The Price and Future of Gold

November 2010
Historical Perspective

• Precious Metals are a rare, naturally occurring metallic chemical elements of high economic value.

• Historically, precious metals were important as currency, but are now regarded as investment and industrial commodities
  ✓ Gold, Silver, Platinum and Palladium have an ISO 4217 currency code
  ✓ The best known precious metals are the coinage precious metals Gold and Silver; they are better known for their uses in art, jewellery and coinage
  ✓ Platinum and Palladium are primarily known for their industrial use in catalytic converters

• The demand for precious metals is driven not by their practical use, but also by their role as investments and a store of value

• Historically, precious metals have been an important part of a diversified portfolio because its price increases in response to events that cause the value of paper investments, such as stocks and bonds, to decline

“Gold and silver are money. Everything else is credit”
- J.P. Morgan
What is Gold?

• Gold was one of the first metals to be discovered by man

• Gold was discovered in Ancient times and used by the ancient South Americans, Asians, Egyptians, Greeks, Romans and Chinese Civilizations

• Gold is the oldest financial asset known to man

• The first Gold bars were made as early as 4000 BC

• The symbol origin is from the Latin word *aurum* meaning gold

• While being the oldest asset class, physical gold bullion still trades over the counter
What makes Gold intriguing?

- Gold does not oxidize, rust, tarnish, corrode, decay or deteriorate
- Gold is so malleable that an ounce of gold can be stretched into a wire over fifty miles long or beaten into a sheet to cover a hundred square feet.
- Gold has universal value across continents and cultures
- It has been estimated that all the gold in the world that has ever been refined would form a single cube 20 m (66 ft) a side
- All the gold that has ever been mined throughout history is still in existence today
Rationale for Investing in Gold

✓ Store of Value
✓ Portfolio Diversification (correlation & volatility)
✓ Inflation Hedge
✓ Dollar Hedge
✓ Geopolitical Uncertainty
✓ Performance
✓ Supply Constraints
✓ Increasing Demand
The other side of the coin

- Gold has no yield (unlike equities, bonds, mutual funds etc.)
- Gold has minimal utility outside of jeweler
- Gold is extremely dense and therefore heavy
- Gold is not a consumable
- High costs to store and insure
- Difficulty in acquiring gold
- Newer investment options for investors to protect against inflation (TIPS, ETFs etc.)
• Gold under-performed equities in two decades (1980-1990 and 1990-2000)
• Gold has had its time and place as a preferred asset class
The World Today
Recent Events

- The housing crisis of the 2007, driven by excessive leverage and irresponsible lending practices, led to the worst financial crisis since the great depression.
- The resulting deflationary / deleveraging environment has had a devastating impact on capital markets and asset prices.
- To prevent another Great Depression, the actions of governments and central banks incurred:
  - Very large fiscal deficits
  - Dramatic increases in outstanding government debts
  - Expansion of balance sheets of many major central banks as a consequence of purchases of government debt or distressed assets.
- Historically, such an unprecedented expansion of monetary policy has led to:
  - Loss of faith in paper currencies
  - Substantially higher inflation over the medium term.
Money is being “Printed”

We have tried spending money. We are spending more than we have ever spent before and it does not work... We have never made good on our promises.... I say after 8 years of the Administration we have just as much unemployment as when we started, and an enormous debt to boot!”

Henry Morgenthau, Secretary of the Treasury during the New Deal, May 1939
Federal Reserve and Public Debt Securities

(in billions of dollars)

- Total Public Debt Securities
- Public Issues Held by Federal Reserve Banks
U.S. Gold Reserves vs. Federal and Agency Debt Held By Foreigners
Budget

- The “Long Term Budget Outlook” Report for the period of 2010 to 2080 from the Congressional Budget Office (CBO) states “Under current law, the federal budget is on an unsustainable path”
- According to the report the U.S. will not be able to produce a budget surplus in 70 years
- The current US debt total equates to almost $45,000 per person
Potential outcomes of an Aggressive Monetary Policy
History Can Be Repetitive

- In the Roman empire the silver content of the denarius coin was reduced over time
- Production of goods gradually moved further and further into the peripheral areas
- Tax ratios increased to 2/3rds of income
- The size and complexity of the administrative organizations grew constantly
- Gradually the silver content in the Roman denarius decreased from 95% to 0.5%

“The Budget should be balanced, the Treasury should be refilled, public debt should be reduced, the arrogance of officialdom should be tempered and controlled, and the assistance of foreign lands should be curtailed lest the Republic become bankrupt. People must again learn to work, instead of living on public assistance.”

