HedgeSPA
Sophisticated Investment Analytics | Trusted Market Insights

July 2014

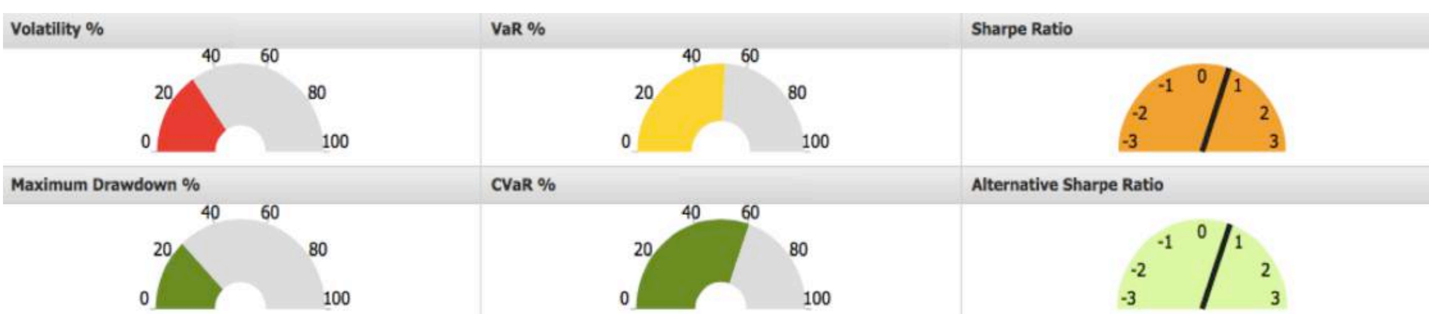
"Long Tesla & Ford, short GM & Toyota"

A portfolio analyst is helping a HedgeSPA user who wants to initiate a $10mio net position in the car industry. As a seasoned investment professional, the user sees that the car industry is shifting to produce more electric or hybrid cars than ever before, with Tesla and Toyota being the leading manufacturers, whereas the well known giants Ford and GM are still focusing on producing traditional models. The "intuitive" solution is to construct a trading strategy with longing Tesla and Toyota and shorting Ford and GM, each having equal sizes of $5mio.

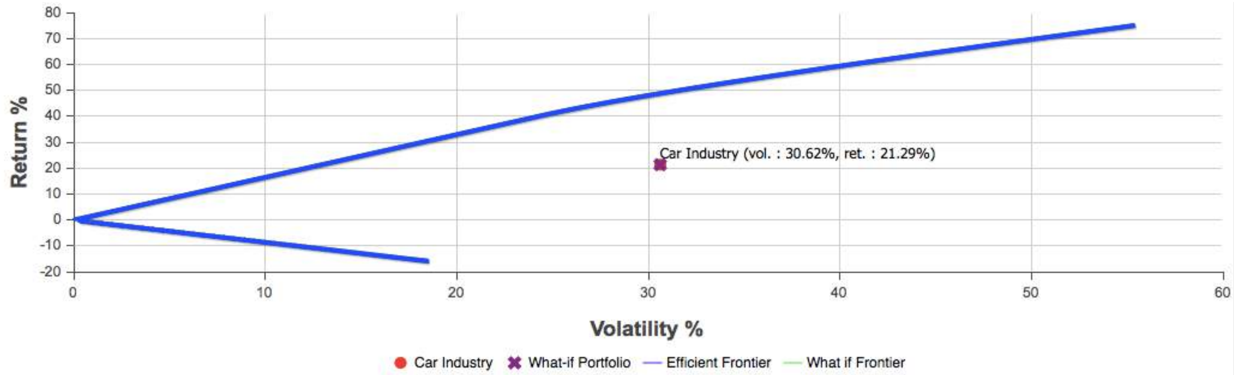
Description			Position	Weight	P&L	Market	Risk
Product	Asset Class	Currency	Actual	Actual	Actual	Last Price	Volatility
Toyota Motor Corporation (TM)	Equity	USD	5,000,000.01	50.00%	0	118.05	17.95%
Tesla Motors, Inc. (TSLA)	Equity	USD	5,000,000.00	50.00%	0	219.46	54.44%
General Motors Company (GM)	Equity	USD	-5000000.00	-50.00%	0	37.75	21.76%
Ford Motor Co. (F)	Equity	USD	-5000000.00	-50.00%	0	17.30	19.48%

Using HedgeSPA analytics, the portfolio analyst finds out that the one-year historical return of the strategy is over 20%; however, the expected shortfall (or, on the platform, cVaR- conditional Value-at-Risk) is over 60%, indicating that she has a 5% chance to be losing more than 60% of the entire position. Last year, the user would have made a more than 20% return against a volatility of 30%; however, he can potentially lose 3 times as much as what he can get.

