

The Story Behind . . .



A High Frequency Trading Strategy

The Research Phase

- In 2012 we began developing several high frequency trading strategies in equities and futures
- The strategies applied online machine learning algorithms that evaluated price and market microstructure patterns
- Several of the equity strategies were put into production over the course of the following 2-3 years
- The futures strategies took longer to implement due to trading infrastructure requirements and differences in market microstructure

A High Frequency Scalping Strategy

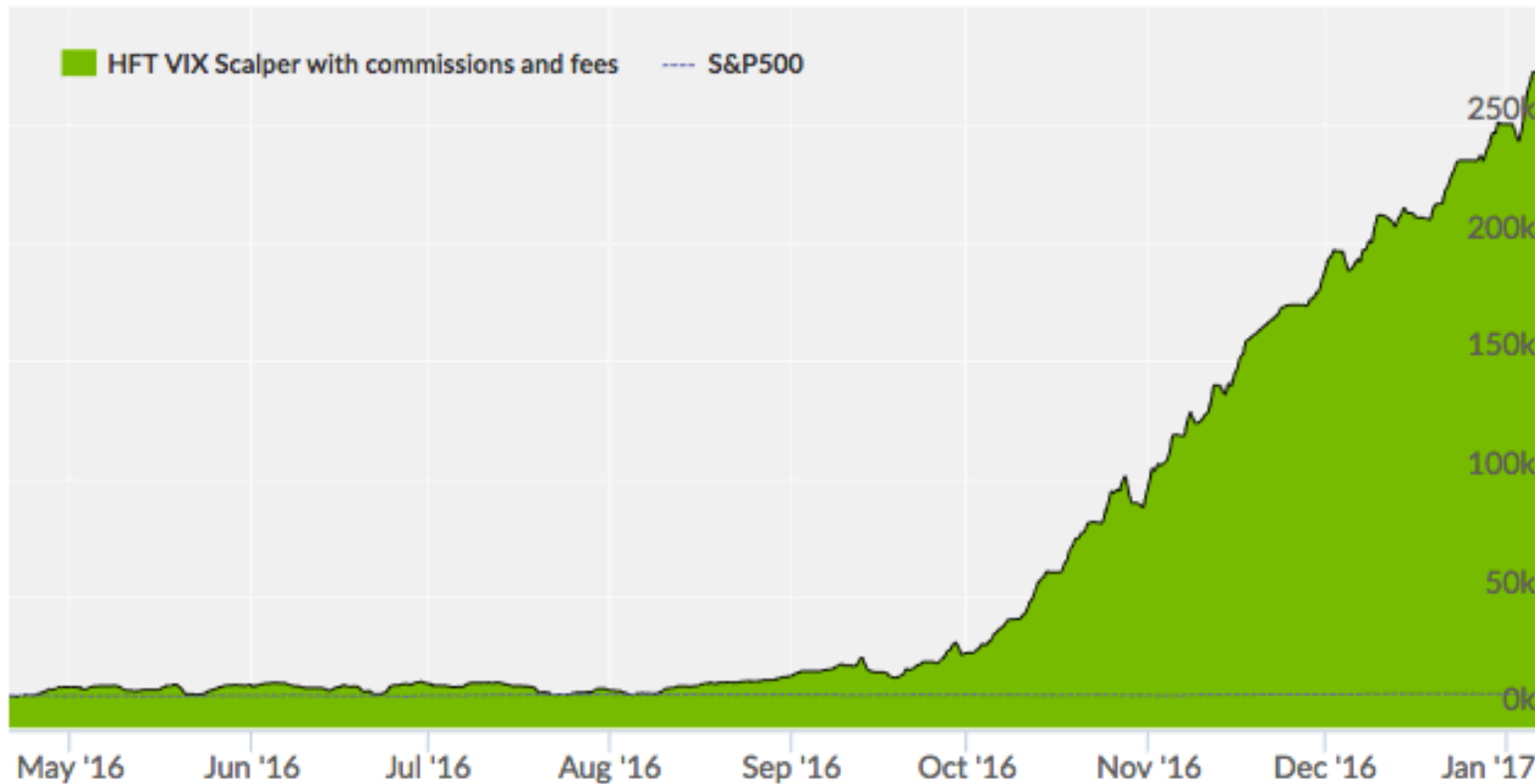
- One strategy that looked particularly interesting was a scalping strategy in VIX futures
- The strategy was intermediate frequency, trading long and short around 10-20 times a day
- So we decided to try to implement the strategy on the Collective 2 site
- This was the result.....

