

# The Cyclical and Secular Outlook for Gold

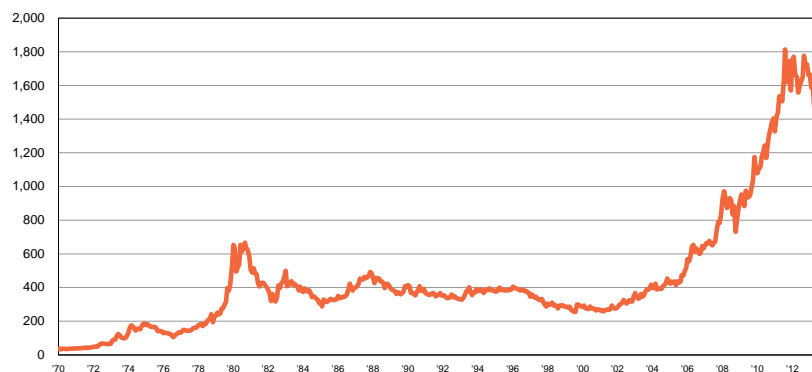
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## Overview

Gold prices are determined by several fundamental, valuation, and sentiment drivers. The relative importance of these factors tends to fluctuate significantly over time, influenced by: (i) economic, social, geopolitical, and financial market conditions; (ii) trends and the absolute degree of trust in governmental efficacy, finance ministries' fiscal probity, and central bankers' ability and willingness to defend the purchasing power of money; (iii) the outlook for financial and real assets; (iv) inflation and deflation expectations; and (v) global investor preferences for *saving* (protecting the real value of wealth) versus *investing* (growing the real value of wealth).

### Exhibit 1: Weekly Gold Price in US Dollars Per Troy Ounce From 1970 Through Early 2013



Note: Data are as of April 30, 2013

Source: Bloomberg, LLC; McKinsey Global Institute; World Gold Council



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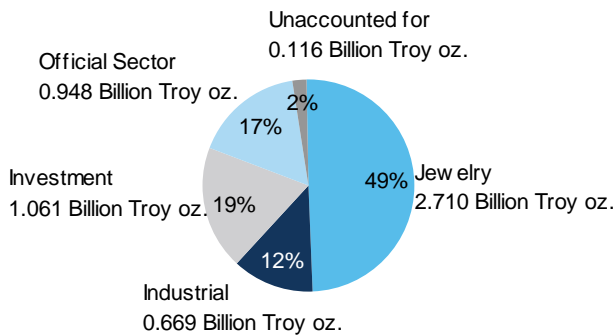
## Primary Drivers of Gold Prices

### Fundamental Drivers

- (i) *Supply* from gold mines, from sales, leasing, and lending by existing holders of gold, and from recycled supply out of existing aboveground stocks of gold (Exhibit 2 shows the composition of the aboveground gold holdings since the beginnings of human recorded history 10,000 years ago); and

### Exhibit 2: Aboveground World Gold Holdings

The total known stock of gold amounted to 171,300 tons as of the end of 2011, which is equal to 5.507 billion troy ounces



Source: World Gold Council

- (ii) *Demand* from the jewelry industry, electronics and other uses, coin producers, central banks, and from individual physical purchases (the two largest sources of which are India and China).

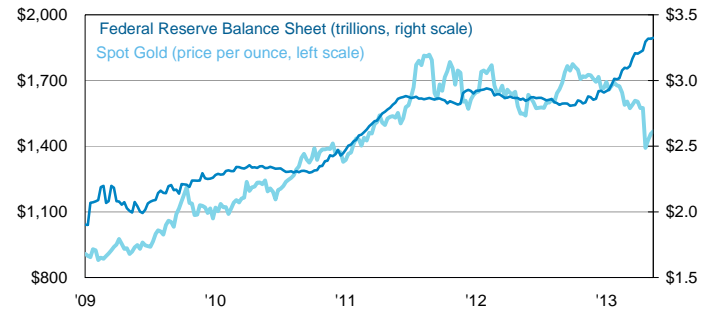
### Valuation Drivers

- (i) Real interest rates (yields on high-quality short-term debt securities, less current inflation rates);
- (ii) Foreign exchange market conditions, with specific emphasis on risk-on, risk-off flows into or out of the world's major reserve currencies;
- (iii) Competition from, and relative price action in, other forms of real assets, including oil, silver, platinum, and palladium; and
- (iv) Rates of expansion and contraction in major developed- and developing countries' monetary measures, including central banks' *policy interest rates*, the *monetary base* (defined as bank vault cash and currency in public circulation), the *money supply* (defined as currency and demand deposits at financial institutions), and *bank*