-Marcus Tullius Cicero, 55 BC

Sources: Société Générale, Tulane University
Sovereign Risk

• For the first time since 1970s, there is the possibility that a major industrialized country will default (Ireland, Greece). Others might follow (Portugal, Spain)

10 Year CDS
Inflation vs. Deflation

- In periods of inflation, tangible assets are the preferred asset class.
- In times of deflation, cash is king.
- Gold is liquid, divisible, indestructible, and can be easily transported. It has a worldwide market and there is no default risk associated with it, which means it is cash of the highest quality.
Inflation

- You often hear that gold does not a hedge against inflation and that the CPI has outrun gold since 1980.
- This is a cherry picked statistic, as seen below gold has outrun the CPI in all periods other than the 1980 peak.

<table>
<thead>
<tr>
<th>From:</th>
<th>CPI%</th>
<th>Gold%</th>
<th>Gold/CPI Increase Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>476.9%</td>
<td>3113.9%</td>
<td>6.53</td>
</tr>
<tr>
<td>1975</td>
<td>320.1%</td>
<td>514.8%</td>
<td>1.61</td>
</tr>
<tr>
<td>1980</td>
<td>185.0%</td>
<td>143.8%</td>
<td>0.78</td>
</tr>
<tr>
<td>1985</td>
<td>105.4%</td>
<td>254.2%</td>
<td>2.41</td>
</tr>
<tr>
<td>1990</td>
<td>71.8%</td>
<td>176.3%</td>
<td>2.45</td>
</tr>
<tr>
<td>1995</td>
<td>44.5%</td>
<td>197.8%</td>
<td>4.44</td>
</tr>
<tr>
<td>2000</td>
<td>28.5%</td>
<td>298.5%</td>
<td>10.46</td>
</tr>
<tr>
<td>2005</td>
<td>13.3%</td>
<td>155.6%</td>
<td>11.74</td>
</tr>
</tbody>
</table>
Inflation


% change


Money Supply Inflation Gold % Change

Sources: Bloomberg, Erste Group Research
Deflation

- During deflationary periods, governments usually need to increase their deficits by escalating their borrowings to support the economy.
- Interest earned on 90-day Treasury bills below the inflation rate is a signal for governments to try to stop deflation and reflate the economy.
- The twin engines of negative real interest rates and government deficits tend to make gold a very attractive investment.
- The decline in core inflation from 2.5 percent two years ago to under 1 percent today will sustain market fears of deflation and hence a more rapid depreciation of the U.S. dollar to arrest any deflationary pressures.

<table>
<thead>
<tr>
<th>Deflation</th>
<th>Gold</th>
<th>Silver</th>
<th>Commodity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1814-1830</td>
<td>100%</td>
<td>89%</td>
<td>-50%</td>
</tr>
<tr>
<td>1864-1897</td>
<td>40%</td>
<td>27%</td>
<td>-65%</td>
</tr>
<tr>
<td>1929-1933</td>
<td>44%</td>
<td>-5%</td>
<td>-31%</td>
</tr>
</tbody>
</table>

Sources: Roy Jastram, "The Golden Constant" and "Silver, the Restless Metal"
Rates of Return

- **Gold Shows a strong relationship with Real Rates of Return**
  - Investors must take into account interest rates, not just inflation expectations
  - Interest rates take into account economic growth
- **Gold performs well in times of low real rates of return**
- **In these environment the carrying cost of holding gold is very low**

