"More gold has been mined from the thoughts of men than has been taken from the earth."
— Napoleon Hill

In 2013, strong U.S. equity returns have dominated headlines while bonds, metals and energy markets have experienced significant drawdowns. The figure below shows a material difference in returns across a variety of assets.

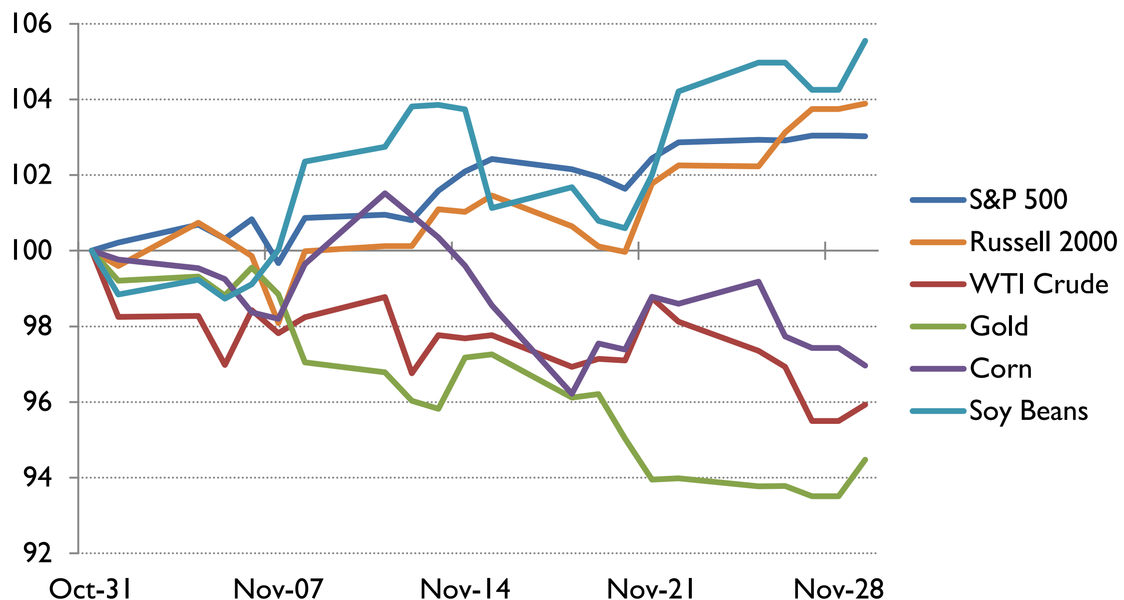

Figure 1: Performance of front-month futures for select equities and commodities during the month of November, normalized to 100 at the end of October.

One would have to be extraordinary in correctly predicting which of these products would rise or fall over any one period, let alone do it repeatedly month after month. Let us do a little experiment: Pretend that on October 31st an investor had a crystal ball that told him which asset in our sample would be the worst performer (so the investor could hedge) and which would move the least (so the investor could overwrite) over the next month. Hedging and overwriting are frequent activities of option users.

For November, the crystal ball would have predicted a gold sell-off and a relatively flat period for corn. The investor would purchase a front-month, at-the-money gold put option to bet on the sell-off and sell a front-month, at-the-money corn call option to take in premium. Both trades showed a great profit, as illustrated in the following table.

	Short Corn Calls	Long Gold Puts
Futures Settlement Price on Oct 31	428'2	$1,323.70
Option	Dec 425 Call	Dec 1325 Put
Option Expiration	Nov 22	Nov 25
Option Trade Price	10'00	$26.30
Quantity Purchased	265	47
Premium Paid or Received	$132,500	$123,610
Option Multiplier	50	100
Delta Notional Exposure	-$3,120,507	-$3,113,750
Futures Settlement on Option Expiration	422'2	$1,241.20
Futures Return over Period	-1.40%	-6.23%
Option Settlement Price on Expiration	0'00	$83.80
Option P/L	**$132,500**	**$270,250**

In our example, it is obvious that selling the corn calls and buying the gold puts are winning trades. *But what about the other side of these trades?*

An outright buyer of the corn calls and a seller of the gold puts would have the exact opposite P/L; he would have lost on both trades. He would have lost *a lot* on both trades.

However, a liquidity provider who *also* took the other side of these options can profit. In our example, the liquidity provider profited even though he was long a call that expired worthless and was short a put that more than tripled in value! *How can this be?*

Providing liquidity is not just buying any option from an overwriter or selling any option to a hedger. Providing liquidity requires careful risk management so that the business earns profits in a variety of market conditions over time.

Generally, liquidity providers are not taking bullish or bearish views on the underlying. They are being paid to absorb risk, irrespective of the opinion of the buyer or seller and his crystal ball. To profit, the liquidity provider will replicate the opposite position using the underlying futures. If the liquidity provider is long options, he will replicate a short option position. If he is short options, he will replicate a long option position. This replication is also called delta hedging. We have touched on this concept in the past.[1] Delta hedging (replication) is an easy concept to understand yet difficult for many investors to implement with discipline.

[1] http://lakehillgroup.com/files/Lake_Hill_Capital_Management_September_2012_blog.pdf

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There is a multitude of hedgers, overwriters and speculators all buying and selling options with the purpose of transferring risk or expressing a view. Their opinions can change daily with new information. Someone has to be in the middle to assure that this activity happens seamlessly and at fair prices.

The above example shows that replicating the long corn calls and the short gold puts requires constantly changing positions of gold and corn futures. Each day the futures positions must be adjusted based on the movement in the underlying commodities. This is a simple form of liquidity providing.

Strategy	P/L
Outright Long Gold Puts	$270,250
Naked Short Gold Puts	-$270,250
Short Gold Puts, Delta-Hedged	**$24,930**
Outright Short Corn Calls	$132,500
Naked Long Corn Calls	-$132,500
Long Corn Calls, Delta-hedged	**$15,115**

In this case, the gold hedger, the corn overwriter *and* the liquidity provider made money![2] This is particularly interesting because they had exactly opposite options positions. The delta hedging profits were *greater* than the loss on the options. One trader had a very specific (and correct) directional view on the underlying and the other was agnostic on direction but earned a profit because of a small spread between buying and selling the options versus being synthetically long and short them through replication.

Predicting the direction of any asset class is never easy. The looming taper by the Fed is sure to keep all assets in a state of flux. Liquidity providers will be a central source for enabling market participants to express views, with or without the crystal ball.

[2] We can provide the spreadsheet with calculations upon request.

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