HFT VIX Scalper (101861781)

Created by:  Jonathan Kinlay

Hypothetical Monthly Returns (includes system fee and Typical Broker commissions and fees)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2016				+13.4%	+11.2%	+1.2%	(19.1%)	+56.0%	+60.9%	+271.7%	+94.3%	+33.7%	+2400.2%



3690.9% Annual Return (Compounded)	44.3% Max Drawdown	2864 Num Trades	60.8% Win Trades	3.1 : 1 Profit Factor	55.6% Win Months
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Strategy began	2016-04-20
Minimum Capital Required	\$10,000
# Trades	2864
# Profitable	1741
% Profitable	60.8%
Correlation S&P500	-0.108
Sharpe Ratio	9.128

What Happened Next

- The VIX Scalper rapidly became the #1 ranked strategy on Collective 2, receiving dozens of subscriptions
- But the strategy's limited capacity was quickly being used up
- After a few months, we decided to pull the strategy from Collective 2 and look at better ways to make use of it

Simulation Testing

- We ran the strategy in simulation throughout the period that it traded on Collective 2
- We also gathered performance results for the period before and after the strategy was available on Collective 2
- The results looked like this...
(results are for a single contract, net of fees at \$14 prt)

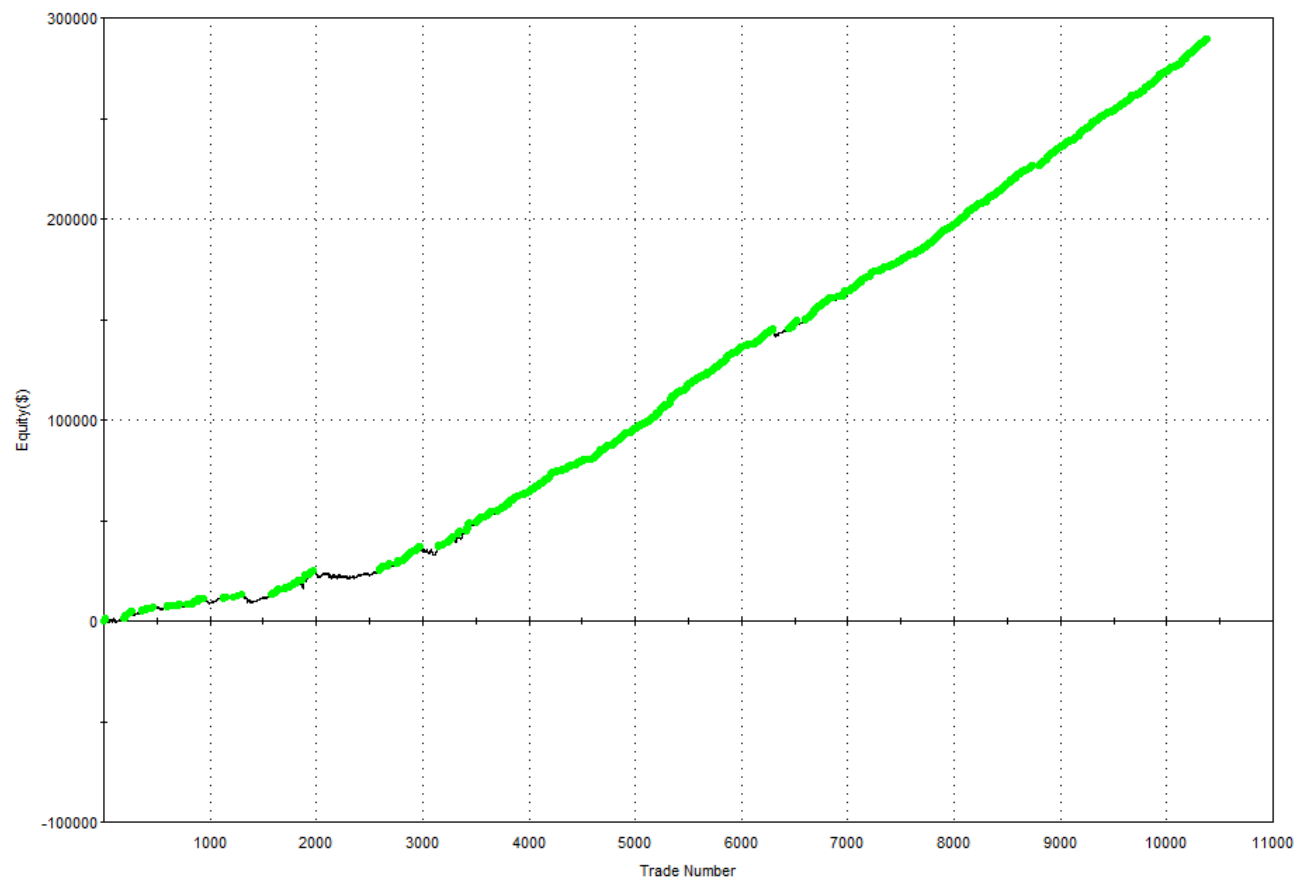
All Trades

Total Net Profit	\$289,564.00	Profit Factor	1.85
Gross Profit	\$628,278.00	Gross Loss	(\$338,714.00)
Roll Over Credit	\$0.00		
Open Position Profit/Loss	(\$57.00)		
Select Total Net Profit	\$265,960.00	Select Profit Factor	1.94
Select Gross Profit	\$548,080.00	Select Gross Loss	(\$282,120.00)
Adjusted Total Net Profit	\$276,304.44	Adjusted Profit Factor	1.80
Adjusted Gross Profit	\$620,601.22	Adjusted Gross Loss	(\$344,296.78)
<u>Total Number of Trades</u>	10379	Percent Profitable	64.53%
