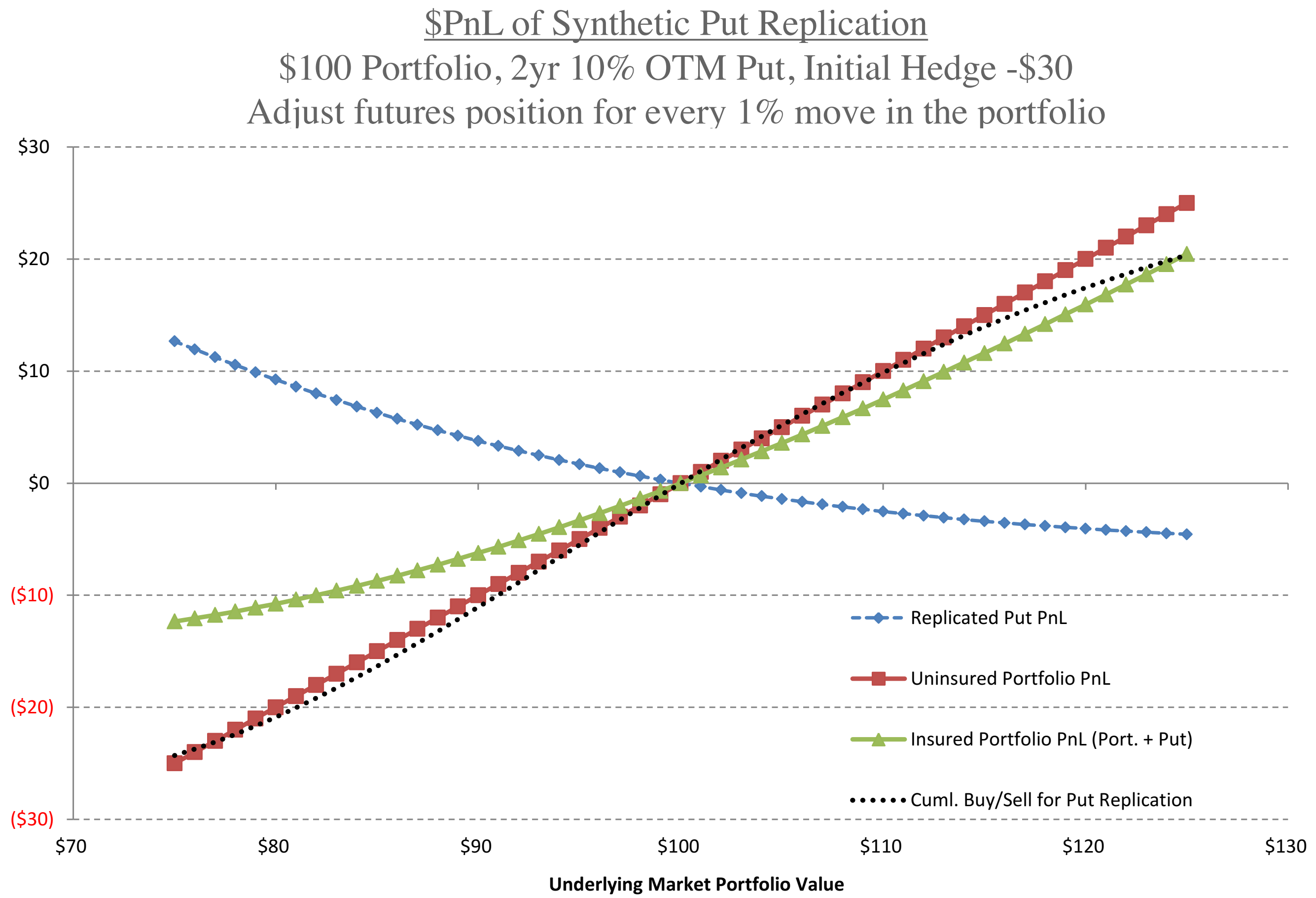
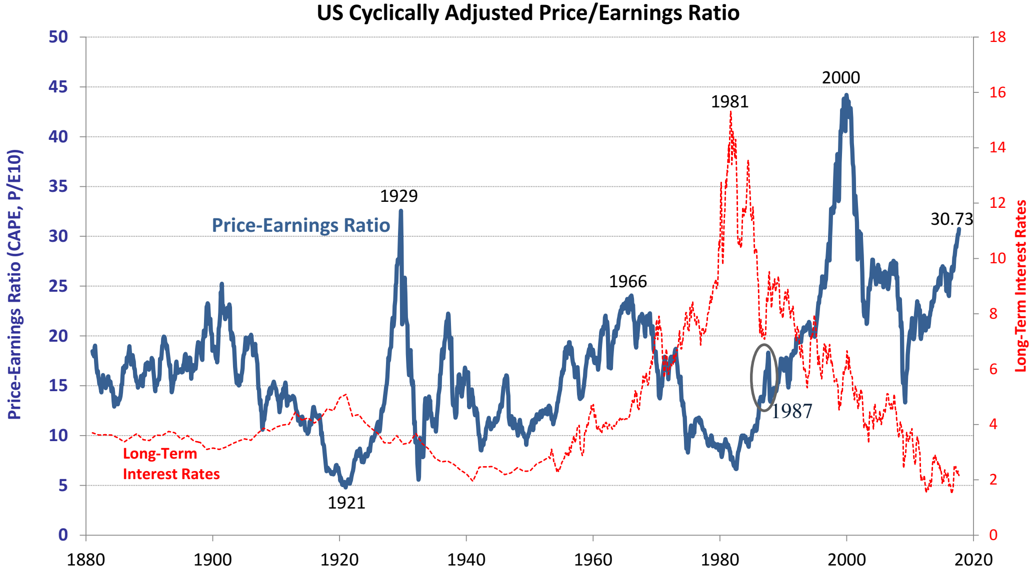
Has Volatility Reached a Permanently Low Plateau?

