CPM Group

Precious Metals and Commodities
Research, Consulting, and Merchant Banking

An Open Letter on Gold Hedging

25 February 2002

Dear Gold Market Participants and Observers:

1. Introduction

This letter concerns hedging price risk by the gold mining industry. There is much discussion about the merits or disadvantages of hedging by gold mining companies. Unique among industries, this discussion carries with it an incredible amount of misinformation and misunderstanding. As gold market participants who have been involved in the financial management of gold and other commodities since the 1970s, we have been astounded by the degree to which this discussion has been so ill-informed.

That said, we continue to seek dialogue, to understand why these views are held. Often, anti-hedging proponents admit to their errors in private discussions, but then turn around and publicly reiterate the very positions that they have just admitted are wrong in private. Others refuse to be on the same public platform as CPM Group analysts, refusing to be put into a position in which they might be called on to defend their positions against us in a debate. One prominent gold mining executive explained this as a disease-like "collective ignorance" that descends upon him and his colleagues when they are gathered together. That is an unsupportable excuse, of course.

The purpose of this letter is to solicit insights into what valid arguments might stand for anti-hedging. There are two reasons for this letter at this time, explained on the following sections.

In order to pursue this, this letter outlines the positive aspects of well structured hedging in detail. We are not interested in arguments about hedges that are poorly structured, which do not provide producers exposure to rising prices while protecting them against lower prices. We are interested in learning whether anti-hedging proponents would adhere to their anti-hedging positions in the face of effective hedging, as laid out in the following sections of this letter. If so, we want to understand why. Are there substantive objections we are missing.

We are interested specifically in issues related to corporate finance and hedging: Whether it makes sense for corporations to hedge, if they can do so effectively. We wish to avoid the discussions of the effects of hedging on physical supply, which are clouded by all sorts of wild misperceptions, and the effects of hedging on the price structure (specifically, the forward spread in gold prices), which is extremely complicated and quantitatively ambiguous. In this letter and at this time, we wish to focus specifically on issues related to the wisdom of hedging from a corporate finance, revenue, and credit perspective.

30 Broad Street, 37th Floor
New York, NY 10004 USA
jchristian@cpmgroup.com

Telephone: (212) 785-8320
Fax: (212)785-8325
www.cpmgroup.com

2. Background for the soul-searching related to hedging

First, a bit more background. You probably know CPM Group primarily as one of the sources of accurate information and analysis on precious metals. Many knowledgeable market participants and observers consider CPM Group the foremost authorities on these markets, and, modesty aside, we believe they accurately assess the field. If you know anything about the basic structures and mechanisms of the markets, you can tell that many others who hold themselves out as experts do not even understand the basics of how these markets work. For example, a great many market participants, including top executives at the largest gold mining companies, were stunned in 1997 when we pointed out in our annual **Gold Survey** that year that 10 *billion* ounces of gold traded in the London and New York markets per year, compared to 100 million ounces of new supply and demand, and that to not consider the 'other' 99% of gold being bought and sold in analyzing why prices behave the way they do was equivalent to calling the tail the dog.

Beyond that, however, CPM Group also is known internationally as experts on commodity derivatives. In our time at J. Aron and Goldman Sachs (until we spun off in 1986), we helped write the enabling legislation for commodities option trading, the original contract terms and proposals for several commodities options exchanges, and the basic primer on what can be done with commodity options for J. Aron and Goldman Sachs. We were involved in the early stages of marketing options to Goldman's customers, until we left in 1986. Since then, we have been the independent source of counseling for industrial and investor users of commodity options. We may be the only group that has hands-on experience structuring, managing, trading, and closing such positions that will advise companies on commodities options, while not also trading to take the other side of the trade. At least, we have not found any other company like us. (There are ex-traders who have set themselves up as consultants, but, for reasons we would not get into in this letter, they mostly do not understand the needs of hedgers, and do not get it right.)

Now, the issue of the rectitude of hedging has come to the forefront for two reasons.

One is the ongoing 'debate' in the gold market over the wisdom of hedging. We use quotation marks on the word debate, because in our view the lack of intellectual insights that have characterized the public discussion to date hardly suggests a thoughtful debate in which valid arguments are brought forth and considered intelligently.

