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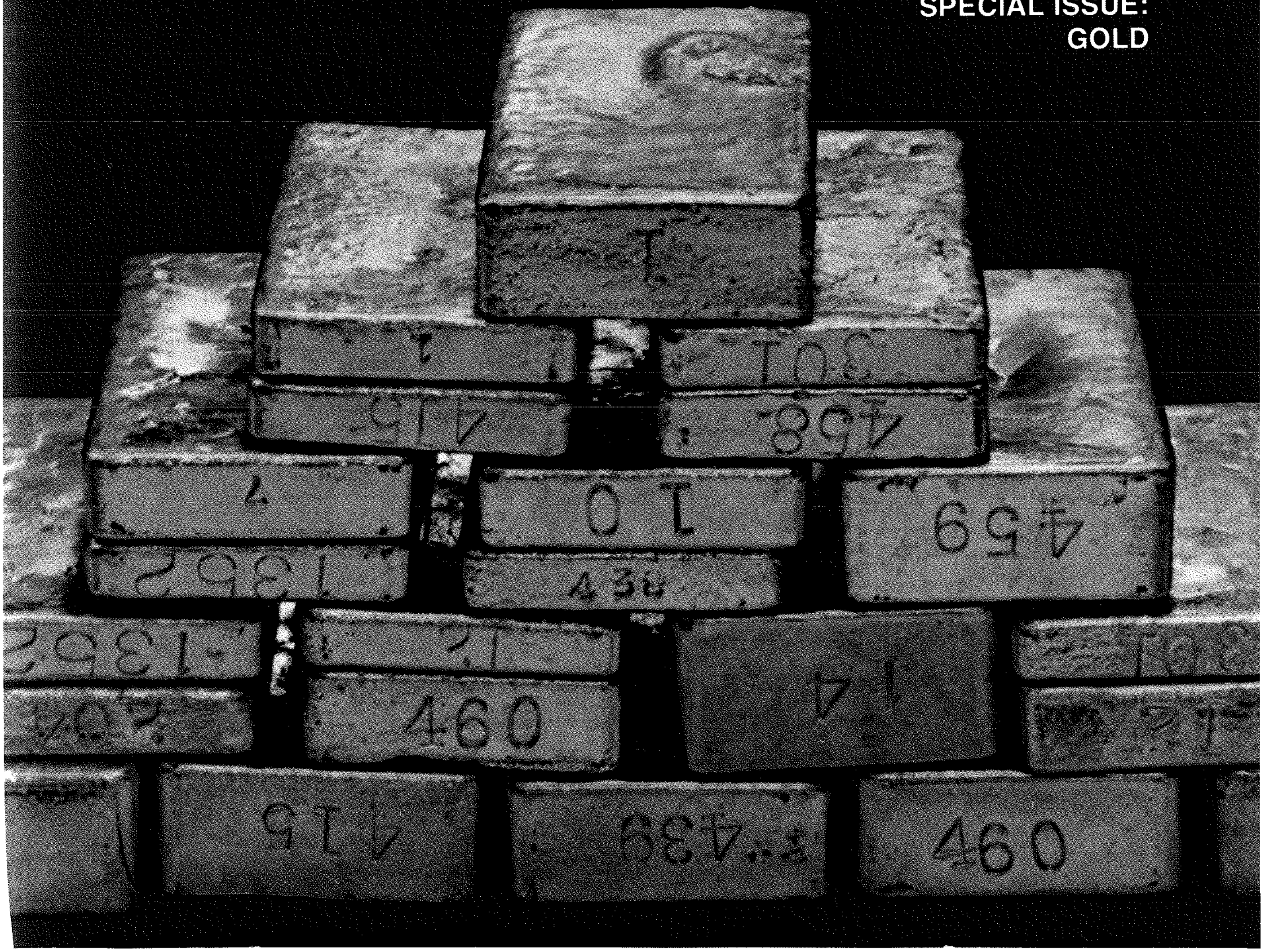

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Gold: End of an Era?

"Gold is a wonderful clearer of the understanding," wrote Thomas Addison in a 1711 issue of the *Spectator*, yet many misconceptions have grown up around the lustrous metal during the intervening centuries. In an attempt to clarify the situation as it stands in the mid-1970's, this special issue of the *Review* presents three analytical articles written against the background of recent far-reaching changes in U.S. gold policy. Within a brief half-decade, we have witnessed the creation of the two-tier gold market, two devaluations of the dollar, and now in 1975, the lifting of the longstanding ban on the private ownership of gold, followed by the auctioning of a small portion of the nation's gold stock.