Frank Brosens

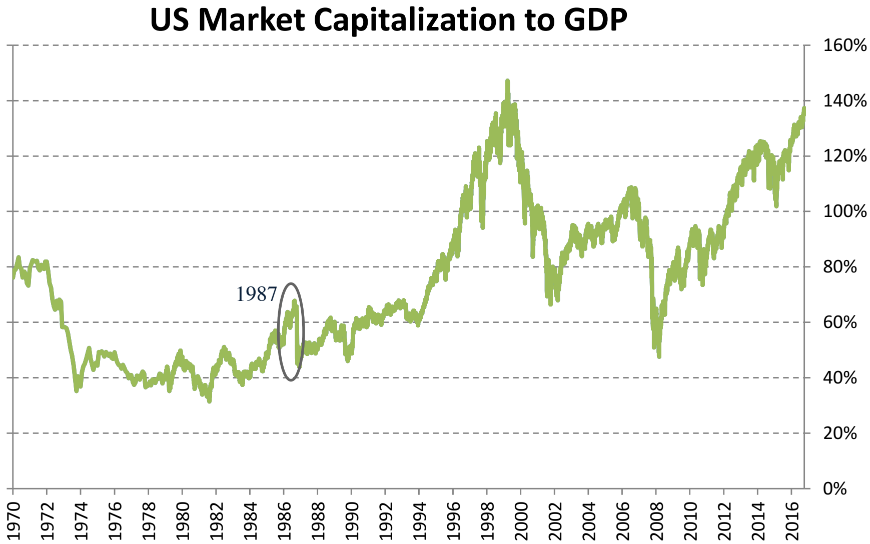
HOW DOES PORTFOLIO INSURANCE WORK?



