# Why gold's contango suggests central bank interference

by Tom Fischer September 21, 2013

Every time gold briefly slips into backwardation, some gold commentators are quick to write that this was abnormal and, in theory, should not be possible. In the following, I give several reasons why, in my opinion, the opposite is true: Not contango, but backwardation in gold should be the norm. If this is the case, then the fact that gold has been in contango for essentially all of the last 25 years strongly suggests central bank interference with the gold market.

In London, when quoted between banks, the Dollar's interest rate is called LIBOR. Gold's interest rate, however, is usually called the "Gold Lease Rate". It measures how many Dollars someone gets for leasing a certain amount of gold to someone else for a certain amount of time. For instance, the Gold Lease Rate is determined on a daily basis in the London Bullion Market and quoted for maturities of 1, 2, 3, 6 and 12 months. Every now and then, but rather seldom, LIBOR for some maturities falls below the corresponding Gold Lease Rates. Borrowing Dollars is then cheaper than borrowing gold. This also means that the forward price of gold (e.g. in 1 months time) is lower than today's spot price. In futures markets, this is called "backwardation" – in contrast to the state of "contango", in which the future price would be at a premium to spot. Before this most recent stretch, backwardation in some gold maturities had, for instance, very briefly happened in the London Bullion Market in 1999, 2001, and 2008. Every time gold shows this behavior, an old myth rears its ugly head, namely, that in theory this should not be possible.

### Two arguments

Before I make my case, I should address that there are two types of arguments peddled by gold commentators in support of the myth:

- (1) Gold backwardation meant arbitrage, i.e. a "free lunch", and hence should be impossible.
- (2) Gold was the currency with the lowest risk, and hence should have the lowest interest rates. The first one I recently debunked in my article "Faux Gold Arbitrage". Frankly, people who think that gold's interest rate being higher than the Dollar's implied a "free lunch" do not understand financial mathematics and apparently also disregard that different currencies can have different interest rates (yes, gold is a currency with the symbol XAU). The second argument, which is a more economic one and therefore more open to opinion and debate (but also error), splits into two subarguments: First, gold cannot be inflated away, is therefore less risky than any paper currency, and should therefore have lower interest rates. Second, gold has no counterparty risk, is therefore less risky than any paper currency, and should therefore have lower interest rates. In my opinion, both of them are misguided. Let's consider them one at a time.

### Gold cannot be inflated away and therefore is less risky

Yes, I concur with this statement, as gold only inflates by its annual mining supply. However, the argument that gold's interest rate therefore should be lower only makes sense at first sight. Here is why: A central bank, such as the Fed, can always easily inflate, i.e. create fiat money and buy bonds, in order to satisfy credit demand and suppress interest rates. What we have seen since 2008 is a perfect example of that. However, a central bank can not necessarily cough up just any needed amount of gold as it cannot simply print it up when required. Should a financial gold black hole occur in some bullion bank's or hedge fund's balance sheet, the central bank might have to part with even more gold than they possibly have already, at the risk of never seeing it again. I have to conclude that the scarcity of gold, and the fact that its above ground supply cannot be inflated or created at will, should generally lift the gold lease rate beyond any paper currency rate – always

assuming, of course, that we denote the gold interest rate in that paper currency, as is done with the Gold Lease Rates of the London Bullion Market, which refer to the underlying Dollar amount of gold.

## Gold has no counterparty risk and is therefore less risky

Again, I have to agree. If my physical gold is safely stored, unencumbered and <u>not leased out</u> by anyone, it carries no counterparty risk as it is no one's liability. But then I will not get any interest on my gold either. Similarly, I will get no interest on bank notes when I store them under the mattress. This, however, does not mean that interest in general is at zero percent. It only means that I personally have decided to forgo it. If I actually want to earn interest on my gold or paper money, then I will have to lease it out and I will have to hand it over to a borrower – e.g. a bullion bank (gold) or a high street bank (paper). Now, unquestionably, I have counterparty risk. However, while there may be a gold lender of last resort, that lender can only ever have a limited amount of gold to lend. The counterparty risk of a gold loan is therefore always worse than that of any fiat money loan. Accordingly, borrowing gold should be more expensive than borrowing any fiat currency.

### Deflation, measured in gold

Remember the deflationistas vs. inflationistas war? It was that global discussion ripping through (and crippling some) economics and finance forums when the writing of QE was on the wall and slowly turned into the reality of QE-to-infinity (kudos to James E. Sinclair for coining this phrase early on). While the big question was what nominal price indexes would do, there would sometimes be an eery agreement on what most things would do when priced in ounces of gold: namely deflate, independent of whether gold would go up or down in the wake of the global financial crisis. There is evidence of that already, as we can see in the notorious <a href="https://docs.price.gold.com/bow-Jones:gold.charts">house-price.gold</a> and <a href="https://docs.pow-Jones:gold.charts">Dow-Jones:gold</a> charts. But what would interest rates do in a currency that experiences deflation? Tight credit and a lack of capital, which come hand in hand with deflation, translate to high interest rates in my book, especially if the central bank cannot print the currency in question: gold. If the gold price continued to go up a lot and hence nearly everything deflated when measured in gold, it would make perfect sense that borrowing gold would have to be more expensive than borrowing any inflatable, printable currency.