In the first article, Hang-Sheng Cheng and Nicholas P. Sargen place these recent events in historical perspective, before analyzing the reasons for the U.S. Government's decision to end the monetary role of gold. They consider several traditional arguments advanced by advocates of gold—for example, the need for the "discipline" of the gold standard to set prescribed automatic limits to the power of the nation's monetary authorities. But they note that the world economy in the heyday of the gold standard did not benefit from such discipline, but instead was characterized by wide fluctuations in both output and prices. Again, gold supposedly has provided a safer asset than national currencies—but in their view, this argument puts the cart before the horse. It was the official support of the price of gold that sustained its value, and not the reverse.

In accounting for the recent shift in U.S. policy, Cheng and Sargen point to an element of instability in the Bretton Woods gold-dollar standard after World War II, because of an asymmetry in its exchange-rate adjustment mechanism. Any other country could change a "fundamental disequilibrium" in its balance of payments by altering the exchange rate of its currency against the U.S. dollar—but the United States, with its currency pegged to gold, was poorly situated to change its exchange rate. This asymmetrical situation was compounded by a devaluation bias in exchange-rate adjustments, which permitted surplus countries to postpone or avoid revaluation, while deficit countries were forced to devalue by their weakening reserve positions. Consequently, when the U.S. allowed its domestic inflation rate to get out of hand in the late 1960's, the dollar became increasingly overvalued, and this resulted in massive accumulations of dollars in foreign official holdings, as well as a decline in the competitive position of American manufacturers in foreign and domestic markets.

In the meantime, Special Drawing Rights (SDRs) developed as a major new reserve asset, providing a superior alternative to gold. Unlike gold, they earn interest, cost nothing to produce and store, and provide means for an internationally controlled growth of world liquidity.

Looking toward the future, Cheng and Sargen note the existence of 1.2 billion ounces of gold in official holdings—and perhaps 2.5 billion ounces in private holdings—and they ask what may happen to these stocks in the wake of the U.S. decision to demonetize gold. Their conclusion is that the prospects for a resurrection of gold are rather dim. Unless a new "gold-center country" emerges to buy and sell gold at some official price, gold may join silver as just another historical relic. They even suggest the possibility of governments selling off their stocks. In that event, an international agreement might be necessary to maintain the value of official gold holdings, in order to preserve the value of national savings already embodied in such assets.

In the second article, Kurt Dew contrasts the 1968-75 shift in U.S. gold policy with the policy of the 1930's, when the Administration prohibited private gold holdings and tried to push up gold prices as a means of supporting farm prices. He asks several questions about these quite dissimilar episodes: Did the policies achieve their intended results? Did external actions offset the intended beneficial effects? Did gold help in either case to advance the nation's economic welfare?

Dew argues that the policy of the 1930's achieved its intended effect, but that it was a Pyrrhic victory, in view of the severe problems caused in the European gold-bloc countries by the vast outflow of gold to the United States. A fundamental policy flaw in that period was the tendency of both this country and the gold-bloc nations to follow gold policies rather than expansionary monetary policies.

Turning to the current situation, Dew says that U.S. policy has achieved its intended effect by relegating gold to the same status as that of any other commodity. He considers several factors that could offset the benefits of this policy, but argues that each of these possibilities is rather remote. For example, small individual investors and large institutional investors could both create problems for the economy by switching their assets into gold, but they are not likely to have much incentive to do so. Also, foreign and domestic financial authorities will probably not repeat the perverse policy errors of the 1930's, but will instead continue on their present path of monetary cooperation.

In the third article, Michael W. Keran and Michael Penzer examine the role of gold as a private hedge against inflation. They note that the timing of gold purchases is crucial; naturally, the investor would have profited considerably if he had bought in 1968 and sold in 1975, but he would have lost half of his purchasing power if he had instead bought in 1934 and sold in 1968. Next they examine the possible return on alternative investments, such as other commodities, foreign currencies and interest-bearing financial assets. These investments at times have provided better returns than gold—and without the accompanying problems, such as the illiquidity of gold investment and the large variance of gold prices.

Keran and Penzer then evaluate gold's future in terms of the supply and demand factors that have led to the sharp price upsurge of the 1970's. On the supply side, they note the 20-percent decline in flow that occurred in the past four years, largely because of the production problems of the dominant producer, South Africa—but they contend that recent peak prices should lead to production increases in the longer run. Also, they argue that downward price pressures could arise from the massive stocks over-hanging the market; central-bank holdings alone are more than 25 times larger than current production.

