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Hedging Local Currency Risk:

The S&P 500 Gold Hedged Index

- Efforts to hedge foreign currency risk via currency hedged portfolios are ubiquitous. Tools such as currency hedged benchmarks help an investor get exposure to foreign asset returns without getting exposure to changes in the value of foreign currency versus local currency.
- Related to the concept of hedging foreign currency risk is the relatively novel idea of hedging local currency risk. An investor may have currency risk even if his/her investments are limited to home currency assets because if the home currency depreciates, then the investor's purchasing power for real assets is diminished.
- The local currency risk can be divested by taking an offsetting position in gold. Many consider gold to be the ultimate currency, while others see gold as simply a shiny metal with limited industrial usage. Nevertheless, gold continues to be an important reserve asset and currency hedge.
- The S&P 500® Gold Hedged Index seeks to simulate the returns of an S&P 500 investment hedged against the fluctuations of the U.S. Dollar versus gold. It is calculated by hedging beginning-of-period S&P 500 Total Return index values with COMEX gold futures contracts.
- All other things constant, the S&P 500 Gold Hedged Index will outperform an unhedged S&P 500 when gold prices appreciate against the U.S. Dollar. Conversely, the index will underperform the S&P 500 when the U.S. Dollar appreciates against gold. Looking over the last 10 years, the S&P 500 Gold Hedged Index has outperformed the unhedged S&P 500 by 9% per annum with higher volatility.

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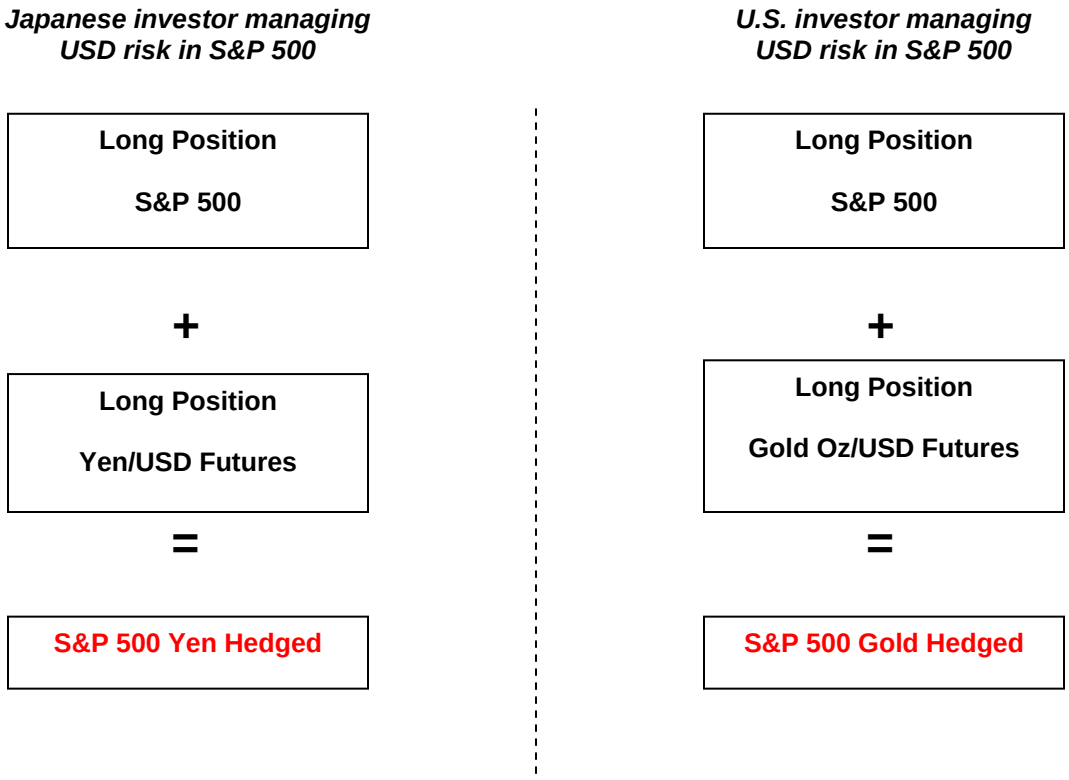
Introduction

