The Investment Performance of Gold and Rare U.S. Coins

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An independent study of the investment performance of gold and rare U.S. coins for the period January 1979 to December 2013. Analysis by R L Associates, Penn State University, February 2014.

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Raymond E. Lombra, Ph.D., Professor of Economics and Senior Advisor to the Dean at Penn State University, has authored numerous economic and financial books, publications and periodicals. Professor Lombra has been a consultant to the House Banking Committee of the U.S. Congress, the Federal Reserve System, the Congressional Budget Office, the Joint Economic Committee, Morgan-Stanley, the International Monetary Fund and the U.S. Treasury. His many honors and awards include election to Who's Who in Economics.

Overview

This study updates and extends several of my earlier studies, the first of which was prepared for the Joint Committee on Taxation of the U.S. House and Senate. It focuses on the longer run performance of gold and rare coins, both relative to each other and to the more typical array of assets comprising most portfolios—stocks, bonds, and money market instruments, specifically, Treasury bills.

Risk and Return on Broad Asset Classes

In collecting, arraying and analyzing the data, I assume that the typical investor has at least a one-year holding period or investment horizon; this assumption is reasonable in a study that takes as given that frequent trading by typical investors, particularly within their retirement accounts, will yield inferior returns, especially when transaction costs are factored in.

Table1 shows the average annual rate of return on stocks, bonds, gold and rare coins over the last 35 years (1979-2013 inclusive). While any particular sample period is somewhat arbitrary, I wanted a period long enough to cover several economic cycles. As can be seen, high-quality coins and stocks had the highest returns over the past three decades, despite the strong performance of gold over twelve of the last thirteen years.

Table 1

Evaluating the Performance of Individual Asset Classes Over Time

Average Annual % Returns 1979-2013	
Stocks	13.0%
Treasury Bonds	8.4%
Gold Bullion	5.7%
Coins (all types – MS65)	12.2%
Coins (all types – MS63-65)	10.4%

Source: R L Associates, Penn State University

Volatility

Next, I extend the analysis of “performance” to include the historical fluctuation or volatility of the annual returns, typically measured by the standard deviation of the returns. I also provide a simple count of the number of years each asset type registered positive and negative returns; this calculation provides a sense of the challenges facing those who might think that timing the ups and downs in the returns on various assets is a viable investment strategy.

The data in Table 2 show that the returns on stocks, gold and coins were the most volatile, while, not surprisingly, those on Treasury bills were the least volatile.

Table 2

Investment Returns, Risk and Timing

A Long Term View: 35 Years, 1979-2013

	Average Annual % Return	Years Pos	Years Neg	Best Year % Return	Worst Year % Return	Standard Deviation
Gold	5.7	21	14	100.2	-28.9	15.6
Stocks	13.0	29	6	36.8	-37.3	13.0
3 Month T-bill	5.1	35	0	14.3	0.02	2.4
Treasury Bond	8.4	29	6	34.8	-9.3	8.3
Coins (all types MS65)	12.2	22	13	198.8	-40.6	21.1
Coins (gold type- MS63-65)	10.4	23	12	198.8	-42.7	20.1

Source: R L Associates, Penn State University

Market Timing

In nearly four out of five years over the last 35 (17%), the returns on stocks were positive; however, the -37.3% for 2008 (Russell 3000) was the worst over the period. In comparison, annual gold returns were positive in nine of the past ten years and rare coin returns were positive in each of the last ten years. These data are again suggestive of both the difficulties of implementing a successful market timing strategy and of the possible benefits of investing in a diversified portfolio over the longer run.

The data in Table 3 provide additional perspective on market timing. The best years for coins and gold were indeed very good, especially for coins, with average annual returns in excess of 100% for the best three years. In contrast, the worst three years for stocks, gold and coins were significantly negative, while the remaining 29 year returns were, on average, still attractive, even if corrected for the 3.5% inflation, on average, in those years.