<table>
<thead>
<tr>
<th>Monthly Gold Price Changes by Real Rate</th>
<th>Sum</th>
<th>Number of Months</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3%</td>
<td>414.0%</td>
<td>268</td>
<td>1.54%</td>
</tr>
<tr>
<td>&gt;=3%</td>
<td>-1.3%</td>
<td>233</td>
<td>-0.01%</td>
</tr>
</tbody>
</table>

![Graph showing low real interest rates fuel gold & silver performance](image-url)
Gold in a Diversified Portfolio
20 Year Correlation of Weekly Returns on Key Asset Classes and Gold (USD)

- MSCI World excl. US: 0.01
- DJ Industrial Average: (0.11)
- S&P 500: (0.08)
- Wilshire 5000: (0.06)
- 3-Month T-Bill Yields: (0.13)

Data: Global Insight, World Gold Council, Barclays Capital

Last revised: 25 December 2009
Volatility

Volatility over 10 and 2 years

Volatility in %

- Crude Oil
- Copper
- Nasdaq Composite
- Silver
- S&P 500
- MSCI World
- Gold

Sources: Bloomberg, Datastream, Erste Group Research

© Gold Bullion International
“Portfolio Insurance”

Performance on 20% of the weakest days of the S&P 500 index:

Sources: ETF Securities, Bloomberg, Erste Group Research

Performance gold vs. S&P in deciles

Sources: Dalstream, Erste Group Research
Purchasing Power

Purchasing Power of Various Currencies

Dollar Devaluation

Source: FactSet & US Geological Survey
Supply/Demand Dynamics of Gold
Above Ground Stocks of Gold

12/2009 - 165,000 Tonnes

- Official Holdings: 16%
- Private Investment: 18%
- Other Fabrication: 12%
- Lost & Unaccounted: 2%
- Jewellery: 52%
Major Gold Discoveries: 1997-2008

Source: Metals Economic Group; Kinross
Discovery Quality is Declining

Average grades are flattening. High Grade discoveries are increasingly hard to find.
Gold Mine Production Is Declining...

Source: GFMS World Gold Survey 2010
... and Expected to continue

**Gold Production** (millions of ounces)

- 2009: $479
- Q1.10: $528
- Q2.10: $535

“*All in Costs*” mid-2010 a little over $800/oz

Sources: GFMS for historical production, Barrick for 2009-2011
Gold Demand

Source: GFMS World Gold Survey 2010
Gold Demand by Sector

- Secular increase in investment demand driven partly by ETFs

*Inferred investment denotes the supply-demand residual and includes physical metal, OTC transactions, and speculative flows. Reliable indicator of overall investor activity.

Source: GFMS, World Gold Council, VM Group
ETF Demand

GLD Asset Growth 2004-2010 ($bn)
Gold is under-owned
Extremely Low Penetration

Global Financial Assets
- Total $123 trillion

Managed Assets
- $55 trillion

Gold Equities & Gold ETFs
- < $0.4 trillion (1)

(1) As at Nov. 30, 2009
Gold is a Small % of Global Financial Assets

Gold and gold mining shares in % of global assets

<table>
<thead>
<tr>
<th>Year</th>
<th>1921</th>
<th>1932</th>
<th>1948</th>
<th>1981</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share</td>
<td>28%</td>
<td>20%</td>
<td>30%</td>
<td>26%</td>
<td>0.80%</td>
</tr>
</tbody>
</table>

Sources: Silberjunge.de, Erste Group Research

Market Cap Gold Bugs Index vs. other Indices and single stocks

Sources: Bloomberg, Erste Group Research, as of 20 May 2010
Reserve Assets

Dollar Value of Total International Reserve Assets

Source: The Tudor Group, IMF.

