# Gold Thinkers

SECOND EDITION

JIM WOOTTON

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**SECOND EDITION**

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**Author's Note:** For the sake of brevity, the author has used the male gender throughout.

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## PART THREE: THE OUTLOOK

# Preface

THIS BOOK IS MY BEST EFFORT TO CODIFY WHAT I have learned from the contributions of others about gold as a superb investment opportunity, but also to answer the question of why, by hearing from some of the great thinkers on the subject. In a time of global economic uncertainty, the importance of understanding the background of the value of money cannot be overestimated. From experts in the fields of economics, business and financial writing, this book is compiled to demystify the history of gold, how capitalists get it from the ground to the investor or end user, but moreover why it is the ultimate store of value, by contrasting and criticizing the opinions of some of the world's most important economists. In difficult economic times, this book explains why gold should be a part of the investment portfolio of prudent and thoughtful investors.

# Acknowledgments

THE CORNERSTONE OF MY WORK IS INSPIRED BY the path already blazed by economists, professors, and other experts in the field who publish their own works.

I wish to express my gratitude to the following people who have helped make this book possible:

Foremost, I would like to thank my wife, Diane, for her patience, love, and support throughout this process.

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Because this is a contributory work; the product of extensive national research and a writing project that involved the work of some of America's leading professors, economists, gold experts, and financial writers, I wish to acknowledge the contributions of all the experts across America who so graciously gave of their time and knowledge to make this book possible.

I also wish to thank those individuals, organizations, and companies that served to offer ideas and information, and who reviewed copies of the book.

I am truly grateful to you all.

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"I do not think it is an exaggeration to say history is largely a history of inflation, usually inflations engineered by governments for the gain of governments."

Frederick August von Hayek

PART ONE

# *Why Gold?*

"Far from where people dwell he cuts a shaft,
in places forgotten by the foot of man;
far from men he dangles and sways. The earth,
from which food comes, is transformed below
as by fire; sapphires come from its rocks,
and its dust contains nuggets of gold."

Job: 28:4-6 (NIV)

# Chapter 1

# GOLD BULLION INVESTMENTS

THE BEST WAY TO INVEST IN GOLD IS TO ACQUIRE physical ownership of gold bullion in the form of gold coins, gold bars, and gold rounds.

***Gold bullion*** refers to any physical gold that is pure, or almost pure, having been tested and certified for purity and weight. Owning physical gold makes good investment sense.

Throughout recorded history, wealth and power are attributed to owning gold. Although financial markets have fluctuated widely, the relative purchasing power of physical gold has remained a stable bulwark against the volatility of financial instruments, especially during periods of high inflation.

Gold bullion is immune to the market risks associated with gold mining shares. Returns of physical gold over time are not diminished by geopolitical risk, management risk, cash flow risk, and the risk of dilution.

What's more, physical gold ownership is not associated with the risks associated with counterparty risks that are the case with gold stocks. Most gold shares are purchased through a custodian. With gold shares, there is a risk that the counterparty involved may default on the contractual commitment. There is no such risk with gold bullion ownership. When the time comes to convert to cash, you can rest assured there will always be a market for gold, as proven throughout history. Nothing else measures up to this standard of liquidity.

This book attempts to inform those who would be interested in gold bullion as a hedge against economic problems which arise from the over-issuance of fiat currency.

**Gold bullion investment shines over the long term.**

Historical analysis shows that physical gold value has increased over the past 15 years by 315%, while over the same period, the Dow Jones Industrial Average increased by only 58%.[1]

Another reason physical gold is preferable is that it is more negatively correlated to many other asset classes. Physical gold investment serves as an important part of a strategic long-term allocation strategy to diversify the portfolio. During periods of declining purchasing power of the U.S. dollar, gold bullion prices typically have increased, providing an important hedge against the erosion of purchasing power arising from geopolitical upheavals, the vagaries of the stock market, an inevitably devalued fiat currency and the prospect of a deep recession. If such protection is your goal, then perhaps 5% to 20% of your investment portfolio could be allocated to gold bullion.

Several studies have shown that physical gold provides improved returns and reduced risks as compared to gold mining stocks.[2]

Television's famous *Shark Tank* investor Kevin O'Leary, widely known as Mr. Wonderful, declared in an interview that he has an ongoing strategy to maintain 5% of his holdings in gold. He is utilizing gold somewhat like an insurance policy,

as it were, as a hedge against inflation. If the price of gold goes down, he buys some more, and if the price goes up, he sells some, always with a goal of maintaining 5% of his portfolio in gold.[3]

Let's look at the characteristics of different gold bullion possibilities and find out which offers the best investment potential.

## UNDERSTANDING THE DIFFERENT TYPES OF GOLD BULLION

### Gold Coins

Gold coins are coins made of pure, or almost pure gold, minted by sovereign governments. They have been minted since ancient times. The earliest gold coins were found in ancient Lydia, India, China, and Greece about 6th century BC. Most of the modern gold coins can be traced to the 1800s.

Examples of popular sovereign gold coins include the following.

- American Gold Eagle 50 USD
- South African Gold 1-Ounce Krugerrand
- Canadian Gold Maple Leaf 50 CAD
- Austrian Gold Philharmonic 2,000 Schilling
- Hungarian 100 Korona
- Mexican 50 Peso
- British Britannia 100 Pound
- Chinese Gold Panda 100 Yuan

On April 2, 1792, The United States Congress passed The Coinage Act, establishing the first national mint in the United States. Congress chose Philadelphia, which was then the nation's capital, as the site of the first U.S. mint. As gold fever spread across the U.S., branch mints and assay offices opened to serve the needs of a growing nation. Although the United States Mint currently operates production facilities in

Philadelphia, San Francisco, Denver, and West Point, and a bullion depository at Fort Knox, many other facilities have been opened across the country.

Today gold coins are not used in daily financial transactions. The actual value of the gold coins far exceeds the nominal or the face value of the coin; and such value is determined for the most part by how much gold it contains and the market price of gold at the time. These are mainly used as an investment instrument to diversify the portfolio, and as a hedge against hyperinflation that would result from huge government spending with fiat currency, i.e., currency printed merely by government edict, but not backed by gold or any precious metal. Gold coins are very collectible, and due to their beautiful designs and their limited quantity, they make wonderful gifts which can be passed on to future generations.

The value of gold coins is measured by the ***karat*** and ***grade***. The karat number represents a measure of the ratio of gold content against the percentage of alloys of other metals such as copper, silver or palladium, on a scale of zero to 24, whereas the highest number of 24 karats indicates pure, 100% gold content. Your cost to purchase a new 1-ounce gold coin is determined mainly by your paying the spot price for 1 ounce of gold metal plus a small additional premium to cover the cost of producing the coin and selling it. This is an excellent method of acquiring gold bullion at a cost very near its melt value.

The South African Krugerrand and the American Gold Eagle gold coins do contain one full ounce of gold, but in order to give strength and hardness, are alloyed with copper, and the total weight of the coin is increased to 1.0909 ounces, so the gold is 22-karat, or .9167 fine.

They both enjoy status as legal tender, but the American Eagle has a face value of $50 USD while the Kruggerand was not assigned a face value. The Canadian Maple Leaf Gold Coin is 24-karat gold, or .9999 fine. The Canadian government has made it legal tender with a face value of $50 CAD. Another

advantage of being legal tender is that in many states there is no sales tax on the purchase, because these coins are considered currency. On the other hand, legal tender status was not conferred by their respective governments for the Austrian 100-Corona, Hungarian 100-Korona, or Mexican 50-Peso gold coins.

The grade indicates the condition of the coin. Over the years, a different grading method was developed. Today, most gold dealers use the Sheldon Scale for grading gold coins. Developed by Dr. William Sheldon in 1948, the grading of gold coins ranges from poor (PO1) to mint state (MS70). The highest-grade coins have no trace of wear and tear.

When considering whether to purchase gold coins which have a small added cost for the mintage and selling expenses versus plain gold rounds or gold bars which have a lower added premium cost, consider this analysis:

One of the main reasons investors purchase gold is for the protection against hyperinflation that would arise with an economic collapse. When that occurs, the price of gold could skyrocket to perhaps 50 or 100 times its cost today.

Although the multiples are different, my true story about one of my early real estate investments has a parallel relating to how one feels later about the original cost when a large increase in value has taken place.

In January 1973, I paid $23,000 to purchase a single-family rental property. Although I had long since cashed out with an early windfall profit, that same house was sold by a new owner in November 2014, for $143,900, which is about 6.25 times its value in 41 years. The price of Gold on December 31, 2000, was $272.65 and at this writing in 2019 is just over $1,340, about 5 times in only 18.5 years.

But the main point here is that, looking back, it wouldn't have mattered much whether the cost was $23,000 or 3% more than $23,000. Even more so with gold, when the price increases astronomically due to an economic collapse, it wouldn't matter much whether you had paid $272.65 plus a

very small premium in 2000 for an ounce of gold in a gold round, or say, 3% more for an ounce of gold in the form of an American Gold Eagle coin. What would matter is that you did buy the ounce of gold. So why not have the enjoyment of owning some of your gold bullion in the form of a beautifully minted coin with all its other virtues for such a small premium, especially when comparing the small cost of the premium to the potentially enormous increase in value?

## RARE GOLD COINS

Gold coins that were minted before 1933 are generally known as rare gold coins. The Coinage Act of 1792 had set the stage for most of the rare coins including half dimes, eagles, and others that followed.

Examples of rare coins include the 1854 Indian Head Three Dollar, 1873-CC Seated Liberty Dollar, and 1794 Liberty Cap Large Cent. Many of these rare coins weren't circulated widely until after the 1849 gold rush.

After the U.S. stopped backing paper currency with gold in 1933, all U.S. coins previously circulated stopped being legal tender. However, due to the historical significance, coins made prior to the period became in high demand among coin collectors, which made the coins an attractive investment. Such coins attractive to collectors are categorized as *numismatic*, and avid collectors are referred to as *numismatists*.

## BULLION ROUNDS

Gold bullion rounds are an ideal investment instrument for investors who want to avoid paying the higher premiums associated with sovereign gold coins.

Rounds are usually made by private mints in order to commemorate special events or honor personalities, holidays, and even fictional characters. Unlike gold coins, rounds are not marked with a face value, are not recognized as legal tender,

and are not purchased for their numismatic value. The value is solely determined by the gold content. This makes rounds more affordable than gold coins.

You can find rounds from a range of sizes such as 1/4-ounce copper rounds to 1/25-ounce gold rounds. They are lighter, smaller, and relatively easier to carry and transport as compared to gold bars.

## Gold Bars

Gold bars are refined metallic gold in the shape of a bar. They are available in different weights starting from 0.5 kg and up to 1 kg. Unlike gold coins, there is no face value. Moreover, like gold rounds, they don't have any numismatic value.

Gold bars are produced by both private and government mints. Their cost over the spot gold spot price is less than gold coins. If getting the shiny yellow metal at the lowest price is important, you should consider buying private mint bars, such as those minted by Johnson Matthey or Credit Suisse. For security, A serial number is stamped on each bar, together with its weight and purity. In case you want some further assurance of quality, for a small extra cost, you could choose government minted bars such as from the Royal Canadian Mint or from the Perth Mint in Australia.

## Gold Jewelry

Gold jewelry is a popular form of physical gold that is especially popular in the east. People in China and India buy gold jewelry during special occasions, such as the Lunar New Year, weddings, or religious festivals.

When it comes to making a profit, gold jewelry can be a hit or a miss. You should buy gold jewelry from a reputable seller and with the right gold purity as measured by karat. The karat number represents a measure of the ratio of gold content against the percentage of alloys containing other metals such

as copper, silver or palladium, on a scale of zero to 24, whereas the highest number of 24 karats indicates pure, 100% gold content.

| CHART OF GOLD PURITY | | | |
|---|---|---|---|
| **Number of Karats** | **Parts of Gold** | **% of Purity** | **Millesimal Fineness** |
| 9K | 9/24 | 37.5 | 375 |
| 10K | 10/24 | 41.7 | 416/417 |
| 12K | 12/24 | 50 | 500 |
| 14K | 14/24 | 58.3 | 583/585 |
| 18K | 18/24 | 75 | 750 |
| 22K | 22/24 | 91.7 | 916/917 |
| 24K | 24/24 | 99.9 | 999 |

Gold jewelry is created with different purities. The finest gold jewelry has 24-karat gold. Jewelry is also popularly available in 22-karat, 18-karat, and 14-karat gold. A class ring typically might have only 10-karat gold. In some countries, 8-karat gold and 9-karat gold are used to create jewelry, but not in the United States where 10-karat gold is the minimum karat weight that can be legally marked as gold.

Jewelry marked Gold Filled, KGF or GF has a layer of at least 10-karat gold, bonded to the surface of a base metal such as copper.

Jewelry marked Gold Plate or GP has only a plating of at least 10-karat gold, but with 1/20 or less gold content, and must be clearly labeled. A marking of KP stands for Karat Plumb, which means that if a ring is marked 14KP, then it is exactly 14 karats, no more and no less. It does not mean karat plated. Some variations of markings for standard gold plate, heavy gold plate and gold electroplate are GP, HGP, GE, EP, GEP and HGE.

To be clear, although phonetically ***karat*** and ***carat*** sound identical, ***karat*** refers to the purity of the gold, but ***carat*** refers

to the weight of a gemstone. For example, an item of jewelry marked 14K is 14/24 pure gold or 58.3% gold. But a one-carat diamond weighs 0.2 grams. The carat weight may not bear any relationship to the purity of the metal, in karats. But an expensive large carat diamond is often set in high-karat gold ring.

## SUMMARY

Whether you invest in gold bars, gold coins, gold rounds, or gold jewelry, the fact is that physical gold will be a wise investment choice over the long run. Investors can depend on gold as a reliable hedge against inflation, currency devaluation, and stock market collapse.

It is not recommended to put all of one's eggs in one basket, or to invest all of one's net worth in gold. A balanced portfolio is more prudent, comprised of real estate, stocks and precious metals. A typical goal of wise investors is to start with 5% of their net worth to be invested in gold, with perhaps some gold coins, some gold bars and some gold rounds. Later, some investors allocate a larger percentage of their net worth to gold.

It is advisable to store your gold where you feel it would be safe, and not to take undue risks. In addition to a safe deposit box at a bank, there are commercial depositories such as Brinks, that major gold sellers utilize to store your gold bullion for you, if that is your desire. Brink's has an excellent reputation and is market accepted as a warehouse for the LBMA (London Bullion Market Association). Some investors use hiding places within their residence, such as a safe installed in the floor, in the wall or in the basement. But don't broadcast that you are holding gold, even to close friends, relatives or co-workers, because someone else could learn about it. Keep that information under your hat.

When it is time to liquidate, there are scores of gold dealers who will be willing to buy your gold bullion at a price based on the then current spot price and an extremely small margin to cover operating costs and a profit.

Although gold is not purchased to generate income, for 5,000 years it has outperformed all other investments in one critical category: preserving wealth.

Consider placing at least 5% of your portfolio beyond the reach of a depreciating currency, for safety's sake. Think of it as protection, and rest comfortably, feeling a sense of well-being, somewhat like that which comes with a having good insurance policy.

# CHAPTER 2

# GOLD BACKGROUND

*by Harold Kirkemo, William L. Newman, and Roger P. Ashley,*
U.S. Geological Survey

THROUGHOUT THE AGES MEN AND WOMEN have cherished gold, and many have had a compelling desire to amass great quantities of it—so compelling a desire, in fact, that the frantic need to seek and hoard gold has been aptly named "gold fever."

Gold was among the first metals to be mined because it commonly occurs in its native form, that is, not combined with other elements, because it is beautiful and imperishable, and because exquisite objects can be made from it. Artisans of ancient civilizations used gold lavishly in decorating tombs and temples, and gold objects made more than 5,000 years ago have been found in Egypt.

Particularly noteworthy are the gold items discovered by Howard Carter and Lord Carnarvon in 1922 in the tomb of Tutankhamun. This young pharaoh ruled Egypt in the 14th century B.C.

An exhibit of some of these items, called "Treasures of Tutankhamun" attracted more than 6 million visitors in six cities during a tour of the United States in 1977-79.

The graves of nobles at the ancient Citadel of Mycenae near Nauplion, Greece, discovered by Heinrich Schliemann in 1876, yielded a great variety of gold figurines, masks, cups, diadems, and jewelry, plus hundreds of decorated beads and buttons. These elegant works of art were created by skilled craftsmen more than 3,500 years ago.

The ancient civilizations appear to have obtained their supplies of gold from various deposits in the Middle East. Mines in the region of the Upper Nile near the Red Sea and in the Nubian Desert area supplied much of the gold used by the Egyptian pharaohs. When these mines could no longer meet their demands, deposits elsewhere, possibly in Yemen and southern Africa, were exploited.

Artisans in Mesopotamia and Palestine probably obtained their supplies from Egypt and Arabia. Recent studies of the Mand adh Dhahab (meaning "Cradle of Gold") mine in the present Kingdom of Saudi Arabia reveal that gold, silver, and copper were recovered from this region during the reign of King Solomon (961-922 B.C.).

The gold in the Aztec and Inca treasuries of Mexico and Peru is believed to have come from Colombia, although some undoubtedly was obtained from other sources. The Conquistadores plundered the treasuries of these civilizations during their explorations of the New World, and many gold and silver objects were melted and cast into coins and bars, destroying the priceless artifacts of the Indian culture.

Nations of the world today use gold as a medium of exchange in monetary transactions. A large part of the gold stocks of the United States is stored in the vault of the Fort Knox Bullion Depository. The Depository, located about 30 miles southwest of Louisville, Kentucky, is under the supervision of the Director of the Mint.

Gold in the Depository consists of bars about the size of

ordinary building bricks (7 x 3.6 x 1.75 inches) that weigh about 27.5 pounds each (about 400 troy ounces; 1 troy ounce equals about 1.1 avoirdupois ounces). They are stored without wrappings in the vault compartments.

Aside from monetary uses, gold is used in jewelry and allied wares, electrical-electronic applications, dentistry, the aircraft-aerospace industry, the arts, and medical and chemical fields.

The changes in demand for gold and supply from domestic mines in the past two decades reflect price changes. After the United States deregulated gold in 1971, the price increased markedly, briefly reaching more than $800 per troy ounce in 1980. Since 1980, the price has remained in the range of $320 to $460 per troy ounce. The rapidly rising prices of the 1970's encouraged both experienced explorationists and amateur prospectors to renew their search for gold. As a result of their efforts, many new mines opened in the 1980's, accounting for much of the expansion of gold output. The sharp declines in consumption in 1974 and 1980 resulted from reduced demands for jewelry (the major use of fabricated gold) and investment products, which in turn reflected rapid price increases in those years.

Gold is called a "noble" metal (an alchemistic term) because it does not oxidize under ordinary conditions. Its chemical symbol Au is derived from the Latin word "aurum." In pure form gold has a metallic luster and is sun yellow, but mixtures of other metals, such as silver, copper, nickel, platinum, palladium, tellurium, and iron, with gold create various color hues ranging from silver-white to green and orange-red.

Pure gold is relatively soft—it has about the hardness of a penny. It is the most malleable and ductile of metals. The specific gravity or density of pure gold is 19.3 compared to 14.0 for mercury and 11.4 for lead.

Impure gold, as it commonly occurs in deposits, has a density of 16 to 18, whereas the associated waste rock (gangue) has a density of about 2.5. The difference in density enables gold

to be concentrated by gravity and permits the separation of gold from clay, silt, sand, and gravel by various agitating and collecting devices such as the gold pan, rocker, and sluicebox.

Mercury (quicksilver) has a chemical affinity for gold. When mercury is added to gold-bearing material, the two metals form an amalgam. Mercury is later separated from amalgam by retorting. Extraction of gold and other precious metals from their ores by treatment with mercury is called amalgamation.

Gold dissolves in aqua regia, a mixture of hydrochloric and nitric acids, and in sodium or potassium cyanide. The latter solvent is the basis for the cyanide process that is used to recover gold from low-grade ore.

The degree of purity of native gold, bullion (bars or ingots of unrefined gold), and refined gold is stated in terms of gold content. "Fineness" defines gold content in parts per thousand. For example, a gold nugget containing 885 parts of pure gold and 115 parts of other metals, such as silver and copper, would be considered 885-fine. "Karat" indicates the proportion of solid gold in an alloy based on a total of 24 parts. Thus, 14-karat (14K) gold indicates a composition of 14 parts of gold and 10 parts of other metals. Incidentally, 14K gold is commonly used in jewelry manufacture.

"Karat" should not be confused with "carat," a unit of weight used for precious stones.

The basic unit of weight used in dealing with gold is the troy ounce. One troy ounce is equivalent to 20 troy pennyweights. In the jewelry industry, the common unit of measure is the pennyweight (dwt.) which is equivalent to 1.555 grams.

The term "gold-filled" is used to describe articles of jewelry made of base metal which are covered on one or more surfaces with a layer of gold alloy. A quality mark may be used to show the quantity and fineness of the gold alloy. In the United States no article having a gold alloy coating of less than 10-karat fineness may have any quality mark affixed. Lower limits are permitted in some countries.

No article having a gold alloy portion of less than one-

twentieth by weight may be marked "gold-filled," but articles may be marked "rolled gold plate" provided the proportional fraction and fineness designations are also shown. Electroplated jewelry items carrying at least 7 millionths of an inch (0.18 micrometers) of gold on significant surfaces may be labeled "electroplate." Plated thicknesses less than this may be marked "gold flashed" or "gold washed."

Gold is relatively scarce in the earth, but it occurs in many different kinds of rocks and in many different geological environments. Though scarce, gold is concentrated by geologic processes to form commercial deposits of two principal types: lode (primary) deposits and placer (secondary) deposits.

Lode deposits are the targets for the "hardrock" prospector seeking gold at the site of its deposition from mineralizing solutions. Geologists have proposed various hypotheses to explain the source of solutions from which mineral constituents are precipitated in lode deposits.

One widely accepted hypothesis proposes that many gold deposits, especially those found in volcanic and sedimentary rocks, formed from circulating ground waters driven by heat from bodies of magma (molten rock) intruded into the Earth's crust within about 2 to 5 miles of the surface. Active geothermal systems, which are exploited in parts of the United States for natural hot water and steam, provide a modem analog for these gold-depositing systems. Most of the water in geothermal systems originates as rainfall, which moves downward through fractures and permeable beds in cooler parts of the crust and is drawn laterally into areas heated by magma, where it is driven upward through fractures. As the water is heated, it dissolves metals from the surrounding rocks. When the heated waters reach cooler rocks at shallower depths, metallic minerals precipitate to form veins or blanket-like ore bodies.

Another hypothesis suggests that gold-bearing solutions may be expelled from magma as it cools, precipitating ore materials as they move into cooler surrounding rocks. This hypothesis is

applied particularly to gold deposits located in or near masses of granitic rock, which represent solidified magma.

A third hypothesis is applied mainly to gold-bearing veins in metamorphic rocks that occur in mountain belts at continental margins. In the mountain-building process, sedimentary and volcanic rocks may be deeply buried or thrust under the edge of the continent, where they are subjected to high temperatures and pressures resulting in chemical reactions that change the rocks to new mineral assemblages (metamorphism). This hypothesis suggests that water is expelled from the rocks and migrates upward, precipitating ore materials as pressures and temperatures decease. The ore metals are thought to originate from the rocks undergoing active metamorphism.

The primary concerns of the prospector or miner interested in a lode deposit of gold are to determine the gold content (tenor) per ton of mineralized rock and the size of the deposit. From these data, estimates can be made of the deposit's value. One of the most commonly used methods for determining the gold and silver content of mineralized rocks is the fire assay. The results are reported as troy ounces of gold or silver or both per short avoirdupois ton of ore or as grams per metric ton of ore.

Placer deposits represent concentrations of gold derived from lode deposits by erosion, disintegration or decomposition of the enclosing rock, and subsequent concentration by gravity.

Gold is extremely resistant to weathering and, when freed from enclosing rocks, is carried downstream as metallic particles consisting of "dust," flakes, grains, or nuggets. Gold particles in stream deposits are often concentrated on or near bedrock, because they move downward during high-water periods when the entire bed load of sand, gravel, and boulders is agitated and is moving downstream. Fine gold particles collect in depressions or in pockets in sand and gravel bars where the stream current slackens. Concentrations of gold in gravel are called "pay streaks."

In gold-bearing country, prospectors look for gold where coarse sands and gravel have accumulated and where "black sands" have concentrated and settled with the gold. Magnetite is the most common mineral in black sands, but other heavy minerals such as cassiterite, monazite, ilmenite, chromite, platinum-group metals, and some gem stones may be present.

