



CBOE Risk Management Conference

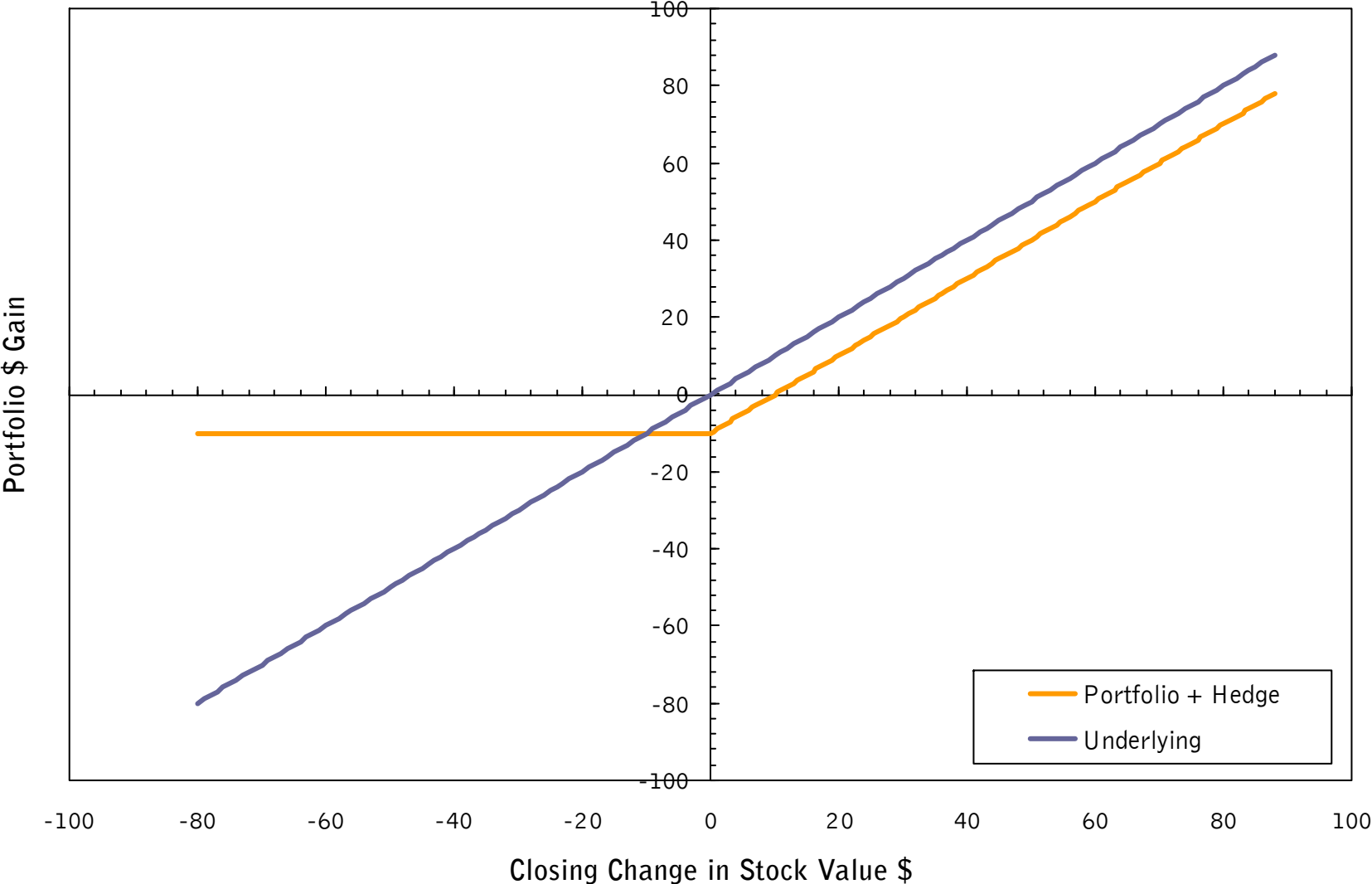
Protective Option Strategies

March 9, 2009

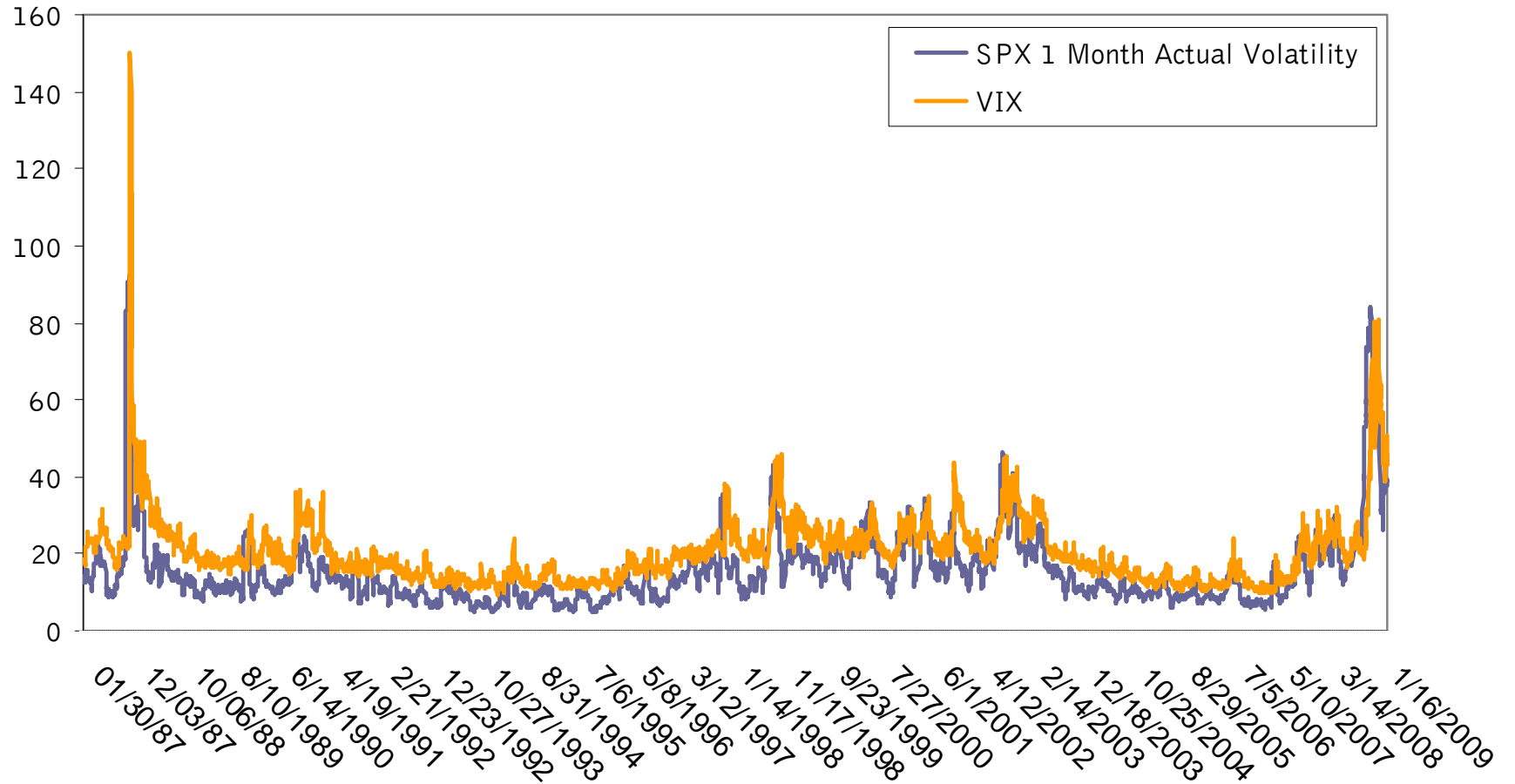
What is a Protective Strategy?

- ▲ A **protective strategy** is any strategy that has a floor or known maximum loss and that **reduces volatility**
- ▲ Examples:
 - ▲ Long call position + cash
 - ▲ Long stock position + long put position