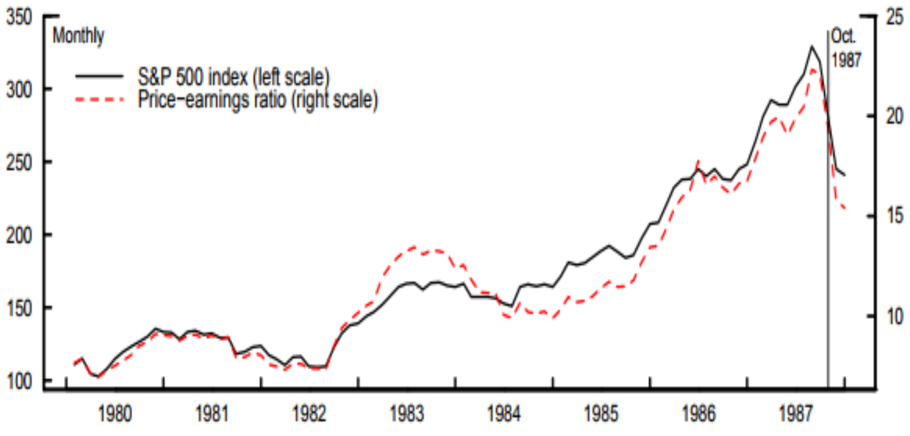
VALUATIONS THEN AND NOW



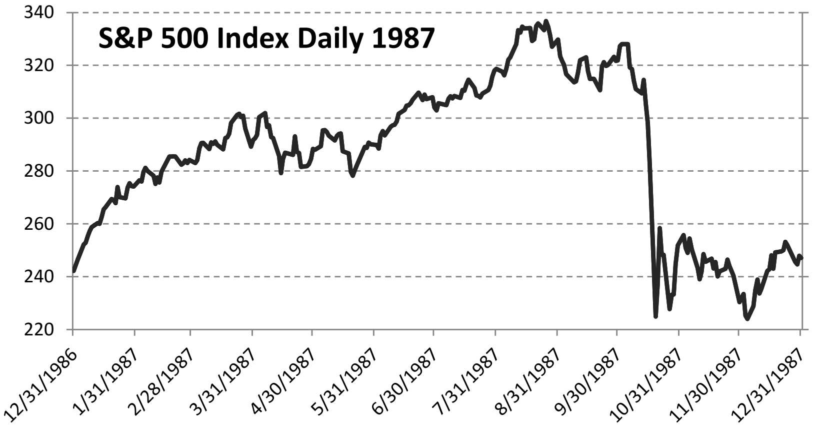
Source: Online Data by Robert Shiller
http://www.econ.yale.edu/~shiller/data.htm



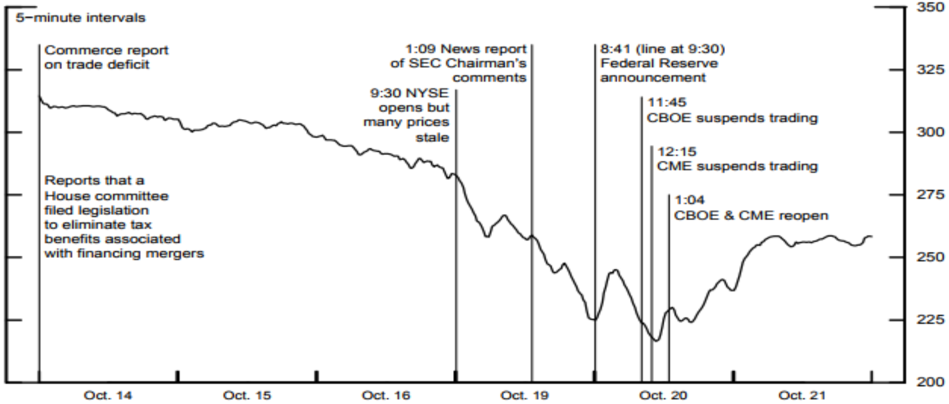
WHAT HAPPENED DURING THE 1987 CRASH?



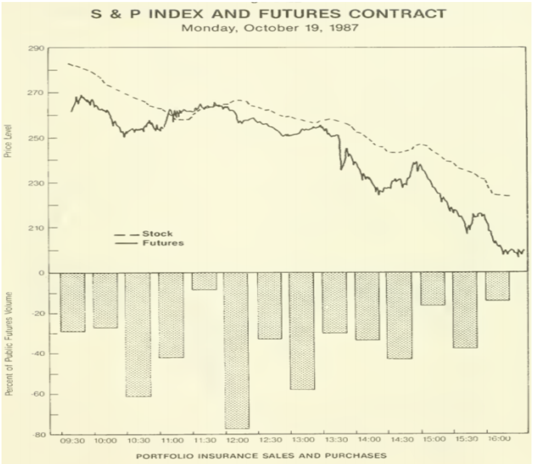
Source: A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response (Carlson, 2013)



S&P 500 index around the time of the crash



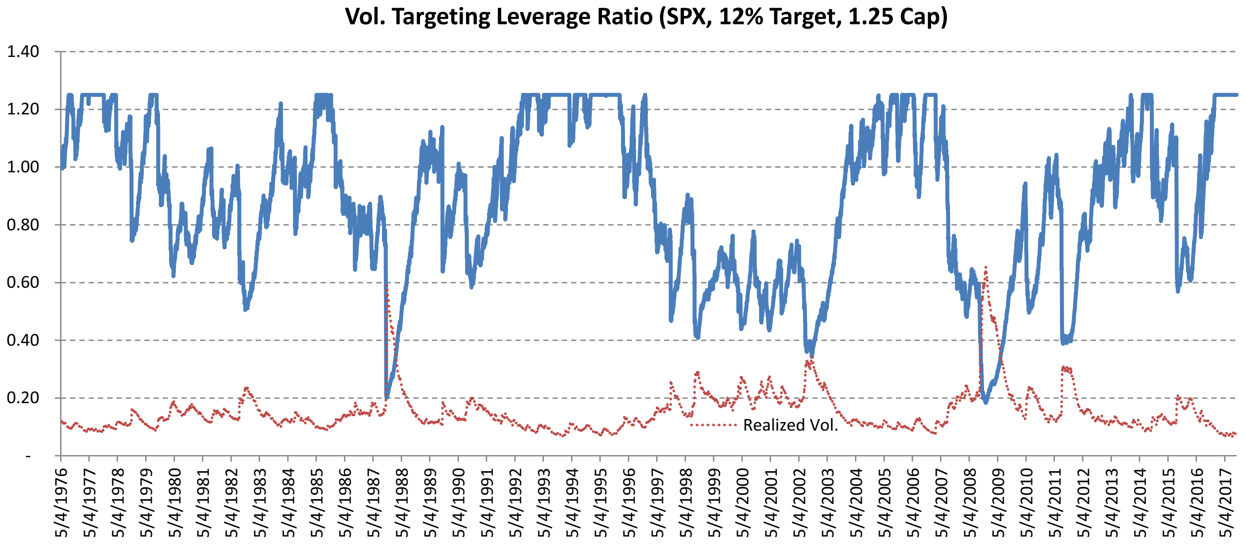
Source: A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response (Carlson, 2013)



