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GOLD: BARBAROUS RELIC NO MORE?

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Gold: Barbarous Relic No More?

Gold is relatively scarce,[1] virtually indestructible, and desirable for its beauty. Along with silver (and to a lesser extent, copper) it has functioned as currency for much of human history, has maintained its purchasing power over multiple centuries, and is so revered that much of the world's gold supply remains stored in heavily guarded vaults. Yet gold has no earnings, no maturity date, and pays no interest. Indeed, there is little agreement on how to value gold, given its lack of financial characteristics and relative lack of utility. Further, the small size of the gold market, particularly relative to financial assets, coupled with central banks' control of a significant portion of the world's supply, means that small shifts in supply and demand can have an outsized impact on gold prices.

Although we recognize that gold constitutes the most reliable refuge from wholesale debasement of paper currencies, the cost of maintaining such protection can be relatively high, as illustrated by the two-decade bear market during the 1980s and 1990s. Moreover, in the unlikely event of competitive devaluation by the world's major central banks, presumably hard assets of all sorts would experience substantial appreciation, while investors would incur substantially lower opportunity cost for holding such assets for hedging purposes. Similarly, gold might be expected to appreciate during a period of malign deflation and economic contraction, since investors often favor gold when risk aversion becomes most acute. Again, however, investors can also hedge against such an eventuality by owning noncallable, sovereign bonds, which pay interest while one is waiting for Armageddon. Given these issues, Cambridge Associates has long maintained that gold does not belong in most investors' portfolios.

When You Want Gold

For most economic eventualities, there are reasonable hedging alternatives with less opportunity cost. In an environment of high inflation, for example, a diversified basket of commodities or (for investors able to access them) oil and gas limited partnerships would likely provide substantial gains. Both of these strategies, moreover, have respectable expected long-term real returns, which in essence means investors would leave much less, if any, money on the table in the event that economic conditions remain benign (Table A).

Inflation Versus Hyper-Inflation

While reliable data are not available on how freely traded gold would perform during rare periods of hyper-inflation, it is reasonable to assume that it would serve as an unparalleled hedge in the face of currency debasement. We would also expect gold to perform well during more common periods of sharply rising

[1] Gold occurs in the Earth's crust at about five parts per billion. However, as with other commodities, a rising price tends to stimulate increased exploration and development. For example, after most industrial countries followed Britain's lead in shifting from bimetallism to the gold standard in the 1870s, gold prices rose sharply in the tight money deflation of 1873-96 (during which prices in the United States declined by over 30%). This set off the gold rushes of the 1880s; ten years later the world supply of gold had doubled, effectively cutting the price of gold in half and reflating the global economy.

inflation. During the only high inflation period for which we have data (the 1970s) gold significantly outperformed all other asset classes, including commodities. For the ten-year period ended December 31, 1979, gold prices increased by 1,397% (in other words, they grew roughly 15-fold), while the Goldman Sachs Commodity Index (GSCI) rose 587%, and oil prices 870%.[2] If we extend the period to September 1980 (when gold prices peaked on a monthly basis), gold returned 1,806%, versus 710% for the GSCI and 975% for oil. Inflation (as measured by U.S. CPI) rose 103% for the first period, and 123% for the second, so clearly all commodities provided significant real returns. However, the price of gold had been artificially suppressed by government fiat from 1934 until 1971, when President Nixon closed the gold window. If gold had simply appreciated at the rate of inflation from 1934 until 1971 (i.e., a zero real rate of return), its price would have been $109 an ounce rather than $35 an ounce. Thus, it could be argued that the first few years of price appreciation in the gold price (specifically, from 1971 through May 1973, when gold hit $126) simply represented a "catch-up" phase. From this point through the end of 1979, gold returned 318%, and through September 1980, 432%.[3] In other words, after adjusting for the "catch-up" phase of gold in the early 1970s, gold appreciation was more comparable to that of other commodities.

Further, while gold is often lumped together with other commodities, its monetary characteristics set it apart from commodities such as grains and oil. Table B, for example, shows rolling correlations between gold and other commodities, and clearly illustrates that gold is *not* simply a "souped-up" commodity, but rather a separate asset class with unique characteristics.

