Options for Outperformance – Managing the Challenges of Volatility and Duration in Gold

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I. Introduction

Good morning. Thank you to the LBMA for inviting me here today. My name is Patrick Green. I am head of metals options trading at Barclays and I have been trading volatility since 2005. It is no surprise I am here to talk about options today.

In today’s brief presentation, I would like to cover two key topics in the context of gold: firstly, how has options pricing changed this year and what can this tell us about the gold price? Secondly, who has been using options in precious metals and why? Finally, I will conclude with why this is relevant to you.

II. 2013 – A Year of Extremes in Volatility Trading

1. Three Central Considerations

It has been a year of extremes in volatility trading. Slide two illustrates three considerations that are central to options pricing in gold:

- At the money implied volatility.
- Volatility smile or skew.
- Correlation.

There are some quite technical terms there, but do not worry, I am going to present them in a simple format in the next couple of slides.

2. Implied Gold Volatility

Gold implied volatility can be thought of as the market’s perception of how volatile the gold price will be over the coming period of time. It is the basic building block of all options pricing. Higher implied volatility means the market is more uncertain about the underlying price and option premiums will be higher.

The chart on this slide plots both one month and one year implied volatility since the start of 2012. I have highlighted two extreme points on the chart. Firstly, at the bottom, after a period of generally falling volatility throughout 2012 and the start of 2013, we reached a multi-year low in implied volatility with the one month line below 11%. In addition, you can see the one month line is below the one year. This means the market’s perception of short-term volatility was below the long run average. However, during the rapid down move we saw in gold in April this year, implied volatility sky-rocketed. The one month that was below 11% rose to almost 30% in a very short space of time and, as you can see, the two lines...
on the chart crossed. Now people’s perception of short-term volatility was above the long run average. The gold price was in stress. Into the end of the year, we see that volatilities have generally stabilised, but at a higher steady-state level.

3. **Risk Reversal**

Next, I would like to talk about gold volatility or skew; this is otherwise known as the risk reversal. The one year 25 delta risk reversal is defined in appendix two. However, it can be thought of as the relative price the market is willing to pay for out of the money puts against out of the money calls.

I have charted the one year risk reversal on this slide along with the gold spot price since the start of 2011. Again, I have highlighted an area of extreme repricing in the options market this year. As gold fell below 1,200, the risk reversal, which has typically been positive, fell to minus 4%. This was an all-time low. What can this tell us? Firstly, any further falls in the gold price were likely to be accompanied by a further pickup in volatility. Secondly, we were seeing an imbalance in supply and demand between out of the money puts and out of the money calls. Long-term investors in gold were using options as protection. Investors who remained bearish were willing to pay high premiums for out of the money puts and those of you extracting metal from the ground were buying puts and selling calls to hedge production in the context of a falling price.

If we are to believe the changes in options pricing we have seen today, we can expect a more volatile gold price with the possibility of further rapid falls going forward in time. Against this backdrop and in the second part of my presentation I would like to look at who has been using options in precious metals and why.

### III. Options

1. **Who and Why?**

I will give you a couple of moments to have a look at the matrix on this slide. Along the top I have divided market participants into six rough groupings and on the left-hand side I have suggested six reasons why we may use options in precious metals. I do not have time to talk through all of this today, so I will elaborate on the two that are highlighted in dark blue: first of all, tail risk hedging. This is a less frequent but very interesting use of gold options. Secondly, yield enhancement by retail and private banking clients. This represents one of the most popular uses of options in precious metals and, indeed, currency markets.

2. **Tail Risk Hedging**

Tail risk hedging is associated with low probability events that will have a major impact on returns. If we take the base case scenario of a portfolio that is long equities or risky assets, so far this year it has generally performed well. However, in March, concerns over the Cypriot default threatened to cause contagion across financial markets. This was a so-called ‘tail risk event’. At the same time, the gold price began to rally as safe haven flows pushed up the price of the yellow metal. If we combine all this together, it really brought into focus the use
of gold call options as a hedge to such events. The holder of a gold call holds a long gold, long volatility position.

3. **Gold vs AUD/USD Correlation**

In this slide, I show the short-term correlation between gold and the Australian dollar. I have used the Australian dollar as a proxy for all risky assets. As you can see, during March the correlation quickly flipped to negative. This meant if risky assets continued to sell off, it was likely the gold price would rise further.

4. **3m 10 Delta Call Implied Volatility**

In addition, I have plotted the three-month out of the money volatility for a three-month 10 delta call. As you can see, on an historical basis it was a great entry level in March to go long gold volatility, in particular, through out of the money calls.

Thus we can see that both price and correlation made gold calls a cost effective way to hedge tail risks.

I have just run through an example of how options can reduce risk in a wider portfolio. Next, I will look at how holders of precious metals frequently use options to increase returns.

IV. **Yield Enhancement Multi-Asset Investment (MAI)**

A typical product is what we call the ‘multi-asset investment’ (MAI). This is what we call it at Barclays; at different banks it has many different names, but the idea is always the same.

Precious metals deposits, as we know, typically yield a very low rate of interest. In gold it will be slightly positive and in silver and PGMs you are likely to pay for the privilege. However, there is one way to increase your yield and that is to sell an embedded call option on your precious metal for the life of the deposit. At the end of the period you will always receive a higher return and, in the first scenario, the call option you sold remains out of the money and we give you back precious metals. In the second scenario, the call option you sold ends up in the money and we will return you counter currency, which could be dollars, euros or Swiss francs, as a typical example. This can also work the opposite way around. If you are looking to enhance yield on a currency deposit, you can sell an out of the money put on precious metals to enhance the yield.

There are a number of factors that influence the pickup in yield or the bonus yield that you receive from selling the call option and these are listed at the bottom of slide nine. Such is the prevalence of this product that you are easily able to execute on electronic platforms and I show a typical example of a dealing screen here.

V. **Conclusion and Opportunities**

This brings me to the end of my brief presentation today, but what can we conclude and why is it relevant to you? First of all, the options market is forward looking. The extreme repricing in gold volatility we have seen this year suggests we have moved into a more volatile and uncertain period for the gold price. Under these conditions, an increasing
number of you in the audience should be looking to options as a tool to reduce risk and increase returns.

Thank you.

**Tom Kendall**

Thanks very much for that, Patrick.

Keep the questions coming in on the text device; we have a couple up here at the moment and we will try to run through as many of them as we can when the presentations have finished.

Third up for us this morning is someone who is pretty well known in the fund management industry in the commodities world here in Europe. Christoph Eibl is Founder and CEO of Tiberius Asset Management located in Zug in Switzerland and he is going to give us his views on gold and PGMs in about five minutes flat.