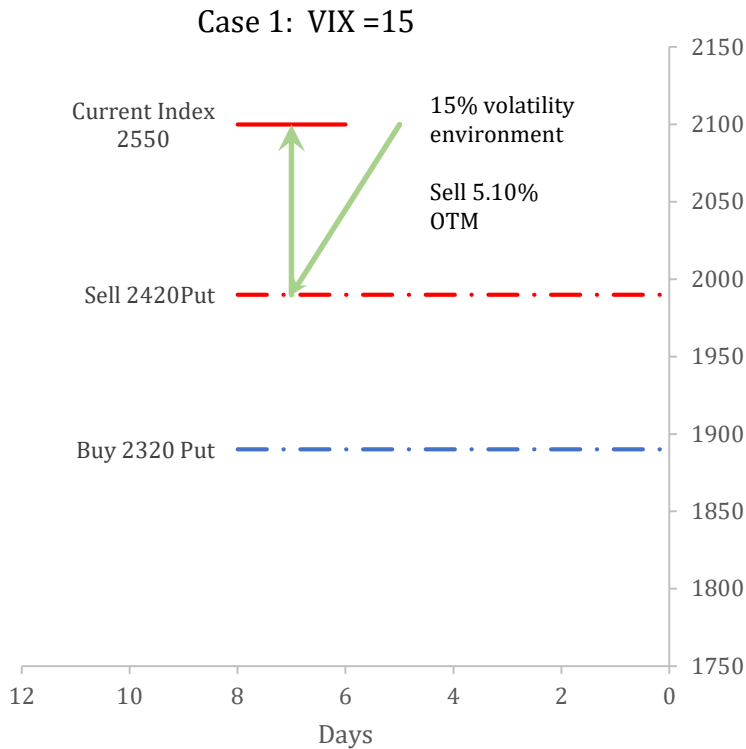
Feb. 5, 2018 Actual Trade: \$0.25 net premium (0.25% Gross Profit Potential)





# Investment Process Self-adjusts to Market Risk

As risk (volatility) increases, option contracts are written farther out of the money with the same probability of success.



The above charts are provided for information purposes only. All investing involves risk and costs. Past performance is not indicative of future results.

# HC Enhanced Yield Performance

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
<b>2020</b>	0.68												0.68
<b>2019</b>	0.76	0.51	0.86	0.46	0.72	0.64	0.44	0.90	0.71	0.09	0.48	0.65	7.46
<b>2018</b>	0.50	0.62	1.02	0.69	1.19	0.59	0.91	0.91	0.75	0.99	0.89	0.64	10.18
<b>2017</b>						*0.38	0.30	0.88	0.58	0.61	0.57	0.49	3.90