*reserves* (defined as banks' accounts with their respective central bank, plus bank vault cash).

### Exhibit 3: Gold Rises as Fed Assets Grow, 2009-2013

This chart shows the gold price compared to the expansion in the Federal Reserve's balance sheet



Source: Bloomberg as of April 30, 2013

### Psychological/Technical/Sentiment Drivers

- (i) The outlook for inflation and deflation as it affects the domestic and international purchasing power of cash and cash equivalents;
- (ii) Capital controls, taxation, and other forms of governmental intrusion;
- (iii) Investors' reactions to various price-, volume-, and volatility-based chart patterns, including (a), (b), and (c);
- (a) Confirmation or non-confirmation relationships in Elliott Wave patterns<sup>1</sup>, and between the 50-day, 100-day, 200-day, and 300-day moving averages of the gold price;
- (b) Bollinger Band<sup>2</sup> gold price volatility relative to simple and/or exponential moving averages; and
- (c) DeMark TD<sup>3</sup> sequential market timing indicators of trend formation, inflection, and exhaustion;
- (iv) Gold price trends expressed in US dollars and in other currencies, including, among others, Japanese yen, euros, Swiss francs, British pounds, Australian dollars and Canadian dollars;

**Notes:** 1. For definitions and further details, see *Elliott Wave Principle: Key to Market Behavior* by A.J. Frost & Robert R. Prechter, Jr. Published by New Classics Library.

2. For definitions and further details, see <http://www.bollingerbands.com/>

3. For definitions and further details, see <http://www.marketstudies.com/>

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- (v) The Hulbert Gold Newsletter Sentiment Index<sup>4</sup>;
- (vi) US Commodity Futures Trading Commission (CFTC) Professional Traders and Bank Participation Reports<sup>5</sup> of long and short positioning;
- (vii) Gold spot prices versus the prices of oil, silver, the Dow Jones Industrial average, the S&P 500 index, and 30-year U.S. Treasury Bonds;
- (viii) Price, volume, and volatility trends for the NYSE Arca Exchange Basket of 16 Unhedged Gold Stocks (BUGS) Index (also known as the HUI Index), the Philadelphia Gold and Silver Index (XAU) of 16 precious metal mining companies, the NYSE Arca Gold Miners Index of 32 gold mining companies, and the Solactive Junior Miners Index (96 companies) as well as the Market Vectors Junior Gold Miners Index (79 companies) consisting of small- and medium-capitalization enterprises in the gold and/or silver mining industry;
- (ix) The absolute level of gold coin sales and net flows into and out of closed-end, open-end, and exchange-traded gold funds.

### Bearish Factors Affecting Gold Prices

- (i) Beginning in 2001, gold had experienced 12 consecutive years of price gains, generating a sixfold total price increase and a 10-year compound annual growth rate (CAGR) of 17.0%, making gold the second-best 10-year performer among the major asset classes (behind the MSCI Latin American Equities Index expressed in US dollars, at a 22.8% CAGR), and if mean reversion applies to gold as an asset class, this would appear to place gold closer to the later stages than to the early stages of its multiyear upward price trajectory;
- (ii) Indian gold purchases (a large portion of which is traditionally earmarked for wedding gifts) represent roughly 20% of total gold demand from all sources and appear likely to face headwinds associated with any periods of rupee weakness, as well as with any increases in India's weight-based gold import tax;
- (iii) If global economies generate meaningful growth, if worldwide money printing slows appreciably, if the US dollar appreciates versus major currencies, if mainstream investors regain confidence in paper currencies, and/or if

real interest rates return to positive readings, gold prices may come under meaningful selling pressure;