On the demand side, Keran and Penzer note the existence of a flow demand for industrial, commercial and artistic purposes, as well as a stock demand for inventory building by central banks and private investors and speculators. Flow demand could decline because of the recession and because of the very high price of gold. Stock demand could weaken on the part of central banks, reflecting the continued efforts to demonetize gold, and it could also weaken for investors and speculators, to the extent that inflationary expectations are somehow kept in check. Thus, they conclude: *caveat emptor*. Despite gold's excellent record as an investment in the last several years, the remainder of the decade will inevitably bring changes in the supply and demand factors governing the price of gold—changes which could easily shift the price trend downward.

The Changing Role of Gold in the International Monetary System

By Hang-Sheng Cheng and Nicholas P. Sargen

Without any fanfare, the United States has now closed a long chapter in its monetary history. On December 31, 1974, the Government revoked a 41-year ban on U.S. citizens' ownership of gold, and a week later, on January 6, 1975, it started auctioning a portion of its gold stock on the open market. These actions not only signaled the U.S. Government's decision to end the monetary role of gold, but also called into question the metal's future role in the world economy. Symbolically, the auction was conducted not by the U.S. Treasury, a monetary authority, but rather by the General Services Administration, a housekeeping arm of the U.S. Government. Thus, in a quiet way the U.S. Government suggested to the world that henceforth it will handle its gold in the same way it handles its used office furniture.

This historical decision presaging an end to the monetary role of gold has important implications for the world at large. As far back as mankind's memory extends, gold has been associated with money as a store of value, as a means of payment, and as a backing for national currencies. Because of the deep-rooted association of gold with money, many people will continue to regard gold as a prime financial asset for a long time into the future. Advocates of gold will question not only the Government's wisdom in attempting to demonetize the metal, but even its ability to end unilaterally the monetary role of gold, either in the international monetary system or in the minds of the public.

Subsequent to the U.S. actions, France announced on January 9 a revaluation of its official gold holdings, from the former official price of $42.22 per ounce to $170.40 per ounce, in order to bring the valuation closer to the market price of gold. It also declared that another revaluation would be made six months later. The operational meaning of the French decision was unclear, since nothing was said about the intended relationship, if any, between the "valuation price" and future official gold transactions. Since France holds the world's third largest official gold reserves[1] and has long advocated a stronger international role for gold, its policy will undoubtedly have a very large influence on the metal's future.

In this atmosphere of controversy and uncertainty, it is essential that the public obtain a clear understanding of the changing role of gold in the international monetary system. In the gold market, perhaps more than in any other market, demand and supply conditions depend crucially on what governments do with their huge stock of the commodity.[2] Although predictions are difficult to make, it is well to remember that there is a long evolutionary process behind recent government actions, as well as a certain logic that limits and compels policy decisions.

The next section provides an historical perspective on the role of gold in international finance. The third and fourth sections then consider the rationale of recent Government actions towards demonetizing gold, especially in view of the criticism that much of the recent financial disorder, national and international, can be traced to the gradual abandonment of the gold standard. The final section explores the future prospects of gold in the international monetary system.

After examining the various options available to governments, we conclude that the prospects for a resurrection of gold are rather dim. Unless a new "gold-center country" emerges to buy and sell gold at fixed "official" prices—which appears unlikely—gold will soon join silver as just another relic of the past. If, as seems likely, the mystique of gold does begin to fade away, there might be a scramble of governments to sell off gold but few buyers for the metal. The market price conceivably could tumble very sharply in view of the huge official gold stocks relative to the potential size of the world gold market. In that case, an international agreement might become necessary to maintain the value of official gold holdings for preserving national savings already embodied in such assets. The International Monetary Fund possibly could function as an ultimate depository of unwanted official gold in exchange for Special Drawing Rights (SDRs) at some agreed official price. In any event, some contingency planning might be needed in order to forestall large-scale dumping of official gold, which could result in disorderly conditions in the market to the detriment of the interests of gold producers, users, and holders alike.

Historical Perspective

The international gold standard, although extinct in practice, continues to survive in the minds of men today. Intelligent laymen frequently ask, "If the dollar is not backed by gold, what holds up its value?" Such misgivings are deeply rooted in tradition. Historically, the value of money in most major countries was anchored on gold. For centuries gold coins circulated within those countries as well as across national boundaries as a generally accepted means of payment. Throughout the nineteenth century, especially during the last quarter of the century, monetary authorities were above all concerned with maintaining the public's confidence in the national currency by insuring its convertibility into gold.