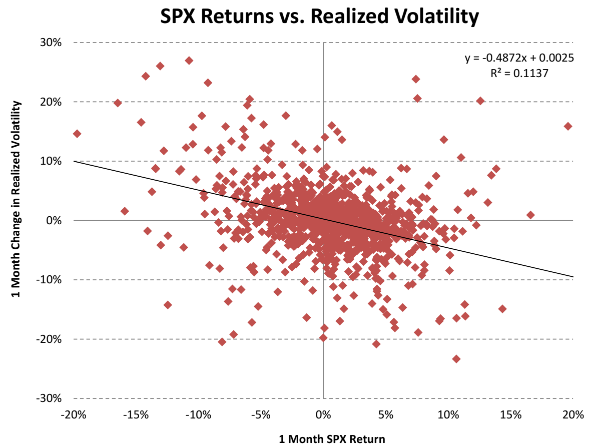
Source: Report of the Presidential Task Force on Market Mechanisms (Brady Report, 1988)

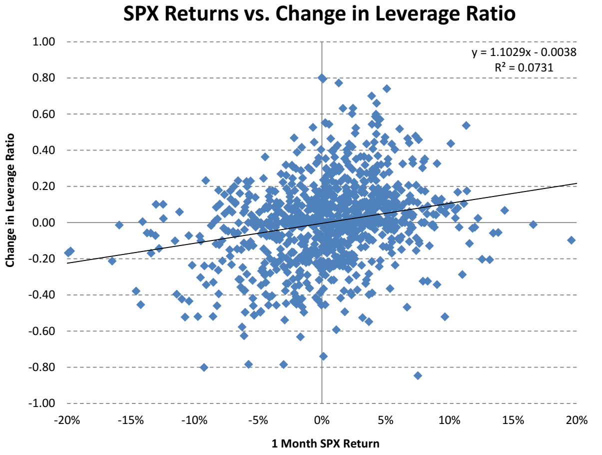
Volatility Targeting

Tendency for Leverage to Decrease as Market Drops & Volatility Rises



* 1-2 month half-life used for realized volatility

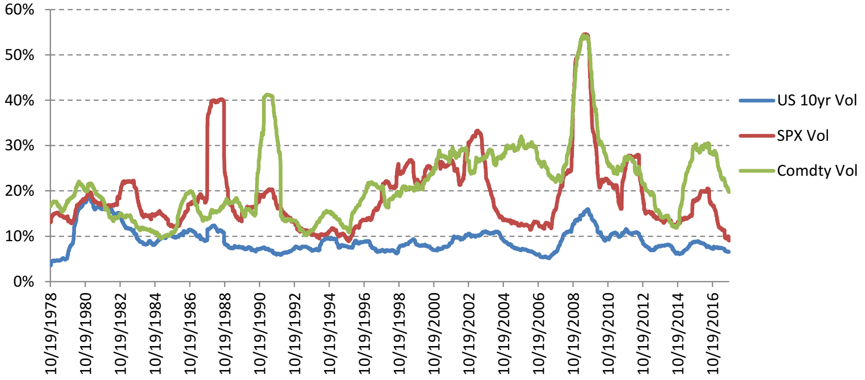




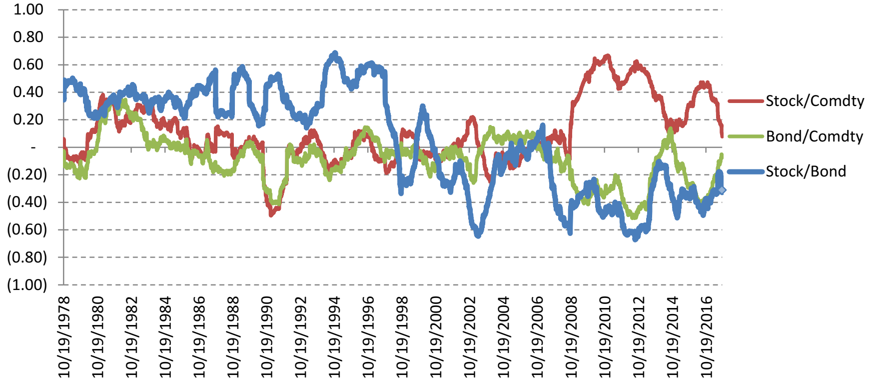
Risk Parity

Tendency for Leverage to Decrease as Market Drops & Vols (and Possibly Correlations) Rise

