

## **Gold, Silver, Platinum and Palladium – The Investment Metals**

Precious metals can provide the investor with a safe haven in times of economic uncertainty and financial instability and serve as a hedge against unexpected inflation. Moreover, they've been described as a proven asset diversifier that, when included in an investment portfolio, can reduce the overall risk of one's investment portfolio while enhancing total return. Finally, precious metals have been cited as an excellent stand-alone investment with capital appreciation potential based on supply and demand fundamentals, as well as a host of other market fundamentals. Now, let's discuss the specific characteristics and special uses of each precious metal to gain a better appreciation of why they've been described as "nature's unique gift to mankind."

### **Gold**

Gold, the most famous of all precious metals, is acquired throughout the world for its beauty, liquidity, investment qualities and its industrial properties.

As an investment vehicle, gold typically is viewed as a financial asset that will maintain its value and purchasing power during inflationary periods and times of political, social, or economic distress, when paper currencies often decline in value or even collapse altogether. As such, gold can provide both individual and institutional investors alike with a portfolio safety net that protects against sharp downward spikes in complementary assets like stocks and bonds. While investment demand is important, the largest use for gold is in jewelry, with the majority of consumption occurring in the United States, Japan, Italy, India, China and Thailand. Jewelry production has been growing at a robust pace in the developing countries of Southeast Asia and the Middle East since 1988. Gold also is used extensively in electronic connectors and dental alloys.

Gold is mined in more than 76 countries around the world, and the large number development projects in these countries is expected to keep production growing well into the next century. Currently, South Africa is the largest gold producing country, followed by the United States, Australia, and Canada.

Since the dawn of time, approximately 3.8 billion ounces of gold have been extracted from the ground. And, gold being a virtually indestructible material, all but approximately 432 million ounces (11.4%) is estimated to still exist in the form of investment bars and coins, jewelry and other decorative items.

### **Silver**

Once a standard in the world monetary system, silver today plays an important role as both a financial investment asset and industrial commodity. Investors purchase physical silver in either bullion bar or coin form, with the majority of the metal presently bought in the United States, Germany, and Canada.

Investment demand for silver also is vibrant in emerging markets. However, in these countries, silver tends to be held in the form of jewelry, ornaments, and religious objects that are easily melted down, recast and resold.

In terms of fabrication demand, silver possesses many physical characteristics that make it a key component in numerous products used in everyday living. The main applications of silver are in jewelry and silverware, photographic films and papers, and electrical contacts and connectors. Silver is also used in mirrors, medical instruments, dental alloys, brazing alloys, batteries, and mechanical bearings.

On a global scale, approximately 58 countries mine silver. The largest silver-producing country is Mexico, followed by the United States, Peru, and Canada. Over the past 10 years, the amount of silver extracted from primary silver mines has fallen, while that mined as a co-product of copper, lead, zinc, gold, and other metallic deposits has risen.

The steady growth in silver bearing products worldwide has also led to increases in the amount of silver recovered from scrap recycling. Most scrap comes from photographic materials, jewelry, and silverware.

Since 1990, there has existed each year a growing imbalance in the amount of silver consumed throughout the globe when compared to that produced. This shortfall in annual silver supplies is presently being accommodated by a draw down of the "above ground" supplies, which refers to silver already stored in vaults around the world. Recently, this situation has been recognized by some well known and well reputed investors as an excellent opportunity to acquire silver as a longer term investment strategy, a fact that would seem to indicate their belief the current deficit in annual production supply is likely to persist, and perhaps worsen.

## **Platinum**

Platinum is just one of six metals comprising the category of metals referred to as the “platinum group metals.” The other five are palladium, rhodium, ruthenium, iridium, and osmium. The first known use of platinum dates back to the ancient Egyptians, around the 7<sup>th</sup> century BC. Although evidence suggests that for many years before metal workers were aware of the presence of another metal in gold they were working with, they were not aware that it was platinum.

The bulk of platinum, 67% of total supply, comes from South Africa, with significant amounts also recovered in Russia and Canada as a by-product of nickel mining. Other notable areas of platinum production include the United States, Finland, Australia, and the Philippines.

Today, more platinum is consumed in the production of platinum jewelry than in any other application. Demand for platinum jewelry is particularly strong in Japan.

The second major use of platinum is in automotive catalytic converters, which are designed to mitigate the pollution caused by exhaust. With tougher auto emission standards being implemented the world over, both developed and developing countries alike are increasingly mandating the use of platinum-bearing catalysts in newly produced automobiles. Platinum is also widely used in chemical and petroleum refining catalysts, as well as in the electronics and dental sectors.

Platinum’s rarity – ten tons of raw ore must be mined on average to produce just one ounce of pure platinum – coupled with its wide industrial usage, renders it an attractive investment alternative to such competing assets as stocks, bonds, and currencies. Some investors actually acquire platinum as a surrogate for gold.

## **Palladium**

Palladium is primarily an industrial metal, often used in a number of products as an alloy of platinum. Investment demand for palladium exists, although to a lesser extent than gold, silver, and platinum. Approximately 55% of the world’s total supply of palladium is produced as a co-product of nickel mining in Russia. The second largest source of palladium flows from South Africa, with smaller amounts produced in Canada, the United States, Brazil, Australia, Finland, and Zimbabwe.

The greatest use for palladium is in electric components and connectors. Palladium paste is used in semiconductors found in most personal computers, cellular telephones, and in many types of electronically controlled devices.

Palladium is also combined with gold to create dental alloys. Palladium is mixed with gold to lighten the color of the alloy and heighten its corrosion-resistance properties.

The third largest use of palladium is in automobile catalytic converters, where palladium is often combined with platinum. Also, more palladium is now being used in stationary site catalytic devices designed to reduce harmful emissions from certain commercial establishments, such as dry cleaning plants.

Palladium also plays a smaller, but highly important role in the production of jewelry, in chemical process and petroleum refining catalysts, and in brazing alloys.