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S&P Futures Automated Trading Strategy

AN AUTOMATED TRADING STRATEGY WITH A LONG HISTORY, LOW DRAWDOWNS AND CONSISTENT RETURNS

Average Annual Return: 25.9%

Sharpe Ratio: 1.02

Leverage: max 2.0x, avg 1.1x

Max Peak-to-Trough Drawdown: -7.4%
from January 1, 1997 thru January 31, 2010

THERE IS A RISK OF LOSS IN FUTURES TRADING. ADDITIONALLY, HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN; IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK OF ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL WHICH CAN ADVERSELY AFFECT TRADING RESULTS.

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S&P Futures Trading Strategy • Performance, 1997-2002

Annual Compound Performance (1.1x leverage)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg
	26.1%	33.9%	38.9%	24.8%	16.2%	12.3%	10.3%	12.7%	10.4%	31.1%	37.0%	85.6%	-2.9%	25.9%

Monthly Performance - Hypothetical

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec		Total
1997	0.7%	1.2%	3.2%	3.6%	1.0%	1.8%	6.3%	3.3%	8.0%	3.9%	2.1%	1.4%		26.1%
1998	4.7%	0.1%	1.2%	1.7%	1.8%	4.0%	0.9%	0.6%	6.9%	1.3%	0.2%	7.2%		33.9%
1999	6.4%	1.1%	3.2%	9.9%	1.8%	5.9%	2.5%	0.9%	2.3%	11.1%	0.5%	1.6%		38.9%
2000	6.9%	1.7%	1.7%	8.0%	2.6%	1.0%	1.0%	0.0%	1.9%	3.3%	1.6%	0.4%		24.8%
2001	2.4%	0.3%	1.0%	6.4%	3.5%	1.1%	2.2%	1.6%	2.1%	0.6%	1.1%	3.6%		16.2%
2002	1.0%	0.9%	0.8%	2.2%	1.5%	1.6%	2.3%	2.9%	0.7%	3.1%	2.5%	0.0%		12.3%

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S&P Futures Trading Strategy • Performance, 2003- 2009

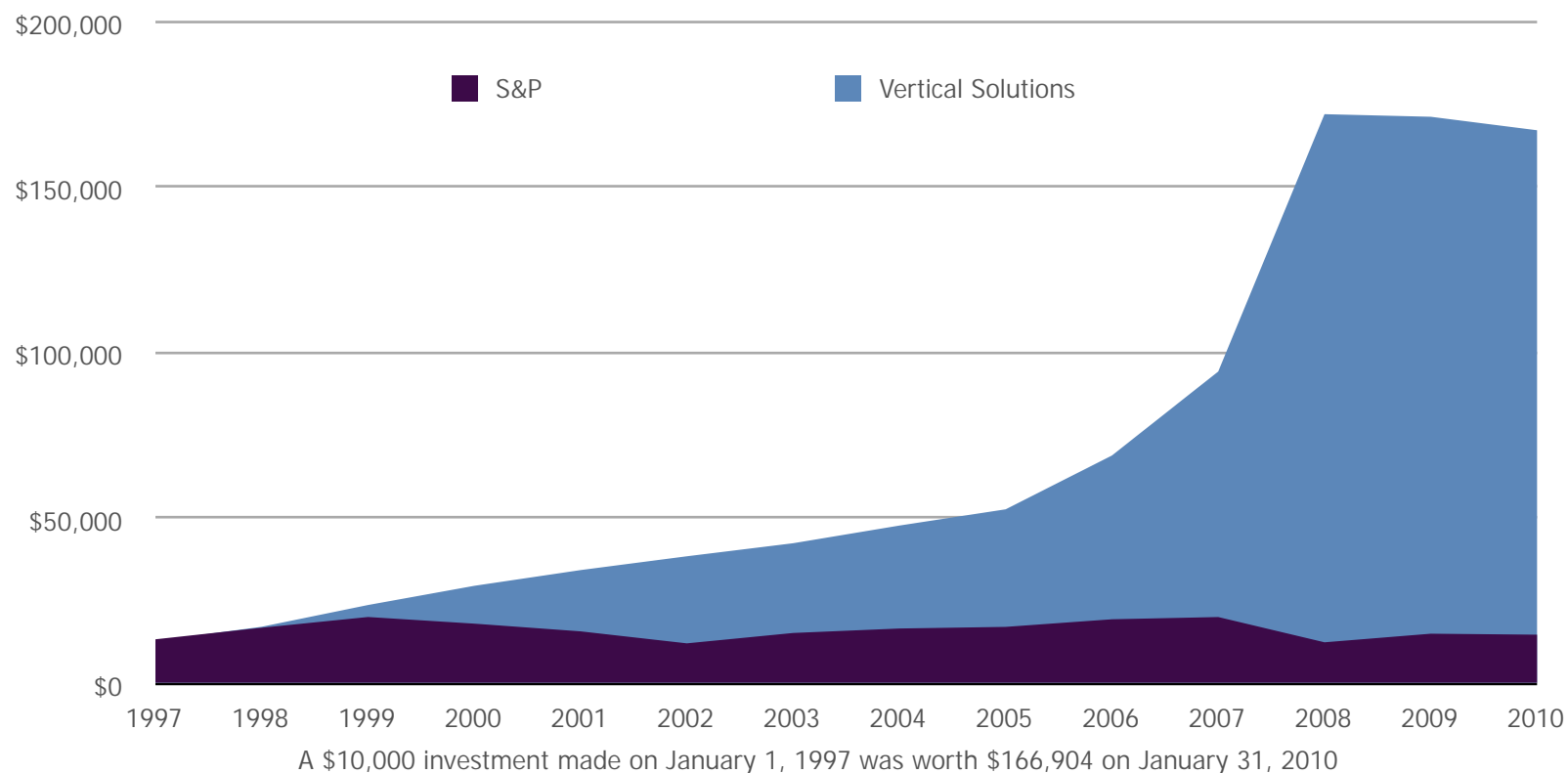
Monthly Performance, cont., Hypothetical through 1/31/2009, Actual 2/1/2009 - present