- (iv) At a nominal gold price in mid-May 2013 of near \$1,380 per troy ounce, gold was approximately 111% above the average real gold price (in 2007 US dollars) since the end of US dollar convertibility in 1971 of \$653 per troy ounce, and 198% above the average real gold price (in 2007 US dollars of \$463 per troy ounce since 1900;
- (v) The year-end 2012 gold price of \$1,675 per troy ounce was approximately 123.3% above the estimated average global gold production cash operating costs of \$750 per troy ounce, and 60.4% above the estimated average global all-in costs (cash operating costs, general and administrative costs, and full capital expenditure costs including depreciation and amortization) of \$1,044 per troy ounce;
- (vi) Some people believe that during times of serious social and/or financial crisis, certain governments may adopt measures to prohibit or confiscate gold holdings, and/or to suppress the trading and/or price of gold;
- (vii) The capital gains tax treatment of gold and other precious metals may differ, sometimes significantly, from the capital gains tax treatment of securities, land, and other asset categories;
- (viii) Physical gold does not generate dividend or interest income, and incurs periodic costs to transport, assay, segregate, insure, and store; and
- (ix) Gold price trends for varying, and at times significant, lengths of time may exceed, and other times fall short of, trends in consumer price inflation.

**Notes:** 4. For definitions and further details, see [http://www.marketwatch.com/Journalists/Mark\\_Hulbert](http://www.marketwatch.com/Journalists/Mark_Hulbert)  
5. For definitions and further details, see <http://www.cftc.gov/>

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**Bullish Factors Affecting Gold Prices**

- (i) As of mid-May 2013, gold's long-term uptrend appeared still intact, with prices deemed likely to trade between support levels in the neighborhood of \$1,300 per troy ounce and resistance levels of around \$1,800 per troy ounce;
- (ii) Extremely pessimistic futures positioning and gold sentiment readings as of mid-April 2013 appeared to indicate that gold prices were oversold on a short-term basis;
- (iii) Gold purchases by Chinese individuals and investors have continued at a robust pace, appear likely to surpass Indian demand, and bid fair to increase over time as Chinese wealth and income levels continue rising;
- (iv) To diversify their reserve holdings, and to putatively buttress local and global confidence in the robustness of their own financial position, central banks from Mexico, Russia, Turkey, Thailand, South Korea, China, Saudi Arabia, India, Ukraine, Bangladesh, Brazil and several other nations have in recent years switched from being out of the gold market altogether or substantial net sellers of gold, to substantial net buyers of gold;
- (v) Worldwide new supply from gold mine production and forward sales has exhibited virtually miniscule or no growth, due to increasing operating and capital expenditure costs, diminished exploration spending and new discoveries, intrusive domestic and cross-border political pressures, taxation, labor strife, resource depletion, and falling ore headgrades quality;
- (vi) Unprecedentedly excessive monetary expansion may portend higher inflation rates (and higher gold prices) over the next several years;
- (vii) As of year-end 2012, the St. Louis Federal Reserve's measure of the M-2 US money supply was \$10.485 trillion, which could be considered to be theoretically backed 4.5% by the US Treasury's 261 million troy ounces of gold (valued on Dec. 31, 2012 at \$1,675 per troy ounce, equal to \$437.2 billion); if the US M-2 were backed 10% by gold and/or by promoting the creation of modified transnational bullion-backed Special Drawing Rights (SDRs) to serve as a new global reserve currency, such an initiative would imply a price of \$3,988 per troy ounce, and if the US M-2 were backed 25% by gold, such an initiative would imply a price of \$9,970 per troy ounce;
- (viii) With the era of mispriced risk, high global debt levels, unconventional monetary, fiscal, and currency policies and extraordinary Quantitative Easing in several countries, and the pace of over-the-counter derivatives creation appearing to reach its very advanced, possibly late stages, and with global deleveraging appearing not yet to have fully run its course, gold may offer a means of protecting against extreme inflationary or deflationary outcomes;
- (ix) As part of a trend by several leading commodity exchanges and clearing houses in the US and Europe to accept or increase the use of gold as collateral for margin requirements, as well as multinational efforts to reduce balance sheet risk and shore up capital ratios for commercial banks, on May 24, 2012, the European Parliament's Committee on Economic and Monetary Affairs unanimously voted to accept gold as collateral, and in late 2012, the Definition of Capital Subgroup of the Basel Committee on Banking Supervision at the Bank for International Settlements invited comments on the feasibility of reclassifying gold from a Tier-3 asset (credited to commercial bank reserves at only 50% of market value) to a Tier-1 asset (credited to commercial bank reserves at 100% of market value), appearing as one more step potentially authenticating the return of gold as a private sector monetary asset;
- (x) Even though gold had retreated 28.3% over the 20 months from \$1,923.70 per troy ounce on Sept. 5, 2011 through mid-May 2013, such a consolidation and shakeout phase of excessively bullish positioning may have been healthy, given that gold has experienced several meaningful price corrections before ultimately moving higher, as shown in Exhibit 4.