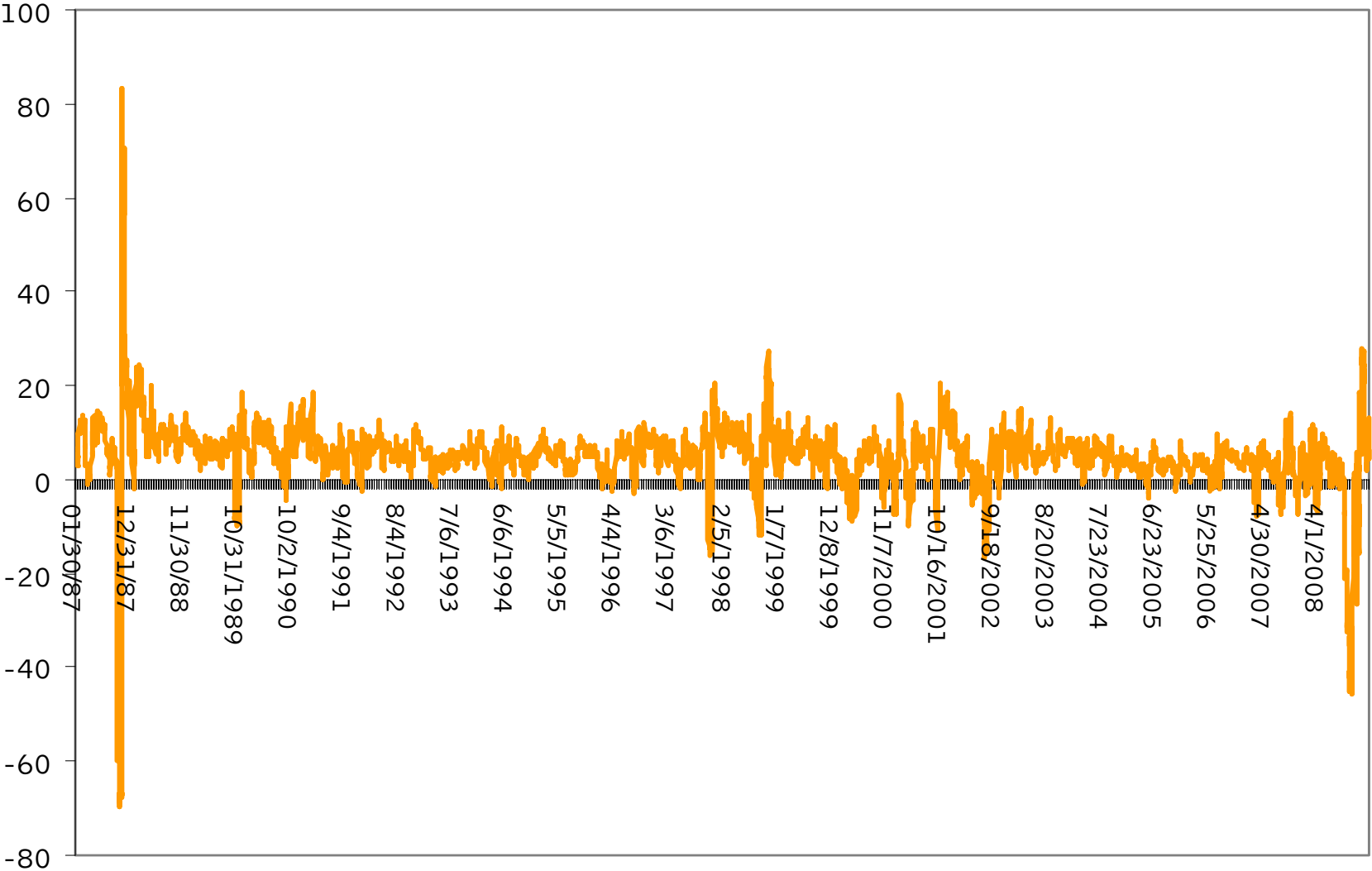
Long Put



S&P 500 Actual 1 Month Volatility v. VIX



VIX minus S&P 500 Actual 