Placer deposits have formed in the same manner throughout the Earth's history. The processes of weathering and erosion create surface placer deposits that may be buried under rock debris. Although these "fossil" placers are subsequently cemented into hard rocks, the shape and characteristics of old river channels are still recognizable.

The content of recoverable free gold in placer deposits is determined by the free gold assay method, which involves amalgamation of gold-bearing concentrate collected by dredging, hydraulic mining, or other placer mining operations. In the period when the price of gold was fixed, the common practice was to report assay results as the value of gold (in cents or dollars) contained in a cubic yard of material. Now results are reported as grams per cubic yard or grams per cubic meter.

Through laboratory research, the U.S. Geological Survey has developed new methods for determining the gold content of rocks and soils of the Earth's crust. These methods, which detect and measure the amounts of other elements as well as gold, include atomic absorption spectrometry, neutron activation, and inductively coupled plasma-atomic emission spectrometry. These methods enable rapid and extremely sensitive analyses to be made of large numbers of samples.

Gold was produced in the southern Appalachian region as early as 1792 and perhaps as early as 1775 in southern California. The discovery of gold at Sutter's Mill in California sparked the gold rush of 1849-50, and hundreds of mining camps sprang to life as new deposits were discovered. Gold production increased rapidly. Deposits in the Mother Lode and Grass Valley districts in California and the Comstock Lode in Nevada were discovered during the 1860's, and the Cripple

Creek deposits in Colorado began to produce gold in 1892. By1905 the Tonopah and Goldfield deposits in Nevada and the Alaskan placer deposits had been discovered, and United States gold production for the first time exceeded 4 million troy ounces a year—a level maintained until 1917.

During World War I and for some years thereafter, the annual production declined to about 2 million ounces. When the price of gold was raised from $20.67 to $35 an ounce in 1934, production increased rapidly and again exceeded the 4-million-ounce level in 1937. Shortly after the start of World War II, gold mines were closed by the War Production Board and not permitted to reopen until 1945.

From the end of World War II through 1983, domestic mine production of gold did not exceed 2 million ounces annually. Since 1985, annual production has risen by 1 million to 1.5 million ounces every year. By the end of 1989, the cumulative output from deposits in the United States since 1792 reached 363 million ounces.

Consumption of gold in the United States ranged from about 6 million to more than 7 million troy ounces per year from 1969 to 1973, and from about 4 million to 5 million troy ounces per year from 1974 to 1979, whereas during the 1970's annual gold production from domestic mines ranged from about 1 million to 1.75 million troy ounces. Since 1980 consumption of gold has been nearly constant at between 3 and 3.5 million troy ounces per year. Mine production has increased at a quickening pace since 1980, reaching about 9 million troy ounces per year in 1990, and exceeding consumption since 1986. Prior to 1986, the balance of supply was obtained from secondary (scrap) sources and imports.

Total world production of gold is estimated to be about 3.4 billion troy ounces, of which more than two-thirds was mined in the past 50 years. About 45 percent of the world's total gold production has been from the Witwatersrand district in South Africa.

The largest gold mine in the United States is the Homestake

mine at Lead, South Dakota. This mine, which is 8,000 feet deep, has accounted for almost 10 percent of total United States gold production since it opened in 1876. It has combined production and reserves of about 40 million troy ounces.

In the past two decades, low-grade disseminated gold deposits have become increasingly important. More than 75 such deposits have been found in the Western States, mostly in Nevada. The first major producer of this type was the Carlin deposit, which was discovered in 1962 and started production in 1965. Since then many more deposits have been discovered in the vicinity of Carlin, and the Carlin area now comprises a major mining district with seven operating open pits producing more than 1,500,000 troy ounces of gold per year.

About 15 percent of the gold produced in the United States has come from mining other metallic ores. Where base metals—such as copper, lead, and zinc are deposited, either in veins or as scattered mineral grains, minor amounts of gold are commonly deposited with them. Deposits of this type are mined for the predominant metals, but the gold is also recovered as a byproduct during processing of the ore.

Most byproduct gold has come from porphyry deposits, which are so large that even though they contain only a small amount of gold per ton of ore, so much rock is mined that a substantial amount of gold is recovered. The largest single source of byproduct gold in the United States is the porphyry deposit at Bingham Canyon, Utah, which has produced about 18 million troy ounces of gold since 1906.

Geologists examine all factors controlling the origin and emplacement of mineral deposits, including those containing gold. Igneous and metamorphic rocks are studied in the field and in the laboratory to gain an understanding of how they came to their present location, how they crystallized to solid rock, and how mineral-bearing solutions formed within them.

Studies of rock structures, such as folds, faults, fractures, and joints, and of the effects of heat and pressure on rocks

suggest why and where fractures occurred and where veins might be found. Studies of weathering processes and transportation of rock debris by water enable geologists to predict the most likely places for placer deposits to form.

The occurrence of gold is not capricious; its presence in various rocks and its occurrence under differing environmental conditions follow natural laws. As geologists increase their knowledge of the mineralizing processes, they improve their ability to find gold.

**Source:**
U.S. Geological Survey
U.S. Government Printing Office: 2001—674-424

# Chapter 3

# GREENSPAN TO NUMISMATISTS

*Remarks by Alan Greenspan, Chairman*
*Board of Governors of the Federal Reserve System on January 16, 2002*
*at the Federal Reserve Bank of New York*
*Opening of an American Numismatic Society Exhibition*
*New York, New York*

THE OTHER DAY I TOLD A SPENDTHRIFT FRIEND that I had to deliver a short address on the history of money. He responded, "I understand the history of money. When I get some, it's soon history." Fortunately, not all market participants are as spendthrift as my friend. Savers have been in sufficient abundance since the beginning of the Industrial Revolution to enable investment to further material well-being. Money, as a store of value, was an early facilitator of savings and one of the great inventions of mankind. Saving and investment is very difficult in a barter economy.

The history of money is the history of civilization or, more exactly, of some important civilizing values. Its form at any particular period of history reflects the degree of confidence, or the degree of trust, that market participants have in the institutions that govern every market system, whether centrally planned or free.

To accept money in exchange for goods and services requires a trust that the money will be accepted by another purveyor of goods and services. In earlier generations that trust adhered to the intrinsic value of gold, silver, or any other commodity that had general acceptability. Historians, digging deep into the earliest evidence of human practice, link such commodities' broad acceptability to peoples' desire for ostentatious gold and silver ornaments.

Many millennia later, in one of the remarkable advances in financial history, the bank note emerged as a medium of exchange. It had no intrinsic value It was rather a promise to pay, on demand, a certain quantity of gold or other valued commodity. The bank note's value rested on trust in the willingness and ability of the bank note issuer to meet that promise. Reputation for trustworthiness, accordingly, became an economic value to banks—the early issuers of private paper currency.

They competed for reputation by advertising the amount of capital they had to back up their promises to pay in gold. Those banks that proved trustworthy were able to broadly issue bank notes, along with demand deposits, that is, zero interest rate liabilities. The profit that accrued from investing the proceeds at interest was capitalized in the banks' market value. In the mid-nineteenth century, equity capital/asset ratios were often several multiples of today's ratio.

In the twentieth century, bank reputation receded in importance and capital ratios decreased as government programs, especially the discount window and deposit insurance, provided support for bank promises to pay. And, at the base of the financial system, with the abandonment of gold convertibility in the 1930s, legal tender became backed—if that is the proper term—by the fiat of the state.

The value of fiat money can be inferred only from the values of the present and future goods and services it can command. And that, in turn, has largely rested on the quantity of fiat money created relative to demand. The early history of the

post-Bretton Woods system of generalized fiat money was plagued, as we all remember, by excess money issuance and the resultant inflationary instability.

Central bankers' success, however, in containing inflation during the past two decades raises hopes that fiat money can be managed in a responsible way. This has been the case in the United States, and the dollar, despite many challenges to its status, remains the principal international currency.

If the evident recent success of fiat money regimes falters, we may have to go back to seashells or oxen as our medium of exchange. In that unlikely event, I trust, the discount window of the Federal Reserve Bank of New York will have an adequate inventory of oxen.

"[On this point] Lenin was certainly right. There is no subtler, no surer means of overturning the existing basis of Society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose."

John Maynard Keynes, "Inflation and Deflation,"
in *Essays in Persuasion*

PART TWO

# *The Gold Standard*

## *A Critique of Friedman, Mundell, Hayek and Greenspan*

"[Currency devaluation] occasions a general and most pernicious subversion of the fortunes of private people; enriching in most cases the idle and profuse debtor at the expense of the industrious and frugal creditor, and transporting a great part of the national capital from the hands which were likely to increase and improve it, to those which are likely to dissipate and destroy it."

Adam Smith,
*Inquiry into the Nature and Causes of the Wealth of Nations*

## CHAPTER 4

# DEFENSE OF THE GOLD STANDARD

*by Richard Vedder, PhD, Economics Department,*
*Ohio University, Athens, Ohio*

CONVENTIONAL WISDOM HAS IT THAT BEFORE central banking and the Keynesian Revolution came to the United States, the economy performed badly. According to this view, the end of the gold standard and the move towards a discretionary macroeconomic policy using both monetary and fiscal tools brought about economic progress to this nation. I believe conventional wisdom is wrong.

The classical gold standard existed from 1871 to 1914. We were not technically fully on the gold standard in 1871, but were moving in that direction, and we were not fully off of it after 1914, but were moving in that direction. The pseudo-gold standard of the postwar era, say from 1945 to 1971, was just that, a standard where gold played some role in international exchange, but where it played no role as a medium of exchange internally, and when, in fact, there were legal restrictions on gold ownership by American citizens.

When we evaluate the macroeconomic performance of a nation these days, we usually look at three major indicators: prices, output growth, and unemployment. A well known economist of an earlier era (the 1960s), Arthur Okun, talked about a "misery index" that was computed by adding together the inflation rate (as measured usually by the Consumer Price Index) and the unemployment rate. The higher the index, the more misery exists and the poorer the level of economic performance. One can go one step further, and subtract from the misery index the rate of economic growth (presumably economic growth reduces misery), and obtain an "augmented misery index," a single statistic summarizing economic performance. In doing this, we are somewhat impeded because the data on unemployment, and to a lesser extent the other indicators, are fairly shaky or even non-existent for the era of the gold standard, although they are better for the later gold standard era than earlier.

With this is mind, let us look at the 15 gold standard years from 1900 through 1914, and compare them with the 15 most recent years, 1996 through 2010. Data on unemployment are non-existent prior to 1890 and the 1890s data are considered less reliable than that beginning in 1900. Moreover, 1900 is the year of the Gold Standard Act, officially enshrining gold as the basis for defining the U.S. dollar, and 1914, aside from being the last year in which the gold standard operated internationally because of the beginning of World War I, was also the year in which the Federal Reserve began operation (late in the year). The 1900-1914 is the purest gold standard era in U.S. history, with no distortions introduced by central bank operations.

During the period 1900 through 1914, the consumer price index rose by an average of about 1.2 percent a year, less than one-half the inflation rate of well over 2.4 percent annually in the modern period. Moreover, the limited inflation that existed in the gold standard period reflected more the consequences of gold discoveries in South Africa and improvement in the technology of extracting gold than any conscious macroeco-

nomic policy. On balance, prices were far more stable in the gold standard era.

What about unemployment? The annual unemployment rate in the Gold Standard era averaged about 5.1 percent, ranging from a low of 1.7 percent to a high of 8.0 percent. In the modern era, complete with Federal Reserve stabilization efforts, bank and business bailouts, stimulus packages and the like, the average unemployment rate was higher—5.6 percent, ranging between 4.0 and 9.6 percent.

Calculating the "misery index" by adding together inflation and unemployment rates, in the gold standard era we get an average of about 6.3, compared with slightly over 8.0 in the modern era. In other words, there was more than 25 percent greater "misery" in the modern era. In the Gold Standard era, the misery index varied between 1.7 and 9.6, whereas in the modern era it oscillated between 6.0 and 11.3. In only three of 15 years was the Gold Standard era misery index as high as 8.0, or 20 percent of the time. By contrast, in seven of 15 years —47 percent of the time—the misery index reached that level in modern times.

It has been argued that modern day economic stabilization efforts today prevent severe downturns, or end them quicker than the bad old days of the gold standard. The data suggest otherwise. The worst downturn of the 15 years of the earlier era followed the Panic of 1907, which involved bank failures in the nation's financial capital, New York City. The unemployment rate nearly tripled from 1907 to 1908—yet was back to the long term average by the following year 1909. There was no central bank intervention, no countercyclical fiscal policies, just market forces working to restore the economy to its normal state. In labor markets, for example, real wages adjusted for productivity changed eased downward to eliminate excess joblessness. Contrast that with the downturn of the present era, when a 2008 financial panic led to a sharp rise in unemployment in 2009 (paralleling the 1907-08 experience), but a continued rise, not fall, in the rate in the next year (2010). Research by Christina Romer (previously President Obama's

Chair of the Council of Economic Advisers) tends to refute the earlier view that macroeconomic stability has dramatically improved in the post-Keynesian era of a fiat money standard.

What about longer term economic growth? John Maynard Keynes's snide remark that "in the long run we are all dead" implies we should emphasize short run economic fluctuations. Yet the wealth of nations is determined over the long run, and economic welfare is enhanced by long and continuous periods of economic growth. The rough doubling of output every 20 years over the 350 years from 1660 to 2010 is what made the United States and economic superpower the likes of which the world has never seen.

What happened to output growth in the two periods under scrutiny here? In the 1900-14 era, real total output (GNP) rose by a compounded annual rate of 3.57 percent a year—a rate achieved only in one of the 15 modern era years, when the compounded annual growth rate was only 2.44 percent a year. The impact of these differential growth rates is profound over time owing to the powers of compound interest. Suppose two nations had equal outputs but one grew at the gold standard rate of 3.57 percent annually and other at the modern fiat standard rate of 2.44 percent. After 63 years—within the lifetime of a single individual, output in the high growth (gold standard) country would have doubled relative to that of the paper money standard nation.

We can compute an augmented misery index by adding together unemployment and inflation rates—things that produce misery—and subtract the rate of economic growth —something that promotes material well-being and the opposite of misery. Doing that for the gold standard era, we get an average annual augmented misery index of 2.76, compared with 5.59 in the modern era. In other words, so measured, there is twice as much economic misery in the modern era of paper money, discretionary central bank monetary policy, etc., than in the earlier era when policymakers felt their freedom of action was limited by the gold standard.

A similar comparison could be made of the period 1945 to 1971, when there was at least a semblance of a role of gold in international financial transactions, to the period after, when there was no such role. I will not provide detailed evidence here, mainly because I do not consider the "gold standard" arising from the Bretton Woods Agreement of 1944 to be a true gold standard. Nonetheless, on balance the macroeconomic variables are stronger for the earlier period than for the last four decades in which gold played absolutely no role in defining the medium of exchange.

Defenders of the status quo would criticize the analysis above. They might argue that the Great Depression was caused by the gold standard (it wasn't), or that the 1900 to 1914 period is too short of a period from which to make generalizations, or that my analysis is simplistic, not controlling for other factors that might impact economic performance, such as tax and budgetary policies. Yet most of the major structural changes in the economy over time have increased the role of discretionary centralized decision-making by an enlarged government relative to the role played by the market process and the interaction between agents exchanging goods and services. In a gold standard era, countercyclical fiscal policy —using a Phillips Curve approach where inflationary stimulus allegedly reduces unemployment, cannot be used for long and still maintain the fixed price of gold that the discipline of the gold standard demands. The end of the gold standard enabled the failed macroeconomic approaches of the present, be they in the form of 1970s style Federal Reserve inflationary policy that gave us stagflation, or the failed fiscal stimulus packages in the U.S. and Japan in the past two decades.

Why is there not a strong politically appealing push to return to the gold standard? I think the primary reason is that the very factors that make the gold standard a more successful economic environment for nations provide the political reasons why there would be fierce resistance to a return to such a standard. Gold standard regimes are ones where

market forces predominate, and where a discipline is put on policymakers and politicians that both reduces their power and seemingly raises the political costs to them of decision-making. For example, If a nation is having inflation under a gold standard because of excessive monetary creation, the decline in exports, rise in imports and probably investor speculation would lead to gold reserves declining sharply in that nation, forcing the adoption of restrictive monetary policies, something that imposes short term political costs on political leaders. In a pure gold bullion standard, the specie price mechanism outlined by Scottish philosopher David Hume a quarter of a millennium ago would work reasonably well—without a central bank, pushing nations back into an equilibrium where prices find a level compatible with the currency value defined in terms of gold.

While the reluctance of political leaders to cede power is the main reason for a resistance to the gold standard, an important secondary one is ignorance. Most Americans today are either hostile or indifferent to the lessons of history, or, at the very least, ignorant of them. They do not know the historical experience outlined above. It is no accident that the era in which America achieved its role as the world's largest economy was precisely the era of the gold standard, namely the years around 1900, but it is sad that the average American simply does not know that.

Still, crises can lead to revolutionary change, when desperate people are willing to do desperate things to restore normalcy. Our fractional reserve banking system with no constraints on the issuance of paper money, accompanied by massive government indebtedness, is a ticking time bomb. The close financial integration of world financial markets creates the possibility that monetary and fiscal excesses in Europe, China, or Japan could precipitate a world financial crisis of truly biblical proportions, a tsunami that could force world leaders to reconsider the means by which we carry out exchanges of goods and services. And if and when that time comes, there will be lots of talk about gold.

"Whatever its proximate source, inflation is a disease, a dangerous and sometimes fatal disease, a disease that, if not checked in time, can destroy a society."

Milton Friedman

# Chapter 5

# INTRODUCTION TO FRIEDMAN, MUNDELL, HAYEK, AND GREENSPAN

THIS IS AN ESSAY WHICH TAKES AS ITS JUMPING off point the free enterprise system. It then attempts to evaluate the contributions of four distinguished scholars to monetary theory in general, and to an evaluation of the gold standard in[2] particular. I take for granted the general case for markets, competition, economic freedom. The four individuals mentioned in the title have been chosen because they are widely believed to be exemplars of this limited government, free market, political philosophy—and are also opponents of the gold standard. It is one of the purposes of the present contribution to test that very proposition. To wit, it is an attempt to see how consistent with their otherwise expressed principles of free enterprise are their contributions to monetary theory.

Which monetary regime is consistent with the free enterprise philosophy? In order to answer that, we must first be clear on what is meant by this political economic theory. Laissez faire

capitalism implies economic freedom and private property rights. As long as these are respected, a person may do whatever he wishes; there are no economic regulations, and government is limited to protecting persons and property through courts, armies and police. People are "free to choose" (Friedman and Friedman, 1980) within these legal constraints.

My argument is that the gold standard is the only financial arrangement compatible with such a vision (Mises, 1966, pp.471-478). This is because all that is meant by a gold standard are those monetary arrangements which are arrived at by freely choosing individuals. However, it is a matter of historical fact that whenever societies have been "free to choose" in this regard (Menger, 1950, pp.257-285), they have always evolved to gold.[3] It is for this reason that an actual misnomer has arisen within the field of economics: although "gold standard" would appear to imply that the yellow metal has something to do with monetary arrangements, this is not strictly true. In actual point of fact, the phrase "gold standard" now denotes whichever commodity emerges as money from the free interplay of market forces. For example, if silver, or platinum, or some other commodity were to have arisen as the money as a result of free market forces, there is not one advocate of the "gold standard" who would be disappointed; this is the case, because, literally, that is how the phase functions in our language: it refers to free market money, whatever its chemical properties.

This makes our quest at once more difficult and easier too. It is now simplicity itself to be able to declare that all those who oppose the gold standard (as defined above) cannot possibly advocate free enterprise, at least in this one field. This follows from the very definition. If all that gold standard means is marketplace money, and one opposes the gold standard, then one cannot without pain of contradiction assert that he favors the free operation of markets. But it is more difficult, too, if only for psychological reasons; opponents of this thesis will feel victimized by sharp practice; they will charge definitional legerdemain.

But there is no way out of this contradiction. The gold standard advocate means no more by this term than "free market money." The proof of this is in his warm embrace of any other metal (or commodity) which comes to be used as the money medium in the absence of any government compulsion. To be fair to the critics, however, we now turn to a careful consideration of their several objections to our thesis. We do not take up those emanating from Marxists, Keynesians, others self avowed enemies of economic freedom. Rather, we look at the critiques penned by scholars who are associated with this very same perspective. And not only are the four scholars mentioned above associated with it: they are seen by all and sundry as leading advocates, as foremost spokesmen, for economic liberty. All the more disappointing, then, that all four have rejected the market's choice in this regard, in favor of a panoply of idiosyncratic interventionistic monetary schemes.

"[Currency devaluation] discourages all prudence and thrift. It encourages squandering, gambling, reckless waste of all kinds. It often makes it more profitable to speculate than to produce. It tears apart the whole fabric of stable economic relationships. Its inexcusable injustices drive men toward desperate remedies. It plants the seeds of fascism and communism. It leads men to demand totalitarian controls. It ends invariably in bitter disillusion and collapse."

Henry Hazlitt, *Economics in One Lesson*

# CHAPTER 6

# CONCERNING MILTON FRIEDMAN

FRIEDMAN (1960, P.4, EMPHASIS ADDED) STARTS out on a high note, fully justifying his leadership role in this field. He states:

> "The (classical) liberal is suspicious of assigning to government any functions that can be performed through the market, both because this ***substitutes coercion for voluntary cooperation***, in the area in question and because, by giving government an increased role, it threatens freedom in other areas. Control over monetary and banking arrangements is a particularly dangerous power to entrust to government because of its far-reaching effects on economic activity at large —as numerous episodes from ancient times to the present and over the whole of the globe tragically demonstrate."

After ringing this glowing endorsement for monetary freedom, one could almost infer that he favors the gold standard. After all, he extols the virtues of the market and of free competition, and as we know, it was through this very process that gold "beat out" all other competitors. He forthrightly distinguishes between voluntary cooperation and coercion,[4] and this, too, implies the gold standard, the only monetary

system which arose through the voluntary cooperation of the market.[5] Not content with merely a theoretical account of the virtues of the gold standard, Friedman seemingly buttresses his case with an empirical historical note, attesting to the tragic history of governmental (e.g. non gold standard) control. What more could be said on behalf of gold in so short a statement? Nothing at all.

In the event, however, we are sadly disappointed. For after so promising a beginning, our reasonable expectations that this is just the preliminary to a clarion call for market money is dashed to pieces. Says Friedman (1962, p.40, emphasis added):

> "The fundamental defect of a commodity standard (read gold standard) from the point of view of the ***society as a whole***, is that it requires the use of real resources to add to the stock of money. People must work hard to dig gold out of the ground in South Africa—in order to rebury it in Fort Knox or some similar place. The necessity of using real resources for the operation of a commodity standard establishes a ***strong incentive for people*** to find ways to achieve the same result without employing these resources. If people ***will accept*** as money pieces of paper on which is printed 'I promise to pay—units of the commodity standard,' these pieces of paper can perform the same function as the physical pieces of gold or silver, and they require very much less in resources to produce."

This is very disappointing, to say the least. The argument as presented here in the two quotes above amounts to the following syllogism:

(1) a ringing endorsement of freedom
(2) a realization that this freedom will cost real resources
(3) a realization that this freedom will cost real resources the conclusion that we should not indulge in such freedom after all, since it costs something; instead, there is an option made on behalf of coercion, and we are in effect told to forget all about "substituting voluntary cooperation for coercion."

Let us assume for a moment, with Friedman, that freedom costs real resources, at least in the monetary field. This still does not logically imply anything like (3) the conclusion of his argument. For there are very different alternative resolutions of these propositions, which make at least as much sense as his own. For example, what about "justice though the heavens fall?" What has become of "our lives, our fortunes, and our sacred honors?" And where has gone "millions for defense, not a penny for tribute?" These, too, are equally valid as conclusions of the Friedmanite premises. That he has not taken up any of them is irrelevant to his skills as a positive economist, but speaks volumes in terms of his ranking of the importance of premises (1) and (2).

Nor need we resort only to philosophical notions of freedom. Even without these arguments, it still does not follow that just because a gold standard costs something, it is not worth it and should therefore be eschewed. Cars, houses and sailing boats all cost "real re- sources." Does this mean we should never buy them? Not at all. The usual ways such matters are settled is to consider their costs as well as their benefits.