Efforts to hedge foreign currency risk via currency hedged portfolios are ubiquitous. Tools such as currency hedged benchmarks and portfolios help an investor get exposure to foreign asset returns without getting exposure to changes in the value of the foreign currency versus the local currency. For example, a Japanese investor linking an investment to the S&P 500 has exposure to changes in the U.S. equity market, as well as exposure to changes in the U.S. Dollar versus the Japanese Yen. However, if the same Japanese investor uses the S&P 500 Yen Hedged Index, the U.S. Dollar exposure is removed and the portfolio is exposed only to changes in the U.S. equity market.

Related to the concept of hedging foreign currency risk is the relatively novel idea of hedging local currency risk. An investor taking a broad view of wealth management may be considered to have currency risk even if his/her investments are limited to home currency assets. This is the case because if the home currency depreciates, then the investor's purchasing power for real assets is diminished. Thus, local currency risk can be divested either by taking offsetting positions in a basket of global currencies or by taking an offsetting position in gold.

Many consider gold to be the ultimate currency, while others assert that in the long run gold has not kept pace with inflation, and that it is simply a shiny metal with limited industrial usage. Gold continues to be an important reserve asset for most central banks, however, despite no longer being the center of the international financial system. Gold is no one's liability, meaning that unlike a currency, the value of gold may not be affected by the economic policies of the issuing country or undermined by local inflationary pressures. Gold also brings much needed diversity to a central bank portfolio due to its low correlation with key currencies.