Realized Vol

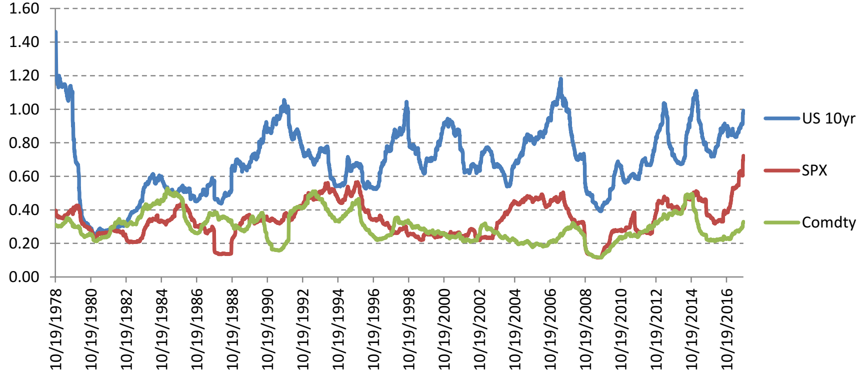


Realized Correlation

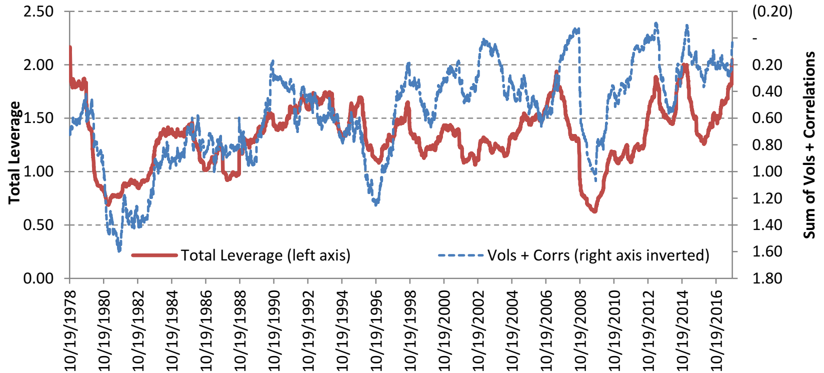


* 1 year lookback used for volatility & correlation statistics

$MV/AUM (Asset Class Leverage)



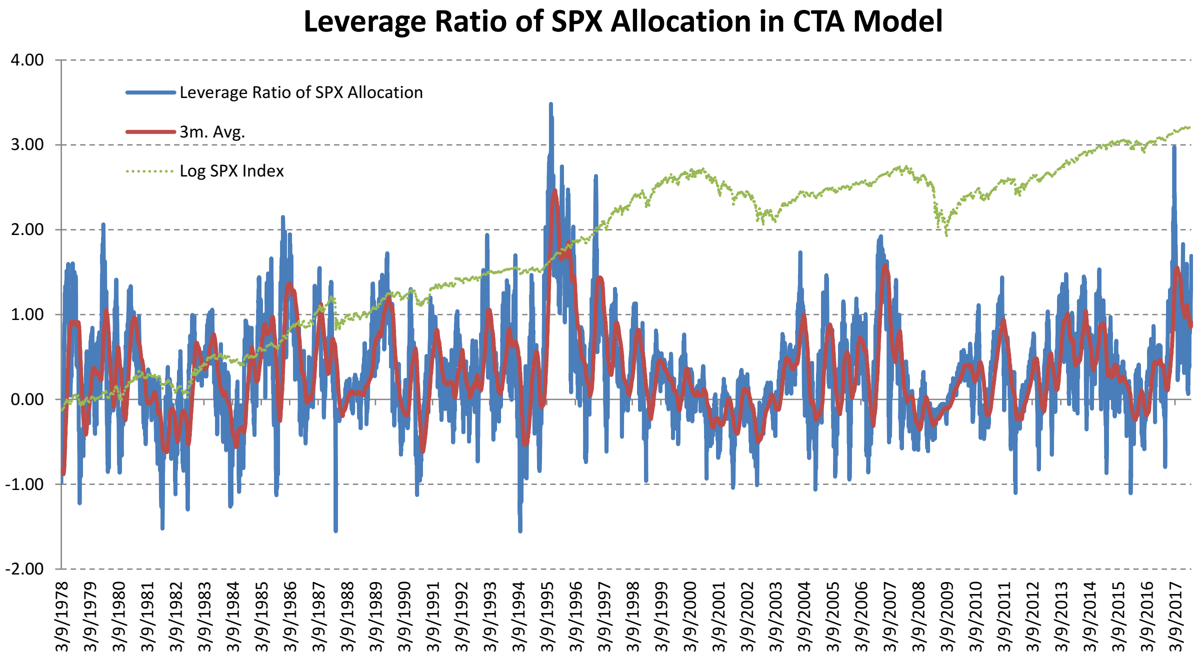
Rule of Thumb: Sum of Volatilities and Correlations vs. Total Leverage