1 Month Volatility



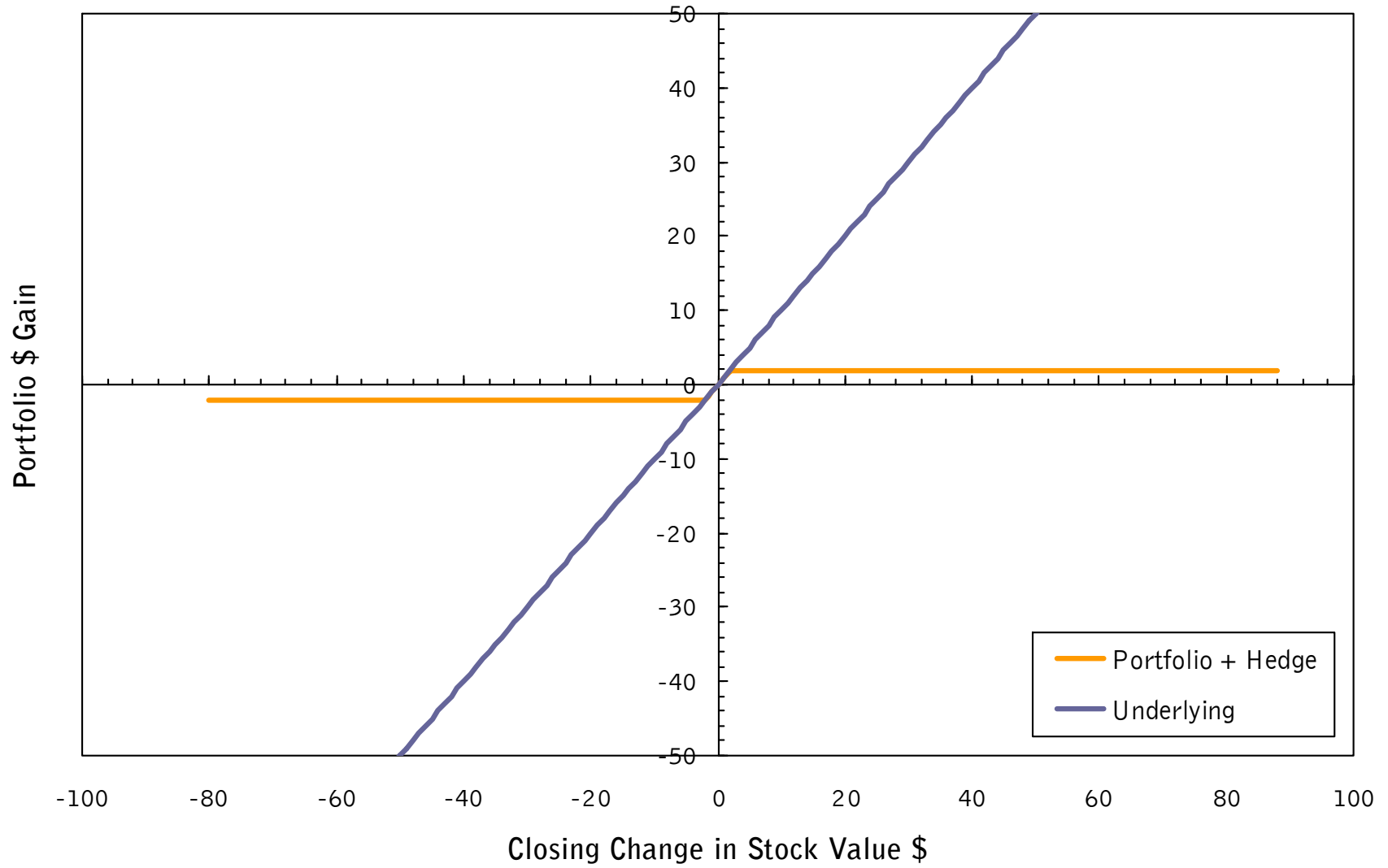
S&P 500 and VIX data from 1/1/1987 through 2/28/2009

