Gold's negative relationship with the US dollar

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This article examines the negative relationship between gold and the US dollar. It considers the argument that a weaker dollar makes gold cheaper, increases demand for gold, which in turn drives up the price, giving gold and the dollar their negative relationship. The conclusion is that whilst this provides an explanation of the observed reality, there may be another reason.

Many academic studies as well as market and media reports refer to the negative relationship between gold and the US dollar. The argument goes that as gold is traded primarily in dollars, a weaker dollar makes gold cheaper for other nations to purchase and increases their demand for the yellow metal. This increase in foreign demand then drives up the dollar price of gold, giving gold and the dollar their negative relationship. While this argument gives us an explanation of the observed reality, there may be another reason.

Trade weighted

What needs to be highlighted about this finding is that gold has a negative relationship to the *trade-weighted value* of the dollar. This measures movements in the bilateral value of the dollar versus all its trading partners' currencies, weighted by the percentage of trade between the US and each partner, and creates an index showing whether the dollar is gaining or losing purchasing power on average versus its trading partners.

Seeing the negative relationship in these terms means that when other currencies are on average gaining value against the dollar, so is gold. One way to view this relationship is to see that gold acts like just another currency. When the dollar is losing value against the majority of currencies, it is also losing value against gold. The correlation would then be just that, a correlation and not indicating a causal relationship where the value of the dollar affects the value of gold.

Gold in other currencies

If this theory were correct, we could expect to see negative correlations between the sterling value of gold and the trade-weighted value of sterling, and the same for the yen, and Australian and Canadian dollars. This is because, on average, the value of gold expressed in a currency (e.g. the pound) would move with the value of other currencies expressed relative to the pound, their bilateral exchange rate. This would then give us a negative relationship between gold expressed in terms of pounds and the trade-weighted value of the pound.

The chart below shows the one-year rolling correlation between the daily return on currencies' trade-weighted values and the daily return on gold in that currency. The data runs from January 1975 to February 2012 and comes from the Bank of England, with some calculations by the author.

For most of the time, the correlation between the returns on gold expressed in a currency and the returns on the trade-weighted value of that currency is negative, over 90% of the time for each currency. The occasional positive correlation between gold and a currency over such a long period can simply be put down to the law of averages. Gold and any currency are bound to move together sometimes.

And this finding is not specific to one-year correlations. If we instead look at 30-day correlations, between 80% and 90% are negative. And over the whole period, all the correlations were negative, with the US dollar being about average with a long-run correlation of -30%. The Australian dollar had the strongest long-run correlation at -40% and the Canadian dollar the weakest at 20%. So the returns on gold in a currency have a negative relationship with the currency's trade-weighted returns over short, medium and long horizons.

The significance of the negative relationship between gold and the value of the dollar then seems to be another pointer towards gold's role as an internationally traded currency, rather than a way of explaining movements in the value of gold expressed in dollars.

1 year correlation between a currencies trade weighted daily return and the return of gold in that currency