What, then, are the values of gold as a money? Why should people pick it when they are "free to choose?"[6] Why should this be their choice when it "costs real resources," and there are all these cheap substitutes potentially available? To ask the question in this way is practically to answer it. They choose gold, they have always chosen gold, because even though it is more expensive[7], the credits derived more than make up for the debits. The advantages provided by gold vis a vis other commodity standards (malleability, portability, high value per unit weight and volume, etc.) are only the tip of the iceberg. Of far greater importance is its superiority when compared to fiat paper. And here the record is clear. Throughout history, and even in the modern era, millions of people have been victimized by governmental fiat currency inflation[8], even as Friedman has himself stated above.

The point is, gold is like an insurance policy. Just as locks,

fences and doors are used to preclude losses from theft - even though they come only at the expense of real resources, so, too does the costly use of gold attain something desirable, namely, protection from statist monetary depredations.[9]

So far, we have been assuming the truth of (2). It is now time to call this assumption into question. Much to the contrary of Friedman's assertion, it is simply not true that a gold standard will be a debit, even in financial terms. Digging gold in South Africa and elsewhere, and burying it in Fort Knox or similar places takes place *anyway*, whether or not gold is the money medium.[10] This metal is a valuable commodity, and will be sought after whether or not it is used as money.[11]

Let us now address ourselves to several other problems with Friedman's analysis.

First, from whose perspective is the choice of monetary medium to be made? Friedman presumably speaks "from the point of view of society as a whole." The obvious retort here is that from the *economic perspective*, only individuals choose, not societies as a whole, and whenever individuals have been free to choose, they have selected gold from amongst all market possibilities. Fiat currency, to be sure, has been *imposed* on societies, but never freely chosen.

The only interpretation of Friedman's remarks that is logically coherent is that it is not from the economic perspective that the choosing of a monetary system is to be attained, but rather from the political. If this is the correct meaning, then the truth of his statement cannot be denied. We did indeed choose paper money through the political system; it is undeniable that our democratically elected representatives chose to rescind the market choice of gold, and impose fiat currency in its place. But what does this have to do with freedom? Just because a majority of the people elected representatives who choose a certain path does not mean that this path enhances liberty. Indeed, one might go so far as to defend the very opposite thesis: that if a democratically elected government made a given decision—of any kind type or variety—it was probably counter productive to freedom.

Second, Friedman asserts that there is "a strong incentive for people" to find substitutes for gold money, since it costs real resources. We have seen the fallacy of the latter part of this claim, but the former is problematic as well. It implies that the masses of the people, through markets, prefer greenbacks to gold. In actual point of fact, though, such a decision was never made in this manner; on the contrary, this was imposed from above, politically.

Third, he talks of "people *accepting* as money pieces of paper on which is printed 'I promise to pay—units of the commodity standard'." But this is entirely ingenuous. Of course, they will accept a statist medium of exchange after legal tender laws require this, and after gold has been in effect outlawed as a money. But this is an entirely different matter than the one addressed by Friedman in the first (1960) quote above. There, he talks in terms of substituting coercion for voluntary cooperation, presumably allowing the decision as to the money substance to emanate from markets; here, he speaks of "accepting" paper as payment under a political regime which compels such behavior and prohibits alternatives.

Even more egregious, this statement is entirely compatible with the gold standard!

For no one defines this institutional arrangement in such a way as to preclude people from carrying around in their wallets warehouse receipts for specific amounts of this metal. E.g. under a full robust 100% gold standard, people could still conduct business with checks, plastic credit cards, or folding money, or any other convenient substitute. The point is, all of these transactions would be *in terms of gold*; this metal would *underlay* all commercial interactions, even if its actual use is mainly implicit. Under this interpretation, Friedman is incomprehensibly attacking the gold standard by praising one particular aspect of it.[12] Thus, if all that is on his mind is the saving of resources, our economic freedom need not be pillaged in order to accomplish this task. All we need do is reinaugurate the gold standard, and content ourselves with the fact that various money substitutes will undoubtedly be employed as

attributes of it, thus obviating the need for digging up excessive amounts of gold.

In addition to the fame he has garnered as an opponent of the gold standard, Friedman has taken a high profile in support of flexible exchange rates between different currencies.

In contrast, a full worldwide gold standard implies fixed exchange rates. In this scenario, the names of the national currencies indicate, merely, the different numbers of grams of the precious metal embodied in them. For example, the pound might be four grams of gold, the dollar two grams, and the yen one gram. If so, there is an unambiguous, totally "fixed" exchange rate between them all: the ratio of 4:2:1. That is, the pound is twice as valuable as the dollar, which in turn is worth two yen; and of course four yen trade for one pound.

It is sometimes objected that this would be akin to price control, where the price of one commodity is "fixed" in terms of another, or of money. But nothing could be further from the truth. The reason for the "fixity" in price controls is due to legislative enactments. If silver must exchange for gold at the rate of 16 to 1, this is because of unwise and invasive law, not any natural requirement. But a fixed gold exchange rate comes about for entirely different reasons. It is because the various national currencies are simply the names of different amounts of gold; the fixity, here, is engendered by this fact, not man made law. It is as natural as the fact that nickels, dimes and quarters trade at fixed rates with one another, that feet, yards and miles are all inextricably tied up with one another in fixed proportions. The former is clearly a violation of market freedom; not so the latter.

One problem with flexible exchange rates, therefore, is that they cannot be made compatible with a worldwide gold standard, which requires fixity, not flexibility. Another is that they lower the barriers against inflation. Gold, of course, is the inflation fighter par excellence. Since it is virtually impossible to counterfeit this metal, at least in the modern era, the stock of money under this standard is fixed, apart from new mine

production. This holds true apart from this consideration. Even in the absence of a pure gold standard, fixed exchange rates provide some insurance against inflation which is not forthcoming from the flexible system. Under fixity, if one country inflates, it falls victim to a balance of payment crisis. If and when it runs out of foreign exchange holdings, it must devalue, a relatively difficult process, fraught with danger for the political leaders involved. Under flexibility, in contrast, inflation brings about no balance of payment crisis, nor any need for a politically embarrassing devaluation. Instead, there is a relatively painless depreciation of the home (or inflationary) currency against its foreign counterparts.[13]

"Although there are countless scourges which in general debilitate kingdoms, principalities, and republics, the four most important (in my judgment) are dissention, [abnormal] morality, barren soil, and debasement of the currency. The first three are so obvious that nobody is unaware of their existence. But the fourth, which concerns money, is taken into account by few persons and only the most perspicacious. For it undermines states, not by a single attack all at once, but gradually and in a certain covert manner."

Nicholas Copernicus, "Treatise on Debasement," in *Minor Works*

## Chapter 7

# CONCERNING ROBERT MUNDELL

HOW DOES ROBERT MUNDELL FIT INTO THE gold standard picture? Strictly speaking, he does not fit in at all. He is not particularly known for his views on this subject, and spends little of his intellectual capital on it. This is not to say he eschews it totally; on the contrary, his views in this regard are typical of most mainstream economists: he rejects the monetization of gold, contenting himself with attempts to bring greater accountability to a system that has long since been wrenched out of the hands of the market, and given over to the tender mercies of the political system. In his particular case he advocates the "gold price rule" which is similar, in effect and in intention, to Friedman's 3% "rule" for the fed. That is, it is an attempt to obviate government's natural tendency to inflate, without setting up a separation of money and state, as would exist under a pure gold standard. If this were all there was to it, he would not have been included in the present work.

The reason he is worthy of this dubious honor - apart from the fact that like the other three, he is noted for a general stance on behalf of economic freedom - is his work in the theory of optimal currency areas (Mundell, 1961).[14] That is, the question of what geographical zone is appropriate for each type of money.

In his view, the "optimal currency area" is not the whole world. On the contrary, it encompasses far less territory than that. Right off the bat, that puts him in conflict with the gold standard view, which of course sees the optimal currency area for gold as the entire globe. Thus, not only should not the world be on the gold standard for Mundell, it should not operate on the basis of any one currency, no matter what it is, whether or not it is gold. We need, in his analysis, many currencies. But not competing ones, the Hayekian perspective.

Instead, each one should be supreme, without its own area.

How does he arrive at this conclusion? He starts off with an initial assumption of full employment and equilibrium in the balance of payments. Then he posits a shift in demand, say from country B to country A (Mundell, 1961, p.658). In his Keynesian model, this causes unemployment in B and inflation in A.[15] As a result, there will be a flow of funds from B to A; B will be in balance of payments deficit, A in surplus.

To correct unemployment in B, there should be an increase in its money supply.[16] But this would aggravate inflation in A. So slower or zero monetary growth is indicated there. Or, best of all, a fall in the value of B's currency, and a rise in that of A's.

To the unreconstructed Keynesian, this represents no problem at all. With their keen insights into the workings of macroeconomics, money manipulation, fine tuning, flexible exchange rates, all is solved.

Now suppose that the world consisted of only the US and Canada (Mundell, 1961, p.659). Again, Mundell posits a situation of initial full employment, and balance of payment

equilibrium, this time between the different regions of the two countries. As before, he then assumes a shift in demand. This is not from one country to another, but rather from goods produced in the western part of both countries to goods produced in the east.

The analysis flows along familiar channels: as a result of this demand shift, there will be unemployment in the west, and inflation in the east. There will be a flow of bank reserves from west to east. The west will be in (internal) balance of payments deficit, the east in surplus. To correct unemployment in the west, an increase in the money supply would be called for. But this would just exacerbate the inflation in the east. Unlike the previous case, there is no solution for Mundell. Except, that is, if currency is tailored to regions which are economically significant, not nations, which need not always be. To wit, there is a solution if the east and the western zones each have their own separate currencies. Then, the twin scourges of unemployment and inflation can be solved as they were before, through the use of monetary and fiscal policy and flexible exchange rates.

Having presented this model, let us now consider a few of its drawbacks. First, how is the region to be defined? Mundell does this in terms of a place within which there is factor mobility, and outside of which there is none. But regions so defined continually change.[17] That is, relative prices, new discoveries, innovations, the supply and demand of complements and substitutes are in a continual flux in the real world. If there are to be separate currencies for each region, and the regions keep changing, the implication would appear to be that the currencies, too, should continually be altered. This, however, appears more as a recipe for chaos than a serious suggestion for a new monetary policy.

Further, in one sense government is the main or only source of factor immobility. The state, with its regulations, required specifications, "buy local" requirements, licensing arrangements—to say nothing of explicit interferences with trade—is the prime reason why factors of production are less mobile

than they would otherwise be. In a bygone era the costs of transportation would have been the chief explanation, but what with all the technological progress achieved here, this is far less important in our modern "shrinking world." If this is so, then under laissez-faire capitalism, there would be virtually no factor immobility. Given even the approximate truth of these assumptions, the Mundellian region then becomes the entire globe—precisely as it would be under the gold standard. (Here factor immobility is being defined as essentially government prohibition on trade).

There is an entirely different sense of factor mobility, however. Lying at the opposite end of the spectrum from the previous one, here it consists of the fact that costs (mainly transportation costs) render factors immobile, geographically. Based on this assumption, each individual person would have to be defined as a separate region. This is so because by definition he is the region within which there is mobility, and outside of which there is none.

What is the implication of this second model? If there are supposed to be as many different types of currencies as regions, and if each person is a region, then there would have to be as many currencies as there are people—a separate type of money for each person. The problem with this, of course, is that it would be the end of money as we know it. A world with six billion different currencies is, in effect, a world with no money at all. Under these conditions we would fall back to a situation of barter.

Mundell himself sees this problem.[18] But rather than shrinking in horror from either scenario (especially the latter) he proposes what all economists in good standing in the neoclassical school would propose—a cost benefit analysis. If the primary goal is economic stability, then the number of currencies should be larger; if it is the use of money as a medium of exchange, then the fewer the different numbers of currencies the better. So, what is the optimal number of currencies for the world? Mundell does not vouchsafe us a specific answer to this

rather important question. Reading between the lines, one gets the feeling that this number should lie for Mundell somewhere in between several dozen to a few hundred, but as he never specifies, this is at best an educated guess.

So far, we have accepted the stability argument; the quaint Keynesian notion that monetary and fiscal policy can lead us to the promised land. Actually, however, the charge that Keynesianism is dead from the neck up is hard to resist. And that it was killed off by the spectre of inflationary recession. For in this world view, the antidote to inflation is to draw down expenditure, whether by fiscal or monetary policy. The cure for unemployment, on the other hand, is to increase general spending. What happens if there is *both* unemployment and inflation in the system? Stepping on the gas will solve the former problem, but aggravate the latter; hitting the brakes will have the opposite effect. The wonder of the matter is not that Keynesianism has foundered on this particular set of shoals, but that it continues to enjoy a ghoulish existence despite the foregoing. With the best will in the world, monetary and fiscal policy are just not up to the job. Rather than anti-cyclical, bureaucratic interference with the market has been *pro*-cyclical.[19] Nor can we rely on the best will in the world, as the Public Choice School (Buchanan, 1975; Buchanan and Tullock, 1971) has so valiantly taught us. For civil servants, not only private entrepreneurs, can be expected to indulge in "rent seeking"[20] at the expense of the public good.

A further problem with the Mundell model is that it is open to a possible reductio ad absurdum rejoinder. At present, no one worries about "balance of payments" problem between New York State and New Jersey. Nor between California and Maine, nor Oregon and Florida. But with the advent of the Mundellian perspective, this would no longer be true. Now, we can add this worry to all the rest which plague mankind.

"I say that a thing which tends to bring a realm to ruin is disgraceful and harmful to the king and his heirs, my first premise; that it extends and changes [the kingdom] to a tyranny, my second, and that it does so by alteration of the coinage, my third."

Nicholas Oresme, *De Moneta*, circa 1360

# Chapter 8

# CONCERNING FREDRICH HAYEK

HAYEK (1976) OPPOSES THE GOLD STANDARD. This, indeed, is puzzling, since he has several good things to say about this system:

> ". . . significantly, it was only during the rise of the prosperous modern industrial systems and ***during the rule of the gold standard***, that over a period of about two hundred years . . . prices were at the end about where they had been at the beginning (emphasis added)" (1976, p.9).

> "With the exception only of the 200-year period of the gold standard, practically all governments of history have used their exclusive power to issue money in order to defraud and plunder the people." (1976, p.16)

Why this rejection? It would appear that this is out of a counsel of despair. It is not that he specifically opposes such

a system, so much, as it is based on a fear that it would not be allowed to function due to the political realities:

> "I do not believe we can now remedy this position by ***constructing*** some new international monetary order, . . . or even an international agreement to adopt a particular mechanism or system of policy, such as the classical gold standard. I am fairly con- vinced that any attempt now to reinstate the gold standard by international agreement would break down within a short time and merely discredit the ideal of an international gold standard for even longer." (1976, p.15)

Unfortunately, Hayek does not realize that the political impossibility of a gold standard—due in part to a rent seeking desire for inflationary policies—would tend to apply to any other scheme addressed to this end, and for the same reasons. To wit, if the politically powerful desire inflation, and are able to quell the gold standard on this ground, then they would likely be able to obviate any other system, such as the one now proposed by Hayek, which had the same effect.

Another problem is that Hayek does not appreciate the fact that if those such as himself who would advocate gold (but for its expected political impossibility) refrain from doing so on this ground, then they themselves render such an occurrence less likely.

Hayek (1976) repudiates gold for these reasons which, perhaps, may best be characterized as psychological. That is, he implies that there is something problematic about "discredit(ing) the ideal of an international gold standard," and that it would only break down due to lack of widespread appreciation for it.

But in his 1990 work he rejects gold on more sharp and forceful grounds: the government cannot be trusted to run the system, and it not worthy of being run in the first place. He states (1990, p.110):

> "Most people therefore now believe that relief can come only from returning to a metallic (or other commodity) standard. But not only is a metallic money also exposed to the

> risks of fraud by government; even at its best it would never be as good a money as one issued by an agency whose whole business rested on its success in providing a money the public preferred to other kinds. Though gold is an anchor—and any anchor is better than a money left to the discretion of government—it is a very wobbly anchor. It certainly could not bear the strain if the majority of countries tried to run their own gold standard. There just is not enough gold about."

There are several problems with this analysis. First, while it is undoubtedly true that "a metallic money (is) also exposed to the risks of fraud by government,"[21] we should also recognize that metallic money is in far *less* danger of debasement than anything else—particularly Hayek's own suggestion of a market basket of fiat currencies. Debasement might have worked for the king several centuries ago, but what with the modern science of metallurgy, the treasury will likely be in a straight jacket as far as this scam is concerned.

Second, Hayek is wrong in implying that gold is *not* "issued by an agency whose whole business rested on its success in providing a money the public preferred to other kinds." Our Nobel Laureate presumably supposes that a gold standard must be administered by government. Nothing, however, could be further from the truth. While it can of course not be denied that historically the state has indeed achieved control over what passed for a gold standard, this is by no means necessary. That is, it is entirely possible, and plausible, for the whole industry—from mining to minting, from banking to warehousing, from certification to providing brand names—to be run privately. And this is precisely the public policy alternative to his "competing money" system.

Third, there is no minimal requirement with regard to the number of gold ounces available to serve as the money. There is thus no "strain" that "could not be borne," if not only the majority of countries, but the entire world, with Mars and Venus tossed in for good measure, decided to embrace the gold standard. All that would occur is that the value of each gold

ounce would rise in value, until, in equilibrium, the monetary needs of the entire community could be satisfied.

Instead of the gold standard, Hayek proposes[22] the elimination of legal tender laws (1976, pp.17-19), coupled with competition between the present statist currencies, and a new one to be called the "ducat" (1990, p.46)

No one who favors freedom in the monetary area can disagree with Hayek's call to end legal tender laws. These are an affront to our rights to contract. If I purchase a cow from you, and promise to pay you two ounces of gold, under this enactment I may break our agreement, and force you to accept instead some fiat coins of the realm, which are legal tender for all debts public and private. Under strict legal tender laws, you have no right to insist that I honor our contract and pay you back in gold.[23]

But this step is only necessary for monetary liberty, not sufficient. And, as it happens, accomplishing it will do very little for the ultimate goal. Why is this? It is because this public policy[24] recommendation fails to incorporate the insights of Mises' (1912) regression theorem. In that view, money must originally have been a commodity, highly valued for reasons other than its ability to transact business. It was initially accepted as a money in return for goods other than its ability to transact business. It was initially accepted as a money in return for goods or services only because of the well founded expectation that when the recipient wished to turn around and buy other items with the good he has just received, he would be able to do just that. Without this assurance, no one would accept the item in payment for parting with the good or service in question in the first place. And what explains this pattern of trust, or acceptability? The fact that the (soon to be money)[25] commodity was in wide use on the basis of its own merits as a consumption item.

States Rothbard (1981-1982, p.9):

> ". . . Hayek's plan ignores the most fundamental part of Mises' regression theorem: that nothing ever becomes money

> out of the blue; that it can only emerge as money as a unit of weight of a useful market-produced commodity; almost always either gold or silver. Once the public becomes accustomed to the dollar or pound as a unit of weight of gold, ***then*** the government can sever the accustomed name from its base in the market-produced commodity, and seize the monopoly of supplying it as a fiat currency—with results that we know all too well in the 20th century."

The key element of money ("moneyness") is this pattern of trust, or acceptability.

Without it, nothing can be money, be it ever so attractive, and imbued with the figures of no matter how many princes or presidents. With it, practically anything[26] can be money, no matter how modest and unassuming. Once this faith or credence has been established, it is very hard to break it.[27]

Legal tender and other statist laws were undoubtedly instrumental in the past in breaking the link between the commodity gold and the "moneyness" it once had. But it does not follow that rescinding this law now will succeed in turning back the clock. On the contrary, once acceptability of a fiat currency has been attained in this way, legal tender laws are no longer necessary to maintain it. Money has a life of its own in this respect, barring extraordinary circumstances, such as hyperinflation.

The reason we all accept US currency today is not due to the legal tender law. It is because of its present "moneyness:" we all have the firm conviction that if we accept it, others will, too, when it comes time for us to spend it. If the legal tender law were rescinded tomorrow, US currency would likely still circulate as a money.

Let us now consider the second aspect of Hayek's proposal, competition between fiat currencies, up to and including the "ducat," a basket of other fiat currencies. There is, to be sure, nothing wrong with competition. If anything, there is far too little of this precious activity, and more can well be preferred to less. But what is needed is *market* competition, not competition between fiat currencies. For economic liberty consists

of private individuals competing against one another; it has nothing to do with rivalry between states, or statist institutions such as fiat currency.

States Rothbard (1981-1982, p.9):

> "(Here is) the major flaw in Hayek's scheme: Not just that no one would pay any attention to these currencies, but that the scheme leaves the really important current moneys, dollars, pounds, etc., in the hands of monopoly government. Hayek's 'denationalized' money may allow for freedom to produce such trivial paper tickets as 'Hayeks' and 'Rothbards', ('Ducats') but it would disastrously leave real money: dollars, pounds, etc. safely nationalized and monopolized in the hands of government. And so inflation would proceed unchecked upon its way" (material in brackets supplied by present author).

It cannot be denied that the Catholic notion of subsidiarity, or decentralism, or federalism, has a role to play; but only within *political* institutions. That is to say, for any given level of governmental intervention, it is better that it take place at the local than at the central level. This is because people can always "vote with their feet" if a city or state becomes abusive, but find it far more difficult to move to a different country if victimized at that level.

For example, it would enhance liberty by not one whit should the government create a second wholly owned post office, to compete with the first. Customers may possibly receive better service, but that is an entirely different matter. The same applies to a school voucher program whose only effect is to promote competition within the public school system. Again, there might conceivably be a gain in efficiency from such an enterprise, but this can have nothing to do with free markets, since by definition such institutions are in no way involved.

Hayek's suggestion is subject to much the same criticism as were flexible exchange rates. The similarity is that in both cases trade and competition are supported. But these phenomena are only necessary, not sufficient, for a free market. Also required is an underlying set of legitimate property rights. One might as

well advocate trade in stolen goods. This, too, would increase utility in the sense that this term is used in welfare economics. But it would not augment liberty. On the contrary, heightened efficiency would reduce it; for if there must be theft in this world, at least it should be allowed to be as inefficient as possible.

The point is, fiat currencies are not themselves aspects of markets; they are not derived, nor derivable, from voluntary choices of consenting economic actors. They are, rather, imposed from above by the political system. As such, trade in them, no matter how salutary on other grounds, cannot be counted as an aspect of economic freedom.

Hayek's competitive ducat system may in some practical ways be preferable to present institutional arrangements. It will not increase freedom, but it may enhance consumer satisfaction. But clearly it is inferior to gold on both counts. This metal was chosen, not imposed by fiat; it is therefore compatible with free enterprise. And the fact that gold passed the market test of competition—something that cannot be said on behalf of any of these other alternatives—suggests that it is preferable on merely pragmatic grounds as well.

"The first panacea for a mismanaged nation is inflation of the currency; the second is war. Both bring a temporary prosperity; both bring a permanent ruin. But both are the refuge of political and economic opportunists."

Ernest Hemingway

# Chapter 9

# CONCERNING ALAN GREENSPAN

THIS ECONOMIST PRESENTS THE GREATEST CHALLENGE to our thesis: that the four scholars named in the title of this paper do not consistently maintain their adherence to free market principles, at least when it comes to gold. The reason for the difficulty is that Greenspan (1966) is, seemingly, an enthusiastic supporter of the gold standard. Based on direct citations, he is as good on gold as it is possible to be, at least from a strictly economic perspective. It is worth quoting him at great length on this point, to show just how keen is his appreciation of the gold standard, and of its connection between gold and liberty:

> "An almost hysterical antagonism toward the gold standard is one issue which unites statists of all persuasions. They seem to sense—perhaps more clearly and subtly than many consistent defenders of laissez-faire—that gold and economic freedom are inseparable, that the gold standard

is an instrument of laissez-faire and that each implies and requires the other." (p.96)

"When gold is accepted as the medium of exchange by most or all nations, an unhampered free international gold standard serves to foster a worldwide division of labor and the broadest international trade. Even though the units of exchange (the dollar, the pound, the franc, etc.) differ from country to country, when all are defined in terms of gold the economies of the different countries act as one—so long as there are no restraints on trade or on the movement of capital." (p.98)

"But the opposition to the gold standard in any form—from a growing number of welfare state advocates—was prompted by a much subtler insight: the realization that the gold standard is incompatible with chronic deficit spending (the hallmark of the welfare state)." (p.100)

"This is the shabby secret of the welfare statist's tirades against gold. Deficit spending is simply a scheme for the 'hidden' confiscation of wealth. Gold stands in the way of this insidious process. It stands as a protector of property rights. If one grasps this, one has no difficulty in understanding the statist's antagonism toward the gold standard." (p.101)

It might be possible to find a more ringing endorsement of the gold standard, and in particular a tighter linkage between it and economic freedom, but one would have to delve deep into the literature to find it. For our purposes, we may take his statements as quite definitive: the gold standard enhances economic wellbeing, is necessary for economic freedom, and is cordially hated and detested by people who oppose liberty and prosperity, and for those very reasons.

