WORLD GOLD COUNCIL

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Comparing Gold to Treasury Bills

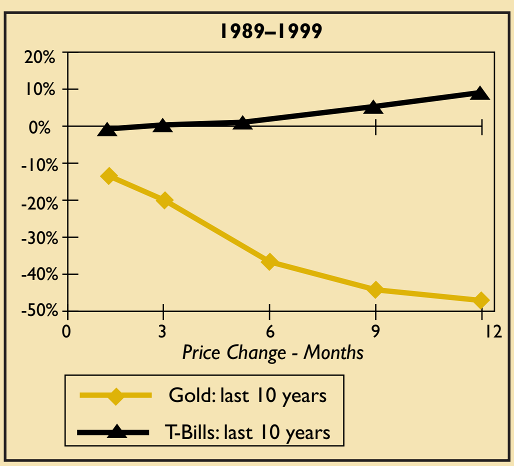
Some surprising advantages for gold

U.S. investors have traditionally looked to Treasury bills for portfolio diversification and protection against a stock-market downturn. It is seldom realized that gold bullion is often just as effective a portfolio diversifier as Treasury bills. Several considerations support this claim.

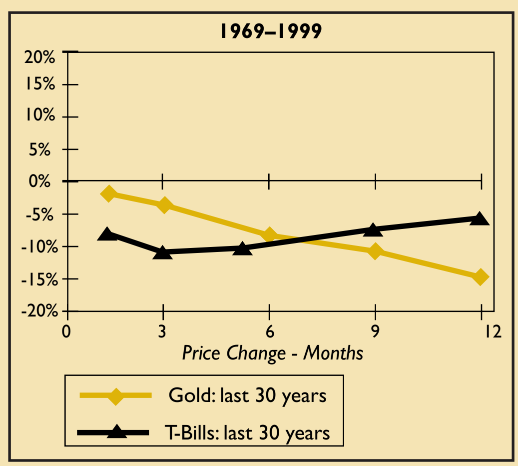
1. Gold is More Negatively Correlated to Equities Than U.S. Treasury Bills

Charts 1 and 2 below compare the correlation of gold and T-bills to the S&P 500 over two time periods – 10 and 30 years. The price changes shown in each chart on the horizontal axis are measured over different time intervals, ranging from 3 to 12 months. The gold correlation lines in the two charts are generally more negatively correlated to the S&P 500 than are the T-bill lines. During both time periods, the longer the price-change interval, the more negative becomes the correlation of gold with the S&P 500. Conversely, the correlation of T-bills to the S&P 500 becomes more positive as the price change interval increases.[1] On the basis of these considerations, gold is a more effective diversifier than T-bills, particularly for equity-oriented portfolios.

10-Year Correlations: S&P 500 vs Gold and T-Bills
chart 1



30-Year Correlations: S&P 500 vs Gold and T-Bills
chart 2



1. The correlations presented in these charts were found to be significant, using standard statistical tests.

Historically, equity portfolios have had both high returns and high volatility. Adding T-bills (which historically have low correlations, low returns, and low volatility) to an equity portfolio reduces both the expected portfolio return and the expected volatility. However, adding the same percentage of gold to an equity portfolio (with its negative correlation and relatively high volatility) provides a larger proportional reduction in total portfolio volatility. During bear stock markets, adding gold to a portfolio usually increases its return, while during bull markets the opposite occurs.

2. Unlimited Upside Price Potential For Gold, Especially During "Stress" Periods

History shows that gold has unlimited upside price potential, whereas the maximum upside value for a T-bill is limited to its price at maturity — that is, 100% of face value. While government securities - even those of developed countries – have on occasions lost principal during periods of financial disruption, gold has traditionally been a refuge of last resort for assets *in extremis*. It is during such times that gold is most likely to achieve outsized gains.