Malign Deflation

While gold's effectiveness as a hedge against virulent inflation is well recognized, we would also expect it to do well under conditions of malign deflation (i.e., economic contraction, business failure and increasing debt burdens). Unfortunately, there are relatively few examples of malign deflation from which we can draw data. The Japanese deflation of the late 1990s, for example, never reached the point where investors began to distrust government-issued money, and furthermore occurred amidst a global economic boom. Thus, the performance of gold during this period tells us relatively little.

The most recent example of truly malign deflation occurred during the Great Depression. While reliable data for this period do not exist, we *do* know that gold hoarding increased sharply from 1932-34 as investors grew distrustful of paper money, resulting in a devaluation of the US$ from $20.67 per troy ounce of gold to $35 in January 1934. The hoarding ceased only when President Roosevelt outlawed private ownership of gold later that year.

Our position has long been that high-quality bonds provide the best protection against deflation, as in a period of declining prices (i.e., rising value for currency) investors would increasingly value cash and low-risk investments such as Treasury bonds. In short, income-producing investments become more attractive

[2] The GSCI did not include oil until 1983.
[3] While some may view this analysis as somewhat arbitrary, we would note that had gold appreciated at the rate of consumer price inflation from 1934 through the end of 2005, its price would have been $522, versus an actual price of $513.

when currency is appreciating against goods and services. While we continue to believe this is sound advice, it is worth noting that such a strategy would not work in an environment of declining trust in paper money.

Considering the stated policies of modern central bankers to avoid deflation at all costs, such an outcome does not seem outside the realm of possibilities, although we certainly regard it as unlikely. We believe that central banks would intervene to develop a coordinated strategy to stop a rapid depreciation of the US$, just as they worked to effect a decline in the value of the US$ (at the insistence of the United States) in the 1985 Plaza Accord. Still, the fact that government authorities do not *want* such an outcome does not necessarily mean they would be able to prevent it; indeed, were public confidence in government money to wane, coordinated efforts to restore this trust could conceivably make things worse.

Further, as alluded to above, the Bank of Japan has hewed to a zero-interest rate policy for years in an attempt to reverse that country's deflation, while the mere *threat* of deflation in 2001 caused the Federal Reserve to slash interest rates to negative territory (in real terms) and hold them there for several years. Thus, were prices to begin falling in the United States, it is almost axiomatic that the Federal Reserve would print money like mad, likely causing confidence in the US$ as a store of value to decline. Demand for gold, conversely, would almost certainly *increase*, as investors sought an alternative monetary asset. In such an environment, prices could conceivably rise when measured in US$ (as consumers sought to rid themselves of rapidly depreciating currency), but fall when measured in gold.

Currency Depreciation or Debasement?

Finally, while gold does serve as a hedge against the US$, it is important to distinguish between periods when gold has risen against all currencies (such as the late 1970s) and those in which it has risen mainly against the greenback (e.g., the mid-1980s). In the latter periods, while gold has tended to appreciate against the US$, such appreciation has historically been comparable to the gains posted by other major currencies such as the pound sterling or Deutschemark/euro (again, these observations represent only the post-1968 period for which we have data). Gold is likely to serve as a far more effective hedge in an environment of declining trust in paper money *in general.* Of course, given the US$ status as the global reserve currency, it seems likely that a crisis of confidence in dollars would quickly spread to other currencies, particularly given the current global imbalances at play. This is in contrast to the mid-1980s, when the Deutschemark and Swiss franc in particular were seen as "hard money" currencies, and thus legitimate alternatives to U.S. dollars.

When You Don't Want Gold

As stated above, the problem with gold is that while it may be expected to perform *very well* in conditions of extreme crisis and collapsing confidence in the prevailing economic regime, such conditions are (happily) extremely rare. During the interim, gold provides little in the way of return, and can, as in the 1980-2000 period, be a significant drag on returns.