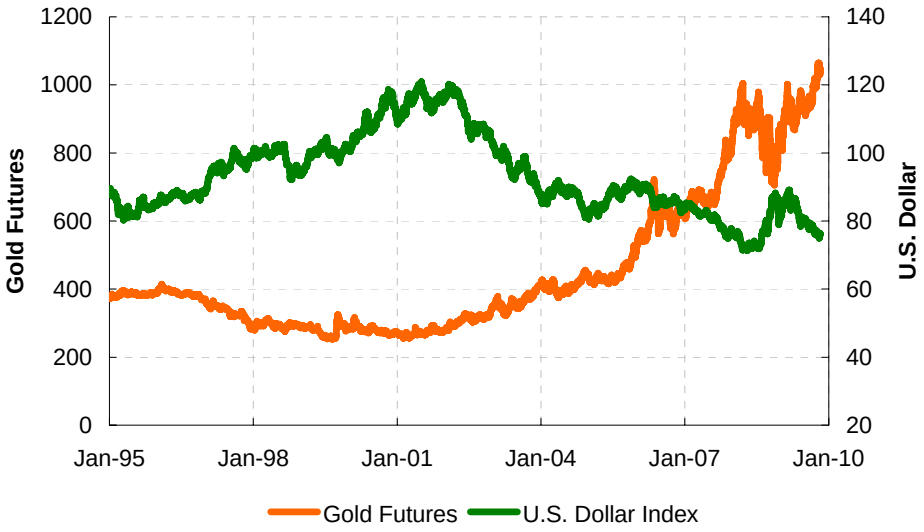
Exhibit 1: Hedging Currency Risks



Gold, Inflation and the U.S. Dollar

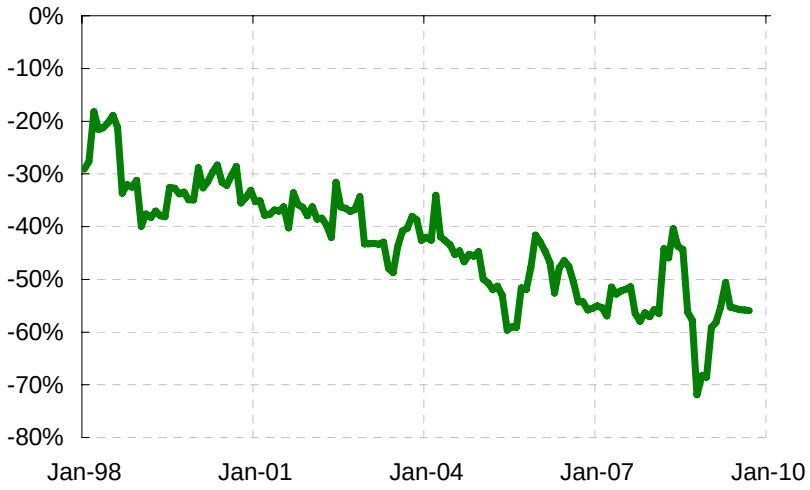
Gold has a negative correlation to the U.S. Dollar, and is widely considered a currency hedge. The negative correlation between gold and the U.S. Dollar is often not evident on a daily or weekly basis, but is almost always evident during periods of 12 months or longer. Exhibit 2 plots the first month gold futures (GC1) and the U.S. Dollar Index (DXY) between January 3, 1995 and October 30, 2009, while Exhibit 3 illustrates the correlation of their rolling 36 month returns.

Exhibit 2: First Month Gold Futures and the U.S. Dollar Index



Source: S&P Indices, Bloomberg.

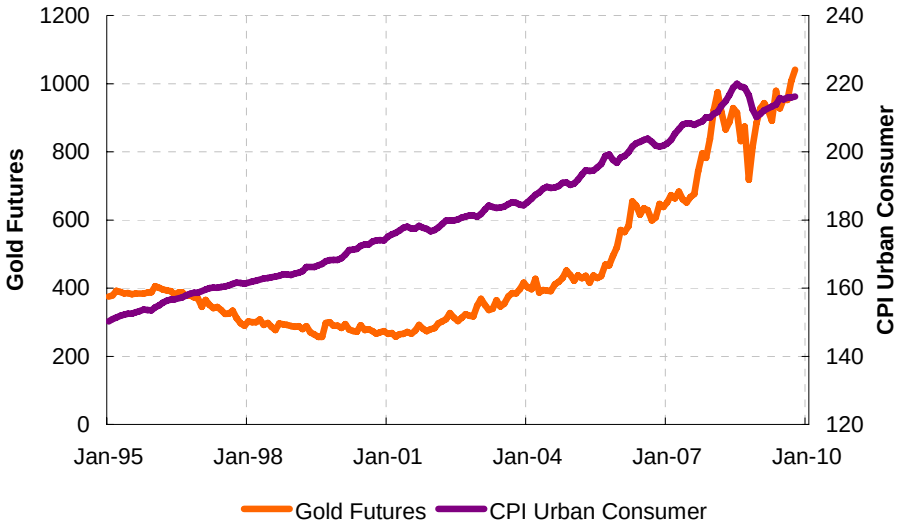
Exhibit 3: 3-Year Rolling Window Correlation between the First Month Gold Futures and the U.S. Dollar Index



Source: S&P Indices, Bloomberg. Correlations are calculated based on monthly returns.

The inflation hedging properties of gold are more muted. While overall it has a small but positive correlation with CPI, the relationship varies during different time periods. Exhibit 4 plots the first month gold futures (GC1) and the CPI Urban Consumer Index (CPURNSA) between January 31, 1995 and October 31, 2009, while Exhibit 5 illustrates the correlation of their rolling 36 monthly changes.

