ADVISOR PERSPECTIVES

The False Promise of Gold as an Inflation Hedge

By Michael Edesess
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If you were a time traveler, hopping from one point in history 2,000 years forward or back, you'd best carry with you – if your time machine will allow it – a small stash of gold. Gold has been an effective hedge against inflation over the very, very long term. But that's about all it's good for. The other common reasons for owning gold – in particular, to use as a short-term or even a long-term hedge against inflation – are baseless.

Those are among the findings in an interesting and informative article, The Golden Dilemma, by Claude B. Erb, a former investment management company executive, and Campbell R. Harvey, a professor of finance at Duke University. The two examined six arguments that have been advanced by advocates, such as the World Gold Council, for investing in gold.

One of them is that gold is an inflation hedge. On that score, Erb and Harvey uncovered intriguing anecdotal evidence that gold is a long-term inflation hedge. The evidence, however, applies solely to the *very* long term: 2000 years. For shorter periods – from a year to a lifetime – no support whatsoever exists for the argument that gold is an effective hedge against inflation. On the contrary, gold ownership poses a much greater financial risk than inflation itself.

In addition to the argument that gold is an inflation hedge, Erb and Harvey explored the validity of five other arguments for holding gold: it serves as a currency hedge; it is an attractive alternative to assets with low real returns; it is a safe haven in times of stress; one should hold gold because we are returning to a *de facto* world gold standard; and finally, gold is "under-owned." In every case, the evidence advanced by Erb and Harvey strongly refutes the pro-gold argument. In fact, by the time Erb and Harvey are done, there remain only two possible investment reasons for direct ownership of gold: (1) as a risky "momentum" play; and (2) as a hedge against the remote risk of hyperinflation. I will return to these two justifications later.

A brief history of gold

For those fascinated by this particular precious metal, Erb and Harvey provide interesting information about gold supply and demand and gold markets. They report that the total quantity that has ever been mined, and hence the world stock of gold above ground, is an estimated 171,300 metric tons. That would form a cube 67 feet on a side. At today's prices, all that gold is worth about $9 trillion (compared to about $90 trillion for the total value of global equity and fixed income).

Of the total tonnage, about 80% of it has been mined since 1900; hence, the legendary pillage of the Americas and the resulting gold and gold leaf adorning cathedrals worldwide represents only a small portion of the above-ground gold. Below ground, however, there is not very much left. According to US Geological Survey (USGS) estimates, there are 51,000 tons of recoverable gold remaining; but, like all USGS resource estimates, this represents the quantity estimated to be economically recoverable using existing technology and assuming current gold prices. That outlook could change with improved technology – perhaps the estimated 8 billion tons that reside beneath the world's oceans, according to Erb and Harvey, could one day be recovered.

Of the 170,000-odd metric tons above ground, about half of it is in the form of jewelry, 12% is used for industrial purposes, and the remainder is owned, in roughly equal proportions, by central banks and private investors. Of the gold owned by investors, the largest single chunk is in the exchange-traded fund, the SPDR Gold Trust (GLD), which holds over 1,000 metric tons, more than 3% of the gold owned by private investors.

For the last 15 years or so, mining has added about 2,500 metric tons (or about 1.5%) annually to above-ground gold supplies. As Erb and Harvey note, however, "mining production has not significantly increased, even though the price of gold has substantially appreciated over the past decade." Surprising indeed, considering that the price of gold has increased at a rate greater than 15% per year over the last 13 years.

The US government's official gold holdings peaked at 20,000 metric tons after President Franklin Roosevelt outlawed private ownership of gold in 1933. President Nixon took the US off the gold standard in 1971, but US private citizens had few legal opportunities to own gold until 1975, when gold began to be an actively traded commodity. Since then, official US government gold holdings have declined to 8,000 metric tons. The US is still the largest official holder of gold – Germany, in second place, is far behind at a little over 3,000 tons. China's official holdings have been increasing, but at 1,000 tons they remain less than the holding of the SPDR Gold Trust. Among developed countries, there has been a desire to reduce gold holdings, but they found that even an attempted sale of a relatively small amount of their holdings depressed the price, so they entered into an agreement to limit the amount of annual sales to a specified small percentage.

The demand for gold jewelry has a normal negatively-signed price elasticity of demand – in other words, demand declines as the price goes up. The demand for technology applications, however, is price-inelastic, while the demand for gold by investors, paradoxically, increases with its price. This is, as Erb and Harvey point out, the momentum effect.

Are any of the gold ownership myths true?

Myths are usually perpetuated by constant repetition, the drawing of symbolic connections, and a neglect of the actual facts. These are the stuff of which the myths about the investment benefits of gold are made.

In some cases, the myth involves a contradiction in terms – as does the myth that gold should be held as a hedge against currency fluctuations. This either means merely that gold is a hedge against inflation, or that it is a hedge against fluctuations in one particular currency.

If it is intended as a hedge against a fall in one's own country's currency relative to other currencies, then it is an asymmetric argument. As Erb and Harvey say: "If the price of gold in a country is driven by its own inflation rate, and if the exchange rate between two countries is driven by the difference in their inflation rates, then gold will only reliably be a hedge of the foreign exchange rate if one of the two countries always has an inflation rate equal to zero." That is, the notion of gold as this type of hedge attributes a stability to the other country's currency that is in doubt in one's own. If that is in fact the case, holding the other country's currency should do the job at least as well as holding gold.