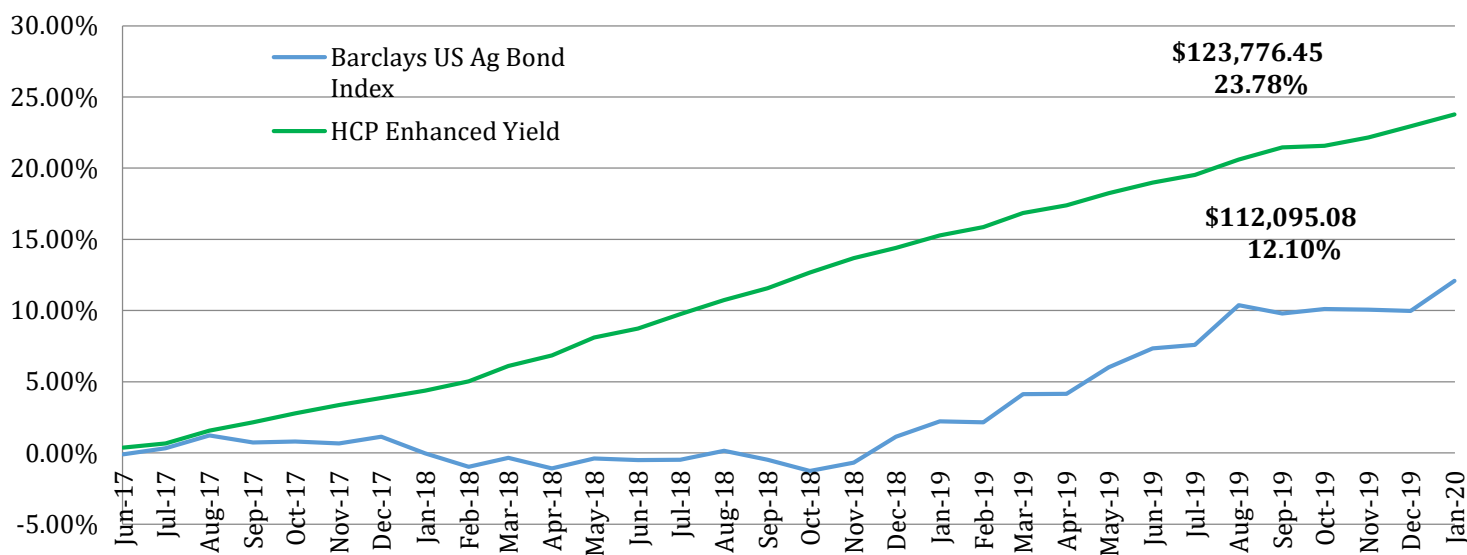
\*Partial month

Summary of Returns	Horse Cove Partners Enhanced Yield	Bloomberg Barclays US Aggregate Bond Index
Average monthly return since inception (June 2017 to Jan. 2020)	0.67%	0.36%
Average when positive	0.67%	0.92%
Best 12 Months	10.43%	11.53%
Worst 12 Months	+7.38%	(2.06%)
Average rolling 12 months	9.07%	4.36%
Standard Deviation 1 Year (as of 12/31/2019)	0.77	3.63
Downside Market Capture 1 Year (as of 12/31/2019)	-26.25	
Downside Market Return 1 Year (as of 12/31/2019)	10.16	
Sharpe Ratio 1 Year (as of 12/31/2019)	6.78	
Treynor Ratio Since Inception (as of 12/31/2019)	-534.30	
<i>HCP EY began trading in June 2017. All returns are net of fees and commissions (including 2.0% management fee).</i>		

All investing involves risk and costs. Past performance is not indicative of future results.

# Cumulative Performance Relative to Barclays US Ag. Bond Index--Inception through Jan. 2020 –Growth of Dollar

## Cumulative Return (Growth of \$100,000) Through Jan. 2020

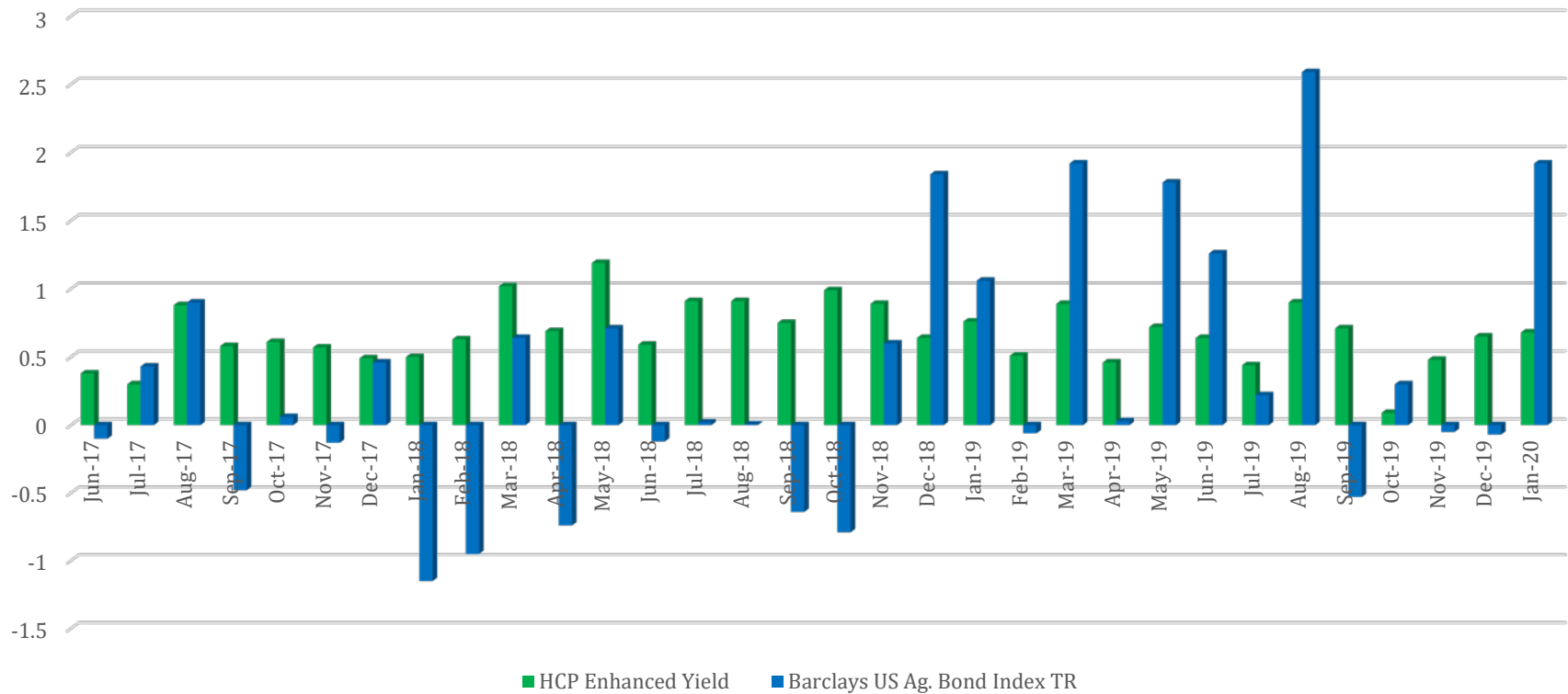


\*Trading commenced as of June 5, 2017. Historic returns and statistics in this document are illustrative and provided for information only, and are based on information that we believe to be fair, and accurate. Past performance does not guarantee future results. Investments may be speculative, illiquid and there is a risk of loss.

Source: <http://performance.morningstar.com/Performance/index-c/performance-return.action?t=XIUSA000MC>

# HCP Enhanced Yield Vs. Barclays U.S. Ag. Bond Index

Horse Cove Partners Enhanced Yield vs. Barclays Ag. Bond Index Total Return (Monthly)



Net of fees and expenses including a 2% per annum management fee.  
Assumes HCP EY income distributed monthly.

Source: <http://performance.morningstar.com/Performance/index-c/performance-return.action?t=XIUSA000MC>

## Expected Portfolio Characteristics

Although the Enhanced Yield Strategy is managed with essentially the same principals and processes as Horse Cove Partner's other options strategies, it has been tailored to align with different investment objectives.