We have long held that the only reason to hold gold was to protect oneself against one thing: the debasement of paper currencies by profligate central bankers. Indeed, under normal circumstances it makes little sense for the average investor to place funds in an asset that will, by definition, provide a real return of 0%. Further, while gold is likely to provide a competitive hedge in more common periods of very high inflation (as in the 1970s), it is also likely to underperform significantly under benign economic conditions (as in the 1980s and 1990s). Thus, the *timing* of a potential investment in gold is arguably more important than in most, if not all, other asset classes, increasing our reluctance to endorse its inclusion in most investors' portfolios.

Table A

HISTORICAL NOMINAL RETURNS AND INFLATION

Investing in a High Inflation Environment

Calendar Years	CPI-U	S&P 500	LB Govt/Credit Bond Index	U.S. TIPS	MSCI World Index	Real Estate	GSCI	Change in Gold Price	Change in Crude Oil Price	Timberland Index
1973	8.7	-14.8	2.3	16.8	-15.2	9.3	75.0	71.9	184.0	54.7
1974	12.3	-26.4	0.2	21.6	-25.5	8.8	39.5	72.7	10.4	20.8
1975	6.9	37.2	12.3	5.8	32.8	8.3	-17.2	-27.1	0.0	1.1
1976	4.9	23.6	15.6	11.3	13.4	8.5	-11.9	-4.3	24.6	16.0
1977	6.7	-7.4	3.0	11.9	0.7	10.7	10.4	22.7	6.8	47.1
1978	9.0	6.4	1.2	8.6	16.5	16.1	31.6	37.1	0.0	29.4
1979	13.3	18.2	2.3	14.2	11.0	20.5	33.8	132.6	118.9	30.8
1980	12.5	32.3	3.1	4.3	25.7	18.1	11.1	12.0	16.9	5.2
1981	8.9	-5.0	7.3	13.3	-4.8	16.6	-23.0	-32.1	-7.9	2.5
Average Annual Compound Return	9.2	5.0	5.1	11.9	4.5	12.9	12.8	22.4	28.9	21.8

Investing in a Low Inflation Environment

Calendar Years	CPI-U	S&P 500	LB Govt/Credit Bond Index	U.S. TIPS	MSCI World Index	Real Estate	GSCI	Change in Gold Price	Change in Crude Oil Price	Timberland Index
1982	3.8	21.4	31.1	10.9	9.7	9.4	11.6	12.0	-8.6	-1.9
1983	3.8	22.4	8.0	-0.3	21.9	13.1	16.3	-14.7	-7.3	0.0
1984	3.9	6.1	15.0	8.9	4.7	13.8	1.1	-19.1	-11.0	3.1
1985	3.8	31.6	21.3	14.2	40.6	11.2	10.0	5.9	-0.4	-2.7
1986	1.1	18.6	15.6	6.1	41.9	8.3	2.0	19.5	-31.7	3.1
1987	4.4	5.1	2.3	11.3	16.2	8.0	23.8	24.4	-7.0	26.5
1988	4.4	16.6	7.6	4.6	23.3	9.6	27.9	-15.7	3.3	30.1
1989	4.6	31.7	14.2	12.7	16.6	7.8	38.3	-2.3	26.4	37.4
1990	6.1	-3.1	8.3	14.7	-17.0	2.3	29.1	-2.4	30.5	11.1
1991	3.1	30.5	16.1	7.3	18.3	-5.6	-6.1	-9.8	-32.8	20.3
1992	2.9	7.6	7.6	9.3	-5.2	-4.3	4.4	-5.7	2.9	37.3
1993	2.7	10.1	11.0	9.8	22.5	1.4	-12.3	17.3	-27.8	22.4
1994	2.7	1.3	-3.5	-2.4	5.1	6.4	5.3	-2.0	23.0	15.4
1995	2.5	37.6	19.2	14.1	20.7	7.5	20.3	1.1	12.2	13.8
1996	3.3	23.0	2.9	4.7	13.5	10.3	33.9	-4.5	32.4	10.7
1997	1.7	33.4	9.8	5.9	15.8	13.9	-14.1	-21.8	-32.0	18.9
1998	1.6	28.6	9.5	3.2	24.3	16.2	-35.7	-0.5	-31.7	5.9
1999	2.7	21.0	-2.1	2.0	24.9	11.4	40.9	1.1	112.4	10.9
2000	3.4	-9.1	11.9	14.0	-13.2	12.3	49.7	-6.2	4.8	4.4
2001	1.6	-11.9	8.5	8.8	-16.8	7.3	-31.9	1.4	-26.3	-5.2
2002	2.4	-22.1	11.0	17.4	-19.9	6.7	32.1	24.0	57.9	1.9
2003	1.9	28.7	4.7	8.9	33.1	9.0	20.7	21.6	4.2	7.7
2004	3.3	10.9	4.2	9.8	14.7	14.5	17.3	5.0	33.5	11.2
2005	3.4	4.9	2.4	2.6	9.5	20.1	25.6	17.0	40.5	19.4
Average Annual Compound Return	3.1	13.2	9.6	8.2	11.4	8.6	10.6	1.0	2.3	12.0