Winning Trades	6698	Losing Trades	3681
Even Trades	0		
Avg. Trade Net Profit	\$27.90	Ratio Avg. Win:Avg. Loss	1.02
Avg. Winning Trade	\$93.80	Avg. Losing Trade	(\$92.02)
Largest Winning Trade	\$3,076.00	Largest Losing Trade	(\$2,014.00)
Largest Winner as % of Gross Profit	0.49%	Largest Loser as % of Gross Loss	0.59%
Net Profit as % of Largest Loss	14377.56%		
Slct. Net Profit as % of Largest Loss	13205.56%	Adj. Net Profit as % of Largest Loss	13719.19%
Max. Consecutive Winning Trades	28	Max. Consecutive Losing Trades	8
Avg. Bars in Winning Trades	5.54	Avg. Bars in Losing Trades	6.20
Avg. Bars in Total Trades	5.78		
Max. Shares/Contracts Held	1	Account Size Required	\$4,718.00
Total Commission	\$145,306.00	Total Slippage	\$0.00
Return on Initial Capital	289.56%	Annual Rate of Return	50.73%
Buy and Hold Return	(72.04%)	Return on Account	6137.43%
Avg. Monthly Return	\$8,772.94	Std. Deviation of Monthly Return	\$4,972.76
Return Retracement Ratio	0.96	RINA Index	12808.78
Sharpe Ratio	n/a	K-Ratio	n/a
Trading Period	2 Yrs, 8 Mths, 4 Dys, 2 Hrs	Percent of Time in the Market	17.91%
Time in the Market	5 Mths, 22 Dys, 8 Hrs, 15 Mins	Longest Flat Period	3 Dys, 18 Hrs, 15 Mins
Max. Equity Run-up	\$290,908.00		
Date of Max. E. Run-up	09/07/17 09:15	Max. E. Run-up as % of Initial Capital	290.91%
Max. Drawdown (Intra-day Peak to Valley)		Max. Drawdown (Trade Close to Trade Close)	
Value	(\$6,404.00)	Value	(\$4,718.00)
Date	08/24/15 14:35	Date	12/15/15 13:05
as % of Initial Capital	6.40%	as % of Initial Capital	4.72%
Net Profit as % of Drawdown	4521.61%	Net Profit as % of Drawdown	6137.43%
Slct. Net Profit as % of Drawdown	4153.03%	Slct. Net Profit as % of Drawdown	5637.13%
Adj. Net Prof as % of Drawdown	4314.56%	Adj. Net Profit as % of Drawdown	5856.39%
Max. Trade Drawdown	(\$2,700.00)		