- Expected annual return of 6-8% per annum after fees.
  - Use of Reg. T collateral. No leverage.
- Seek to add incremental income in excess of the Bloomberg Barclays US Aggregate Index.
- Non-correlation to other assets classes including long bonds.
- Designed as a bond alternative or diversifier.
- Exposure to current low bond interest rates and the adverse effect of rising rates is expected to be minimal.
- No incremental bond returns in IRA accounts.
- Favorable tax treatment IRS Section 1256.

*Strategies may be suitable for investors seeking liquid, alternative investment strategies with relatively high current income and returns uncorrelated to stocks and bonds.*



## Potential Risks

Although the Enhanced Yield Strategy is executed at a very high probability of success, there is still risk in the trade.

- The “market” does not provide return without risk.
- Limited live track record means the strategy has not been traded through all market conditions.
  - Past performance is no indication of future success.
- Historical options pricing is not available making back-testing difficult.
- Simulation testing of rolling 5 day periods from 1990 to 2016 indicate there would have been 4 rolling 5 day periods where extensive losses would have occurred if no defensive action had been taken. See Appendix.
  - Two 5 day periods in 2008; and
  - Two 5 day periods in 2015.

# Taxation-Executive Summary

		Pre-Tax Return									
		4.0%		5.0%		6.0%		7.0%		8.0%	
Fed. Tax Rate		HCP	OTI*	HCP	OTI	HCP	OTI	HCP	OTI	HCP	OTI
22%		3.17%	3.12%	3.96%	3.90%	4.75%	4.68%	5.54%	5.46%	6.34%	6.24%
24%		3.14%	3.04%	3.92%	3.80%	4.70%	4.56%	5.49%	5.32%	6.27%	6.08%
30%		3.04%	2.80%	3.80%	3.50%	4.56%	4.20%	5.32%	4.90%	6.08%	5.60%
35%		2.96%	2.60%	3.70%	3.25%	4.44%	3.90%	5.18%	4.55%	5.92%	5.20%
37%		2.93%	2.52%	3.66%	3.15%	4.39%	3.78%	5.12%	4.41%	5.86%	5.04%

HCP returns are taxed under IRS Section 1256 as 60% long term capital gains and 40% short term gains (Ordinary Income). Other income taxed at full Federal rate.

\*OTI-Other Taxable Income.

# Horse Cove Investment Platform

Accounts offered via separately managed accounts (SMAs) with Interactive Brokers LLC as Prime Broker. This provides the following benefits:

**Control:** Account is opened by client, in client's name and control

- Client assigns only trading authority to HCP--no ability to move funds

**Flexibility:** Client ability to suspend trading with a phone call or mouse click.

**Visibility:** Full transparency of all positions, trades, fees and expenses

**Liquidity:** Client can quickly effect full or partial contributions and withdrawals.

- Contributions/Withdrawals Daily
- No lock-up

**Efficiency:** No fund expenses such as audit, administrative or custodial fees (except IRA).

- No potential dilution or expenses often associated with withdrawals of other investors.

**Tax advantage:** Under IRC Sec. 1256, option trading income has 60% long-term capital gains treatment and 40% short-term

- No waiting for audits or K-1s at year end, timely 1099 issued by Interactive Brokers

# Experienced Management Team

## Investment Team

- Samuel T. DeKinder, *Managing Director, Portfolio Manager, Founder, 40+ years experience*
- Kevin Ellis, *Managing Director, Co-Portfolio Manager, Founder, 30+ years experience*
- Gregory Brennan, *Portfolio Manager, 16+ years experience*

## Horse Cove Directors and Endorsement Team

- John Monahan, *Director of Development, 40+ years experience*
- Mike Crissey, *Director, 30+ years experience*
- Don Trotter, *CFA Director, 40+ years experience*

## Horse Cove Operations

- Matt Swendiman, *Chief Compliance Officer, Key Bridge Compliance LLC., 23+ years experience*
- Fiona Dyer, *Manager of Operations and Customer Support, 5+ years experience*

HCP brings together a team with extensive, broad and successful experience across many investment management disciplines, including: option management; portfolio and risk management; financial, administrative and operation management; regulatory compliance, investment research; strategy development, client relations, marketing and investment consulting.

Detailed experience, education and professional designations provided in the Appendix.

# Investment Strategy Summary

- We believe HCPs' writing strategies can be viewed metaphorically as writing a form of insurance. We, as the insurance provider (option seller) collect the premium up-front from an investor who is looking to hedge or control risk and otherwise limit market exposure. As an incentive to provide insurance, the insurer sets the premium to include a profit element. We believe this profit element is the source of our income. As a result, we take an approach similar to an insurance company as our investment strategy focuses on the control and management of risk.
- We do not believe we are smarter than the market, nor do we think we can time the market in any given week or month. Rather, by deploying a consistent and disciplined strategy each week, we believe it is possible to maintain an acceptable risk profile and realize attractive returns through selling options. We believe our success comes from focusing on the risk of each trade, rather than targeting a specific return or premium.
- As investors, we understand that loss causing events will occur. "When" they will occur is the unknown. One of the keys to our success is taking "intelligent losses" when faced with those events allowing our investment strategy to produce positive performance net of those losses over time.