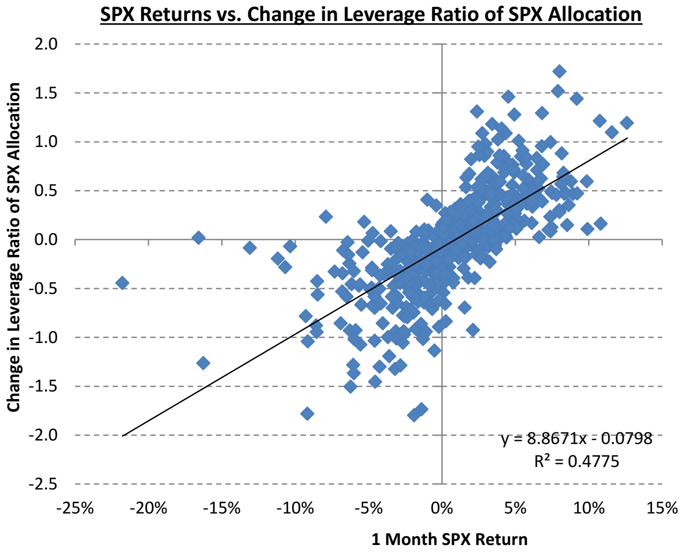
Strategies Similar to Portfolio Insurance Today