This mode of official thinking lasted well into the twentieth century, long after most nations abandoned the gold standard in the 1930's. Although private citizens could no longer convert dollars into gold, U.S. monetary authorities continued in the 1960's to speak of the need to "defend the dollar" at its then par value of $35 per ounce of gold. When that value became indefensible, the dollar was twice devalued, and the action was officially described each time as a devaluation in terms of gold: first to $38 per ounce in December 1971 and then to $42.22 per ounce in February 1973. It is thus small wonder that the general public should continue to view the dollar's value in terms of gold.

The popular misgivings seem to stem from two fundamental misconceptions about the relationship between gold and money. The first suggests, mistakenly, that it was the gold backing of national currencies that supported their values under the gold standard. The second misconception ignores significant changes that have occurred in the international monetary system since the high watermark of the gold standard nearly a century ago.

On the first point, recent studies have indicated that it was the national currencies that supported the value of gold, not the other way around.[3] Throughout the nineteenth century, the convertibility of major national currencies into gold provided the necessary support of the value of gold in terms of those currencies. Whenever the price of gold threatened to fall below its official support price, as happened in the case of major gold discoveries or technological breakthroughs in metal refining, the monetary authorities would buy up all the gold offered to them. Moreover, at the officially fixed prices, newly mined gold poured into official reserves in both the gold-avalanche periods of 1849-72 and 1893-1913 and the leaner years of 1873-92.[4] This suggests that the market-equilibrium price of gold in the absence of official support would have been consistently below official support prices between 1849 and 1913. A similar phenomenon occured in the 1930's when the United States raised its official support price from \$20.67 to \$35 per ounce, thereby setting off a gigantic flood of gold into its monetary reserves.

The national monetary authorities supported the value of gold throughout this period because gold then played a key role in the international monetary system. Over the last one hundred years, however, that role has gradually diminished. Instead of saying that the U.S. dollar is no longer backed by gold, we should say that gold is no longer supported by the U.S. dollar.

When in August 1971 the United States closed its gold window even to foreign official dollar holders, it severed in one stroke the last functional link between the dollar and monetary gold.

The decline and fall of the gold standard has been so exhaustively analyzed in standard textbooks and popular writings[5] that it would not be worthwhile repeating here. Suffice it to say that gold's relative importance started to decline even during the nineteenth centry, as its share in the aggregate money supply of Britain, France, and the United States declined from about one-third in 1815 to only one-tenth in 1913, while the share of bank deposits expanded from a mere six percent to sixty-eight percent.[6] Robert Triffin has characterized this period as a century of "gradual euthanasia" of gold money and its replacement by credit money.[7]

After World War I, national monetary authorities made numerous efforts to restore the prewar gold standard, but their efforts ended in complete collapse in the 1930's, when all nations, one after another, went off gold. Rising economic nationalism and the huge dislocations of the Great Depression completely destroyed any chance of success for the interwar restoration of the gold standard. On the other hand, the restoration of that standard at inappropriate par values of national currencies contributed significantly to the economic instability of the 1920's, and the failure of the "gold-bloc" nations to go off gold until 1936 retarded economic recovery in the 1930's.[8]

The post-World War II international monetary system, as set forth in the Articles of Agreement of the International Monetary Fund, was nominally a gold-exchange standard but functioned primarily as a dollar standard. The United States took upon itself the responsibility of maintaining the convertibility of its currency into gold for foreign official holders at a fixed par value, while other member nations pegged their currencies to the U.S. dollar. The coexistence of both gold and the dollar as international reserve assets proved to be a major source of instability for the IMF system. After 1965 strong speculative pressures developed against the dollar, when it became increasingly apparent that that currency was overvalued.

The rest is familiar history. When in August 1971 the United States closed its gold window even to foreign official dollar holders, it severed in one stroke the last functional link between the dollar and monetary gold. Nevertheless, another three years passed before the world's monetary authorities decided, in January 1975, to abolish the official price which has maintained gold nominally as the standard of the international monetary system. The U.S. Government is now treating its stock of gold as an ordinary commodity to be auctioned off piecemeal if it so wishes. For this country at least, there is little prospect that gold will ever again play a prominent role in the reformed international monetary system.

The Case Against Demonetization

The objective of the U.S. Government to demonetize gold has hardly gone unquestioned. Indeed, the advocates of gold believe that its role should be strengthened rather than weakened. They advance three arguments: (1) the constraints of a gold standard would check excessive monetary expansion and world inflation; (2) stable exchange rates based on the gold par value of national currencies would facilitate international trade and investment; and (3) gold remains superior to either SDRs or foreign exchange as a reserve asset.