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**Exhibit 4: Gold Price Corrections of 25% or More Since 1971**

Correction Period	Maximum Drawdown (%)	Correction Length (Trading Days)
07/06/73 - 11/15/73	28.6	93
04/03/74 - 07/05/74	25.3	65
12/30/74 - 08/31/76	47.7	423
01/21/80 - 03/28/80	43.9	48
09/22/80 - 06/23/82	58.3	442
01/31/83 - 02/26/85	44.7	524
12/11/87 - 03/11/93	34.4	1326
02/02/96 - 08/02/99	39.0	899
03/18/08 - 11/14/08	29.7	169
09/05/11 - 04/15/13	27.9	414
Average	38.0	443

Source: "The End of Gold," by John La Forge, Ned Davis Research Group

- (xi) On a CPI inflation-adjusted basis, the mid-May 2013 gold price of \$1,380 per troy ounce remained 44.4% below its January 1980 inflation-adjusted price of \$2,480.36 per troy ounce (equivalent to the then nominal price of \$850.00 per troy ounce);
- (xii) With estimates of all the gold mined in human recorded history amounting to approximately 5.5 billion troy ounces (see Exhibit 2), at \$1,600 per troy ounce, the aggregate above-ground stock of gold would be worth \$8.8 trillion, only 4.4% of McKinsey Global Institute's estimate of \$198 trillion as the total value of the world's financial assets as of year-end 2010, and considerably less than the \$10 trillion five-year expansion in the balance sheets of the world's eight largest central banks (from \$5 trillion at year-end 2007 to over \$15 trillion at year-end 2012), and as one indication of many financial institutions' chronic underownership of gold, precious metals allocations as of late 2012 accounted for less than 0.20% of global pension fund assets;
- (xiii) The annual volume of physical gold traded is quite small relative to the total stock of physical gold, implying a degree of reluctance on the part of long-term holders of physical gold to dispose of this asset; and
- (xiv) *Gold represents the only financial asset that is not the financial liability of another counterparty.*

**Morgan Stanley Wealth Management  
Global Investment Committee's View of Gold**

One of gold's chief functions in a portfolio context is to serve as a *balancing asset*. When gold is doing poorly, it should be because of favorable economic, financial, political, and geopolitical conditions that lead to rising prices for many kinds of risk assets. Gold should therefore not be viewed in isolation, but in some respects as a form of mental and/or financial insurance policy that investors should in truth *hope does not pay off* in a big way, since such an outcome would likely imply that many other types of assets are performing quite badly and suffering meaningful losses in nominal and real purchasing power. Very few, if any, households and property owners would be happy to watch their primary residence burn down containing all their belongings, saying, "Oh, great! Now I can collect on my homeowner's fire insurance policy!"

*On a short- and intermediate-term basis, ownership of gold and gold-related investments is intended to offset significant declines in asset prices that take place due to major external shocks, internal imbalances, or policy errors such as those set forth in Exhibit 5.*

**Exhibit 5: Scenarios with Potentially Serious Consequences****External Shocks**

Debt rescheduling talks are initiated and/or default is declared by a major international borrower.