Additionally, CPM Group has been working with the World Bank, the Common Fund for Commodities, and an international consortium of intergovernmental organizations to develop the capacity for hedging commodity price risk for commodity-dependent producers, processors, exporters, importers, and others in the developing world. We presently are working on several programs to introduce commodity price risk management services to these entities in these countries and markets.

If there is some deeply rooted reason why hedging is bad, we want to know about it before we go further.

We continually try to discover what it is that the holders of opinions contrary to our own may know that we do not know. In this quest, we are asking you for assistance.

3. Our view of hedging

We will be honest here. We think hedging is good. As you will see in the following sections, properly structured hedges provide protection against lower prices, allow producers to benefit if prices rise, and do not expose them to undue credit risks. That sounds really attractive to us.

Hedging scares us sometimes, because the instruments used are so powerful. The power can be put to good uses, but it also can blow up in their faces. We also are concerned about the poor performance of the financial institutions that provide hedging facilities in terms of their continual willingness to sell unwitting hedgers poorly structured hedges. There are many examples of large, purportedly sophisticated corporations continually buying inappropriate hedge positions from their banks. The list includes some of the largest gold producers in the world, as well as major oil companies and others. With regard to these concerns, we are beginning to work with regulators and industry groups, to seek introduction worldwide of standardized forms and documentation that will help and protect companies using commodity derivatives to know the full scope of price, revenue, and credit risks of individual and collective transactions *before* they enter into them.

If done properly, however, hedging helps companies, a great amount. Barrick has a guaranteed minimum price and cash flow thanks to its hedges. It will outperform unhedged producers in markets where prices are below something like $330, in terms of revenues per ounce. Because of modifications it made a couple of years ago, it also will receive above-market prices if gold prices are above that level, by $10 or so. That means it will outperform unhedged producers in rising markets as well. Another producer expressed chagrin that the market values Barrick more greatly than itself, since it is unhedged. It has nothing to do with hedging, and everything to do with the fact that investors perceive Barrick to be a more intelligently and better run company.

(Every objective, quantitative study ever conducted on the relationship between hedging and gold mining equity share prices have reconfirmed early work by Harvard's Peter Tufano and others that hedging has little effect on determining producers' share prices relative to each other. Other factors are much more important, including investors' perceptions of the quality of overall management.)

In the following section we will outline a basic *Participatory Option* for gold, the hedging strategy CPM Group most often recommends. It has several key benefits. For one thing, it provides protection to gold producers against lower prices while preserving virtually all of the exposure to beneficial increases in gold prices. This would seem to counter the anti-hedging argument that shareholders, and the company in whole, want to preserve exposure to rising prices. It also has a minimal, pre-determined credit exposure under any price and interest rate scenario that is known at the inception of the hedge. Thus, there can be no surprises in that realm, short of a major collapse of the international financial system.

Our view, as we said, is that hedging done properly is good, but that hedging has been given a bad name, by poorly structured hedges marketed by banks; and by people who do not understand what hedging is, and confuse poorly designed hedges as representative of hedging in general.

4. Hedging done properly.

Let us explain, in detail, a participatory option.

A producer wishes to protect itself from lower prices, so it wishes to buy a put. Puts cost money. So, instead of paying for the put outright, the producer pays for it by selling a call. Dealers like to structure these strategies as collars (also known as min-maxes, fences, and other cute names). In collars, the dealer

will allow the producer to pay for a lower priced put with a slightly higher priced call. Recently, when prices were around $280, producers could buy a $275 put and pay for it with a $285 call.

CPM Group generally advises clients against collars, or min-maxes. These trades, and many similar products based on them, including commodity swaps, knock-in, and knock-out options, give away the upside exposure for producers, and also carry with them the sort of unlimited credit exposure that can hurt or destroy a company. In recent weeks, we have become so much more forceful in our thinking about the negative aspects of these trades – except when prices are at extremely high historical levels – that we have even advised the central banks of some countries (which approve foreign transactions, including commodity hedges) to ban such instruments except in those extreme situations.