Table 3

Market Timing

1979–2013, Average Rate of Return

	Stocks	Treasury Bonds	Coins MS65	Coins MS63-65	Gold Bullion
Best 3 Years	34.1	29.5	107.4	101.3	53.0
Worst 3 Years	-23.4	-8.5	-27.9	-34.7	-27.1
Other 29 Years	14.6	8.0	6.5	5.6	4.3
Total 35 Years	13.0	8.4	12.2	10.4	5.7

Source: R L Associates, Penn State University

Too Risky?

Taken together, these data suggest that yearly returns on individual asset classes vary quite a lot over time. Is this sufficient to conclude that asset classes with large standard deviations and a non-trivial number of low or negative return years are “too risky” to be included in a typical investor’s portfolio? The simple answer, of course, is “no.”

The data presented so far show the performance of each asset in isolation from other assets and from the economic environment, particularly the rate of inflation.

The Economic Environment

Table 4 shows the correlation of asset returns with inflation over the disinflation period 1979-2013. The table clearly shows that gold is a better hedge against inflation than stocks and much better than Treasury bonds. Rare coins are an even better hedge against inflation than gold and thus, much better than stocks and Treasury bonds. Thus, the contention that gold is a better hedge against inflation than, say, rare coins, is not supported by the data.

Looking ahead, with the monetary and fiscal stimulus still flowing into the world economy, at some point talk of an anemic global recovery will give way to the reality of inflation. Given the considerable uncertainly about timing and duration, the longer term relationships embedded in Table 4 are relevant for those with longer term investment horizons.

Table 4

Correlation with Inflation 1979-2013

A Long Term View

Stocks	.15
Treasury Bonds	-.14
Gold	.26
Coins	.59

NOTE: +1.00 is a "perfect" correlation, meaning moves exactly in tandem.

-1.00 is a "perfect negative" correlation, meaning moves exactly opposite.

To hedge against inflation, highest positive correlation best.

Source: R L Associates, Penn State University

Rare Coins: Can they help hedge against stock market fluctuations?

- The beta coefficient can tell us how the return on a particular asset is correlated with the return on stocks overall; but beta is not simply correlation, it also tells us about direction and magnitude.
- If, for example, when the stock market is up 5% the return on a particular asset is always up 10%, the correlation is 1.0 but the beta is 2.0.
- Over the turbulent 1987-2013 period, covering the 1987 and 1989 "crashes," the dot-com collapse, 9/11 and the subsequent recession, and the 2008 financial crisis, the beta for rare coins is 0.11 and that for gold is -0.20. The lower the beta, the more effective the particular asset will be in improving a portfolio's overall performance, that is, reducing volatility without sacrificing return.
- Given the low betas it should not be surprising that hypothetical portfolios containing stocks, Treasury bonds, Treasury bills and proportions of gold and rare coins that vary between 0 and 10% show that, in general, over the full 35 year period and the challenging 1987-2013 period, portfolio volatility is reduced by augmenting standard stock, bond and bill portfolios with small proportions of rare coins and/or gold.

Summary of Findings

1. Over the last 35 years, high quality coins and stocks had the highest average annual returns.

2. At the same time, the annual returns on stocks, gold, and coins were the most volatile.

3. Taken together, these findings suggest that those holders of stocks and coins were “rewarded” for bearing the extra risk thought to be associated with larger fluctuations in annual returns.

4. The correlation of the return on coins with inflation over the last 35 years is well above that of other assets considered, and twice that of gold; thus, the contention that gold is a better hedge against inflation than, say, rare coins, is not supported by the data. More generally, hypothetical portfolios containing stocks, Treasury bills and bonds, and a modest proportion of rare coins, generally perform somewhat better than those without coins or those with a modest proportion of gold, over the past three decades and for various sub periods.

5. The results continue to suggest that over the longer run including rare U.S. coins within an existing portfolio could improve investment performance. This is especially noteworthy given the sharp drop in gold prices in 2013 (-28.9%) and the better than 10% gain for rare coins.