# Terms

Management Fees	2.00% per annum
Minimum investment	\$50,000
Contributions/Withdrawals	Daily; no lock up period
Separately Managed Account at Interactive Brokers LLC; or TD Ameritrade as custodian	

# Disclosures and Risk Factors

Horse Cove Partners LLC is a federally registered investment adviser under the Investment Company Act of 1940. Registration as an investment adviser does not imply a certain level of skill or training. Prior performance shows results achieved during past market periods and is not indicative of future results, which will depend, among other things, on future market conditions. No representation is being made that the strategy will or is likely to achieve returns similar to those shown. The information herein was obtained from third party sources. Horse Cove does not guarantee the accuracy or completeness of such information provided by third parties. All information is given as of the date indicated and believed to be reliable. Performance results are estimates pending an audit. Results are shown net of fees and expenses but do not reflect withdrawals or income taxes that might be payable, the effects of which could significantly reduce cumulative returns. Results do not include the reinvestment of dividends and capital gains because options don't pay dividends. The returns are based on the Investment Manager's strategy and the compilation of actual client account trades.

The Enhanced Yield strategy was not available until June 2017. There can be no assurance that the results shown will be replicated in the future.

**Options are speculative and highly leveraged. Although the strategy usually writes options that, when written, Manager believes will have a 90% or more probability of success based on volatility and term, specific market movements of the index underlying the option cannot be accurately predicted. As the writer of put and call options, the strategy is subject to the significant risk of loss if the index moves to levels below or above the strike price of the option. Economic leverage is possible if options move beyond the option strike price. The Manager may employ risk management strategies which are intended to reduce risk but cannot eliminate it. Costs of such strategies may reduce potential returns. Risk management strategies may include writing options on other indices, writing outside the strategy's general parameters (including probabilities outside the stated target), and writing for longer or shorter durations. Please read the Characteristics and Risks or Standardized Options available from the Options Clearing Corporation website: <http://www.optionsclearing.com> for further details.**

This document is for illustrative purposes only and should not be regarded as an offer or solicitation for advisory services offered by the Investment Manager or its affiliates, officers, directors, agents or employees. This material is not authorized for re-distribution unless it is accompanied by strategy disclosures. Information has been obtained from sources believed to be reliable, but we do not guarantee their accuracy or completeness.

**The strategy is designed for sophisticated investors, and represents a speculative investment and may involve a high degree of risk. An investor may lose all or part of their investment. There can be no assurance that the strategy will achieve its investment objectives.** Fees and expenses may offset trading profits. Prospective investors should carefully review the firm disclosures, and should consult with their financial advisors before making an investment.

# Definitions

**S&P 500** - refers to the Standard and Poor's 500 Index which is a capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic stock market.

**VIX (CBOE volatility index)** - is the ticker symbol for the Chicago Board Options Exchange (CBOE) Volatility Index, which shows the market's expectation of 30-day volatility. It is constructed using the implied volatilities of a wide range of S&P 500 index options. This volatility is meant to be forward looking and is calculated from both calls and puts.

**Bloomberg Barclays US Aggregate Bond Index** - is a broad base index often used to represent investment grade bonds being traded in United States.

**BofA Merrill Lynch U.S. High Yield Master II Index** - the index measures the performance of high yield bonds.

**HFN Fixed Income Arbitrage Index** - this index includes funds that attempt to exploit pricing inefficiencies between credit sensitive instruments which may include government or corporate debt, structured securities and their related derivatives. Types of arbitrage may include yield curve, swap spread, volatility and capital structure. These funds are often highly leveraged.

**HFN Long/Short Equity Index** - this index includes funds that typically buy equity securities with the expectation they will go up in price and sell short equity securities with the expectation they will decline in price. Funds may either be "net long" or "net short" and may change their net position frequently. The basic belief behind this strategy is that it will allow the fund to profit from both undervalued and overvalued securities and protect capital in many types of market conditions.

**HFN Macro Index** - this index includes funds that trade a variety of security types in an attempt to capitalize on shifts in the global economy. Derivatives are often used to speculate on currency, commodity and interest rate movements.

**MSCI EAFE Free ND - )** - is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

**S&P Goldman Sachs Commodity** - serves as a benchmark for investment in the commodity markets and as a measure of commodity performance over time.

**Bloomberg Commodity** - is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.

# Definitions Continued

**Calmar Ratio** - is a comparison of the average annual compounded rate of return and the maximum drawdown risk of commodity trading advisors and hedge funds.

**Downside Market Capture** - is a statistical measure of an investment manager's overall performance in down-markets. The down-market capture ratio is used to evaluate how well or poorly an investment manager performed relative to an index during periods when that index has dropped.

**Downside Market Return** - it is defined to be the scaled amount by which an asset tends to move compared to a benchmark, calculated only on days when the benchmark's return is negative.

**Sharpe Ratio** - a measure that indicates the average return minus the risk-free return divided by the standard deviation of return on an investment.

**Treynor Ratio** - is a metric for returns that exceed those that might have been gained on a risk-less investment, per each unit of market risk.

**Sortino Ratio** - measures the risk-adjusted return of an investment asset, portfolio, or strategy. It is a modification of the Sharpe ratio but penalizes only those returns falling below a user-specified target or required rate of return.

**Omega Ratio** - is defined as the probability weighted ratio of gains versus losses for some threshold return target.

**R-squared** - is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determination for multiple regression.

**Standard Deviation** - is a measure that is used to quantify the amount of variation or dispersion of a set of data values.