Instead of a collar, we advise our clients to sell a call at the same strike price as the put it bought. By doing this slightly below the forward price at the time this generates a net premium, which the producer uses to buy a call above that strike price, getting itself back into the market. In this way, the producer mimics the revenue profile of a put, but without paying any premium. On the next three pages there is (a) a table showing explicitly how this hedge is constructed, including the results of using this hedge under different scenarios, (b) a chart comparing this hedge to alternative strategies, and (c) a table comparing these results. Again, we are going into (excruciating) detail here because we want to fully lay out what we believe is a compelling pro-hedging argument.

Construction of a Participatory Option

In this example, the forward price for gold is around $280.

Producer buys a $275 put	Pays	-$3.80
Producer sells a $275 call	Receives	+$7.50
net premium generated by these two transactions		+$3.70
Producer buys a $285 call	Pays	-$3.70
Net premium for the entire strategy		0

Results Under Differing Market Scenarios

If gold is less than $275 per ounce:

Producer sells through exercising the put option it bought.
Producer receives $275

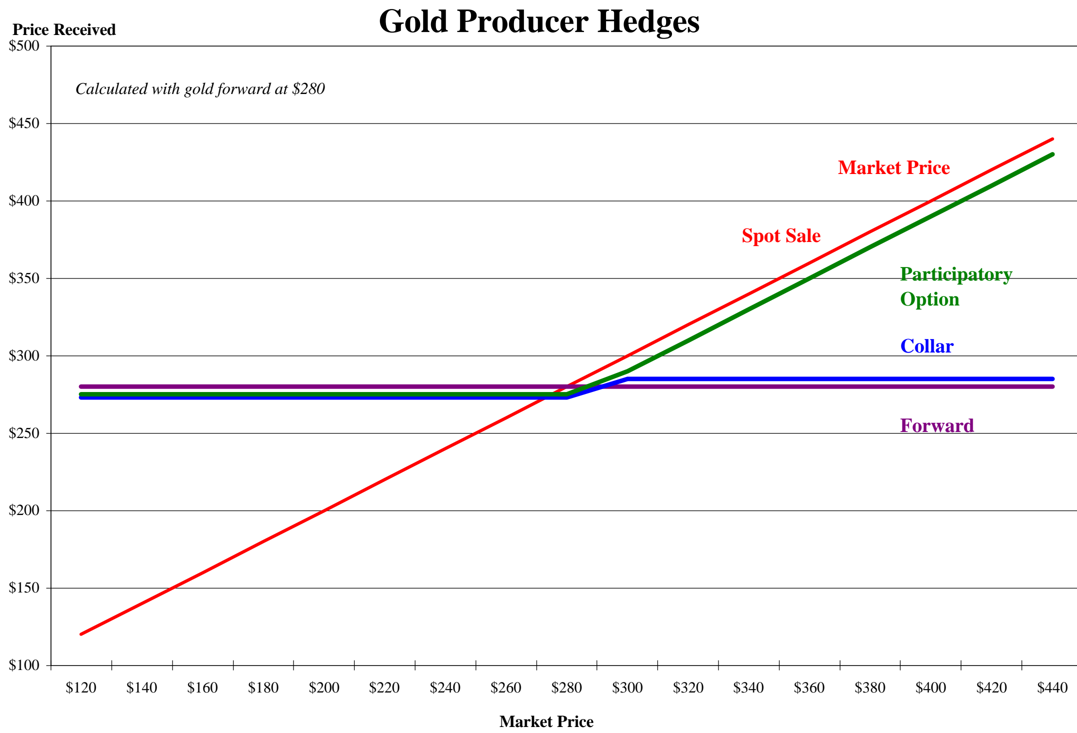
If gold is between $275 and $285 per ounce:

Producer sells through the exercising of the call it sold
by the dealer to which it sold the call.
Producer receives $275

If gold is more than $285 per ounce:

The dealer buys at $275 with the call it purchased from the producer.
The producer buys back into the market at $285, through the call it bought.
Producer sells at the market.

Producer receives the market less $10, no matter how high the price of gold is.
e.g. at $320, producer receives $310; at $400 producer receives $390.