Mark-To-Market Period Analysis:

Period	Net Profit	% Gain	Profit Factor	# Trades	% Profitable
Last 12 month	\$147,121.00	60.70%	3.08	4164	70.97%
1/1/2017	\$107,629.00	38.18%	4.00	2792	72.89%
1/1/2016	\$140,726.00	99.70%	2.04	4311	64.88%
1/1/2015	\$41,152.00	41.15%	1.25	3277	56.94%

Equity Curve Line - @VX 5 min.(12/30/14 08:35 - 09/07/17 11:15)



Next Phase

- Since the initial demonstration on Collective 2 we have been working on implementing the strategy on a platform suitable for HFT
- Since capacity is limited, the investment strategy will be offered exclusively to existing investors in our Systematic Strategies Fund
- Fund investors will be offered a one-time opportunity to invest, starting in Oct 2017

FAQ

- **Who can invest?**
 - Qualified Investors who are also current investors in the Systematic Strategies Fund
- **Can I invest if I am not currently a fund investor?**
 - You must first invest in one of the fund's current strategies (volatility or equity long/short – ask for details)
- **Can I invest via a Managed Account?**
 - No. Only fund investments will be allowed.
- **When can I invest?**
 - From October 1, 2017 until Dec 31, 2017 (or until subscriptions are closed)
- **What is the minimum investment size in the fund?**
 - \$250,000
- **What is the maximum investment size?**
 - The total AUM in the strategy will be capped at \$25,000,000
- **What are the fees?**
 - 2% management fee, 25% performance fee, with high water mark.
- **When will the strategy begin trading?**
 - Trading will begin when we reach the AUM target of \$25,000,000, or Jan 2018, whichever comes sooner

To Receive More Information

- If you are an existing investor in the Systematic Strategies Fund....
- Or you are a qualified investor looking to invest at least \$250,000...
- Contact: brenda@systematic-strategies.com
- Note:
 - Priority will be given to investors based on the size of their fund investment
 - Due to the limited capacity, total investment capital in the strategy will be limited to no more than \$25,000,000

Disclaimer

No current or prospective investor should assume future performance of any specific investment strategy will be profitable or equal to past performance levels. All investment strategies have the potential for profit or loss. Changes in investment strategies, contributions or withdrawals may cause the performance results of your portfolio to differ materially from the reported composite performance. Different types of investments involve varying degrees of risk, and there can be no assurance that any specific investment will be suitable for a client's investment portfolio. Economic factors, market conditions and investment strategies will affect the performance of any portfolio and there are no assurances that it will match or outperform any particular benchmark, or simulated or back-tested historical performance results. The returns for the strategy described here in were obtained during a period of fluctuating interest rates, futures prices, and stock prices, and should not be considered representative of the future performance of any investment.