**Loss Deviation** - measures the asset's average (mean) return only for the periods with a loss, and then measures the variation of only the losing periods around this loss mean.

**Auto Correlation** - correlation between the elements of a series and others from the same series separated from them by a given interval.

**Bias Ratio** - is a concrete metric that detects valuation bias or deliberate price manipulation of portfolio assets by a manager of a hedge fund, mutual fund or similar investment vehicle, without requiring disclosure (transparency) of the actual holdings.

# Appendix



## Experienced Management Team

- Samuel T. DeKinder

*Managing Director and Portfolio Manager*

Samuel T. DeKinder has over 40 years of investment experience. He is the Founder of Horse Cove Partners. Following his retirement from Invesco Ltd in 2006, Mr. DeKinder was a partner and Vice President of Marketing for FISCO Appreciation Management LLC. Mr. DeKinder served as a member on the Board of Directors of Invesco, MIM PLC (the predecessor to Invesco Ltd.), in addition to a variety of executive capacities during his nearly 20 years with Invesco. He formerly served as a member of the Board of Directors of Kennedy Capital Management. Previously, Mr. DeKinder was a Co-Founding Principal of DeMarche Associates, one of the nation's most prominent investment consulting firms. He graduated from the University of Oklahoma with degrees in Economics and Statistics.

- Kevin Ellis

*Managing Director*

Mr. Ellis brings more than 30 years of financial, administrative and operations experience to the Firm. Previously, Mr. Ellis was the COO and principal of FISCO Appreciation Management LLC. He also served as a Founding Principal, Managing Director and COO at Labyrinth Group, LLC, an investment management firm utilizing structured securities. Prior to that, he was Manager of Corporate Development at Arthur Anderson, LLP, where he focused on finance, mergers and acquisitions. Earlier in his career, he served as Vice President of Business Planning at SUPERVALU, Inc. Mr. Ellis is a graduate of Minnesota State University-Mankato BA Finance and earned a Juris Doctorate from William Mitchell College of Law and was admitted to the bar in Minnesota in 1983.

## Experienced Management Team

- **John Monahan**  
*Director of Development*

Mr. Monahan is a business development and client relations expert in the investment management industry. He began his career as the youngest Regional VP – Group Pension Division for Union Mutual. In 1985 John co-founded and steered the build-out of PRIMCO Capital Management from the ground up, propelling assets under management from zero to \$10B in 5 years. PRIMCO was acquired by INVESCO in 1991. He joined INVESCO as a Global Partner in 1991 and launched and led institutional market development spanning the US (Puerto Rico) Canada, the Middle East, South America, Bermuda, and the Caribbean.

Since 2006 John has co-founded 3 firms, all subsidiaries of Peachtree Commonwealth. John completed executive education at The Wharton School of the University of Pennsylvania and earned a BA in American Studies from St. Michaels College. He possesses conversational fluency in French and basic fluency in Spanish.

- **Mike Crissey**  
*Director*

Mike Crissey has over 30 years experience in Institutional Sales, Marketing, Client Servicing, Consultant Relations and Institutional Investment Consulting.

From 2000 to 2013 he held sales, marketing and client servicing positions with Pathways Financial Partners, Fisco Investment Management, Principal Global Investors and Sirach Capital Management. Prior to Sirach Capital Management, Mike was a Senior Vice President of DeMarche Associates, one of the nation's leading investment consulting firms. At DeMarche he managed the operations of the firm and later created and ran a consulting service to 50 of the largest investment firms in the US between 1982 and 1999.

Mr. Crissey is a native of Missouri and a graduate of the Penn Valley Community College receiving a degree in Computer Science with an emphasis in Systems Design. Mr. Crissey and his wife Judy reside in Kansas City, Missouri.

# Experienced Management Team

- Don Trotter

*Director*

Don Trotter was a Managing Director and founder (1992) of Atlantic Asset Management, LLC, with \$7 billion of assets under management when sold in 2015. Mr. Trotter was instrumental in developing and implementing its strategy of investing in and developing emerging investment management firms specializing in non-traditional assets classes.

Mr. Trotter was previously a Senior Vice President and Senior Consultant at DeMarche Associates from 1988 to 1992. Prior positions include Senior Financial Analyst at Phillips Petroleum Company based in London and Chief Investment and Trust Officer of a nationally chartered bank in Kansas City.

Mr. Trotter is a CFA and served AIMR (Association for Investment Management and Research) for 12 years in several capacities including Board member. For 9 years, he also served on the board of National Advisors Trust (a \$10 billion Federally-Chartered trust company created and owned by financial advisory firms across the US) where he was a member of the Finance, Investment and Audit Committees.

Mr. Trotter received an MBA from the University of Missouri (Kansas City) and a BS and BA in Accounting and Business administration from the University of Kansas. His published research includes investment related articles commissioned for the ICFA Continuing Education series and the National Council on Foundations. He has been a speaker at investment conferences across the country on various investment related topics.

## Experienced Management Team

- Gregory Brennan

*Portfolio Manager*

Gregory Brennan is responsible for implementing the options trading strategy of Horse Cove Partners under the leadership of Portfolio Manager Sam DeKinder. Greg brings more than 16 years of investment experience to the firm, most recently as Senior Vice President and financial adviser at Cohen, Mackall & Associates, an Atlanta-based financial advisory service of Ameriprise Financial, Inc. His expertise is in helping individuals and businesses build and manage investment portfolios, and create and implement financial plans.