Cost of Long Put Floor

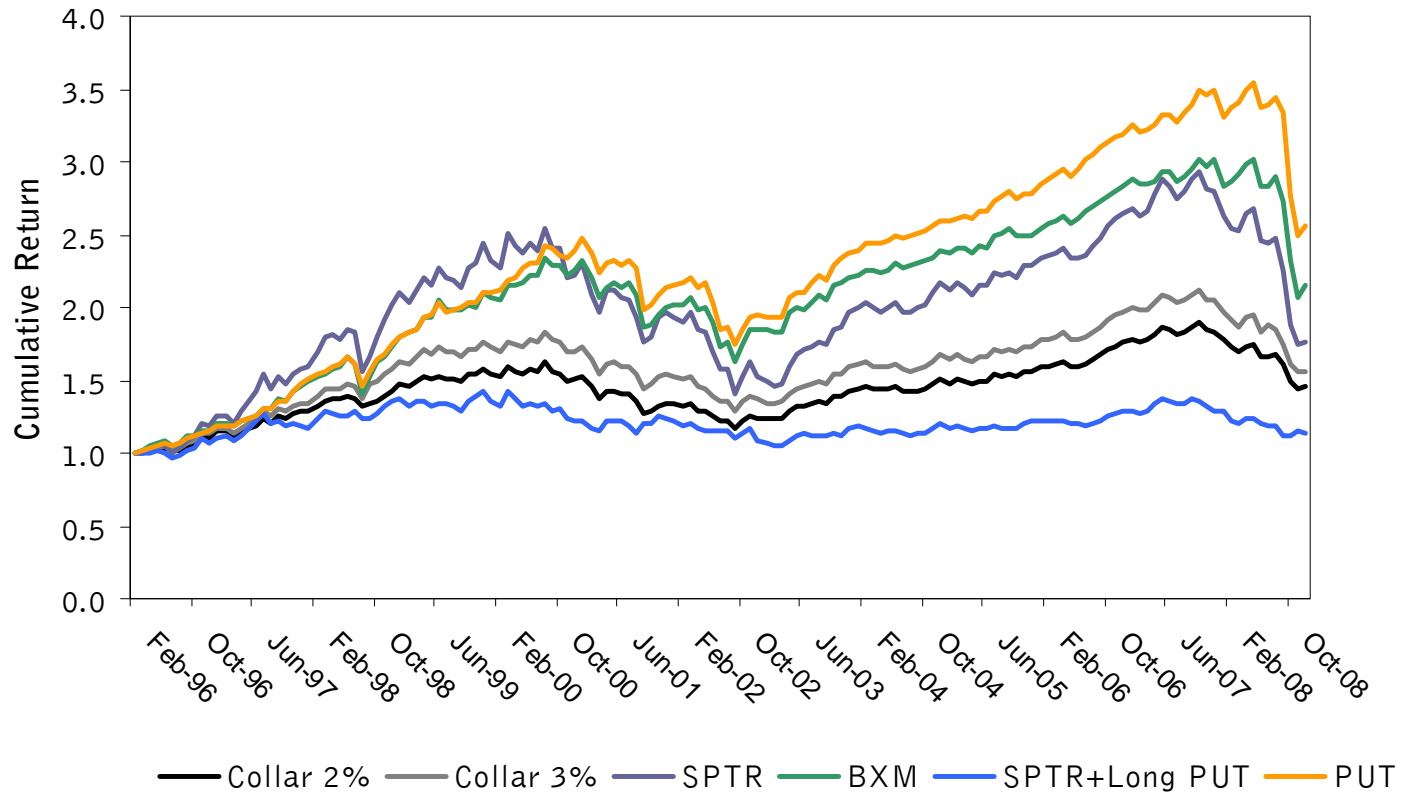
March 3, 2009 – 9:30 am PST

SPX = 703.49	% of SPX	Annualized
April 700 Put = 45.3	6.4%	68.4%
April 690 Put = 43.2	6.1%	64.4%
April 650 Put = 27.2	3.9%	37.9%
April 600 Put = 15.8	2.2%	20.1%