(1) The "discipline" of the gold standard and domestic price stability

One of the gold advocates' strongest arguments is the need for the so-called "discipline" of the gold standard to set prescribed automatic limits to the powers of national monetary authorities. When a country's money supply is not tied to gold or to some other commodity standard, it is asserted, political expediency or misguided judgment would too often lead the monetary authorities to expand the money supply at an excessive rate for a prolonged period of time, resulting in inflations followed by recessions. But economic instability could be avoided or at least lessened if money were rigidly tied to a commodity standard, under which the monetary authorities would be obligated to convert the national fiat money into gold or another commodity (e.g., silver) or into a standard basket of commodities at some fixed rate. Convertibility could be either universal or limited; in the first case, it would be available to all holders of fiat money (domestic or foreign) and, in the second case, limited to foreign official holders.[9] The standard of reference in most of these discussions is the 1870-1914 version of the international gold standard and the monetary doctrines underlying it.

There is indeed considerable truth in these arguments. The chief virtues of a commodity standard are impersonality and automaticity. A gold standard or, for that matter, any commodity standard is "impersonal," because it is mechanically governed by set rules, requiring no forecasting and no administrative or legislative decisions; hence it is not subject to the hazards of erroneous forecasting and bad decisions. The mechanism is also "automatically stabilizing," because—under certain conditions[10]—it tends to augment national income when it is relatively low and to subtract from income when it is relatively high.

In fact, however, neither the gold standard nor the silver standard worked out very well. Discoveries of new mines and breakthroughs in refining technology were major sources of instability in the nineteenth-century international monetary system. Indeed, far from the idealized version, the world economy during the heyday of the gold standard was characterized by wide fluctuations of both output and prices. As Robert Mundell has pointed out, instead of controlling liquidity in order to avoid inflation and deflation, "under the gold standard, inflation and deflation were the means by which liquidity was controlled."[11]

Twentieth-century reality has also conflicted with the idealized version of the gold-standard adjustment mechanism, which presumes a great deal of price flexibility in both upward and downward directions. Wage and price rigidity has increased significantly, especially since the end of World War II, as a result of growing unionization and oligopolistic market structures throughout the world. Given the present structure of the economy, sustained monetary deflation would result in widespread unemployment and business recessions to a much greater extent than in the preceding century. Moreover, given modern full-employment policies, a strict adherence to the gold-standard rules of monetary management probably would be politically unacceptable.[12]

This is not to imply that the world monetary system in the twentieth century has fared any better than in the nineteenth century.[13] Rather, the central point is that a gold standard is neither necessary nor sufficient for insuring monetary stability. If national monetary authorities can accept rigid monetary restraints, then tying currencies to gold is clearly not necessary. On the other hand, the experiences of the nineteenth century and of the 1920's and 1930's show that adherence to a gold standard was not sufficient to insure a situation of monetary stability.

(2) Exchange-rate stability and international trade

Gold advocates have frequently argued that, when national currencies are tied to gold at fixed prices, the resultant fixed-exchange rates would effectively tie the various national economies together in a common-currency area and thus greatly facilitate international trade and investment. Conversely, flexible exchange rates would break up these ties and hamper international trade and investment.

The argument has lost much of its former attractiveness in the past decade. Throughout the 1960's and early 1970's, the mounting barriers to international trade and investment in the name of "defending" the par-value system made an irony of the argument, and in the last few years, our actual experience with flexible exchange rates has further demonstrated its hollowness. Even the most dedicated opponents of flexible exchange rates must admit that the system has worked much better than they had expected, and that restrictions on capital flows are much less now than previously.

In this contradictory world, characterized by national policy decisions in a tightly-integrated and mutually-interdependent world economy, national governments have tried but failed to maintain a fixed-exchange-rate system. They now realize that a flexible-exchange-rate system may well be the only workable system under the circumstances. Furthermore, even if countries wished to reestablish fixed rates at some time in the future, they could readily achieve this goal without resorting to gold as an intermediate measure of value.

(3) Gold as a superior international reserve asset

As far back as man can remember, gold has been used as a safe store of value. National currencies may come and go, but gold remains precious in people's minds. Especially during times of war and inflation, when national currencies rapidly lose their value, the public seeks refuge in that precious metal. Why has gold been universally regarded as a safe asset in preference to national currencies?