Non-U.S. investors execute major sales of U.S. dollar-denominated financial assets.

A serious terrorist act is perpetrated, involving conventional or unconventional weapons, or possibly biological, chemical, or nuclear agents.

Tensions escalate toward wider armed conflict in troubled regions.

Confrontation spreads between governments and financial markets.

An export battle breaks out between a major economy and countries within and/or outside its own region.

Operational and/or financial problems at a large securities custodian or payments network prevent the timely clearing and settlement of transactions.

Hackers and virus writers effectively disrupt or disable a significant part of a nation's or the globe's computer-reliant utility, financial, telecommunications, air traffic control, defense, or other infrastructures.

**Internal Imbalances**

Large-scale losses are revealed in the lending and/or derivatives markets.

One or more large financial institutions and/or industrial enterprises declares insolvency.

Highly valued equity market sectors experience significant price declines.

Economic growth falls sharply in select economies.

External debt burdens and/or non-performing financial loans lead to a banking crisis within a major economy.

**Policy Errors**

Excessive monetary liquidity is injected (or suddenly withdrawn) worldwide, leading to significant asset-price inflation (or deflation), and/or general price level inflation (or deflation).

Major currency instability develops in the yen, euro, U.S. dollar, and/or other currencies.

Governments adopt protectionist policies that restrict the flow of goods, services, and/or capital.

Source: *The Art of Asset Allocation, Second Edition*, by David M. Darst, CFA (McGraw-Hill, 2008)



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On a long-term basis, gold and gold-related investments are intended to keep pace with inflation in food prices and other components of the general price level. It is worth reiterating that over time periods of as short as 12 to 24 months, or as long as 10 to 20 years or more, gold prices have in the past exhibited, and can in the future exhibit, substantial sudden price declines, chronic price flatness, or persistent price erosion.

Gold should not be viewed in the same way as a *productive asset* (such as equities, real estate, timber, or oil and gas interests), but as an alternative form of saving, or currency: a *protective asset*, whose purchasing power tends to keep pace with (at times outperforming, at other times underperforming) changes in a nation’s actually encountered (rather than government-tracked) general price levels over long periods of time, usually measured in one to several decades or more. Since 1900, gold’s real return (after inflation) has been approximately 2% per annum, since 1971, gold’s real return (after inflation) has been approximately 5.1% per annum, and since 2003, gold’s real return (after inflation) has been approximately 12.4% per annum.

Gold is not a *capital asset*, driven primarily by the capitalization of income flows (as are bonds and stocks), but rather a *store of value asset*, driven primarily by (i) supply-demand factors, and (ii) what someone else is willing to pay for the asset (other store of value assets include watches, jewelry, fine wine, fine art, stamps, rare coins and classic automobiles).

Gold may be viewed as a *portfolio-diversifying asset*, characterized by generally low correlations of returns with global equities and many other risk asset classes, including high grade and high yield bonds, master limited partnerships and real estate investment trusts.

Exhibit 6 shows several of the important influences that are likely to affect, acting singly, in concert with, or in opposition to other forces, gold prices in the foreseeable future.

**Exhibit 6: Key Influences on the Price of Gold**

Influence	Likely to Lead to Higher Gold Prices	Likely to Lead to Lower Gold Prices
Real interest rates (Sovereign benchmark yield levels less a chosen inflation rate)	Persistently negative and/or even more negative real interest rates	Persistently positive and/or rising real interest rates
Purchasing or selling of gold by Central Banks, official monetary institutions, Exchange Traded Funds, and major institutional investors	Meaningful and/or persistent purchasing of physical gold	Meaningful and/or persistent sales of physical gold
Trends in inflation and/or inflation expectations	Rising levels of inflation and/or inflation expectations	Stagnant or falling levels of inflation and/or inflation expectations
Currency market conditions	Persistent and/or meaningful downward pressure on one or more key reserve currencies	Persistent and/or meaningful upward pressure on one or more key reserve currencies

Source: Morgan Stanley Wealth Management Investment Strategy

Gold may also be viewed as a *form of “financial aspirin,”* whose generally stable-to-positive performance during periods of significant financial market turbulence and volatility may help investors maintain perspective and avoid rash, panicky, injudicious selling and buying of assets at precisely the wrong times at what turn out to be cyclical and/or secular troughs or peaks. Exhibit 7 shows a hypothetical schematic of the shifting weights of factors influencing gold prices in bullish and bearish phases.