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec		Total
2003	0.3%	0.1%	1.6%	0.6%	2.9%	0.1%	0.9%	0.4%	1.7%	4.1%	1.7%	0.3%		10.3%
2004	1.3%	2.9%	2.5%	0.9%	0.4%	1.9%	0.2%	1.4%	0.2%	1.7%	0.3%	1.0%		12.7%
2005	0.3%	2.3%	1.7%	1.2%	3.9%	0.8%	1.8%	0.1%	0.9%	0.1%	0.0%	1.4%		10.4%
2006	3.6%	2.4%	2.5%	4.7%	0.9%	7.9%	1.4%	0.3%	0.5%	0.4%	2.3%	0.9%		31.1%
2007	0.4%	0.4%	0.0%	0.4%	1.4%	3.2%	2.0%	10.1%	1.8%	4.2%	9.3%	0.6%		37.0%
2008	1.1%	4.9%	7.9%	7.8%	0.4%	3.3%	2.5%	3.4%	3.0%	17.3%	11.6%	1.6%		85.6%
2009	5.3%	4.0%	2.9%	0.4%	1.6%	1.0%	1.8%	2.7%	2.8%	3.5%	1.6%	0.9%		-2.9%
2010	-1.5%													-1.5%

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S&P Futures Trading Strategy • Hypothetical Compound Performance