Furthermore, studies show that when overall inflation moves above an annual rate of 5-6%, the gold price increases more rapidly than the overall inflation rate. This contrasts with the normal behavior of commodities, which generally appreciate only in tandem with inflation.[2]

Regarding downside risk, gold's price is vulnerable to factors such as central bank selling of gold reserves, or an adverse change in the macro-economic environment affecting gold. Downside price vulnerability is of course not unique to gold. The price of T-bills has declined in the past during periods of declining credit quality or increasing inflation when: (1) governments have borrowed excessively (as has often been the case in recent decades), or (2) monetary expansion has been excessive (as has also often been the case in recent decades).

3. T-Bills are Exposed to Credit (Sovereign) Risk

Unlike gold (which is an internationally-recognized asset and is not dependent upon any government's promise to pay), T-bills are vulnerable to credit risk. Consider several examples of a weakening in T-bill credit quality over the years:

- Certain developed countries defaulted on government debt during the last century including Germany and the Soviet Union.
- The United States came close to a technical default on its Federal debt in both 1987 and 1995.
- Japan's government bonds have been recently downgraded by Moody's because of the national government's mounting indebtedness.

4. Effective Hedge Against Declines In Real Short Interest Rates

There is a hidden risk in T-bills (and other short-term money-market instruments) that does not apply to gold. The risk is that real returns on T-bills can decline during a resurgence of inflation. As shown in charts *3 and 4,* next page, when events such as the Yom Kippur War and the Iranian Revolution caused unanticipated inflation, nominal interest rates did not rise fast enough to keep up with the rise in the inflation rate. This lag has sometimes been reinforced by delays in the enactment of changes in monetary policy. In contrast, gold has consistently risen in price when inflation expectations have risen significantly[3]. Indeed, the real price of gold has moved higher on several past occasions, even as the real rate of return available from T-bills has remained low.

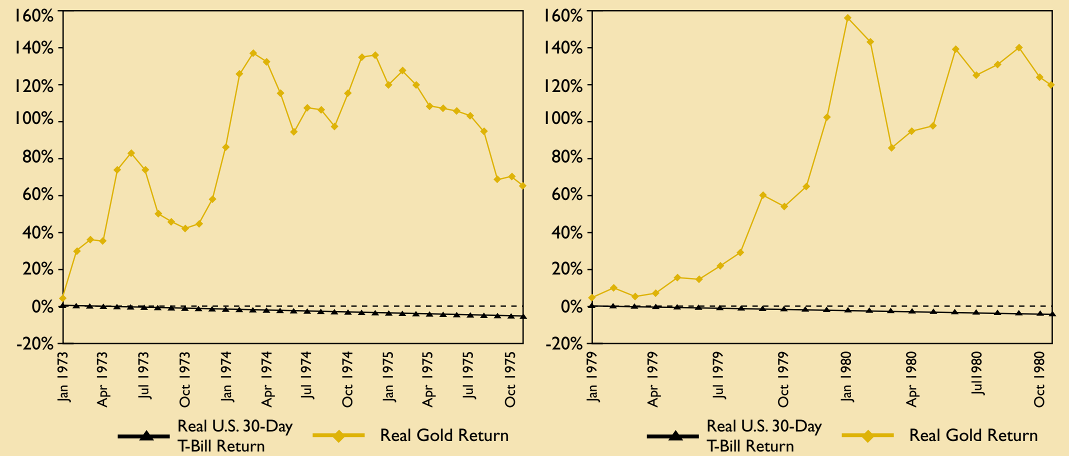
2 *See WGC article by Lance Brofman, "Empirical Evidence of Gold's Optionality", December 28, 1998*

3 *See article by Wainwright Economics on: "Gold: A Leading Indicator of Financial Market Conditions", October 1991. Also see article by Geoffrey Moore of Economic Cycle Research Institute, 1993.*