The answer has already been suggested, but it is worth reiterating here. Historically, gold and silver were regarded as safe stores of value, not because of any intrinsic value, but rather because of their adoption at one time or another as the bases of national and international monetary standards. The official endorsement of these metals as standards of value—and the official assurance of their convertibility into national currencies at fixed prices—supported their values and thus their general acceptance as stores of value. During times of war and inflation, these metals were preferred to depreciating national currencies because of the fact (or belief) that gold or silver could be converted into other foreign currencies that were not falling so rapidly in value in terms of commodity-purchasing power. Ever since the rise of fiat money, it was the ultimate official support of the price of gold in terms of a national currency that made this metal valuable, not the other way around.

The popular idea of gold being a safe store of value puts the cart in front of the horse. Also, it stems from a set of institutional arrangements that have long since passed into history. Witness the fate of silver. After the monetary authorities stopped supporting the price of silver in terms of their national currencies, silver became no more than an ordinary metal. Now that the United States has stopped supporting gold and no other nation has shown any readiness to take her place, gold cannot be considered a safe asset any longer.

The Case For Demonetization

But why should the U.S. Government decide to demonetize gold? The answers are twofold: (1) the gold-dollar standard was unstable, and (2) SDRs have emerged as an international reserve asset superior to gold and foreign exchange.

(1) Instability of the gold-dollar standard

For a quarter-century following World War II, the international monetary system was formally on a gold-dollar standard, with the value of the dollar tied to gold at a fixed price of $35 per ounce and linked to other national currencies through a system of fixed exchange rates. With respect to exchange-rate adjustments, the United States was in a fundamentally different position from other countries, in that each of the latter could repeg the exchange rate of its currency against the U.S. dollar, subject to approval of the International Monetary Fund, for correcting a "fundamental disequilibrium" in its balance of payments. The United States, on the other hand, with its currency pegged to gold, was not well situated to alter the exchange rates between the dollar and other currencies for correcting its own balance-of-payments problems—as was demonstrated by the difficult dollar depreciation of August - December 1971.

Compounded with this asymmetry was a devaluation bias in the exchange-rate adjustments that took place in the quarter-century between the establishment of the IMF system in 1946 and its collapse in 1971. Except for the reserve-currency country, the stock of any deficit country's international reserves ultimately placed a limit on the extent to which devaluation could be delayed. However, there was no corresponding constraint forcing a surplus country to revalue its currency against the dollar. In fact, with the exceptions of the German mark, the Dutch guilder, and the Canadian dollar, all the exchange-rate adjustments during that quarter-century were devaluations against the dollar. This development took place against the background of a significant lag in U.S. productivity growth, relative to its major trading partners, and an acceleration in U.S. inflation after the mid-1960's. Thus, over time the U.S. dollar became increasingly overvalued.

The progressive overvaluation of the dollar had two major consequences. First, U.S. payments deficits resulted in an accumulation of dollar liabilities in foreign official holdings increasingly larger than what foreign monetary authorities desired to hold. By mid-1971, such liabilities amounted to about $50 billion, nearly three times their size five years earlier, and almost five times the then-official value of U.S. gold reserves. The reality of gold convertibility of the dollar was already dead when the United States officially closed its gold window in August 1971.

The second major consequence was a mounting stress in the U.S. domestic economy, as industries here found it increasingly difficult to compete with foreign products in either the export or the domestic markets, and as investment incentives turned more and more in favor of production abroad than in the United States. Demands for protectionist legislation against imports and overseas investments mounted in the Congress and among the general public.

The gold-dollar standard under the IMF system, *in principle,* was not necessarily unstable. It could have endured, for instance, if (a) the surplus and deficit countries had been equally ready to adjust their exchange rates against the dollar, (b) the growth rate of the U.S. money supply had been more in tune with what was required for the stability of the international monetary system, and (c) there had been an adequate growth of world reserve assets other than liabilities of individual countries.

However, since none of these conditions was met, the system was *in fact* unstable. The United States found itself increasingly in an untenable position, with mounting liabilities to foreigners and mounting problems among domestic producers. In one stroke, it severed the link between the dollar and gold in August 1971. Since then, it has resisted all pressures to retie the dollar to gold.

(2) SDRs as a primary international reserve asset

Since their initial creation in January 1970, the IMF Special Drawing Rights (SDRs) have grown to a total of $10.6 billion at the end of 1974. Although they account for only about five percent of total world reserves,[14] SDRs possess a number of highly attractive features as an international reserve asset.