Furthermore, evidence presented by Erb and Harvey shows that the price of gold in all major currencies has fluctuated from 1975-2012 much more than their exchange rates. Hence, over that time (the only period of record with floating gold prices), holding gold subjected the owner to more risk than merely holding the wrong currency.

Erb and Harvey dispense – in part – with the argument that gold is a "safe haven" by using an amusing anecdote. In the British Museum in London is a collection of Roman gold and silver coins from the fifth century known as the Hoxne hoard, named after the village in England in which the buried hoard was discovered in 1992. The presumption is that the wealthy family that originally owned the hoard didn't have time to dig it up and take it with them when they had to flee. Gold as a "safe haven" is neither liquid nor portable; what then can the term "safe haven" mean? If it isn't an asset that you can take with you or liquidate in a pinch then how is it a safe haven? Once again, perhaps what the proponents of this argument really mean is that gold is a hedge against inflation.

As for the argument that gold is a *de facto* world currency standard, it is hard to see how that is true. It is not the official standard in any country and has not been officially convertible to a currency since Switzerland ended convertibility in 2000, and it is not in any sense a *de facto* standard, since it is very rarely either accepted or offered in trade for goods and services.

Except for the claim that gold is "under-owned," Erb and Harvey find that each argument is merely the argument that gold is an inflation hedge in disguise.

Is gold a hedge against inflation?

Since most of the arguments boil down to the claim that gold is a hedge against inflation, let us scrutinize that claim more deeply. All empirical investigations about the price of gold are limited by the fact that the market price track record dates only to 1975, but that price history is informative nonetheless.

Erb and Harvey explore whether gold can hedge against unexpected inflation by investigating whether gold price changes correlate with changes in inflation rates, on the assumption that next year's expected inflation is this year's inflation. If year-to-year gold price changes correlate with inflation rate changes, then gold could be used to hedge against unexpected inflation. But Erb and Harvey find no such correlation. Their conclusion is that gold does not hedge against unexpected inflation in the short run.

In the long run – 10-year periods – trailing annualized gold returns have fluctuated much more widely than inflation rates. "There has been substantial variation in trailing 10-year annualized gold returns: from as low as -6% per annum to as high as +20% per annum," Erb and Harvey write. "Over the same time period, the low and high inflation returns were +2.3% per annum and +7.3% per annum. [This] suggests that gold is not a very effective long-term inflation hedge when the long-term is defined as 10 years."

Why, then, did I mention that Erb and Harvey present evidence that gold is a hedge against inflation in the *very* long term? That is because they do discover intriguing facts about the price in gold of human labor over historic time. These facts are curiosities of interest to students of economic history, but they are not relevant to investors.

Erb and Harvey unearthed a 1992 article by M. Alexander Speidel in the *Journal of Roman Studies*, titled "Roman Army Pay Scales." It turns out that the pay rate in gold for military staff of the Roman legion during the reign of the Roman Emperor Augustus, 27 B.C. – 14 A.D., was almost precisely the same as the equivalent in today's gold price of current pay for soldiers in the U.S. Army.

Never mind the other excuses, what about gold as an investment?

Whenever an investment has had a good run-up in prices, a controversy develops about whether the high returns will continue to roll in or it's a bubble that's due to pop. Spurious arguments about inflation-hedging and currency-hedging aside, investors are delirious about gold because they've seen the price zoom up in recent years, and they are experiencing regret and a desire to relive history and invest right this time. This is what keeps bubbles bubbling and momentum surging. In the end, however, it's a game of chicken or the greater fool theory – momentum will guarantee that I can get out at a higher price than I got in; except when it doesn't, and the pop occurs faster than I can get out.

"Gold is under-owned" is one of the arguments for continued upward momentum. The value of gold held by private investors is about 2% of the aggregate value of stocks and bonds, but most investors – such as institutions – have nowhere near 2% of their portfolios in gold, since a subset of investors hold a disproportionately large amount. The argument is that they therefore under-own it, and once there is a general realization of this under-ownership, and a scramble to buy more, the price will surge upward still further. Better to be first among those to ramp up their ownership, the reasoning goes.

On the other side of the debate – the side that anticipates a gold price collapse – is the "reversion to the mean" argument. History shows, according to Erb and Harvey, that if gold were to revert to its normal price in the next 10 years, the return on holding gold will be roughly negative 6% per year. The history of mean reversion, however, is built largely on a single price spike incident in 1980, after which the next 10 years' annualized return was negative 6%. So there is little solid proof that gold's price will either continue to rise or that it will fall.

What can be said with certainty, however, is that investment based on the theory of momentum is inherently very risky. It is like always depositing your money in the bank with the highest interest rates but the shakiest credibility. You are constantly at risk of a run on the bank, and cannot rest easy, unless you believe in your ability to run to the bank faster than anyone else.

The risk of hyperinflation

Each time Erb and Harvey take up the argument – or its surrogates – that gold is a hedge against inflation, they consider that what might really be meant is that gold is an insurance policy against the highly improbable, but severely damaging, scenario of hyperinflation.

Gold ownership would make sense as a hedge against hyperinflation, if after the bout of hyperinflation the gold could be cashed in for a reasonable quantity of the eventually stabilized currency. In a hyperinflation regime, not only gold but any goods are better than holding cash. Brazil's hyperinflation of 1989-93 was linked to a surge in rainforest destruction, because wealthy Brazilians cleared land in order to deposit their wealth in a stable-valued asset, grazing cows.

Cows may not hedge very well against millennia of inflation, but Erb and Harvey show convincingly that in most other respects they are no worse an investment than gold. Plus, unlike gold, if you can't cash your cows in, you can always just eat them.

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