How, then, can we account for the fact that Greenspan has been Chairman of the Federal Reserve System for many years, and not only do we not yet have a gold standard, we have absolutely no movement in that direction?[28]

In this context Rothbard's (1987) analysis of this puzzling

situation has the ring of truth to it. In his view, Greenspan *does* favor gold and laissez-faire capitalism, but only on a high philosophical level where he does not have to *do* anything about it; in contrast, he does not champion it as a practical matter, for then he would be called upon at least to show some evidence of his beliefs. States Rothbard (p.3):

> "Greenspan's real qualification is that he can be trusted never to rock the Establishment's boat. He has long positioned himself in the very middle of the economic spectrum. He is, like most other long-time Republican economists, a conservative Keynesian, which in these days is almost indistinguishable from the liberal Keynesians in the Democratic camp . . . Which means that he wants moderate deficits and tax increases, and will loudly worry about inflation as he pours on increases in the money supply.
>
> "There is one thing, however, that makes Greenspan unique, and that sets him off from (the) Establishment . . . And that is that he is a follower of Ayn Rand, and therefore 'philosophically' believes in laissez-faire and even the gold standard. But as *The New York Times* and other important media hastened to assure us, Alan only believes in laissez-faire 'on the high philosophical level.' In ***practice*** in the policies he advocates, he is a centrist like everyone else because he is a 'pragmatist.'. . .
>
> "Thus, Greenspan is only in favor of the gold standard if all conditions are right: if the budget is balanced, trade is free, inflation is licked, everyone has the right philosophy, etc. In the same way, he might say he only favors free trade if all conditions are right: if the budget is balanced, unions are weak, we have a gold standard, the right philosophy, etc. In short, ***never*** are one's 'high philosophical principles' applied to one's actions. It becomes almost piquant for the Establishment to have this man in its camp."

Of course, there are other possible explanations of this phenomenon: Greenspan has changed his mind about the efficacy of gold (but then, why not share his new reasoning with

the world?), he still advocates this monetary standard, but deems it so politically incorrect as to not be feasible even to attempt to implement it (but who better than the Chairman of the Fed to do this?), he has fallen under the sway of the inside the beltway types, he regards his early flirtation with gold as a youthful indiscretion. But all of this is speculation. Perhaps his autobiography will one day clarify this matter.

## Conclusion by Walter Block, PhD, Professor of Economics Loyola University at New Orleans

We have considered the views of four economists usually associated with the free enterprise system. We have found that despite this background, none of them have consistently applied that theory to the question of the money medium. That is, all have rejected the gold standard—on one level or another.

Before calling into question their positions, we must address ourselves to one additional issue: have *any* erstwhile champions of capitalism seen their way clear to applying these principles to money? If not, then the failure of these four is perhaps more understandable; perhaps there is something about gold which renders the usual capitalist principles somehow inapplicable.

Unfortunately for this thesis, there are indeed economists who have championed the market in other areas, and nonetheless carried through consistently with regard to monetary policy. They have supported it, and not as a theoretical curiosity, but rather as a living, breathing vital aspect of political economy.

PART THREE

# *The Outlook*

"When you accept money in payment for your effort, you do so only on the conviction that you will exchange it for the product of the effort of others. It is not the moochers or the looters who give value to money. Not an ocean of tears nor all the guns in the world can transform those pieces of paper in your wallet into the bread you will need to survive tomorrow. Those pieces of paper, which should have been gold, are a token of honor—your claim upon the energy of the men who produce."

Ayn Rand, *Atlas Shrugged*

# Chapter 10

# COMPETING CURRENCIES: BACK TO THE FUTURE?

*by Ben Craig*

## Introduction

SOMETIMES, AN EMERGING OR RAPIDLY CHANGING currency experiences a period in which it competes with a second currency as a medium of exchange. The competing currencies are not like quarters and dollar bills, where the relative price is fixed, or like checks and dollar bills, where the unit of account is always the same. During an episode of dual currencies, prices are often denominated in each currency, and the relative price of an item fluctuates as the advantages offered by a particular currency change.

In Colonial America, wampum and silver competed for more than 100 years, until wampum "inflation" required a prohibitive number of beads to purchase even small household items. During the American Civil War, greenbacks and gold certificates were both used for many years without either currency becoming dominant. In modern-day Russia, U.S. dollars—not rubles—are used in many domestic transactions.

The outcomes of these three episodes are of more than historical interest. Although U.S. dollars in cash and checking accounts are still the primary means of conducting financial transactions in the United States, credit cards, "smart cards," and new electronic forms of money are expected to become increasingly competitive.

These episodes also offer a unique opportunity to study what is important about money in its use as a medium of exchange. Specifically, they allow us to focus on 1) the qualities of a commodity that enable it to become a dominant currency, 2) the route by which a nationally mandated paper currency becomes acceptable as a medium of exchange, and 3) the way in which competition between currencies sustains the exchange value of a fiat currency by restricting the actions available to the monetary authority. But first, it is necessary to look at what makes money valuable in exchange.

**Why Money?**

In a barter economy (without money), potential buyers of a particular good must search for potential sellers of a good they want. These potential sellers must, in turn, want the good offered by the buyer. Searching for this double coincidence of wants takes time, and time is costly.[1] The purpose of a non-commodity money in such an economy is to allow a trade to occur in those more common instances where only one of the traders has a good the other trader desires. If I, the seller of a good, believe that money will be acceptable to someone else who has a good that I desire, then I will be willing to accept money in trade for my good. Future acceptability is the key to whether I am willing to accept money in a current transaction.

Current acceptability of a currency depends on two conditions. First, there must be enough of it in the locality to sustain local transactions. Otherwise, the would-be buyer/seller would have to find a money trader, impairing the role of money in reducing search time. Second, the currency's future purchasing

power (and acceptability) must not degrade too quickly. The American Colonial period offers a good example. During these years, many commodity currencies competed for the role of money, but because none of them satisfied both conditions, no one currency quickly won out.

## Wampum and Silver

The Colonial period produced a wide variety of currencies that fluctuated freely in their relative prices and that were used extensively in domestic transactions. The international currencies of trade—silver and gold coin—were in short supply in the colonies. As a result, most exchanges occurred through barter, but substitutes for silver rapidly emerged.

Perhaps the most important of these substitutes in the earliest Colonial years, especially in New England, was wampum, the chief currency of the Northeast Woodland tribes. The standard unit of wampum was a string of shell beads made from a clam that flourished in eastern Long Island and Narragansett Bay. Massachusetts declared wampum legal tender in 1643. In New York, wampum remained legal tender until 1701, and on the frontier, it was used until the early 1800s. The monetary conditions of the time are illustrated in the following journal entry of a Boston schoolmistress, Madam Knight, who wrote from New Haven in 1704 (in the spelling of the original):

> The traders . . . Rate their Goods according to the time and spetia they pay in: viz Pay, mony, pay as mony, and trusting. Pay is Grain, Pork, Beef etc. at the prices sett by the General Court that year; mony is pieces of Eight, Ryalls, or Boston or Bay shillings . . . . also Wampom, viz. Indian beads which serves for change. . . .
>
> Now, when the buyer comes to ask for a comodity, sometimes before the merchant answers that he has it, he sais, is Your pay redy? Perhaps the Chap Reply's Yes: what do You pay in? say's the merchant. The buyer having answered, then the price is set; as suppose he wants a sixpenny knife, in pay it is 12d—in pay as money eight pence, and hard money its own

> price, viz. 6d. It seems a very Intricate way of trade and what Lex Mercatoria the English merchant law] had not thought of.[2]

Wampum production was limited during early Colonial times by the amount of labor required to make a shell bead under native techniques. With the introduction of European tools and manufacturing processes, production expanded drastically. The resulting wampum inflation—more than 50 strings of beads were required to purchase a single beaver fur by the late seventeenth century—reduced the commodity's value as a medium of exchange. As a result, its use in the colonies died out.:[3]

A decline in the purchasing power of commodity monies also caused the demise of the commodity currencies used in other colonies. For example, tobacco, which was used as a medium of exchange in Virginia, fell rapidly in quality until it could no longer serve that purpose. As a medium of exchange, only the quantity of tobacco mattered, and thus Gresham's law—that bad money drives out good—caused more low-quality than high- quality tobacco to be produced. The resulting inflation reduced tobacco's use not only as a medium of exchange, but also as a commodity in a colony where it was the primary good produced.

"Fiat money" refers to that commodity (or token) declared by the government as acceptable in the settlement of claims and the payment of taxes. One reason for the popularity of fiat money is that its value becomes transparent to everyone.[4] With commodity money, some people can recognize its intrinsic value (as opposed to its exchange value) better than others. When a participant in a trade does not perceive the money's intrinsic value, he rationally assumes that it must be of the worst quality. The other trader thus has an incentive to make sure that the commodity is of the worst quality, since no benefit would derive from offering a better-quality good. Hence, bad commodity money drives out the good commodity.

The outcome of the competition between wampum and silver

was not a foregone conclusion. Wampum was a more familiar currency on the frontier. Further, silver was not permitted to be coined in the colonies and could not be exported from England because of mercantile legislation. Foreign coins, scarce and unfamiliar on the frontier, were used, but traders found them difficult to evaluate.

In the case of wampum, new production technologies reduced its future acceptability as a medium of exchange. By contrast, technical limitations on the production of silver prevented an oversupply, which helped ensure its future acceptability. Moreover, coinage of silver added transparency of value. By 1800, enough familiar coins were available in the colonies to effectively drive out all of the other commodities used in domestic exchange.

## Greenbacks and Gold

A second episode in our history when two currencies were traded side by side at changing prices was the Greenback Era of 1862-1879. Gold certificates, backed by the government's promise to pay in gold, competed with legal tender notes, which were backed only by an unspecified understanding that they might be fully convertible to gold at some future date.[5]

The first use of legal tender notes (greenbacks) in the United States, in April 1862, resulted from the enormous cost of the Civil War and from the federal government's inability to convert its currency to gold. Greenbacks were a debt of the U.S. government, redeemable in gold at a future unspecified date. The greenback experiment was an important innovation in money, as greenbacks were the first notes backed only by themselves. They became the major medium of exchange during these years, partly because they were more common than gold.

The drawback of fiat paper money lies in the incentive provided by seigniorage, the revenue gained from its production (because the money's nominal value exceeds the cost of production). Since producers of money—whether counterfeiters or governments—collect seigniorage revenue,

the temptation exists to inflate the currency and reduce its exchange value.

Inflation during the Greenback Era was controlled, in part, by congressional limits on the number of greenbacks in circulation and by the understanding that the currency would be made fully convertible to gold when the government could make the exchange. The price of the greenback in gold, the international currency of trade, was established in several large currency markets and was traded freely, usually without much government intervention. Although greenbacks initially sold for gold at a discount, reaching an average monthly low of 50 cents in April 1864, they appreciated strongly over the next few years and accounted for more than 75 percent of the total U.S. currency stock by 1867. Much of the remaining currency consisted of gold certificates. Both greenbacks and gold certificates were widely used in domestic exchange. Thus, prices were quoted in the two currencies until Congress legislated a phased convertibility, which was completed in 1879.

As the date of full convertibility became more certain, the price of the greenback behaved like an option price on convertibility.[6] As is evident in figure 1, the volatility of the price diminished as market expectations concerning full convertibility in 1879 were fulfilled. Convertibility to gold was the mechanism by which the U.S. government maintained the credibility of its promise not to continue reaping seigniorage revenues by inflating the currency and reducing its value. The convertibility factor continued to be a useful source of credibility not only for the United States, but for many other countries as well. It was not dropped by our government until 1932.[7]

In the case of the Greenback Era, competition between the currencies was maintained for two reasons: there were more greenbacks than gold certificates in circulation (because the government lacked sufficient gold reserves), and people were willing to accept greenbacks because of the promise that they would be fully convertible to gold.

The lesson here is that competition from the gold certificates forced the government to adopt policies that maintained the value of the greenback. Neither gold certificates nor greenbacks drove the other currency out of circulation. Because the government maintained the credibility of the greenback by making it fully convertible to gold, the two currencies in effect became a single currency.

### Rubles and U.S. Dollars in Modern-day Russia

Without the credibility of convertibility to specie, a country may have an incentive to inflate its currency in order to provide seigniorage revenues, especially if it legislates monopoly privileges for its fiat currency. Indeed, the history of nonconvertible fiat currencies is often a history of inflation. With greater freedom of international trade, however, a competing foreign currency may provide the discipline that keeps the domestic fiat currency sound. This is well illustrated in the case of modern-day Russia, where a rapidly inflating local currency lost some of its medium of exchange privileges in the modern era of flexible exchange rates.

When the Russian Republic was formed in 1991, the Russian central bank did not adopt the discipline that would have been provided by pegging the ruble to a fixed rate of exchange. Users of the currency did not have the well-defined avenue of opposition that might have been provided by a more mature democracy. Further, the central government's authority to collect taxes was degraded by widespread noncompliance and a lack of enforcement. Russian tax revenues fell more than 15 percent in real terms from 1992 to 1993. How did the Russian central bank respond to this fiscal debacle? By printing more money.

The inflation that followed in the domestic ruble was extreme. Prices rose 9,400 percent in 1993 alone. However, in order to increase foreign-trade opportunities, the Russians had legislated convertibility of the ruble in 1986.[8] The result was that by 1993, many domestic exchanges were being accomplished not in Russian rubles but in American dollars.

Whether the dollar or the ruble is used in Russian domestic trades depends on the currency's acceptability in future trades. People may trade either with a highly inflating currency, the ruble, or with a black-market currency, the dollar. Trading in dollars is illegal, and a dollar trader faces a penalty if caught.

In order to eliminate the dollar/ruble dual-currency system, the Russian central bank needs to inflate the ruble less, which will lower the acceptability of the dollar and drive it out of circulation.[9] This message seems to have been received by the Russian monetary authorities. The inflation rate of the ruble has been trending down since 1994, and the use of the dollar in domestic transactions has decreased. Against the competition provided by a stable foreign currency, the costs of inflation were considered too high relative to the benefits provided by the increase in seigniorage revenues.

The lesson here is an important one. Two currencies were able to compete in Russia because each offered certain advantages. The ruble was needed for official transactions, including payment of taxes. The dollar, however, provided an exchange medium that was sure to maintain its future acceptability. The ruble became dominant in domestic exchanges only when the monetary authority initiated a policy of lower inflation. The competing foreign currency provided an outside discipline to make the monetary authority more responsive to the users of its domestic currency.

## Whither Money?

Currently, the Federal Reserve is concerned about new exchange media that might provide competition to the Federal Reserve note. Changing technology continues to generate potential competitors. Most Americans would not leave on an extended trip without a credit card. Smart cards, plastic cards with electronic hardware added to upgrade their security, are being used in France as a cash substitute, and many believe they will soon be used extensively here. The Internet will also offer new ways of handling exchanges.[10]

We do not have a wide body of theoretical literature with which to analyze the effect of the potential competition offered by these new instruments. However, the three historical episodes described above may offer a lesson. Competing currencies force the monetary authority to concentrate its attention on maintaining the value of the fiat currency. To the extent that policymakers fail to do this, a competing currency may provide a necessary discipline.

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http://www.clev.fi-b.org/research/com/
https://www.clevelandfed.org/Research/Commentary/1996/101596.htm
07/03/2011

"Give to Caesar what is Caesar's,
and to God what is God's."

Matthew 22:21 (NIV)

Chapter 11

# AN ANCHOR OF GOLD: How The Gold Standard Works in Theory and Practice

*by Stephen Slivinski*

SOME MODERN CRITICS OF THE FEDERAL RESERVE suggest that it could be eliminated and replaced with a gold standard. They claim that monetary policymakers are apt to bend under pressure to inflate the currency. A gold standard, on the other hand, can serve as an anchor for the currency that puts a limit on the growth rate of the money supply.

There are benefits to a gold standard, but there are costs too. The history of the gold standard provides important context for the suggestion that the United States should return to a commodity-backed monetary system—gold historically being the most commonly used commodity. Additionally, policymakers and the public could benefit from a greater understanding of how the gold standard works, even if reforms of the monetary system do not include its restoration.

## Mechanics of a Gold Standard

In the United States, the gold standard operated for most of the 18th century and the early 20th century before the creation of the Fed. (See sidebar on page 104.) In the absence of a central bank, nations that committed to the gold standard agreed to redeem their currency at a fixed price of gold. The gold standard effectively fixed exchange rates between participating nations since those currencies were themselves fixed to gold. When the stock of gold is relatively fixed, this arrangement can provide a predictability that currencies not anchored by a commodity standard may fail to produce. The supply of money is constrained by the amount of gold in the vaults of each nation. By contrast, fiat money created by central banks and not backed by a commodity in relatively fixed supply could be devalued simply by printing more of it.

That doesn't mean that prices wouldn't change under a gold standard. In practice, the price level of nations would tend to move in tandem under this arrangement. The mechanism that drives the movement in the price level is the balance of payments that results from trade between nations. For example, assume that a technological innovation increases economic growth in the United States. Since the supply of gold, and therefore the money stock, is fixed, prices in the United States will fall since it is cheaper to produce goods domestically as a result of the innovation.

Prices of U.S. exports to other countries would fall too. That leads to lower demand for U.S. imports—which are now relatively more expensive—and increased demand for U.S. products abroad.

Under a gold standard, the currency and the commodity by which it is backed travel together. In the example above, the trade surplus would also result in a balance-of-payments surplus in which gold from overseas would find its way into the coffers of U.S. banks as foreign traders use dollars to purchase U.S. goods.

The stabilizing effect of the gold standard manifests itself here in how prices would react to this surplus. The new gold

in the United States will reverse the initial price decline. Meanwhile, the exodus of gold from abroad will lower the price level in the countries that traded with the United States since smaller amounts of gold equal a shrinking of the money supply. Equilibrium is reached when the relative prices between nations converge.

### Weighing the Costs and Benefits

While anchoring the money supply to gold may have obvious benefits, there are risks to consider. One potential downside is the effect that a discovery of large amounts of gold would have on the price level. This was a problem in the late 1840s when the California gold rush introduced large amounts of gold into circulation, causing a "monetary shock" and a rise in the price level of goods. In addition, mining and minting gold is costly. Economist Milton Friedman once estimated that the resource price of producing gold and maintaining a full gold coin standard for the United States would be more than 2.5 percent of GDP. However, that cost could fall over time as new technologies are developed.

Some believe that gold flows between nations serve as a check on inflation. Tame inflation over the long term was a strong characteristic of the gold standard. Yet gold flows could transmit detrimental shocks, both monetary and nonmonetary, between economies. In the past, vulnerability to economic shocks caused prices to be highly unstable in the short run. Economist Michael Bordo of Rutgers estimated the "coefficient of variation" in the price level under the historical gold standard. A higher coefficient indicates more short-term instability. For the United States between 1879 and 1913, the coefficient was 17, which Bordo notes is quite high. Between 1946 and 1990, when central banks were able to deviate from the automatic responses required by the gold standard, it was only 0.88. By association, real output is also highly variable under a gold standard. The coefficient for variation was 3.5 between 1879 and 1913. But between 1946 and 2003 it was only 0.4.

## The U.S. Gold Standard Before the Fed

Between the nation's founding and 1971, the United States had been on one form or another of a gold standard. The authors of the Constitution were of the opinion that any money minted by the federal governments should be backed by some "specie" standard (i.e., gold or silver).

On the recommendation of Secretary of State Alexander Hamilton, the U.S. Congress passed the Coinage Act of 1792. That officially put the United States on a bimetallic standard in which the dollar was defined as equaling a specified weight in gold or silver. However, the ratio between gold and silver that the act established — 15 grains of silver to 1 grain of gold — served to undervalue gold relative to silver after the act was passed. This was particularly true over the next three decades as mines in Mexico yielded more silver. As a result, gold began to flow out of the United States and silver began to flow in. While gold and silver coins were still accepted as legal tender, gold coins became quite scarce.

The Coinage Act of 1834 put the United States on a de jure gold standard. It moved the ratio of silver to gold to 16-to-1. That helped remedy the imbalance, and gold coins became more common in the United States.

Central banks would later mitigate the costs of economic shocks by pursuing countercyclical policies. Yet a gold standard, by definition, makes the money supply procyclical —when the economy contracts, so does the money supply. For supporters, this is a benefit: It can limit the potentially expansionary impulses of central bankers. Supporters also point out that the system can work without a central bank officiating the movement of gold. Instead, each government must make a credible commitment to allow currency holders to redeem their bills for a predetermined amount of gold. One way to do this is to pass a law that fixes the exchange rate between gold and the currency. In the United States, the Gold Standard Act

Before the Civil War, state-chartered banks could issue notes and certificates that were redeemable in specie. During the war, a partly decentralized national banking system existed in which federally chartered banks would deal in "greenbacks" issued by the U.S. government backed by little specie. The return to an operational gold standard occurred in 1879 when the U.S. government resumed payments of gold to dollar holders who demanded them. By that point, however, a series of Supreme Court decisions had made the greenbacks legal tender, which over time crowded out state-issued currency.

The United States tied itself to a de facto monometallic standard with the Gold Standard Act of 1900. It set the dollar price of gold at $20.67 per ounce, effectively relegating silver to a subsidiary role in the monetary system. This meant that dollars would circulate alongside silver coins, and the U.S. Treasury would aim to sustain the dollar price of gold.

The creation of the Federal Reserve in 1913 took away from the executive branch the explicit power of money stock maintenance. The history of the 20th century would show, however, that the relationship between a gold standard and the central bank was an uneasy one.

- STEPHEN SLIVINSKI
Federal Reserve, Region Focus, Second Quarter, 2010

of 1900 set the price of one ounce of gold at $20.67. However, keeping such credible commitments may prove difficult in the wake of unexpected shocks and geopolitical upheaval.

## Central Banks and the Gold Standard

Much of the 20th century featured a mixed system in which central banks and the gold standard existed simultaneously. The ideal role of central banks when an international gold standard is in force is to sustain the fixed exchange rates and allow prices and output to vary as required by the movement of gold across borders. When gold is flowing into the country, for instance, the central bank should raise the interest rate at

which it lends to banks—the discount rate—to facilitate the inflow. Conversely, the central bank should lower the discount rate to facilitate the gold outflow when a balance-of-payments deficit materializes.

However, there can be temptations for central banks to stop playing by the rules. Monetary policymakers could "sterilize" the gold flow: They could buy or sell domestic securities—in other words, either expand or contract the money supply relative to gold—to shield the domestic money supply from the external disequilibrium. This would weaken the ability of the gold standard to anchor the value of money in the economy.

Economic downturns, political pressures, and wartime threatened the gold standard in the 20th century. Just as it was at the peak of its effectiveness in 1914, World War I broke out. Britain, the banking center of Europe, experienced a run on sterling and enacted trade and exchange controls, including a postponement of domestic and international payments. This basically made the international gold standard nonoperational. Other countries instituted similar capital controls. In addition, the issuance of short-term debt to finance the war effort in the United States led the federal government to pressure the Fed to abandon the gold standard rules on exchange rate targets and instead focus on keeping the interest rates on war bonds low.

After the war, the developed nations tried to reconstruct the gold standard. The 1917 U.S. embargo on gold exports was lifted in 1919, and the convertibility of the dollar at the prewar gold price was restored in 1922. The gold value of the dollar rather than the pound sterling soon became the reference point for other currencies. The post-war gold standard was faced with new challenges, though. High tariff barriers during the 1920s hindered the price adjustment process. Also, the United States, France, and England began routine sterilization of gold flows.

The economic pressures of the Great Depression weakened support for the gold standard. Britain left the standard in 1931

after a massive gold outflow. The United States followed in 1933 when emergency measures allowed the federal government to abrogate all gold-related clauses in all public and private contracts. In 1934 it devalued the dollar by raising the fixed price for gold to $35 per ounce. Emergency measures also allowed the issuance of Federal Reserve notes that did not have to be backed by gold. World War II drove central banks even further away from the gold standard as they again sought to keep government borrowing costs low at the expense of the fixed exchange rate. Trade and capital restrictions also hindered whatever cross-border price adjustment might have occurred.