First, unlike gold, SDRs are costless to produce; this is an important feature in a world of expanding trade and investment, where there is a need for steady growth of reserve assets. Second, they provide a means for internationally controlled growth of world liquidity. This is in contrast to gold, the supply of which can fluctuate considerably because of technological or speculative factors, or to the dollar, the supply of which is controlled by the monetary authority of a single country. The creation of SDRs reflects the collective will of the international community and hence might avoid both inflationary and deflationary extremes,[15] and it is thus more rational than the creation of liquidity under the gold-dollar standard.

Third, SDRs represent a more equitable way of distributing reserve assets than does either gold or the dollar. Money embodies command over resources. The issuer of money possesses the power to command resources—"seigniorage"—wherever the money is accepted as a means of payment. The United States, as the principal issuer of international money under the gold-dollar standard, was widely accused of abusing the seigniorage privilege by excessive monetary expansion, especially after the mid-1960's. The benefits of seigniorage under a pure gold standard accrued to gold-producing nations, to the extent that the official price of gold was set above its production cost. In contrast, the seigniorage gains of SDR creation are distributed to IMF members in accordance with internationally agreed rules.

The United States found itself increasingly in an untenable position, with mounting liabilities to foreigners and mounting problems among domestic producers.

Fourth, unlike gold, SDRs pay interest. The annual interest rate was 1½ percent until mid-1974, but it was then raised to 5 percent, adjustable periodically in line with money rates in several major markets. Also, SDRs have a more stable foreign-currency value than any single national currency, since their value is now set daily by the IMF on the basis of a weighted composite of 16 major currencies. Moreover, with gold's future in doubt, SDRs should be a less risky international reserve asset than gold. Indeed, in view of all the desirable properties enumerated here, SDRs can be expected ultimately to replace gold as a primary international reserve asset. The U.S. phase-out of gold as a monetary instrument contributes to that objective.

Prospects of Gold in the International Monetary System

What will be the future role of gold in the aftermath of U.S. demonetization? The subject was discussed in a meeting of the IMF Interim Committee (successor to the Committee of 20) on January 15-16 in Washington. Agreement was then reached to abolish the official gold price and to allow all central banks to value their gold and use it in any way they want.[16] Subject to ratification by the IMF Governors at their annual meetings in September, the agreement would in effect demonetize gold for the international monetary system as a whole, but leave it to individual countries to decide on their national gold policies. It is useful to explore what options there are for individual countries, and what problems are likely to arise when and if those options are exercised.

The basic facts are fairly straightforward. As shown in the table below, the world's official gold reserves—holdings of the monetary authorities of non-Communist nations as well as the International Monetary Fund (IMF) and the Bank for International Settlement (BIS)—amount to about 1.2 billion ounces. There is no way to measure the size of the world's private gold holdings, although they probably amount to about 2.5 billion ounces.[17]

This country is by far the largest official holder of gold, followed by Germany, France, Switzerland, and Italy. The U.S. holdings amount to about one-fourth of total official gold holdings. In addition, the IMF also holds a sizable amount—more than any individual country except the United States.

Because of the size of this country's holdings, U.S. policy should be the most important, if not the deciding, factor governing the future course of gold. The United States has begun to demonetize gold, but others might still question the finality of that decision. After all, the modest amount—less than one million ounces—that was sold in the recent auction represents only a small fraction of the U.S. gold stock.

One proposal reportedly advanced in earlier meetings on international monetary reform was the establishment of a new, higher official gold price.[18] The proposal would have prolonged the use of gold as a means of settlement between national central banks, and thus might have avoided too abrupt a termination of gold's age-old role as a major international reserve asset. Raising the official price of gold, however, would run the risk of conferring official sanction on an arbitrary price which has little prospect of adjustment. It is hard to conceive how gold could be phased out once an official price was restored. More importantly, on the basis of the preceding analysis of the U.S. experience with the former gold-dollar standard, it is extremely doubtful that the U.S. Government would be willing again to tie the dollar to gold.

Official Gold Holdings
(End of June 1974)

	Million oz.
United States	276.0
West Germany	117.6
France	100.9
Switzerland	83.2
Italy	82.5
Netherlands	54.3
Belgium	42.2
Portugal	27.9
Canada	22.0
Japan	21.1
United Kingdom	21.0
Austria	20.9
South Africa	18.5
Other Developed Countries	36.5
Latin America	28.3
Middle East	28.8
Other Asia	18.0
Other Africa	11.5
IMF	153.4
BIS	6.1
Total	1,180.3

Source: Based on data in International Monetary Fund, *International Financial Statistics*, December 1974. Original data are values in U.S. dollars, converted to ounces at $42.22 per ounce.