**Exhibit 7: Factors Influencing Gold Prices in Bullish and Bearish Phases**

Market Phase	Bottoming	Early Stage Recovery	Mid-Stage Bull Market	Peak of Bull Market	Bear Market
General vertical direction (but not horizontal duration of gold price movements)					
Fundamentals	20% Improving but Ignored	30% Solid Underlying Performance	40% Sweet Summer of Growth	20% Optimistic, Long-Duration Projections	30% Overawareness of Deteriorating Conditions
Valuation	20% Attractive, but No Takers	50% Abundant Bargains	30% Willingness to Pay Up	20% Revised Models Justify Stretching	20% Shocked Recognition at Outlandish Prices
Psychology/Technical/Liquidity	60% Exhaustion, Disbelief, and Demoralization	20% Doubt, Reflection, and Conversion	30% Faith, Hope, and Charity	60% Euphoria, Greed, and Extrapolation	50% Fear, Panic, and Loathing

Source: Adapted from *The Art of Asset Allocation, Second Edition*, by David M. Darst, CFA (McGraw-Hill, 2008)

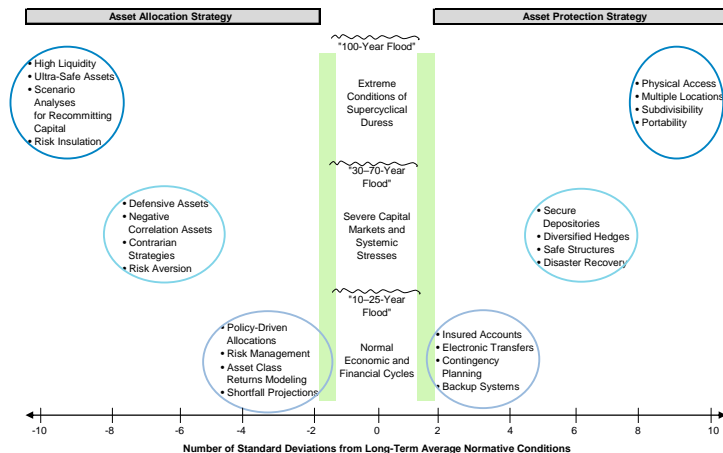
Note: The percentages indicated above are hypothetical only and reflect the personal views of the author. Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets. **For more information about the risks to hypothetical performance, please see the Risk Considerations section beginning on page 8 of this report.**

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Each investor possesses a highly individualized optimal degree and form of exposure to gold (via financial institution-held and/or physical possession of coins, jewelry, physical bars, gold mining shares, gold futures, exchange-traded funds, storage receipts, and other instruments), driven by factors including his or her: (i) willingness and ability to assume risk and to monitor, anticipate, and react to substantial price moves; (ii) investment objectives, risk tolerance, time horizon, tax status, and wealth and income levels; and (iii) deeply-held views of the patterns of and outlook for the ebbs and flows of wealth and human progress, social, political, and financial stability, geopolitical conditions, and the likelihood of random, extraordinary events that deviate beyond what is normally expected of a situation and that may have large-magnitude consequences.

Exhibit 8 shows the increasing asset allocation and asset protection roles played in portfolios by defensive assets, and assets that are deemed to be ultra-safe, portable, subdivisible, and physically accessible, as circumstances deviate more significantly from long-term average normative conditions.

**Exhibit 8: Asset Allocation and Asset Protection Under Varying Circumstances**



Source: *The Art of Asset Allocation, Second Edition*, by David M. Darst, CFA (McGraw-Hill, 2008)

It is important for investors to remain mindful of the central purposes of holding gold: (i) to preserve purchasing power over long periods of time; and (ii) to preserve investment sanity during periods of considerable asset market tumult and disorder; and not to be minimized, at some point, (iii) to sell

some meaningful position of the gold holdings in order to redeploy the proceeds into superior, wealth-producing assets selling at what may likely be rarely encountered attractive prices and valuations.