Collar – Long Put / Short Call



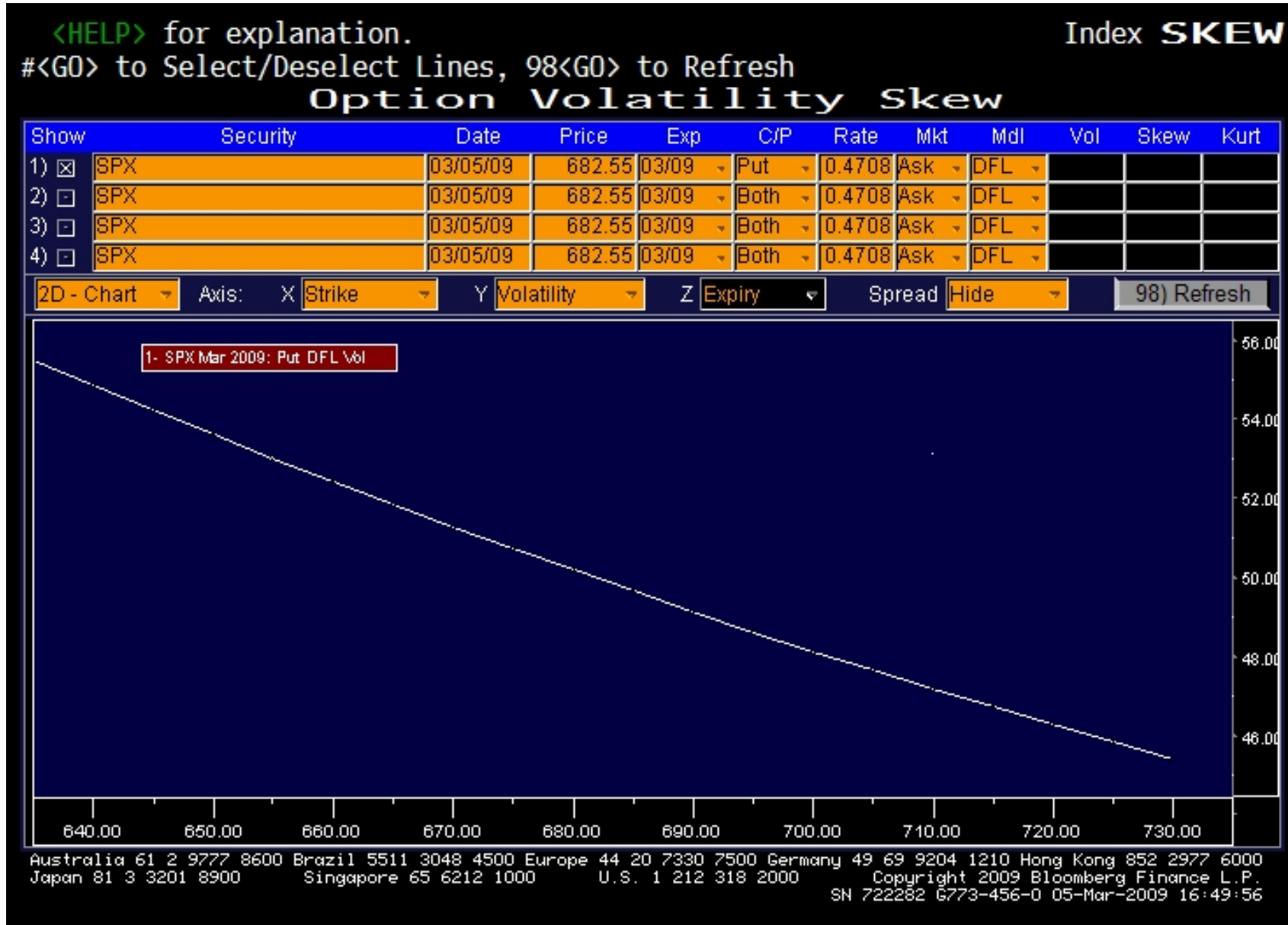
SPX Strategy Returns: March 1996 – December 2008



	2% Collar	3% Collar	SPTR	BXM	SPTR+Long PUT	PUT
Annualized Return %	2.95%	3.54%	4.49%	6.15%	0.96%	7.60%
Standard Deviation %	7.69%	8.97%	15.68%	11.73%	8.96%	11.24%
Worst Month	-6.93%	-7.70%	-16.79%	-15.13%	-6.87%	-17.65%
Risk Return Ratio	0.38	0.39	0.29	0.52	0.11	0.68

Reliance on hypothetical performance has inherent limitations. Please see additional information regarding Hypothetical Performance Disclosure.