After the war, the finance ministers and treasury secretaries of the Allied nations met in Bretton Woods, N.H., to reconstruct some form of a gold standard. The agreement essentially linked the dollar to gold and, in turn, all other major currencies were linked to the dollar. Yet it also allowed some flexibility for central banks to pursue changes in the exchange rate. Foreign governments were also allowed to trade in their dollars to the U.S. government in return for gold. The expectation was that the United States could credibly commit to maintaining the standard over the long term. In the early 1950s, the United States held close to 60 percent of the world's gold reserves. By the 1960s, however, dollars began to rapidly flow out of the United States as a result of the Fed monetizing the debt issued to pay for spending on the Great Society social programs and the Vietnam War. The inflationary policies of the United States put pressure on currencies that were linked to the dollar to revalue their currency to satisfy the balance of payments — pressure that reached its peak in 1970. Additionally, U.S. gold reserves were beginning to dwindle because foreign governments were rapidly trading in their dollars for gold. Many foreign policymakers were not convinced that the U.S. government would regain a commitment to exchange rates per the Bretton Woods rules in the near term. To put an end to the international pressure, President Richard Nixon finally took

the dollar off gold in 1971, effectively killing the international gold standard.

## Gold and Monetary Policy Today

Since the episode of runaway inflation in the 1970s, monetary economists have learned a number of lessons. Foremost among them is an understanding of how central bank credibility is vital to monetary policy. In some sense, that is also a lesson of the gold standard years. Regardless of the signals central bankers use to navigate policy, public trust that they will stay the course is essential to making the policy work. Even under a gold standard, the stability provided by the commodity anchor dissolves if the central bank can't or won't credibly commit to the rules of the standard.

Today, the price of gold is just one of a number of signals that Fed policymakers may use to make decisions about the direction of monetary policy. Since the 1980s, the Fed's independence and need to maintain its credibility have largely been helpful in keeping inflation under control even when it has to occasionally embark upon countercyclical policy. Many of the traits that supporters of the gold standard value, such as long-term price stability, have materialized over the past 20 years under a fiat money system not directly tethered to the price of gold.

It's unlikely that the nations of the world will adopt the gold standard again. But the lessons of central bank credibility are a product of the gold standard years. Strong public expectations about how the Fed conducts policy may produce the same benefits today that a gold standard once did.

"In the earliest chapters of Genesis, Abram is described as 'very rich in cattle, in silver, and in gold,' and in the final chapters of Revelation, the new Jerusalem is described as having a street of pure gold. Gold has represented a store of value and the ultimate prosperity since Biblical times."

Pat Robertson, *Right on the Money,* Faith Words

# APPENDIX A

# GLOSSARY OF MINING DEFINITIONS

ABANDONED Given up with the intent of never again claiming a right or interest in the mineral interest.

ACRE A measure of land, 160 square rods (4,840 square yards, 43,560 square feet).

ACTIVE PARTICIPATION Involvement in a rental real estate activity making management decisions. Requires no specific number of hours.

ACTIVITY A trade or business. Two or more operations within a trade or business could be deemed separate activities.

ADIT A nearly horizontal gallery or passage driven from the surface of the ground to the ore body. The term "tunnel" is frequently used in place of adit, but technically a tunnel is open to the surface on both ends.

ADJUSTED GROSS INCOME For purposes of IRC section 469(i)(3)(E), adjusted gross income shall be determined without regard to: social security and tier 1 railroad benefits included in income; the amount of income from savings bonds used for higher education fees excluded from income; the deduction allowed for qualified retirement contributions, and any passive

activity loss or any loss from rental real estate activities allowed under IRC section 469(c)(7).

AGGREGATE Natural particles, crushed and broken rock, and man-made materials that are graded by size into categories to meet specifications for particular construction uses.

AGGREGATION Combining two or more passive activities in which the taxpayer works 100 to 500 hours.

ALLUVIAL Adjective used to identify particular types of, or minerals found associated with, deposits made by flowing water as, alluvial fan, alluvial terrace, alluvial told, alluvial tin.

ALLUVIAL DEPOSIT Generally pertains to loose gravel, soil, or mud which have been transported and deposited by flowing water.

ALLUVIUM Clay silt, sand, gravel, or other rock materials transported by flowing water and deposited in comparatively recent geologic time as sorted or semi-sorted sediments in river beds, estuaries, and floor plains, in lakes, on shores and in fans at the base of mountain slopes. The term is not applied to subaqueous sediments deposited in seas or lakes or to non-sorted sediments carried or deposited by glaciers.

ANALYSIS A separation of compound substances by chemical means.

ANGLE OF REST The maximum slope at which a heap of any loose or fragmented solid material will stand without sliding or will come to rest when poured or dumped in a pile or on a slope.

ANGLE OF SLIDE The slope, measured in degrees of deviation from the horizontal, on which loose or fragmented solid materials will start to slide; it is a slightly greater angle than the angle of rest.

ARMOR ROCK Stone resulting from blasting, cutting, or other methods to obtain pieces heavy enough (generally 1 to 3 tons) to require handling two individual pieces by mechanical means. Used to protect beds, bank, shores, and embankments against intense erosion and scour by running water, tidal currents, and wave action.

ASPHALT SAND AND GRAVEL Sized and broken sand and gravel mixed with asphalt in batch plants to form asphalt concrete and road pavements. Dry, clean, fractured particle faces adhere well to bitumen and pack (interlock) efficiently to provide increased concrete and pavement strength.

ASSAY The determination of the valuable minerals in a sample. A wet assay is determined by the use of chemicals. A fire assay

is determined by both chemicals and fire. Gold and silver are usually assayed by fire.

AVULSION Removal of land from one owner to another when a stream suddenly changes its channel.

BANK A steeply sloping mass of any earthy or rock material rising above the digging level from which the soil or rock is to be dug from its natural or blasted position in an open pit mine or quarry.

BANK HEIGHT The vertical height of a bank as measured between its highest point or crest and its toe at the digging level or bench.

BANK SLOPE The angle, measured in degrees of deviation from the horizontal, at which the earthy or rock material will stand in an excavated cut in an open-pit mine or quarry.

BARITE Barium sulfate, which has a specific gravity of 4.3 to 4.6.

BEDROCK Any solid rock underlying gold-bearing gravels.

BENCH A former wave-cut shore of a sea or lake or flood plain of a river.

BLACK SAND Grains of heavy, dark minerals such as magnetite, limonite, chromite, etc., found in streams which commonly collect in sluice boxes and which may carry gold and platinum.

BULK Not divided into parts.

BY-PRODUCTS Placer metals, garnet, limonite, chromite, rare-earth elements, zircon, cassiterite, and other minerals concentrated during the mechanical processing of natural aggregates.

CHUTE An opening in the ground where ore is allowed to pass from one level to another. It is the structure built to load cars from a stope.

CLAIM A land area claimed by a prospector and marked out by stakes.

CLOSELY HELD CORPORATION A corporation with five or fewer shareholders owning more than 50 percent in value of the stock at any time during the last half of the taxable year.

COLOR A term referring to small grains or flakes of gold.

COMMODITIES Economic goods, for example, products of agriculture or mining.

CONTRACTOR One that contracts to perform work or provide supplies on a large scale.

CONTOUR Lines connecting points of equal elevation on a contour map.

CRUSHER A machine used to squeeze or force by pressure so as to alter or destroy structure.

DEMARCATE To mark the limits of.

DEPLETION The process by which the cost or other basis of a natural resource is recovered upon extraction and sale of the resource. For tax purposes, the two ways to determine the depletion allowance are the cost and percentage methods.

DEPOSIT Something laid down; such as matter deposited by a natural process.

DIP The maximum angle of inclination downward that a vein or bed makes with a horizontal plane.

DYNAMITE An explosive mixture of glycerin, sodium or ammonium nitrate, and a filler of combustible pulp such as a wood meal.

ELECTRIC CAP A small metallic cap containing fulminating powder which is detonated by an electric current.

EMPLOYEE One employed by another usually for wages or salary and in a position below the executive level.

ENTITY Any corporation, partnership, trust, association, or estate formed for carrying on a business activity.

EXCAVATION A cavity formed by cutting, digging, or scooping.

EXPOSURE Any part of a vein or rock outcrop that can easily be seen.

FAULT A fracture in the earth's crust accompanied by a displacement of one side of the fracture with respect to the other and in a direction parallel to the fracture.

FISSURE An opening or crack in the rock. A fissure vein is a fissure filled with mineral matter.

FLOAT The loose and scattered pieces of ore which have been broken off from an outcrop.

FOOTWALL The bottom or lower enclosing wall of a vein.

FUSE A tube or cord filled or impregnated with combustible matter for igniting an explosive charge after a predetermined interval, as in blasting.

GRANTEE A person to whom real estate is conveyed; the buyer.

GRANTOR A person who conveys real estate by deed; the seller.

HANGING WALL The down thrown side of fault block in normal faulting.

HEAD FRAME A structure erected over a shaft to support the sheave wheel for hoisting purposes.

HEADING Any part of a mine where work is under way. Usually confined to development workings only.

HECTARE A metric measure of surface area (2.471 acres).

HEDGING Entering into the purchase of commodity futures contracts to reduce the risk of an unfavorable price fluctuation.

HIGH GRADING Stealing of high grade ore or nuggets from workings of a hard rock or placer mine by employees or others.

HORIZONTAL Parallel to, in the plane of, or operating in a plane parallel to the horizon or to a base line.

IGNEOUS ROCK Rock formed from molten lava.

K-1 The form attached to Forms 1065, 1120-S, and 1041 returns which reports the flow-through of income and losses to an investor's individual return.

KILOGRAM (kg) The basic metric unit of mass and weight equal to the mass of a platinum-iridium cylinder kept at the International Bureau of Weights and Measures near Paris and nearly equal to 1000 cubic centimeters of water at the temperature of its maximum density.

KILOMETER 1,000 meters; approximate equivalent equals 0.62 mile.

LATERAL A horizontal mine working. A drift in the footwall of a vein is often called a lateral.

LEASE A contract by which the owner of operating rights assigns all or a portion of such rights to another person whether for no immediate consideration or for cash and its equivalent, and retains a continuing nonoperating interest in production.

LESSEE A person who obtains a lease on mining land.

LESSOR The grantor of a lease.

LEVEL All the connected horizontal mine openings at a certain elevation.

LIMITED PARTNER An investor in a partnership whose personal liability is limited. Presumed to be not materially participating (passive) according to the passive activity rules.

LOCATING The marking of the boundaries and staking of a mining claim.

LODE A tabular deposit between definite walls.

LONG TOM An inclined trough used to concentrate gold from auriferous earth.

MATERIAL PARTICIPATION Regular, substantial, and continuous involvement in a business. Allows losses to be deducted in full and not limited by the passive activity rules.

MILL A machine for crushing or comminuting.

MILLING ORE Ore that must be concentrated at or near the mine before it is shipped.

MINE A pit or excavation in the earth from which mineral substances are taken.

MINERAL A solid homogenous crystalline chemical element or compound that results from the inorganic processes of nature.

MODIFIED ADJUSTED GROSS INCOME (AGI) See definition for Adjusted Gross Income.

MUCK To move or load muck.

MUCK Broken underground rock removed in the process of excavating or mining.

MUCKER A shoveler, or one who handles muck.

NITRO Short for nitroglycerin, which is any nitrate of glycerol, a colorless, heavy, oily, explosive liquid used in making dynamite.

NONPASSIVE ACTIVITY A trade or business in which the taxpayer materially participates, that is, on a regular, continuous, and substantial basis. Losses can be deducted in full.

NUGGET A piece of gold of any shape or size larger than a flake, usually rounded by stream or water action.

OPTION The right to purchase at a stated price.

ORE A source from which valuable matter is extracted.

ORE A mineral aggregate containing a valuable constituent (as metal) for which it is mined and worked for a profit.

ORE BODY The part of a vein that carries ore. Generally, all parts of a vein are not ore. Ore shoot has the same meaning.

OUTCROP The edge or surface of a mineral deposit or sedimentary bed which appears on the surface.

OVERBURDEN The valueless material overlaying the pay zone in a placer deposit or the waste or valueless material of a solid outcrop.

OXIDE A compound of a metal and oxygen.

OZ. Ounce.

PASSIVE ACTIVITY Any activity which involves the conduct of a trade or business which the taxpayer does not materially participate.

PASSIVE INCOME Income from a passive activity.

PASSIVE LOSS Loss from a passive activity.

PATENT Conveyance of title to government land.

PAY Ore or a natural situation that yields metal and/or gold in profitable amounts.

PIT A hole, shaft, or cavity in the ground.

PLACER An alluvial or glacial deposit containing particles of valuable mineral-bearing gravel or gold.

PLANE An even surface. A horizontal plane is a flat, even, level surface.

PORTFOLIO INCOME All gross income, other than income derived in the ordinary course of a trade or business, that is attributable to interest, dividends, royalties, and gains from the sale of stocks and bonds as well as other investment activities.

PRECIOUS Of great value or high price.

PRECIPICE A very steep or overhanging place.

PROXIMITY The quality or state of being proximate.

QUADRANGLE A tract of the land in the U.S. Governmental Survey System measuring 24 miles on each side of the square, sometimes referred to as a "check".

QUARRY An open excavation usually for obtaining building stone, slate, or limestone.

QUITCLAIM DEED A deed given when the grantee already has, or claims, complete or partial title to the premises and the grantor has a possible interest that otherwise would constitute a cloud upon the title.

RAISE An excavation of restricted cross-section, driven upwards either vertically or at an angle from a level in the mine.

RAKE The trend of the ore body within the vein.

RECHARACTERIZATION RULES Rules which recharacterize passive income as nonpassive.

REFINE To reduce to a pure state.

RIFFLES Obstacles placed along the bottom of a sluice or rocker that form pockets to catch gold by concentrating heavier materials.

RIPARIAN Pertaining to the banks of a river, stream, waterway, and so forth.

RIPARIAN OWNER One who owns lands bounding upon a river or water course.

RIPRAP ROCK Selected hard, angular, quarried stone generally weighing between 25 and 5,400 pounds individually and placed to protect beds, banks, shores, and embankments against wave action, tidal forces, and stream currents.

ROCK Naturally occurring, consolidated materials composed of one or more minerals of the earth's crust. Any hard, consolidated materials derived from the earth and usually of relatively small size.

ROCKER A mechanical panning device comprised of three parts: a body or sluice box, a screen, and an apron.

SAND Particles of rock that pass a No.4 (4.75 mm) U.S. Standard sieve and are retained on a No. 200 (.075 mm) U.S. Standard sieve.

SECTION A section of land established by government survey and containing 640 acres or 1 square mile.

SELF-RENTED PROPERTY Personal or real property rented to an entity which the taxpayer personally controls. Stated in different terms, property rented to a nonpassive activity of the taxpayer.

SHAFT A vertical or inclined opening of a uniform and limited cross section made for finding or mining ore, raising water, or ventilating underground workings (as in a cave).

SIGNIFICANT PARTICIPATION An individual is treated as significantly participating in an activity if the individual participates in the activity for more than 100 hours during such taxable year and in which the taxpayer did not materially participate under any of the material participation tests, other than this test.

SLIP A small fault.

SLUICE BOX A sloping trough, having riffles on the bottom, through which gravel and wash from placer mining operations pass to catch and save the gold and other valuable minerals.

SPECIAL WARRANTY DEED A deed wherein the grantor limits his liability to the grantee to anyone claiming, by, from, through, or under him.

SPECIFIC GRAVITY The ratio of the weight of any substance to the weight of an equal volume of water.

STONE Natural rock material of adequate integrity and quality that can be quarried and then sawed, cut, split, or otherwise sized, shaped, or finished for specific purposes. Natural building stone includes granitic rocks, greenstones, limestones, marbles, massive serpentinite (antigorite), and sandstones.

STOPE A step-like excavation underground for the removal of ore. It is formed as the ore is mined in successive layers.

STRIKE The bearing of a horizontal line in the plane of a vein, bed, or fault in respect to the cardinal points of the compass.

STRIPPING Removal of the overburden from a placer deposit or the barren outcrop from an ore deposit.

STULL A timber used to support loose rocks or slabs. It may also be used to support a platform in a working area.

SUMP The lowest part of a mine shaft into which water drains.

SURVEY The process by which a parcel of land is measured and its area ascertained.

SUSPENDED LOSSES Passive losses which are carried forward indefinitely until the taxpayer has passive income or there is an entire disposition of the activity.

TAILINGS Residue separated in the preparation of various products (as grains or ores).

TIERED ENTITIES Partnerships or trusts or corporations invested in other partnerships or trusts or corporations.

TOPOGRAPHY The contour and slope of land, hills, valleys, streams, etc.

TRAVERTINE A variety of layered or banded, porous to dense, crystalline to microcrystalline limestone that is deposited by springs, seeps, or running water.

TREND The general direction or bearing of a vein, fault, or rock outcrop.

UNDERCURRENT A wide, flat sluice box placed beneath the main sluice box used to save fine gold.

VALUE Refers to the mineral substance sought. In the case of gold, the term is synonymous with color.

VEIN A well-defined, tabular, mineralized zone which may or may not have valuable ore bodies.

VERTICAL Perpendicular to the plane of the horizon or to a primary axis.

WALL The waste or country rock on either side of a vein.

WARRANTY DEED One that contains a covenant that the grantor will protect the grantee against any claimant.

WASTE Barren rock or mineralized material which does not have enough value to be classified as an ore.

WELL An issue of water from the earth. A shaft or hole sunk to obtain oil, brine, or gas.

WINZE A steeply inclined passageway connecting a mine working place with a lower one.

WORKING FACE Any portion of the mine where work is under way, such as the face of a drift or the face of a raise.

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## Appendix B

# GLOSSARY OF GOLD INVESTING TERMS



Acid Test: Alloy method of testing for the fineness of gold by exposing it to acid.

Alloy: A mixture of metals. For example, copper, platinum, or zinc may be added to gold or silver to add strength.

Annealing: the process of softening metal by heating planchets (blanks).

Ask: The price at which a person offers to sell.

Assay: A test to determine the purity, fineness and weight of a coin or bar.

Atom: An indivisible unit of matter. Atoms in combination comprise compounds.

AU: Chemical symbol for gold. Derived from the Latin word, Aurum.

Aurum: Gold (Latin).

Backwardation: A market condition in which the spot price is higher than prices for future delivery. (Also known as inverted market).

Bag Mark: A coin condition resulting when coins in a mint bag make contact with each other.

Bear Market: A market in which prices trend generally downward. As contrasted to a bull market in which prices trend generally upward.

Bid: The price at which a dealer offers to buy.

Blank: Also known as planchet, the blank metal piece upon which a coin is stamped with its design.

Britannia: Silver which is purer, harder and more durable than sterling. An alloy of at least 95.84% silver and up to 4.16% copper. Denoted as 958 millesimal fineness.

BU: Brilliant Uncirculated. A coin in new condition, never circulated.

Bull Market: A market in which prices trend generally upward, as contrasted to a bear market in which prices trend generally downward. Technical investors say: "The trend is your friend."

Bullion: Refined metal such as gold and silver in bar or ingots normally of high quality, at least 95.5% pure.

Bullion Coin: A coin whose market price is based on its gold content or intrinsic value, not on its numismatic value.

Bullion Gold: At least 995 fine gold coins, wafers, bars or ingots. Not molded or stamped, but cast.

Business Strike: A coin minted for circulation in commerce but not intended particularly for collectors.

Bust: A person's head, neck and upper shoulders depicted on a coin.

Call: A call is an option to buy a commodity, stock, etc., at a predetermined price until a specified date in the future.

Cash Market: The price paid for the delivery of gold bullion on the open market, which price changes daily; Spot market.

Circulating Coin: A coin used in commerce as money.

Coin: A stamped piece of metal issued for use as a medium of exchange; also may be collectible.

Coin Dealer: A coin merchant; one who stands ready to buy or sell coins.

Coin Gold: An alloy predominantly of gold plus smaller quantities of other more durable metals, such as silver and copper.

Comex: The division of the New York Mercantile Exchange where precious metals are traded.

Commemoratives: Gold or silver medallions and legal tender coins struck to commemorate a person or special event.

Commodities: Basic products easily sold in commerce; e.g., agriculture or mining products.

Compound: A substance which contains two or more elements in a specific proportion.

Condition: A coin's status of age, wear and markings due to use.

Conductivity: The property of a mineral to transmit heat, electricity, etc.

Contango Market: Situation normal; the futures market condition whereby prices increase the farther the delivery month is from the present.

Corrosion: Chemical degradation of a mineral, for example, by oxidation resulting in rust or tarnish.

Counterfeit: A fake coin illegally created or altered to deceive the recipient as to its value.

Currency: Money. Commonly used coinage and paper money. A medium of exchange.

Density: An object's mass to volume ratio.

Deposit: A mineral mass naturally concentrated in the crust of the earth.

Double Eagles: U.S. $20 gold coins containing .9675 ounce of gold. Legal tender at face value 1850-1933.

Ductility: A mineral's capacity to be stretched into wire without breaking.

Electrolytic Gold: 999.9 fine gold, refined by a process using electric current.

Electroplating: Applying a coating of gold to a less precious metal using an electric current.

Element: A substance that cannot be further separated into simpler substances by ordinary chemical means.

Fiat Money: Paper currency made legal by government fiat, but not backed by gold or silver.

Field: The open area of a coin's surface not containing a design or inscription.

Fine Gold Wire: Gold drawn out very thinly.

Fine Weight: The weight of only the precious metal in a coin or bar, which, when added to the other metals in the alloy, comprise the gross weight.

Fineness: the proportion of the amount of pure gold in a metal alloy measured in parts per thousand.

Gilding: Electroplating or mechanical cladding a surface with a thin coating of gold.

Gilt: Plated with gold.

Gold Bars: Bars of gold ranging from one twenty-fifth of an ounce to 400 ounce bars.

Gold Currency Trading: Buying and selling gold as a currency.

Gold Dust: Gold manifested as particles or very fine flakes of gold.

Gold Eagles: Gold bullion coins minted by the U.S. Mint.

Gold Filled: Jewelry in which at least five percent of the total weight is gold.

Gold Leaf: A very thin film of beaten gold, used for decoration.

Gold Tone: Finished with a gold color that only resembles gold, the gold weight of which is nil.

Golden Finish: Not genuine gold, but finished to look like gold.

Good Delivery: Specifications of a gold bar suitable for an exchange's delivery requirements.

Gold Standard: A monetary system in which paper currency is backed by a fixed amount of physical gold. It requires the bank or government to maintain sufficient gold reserves to redeem all its money in circulation.

Grain: 480 grains equals one Troy ounce.

Hammered: A dimpled texture applied with a hammer.

Hedge: A transaction to avoid loss through counterbalancing investments.

Ingot: Metal cast into a bar.

Intrinsic Value: A coin's value as bullion.

Inverted Market: See Backwardation.

Junk Coins: Coins collected for their silver content.

Karat: A measure of the amount of pure gold contained in a metal. 24 karats is deemed to the pure gold, although there are minute quantities of impurities. 18K gold is 75% pure; and 14K gold is 58.5% pure. To add strength and durability gold is frequently alloyed with silver or copper.

Karat Gold: Real gold, a gold alloy at least 10K fineness.

Kilo Bar: A 1,000 gram bar.

Kilogram: 1,000 grams (32,1507 troy ounces).

Krugerrand: South African one ounce gold coin produced so U.S. citizens could own them because they were legal tender.

Legend: The main lettering on a coin.

Liquid Market: A market where Sellers can easily get cash and buyers can easily get product.

Liquidity: See Liquid Market.

Lode: Generally, a zone of veins comprising a mineral deposit.

Luster: Reflected light on a mineral's surface.

Medium of Exchange: Anything agreed to be used in exchange for goods and services.

Metal: A solid mineral element which can conduct electricity.

Metric Ton: 1,000 kilograms (32,151 grams).

Mineral: A solid inorganic substance; i.e. anything that is not an animal or a vegetable.

Mint Condition: An uncirculated coin.

Mint Mark: The mark of the mint which struck it, stamping its symbol on the coin.

Mint State Coins: Range from the best at MS-70, showing no wear, down to MS-60, the lowest grade mint state coin.

Native Gold: Gold in its pure state as found in nature.

Obverse: The front (head) side of a coin which has the date, mint and design.

Option: The right to buy or sell a commodity or a financial security until a certain future date.

Ore: Rock from which minerals can be expected profitably.

Ounce: A unit of weight. For gold, a Troy ounce is 31.1035 grams.

Panning: Prospecting for gold by washing gravel and dirt to separate out the gold.

PCGS: Acronym. Professional Coin Grading Service.

Placer: Minerals concentrated in a deposit within a body of water such as a river or lake.

Planchet: A metal blank upon which a coin design is to be stamped.

Precious Metals: Gold, silver, platinum etc., including rare metals.

Premium: The portion of a coin's price in excess of the value of the gold content.

Proof Set: A set of proof coins of a certain series or denomination.