Trend Following CTAs

Equity Exposure Decreases and Eventually Goes from Long to Short as Market Drops



* 1-4 month momentum signal, risk adjusted by recent volatility

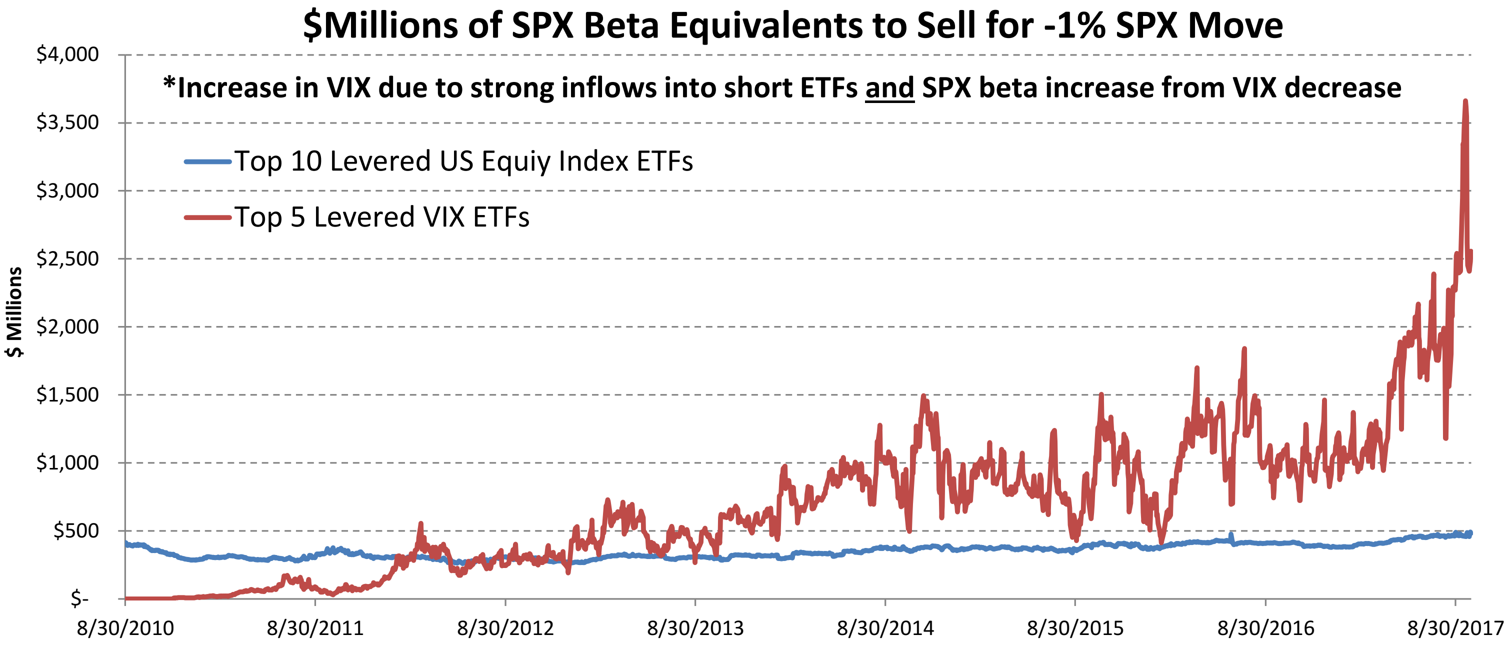


Strategies Similar to Portfolio Insurance Today

Daily Levered Equity Index and VIX ETFs

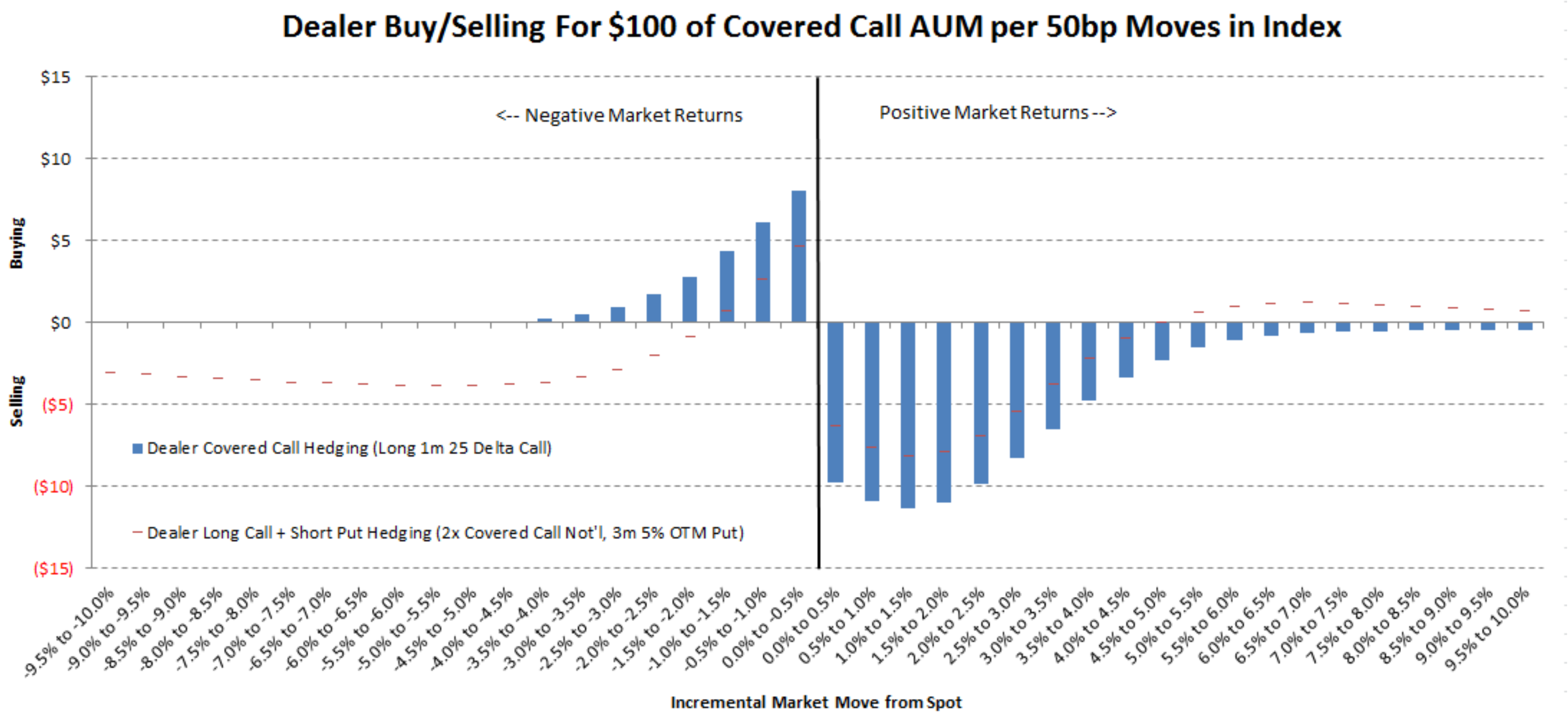
$100 AUM Example	End of Previous Day			End Day Before Rebalance				Rebalance at Close	
Fund Type	Index Level	AUM	Net Assets Owned	Index Level	Net Assets Owned	$PnL	AUM	**$Trade**	Net Assets Owned
2x Long Fund	100	$100	$200	95	$190	($10)	$90	**($10)**	$180
1x Short Fund	100	$100	($100)	95	($95)	$5	$105	**($10)**	($105)

