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Roman centurions and the price of gold today

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On Aug. 23, 2011, the price of gold reached $1,913.50. Today the price is $1,400 – a drop of nearly 27 percent. Gold has fallen by $200 in April alone. What is going on? Why should we care?

In June of 2012, we released a controversial academic study based on a comprehensive historical analysis that claimed that the fair price of gold was $800. This number seemed unfathomable back in June. Ten months later, it is a different story.

So how do you determine the fair price of gold?

Obviously, there is no precise formula. With stocks, we usually look at a value indicator, like the price-to-earnings (PE) ratio. A PE ratio of 30 is expensive. A PE ratio of five is cheap.

With gold, a natural benchmark is inflation. Our research shows that over the very long term, gold moves with inflation.

Let's consider a few examples from history.

In 562 B.C., during the reign of the Babylonian king Nebuchadnezzar, an ounce of gold purchased 350 loaves of bread. Given the current price of gold, that works out to about $4 a loaf. Yes, you can get a cheaper loaf of bread – but the bread that many of us buy at a local bakery is that price.

The second example is more powerful because it focuses on wages. We tried to find a job 2,000 years ago that we could compare with today. We ended up looking to the military.

In the era of Emperor Augustus (27 B.C. to 14 A.D.), a Roman centurion was paid 15,000 sestertii. Given that one gold aureus equaled 1,000 sestertii and given there was eight grams of gold in an aureus, the pay comes to 38.58 ounces of gold. At current prices, this is about $54,000 per year.

The centurion who commanded 80 legionaries is roughly equivalent to a U.S. Army captain. The current wage for a captain is $46,000 – which is fairly close.

This implies that gold is a good store of value. Essentially, gold is a good inflation hedge – but our examples are over the very, very, very long term, more than 2,000 years.

Our paper looked at the price of gold over history and noted that when the "real" price (adjusted for inflation) rose above its average, it usually reverted lower.

We calculated that the fair price, based on the level of inflation in 2012, was $800. The market price in 2012 was far higher. We also documented that, in the past, when you purchase gold when the real price is high, the future returns are very low.

Why is this important?

Investors (both individual investors and institutional investors) make the assumption that gold is an inflation hedge. Many institutional investors buy gold to fulfill their mandate to protect against inflation.

However, our paper shows that gold is an awful inflation hedge for investors.

Gold is a good inflation hedge if your investment horizon is measured in centuries – not years.

There is a simple reason. Gold prices are extremely volatile. Inflation is not volatile. As a result, gold is an unreliable hedge for inflation. Our paper shows that even with a 20-year horizon, gold is a terrible inflation hedge.

So where are we?

First, don’t expect an investment in gold to provide an inflation hedge. We are not saying “don’t hold any gold.” Our research also shows that a diversified portfolio of commodities (which includes gold) can provide a good inflation hedge over reasonable investment horizons.

Second, beware of buying gold when the inflation-adjusted price is high. Historically, the fair price of gold is closer to $800 than $1,400.

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