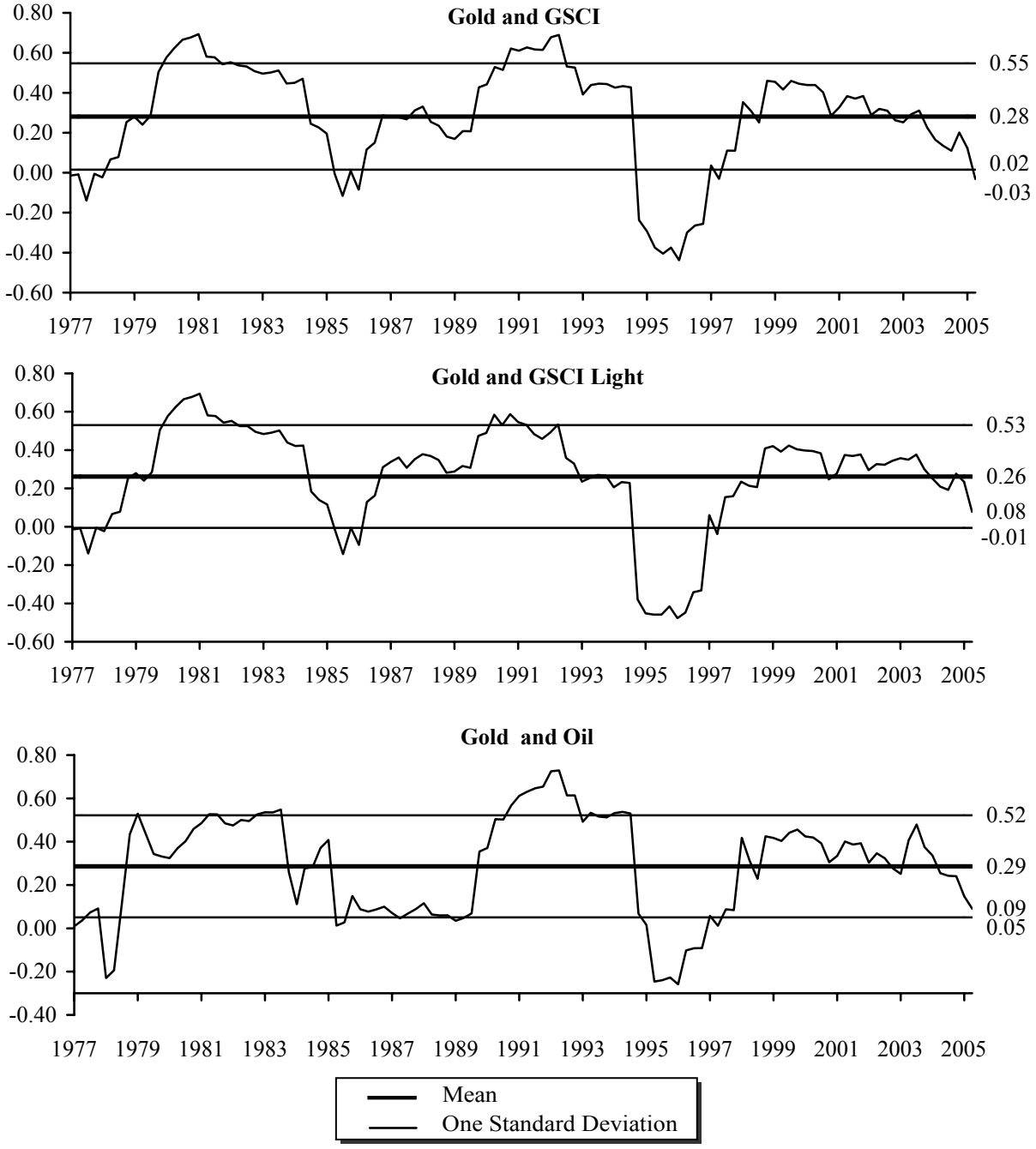
Sources: Bridgewater Associates, Bureau of Labor Statistics, Hancock Timber Resource Group, Lehman Brothers, Inc., Morgan Stanley Capital International, National Council of Real Estate Investment Fiduciaries, Prudential Realty Group, Standard & Poor's, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Real estate data for 1973 through 1977 represent the PRISA Index and 1978 through present represent the NCREIF Property Index. Timberland data for 1973 through 1986 represent John Hancock Timberland Index and 1987 through present represent the NCREIF Timberland Index. U.S. TIPS data represent the Bridgewater ten-year U.S. TIPS. Data for U.S. TIPS from 1973 to February 28, 1997, represent simulated data calculated by Bridgewater Associates, and from March 1, 1997 to present represent actual live data. GSCI represents the Goldman Sachs Commodity Index. Data for 2005 are as of December 31. Total returns for MSCI developed markets indices are net of dividend taxes.