For 2x long and 1x short, funds need to buy/sell 2x percent of AUM for every percent move in Index to achieve Assets = Leverage (-1 for short) x AUM at close

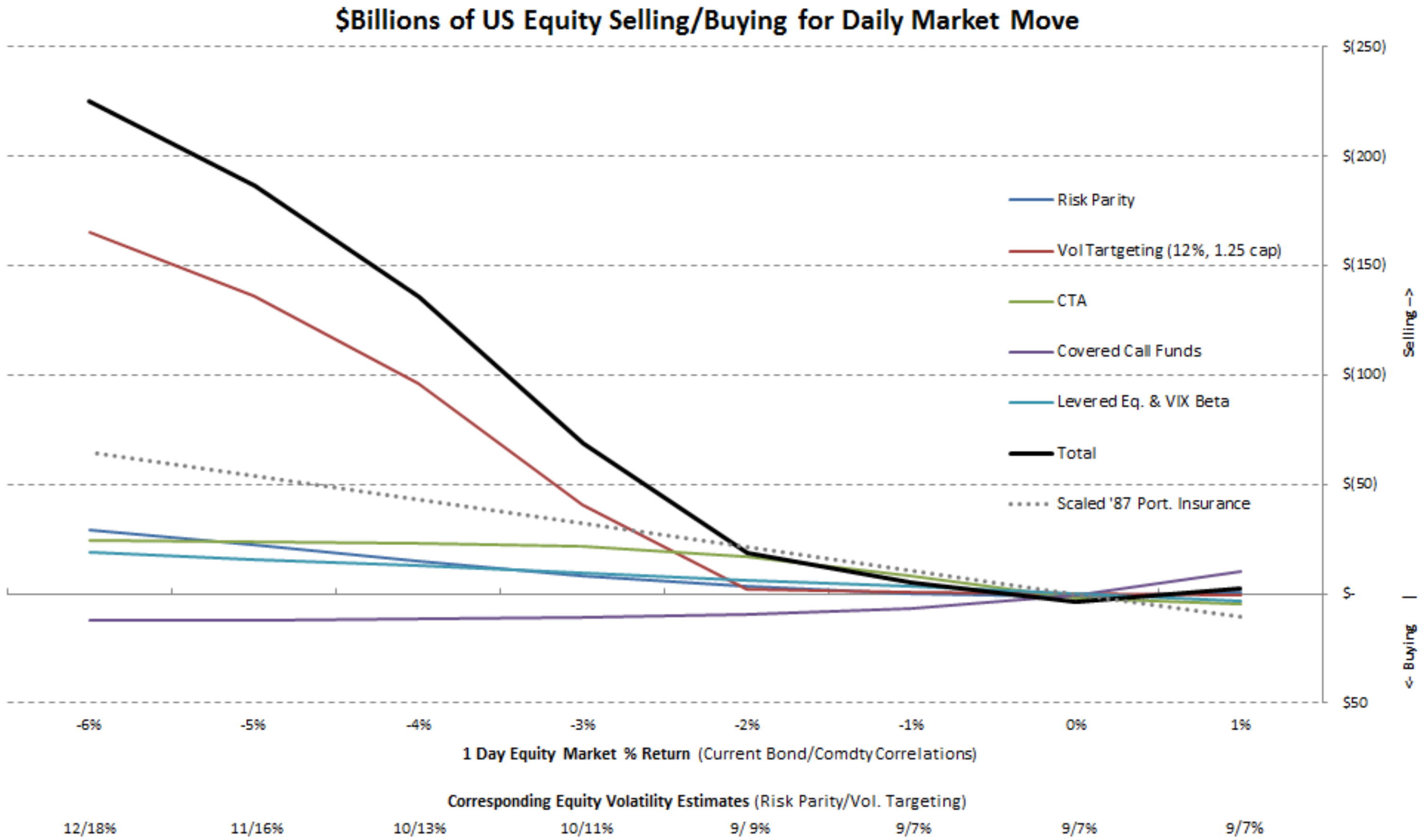


Dealer Option Positioning

Illustration Based on Covered Call Fund Positioning & Hypothetical Dealer Put Positioning



ESTIMATED COMBINED SELLING IN MARKET DROP



HAS VOLATILITY REACHED A PERMANENTLY LOW PLATEAU?