Exhibit 4: First Month Gold Futures and the CPI Urban Consumer Index



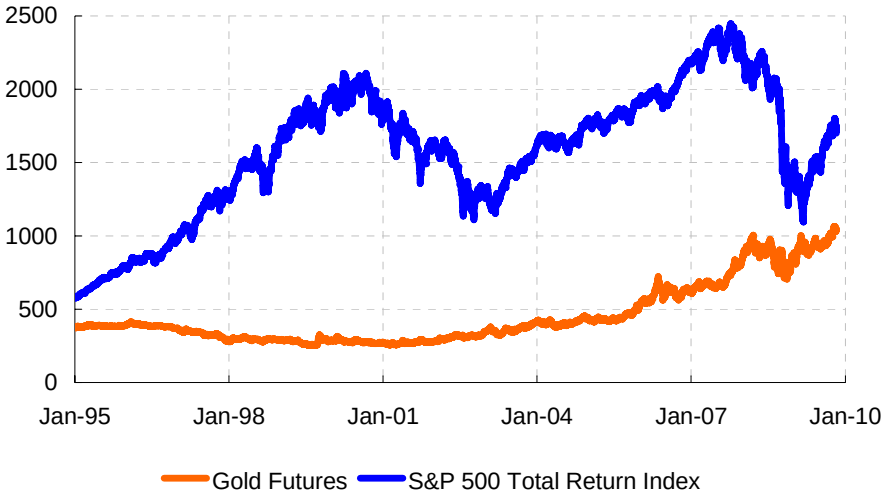
Source: S&P Indices, Bloomberg.

Exhibit 5: 3-Year Rolling Window Correlation Between the First Month Gold Futures and the U.S. CPI Urban Consumer Index

Source: S&P Indices, Bloomberg. Correlations are calculated based on monthly returns. CPI consumer Index data has one month lag.

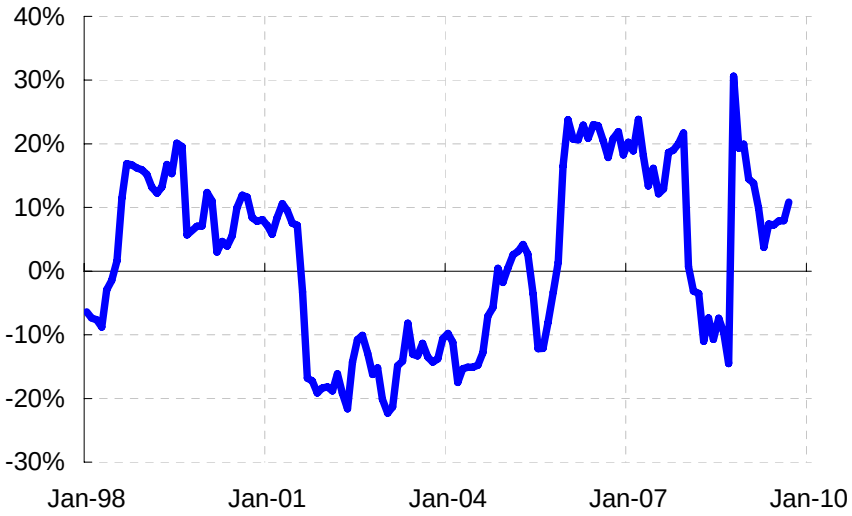
Gold shows no statistically significant correlations with equities; however, there is evidence of a significant correlation when equities are under stress. In other words, when shares are falling rapidly in value, an inverse correlation can develop between gold and equities. This aspect of gold's behavior runs directly counter to the way other asset classes perform in stress situations. The inverse correlation can be explained by bullion's appeal as a safe haven amid economic crisis. Exhibit 6 plots the first month gold futures (GC1) and the S&P 500 Total Return Index (SPTR) between January 3, 1995 and October 30, 2009, while Exhibit 7 illustrates the correlation of their rolling 36 month returns.

Exhibit 6: First Month Gold Futures and the S&P 500 Total Return Index



Source: S&P Indices, Bloomberg.

Exhibit 7: 3-Year Rolling Window Correlation Between the First Month Gold Futures and the S&P 500 Total Return Index



Source: S&P Indices, Bloomberg. Correlations are calculated based on monthly returns.

Building a Gold Hedged Index

Like Yen or Euro hedged versions of the S&P 500, the S&P 500 Gold Hedged Index seeks to simulate the returns of an investment strategy which is long the S&P 500 and hedged against the fluctuations of the U.S. Dollar versus gold.

The index is calculated by hedging the beginning-of-period S&P 500 balances using rolling COMEX gold futures contracts. The designated set of COMEX listed gold futures used in the S&P GSCI® is also used in the S&P 500 Gold Hedged Index, as shown in Exhibit 8. While monthly gold contracts are available, these five contracts tend to be the most liquid. Gold futures are not held to maturity. Instead, the long futures positions roll to the next designated contract at the close of business on the fifth-to-the-last business day that is both an equity and a commodity exchange business day. The positions are rebalanced to equal weights on that day.