Pyrite: A common yellow mineral often mistaken for gold; fool's gold.

Riddler: A screening machine that separates out wrong shaped blanks.

Rim: The edges of a coin, raised to prevent excessive wear.

Scrap Gold: Scrap gold.

Slabbed Coins: Coins protected from excessive wear by a plastic coating.

Solid Gold: 24K gold, fine.

Spot: The price paid for delivery of gold bullion, which price changes daily.

Spread: The selling price minus the buying price.

Stope: A working area as excavated in an underground mine.

Tarnish: A type of corrosion which dulls a mineral's luster.

Troy Ounce: 31.1035 grams. A Troy pound contains 12 Troy ounces.

Upsetting Mill: A mill which creates a rim on a coin blank.

Vein: A narrow body of minerals.

Vermeil: A significant quantity of gold applied over sterling silver.

Volume: The amount of cubic content in a three-dimensional region of space. There was

Wear: The degradation of a coin's surface due to ordinary usage.

World Coins: Coins of non-U.S. countries.

Year Date: The year in which the mint struck a coin.

Yield: Return on investment; "R.O.I".

Zinc: Bluish-white hard metal.

Zn: Zinc

## Appendix C

# GOLD IN THE BIBLE

gold (*zahabh*; *chrusos*):

**1. Terms:**

No metal has been more frequently mentioned in Old Testament writings than gold, and none has had more terms applied to it. Among these terms the one most used is zahabh. The Arabic equivalent, dhahab, is still the common name for gold throughout Palestine, Syria and Egypt. With zahabh frequently occur other words which, translated, mean "pure" (Exodus 25:11), "refined" (1 Chronicles 28:18), "finest" (1 Kings 10:18), "beaten" (1 Kings 10:17), "Ophir" (Psalms 45:9).

Other terms occurring are: paz, "fine gold" (Job 28:17; Psalms 19:10; 21:3; 119:127; Proverbs 8:19; Song of Solomon 5:11,15; Isaiah 13:12; Lamentations 4:2); charuts (Psalms 68:13; Proverbs 3:14; 8:10,19; 16:16; Zechariah 9:3); kethem, literally, "carved out" (Job 28:16,19; 31:24; Proverbs 25:12;

Lamentations 4:1; Daniel 10:5); ceghor (1 Kings 6:20; 7:50; Job 28:15); betser (in the King James Version only: Job 22:24; the Revised Version (British and American) "treasure").

**2. Sources:**

Sources definitely mentioned in the Old Testament are: Havilah (Genesis 2:11,12); Ophir (1 Kings 9:28; 10:11; 22:48; 1 Chronicles 29:4; 2 Chronicles 8:18; 9:10; Job 22:24; 28:16; Psalms 45:9; Isaiah 13:12); Sheba (1 Kings 10:2,10; 2 Chronicles 9:1,9; Psalms 72:15; Isaiah 60:6; Ezekiel 27:22; 38:13); Arabia (2 Chronicles 9:14). We are not justified in locating any of these places too definitely. They probably all refer to some region of Arabia.

The late origin of the geological formation of Palestine and Syria precludes the possibility of gold being found in any quantities (see METALS), so that the large quantities of gold used by the children of Israel in constructing their holy places was not the product of mines in the country, but was from the spoil taken from the inhabitants of the land (Numbers 31:52), or brought with them from Egypt (Exodus 3:22). This gold was probably mined in Egypt or India (possibly Arabia), and brought by the great caravan routes through Arabia to Syria, or by sea in the ships of Tyre (1 Kings 10:11,22; Ezekiel 27:21,22).

There is no doubt about the Egyptian sources. The old workings in the gold-bearing veins of the Egyptian desert and the ruins of the buildings connected with the mining and refining of the precious metal still remain. This region is being reopened with the prospect of its becoming a source of part of the world's supply. It might be inferred from the extensive spoils in gold taken from the Midianites (œ100,000 HDB, under the word) that their country (Northwestern Arabia) produced gold. It is more likely that the Midianites had, in turn, captured most of it from other weaker nations. The tradition that Northwestern Arabia is rich in gold still persists. Every year Moslem pilgrims, returning from Mecca by the Damascus route, bring with them

specimens of what is supposed to be gold ore. They secure it from the Arabs at the stopping-places along the route. Samples analyzed by the writer have been iron pyrites only. No gold-bearing rock has yet appeared. Whether these specimens come from the mines mentioned by Burton (The Land of Midian Revisited) is a question.

**3. Forms:**

Gold formed a part of every household treasure (Genesis 13:2; 24:35; Deuteronomy 8:13; 17:17; Joshua 22:8; Ezekiel 28:4). It was probably treasured (a) in the form of nuggets (Job 28:6 the Revised Version, margin), (b) in regularly or irregularly shaped slabs or bars (Numbers 7:14,20,84,86; Joshua 7:21,24; 2 Kings 5:5), and (c) in the form of dust (Job 28:6). A specimen of yellow dust, which the owner claimed to have taken from an ancient jar, unearthed in the vicinity of the Hauran, was once brought to the writer's laboratory. On examination it was found to contain iron pyrites and metallic gold in finely divided state. It was probably part of an ancient household treasure.

A common practice was to make gold into jewelry with the dual purpose of ornamentation and of treasuring it. This custom still prevails, especially among the Moslems, who do not let out their money at interest. A poor woman will save her small coins until she has enough to buy a gold bracelet. This she will wear or put away against the day of need (compare Genesis 24:22,53). It was weight and not beauty which was noted in the jewels (Exodus 3:22; 11:2; 12:35). Gold coinage was unknown in the early Old Testament times.

**4. Uses:**

(1) The use of gold as the most convenient way of treasuring wealth is mentioned above.

(2) Jewelry took many forms: armlets (Numbers 31:50), bracelets (Genesis 24:22), chains (Genesis 41:42), crescents (Judges 8:26), crowns (2 Samuel 12:30; 1 Chronicles 20:2),

earrings (Exodus 32:2,3; Numbers 31:50; Judges 8:24,26), rings (Genesis 24:22; 41:42; James 2:2).

(3) Making and decorating objects in connection with places of worship: In the description of the building of the ark and the tabernacle in Exodus 25, we read of the lavish use of gold in overlaying wood and metals, and in shaping candlesticks, dishes, spoons, flagons, bowls, snuffers, curtain clasps, hooks, etc. (one estimate of the value of gold used is œ90,000; see HDB). In 1 Kings 6; 1 Chronicles 28; 2 Chronicles 1 are records of still more extensive use of gold in building the temple.

(4) Idols were made of gold (Exodus 20:23; 32:4; Deuteronomy 7:25; 29:17; 1 Kings 12:28; Psalms 115:4; 135:15; Isaiah 30:22; Revelation 9:20).

(5) Gold was used for lavish display. Among the fabulous luxuries of Solomon's court were his gold drinking-vessels (1 Kings 10:21), a throne of ivory overlaid with gold (1 Kings 10:18), and golden chariot trimmings (1 Chronicles 28:18). Sacred treasure saved from votive offerings or portions dedicated from booty were principally gold (Exodus 25:36; Numbers 7:14,20,84,86; 31:50,52,54; Joshua 6:19,24; 1 Samuel 6:8,11,15; 2 Samuel 8:11; 1 Chronicles 18:7,10,11; 22:14,16; Matthew 23:17). This treasure was the spoil most sought after by the enemy. It was paid to them as tribute (1 Kings 15:15; 2 Kings 12:18; 14:14; 16:8; 18:14-16; 23:33,15), or taken as plunder (2 Kings 24:13; 25:15).

**5. Figurative:**

Gold is used to symbolize earthly riches (Job 3:15; 22:24; Isaiah 2:7; Matthew 10:9; Acts 3:6; 20:33; Revelation 18:12). Finer than gold, which, physically speaking, is considered nonperishable, typifies incorruptibility (Acts 17:29; 1 Peter 1:7,18; 3:3; James 5:3). Refining of gold is a figure for great purity or a test of (Job 23:10; Proverbs 17:3; Isaiah 1:25; Malachi 3:2; 1 Peter 1:7; Revelation 3:18). Gold was the most valuable of metals. It stood for anything of great value (Proverbs 3:14; 8:10,19; 16:16,22; 25:12), hence was most worthy for

use in worshipping Yahweh (Ex 25; Revelation 1:12,13,10, etc.), and the adornment of angels (Revelation 15:6) or saints (Psalms 45:13). The head was called golden as being the most precious part of the body (Song of Solomon 5:11; Daniel 2:38; compare "the golden bowl," Ecclesiastes 12:6). "The golden city" meant Babylon (Isaiah 14:4), as did also "the golden cup," sensuality (Jeremiah 51:7). A crown of gold was synonymous with royal honor (Esther 2:17; 6:8; Job 19:9; Revelation 4:4; 14:14). Wearing of gold typified lavish adornment and worldly luxury (Jeremiah 4:30; 10:4; 1 Timothy 2:9; 1 Peter 3:3; Revelation 17:4). Comparing men to gold suggested their nobility (Lamentations 4:1,2; 2 Timothy 2:20).

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# Appendix D

# PLACER MINING

*by the Internal Revenue Service*

## Foreword

Placer mining is a special open-cut method for exploiting deposits of sand or gravel containing workable amounts of valuable minerals. Native gold is the most important placer mineral, but platinum and tin are also found in gravels. Minerals also include zircon, diamond, ruby, and other gems.

The Market Segment Specialization Program (MSSP) presents this manual as a guideline for the examinations of taxpayers in the Placer Mining Industry. This guide focuses on small mining operations represented as sole proprietorships on Schedule C, but it can be adapted for partnership and corporate returns.

This text is supplemental to the Audit Technique Guide previously published and which contains in-depth discussions of issues associated with the mining industry.

## Chapter 1 – Introduction
## Overview

Major operators produce the bulk of gold recovered and refined, but small-scale, independent miners make up the majority of the returns filed. Mining has historically been a cash-based activity. Often the miner will have little, if any, documentation to support the activity. If there are records, they are often disorganized. Hand-written receipts are common. This guide addresses some specific problem areas encountered in the examination of the smaller mining operations, with emphasis on the placer miner.

Under current tax law, exploration and development expenses can be deducted in full in the year they are paid or incurred. The expenses must be recaptured in the year that the mine goes into the producing stage or upon disposition of the property. In reality, few miners ever claim to be in the producing stage, disposals are seldom reported, and it is unlikely that proper accounting for the recapture of expenses will be found. In the past, taxpayers have deducted large mining losses with little or no recourse by the Government. IRC section 183 has strengthened the position of the Service in holding that a miner must be in a trade or business or engaged in an activity for the production of income with the objective of making a profit in order to claim mining related expenses such as those for exploration and development.

The small placer miner usually claims a Schedule C loss created by deducting exploration and development expenses with little or no mining income. The miner claims to be in the exploration or development stage when, in fact, gold is being produced and sold. The examiner will generally find that the expenses are related to the extraction of gold while the sales of gold are not reported.

The miner may be required to maintain a mineral inventory and claim cost-of-goods sold, including the costs necessary to clearly reflect income following the matching of income and

expenses principal. Examiners should verify the mining stage, search for unreported income, and confirm the existence of an inventory. Most expenses will be found to be either direct or indirect mining costs which should be included as part of cost-of-goods sold. As a result, mining losses can be reduced by either the increases to income or the decreases in deductible expenses or both.

## Key Definitions

There is no one inclusive definition of "mining" for federal income tax purposes. The key definitions needed for a quality examination of mining operations are defined below. The glossary includes more definitions of mining terminology.

The term ***mine*** as defined in Treas. Reg. section 1.617-3(c)(1) states:

> The term "mine" includes all quarries, pits, shafts, and wells, and any other excavations or workings for the purpose of extracting any known deposit of ore or other mineral.

The term ***mining property*** defined in Treas. Reg. section 1.617-3(c)(3) states:

> The term "mining property" means any property (as the term is defined in IRC section 614(a) after the application of subsection (c) and (e) thereof) with respect to which any expenditures allowed as deductions under IRC section 617(a) are properly chargeable.

The term ***property*** as defined in IRC section 614(a) states:

> For the purpose of computing the depletion allowance in the case of mines, wells, and other natural deposits, the term "property" means each separate interest owned by the taxpayer in each mineral deposit in each separate tract or parcel of land.

The term ***mining*** as defined in IRC section 613(c)(2) states in part:

> The term "mining" includes not merely the extraction of the ores or minerals from the ground but also the treatment processes considered as mining described in paragraph (4) (and the treatment processes necessary or incidental thereto), and so much of the transportation of ores or minerals (whether or not common carrier) from the point of extraction from the ground to the plant or mills in which such treatment processes are applied thereto as is not in excess of 50 miles unless the Secretary finds that the physical and other requirements are such that the ore or mineral must be transported a greater distance to such plants or mills.

The life of mining property is generally classified into three separate stages: Exploration, Development, and Producing. The term "exploration expenditures" as defined in IRC section 617(a)(1) provides in part:

> * * * At the election of the taxpayer, expenditures paid or incurred during the taxable year for the purpose of ascertaining the existence, location, extent, or quality of any deposit of ore or other mineral, and paid or incurred before the beginning of the development stage of the mine, shall be allowed as a deduction in computing taxable income. * * * In no case shall this subsection apply with respect to amounts paid or incurred for the purpose of ascertaining the existence, location, extent, or quality of any deposit of oil or gas or of any mineral with respect to which a deduction for percentage depletion is not allowable under IRC section 613.

The term ***development expenditures*** as defined in IRC section 616(a) provides in part:

> * * * there shall be allowed as a deduction in computing taxable income all expenditures paid or incurred during the taxable year for the development of a mine or other natural deposit (other than an oil or gas well) if paid or incurred after the existence of ores or minerals in commercially marketable quantities has been disclosed.

The term ***producing stage*** as defined in Treas. Reg. section 1.616-2(b) states:

> The mine or other natural deposit will be considered to be in a producing stage when the major portion of the mineral production is obtained from workings other than those opened for the purpose of development, or when the principal activity of the mine or other natural deposit is the production of developed ores or minerals rather than the development of additional ores or minerals for mining.

The term ***Producing Stage*** is defined in Treas. Reg. section 1.617-3(c)(2) as follows:

> A mine will be considered to have reached the producing stage when:
>
> 1. the major portion of the mineral production is obtained from workings other than those opened for the purpose of development, or
> 2. the principal activity of the mine is the production of developed ores or minerals rather than the development of additional ores or minerals for mining.

The term ***Economic Interest*** as used in Treas. Reg. section 1.611-1(b)(1) is defined as follows:

> Annual depletion deductions are allowed only to the owner of an economic interest in mineral deposits or standing timber. An economic interest is possessed in every case in which the taxpayer has acquired by investment any interest in mineral in place or standing timber and secures, by any form of legal relationship, income derived from extraction of the mineral or severance of the timber, to which he must look for a return of his capital.

## Exploration, Development, and Production

One of the first determinations to be made in an examination of small mining operations is the type and current stage of the mining activity.

*Exploration*

Exploration expenditures include amounts paid or incurred during the taxable year, prior to the development stage, for ascertaining the existence, location, extent, or quality of the mineral deposit. Some activities associated with placer mining exploration include staking the claim, removal of property line obstructions, limited removal of overburden (the removal of large amounts of overburden would indicate that a deposit may have already been found and the mine may be in a different stage), and limited sluicing.

Rev. Rul. 70-287, 1970-1 C.B. 146, holds that exploration expenditures include geological and geophysical investigations, reconnaissance, surveying, testpitting, trenching, drilling, driving of exploration tunnels and adits, and similar types of work. However, the physical means or method by which the work is performed does not distinguish exploration from development. For example, core drilling expenditures incurred in a mineralized outcrop after minerals are found to exist in commercially marketable quantities are not exploration expenses.

Exploration expenditures constitute capital expenditures which increase the basis of the mineral property unless the taxpayer makes an election to currently deduct the expenses. The election is made for the first year the taxpayer wishes to deduct the expenditures. The expenditure deductions are subject to recapture when the mine reaches the production stage. The recapture may be accomplished by either the disallowance of depletion deductions until the disallowed amounts equal the previously deducted exploration expenses or the inclusion in non-depletable gross income in an amount equal to the previously deducted expenditures.

The majority of Schedule C returns may appear to be in the exploration stage, but this should be verified. Since reporting requirements for the various stages of the operation differ, it is important to establish, preferably in the initial interview, the stage of mine operation.

The exploration stage encompasses prospecting, which does not necessarily require a state filing and actual exploration. If prospecting is conducted on public lands, a minimum requirement is the filing of Affidavits of Annual Labor. Due to the inclusion of prospecting under IRC section 617, an examination cannot be based on the sole fact that the taxpayer did or did not file the required forms with the state. Filings are not required if the land is privately held.

It is helpful, at the initial interview, to determine the approximate amount of time that was spent at the mine during the tax year since the mining season varies and can be relatively short. Only larger operators will have the equipment and resources to work through the winter. Once this information is obtained, it can be verified with the Affidavit of Annual Labor. However, remember that the Affidavits of Annual Labor are NOT verified by the Department of Natural Resources so they should only be used as a comparison tool.

It may be necessary to explain the various stages of mining to the taxpayer. If this situation arises, examiners should allow taxpayers to describe their activities before determining which stage the taxpayer is in or explaining the tax ramifications.

### *Development*

Taxpayers generally have difficulty distinguishing between the exploration and development stages. If the development stage is claimed, examiners should verify with the taxpayers that they have discovered commercially marketable quantities of ore. In following Paul R.. Schouten and Mary Kay Schouten v. Commissioner, T.C. Memo., 1991-155, CCH 47,277(M), development expenses can be disallowed when a taxpayer cannot present evidence as to the existence of minerals in commercially marketable quantities.

There should be very little, if any, income during this period. Activities associated with development are building roads, clearing the land, and other activities to prepare a site for the production stage.

Development expenditures must be for preparing a mineral deposit for extraction of the mineral and not for equipment or facilities which relate solely to the extraction of the mineral from the deposit.

Pre-stripping is a process found in open pit and strip mines. The process involves the removal of top soil or earth to expose a coal or ore deposit for later mining. The actual ore may not be removed until the next year after the covering layer of earth is removed or stripped away.

Where the removal of the overburden is related to the extraction of the mineral in the day-to-day mining cycle, and the removal of overburden makes it possible to extract only a small portion of the ore directly beneath the overburden, the costs of overburden removal are operating expenses of mining to be taken into account as costs-of-goods sold under the provisions of Treas. Reg. section 1.61-3. See Rev. Ruls. 67-169, 1967-1 C.B. 159 and 77-308, 1977-2 C.B. 208.

Where a portion of the coal seam is exposed in excess of what is needed to maintain a desired level of coal production, these expenses are developmental expenses under IRC section 616. See Rev. Rul. 86-83, 1986-1 C.B. 251. Accordingly, where expenditures incurred for removing overburden serve both to expose ore for mining and make possible the future mining of additional ore, the costs are developmental expenditures under IRC section 616 because they are incurred for the purpose of making the ore accessible for sustained extraction over a relatively long period.

The time involved with development can be for a short or relatively long period, depending on the location of the mine, the taxpayer's resources, and the amount of work needed to ready the ore body for production. Taxpayers should be questioned on their plan for development of the property. Have the required permits been submitted to the Department of Natural Resources, the Department of the Interior, the Department of Environmental Conservation, etc.? Ask and determine if they are familiar with the filing requirements concerning the prop-

erty being worked. If they are unaware of the requirements or activity, this may be an indication that the claim owner is not working the mine and possibly making it a passive activity or an activity not engaged in for profit pursuant to IRC section 183.

*Production*

If the taxpayer is claiming to be in the production stage, the issues of recapture and depletion should be considered. In all instances, regardless of the mining status, expenditures should be reviewed for possible examination issues. Consider if the alternative minimum tax applies or if a passive activity exists.

Recapture of previous expenditures is an important issue when the taxpayer is claiming to have always been in production. If taxpayers state they have always been in production, ask to see returns as far back as possible to derive some type of history of the operation. There should at least be some income in each year, although taxpayers can legitimately state they are in production while having no income shown on the return. If a taxpayer claims to be in production, yet a history of the operation shows continual losses, then the "not for profit" issue under IRC section 183 can be raised and pursued.

## Public Records

The Alaska Department of Natural Resources office contains information on all mining claims in Alaska, on both state and federal lands. Examiners should identify similar regulatory agencies within their state.

Records should be available to identify the claim holder by name and location of the claim. Records may also list the type of activity, the discovery date, the legal description, the years annual labor reports were filed, and any transactions pertaining to the property. They will also indicate if a claim has been abandoned.

The files may contain copies of all recorded documents pertaining to the property, such as quitclaim deeds, warranty

deeds, affidavits of annual labor, and any other documents which have been officially recorded.

These documents are public record and easily researched. When a claim is established, on either state or federal land, the proper documentation is submitted to the Bureau of Land Management (BLM) for federal land and Department of Natural Resources (DNR) for state land. A number is assigned to the claim and remains with the claim indefinitely.

By the Internal Revenue Service
http://www.irs.gov/businesses/page/0,,id%3D7072,00.html#Ovrvw
20110528

# APPENDIX E

# IRS PRIVATE LETTER

*IRS Private Letter Ruling 200217059:*
*January 31, 2002*

Uniform Issue List: 408.06-00
Date: January 31, 2002
Refer Reply To: T:EP:RA:T5
LEGEND:
Company M = * * *
Company N = * * *

*Dear: * * **

*This is in response to correspondence dated August 28, 2000, and December 18, 2000, in which you request a ruling under section 408(m) of the Internal Revenue Code ("Code").*

*You submitted the following facts and representations in support of your request:*

*Company M and its affiliate, Company N, are non-bank entities that provide precious metals administration and safekeeping services to various customers.*

*Based on the above facts and representations you request the following ruling:*

*That trustees of Individual Retirement Accounts (IRAs) may utilize the precious metals administration and safekeeping services of Company M and its affiliate, Company N, with respect to bullion coins and bullion bars that are assets of such IRAs and not have such bullion coins and bullion bars constitute collectibles under section 408(m) of the Code.*

*Section 408(m)(1) of the Code provides, in pertinent part, that the acquisition of a collectible by an individual retirement account shall be treated as a distribution from such account in an amount equal to the cost to such account of such collectible.*

*Section 408(m)(2) of the Code provides that for purposes of section 408(m), the term "collectible" means (A) any work of art, (B) any rug or antique, (C) any metal or gem, (D) any stamp or coin, (E) any alcoholic beverage, or (F) any other tangible personal property specified by the Secretary for purposes of section 408(m).*

*Section 408(m)(3) of the Code provides that for purposes of section 408(m), the term "collectible" shall not include (A) any coin which is (i) a gold coin described in paragraph (7), (8), (9), or (10) of section 5112(a) of title 31, United States Code, (ii) a silver coin described in section 5112(e) of title 31, United States Code, (iii) a platinum coin described in section 5112(k) of title 31, United States Code, or (iv) a coin issued under the laws of any State, or (B) any gold, silver, platinum or palladium bullion of a fineness equal to or exceeding the minimum fineness that a contract market (as described in section 7 of the Commodity Exchange Act, 7 U.S.C. 7) requires for metals which may be delivered in satisfaction of a regulated futures contract, if such bullion is in the physical possession of a trustee described in section 408(a).*

*Sections 408(m)(2)(C) and 408(m)(2)(D) of the Code define collectible, for purposes of section 408(m) of the Code, as including any metal or gem and any stamp or coin, respectively. The only exception to classifying bullion as a collectible, for purposes of section 408(m), relates to any gold, silver, platinum, or palladium bullion of a fineness equal to or exceeding the*

*minimum fineness that a contract market requires for metals which may be delivered in satisfaction of a regulated futures contract, if such bullion is in the physical possession of a trustee. This limited exception applies only if a certain type of bullion is in the physical possession of the IRA trustee. In this case, all of the bullion coins and bullion bars at issue are in the physical possession of Company M or Company N, not the IRA trustee. As a result, this exception is inapplicable.*

*With respect to your ruling request, we believe that, based on the information submitted and the representations contained herein, that bullion coins and bullion bars that are assets of IRAs in the physical possession of Company M or its affiliate, Company N, are collectibles within the meaning of section 408(m)(1) of the Code.*

*As a result, IRAs that deposit such bullion coins and bullion bars with Company M or Company N would have to treat such deposit as a distribution from the IRA in an amount equal to the cost to the IRA of such collectible.*

*No opinion is expressed as to the tax treatment of the transaction described herein under the provisions of any other section of either the Code or regulations which may be applicable thereto.*

*This letter is directed only to the taxpayer who requested it. Section 6110(k)(3) of the Code provides that it may not be used or cited as precedent.*

*If you wish to inquire about this ruling, please contact me at * * *, or * * *.*

*Sincerely yours,*

Alan C. Pipkin
Manager, Technical Group 4
Employee Plans, TE/GE Division

Non binding Authority.