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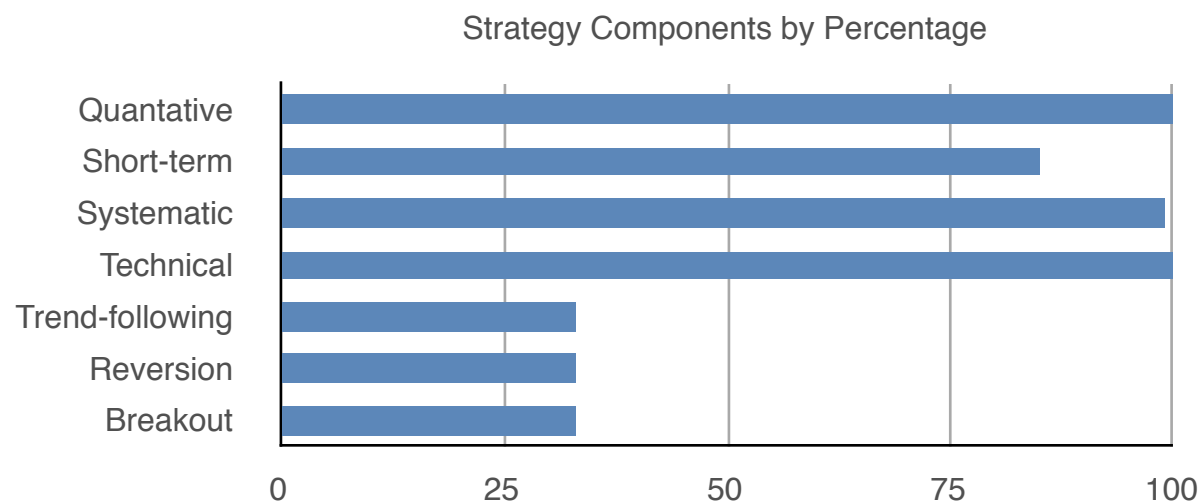
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S&P Futures Trading Strategy • Investment Approach

INVESTMENT APPROACH

Vertical Solutions uses statistical methods to identify and test short term (0-5 days) trading systems. After successful testing, systems are added to our trading portfolio and traded systematically by computers.

No discretionary trades are taken outside the strategy. The strategy may be turned off at the discretion of the operator in the event market conditions are outside strategy parameters.



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S&P Futures Trading Strategy • Design

STRATEGY DESIGN

The strategy design is quantitative with reversion, trend following and momentum components operating long and short on daily and multi-day time frames. At times, the strategy can be active in both timeframes. The daily components hold for a period of 24 hours or less. The multi-day components generally hold for a period of two to five days.

RISK CONTROL

These tenets help control risk:

- Low leverage
- All trades utilize stops
- Components can programmatically shut themselves off when market conditions are unfavorable to their design, e.g., a long only component might shut itself off in periods of high VIX
- Overall design minimizes the effects of curve-fitting and behavioral changes in the market upon the model

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S&P Futures Trading Strategy • Statistics & Notes

STATISTICS

- Maximum Peak-to-Trough Drawdown: (7.4%) (3/8/1999)
- Largest Monthly Drawdown: (4.0%) (Feb 2009)
- Alpha: 1.85%
- Beta: -.005
- Sharpe Ratio 1997-present: 1.02
- Average Annual Return: 25.9%
- Percent of Profitable Months: 77.1%
- Leverage: max 2.0x, avg 1.1x (see notes)

NOTES

- Performance is hypothetical based on simulated trades against historical data. The model has evolved since 1996 and continues to evolve.
- There are inherent limitations in simulated trading - past results may not reflect future performance.
- Results are net of slippage and commissions.
- Results have not been audited.
- Leverage of 1x means a 1% move in the market will cause a 1% move in the model. Maximum leverage is 2x and occurs when the intraday and multiday components of the strategy are both active (rare).
- Pacific Futures & Capital (www.pacificfandc.com) now handles managed accounts based on the automated strategy. Contact Bryan Thurston, 800-640-3372 for more information.

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S&P Futures Trading Strategy • About

BIO

Henry Carstens, age 51, is the owner of Vertical Solutions. Henry has degrees in Mathematics, Economics and a minor in Physics. A software engineer by training, he sold his software company in 1995 and began building trading systems in 1996. He has written over 100 papers on trading system development and evaluation including the use of control charts to investigate and monitor trading systems. He is a chess player and has been the Chess Coach at the Portland Jewish Academy since 2006.

A NOTE ON 2009 PERFORMANCE

2009 performance has not met expectations, the only similar periods in the Strategy's history were 2001 with 5 losing months (the strategy currently has 6) and 2005 with a low 10.4% annual performance. Two intraday components added in March did not work in that high volatility environment and were removed. Recent research into Range Days and Trend Days has led to better coverage of those trades and the multi-day components of the strategy have been made more adaptive. The core concept of the Strategy of combining multiple, historically-tested components in multiple time frames representing reversion, breakout and trending methodologies with natural selection remains unchanged.

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