Previously, Mr. Brennan was a Vice President and financial adviser at SunTrust Investment Services in Atlanta. Greg began his career as a financial adviser in a New York office of A.G. Edwards & Sons, Inc. He graduated from Queens College with a B.A. in Economics.

- Fiona Dyer

*Manager of Operations and Customer Support*

Fiona Dyer provides comprehensive account support services in addition to performing back office operational & administrative activities. Ms. Dyer most recently worked with an Atlanta-area alternative investment firm where she was responsible for all client service functions including investor relations, advisor support, transaction processing and client reporting. She served as the first point of contact for the firm's investors and was a key liaison in ensuring the delivery of a consistent client experience to all of the company's clientele.

A native of the United Kingdom, Ms. Dyer previously worked in the accounting division of a chartered patent agent firm in London, England. She received her BA in Economics from Columbia University.

## Experienced Management Team

- **Matthew Swendiman**

*Chief Compliance Officer*

*Key Bridge Compliance, LLC*

Matt Swendiman began his investment management career in 1996 with a predecessor of Citi Fund Services where he worked in the transfer agent and legal and compliance department for a large third-party mutual fund administrator. Thereafter, he served as counsel to Conseco Capital Management, a multi-billion dollar institutional investment management firm located in Carmel, Indiana.

In 2002, Mr. Swendiman joined The Phoenix Companies in Hartford, Connecticut where he ultimately served as Chief Legal Officer and Secretary for the Phoenix (now Virtus) mutual fund complex. During his time at Phoenix he earned the CLU and ChFC designations from The American College.

Mr. Swendiman later served as an investment management associate in the Washington, DC office of K&L Gates, an international law firm. In 2006, he joined Fifth Third Bank in Cincinnati, Ohio where he served as the Chief Administrative Officer for Fifth Third's institutional investment management business. In addition to these responsibilities, he provided legal support to Fifth Third's broker-dealer, insurance and custody operations. He also served as Secretary and Chief Legal Officer to the Fifth Third Funds, a mutual fund trust with twenty-four series. While at Fifth Third, Mr. Swendiman earned his CFA charter.

Following a stint as COO to a \$500 million Cincinnati-based registered investment adviser, Mr. Swendiman founded Graydon Compliance Solutions, LLC (which ultimately became Key Bridge Compliance on 7/31/2019), an outsourced compliance consultancy offering services to RIAs across the United States and in the United Kingdom. Mr. Swendiman is the Chief Executive Officer of Key Bridge Compliance.

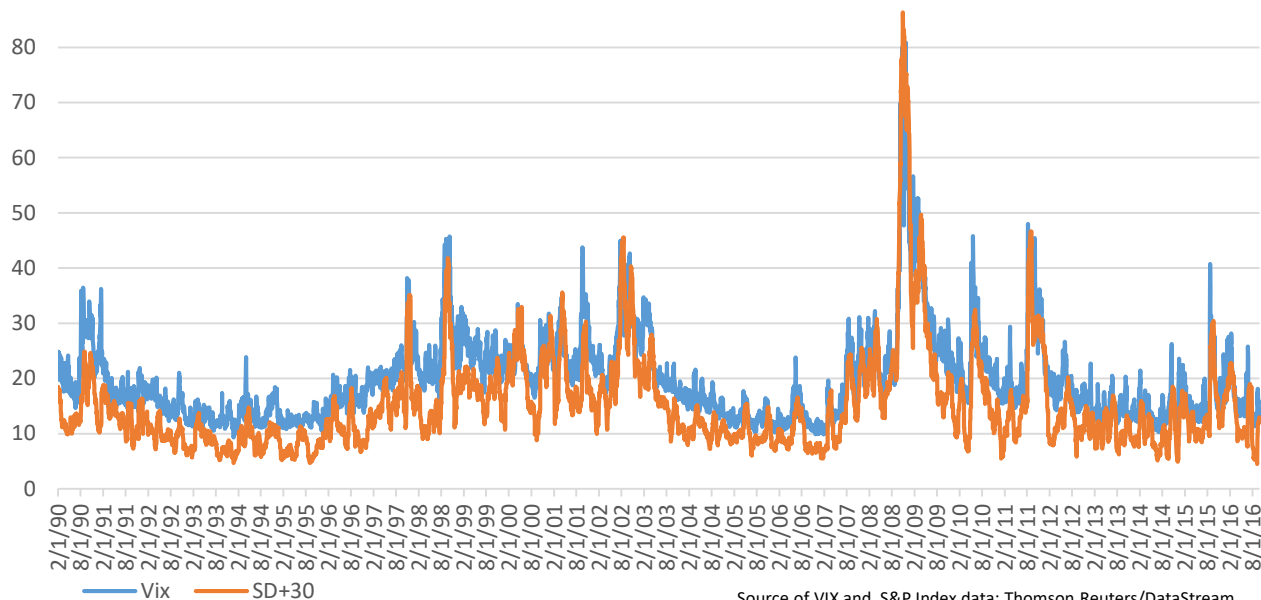
Mr. Swendiman earned his BA in Political Science, as well as his JD, from The Ohio State University. While in law school, he attended the Oxford University Summer Program, and has also earned his LLM in Insurance Law from the University of Connecticut.