Percent of Which is Gold

Source: The Tudor Group, IMF.
Reserve Dollar Diversification

Gold Reserves in Emerging Economies

Gold as a percent of total reserves

- US
- France
- Germany
- Italy

Russia
India
Taiwan
Japan
China

200t purchase from IMF

Source: DundeeWealth Economics

China Set to Reduce Exposure to Dollar
- Washington Post

Indian Joins Russia, China in Questioning U.S. Dollar Dominance
- New York Times

China Takes Aim at Dollar
- WSJ

Medvedev Promotes Ruble to Lessen Dollar Dominance
- New York Times

China Urges New Money Reserve to Replace Dollar
- New York Times
Reserve Dollar Diversification

Source: GFMS World Gold Survey 2010
Chinese Demand is Twofold

China said it will let more banks import and export gold, the government's clearest signal yet that it plans to loosen restrictions on trading of the yellow metal. - Wall Street Journal

Chinese gold demand increased 26% in the second quarter amid booming interest in retail investment demand for gold. - World Gold Council

The liberalized trading rules will eventually give hundreds of millions of Chinese citizens new access to gold-linked investment products. - Wealth Daily

The international gold market is now paying a lot more attention to China's gold demand, not just from an official reserve asset perspective, but also private demand. Behind India, China is the second-largest physical consumer. Therefore any step to integrate, liberalize, and expand this market should, in time, foster a rising appetite for gold. - UBS
New Central Bank Buying

- Net official sector sales every year 1989-2009

- 1989-2009 net sales totaled nearly 8,000 tonnes; decline of 1/5th in official gold reserves and 10% total gold supply

- Central Bank Gold Agreements since September 1999
New Central Bank Buying

Selling pressure by the Central Banks was supposed to decrease the price of gold.

The effects of Central Bank buying could be exponential.
Producers are No Longer Hedging

"Barrick shuts hedge book as world gold supply runs out"
- The Telegraph

"AngloGold Ashanti eliminates gold hedge book"
- WSJ.com

"Brigus Gold to Eliminate 100% of Gold Hedge Commitments"
- Business Wire

Source: GFMS World Gold Survey 2010
How can I invest in Gold?
Gold Investment Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullion</td>
<td>• Easy to buy/sell</td>
<td>• Requires secure storage</td>
</tr>
<tr>
<td></td>
<td>• Easily transported, stored, highly liquid</td>
<td>• Manufacturing premiums added to price</td>
</tr>
<tr>
<td></td>
<td>• Tangible asset / inherently valuable</td>
<td>• Typically have higher minimums for investment</td>
</tr>
<tr>
<td></td>
<td>• Competitive prices that are widely quoted</td>
<td>• No dividend / interest yield</td>
</tr>
<tr>
<td></td>
<td>• Accurately assayed and 99.5%+ pure gold</td>
<td></td>
</tr>
<tr>
<td>Mining Stocks</td>
<td>• Current prices widely quoted</td>
<td>• Price more volatile than bullion</td>
</tr>
<tr>
<td></td>
<td>• Highly liquid</td>
<td>• Geopolitical risk</td>
</tr>
<tr>
<td></td>
<td>• May yield dividends</td>
<td>• Industry / exploration risk</td>
</tr>
<tr>
<td>Exchange Traded Funds (ETFs)</td>
<td>• Prices widely quoted / highly liquid</td>
<td>• Corporate governance risk</td>
</tr>
<tr>
<td></td>
<td>• Relatively cost efficient</td>
<td>• Limited transparency into reserve base</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ETFs may not track the price of gold accurately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Limited track record (started in earnest in 2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Subject to price manipulation by hedge fund managers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Gold weight backing each unit declines through management fee</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Not necessarily 100% gold bullion backed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trust may include other collateral besides gold bullion</td>
</tr>
</tbody>
</table>
Physical Metal Value Proposition

- **Physical Ownership** – investors retain full title to underlying assets
- **No Counterparty/Default Risk** – investors are not exposed to risks related to the financial solvency of banks, exchanges and investment trusts
- **No Tracking Error** – unlike precious metals ETFs, physical precious metals provide investors with zero tracking error
- **Liquidity** – bullion is highly liquid and is traded in the OTC market amongst broker/dealers, refiners and miners
- **Collateral** – Precious metals are universally accepted as collateral for loans through banks/institutions
- **Fully Insured** – all stored bullion is usually 100% insured
- **Physical Audits** – investors can request to complete a physical verification of every bar stored
- **Physical Delivery** – investors can elect physical delivery of bullion

“Betting against gold is the same as betting on governments. He who bets on governments and government money bets against 6,000 years of recorded human history”
- Charles de Gaulle