Portfolio	Volatility	MaxDD	VaR	cVaR	SR	ASR	Historical Return
Actual Portfolio	30.62%	25.93%	51.65%	60.87%	0.6301	0.6427	21.29%



Statistics show that this combination of longs and shorts may not be as optimal as our user might have thought. In fact, a further analysis using the efficient frontier tool on HedgeSPA shows just how far away this portfolio is from the efficient frontier.



The analyst is therefore looking for a better way to implement this investment thesis. She can alter the portfolio using HedgeSPA's portfolio construction tools. Keeping GM shorted with the original amount in the portfolio, she uses the other three stocks to construct a portfolio maximizing the Alternative Sharpe Ratio, which describes a betting ratio that compares profit potential against downside tail risk.

Description			Position	Weight	Market	Risk	Return
Product	Asset Class	Currency	Actual	Actual	Last Price	Volatility	Historical
General Motors Company (GM)	Equity	USD	-5000000.00	100.00%	37.75	21.71%	4.62%
Total			-5000000.00	100.00%			

Product	Asset Class	Contract	Position	Weight
Tesla Motors, Inc. (TSLA)	Equity	29262.73	6,421,999	64.22%
Ford Motor Co. (F)	Equity	229466.92	3,969,778	39.7%
Toyota Motor Corporation (TM)	Equity	-35717.46	-4216446	-42.16%
(3 Products)			6,175,330	61.75%

Portfolio	Volatility	MaxDD	VaR	cVaR	SR	ASR	Historical Return
Hypothetical Portfolio	36.36%	28.66%	56.20%	67.91%	1.4193	1.6038	53.61%

Although the portfolio has a higher historical return of 50+%, more than twice as high as the original portfolio, the portfolio analyst can easily adjust returns based on leverage. The key is to get the relevant ratios right. Instead of getting a 3 to 1 of expected shortfall-to-return ratio, the ratio has become a more promising 1.3 to 1. Surprisingly, the investment strategy has changed quite a bit – from long Toyota and short Ford, the recommendation is to short Toyota and long Ford instead. This makes sense: Toyota already "has a good run" on hybrids, whereas Ford, which has been producing a series of hybrid or electric cars, has a better upside potential in the market.

Finally, the portfolio analyst is concerned that Tesla may be valued more like a tech company instead of a traditional auto play, so this bet becomes a "long tech, short auto" sector bet instead of a pure alpha bet within the auto sector.

To avoid placing unintended bets, the analyst puts the full portfolio together and tries to minimize portfolio variance using the iShares Dow Jones US Tech Sector Index Fund. The HedgeSPA hedging recommendation is a $3.3mio short position on this tech sector ETF. This compares well with the $6.4mio position on Tesla, which is a combined tech and auto play. Obviously, the user does not have to put on the full tech short, since minimizing variance may minimize portfolio returns. The user is likely to put on half of that position and adjust as he sees fit.

Description			Position	Weight	P&L	Market	Risk
Product	Asset Class	Currency	Actual ▲	Actual	Actual	Last Price	Volatility
General Motors Company (GM)	Equity	USD	-5000000.00	-48.11%	0	37.75	21.02%
Toyota Motor Corporation (TM)	Equity	USD	-4216446.00	-40.57%	0	118.05	18.53%
Ford Motor Co. (F)	Equity	USD	3,969,777.99	38.20%	0	17.30	17.86%
Tesla Motors, Inc. (TSLA)	Equity	USD	6,421,998.99	61.80%	0	219.46	55.40%

Product	Asset Class	Contract	Position ▲	Weight
iShares Dow Jones US Technology Sector Index Fund	Equity	-34402.56	-3349434	-13.19%
(1 Product)			-3349434	-13.19%

Portfolio	Volatility	MaxDD	VaR	cVaR	SR	ASR	Historical Return	Skewness	Kurtosis
Hypothetical Portfolio	14.32%	15.01%	23.68%	28.08%	0.6796	0.7986	11.73%	0.01	2.46
Actual Portfolio	14.45%	14.56%	24.07%	28.71%	1.0227	1.1361	16.77%	-0.04	2.49

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