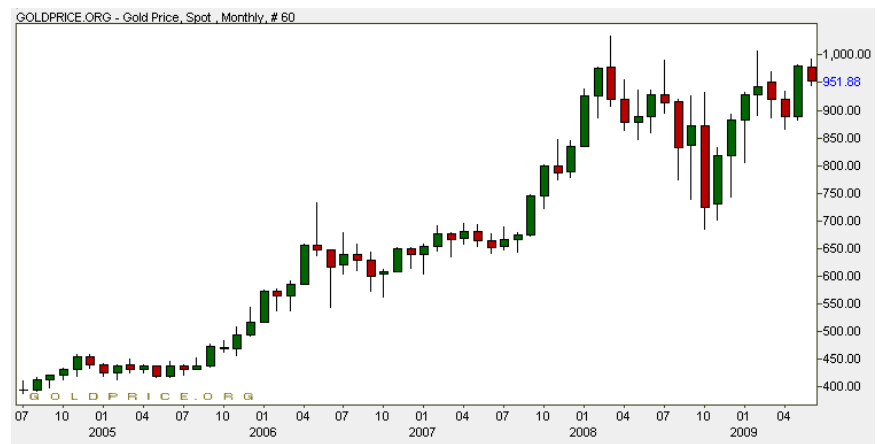


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Prepared by Iyad Atuan, MBA, BSc
iyadatuan@gmail.com



Gold

While gold is widely used as jewellery for its appearance and rarity, its metallurgical properties makes gold an excellent commodity used in electronics and dentistry. Furthermore, gold is used as an investment vehicle by central banks and investors. Gold tends to appreciate in value in higher inflation environments as investors believe gold to be an excellent inflation hedge.

Properties

Gold is one of the **rarest** metals on the globe with more than 2,500 tonnes of gold mined annually. It is virtually indestructible making it one of the **strongest** metals. Recycled gold maintains the same properties as newly mined gold. Gold is very **recyclable**. In fact, a significant portion of the gold supply is provided by recycled gold. It is very **ductile** making it easily shaped for wire and sheet products. Since gold does not react with oxygen, it is an excellent **conductor** of heat and electricity and **resistant to corrosion**. Even though, it is not feasible to use in common wiring, gold is extensively used in electronics. Gold is a **soft** material in its pure form; therefore it is usually mixed with a harder metal to improve its durability.

Uses

Three main uses of gold are in (1) jewellery, (2) investment vehicle and (3) electronics. Almost two thirds of the global usage of gold is in jewellery, arts and sculptures. A quarter of gold is used as investment vehicle, especially against inflation. Gold ETFs are becoming very popular since they are easier to buy than physical gold bullions. Currently, approximately a third of investment vehicles are in the form of ETFs while the rest are bars and coins kept by investors such as hedge funds and central banks. Thanks to gold's conductivity and noncorrosive property, gold is largely used in electronics. On a smaller scale gold is used in dentistry, however, lately it is being substituted with ceramic fillings for their properties and aesthetics.

Production process

Depending on the depth of the gold reserves and the geology of the deposits, the reserves are mined by open pit mining or underground mining. While the former costs less, the grades for the latter are higher. Then, the ore is crushed and sorted for different processes depending on composition to maximize gold recovery. The next step is called leaching, in which the crushed ore is submerged in a cyanide solution until the gold ore is dissolved. Gold is extracted from this solution, chemically stripped and melted into bars called dore bars. Dore bars are 90%

composed of gold and are sent to further refining. The refining process is divided into two steps. Firstly, the bars are melted and are further purified by adding chloride. Finally, an electrolytic cell is composed of the gold which results in 99.99% pure gold.

Global gold supply

Approximately, two thirds of the global gold supply is provided by mining activities. Two thirds of the remaining supply is provided by recycled gold and the rest is provided by the reserves of central bank. Gold is virtually indestructible; therefore no gold is lost in recycling. Most of the known gold reserves are located in South Africa and to smaller degree in Australia and Peru. As a percent of global production, the biggest three gold producers are Barrick Gold, Newmont Mining and AngloGold. As gold prices increases, the rate of recycled gold increases as more individuals like to profit from the scenario. The same situation is encountered in times of economic distress where individuals sell their gold for liquidity.

Inflation

It has been well documented that gold is the investment of choice in high inflation environments. Therefore, understanding where inflation is trending is valuable. Inflation is a rise in the general level of prices of goods and services in an economy over a period of time. In April 2009, the U.S. economy experienced deflation (-0.74%) as the U.S. dollar devalues. The current U.S. policies will further devalue the dollar as new money is printed constantly to cover President Obama's bailout program and the war in Iraq. Therefore, I predict deflation to reach somewhere between -1.50% to -2.00% before starting recovery towards 2.00% inflation by the first quarter of 2010.

Gross domestic product (GDP)

The current economic slowdown is causing a decline in consumer spending which is hurting the bottom line for large corporations and as a result their stock price. Therefore, investors are moving their money away from the depressed stock market and into the gold market boosting the demand for gold. As investors return to the stock market, gold demand will return to its natural level.

Oil price

Oil price works as a double edged sword, while an increase in oil price boosts the price of gold, it also increases costs. It should be mentioned that the correlation between gold and oil prices is not perfect as there are several factors affecting the price of gold as previously demonstrated. Oil producers such as Saudi Arabia encounter a boost in revenues whenever oil prices increases. Since gold plays a big role in the region's traditions and cultures, an increase in money supply automatically translates to an increase in the demand of gold in the region.

While gold companies enjoy the larger revenues from higher gold prices, they encounter larger costs due to higher fuel costs. As described earlier in this report, gold production is an energy intensive operation in all the stages.

Production & demand

The demand for gold is steadily increasing for three reasons. Firstly, as the globe's population is growing, the metal will be demanded by more individuals. Secondly, studies have shown that there is more money available per person now compared to decades ago. The more money a person has, the more the demand for gold. In fact, the ounces of gold available per person now are much higher than those available in the past. Finally, Chinese people tend to be cautious about their finances and save for the future by investing in physical assets such as gold. Thus, as China's population becomes more productive and starts earning higher salaries, the demand for gold will increase.

In contrast, gold producers have not been able to match production to demand, in fact production has been declining and more of the demand has been met with recycled gold or gold provided by central banks; both supplies have declined substantially and cannot support this demand for much longer. Turning a gold reserve into a productive gold mine is time intensive and can take up to ten years. Since producers did not invest significantly in exploration in the 1990s due to the low gold prices, gold producers may be facing a production shortage for the short-term. However, this obstacle should be overcome in the long term as gold companies are heavily investing in exploration at the moment.

Reserves

As the amount of gold in the world is finite, global gold reserves plays a big factor on the price of gold. Currently, there is an 18-year reserve of gold, that is, after 18 years all the proven and probable reserves of gold would be exhausted. Therefore, finding the next gold reserve in the ever shrinking world of today will be the key success factor for gold companies. Unfortunately, most of the feasible gold mines have been exploited. However, as reserves for this metal declines, gold prices will increase making reserves that cannot be mined at today's prices feasible leading to an increase in global gold reserves.

Conclusion

Several factors go in the pricing of gold. Inflation, GDP and oil prices play a factor on the short term pricing of gold while gold production and global gold reserves play a role on the long term pricing of gold. Gold prices will further increase during this year due to deflation and reach a price between \$975-\$1025; however, gold prices will pull back as inflation returns to its natural level of 2% and gold price will hover around \$900-\$925. In the long term, gold prices will increase due to higher demand and a limited supply.