Table B

20-QUARTER ROLLING CORRELATIONS WITH GOLD

January 1, 1973 - February 28, 2006

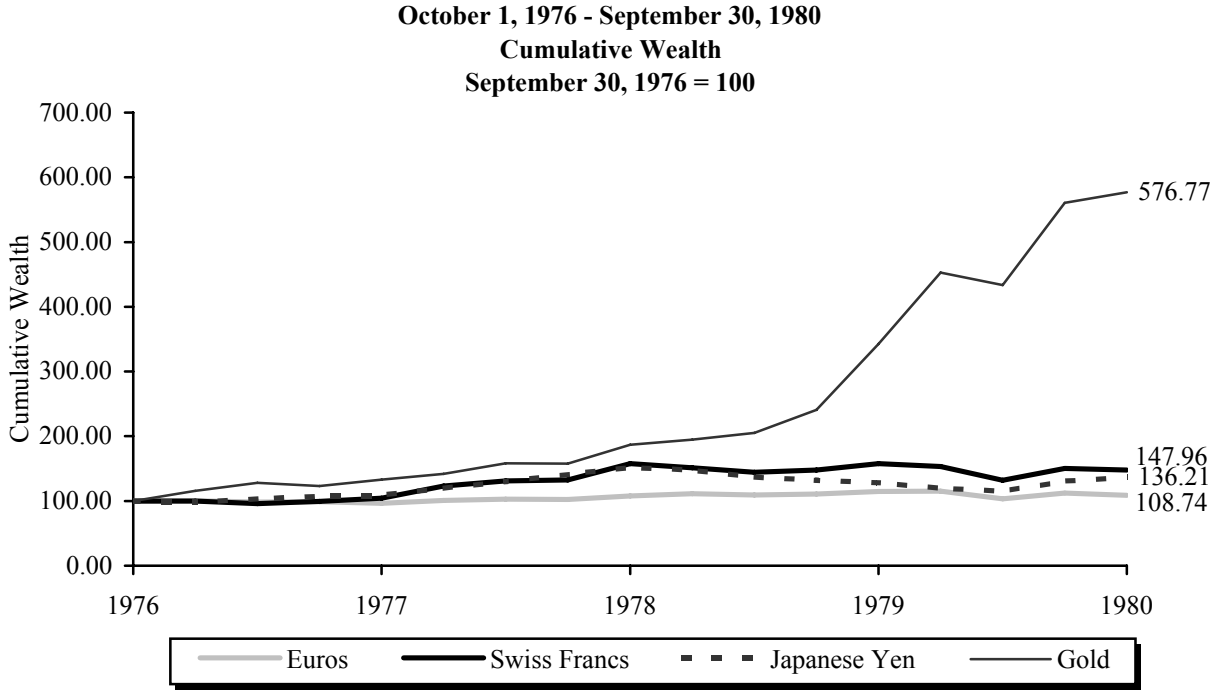


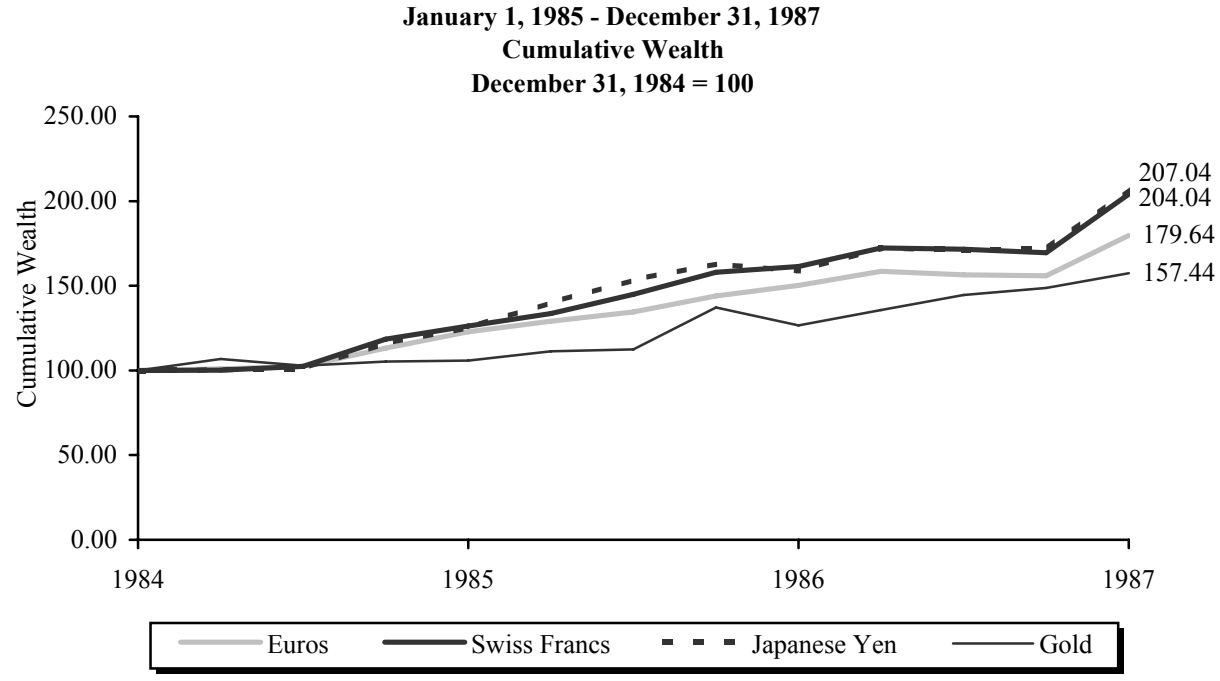
Sources: Goldman, Sachs & Co., Thomson Datastream, and *The Wall Street Journal.*

Notes: Returns for Gold and Oil represent price returns. Correlations are based on quarterly data, and first quarter 2006 return represents the cumulative return for January and February.

Table C

CUMULATIVE RETURN OF GOLD AND VARIOUS CURRENCIES VS THE U.S. DOLLAR





Source: Thomson Datastream.

Notes: Cumulative wealth is based on quarterly growth rates. Gold returns are price returns.