For example, at the beginning of July 2009 the hypothetical portfolio holds the Aug-09 futures. On July 27th, the futures contract is rolled into the Dec-09 futures. The positions are rebalanced so that the notional of the Dec-09 futures equals the equity position. The rebalancing occurs monthly; however, the Dec-09 futures are not rolled into the next designated contract, i.e. Feb-10 futures, until late November.

Exhibit 8: Futures Contracts Rolled Into the S&P 500 Gold Hedged Index

Gold Linked S&P 500 Index Futures Roll Schedule													
Trading Facility	Commodity (Contract)	Ticker	Designated Contract At Month End										
		Month	1	2	3	4	5	6	7	8	9	10	11	12
COMEX	Gold	GC	J	J	M	M	Q	Q	Z	Z	Z	Z	G	G

Futures months included in the S&P 500 Gold Hedged Index at month-end. Month letter codes are shown in Exhibit 9.

Exhibit 9: Month Letter Codes

Month	Letter Code
February	G
April	J
June	M
August	Q
December	Z

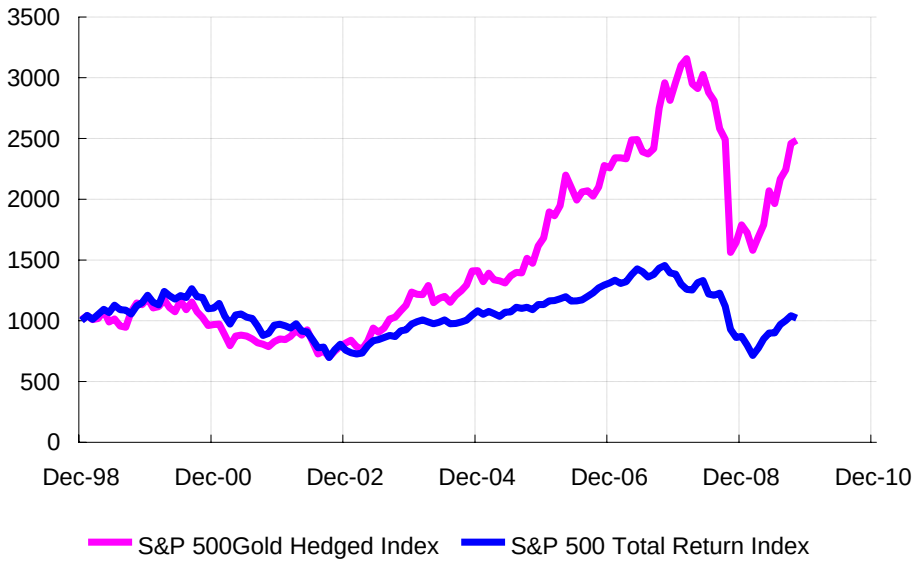
The index is calculated based on the total return of a hypothetical portfolio consisting of long S&P 500 and long COMEX gold futures positions. Therefore, between one rebalancing and another, the returns of the index are returns from the S&P 500 and gold. As such, the index outperforms an unhedged S&P 500 when gold prices appreciate against the U.S. Dollar, and underperforms the S&P 500 when the U.S. Dollar appreciates against gold.

There are alternative formulations one may consider. The availability of Gold ETFs with robust liquidity suggests one can overlay an S&P 500 futures position over such an ETF. The disadvantage of such an approach, however, is the fee built into ETF prices.

The Value of Gold Hedging the S&P 500

Exhibit 10 compares the historical performance of the S&P 500 Gold Hedged Index and the unhedged S&P 500. Over the past 10 years, a period encompassing two market cycles, the S&P 500 Gold Hedged Index outperformed the S&P 500 with higher volatility. Exhibit 11 shows periods of over- and underperformance.