# VIX and Realized Volatility

## Testing HCPs' Philosophy and Investment Thesis

HCP sets the strike price of options written based upon a high expected probability of success. A volatility estimate is needed to determine that probability. We use current VIX for this estimate as we believe it is a reliable indicator of subsequent volatility. The following graph assesses that thesis by showing the relationship of current VIX and realized volatility over the subsequent 30 days.

VIX vs Trailing 30-day Volatility (Annualized Standard Deviation)  
1990 through Sept 2016



Source of VIX and S&P Index data: Thomson Reuters/DataStream

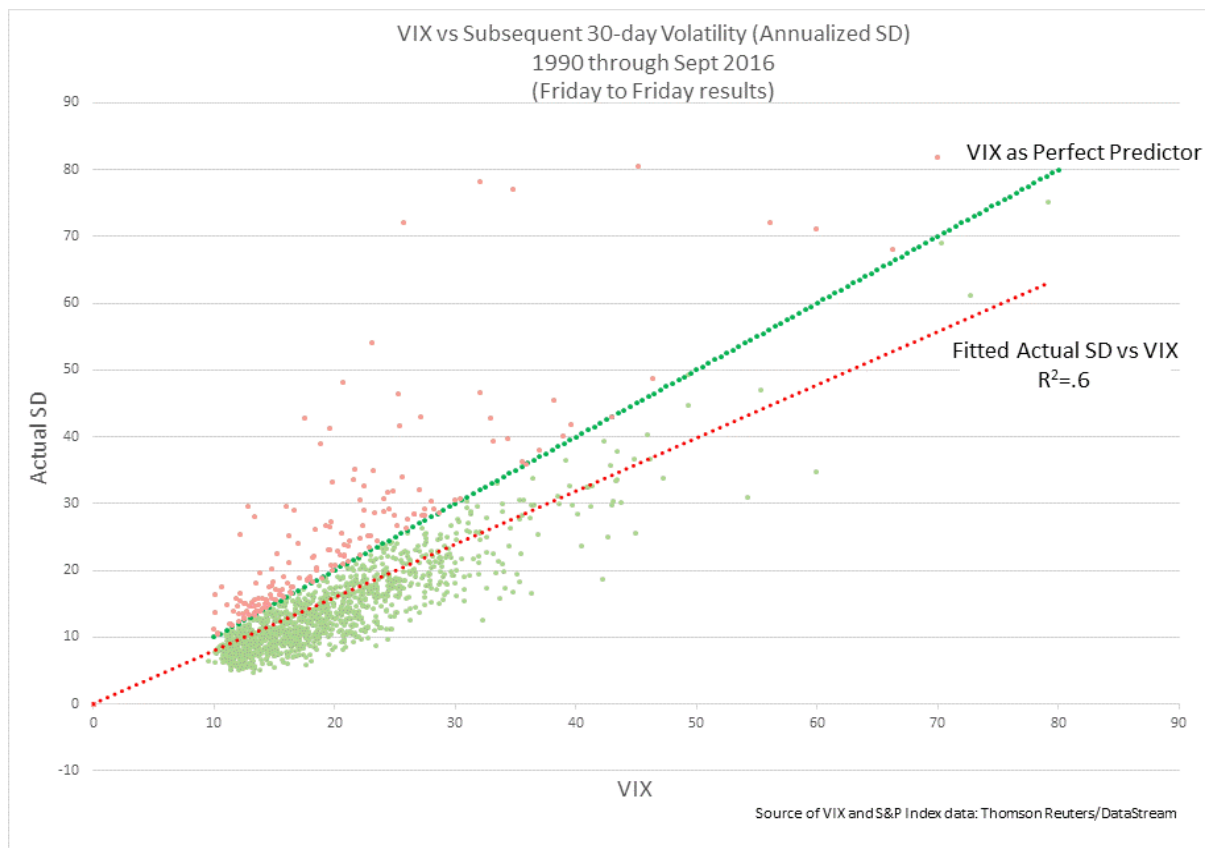
Observe that VIX and realized volatility tend to parallel each other. In fact, the R-squared is over 60%. When the VIX is high, subsequent volatility is high and vice versa, supporting HCP's premise. Also, the VIX is usually higher than realized volatility. This affirms our supposition that options are generally overpriced or expensive. Therefore, selling or writing options should be advantageous most of the time. Finally, since HCP uses the VIX to estimate the probability of losses when setting strike prices, we are likely being conservative by underestimating the actual probability of success. (Additional historical thesis testing research is provided in the Appendix)