Opinions of Courts that do not have jurisdiction over your case.

Administrative Rulings, such as revenue rulings are not binding. In litigation, revenue rulings are not binding on a court and do not have the force and effect of law or the authoritative weight of regulations.

Private Letter Rulings may not be cited as precedent in any situation other than the taxpayer to whom it was provided. It may indicate the ruling posture of the IRS if it was recently issued. Private letter rulings issued over 10 years ago have no relevance.

## Appendix F

# GOLD COIN RETAILERS

THE FOLLOWING LIST OF AMERICAN EAGLE and American Buffalo Gold Coin Program retailers is provided as a sampling of local, as well as national, American Eagle and American Buffalo Gold Coin Program retailers. Additional companies may be found in your local telephone book under "Coins" or "Gold."

The companies that appear on this list are neither affiliated with, nor are they official dealers of the United States Mint.

### All National Dealers

**A-Mark Precious Metals**
429 Santa Monica Blvd.,
Suite 230
Santa Monica, CA 90401
310-319-0200

**American Precious Metals, Inc.**
226 Dean A. McGee Avenue,
Suite 100
Oklahoma City, OK 73102
(405)595-2100

**Blanchard & Company**
909 Poydras Street, Suite 1900
New Orleans, LA 70161-1740
(800) 880-4653

**California Numismatic Investments, Inc.**
525 West Manchester Blvd.
Inglewood, CA 90301
(800) 225-7531

**Chicago Precious Metals Exchange**
30 S. Wacker Dr., 22nd Floor
Chicago, IL 60606-7542
312-854-7084

**CMI Gold and Silver Inc.**
3800 N. Central Avenue,
11th Floor
Phoenix, AZ 85012
800-528-1380

**CNT**
350 Bedford Street
Bridgewater, MA 02324
508-697-9600

**Dillon Gage, Inc.**
15301 Dallas Pkwy, Suite 200
Addison, TX 75001
(800) 375-4653

**Fidelitrade**
3601 North Market Street
Wilmington, DE 19802
(800) 223-1080

**Gaithersburg Coin Exchange**
16 East Diamond Avenue
Gaithersburg, MD 20877
(800) 638-4104

**Intl Precious Metals**
1155 Highway 327 East
Silsbee, TX 77656
(800) 781-2090

**Investment Rarities Inc.**
7850 Metro Parkway Suite 121
Minneapolis, MN 55425
(800) 328-1860

**Jack Hunt Coin Broker**
2746 Delaware Avenue
Buffalo, NY 14217
716-874-7777

**Liberty Coin Galleries**
2201 E. Willow St. Suite Aa
Signal Hill, CA 90755-2149
(800) 400-0824

**Manfra, Tordella, & Brookes, Inc.**
90 Broad Street
New York, NY 10004
212-981-4510

**Northwest Territorial Mint**
2505 S 320th Street, Ste. 110
Federal Way, WA 98003
800-344-6468

**Rocky Mountain Coin Exchange**
538 South Broadway
Denver, CO 80209
(800) 781-4653

**Rust Rare Coin Company**
252 East 300 South
Salt Lake City, UT 84111
(800) 343-7878

**Sam Sloat Coins, Inc.**
606 Post Road East
Westport, CT 06880
800-243-5670

**The Gold Center**
3000 West Iles Ave.
Springfield, IL 62704
217-793-8000

**Water Tower Precious Metals**
141 West Jackson Blvd.,
Suite 130-A
Chicago, IL 60604-2901
312-435-1620

## Local Dealers: All States

**The Coin Exchange, Inc.**
524 Allen Street
Springfield, MA 01118
413-732-7839

**JGM Numismatic Investments**
284A Cabot Street
Beverly, MA 01915
978-927-4000

**J J Teaparty, Inc.**
49 Bromfield St.
Boston, MA 02108
617-482-2398

**Del Greco Coins, Inc.**
399 Washington Street
Weymouth, MA 02188
781-337-5069

**CNT**
350 Bedford Street
Bridgewater, MA 02324
508-697-9600

**Podrat Coin Exchange, Inc.**
769 Hope Street
Providence, RI 02906
401-861-7640

**Continental Coins, Ltd.**
1212 Park Avenue
Cranston, RI 02910
401-942-8431

**Lee Certified Coins, Ltd.**
P.O. Box 1045
Merrimack, NH 03054
603-429-0869

**Village Coin Shop**
51-C Plaistow Rd.
Plaistow, NH 03865-5492
603-382-5492

**Maine Gold & Silver**
50 Maine Mall Road
South Portland, ME 04106
207-772-2211

**China Lake Coins**
200 Water Street
Hallowell, ME 04347
800-393-3421

**Downeast Coins & Collectibles**
26 State Street
Bangor, ME 04401
207-947-1562

**Laurel City Coins & Antiques**
462 Main Street
Winsted, CT 06098
860-379-0325

**Olde Town Coin Co, Inc.**
2600 Berline Turnpike
Newington, CT 06111
860-666-3045

**Guilford Coin Exchange LLC**
69 Whitfield Street
Guilford, CT 06437
203-453-9363

**Brookfield Coin & Card LLC**
499 Federal Rd.
Brookfield, CT 06804
203-740-2892

**American Coin & Stamp Company**
1273 Main Avenue
Clifton, NJ 07011
800-306-2099

**Americana Coin Exchange**
217 Patterson Avenue
East Rutherford, NJ 07073
201-933-2000

**S G Rare Coins, Inc.**
625 Lafayette Avenue
Hawthorne, NJ 07506
973-304-0520

**Horizon Rare Coin Galleries, Inc.**
496 Springfield Avenue
Summit, NJ 07901
908-522-9229

**Philly Stamp & Coin Co., Inc.**
683 Haddon Avenue
Collingswood, NJ 08108
856-854-5333

**S M Colavita**
209 Scotch Road
Trenton, NJ 08628
609-883-1090

**New York Foreign Exchange, Inc.**
750 3rd Avenue, 9th Floor
New York, NY 10017
800-346-3924

**Brigandi Coin Company**
60 West 44th Street
New York, NY 10036
212-869-5350

**Gold Standard Jewelry Corp.**
21 West 47th Street
New York, NY 10036
212-719-5656

**Prudential Global Derivatives**
1 New York Plaza 13th Floor
New York, NY 10292
212-778-4654

**Dart Stamp & Coin**
130 Dolson Ave #3-A
Middletown, NY 10940
845-343-2716

**Clarkston Coin & Jewelry**
115 South Middletown Road
Nanuet, NY 10954
845-623-7788

**Eastern Numismatics, Inc.**
642 Franklin Avenue
Garden City, NY 11530
516-746-6460

**Goldline Precious Metals**
144 Glenn Curtis Blvd.
Uniondale, NY 11556
800-544-4424

**Miller's Mint, Ltd.**
313 East Main Street
Patchogue, NY 11772
631-475-5353

**Rocky Point Jewelers**
29 Rocky Point-Yaphank Rd,
Suite 3
Rocky Point, NY 11778
631-744-4446

**Rocky Point Jewelers West**
137 Main Street
Stony Brook, NY 11790
631-751-3751

**Ferris Stamp & Coin**
114 Central Avenue
Albany, NY 12206
518-434-3860

**The Coin Shop**
455 Main Street
Johnson City, NY 13790
607-797-1915

**The Gold Mine**
31 Hamburg Street
East Aurora, NY 14052
716-652-3354

**Harold B Weitz, Inc.**
6315 Forbes Ave #208
Pittsburgh, PA 15217
412-521-1879

**The Coin Exchange, Inc.**
143 Sixth Street
Pittsburgh, PA 15222
412-261-9000

**John Paul Sarosi, Inc.**
106 Market Street
Johnstown, PA 15901
814-535-5766

**Dempsey & Baxter Rare Coins**
6032 Peach Street
Erie, PA 16509
814-825-7690

**Four Star Coins & Jewelry**
309 South Logan B;vd., Suite B
Burnham, PA 17009
717-248-4444

**Little's Coin & Jewelry**
107 Broadway
Hanover, PA 17331
717-632-0642

**Crone's Coins**
4200 West Market Street
York, PA 17408
717-792-3996

**Security Rare Coins**
1513 Litiz Pike
Lancaster, PA 17601
800-345-6481

**Steinmetz Coins & Currency**
350 Centerville Road
Lancaster, PA 17601
717-299-1211

**Ossie's Rare Coins**
4560 Hamilton Blvd.,
Route 222
Allentown, PA 18103
610-530-1588

**Republic Precious Metals, Inc.**
1721 Old York Road
Abington, PA 19001
215-830-8800

**Delaware Valley Rare Coin Co., Inc.**
2835 Westchester Pike
Broommall, PA 19008
610-356-3555

**Edelman's Coin & Stamp**
301 Old York Road
Jenkintown, PA 19046
215-572-6480

**Coins & Currency of Wayne**
231 E. Lancaster Avenue
Wayne, PA 19087
610.688.6655

**First State Coin Company**
53 Greentree Drive
Dover, DE 19904
302-734-7776

**Capital Coin & Stamp Company Inc.**
1001 Connecticut Ave. NW,
Suite 745
Washington, DC 20036
202-296-0400

**Assest Strategies Int'l Financial Consultants**
1700 Rockville Pike, Suite 400
Rockville, MD 20852
800-831-0007

**Coins Of The Realm, Inc.**
1331-F Rockville Pike
Rockville, MD 20852
301-340-1640

**Bonanza Coin**
940 Wayne Ave.
Silver Spring, MD 20910
301-585-8467

Maryland Coin Exchange
8620 Georgia Ave.
Silver Spring, MD 20910
301-589-2278

**Baltimore Coin & Jewelry**
10194 Baltimore National
Pike, #104
Ellicott City, MD 21042
410-418-8282

**Arundel Coins**
7418 Baltimore-Annapolis
Blvd.
Glen Burnie, MD 21061-3538
410-761-3232

**Certified Rarities**
1447 York Rd., Ste. 310
Lutherville, MD 21093
410-494-7373

**Michael A. Merrill, Inc.**
1966 Greenspring Dr Unit 102
Timonium, MD 21093
410-453-9400

**C&G Investments**
9822 Buckingham Lane
Berlin, MD 21811
410-641-0023

**Alexandria Coin Sales**
7120 Little River TPKE
Annandale, VA 22003
703-354-3700

**Central Virginia Coin**
119 1/2 West Main Street
Charlottesville, VA 22902
(434) 979-9172

**Duncan Coins**
1615 Otterdale Rd.
Midlothian, VA 23113
804-794-3632

**Capital City Coins**
8801 Patterson Avenue
Richmond, VA 23229
804-740-6481

**Paul Sims, Inc.**
431 N Ridge Rd.
Richmond, VA 23229
800-368-3039

**Reed S. Walton Coins**
1138 Big Bethel Rd.
Hampton, VA 23666
757-838-4366

**Roanoke Coin Exchange**
640 Brandon Ave SW
Roanoke, VA 24015
540-982-8587

**AAA Coins and Bullion**
2313 Randleman Road
Greensboro, NC 27406
336.674.6807

**The Gold N' Silver Shop**
4612 C West Market Street
Greensboro, NC 27407
336-272-9358

**Dean's Jewels & Gifts**
5959 Triangle Town Blvd.,
Suite 2159
Raleigh, NC 27616
919-792-2428

**Roberts North Carolina Gold & Silver**
112 South Wilson Avenue
Dunn, NC 28334
910-892-2303

**Rainbow Coins**
127 4th Avenue West
Hendersonville, NC 28792
828-697-6661

**Palmetto Galleries, Inc.**
5220 Two Notch Road
Columbia, SC 29204
803-786-6105

**Anderson's Coins & Collectibles**
106 West Greenville Street
Anderson, SC 29625
864-226-3048

**Cherokee Rare Coins**
11930 Alpharetta Highway
Alpharetta, GA 30004
770-751-1000

**World Numismatics, Inc.**
3835 N Druid Hills Rd.
Decatur, GA 30033
404-636-8819

**Hancock & Harwell Rare Coins and Precious Metals**
3155 Roswell Road, NE
Suite 310
Atlanta, GA 30305
404 261-6565

**Larry Jackson Numismatics, Inc.**
4920 Roswell Rd, Suite 23B
Fountain Oaks Shopping Center
Atlanta, GA 30342
404-256-3667