### But contango is the norm

Once more, I have to concur, but only if we are talking about a typical commodity that is consumed, therefore has a low stock-to-production ratio, and is expensive to store. Gold is different, as it has an enormous stock-to-production ratio and is fairly inexpensive to store. It therefore is a monetary commodity. Also, contango is only normal if the good in question has no significant interest or lease rate on its own. This does not apply to gold as it is a currency that has an own interest rate. In the currency world, contango is the norm, but so is backwardation. For example, if the EURUSD currency cross is in contango, then – simple maths – the USDEUR cross must be in backwardation. Hence, backwardation in currencies is entirely normal. For the reasons I explained earlier, gold is a currency that, in my opinion, should be in backwardation most of the time.

### **Greenspan's testimony**

Recall Alan Greenspan's testimony in 1998, when he stated:

"Nor can private counterparties restrict supplies of gold, another commodity whose derivatives are often traded over-the-counter, where central banks stand ready to lease gold in increasing quantities should the price rise."

I would think that any gold commentators who claim that gold should have the lowest of all interest rates – and thus be in contango – know this statement. At the same time, they would possibly say

that central banks were wrong to lease out gold as it suppressed the gold price. Here is what escapes me: If one believes that the Fed is the major manager or "manipulator" of gold, and there even is a statement where this is freely admitted, then how could contango in gold be normal, given that it is the Fed's gold leasing that drives gold's interest rates down and puts gold into that contango? It makes no sense. Central bank gold leasing is the first suspect to go to if we ask ourselves why gold has most of the last quarter century, or longer, been in contango, while backwardation would have made much more sense. As long as central banks stand ready to dump the yellow stuff onto any willing borrower, gold's interest rates will be lower than the Dollar's. In a freer gold market, however, in which central banks manage less, gold's interest rate in any currency should be higher than that currency's rate.

# But the gold lease market is small

Another argument I was told is that the gold lease market was small and that it was not fully formed or fully functional as the only two borrowers of gold were manufacturers, who needed to finance their inventory, and short sellers. GFMS reported in 2013 that "official holdings" were at approximately 29,600 tonnes of gold and "private investment" accounted for another 34,800 tonnes. The amount classified as "other fabrication" was at almost 20,900 tonnes. Say, much of this "other fabrication" gold was hidden in electronic devices or used for medical purposes, but possibly 10,000 tonnes of it was jewelery and other manufacturer inventories. The conclusion from this could be that theoretically there was a lot of gold available for lending (from central banks and investors), but there was not all that much potential borrowing demand due to the rather limited size of inventories. Add to this that global mine hedging stood at only 112 tonnes end of Q1 2013. This could explain why gold's interest rates historically have been quite low, between 1% and 2%, and recently closer to 0%. I would argue, however, that, central banks aside, there would be no large supply, as people who hold gold – even if they are larger investors – tend to be happy just sitting on it. Furthermore, this analysis only considers borrowing for hedging purposes. But the global gold market is possibly too opaque to properly assess other, speculative, gold lease demand. Also, only because an interest rate market is small, we cannot conclude where the rates should be. A lease market is terminally small if no one wants to lease out, but, in this case, the asked rates are essentially infinitely high.

### But central bank leasing is declining

Is it? I do not know. Some central banks seem to be in buying mode, that much we know. However, now that we have become used to gold contango for many decades, would it be any surprise if market participants, akin to a self-fulfilling prophecy, acted as if ever more gold was available for leasing, even though it was not really anymore? Give it some time to sink in, I would say. The recent backwardation in the short maturities could be a first sign that the tide is changing.

#### **Gresham's Law for interest rates**

Private investors are usually happy to just hold gold with no intentions to lend their precious to anyone, as this would contradict the number one purpose of their gold holdings. They save it and are happy to forgo interest. If almost no one wants to lease out gold, the lease rate, or identically, the interest rate of gold, should be high. This could be dubbed Gresham's Law for interest rates: If the better currency, gold, prefers to go into hiding, it needs higher rates to lure it out.

#### Conclusion

While being fully aware that this, other than arbitrage theory, is not an exact science and someone in the future might convince me that I am wrong, I think that backwardation should be the norm in gold. It seems to me that the predominant state of gold contango is artificial and the argument can

be made that it has been brought to us through years of central bank gold leasing and gold interest rate suppression, tying in with the now infamous Greenspan quote. When gold tried to break free after the Washington Agreement in 1999, it went into backwardation – because that is were it wants to be and where it should be in a freer gold market.

Dr. Tom Fischer is Professor of Financial Mathematics at the University of Wuerzburg, Germany. His research interests lie in the areas of asset and derivative pricing, systemic risk, risk capital allocation and FX risk management. As a gold and silver investor, Professor Fischer closely follows the precious metals markets and has developed a proprietary stochastic gold price model. He is a member of the German Association for Actuarial and Financial Mathematics (DGVFM) and the German Risk Management Association (RMA e.V.). Prof. Dr. Fischer can be contacted under tom.fischer@uni-wuerzburg.de.