# VIX and Realized Volatility

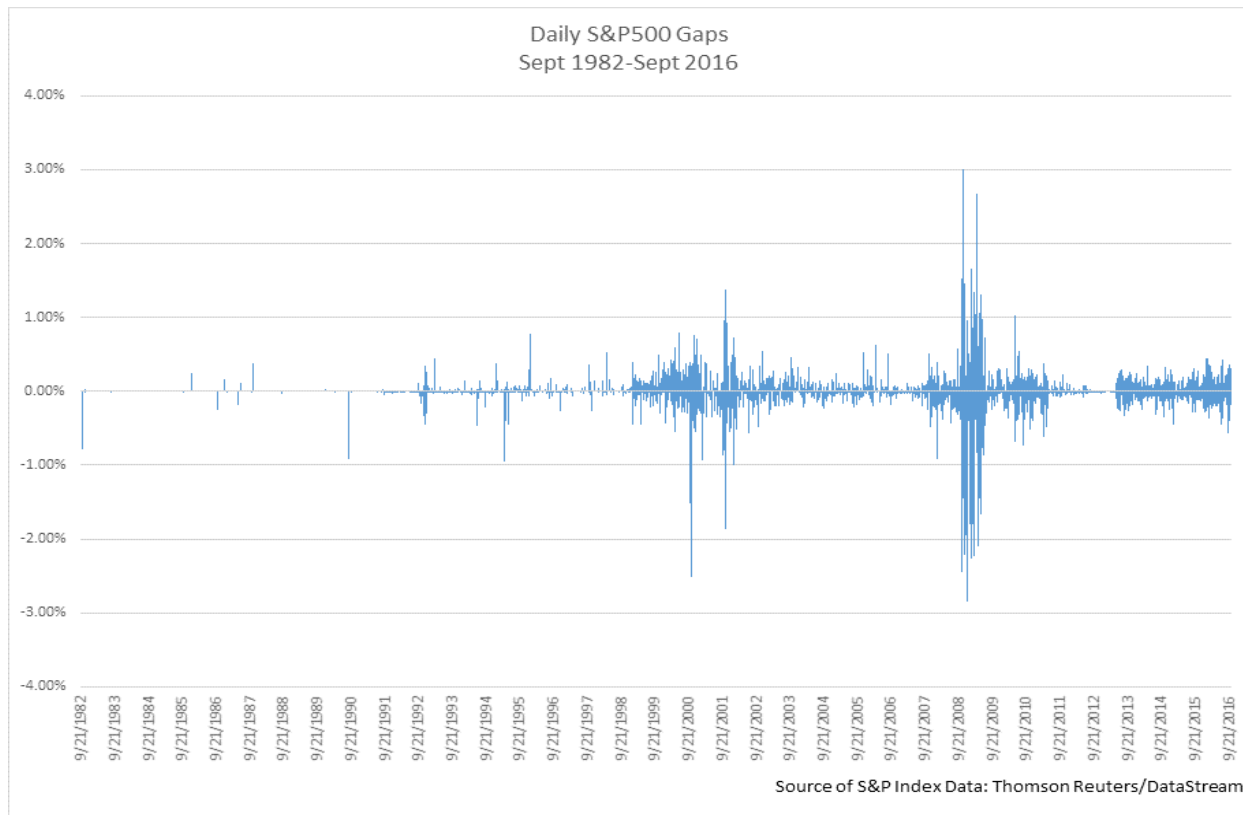
## Testing HCPs' Philosophy and Investment Thesis

If options prices accurately accounted for future risk or volatility, then all the observed data points would fall on this dark green line. At a minimum, if VIX were an unbiased indicator of future volatility, the number of points above and below this line would be equal. However, this is not the case as the (red) trend line of the observed data is below the perfectly correlated (green) VIX line. Likewise, notice that most observed points (in light green) are below the perfect fit line. In summary, the historical data since the inception of reported VIX data in 1990 affirms that options have generally been overpriced relative to realized volatility.



# Historic Gap Analysis

HCP is sometimes asked what if the S&P 500 has a major overnight move when option markets are not open? How would this impact the risk mitigation strategy? The following graph addresses that question by looking at the gap between the market close and the following trading day's open. The magnitude of the single largest gap is no more than 3%. Also, those periods that had the large gaps (2000-2001 and 2008-2009) were periods when the VIX was high. A 3% gap size is within the opening strike price range of HCP's initial option positions each week even when the VIX is low but was easily within range in periods of high VIX levels.



# Analysis of Hypothetical Loss Frequency

## Simulation Testing HCPs' Philosophy and Investment Thesis

For illustrative purposes, we examined the historical frequency of loss events by simulating HCPs' initial weekly option positions. Simulated positions were based on portfolio construction rules similar to HCP's, specifically:

- Created a universe of "synthetic" weeks by assuming each day a put option is sold that expires 5 days later. Using current VIX as the measure of the expected volatility, a put on the S&P 500 index is sold with a strike price that has only a .10% probability of being met or exceeded (option in the money) at the end of the period.

In practice, after the initial portfolio is constructed, HCP employs an active, rules based strategy to determine when and if to close out (buy back) the initial options or let them expire. However, for illustrative purposes, that critical risk management and control component of the strategy is set aside. Instead, the initial option portfolio is presumed to be unmanaged and simply expires at the end of the week.

The precise amount of the potential profit and historical returns were not analyzed because relevant historical daily pricing data for individual S&P 500 options are not practically available. However, it can be safely assumed that in any week that a loss did not occur, a gain would result.

## Summary of Results

Over the 6,978 rolling 5 day periods beginning in January 1990 through September 2016:

- Puts sold with a 99.90% expected probability of success expired profitably inside the strike price 99.94% of the weeks.
- There were only 4 rolling 5 day periods where puts sold at 99.90% expected volatility would have expired in the money.

This data tends to affirm HCP's thesis as actual results were close but better than expected, indicating that the VIX provides a reliable but conservative (high) estimate of ensuing volatility.

The above data is provided for illustration purposes only. The results above are not actual, but are **hypothetical or simulated results** that are based on back tested performance of hypothetical positions over the time period indicated. Back-tested performance has inherent limitations and does not effect the performance of actual accounts managed by Horse Cove Partners LLC. Past performance is not indicative of future results. All investing involves risk and loss. No representation is made that client portfolios will achieve results similar to those shown, and actual performance results may differ materially from the performance shown due to a number of factors, including market volatility ad the impact of fees and expenses.