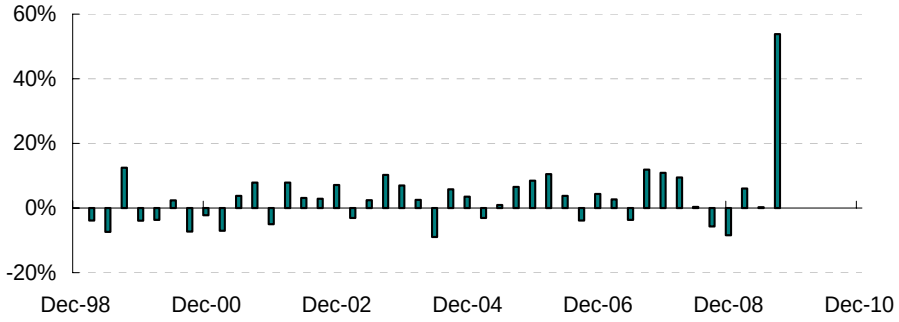
Exhibit 10: Gold Hedged and Unhedged S&P 500



	Annualized Return	Annualized Volatility	Correlation with S&P 500	Information Ratio
3-Year Performance				
S&P 500 Gold Hedged Index	5.75%	38.41%	78.13%	0.53
S&P 500 Total Return Index	-7.02%	29.81%	100.00%	--
5-Year Performance				
S&P 500 Gold Hedged Index	13.94%	32.89%	73.96%	0.58
S&P 500 Total Return Index	0.33%	24.02%	100.00%	--
10-Year Performance				
S&P 500 Gold Hedged Index	8.05%	28.66%	74.78%	0.46
S&P 500 Total Return Index	-0.95%	22.26%	100.00%	--

Source: S&P Indices. All performance statistics are calculated ending on October 31, 2009. Information Ratio is benchmarked against S&P 500. All data for the S&P 500 Gold Hedged Index are back-tested.

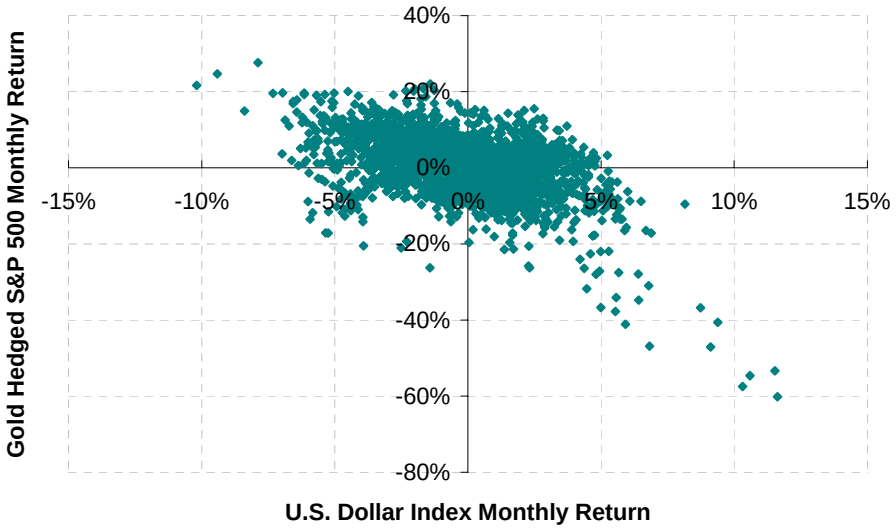
Exhibit 11: Quarterly Performance Differentials (Gold Hedged minus Unhedged)



Source: S&P Indices.

The clear inverse correlation between gold and the U.S. Dollar manifests itself in the performance of the S&P 500 Gold Hedged Index and the U.S. Dollar Index, as illustrated in Exhibit 12.

Exhibit 12: S&P 500 Gold Hedged Index vs. U.S. Dollar Index



Avg Quarterly Correlation with U.S. Dollars Index	3 Year	5 Year	10 Year
S&P 500 Gold Hedged Index	-37.75%	-40.25%	-26.08%
S&P 500 Total Return Index	-4.22%	-4.82%	7.22%

Source: S&P Indices. Correlation statistics are calculated ending on October 31, 2009, using daily return data.

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