Gold Producer Hedges
Price Received
Calculated with gold forward at $280
$500
$450
$400
$350
$300
$250
$200
$150
$100
Market Price
Spot Sale
Participatory Option
Collar
Forward
$120
$140
$160
$180
$200
$220
$240
$260
$280
$300
$320
$340
$360
$380
$400
$420
$440
Market Price

Gold Hedges -- Competetitve Analysis
February 2002 examples
US dollars per ounce

This table presents the price a producer would receive at any given market price, depending on which sales and hedging strategy it used. Based with forward price at $280.

Market Price	Spot Sales	Forward Sales	Revenue Relative to Market	Collar $275-$285)	Revenue Relative to Market	Participatory Option	Revenue Relative to Market
$120	$120	$280	$160	$275	$155	$275	$155
$140	$140	$280	$140	$275	$135	$275	$135
$160	$160	$280	$120	$275	$115	$275	$115
$180	$180	$280	$100	$275	$95	$275	$95
$200	$200	$280	$80	$275	$75	$275	$75
$220	$220	$280	$60	$275	$55	$275	$55
$240	$240	$280	$40	$275	$35	$275	$35
$260	$260	$280	$20	$275	$15	$275	$15
$280	$280	$280	$0	$275	-$5	$275	-$5
$300	$300	$280	-$20	$285	-$15	$290	-$10
$320	$320	$280	-$40	$285	-$35	$310	-$10
$340	$340	$280	-$60	$285	-$55	$330	-$10
$360	$360	$280	-$80	$285	-$75	$350	-$10
$380	$380	$280	-$100	$285	-$95	$370	-$10
$400	$400	$280	-$120	$285	-$115	$390	-$10
$420	$420	$280	-$140	$285	-$135	$410	-$10
$440	$440	$280	-$160	$285	-$155	$430	-$10

CPM Group.

As stated earlier, this strategy mimics a put, but with certain advantages. The key advantage is that it is free – there is no premium to be paid. (In the event that prices rise, a producer gives up a portion of any increase over the floor – typically around $10 per ounce for gold. We often refer to this as a contingent premium: It is a de facto premium that the producers pays, but it only pays it contingent on higher prices. If prices fall, the producer executes its put, and sells at the floor price with no premium.)

Dealers often try to switch on clients who ask for Participatory Options, selling them, instead, Synthetic Puts. Synthetic Puts look a lot like Participatory Options in terms of their revenue profile under varying market conditions, but they have several negatives that Participatory Options do not have. A Synthetic Put is constructed by the producer selling forward, and then buying a call at or near the forward price. The rationale, however unjustifiable, is that the call costs less than a put. One problem is that selling forward carries with it a credit risk. Another is that the call costs money. In the late 1990s a dealer suggested to Freeport MacMoran that it hedge a year's worth of copper through Synthetic Puts. We pointed out that these Synthetic Puts would have cost Freeport something like $27 million in call premia, but that almost the exact same revenue profile could be achieved with Participatory Options.

5. The question

Our question is this: If hedging can be done effectively, in a way that protects producers from lower prices while allowing them to participate in virtually all of any increase in price, with low and pre-defined credit risks, is hedging bad for producers? If so, what have we missed.

6. A side comment

Incidentally, structuring hedges gives one insights into the markets. Typically, gold producers can put participatory options in place that bear a 'contingent premium' if prices rise of $10 per ounce. Sometimes the market is bearish, and the strategies are cheap. When we showed the strategy to Homestake in April 1997 (leading to Homestake's putting in place a hedge that would have given it $320 per ounce on 900,000 ounces in 1998), the options market allowed producers to give up only $3.70 of the upside – a sign of incredible bearishness, which factored into CPM Group's market projections of lower prices at the time. In early January of this year, the contingent premium increased to more than $21, an early warning sign that gold prices were about to spike higher. It's not that market sentiment always is right, but it helps to know what that market consensus is, and the options pricing structure tells you in one readily available metric of market sentiment.

We are sorry to be so wordy. We also hope this letter is taken for what it is, an honest and open request for insights into the thoughts of anti-hedgers, which may show us something that we may have been missing.

Responses should be sent to jchristian@cpmgroup.com. We look forward to your reply.

Sincerely,

"jeff christian"

Jeffrey M. Christian
Managing Director