S&P 500 Put Skew

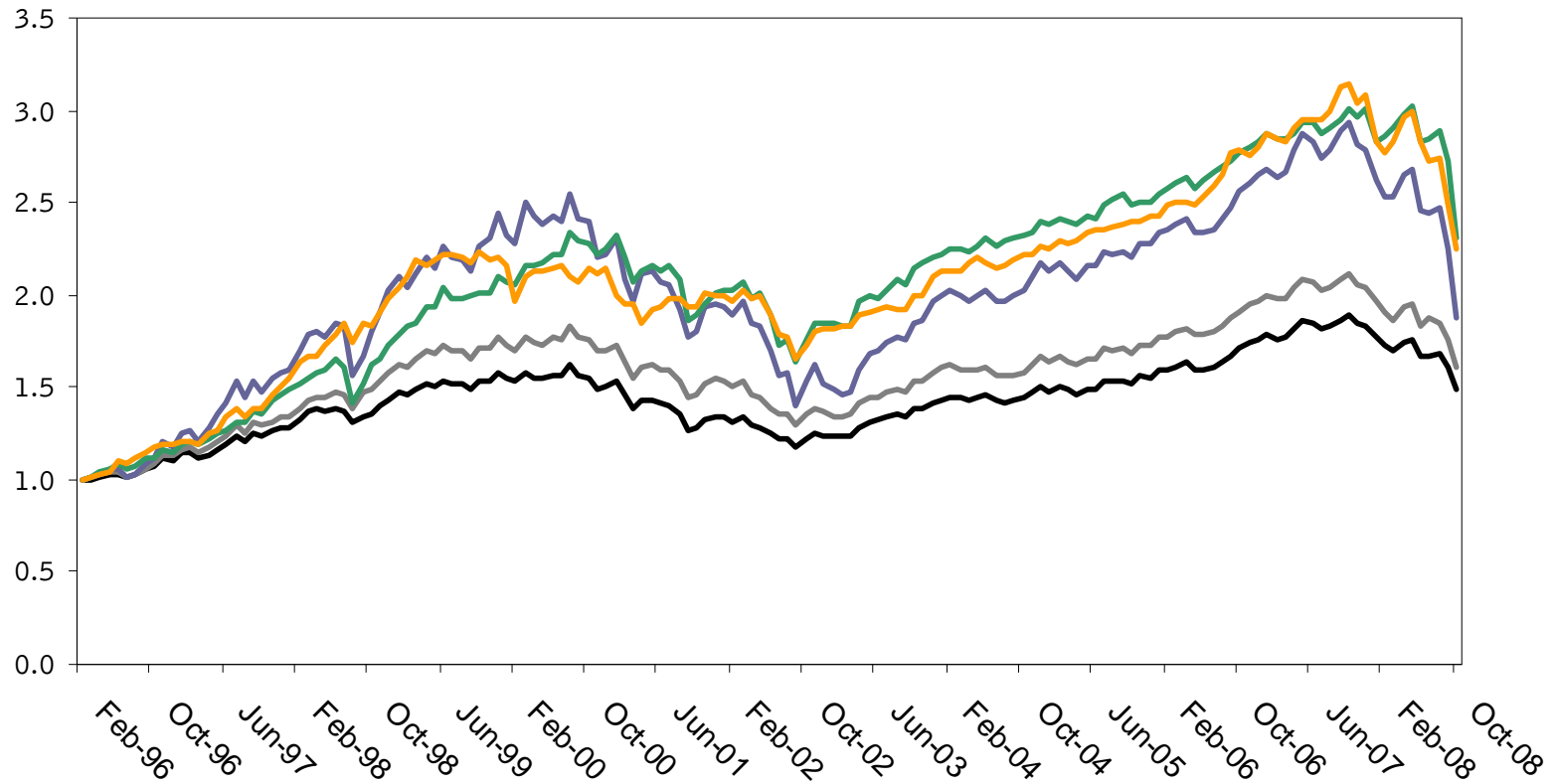


Source: Bloomberg

Optimized Portfolio Collar

- ▲ 50% volatility reduction target
- ▲ Call sold = 100% of the NAV
- ▲ Puts purchased = 30% of the NAV
- ▲ All puts purchased have a starting delta of between 0.00 and 0.45
- ▲ Put purchases are 100% financed by short call sales
- ▲ Tracking error of the indexes in the short call portfolio = $< 4.00\%$
- ▲ Tracking error of the indexes in the long put portfolio = $< 4.00\%$
- ▲ Short call and long put expected returns use data with no look ahead bias
- ▲ Actual option prices for over 50 indexes are used from March 1996 through December 2008

Optimized Collars



Collar 2%
 Collar 3%
 SPTR
 BXM
 Optimized Collar

	2% Collar	3% Collar	SPTR	BXM	Optimized Collar
Annualized Return %	2.95%	3.54%	4.49%	6.15%	5.59%
Standard Deviation %	7.69%	8.97%	15.68%	11.73%	10.41%
Worst Month	-6.93%	-7.70%	-16.79%	-15.13%	-9.80%
Risk Return Ratio	0.38	0.39	0.29	0.52	0.54

Reliance on hypothetical performance has inherent limitations. Please see additional information regarding Hypothetical Performance Disclosure.

Hypothetical Performance Disclosure

- ▶ 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 performance 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 in 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 of which can adversely affect actual trading results.

Appendix

VIX Futures Term Structure