Cumulative Real Returns to Gold and T-Bills

The Yom Kippur War/First Oil Shock — chart 3

The Iranian Revolution/Second Oil SHock — chart 4



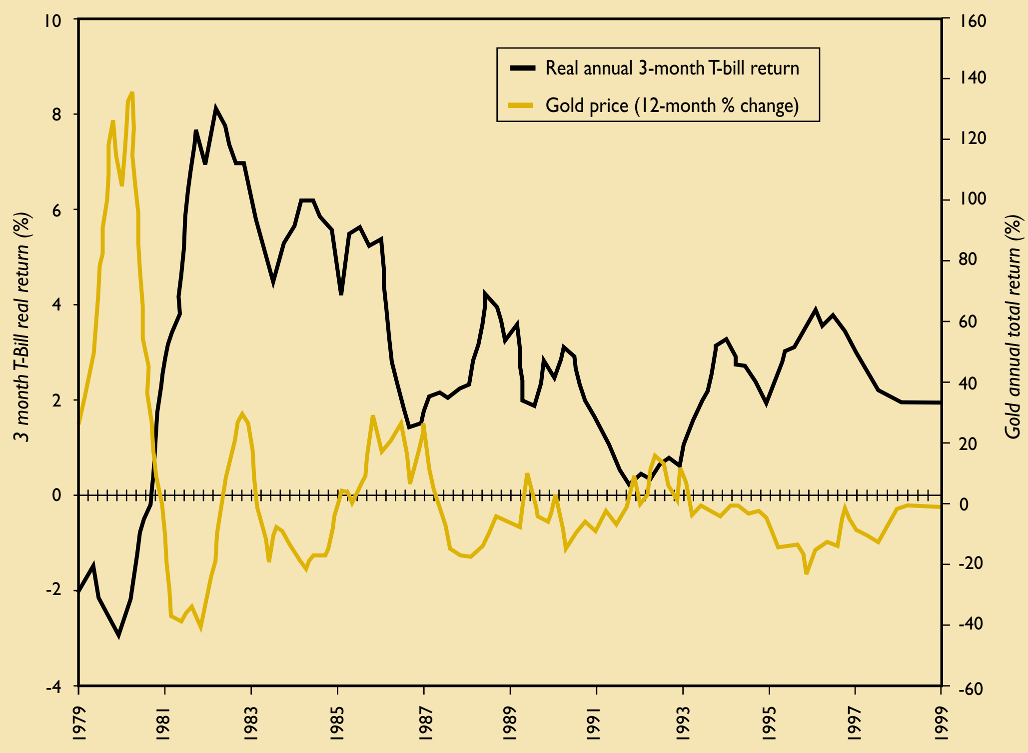
Sources: Ibbolson, Bloomberg

Looked at on a continuous basis since 1979, real T-bill yields have generally moved in the opposite direction to gold prices (see chart 5 below).

Gold vs Real T-Bill Returns

chart 5

Jan. 1979 through Dec. 1999



5. Gold Leasing Can Improve Returns

It is often said that gold does not earn a yield. Yet, gold investors with a minimum holding of 10,000 oz. can earn a return — usually 50-150 basis points — through leasing. As is the case with interest rates in general, gold lease rates vary over time, based on market circumstances and the lease's length of maturity.

6. Highly Liquid, Near-Cash Equivalent

Gold can be considered as liquid as Treasury bills – in effect almost equivalent to cash – for several reasons:

- Gold can be readily sold 24 hours a day in one or more markets around the world; such an advantage is not enjoyed by most investments, including some of the world's best-known equities.
- The size of the trading spreads on gold (usually 0.10%) is generally as small as that of T-bills.
- The dollar volume of daily trading in gold (around $10 billion per day) is relatively high by world standards (equivalent to the volume of transactions in world markets for the Canadian dollar)
- Intraday changes between gold's high and low price are generally small.

7. Conclusion

Gold enjoys a number of advantages over Treasury bills, making it a welcome supplement to a portfolio's liquid-asset holdings and an effective diversifier. At the same time, gold's traditional advantages continue to be helpful to portfolio managers. Bullion is an anonymous asset independent of any government's policy, and an international currency free of national boundaries.

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