**Northlake Stamp And Coin**
4800 Briarcilff RD #2040
Atlanta, GA 30345
800-752-8162

**Southern Coin Investments**
P. O. Box 720714
Atlanta, GA 30358
770-393-8000

**Edgewood Coin Company**
936 South Edgewood Avenue
Jacksonville, FL 32205
904-389-0013

**Duval Coins, Stamps & Supplies**
6024 Atlantic Blvd.
Jacksonville, FL 32210
904-724-7579

**San Juan Precious Metals Corp.**
4818 San Juan Ave.
Jacksonville, FL 32210
904-387-3466

**Roberts & Roberts Brokerage, Inc.**
1510 Airport Blvd., Suite 4
Pensacola, FL 32504
800-874-9760

**Eur-Am Coins, Inc.**
2725 N Orange Blossom Trail
Orlando, FL 32804
407-648-8662

**Brevard Stamp & Coin**
562 Highway A1a
Satellite Beach, FL 32937
321-676-4653

**Gables Coin & Stamp Shop, Inc.**
322 Miracle Mile
Coral Gables, FL 33134
305-446-0032

**Apollo Rare Coins & Stamps**
2073 NE 163rd Street
N Miami Beach, FL 33162
305-956-7777

**Ft Lauderdale Rare Coins**
1201 N Federal Highway.
Suite 4C
Ft. Lauderdale, FL 33304
954-525-1920

**Commercial Rare Coins**
219 Commercial Blvd.
Lauderdale By The Sea, FL
33308
954-493-8811

**Broward County Coins**
7152 N. University Drive
Tamarac, FL 33321
954-746-5871

**Rechant Percious Metals**
1730 South Congress Ave.
W Palm Beach, FL 33406
561-964-8180

**William Youngerman, Inc.**
150 E. Palmetto Pk. Rd #101
Boca Raton, FL 33432
561-368-7707

**Hauser's Coin Company of Clearwater, Inc.**
2790 Gulf-To-Bay Blvd.,
Suite D
Clearwater, FL 33759
727-726-9555

**Glenn's Rare Coins, Inc.**
16072 U. S. Hwy 19 North
Clearwater, FL 33764
727-536-3849

**Florida Coin & Jewelry**
2440 Sunset Point Road
Clearwater, FL 33765
727-669-2646

**Belleair Coins, Inc.**
1350 West Bay Drive
Largo, FL 33770
727-585-4502

**Gulf Coast Coin & Jewelrey Brokers**
1400 Colonial Blvd. Suite 77
Ft Myers, FL 33907
941-939-5636

**Silver City Stamp and Coin Company, Inc.**
3205 East Silver Springs Blvd.
Ocala, FL 34470
352-732-0185

**Pasco Coins & Jewelry**
15039 US 19
Hudson, FL 34667
727-869-1121

**Coin Castle West**
700 Academy Drive, Suite 106
Bessemer, AL 35020
205-426-3984

**Southern Coin**
3081 Lorna RD, Ste. 100
Hoover, AL 35216
205.822.4900

**Nashville Coin & Currency, Inc.**
7003 Chadwick, Suite 154
Brentwood, TN 37027
615-377-4949

**The Coin Purse, Inc.**
4117 Hillsboro Pike Suite 203
Nashville, TN 37215
615-269-6700

**Famc, Inc.**
3740 Business Drive, Suite 101
Memphis, TN 38125
800-325-0919

**Bill's Coin & Stamp Exchange**
104 Wilmington St.
Jackson, MS 39204
601-371-1223

**The Louisville Numismatic Exchange**
527 South 3rd Street
Louisville, KY 40202
800-626-5879

**Coins Plus**
8077B Connector Drive
Florence, KY 41042
859-371-1414

**American Coin & Collectibles**
3501 E Livingston Avenue
Columbus, OH 43227
614-231-1008

**Gemco Coins & Jewelry**
5311 W Broad St.
Columbus, OH 43228
800-304-2646

**HCC, Inc.**
7151 Spring Meadows Drive West
Holland, OH 43528
800-422-4405

**Federal Coin Exchange**
401 Euclid Ave., Suite 45
Cleveland, OH 44114
216-861-1160

**Colonial Coin & Stamp Company**
530 Euclid Ave Suite 7
Cleveland, OH 44115
216-241-6826

**Shaker Coin Company**
28410 Chagrin Blvd.
Woodmere, OH 44122
216-464-4866

Harry E Jones Rare Coins
7379 Pearl Rd.
Cleveland, OH 44130
440-234-3330

**Hartville Coin Exchange**
1015 Edison St.
Hartville, OH 44632
330-877-2949

**Coins Plus**
9673 Colerain Ave.
Cincinnati, OH 45251
513-385-0550

**Xenia Coin Shop**
30 West 2nd Street
Xenia, OH 45385
937-376-2807

**Dixie Stamp & Coin**
4722 S Dixie Drive
Dayton, OH 45439
937-294-0601

**Centerville Coin & Jewelry Connection**
38 W. Franklin Street
Dayton, OH 45459
937-436-3003

**The Coin Shop**
4710 W. 34th St., Suite C
Indianapolis, IN 46222
317-291-1930

**Lost Dutchman Rare Coins**
4983 N. Franklin Road
Indianapolis, IN 46226
317-849-6891

**Engle's Coin Shop**
3520 Founders Lane
Indianapolis, IN 46268
317-875-0614

**J & J Coins & Stamps**
7019 Calumet Ave.
Hammond, IN 46324
219-932-5818

**Ameripawn**
1415 East Lincolnway
Valparaiso, IN 46383
219-465-7262

**Nunemaker's Coin Shop**
2516 Lincolnway West
Mishawaka, IN 46544
574-288-7464

**Fairfield Rare Coins**
3101 North Clinton St.
Ft. Wayne, IN 46805
260-484-5109

Silver Towne, L.P.
120 E. Union City Pike
Winchester, IN 47394
765-584-7481

**Abbott's Coinex Corp.**
33700 Woodward Avenue
Birmingham, MI 48009
248-644-8565

**Brimingham Coin & Jewelry**
33802 Woodward
Birmingham, MI 48009
248-642-1234

**R.I.W. Hobbies**
29116 Five Mile Road
Livonia, MI 48154
734-261-7233

**Redford Jewlery & Coin**
25950 W. Six Mile Road
Redford, MI 48240
313-592-8119

**Rare Coin Gallery**
29441 W. 12 Mile Road
Farmington Hills, MI 48334
248-471-9020

**Liberty Coin Service**
300 Frandor Ave., Lower Level
Lansing, MI 48912
517-351-4720

**Accent Jewelry & Collectibles**
522 28th St., SW
Grand Rapids, MI 49509
616-532-5060

**Christopher's Fine Jewelry & Rare Coins**
3427 Merle Hay Rd.
Des Moines, IA 50310
515-251-4031

**Oak Creek Currency & Coin**
616 E Ryan Rd.
Oak Creek, WI 53154
414-762-6710

**David Derzon Co.**
2069 S 108th St.
West Allis, WI 53227
414-543-8833

**Michael P. Schiller Rare Coins & Precious Metals, Inc.**
2221 S. Webster Ave
Green Bay, WI 54301
920-432-5950

**Uniq Coins**
704 S. Ridge Rd.
Green Bay, WI 54304
920-494-7200

**Dave's Inc.**
1226 Caledonia Street
La Crosse, WI 54603
608-784-9555

**Avenue Jewelers**
303 E College Ave.
Appleton, WI 54911
920-731-4740

**Ultimate Metals Source, Inc.**
924 Rae Court
Mendota Heights, MN 55118
651-454-2211

**Miles Franklin LTD**
801 Twelve Oaks Center Drive,
Suite 834
Wayzata, MN 55391
1-800-822-8080

**Premium Quality Coin Co.**
110 South 7th St., 222w
Minneapolis, MN 55402
612-371-4739

**Seven Star Enterprises**
International
1300 Godward Street, NE,
Suite 1550
Minneapolis, MN 55413
612-331-8222

**Park Coin Precious Metals**
5605 W. 36th Street, Suite 206
St. Louis Park, MN 55416
952-925-1819

**Gold 'N Silver**
1615 1st St S
St. Cloud, MN 56301
320-259-0233

**Coins & Collectibles**
1330 Empire Mall
Sioux Falls, SD 57106
605-361-0005

**Silver Mountain Coins**
909 Mount Rushmore Rd.
Rapid City, SD 57701
605-348-1776

**Treasure Island Coins**
1429 42nd St SW
Fargo, ND 58103
701-282-4747

**Lake Region Coin & Currency**
323 4th Street
Devils Lake, ND 58301
701-662-5770

**Bismark Gold & Silver Exchange**
212 N 4th St Suite 101
Bismark, ND 58501
701-258-9438

**Tom's Coin, Stamp, Gem & Baseball Card Shop**
2 First Street, SW
Minot, ND 58701
701-852-4522

**Montana Coin & Stamp**
2818 3rd Avenue North
Billings, MT 59101
406-252-6223

**His & Hers Coins**
622 Central Ave.
Great Falls, MT 59401
406-761-5475

**Wayne Miller Coins**
38 N Last Chance Gulch
Helena, MT 59601
406-442-0713

**Missoula Gold & Silver Exchange**
2020 Brook St.
Missoula, MT 59801
406-728-5786

**Old World Coin**
1301 N Riverside Drive
Mchenry, IL 60050
815-344-8800

**Lakeshore Numismatic Investment Corp.**
5 Revere Dr.
Northbrook, IL 60062
847-498-0050

**Northern Illinois Coin & Stamp, Inc.**
1100 Larkin Avenue
Elgin, IL 60123-5242
847-695-0110

**Westlake Cards, Comics & Coins Inc.**
1234b W. Lake Street
Roselle, IL 60172
630-307-9220

**Boulevard Coins, Inc.**
125 West St. Charles Rd.
Villa Park, IL 60181
630-530-8303

**James & Sons, Ltd.**
15234 S. Lagrange Road
Orland Park, IL 60462
708-599-0004

**AAA Jewelry & Diamond Exchange**
1205 W. Ogden Ave.
Downers Grove, IL 60515
630-852-0003

**World's Money Exchange, Inc.**
203 North Lasalle St.,
Suite M11
Chicago, IL 60601
800-441-9634

**Harlan J. Berk Ltd.**
31 North Clark St.
Chicago, IL 60602
312-609-0016

**Travel Ex Worldwide Money**
19 South Lasalle St.
Chicago, IL 60603
312-807-4941

**Water Tower Precious Metals At Lakeside Bank**
141 W. Jackson Blvd.,
Suite 130-A
Chicago, IL 60604
312-435-1620

**Chicago Precious Metals Exchange, LLC**
30 S Wacker Dr 22nd Fl
Chicago, IL 60606-7542
312-854-7084

**Gold Dust Coins**
3115 South Halsted
Chicago, IL 60608
312-842-4240

**Kedzie Koins & Jewelry**
5909 South Kedzie Ave.
Chicago, IL 60629
773-436-0777

**World Coin Company Of America**
4812 South Pulaski St.
Chicago, IL 60632
773-376-7541

**Archie's Precious Metals**
5516 West Devon
Chicago, IL 60646
773-774-1433

**Niles Coin Shop**
7637-B N. Milwaukee Ave.
Niles, IL 60714
847-967-5575

**Rmb, Inc.**
125 E. Stephenson
Freeport, IL 61032
815-235-3666

**J. Kamin Jewelers**
250 N. Mulford Rd.
Rockford, IL 61107
815-226-0888

**Rockford Coin & Stamp Center**
4403 Center Terrace
Rockford, IL 61108
815-282-4444

**AAA Coin Investments, Inc.**
3600 East State Street,
Suite 213
Rockford, IL 61108
815-381-0700

**Cherryvale Coins & Stamps**
F139 Cherryvale Mall
Rockford, IL 61112
815-332-2477

**Jubilee Coins & Currency**
1531 47th Avenue
Moline, IL 61265
309-797-1631

**Rare Coin Galleries**
440-A Rue St Francois
Florissant, MO 63031
314-837-7333

**Midwest Money Company**
5901 Hampton Ave.
St. Louis, MO 63109
314-481-0770

**Missouri Coin**
11742 Manchester Rd.
St. Louis, MO 63131
314-965-9797

**Scotsman Coin And Currency**
11262 Olive Blvd
St. Louis, MO 63141
314-692-2646

**River City Coins & Jewelry**
713 Broadway
Cape Girardeau, MO 63701
573-334-1108

Americana Collectors
4600 B South Noland
Independence, MO 64055
816-373-0040

**General Securities Corp.**
422 East Armour Rd.
North Kansas City, MO 64116
816-472-7170

**Springfield Coins & Stamps**
206 North Glenstone
Springfield, MO 65802
417-832-0669

**John Burke Rare Coins**
1025 SW Wanamaker Road,
Suite C
Topeka, KS 66614-4163
785-267-1405

**Equity Standard Numismatics Of Kansas**
1855 South Rock Rd., Ste. 105
Wichita, KS 67207-5269
316-689-8773

**DSS Enterprises, Inc.**
1906 South 13th St.
Omaha, NE 68108
402-342-9153

**Goldnsilver.Com**
15671 Fountain Hills Drive
Omaha, NE 68118
800-264-7246

**Coin Corner**
2250 N Webb Rd
Grand Island, NE 68803
308-382-4418

**Southern Coins Ltd.**
4513 Zenith St.
Metairie, LA 70001
800-662-2646

**Coin Trader**
4532 W Napoleon Ave #203
Metairie, LA 70001
1-866-603-1938

**Gulf South**
5101 W Esplanade Suite 11
Metairie, LA 70006
504-889-0610

**James H. Cohen & Sons, Inc.**
437 Royal St.
New Orleans, LA 70130
800-535-1853

**Blanchard & Co, Inc.**
909 Poydras Street, Suite 1900
New Orleans, LA 70161-1740
(800) 880-4653

**Louisiana Gold & Coins**
5525 S. Sherwood Forest Blvd.
Suite D
Baton Rouge, LA 70816
225-292-1615

**American Coin & Collectibles**
855 Pierremont Rd Suite 123
Shreveport, LA 71106
318-868-9077

**Mcintire Rare Collectibles**
8 Crestview Plaza
Jacksonville, AR 72076
501-985-1663

**The Coin & Stamp Shop**
107 Main Street
Little Rock, AR 72201
501-375-2113

**American Precious Metals Exchange**
3409 S. Broadway, Ste 650
Edmond, OK 73013
800-375-9006

**Brockhaus Jewelry, Inc.**
2107 W Main
Norman, OK 73069
405-321-4228

**Brown Coins & Stamps, Inc.**
537 SW 29th St.
Oklahoma City, OK 73109
405-632-6093

**Dillon Gage - Metals**
15301 Dallas Pkwy Suite 200
Addison, TX 75001
800-375-4653

**Texas Gold and Silver**
809 West Centerville Rd.
Garland, TX 75041
972-686-4653

**Lone Star Mint, Inc.**
805 E 15th St.
Plano, TX 75074
800-654-6716

**Southwest Numismatic Corp.**
6116 N. Central Expy Suite 921
Dallas, TX 75206
214-823-9202

**Heritage Rare Coin Galleries**
3500 Maple Ave. 17th Floor
Dallas, TX 75219
800-872-6467

**Dallas Gold & Silver Exchange**
11311 Reeder Road
Dallas, TX 75229
800-527-5307

**Mike Follet Rare Coins**
13101 Preston Rd Ste 400
Dallas, TX 75240
972-788-5225

**Texican Coin & Bullion Co.**
100 Independence Place, Ste. 316
Tyler, TX 75703
903-561-6618

**Fort Worth Coin Co., Inc.**
2820 West 7th Street
Ft. Worth, TX 76107
817-336-1782

**American Coin & Jewelry**
4955 South Hulen St.
Ft. Worth, TX 76132
817-346-3777

**Houston Numismatic Exchange**
2486 Times Blvd.
Houston, TX 77005
713-528-3213

**First Liberty National**
9803 Spring Cypress Rd.,
Suite 600-250
Houston, TX 77070
281-301-5736

**Eagle Numismatics Rare Coin & Bullion**
113 1st St West
Humble, TX 77338
281-548-1515

**Williams Coin, Stamp & Bullion, Inc.**
711 West Bay Area Blvd, Suite 100
Webster, TX 77598
281-338-1666

**American National Reserve**
990 I-H 10 North Ste. 102
Beaumont, TX 77702
800-435-0575

**Universal Coin & Bullion**
7410 Phelan Blvd.
Beaumont, TX 77706
800-459-2646

**International Currency**
8725 Eastex Fwy
Beaumont, TX 77708
614-878-2646

**Gold and Silver Star**
3649 Leopard St.
Corpus Christi, TX 78048
361-866-7755

**Medlar's North, Inc.**
7115 Blanco Rd., #101
San Antonio, TX 78216
210-342-5191

**Austin Rare Coins**
7200 N Mopack Expressway
Suite 310
Austin, TX 78731
800-928-6468

**Pratt's Coin Shop**
2155 South First St
Abilene, TX 79605
915-672-6991

**AmeriGold**
19627 E. Fair Drive
Centennial, CO 80016
720-870-8021

**Centennial Precious Metals, Inc.**
3033 East First Ave.
Denver, CO 80206
800-869-5115

**Rocky Mountain Coin, Inc.**
538 South Broadway
Denver, CO 80209
800-781-GOLD

**L & L Coin & Stamp**
5500 West 44th Ave.
Denver, CO 80212
303-422-8500

**Lakewood Coins**
7101 West Colfax
Lakewood, CO 80215
303-232-8999

**Tebo Coin**
2863 28th Street
Boulder, CO 80301
303-444-2646

**Famc, Inc.**
2900 South College Avenue,
Building 2A
Fort Collins, CO 80525
(800) 336-7000

**I.C.A.**
166 Turner Dr.
Durango, CO 81303
800-525-9556

**The Coin**
510 W. Lincoln Way
Cheyenne, WY 82001
307-778-7196

**D & J Coins**
194 North Main Street
Sheridan, WY 82801
307-672-2177

**Huminsky Coins & Precious Metals**
822 21st Street
Lewiston, ID 83501
208-746-8411

**Intermountain Precious Metal**
19833 Middleton RD
Caldwell, ID 83605
208-288-2121

**Security Gold & Silver**
3400 West State St.
Boise, ID 83703
800-635-5353

**Rose Hill Coin & Jewelry**
3506 Rose Hill St.
Boise, ID 83705
208-343-3220

**Monarch Coin Corp.**
211 East 3900 South
Salt Lake City, UT 84107
801-262-5874

**Rust Rare Coin Company**
252 East 300 South
Salt Lake City, UT 84111
800-343-7878

**CMI Gold and Silver, Inc.**
3800 N. Central Avenue,
11th Floor
Phoenix, AZ 85012
800-528-1380

**American Precious Metals, Inc.**
2850 East Camelback Road,
Suite #185
Phoenix, AZ 85016-4311
602-840-5500

**Republic Monetary Exchange**
4040 E. Camelback Road,
Suite 105
Phoenix, AZ 85018
877-354-4040

**Swiss America Trading Corp.**
15018 N Tatum Blvd.
Phoenix, AZ 85032
800-289-2646

**Master Creations**
3145 East Chandler Blvd,
Ste 109
Phoenix, AZ 85048
480-704-7847

**Coins & Stamp Gallery**
4216 W. Dunlap Ave.
Phoenix, AZ 85051
800-949-5888

**Bullion & Coin Exchange**
610 E Broadway
Mesa, AZ 85204
480-461-0963

**Valley Coin & Stamp Co.**
10632 N. Scottsdale Rd.
Scottsdale, AZ 85254
480-994-3325

**American Federal Rare Coin & Bullion**
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Carefree, AZ 85377-5810
800-221-7694

**Arizona Stamp & Coin**
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Tucson, AZ 85712
520-795-1594

**American Bullion & Coin Company**
2710 N. Steves Blvd., Ste. 16
Flagstaff, AZ 86004
800-897-9817

**Albuquerque Coins**
3216 San Mateo, NE
Albuquerque, NM 87110
505-881-4865

**New Mexico Coins, LLC**
7101 Menaul Blvd., Ne #B
Albuquerque, NM 87110
505-884-3122

**Southwestern Gold, Inc.**
6909 Menaul Blvd., Ne
Albuquerque, NM 87110
505-881-3636

**Coin Shop, Inc.**
2909 E. 20th Street
Farmington, NM 87402
505-326-2156

**Sahara Coins**
7293 W Sahara Ave., Ste 106
Las Vegas, NV 89117
702-367-4360

**Medallic Art Co.**
80 Airpark Vista Blvd.
Dayton, NV 89403
775-246-6000

**Southgate Coins And Collectibles**
5032 South Virginia Street
Reno, NV 89502
775-322-4455

**Grand Gold Coins & Investments**
2500 East Second St., Ste. 29
Reno, NV 89595
775-329-0621

**American Bullion**
12301 Wilshire Blvd.,
Suite 650
Los Angeles, CA 90025
1-800-653-4653

**Travel Ex Thomas Cook Co**
8901 Santa Monica Blvd.
West Hollywood, CA 90069
310-659-6093

**Foreign Currency Express**
350 S Figueroa St. Suite 134
Los Angeles, CA 90071
213-624-3693

**Afex - Associated Foreign**
422 N Camden Dr.
Beverly Hills, CA 90210
310-274-7610

**Los Angeles Gold and Silver**
427 North Camden Drive,
Suite F
Beverly Hills, CA 90210
310-246-4653

**The Gold Investment Group**
333 Washington Blvd. #506
Marina Del Rey, CA 90292
800-721-3247

**Lear Financial and Wilshire Coin**
1312 Lincoln Blvd.
Santa Monica, CA 90401
310-393-0661

**A-Mark Precious Metals**
429 Santa Monica Blvd.,
Suite 230
Santa Monica, CA 90401
310-319-0200

**Goldline International, Inc.**
1601 Cloverfield Blvd, 100
South Tower
Santa Monica, CA 90404
800-827-4653

**Panda America**
3460 Torrance Blvd., Suite 100
Torrance, CA 90503
800-472-6327

**Gold 'N Coins**
535 W. Whittier Blvd.
La Habra, CA 90631
714-525-2254

**Liberty Coin Galleries**
2201 E Willow ST STE AA
Signal Hill, CA 90755
800-400-0824

**Heller & Company**
492 South Lake Avenue
Pasadena, CA 91101
626-577-7503

**Miracle Mile Coin Center**
2515 Huntington Dr.
San Marino, CA 91108
626-396-4060

**Coin Galleries Of Glendale**
228 South Brand Blvd.
Glendale, CA 91204
818-243-2900

**Superior Stamp And Coin-Numismatics/Auction Consignments**
20011 Ventura Blvd.
Woodland Hills, CA 91364
800-421-0754 Ext 222

**Barry Stuppler & Co.**
5855 Topanga Canyon Blvd,
Ste. 330
Woodland Hills, CA 91367
888-454-0444

**Continental Coin Company**
5627 Sepulveda
Van Nuys, CA 91411
818-781-4232

**G&A Coins, Inc**
10113 Riverside Dr.
Toluca Lake, CA 91602
818-985-3900

**Shin Hing Jewelry**
250 East Garvey Ave.
Monterey Park, CA 91755
626-307-4312

**Coin Exchange Of West Covina**
326 North Azusa Ave.
West Covina, CA 91791
626-332-5455

**Alhambra Coin Center**
254 East Main St.
Alhambra, CA 91801
800-932-2646

**Escondido Coin Shop**
241 East Grand Ave.
Escondido, CA 92025
760-489-6058

**Coin Shop**
7746 Girard Ave.
La Jolla, CA 92037
858-459-2228

**Gold Exchange & Loan**
250 S Pacific St # 109
San Marcos, CA 92078
760-736-4653

**Old Coin Shop**
2425 El Cajon Blvd.
San Diego, CA 92104
619-298-8211

**Cellar Coin**
1029 Garnet Ave.
San Diego, CA 92109
858-272-2311

**San Diego Coin & Bullion**
7420 Claremont Mesa Blvd
Ste 113
San Diego, CA 92111
858-569-5222

**Fred Coops & Co. Inc Collector Galleries**
21 E. Redlands Blvd.
Redlands, CA 92373
909-792-2511

**Irvine Gold Mine**
Suite E, 14370 Culver Dr.
Irvine, CA 92604
949-857-5250

**Laguna Coins**
23685 Moulton PKWY, B1
Laguna Hills, CA 92653
949-609-0110

**London Coin Galleries**
27000 Crown Valley Pkwy #27
Mission Viejo, CA 92691
949-364-0990

**Hallock Coin & Jewelry**
2060 W. Lincoln Ave.
Anaheim, CA 92801
800-854-3232

**Travelex Foreign Exchange**
1565 S. Disneyland Dr. #104
Anaheim, CA 92802
714-502-0811

**Bob Patchin's Coin Gallery**
346 S. Tustin
Orange, CA 92866
714-639-6202

**Joel Rettew, Jr. Coin & Jewelry**
225 South Tustin St.
Orange, CA 92866
714-288-7500

**Brewart Stamps & Coin**
1725 W. Chapman Ave., #A
Orange, CA 92868
714-533-0400

**Ronald J. Gillio, Inc.**
8 W Figueroa St.
Santa Barbara, CA 93101
805-963-1345

**Paul Brombal**
3601-A State Street
Santa Barbara, CA 93105
805-687-3641

**Fresno Coin Gallery**
4616 N. Blackstone Ave.
Fresno, CA 93726
559-222-2646

**Camino Coin Company**
1301 Broadway
Burlingame, CA 94010
(800) 348-8001

**Mish International Monetary, Inc.**
1154 University Dr.
Menlo Park, CA 94025
650-324-9110

**Numis International**
301 Broadway
Milbrae, CA 94030
650-697-6570

**The Coin Broker**
91 Town & Country Village
Palo Alto, CA 94301
650-323-8101

**Northern California Coin**
3356 Grand Ave.
Oakland Park, CA 94610
510-839-9397

**Oakland Coin And Jewelry Exchange**
1725 Broadway
Oakland, CA 94612
510-832-7358

**Albany Coin Exchange**
1107 Solano Ave.
Albany, CA 94706
510-526-1772

**San Rafael Rare Coin**
1219 Fourth St.
San Rafeal, CA 94901
415-457-2646

**Sisson & Son**
101 Golf Course Drive, C-5
Rohnert Park, CA 94928
(707) 584-9732

**Santa Cruz Coin Exchange**
555 Soquel Ave., Ste. 270
Santa Cruz, CA 95062
831-426-1903

**San Jose Coin Shop**
1084 Meridian Ave.
San Jose, CA 95125
408-266-2500

**Merced Coin & Stamp Center**
2848 G Street
Merced, CA 95340
209-723-2251

**Excelsior Coin Gallery**
2710 Arden Way
Sacramento, CA 95825
800-872-4053

**Lake Tahoe Coin, Jewelry And Loan**
3452 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
530-541-4653

**Columbia Coin Co., Inc.**
5048-B SE Hawthorne Blvd
Portland, OR 97215
503-223-6278

**MJPM**
425 SW 3rd Street
Corvallis, OR 97333
541-753-4337

**Eugene Coin & Jewelry**
2472 Willamette St.
Eugene, OR 97405
541-683-8445

**Tidewater Coins**
2147 Broadway Street
North Bend, OR 97459
541-756-7129

**Diamond Dan**
423 Southeast Oak Avenue
Roseberg, OR 97470
541-672-2761

**Rouge Valley Coin Exchange**
41 South Grape Street
Medford, OR 97501
541-772-2766

**Northwest Territorial Mint**
2505 S 320th St STE 110
Federal Way, WA 98003
800-344-6468

**Rare Coin Galleries**
1175 NW Gilman Boulevard
#B-16
Issaquah, WA 98027
1-800-774-7557

**The Coin & Stamp Shop**
725 Pike Street #6
Seattle, WA 98101
206 624-1400

**Bayside Coin & Jewelry/ Pacific Rim Trading**
2925 Newmarket Street Suite #107
Bellingham, WA 98226
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**Pinnacle Rarities**
3625 Perkins LA STE 200
Lakewood, CA 98499
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**CoinsPlus Inc.**
3201 N. Division Street
Spokane, WA 99207
509-444-0044

**Oxford Assaying And Refining Corp.**
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907-456-3967

http://www.usmint.gov/mint_programs/american_eagles/index.cfm?action=lookup

July 2, 2011

# Notes

## Notes to Chapter 1

1. Lioudis, Nick K. (2018). Has gold been a good investment over the long term? In Investopedia. Retrieved from https://www.investopedia.com/ask/answers/020915/has-gold-been-good-investment-over-long-term.asp.

2. Barisheff, Nick (2016). Gold vs. Gold Miners. Retrieved from https://bmg-group.com/gold-vs-gold-miners/

3. Kitco NEWS (2018). Kevin O'Leary: Stay Away from Gold Miners, Hold Bullion https://www.youtube.com/watch?v=jH1XNz-YwSM&ab_channel=KitcoNEWS

## **Notes to Part Two** (Chapters 4 – 9)

1. I would like to thank Masudul A. Choudhury, and Lawrence M. Parks for helpful comments which enabled me to improve this paper. All remaining errors are of course my own responsibility.

2. For a defense of this position, see Friedman, 1962, 1980; Mises, 1966; Rothbard, 1962.

3. And sometimes to silver, for smaller denominations.

4. The most important distinction in all of political economy, one which, unfortunately, escapes the notice of many commentators in this field.

5. See Mises (1912) for the view that fiat currency *must* arise through coercion.

6. This is a phrase paradoxically popularized by Milton Friedman. Paradoxically, in that he refuses to apply it to the field of money.

7. We shall challenge this assumption, or stipulation, below.

8. The German hyperinflation of the 1920s was perhaps only the most egregious example. See Friedman and Schwartz, 1963; Mises, 1966; Rothbard, 1983; Hoppe, 1993.

9. Is our line of reasoning guilty of violating the fallacy of composition? An objection to the thesis adumbrated here might be posed as follows: "Yes, yes, you have shown that the gold standard has real benefits as an insurance policy against government monetary profligacy, which has unfortunately characterized the history of virtually all nations. However, that is a matter of macroeconomics. Society as a *whole* would be better off with a gold standard. But as far as each *individual* is concerned, he has no such reason to favor the 'barbarous relic.' On the contrary, the typical economic actor rationally prefers fiat paper to commodity gold."

The reply is very straightforward. If this charge were true, the market would never have originally migrated to a gold standard. Instead, we would have moved directly to fiat currency.

10. I owe this point to Roger Garrison.

11. True, as a medium of exchange will increase its value over and above what it would have been for purely metallic use (jewelry, dentistry, etc.). But this cannot be used to deny the proposition that vast amounts of the yellow metal will still be dug up and then reburied, whether or not it is used as money. This assumes not only that gold is not used as money, but also that it is not expected in the future to be used for this purpose. Further, it is highly probable that were gold's "moneyness" to be ended entirely, there would be at least a temporary end to the mining of this metal, as the some 135,000 tonnes now above ground could be used for other purposes. (I owe these latter two points to Lawrence M. Parks).

12. To be fair to him, it must be conceded that the use of substitutes is compatible with practically *any* monetary regime. But it cannot be denied that this also applies to gold.

13. True, this also has its political and economic costs, particularly for those who see a connection between the prestige of a country and the value of its currency in foreign exchange markets. These costs, however, are not sharp and painful; they do not constitute a "crisis."

14. His purpose here was to criticize flexible exchange rates, not the gold standard, but his analysis is nonetheless germane to our present concerns.

15. For a critique of the Keynesian system, see Hazlitt 1959).

16. Objections might be leveled at the claim that this is Keynesian and not "monetarist." Although most debates on this

and related topics in the professional literature have been between these two purported schools of thought, nothing of the kind is true. But both monetarists and fiscalists employ the Keynesian model of aggregate demand. Therefore, these controversies are more of an internecine battle than a disagreement between two separate philosophies. As Friedman himself says, "we are all Keynesians now" (cited in Samuelson, 1970, p.193).

As it happens, Friedman objects that he has been quoted out of context (personal correspondence). His full statement on this matter as follows: "If by Keynesianism you mean public policy prescriptions of big government budgets, deficit spending, etc., then there are great differences between we monetarists and the Keynesians; but if you mean utilization of the same tools of economic analysis, then we are all Keynesians now" (paraphrase, based on personal conversation). For some purposes, one is inclined to take the Friedman side in his altercation with Samuelson. But for our public policy purposes, the alternative view has its attractions.

17. Mundell, 1961, p.662 sees this as a problem, but contents himself with an appeal to "commonsense." One problem with his analysis is that the decision as to how many "regions" there are, and hence how many currencies would be in existence, is not one to be made by the market. Rather, the unspoken implication is that it would be made by Mundell, or a band of economists, or politicians, or perhaps by the entire economics profession. It is likely that if the choice came down to a market or political decision, Mundell would opt for the latter.

18. States Mundell, 1961, p.660, "… the concept of optimum currency areas helps us to see that the conflict … between Meade, who sees the need for more currencies, and Scitovsky, who sees the need for fewer … reduces to an empirical rather than a theoretical question."

19. It was for this reason that Friedman penned his famous aphorism, "rules not authority in monetary policy" as part of his public policy suggestion that the fed be limited to increasing the money supply by 3% annually. See also Simons (1936).

20. See Krueger, 1974; Posner, 1975; Tullock, 1967, 980.

21. It would seem that *nothing* is free of this particular risk.

22. See also Hayek (1948).

23. From time to time gold clauses become legal, as do futures contracts which allow for gold delivery. This complicates the situation somewhat. (I owe this point to Lawrence M. Parks).

24. For critiques of this theorem, see Patinkin (1965),

Anderson (1936) and Ellis (1934); for replies, see Mises (1966, pp.405-419) and Rothbard (1991).

25. This is why early monies typically consisted of salt, or sugar, or dried fish or some such. For a discussion of this process see Menger (1950, pp.257-285).

26. Radford (1945) tells of cigarettes being used as money in prison of war camps.

27. Hyperinflations may sometimes be sufficient to wean an economy away from its money, but little else can.

28. To be fair to Greenspan, he has spoken publicly in favor of the gold standard. For example, see his speech at Catholic University, Leuven, Belgium, on January 14, 1997. (For a commentary on this see Parks, 1998). But efforts such as these are hardly consistent with serious public policy support for this system. Surely a strong advocate of a free market gold standard would make this a centerpiece of his administration; perhaps even go so far as to threaten to resign were it not implemented, let alone seriously studied with a view toward implementation.

## Notes to Chapter 10

1. For a formalized look at the exchange role of money, see Shouyong Shi, "Money and Prices: A Model of Search and Bargaining," Journal of Economic Theory, vol. 67, no. 2 (December 1995), pp. 467–496. See also Alberto Trejos and Randall Wright, "Search, Bargaining, Money, and Prices," Journal of Political Economy, vol. 103, no. 1 (February 1995), pp. 118–141.

2. See Albert Bushnell Hart, ed., American History Told by Contemporaries, vol. 2, p. 288, quoted in Arthur Nussbaum, A History of the Dollar, New York: Columbia University Press, 1957, p. 13.

3. A second reason wampum was discouraged is that it was produced and used by native tribes rather than by the Colonial authorities. When Massachusetts required taxes to be paid in silver in 1661, this was probably due more to a native policy (or lack thereof) than to the difficulty of using wampum in exchange.

4. For a complete discussion of the advantages of fiat money over commodity money, see Armen Alchian, "Why Money?" Journal of Money, Credit and Banking, vol. 9, no. 1, part 2 (February 1977), pp. 133–140.

5. Although silver was also used during this period, for simplicity, I will refer to metallic currency as gold.

6. In this case, accepting a greenback in exchange was like accepting the option to convert it to gold after convertibility was established. See Charles Calomiris, "Greenback Resumption and Silver Risk: The Economics and Politics of Monetary Regime Change in the United States, 1862–1900," in Michael Bordo and Forrest Capie, eds., Monetary Regimes in Transition, New York: Cambridge University Press, 1994, pp. 86–132.

7. For international transactions, convertibility was maintained until 1971.

8. Prior to 1986, Soviets had two currencies: a trade ruble, which was backed by a commodity, and a domestic ruble, which was not convertible to the trade ruble. Over the years, there were several episodes in which the communists backed the domestic ruble with gold to give it credibility. Starting in 1986, the domestic ruble was permitted to be used in international transactions, and it had an exchange rate in terms of foreign currencies.

9. For a new theory on dual currencies, see Elizabeth Soller and Christopher J. Waller, "Dual Currencies in a Search Model of Money," Indiana University, unpublished manuscript, July 1996.

10. Most discussions of how these alternative media will operate assume that the dollar will be the unit of account. This is not an inevitable conclusion, however.

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