Based on its careful assessment of the above-mentioned bullish and bearish factors affecting the outlook for gold prices, for moderate high-net worth investor portfolios with up to \$25 million in financial assets, as of mid-May 2013, the Morgan Stanley Wealth Management Global Investment Committee recommended a long-term Strategic allocation of 3% to gold and an overweight Tactical position of 4%.

Additional information about the price history, means of gaining exposure to, and advantages and disadvantages of gold in an asset allocation context can be found in the Morgan Stanley Wealth Management articles *Keeping Gold Prices in Perspective* (Apr. 18, 2013), and in *Asset Class Review of Gold* (Dec. 10, 2012), both by David M. Darst, CFA. A longer report, *Portfolio Investment Opportunities in Precious Metals*, by David M. Darst, CFA ( June 2010), discusses the advantages and risks of precious metals, precious metals investment performance, in-depth overviews of gold, silver, platinum, and palladium, US legislation affecting gold, and additional information on the historical role of gold, the operation of the gold market, and select books, publications and websites relating to gold and other precious metals.

For updated views and price forecasts by Morgan Stanley & Co. Research on gold, please see the eight-page, April 16, 2013 note, "Metal Sparks" *Gold: Crumbling Pillars* by Peter G. Richardson and Joel B. Crane.

The World Gold Council website ([www.gold.org](http://www.gold.org)) contains more than 30 research studies, detailed statistical data, and other information relevant to those interested in the economic and/or investment properties of gold. Additional background information on gold's position and usage through history can be found in *The Ages of Gold*, by Timothy Green (GFMS Limited, Nov. 14, 2007).

"If one doesn't know why they own gold, they shouldn't own it."  
 "Unlimited global monetary debasement is a reason to buy gold, not sell gold."  
 -- Fred Hickey, *The High-Tech Strategist*

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## Risk Considerations

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention.

Physical precious metals are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. If sold in a declining market, the price you receive may be less than your original investment. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. The Securities Investor Protection Corporation ("SIPC") provides certain protection for customers' cash and securities in the event of a brokerage firm's bankruptcy, other financial difficulties, or if customers' assets are missing. SIPC insurance does not apply to precious metals or other commodities.

### Hypothetical Performance

**General:** Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Hypothetical performance results have inherent limitations. The performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation.

Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

**Indices used to calculate performance:** The hypothetical performance results in this report are calculated using the returns of benchmark indices for the asset classes, and not the returns of securities, fund or other investment products.

Indices are unmanaged. They do not reflect any management, custody, transaction or other expenses, and generally assume reinvestment of dividends, accrued income and capital gains. Past performance of indices does not guarantee future results. Investors cannot invest directly in an index.

Performance of indices may be more or less volatile than any investment product. The risk of loss in value of a specific investment is not the same as the risk of loss in a broad market index. Therefore, the historical returns of an index will not be the same as the historical returns of a particular investment a client selects.

Investing in the market entails the risk of market volatility. The value of all types of securities may increase or decrease over varying time periods.

This analysis does not purport to recommend or implement an investment strategy. Financial forecasts, rates of return, risk, inflation, and other assumptions may be used as the basis for illustrations in this analysis. They should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. No analysis has the ability to accurately predict the future, eliminate risk or guarantee investment results. As investment returns, inflation, taxes, and other economic conditions vary from the assumptions used in this analysis, your actual results will vary (perhaps significantly) from those presented in this analysis.

The assumed return rates in this analysis are not reflective of any specific investment and do not include any fees or expenses that may be incurred by investing in specific products. The actual returns of a specific investment may be more or less than the returns used in this analysis. The return assumptions are based on hypothetical rates of return of securities indices, which serve as proxies for the asset classes. Moreover, different forecasts may choose different indices as a proxy for the same asset class, thus influencing the return of the asset class.

***For additional risks, please see the Disclosures section beginning on page 9 of this report.***



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## Disclosures

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