More modest proposals for a transitional monetary role for gold have been to allow official transfers of gold at variable market-related prices or to use gold as collateral for official loans. While no government or central bank (as far as is known) has yet shown any interest in buying gold at the market price,[19] one large gold-collateral loan has been made. In 1974, Italy borrowed approximately $2 billion from Germany on this basis. This transaction illustrates the type of transitional arrangement which can assist countries traditionally dependent upon gold reserve assets through a period when outright gold transactions are no longer feasible measures.

Because of the size of this country's holdings, U.S. policy should be the most important, if not the deciding, factor governing the future course of gold.

With the U.S. Government committed to a course of demonetizing gold, the question arises of what it should do with its remaining 275 million ounces. Since the gold stock serves no useful function and only costs money to store, the taxpayers' interest might dictate selling it off as quickly as the market can absorb, at prices that would maximize the return to the Treasury without unnecessarily antagonizing foreign central banks. In 1973, we imported (net of exports) more than 2 million ounces of gold—down sharply from the nearly 6 million ounces in 1971, but still a very substantial volume. Now that gold ownership is permitted to U.S. citizens, U.S. demand for gold ought to be met out of idle government stocks, rather than out of imports.

The U.S. Government's decision certainly will affect what foreign governments do with their gold. Traditionally, many of them have strongly supported the status quo and thus have resisted the U.S. attempt at demonetization of gold in the international monetary system. The recent French action in raising the value of its official gold reserves to $170.40 per ounce might suggest the possibility of a new "gold bloc" arising around the French franc as it did in the 1930's. The European Economic Community (EEC) nations, with official holdings of about 450 million ounces, account for about 35 percent of total world gold reserves, and they might conceivably attempt to preserve gold's former role by agreeing to an official price of gold in terms of one of their currencies. In such an event, that chosen currency would in effect become the reserve currency for the gold bloc and for all other countries that might wish to tie their currencies to gold-bloc currencies. The center-currency country would then be called on to "defend" the gold parity of its currency, thus finding itself in much the same position as the United States did prior to August 1971. However, it appears rather unlikely that any of them would be willing to be maneuvered into such an unenviable position.

The question of how to handle the transitional role of gold is particularly significant in view of the serious balance-of-payments problems resulting from the recent quadrupling of world oil prices. The official gold reserves of the major industrial nations originally had been accumulated through past balance-of-payments surpluses. Now, their balance of payments have turned adverse. It stands to reason that these nations should at least have the option of using their gold reserves for financing oil-related payments deficits, rather than suffering a large depreciation of their currencies.

But, who might be the potential gold buyers? Offhand, they would appear to be the buyers in the world's private gold markets. In fact, however, those markets are notoriously thin. If a number of governments started to unload their gold stocks there, the gold price could decline substantially before reaching equilibrium. Potential gold purchasers would probably react quickly and add to the downward pressure by speculating on further declines in the gold price. The already thin market would become even thinner on the buyers' side.

Even if the private demand for gold remained strong because of the public's deep-rooted attachment to gold, official gold sales would only shift the balance-of-payments problem from gold-selling nations to gold-buying nations. Such a move might cushion the balance-of-payments adjustments between surplus and deficit countries, but it would not help the financing of the oil deficits of consuming nations unless oil-producing nations were willing to absorb gold.[20]

But would the oil producers be willing either to take gold for oil payments or to purchase gold from the open market? The former probably would be hard to negotiate because of the difficulty of agreeing on a price for gold. The latter would be quite unlikely, especially if the gold price started to tumble. In any case, the Middle East nations, contrary to their popular image, traditionally have not been large gold holders.[21]

What governments could do with their existing gold holdings, aside from financing oil deficits, remains an unanswered question. The foregoing analysis suggests the possibility of a disorderly market, with governments attempting to sell off their gold stocks and few buyers on the other side of the market. The analysis might be overdrawn, in view of individuals' traditional preference for gold over national currencies, especially during periods of world inflation. Yet such an eventuality could well arise, say, several years down the road. This suggests the need for some sort of contingency stabilization plan, if only for the preservation of the value of the gold assets in official reserves, which after all represent substantial amounts of national savings.

As one possibility, the International Monetary Fund could be asked to purchase from national monetary authorities any gold they wish to sell in exchange for SDRs at an agreed price, say, at the current official price of SDR 35 per ounce. National monetary authorities should also be free to sell gold on open markets at higher prices when possible. The IMF gold price would support the value of official gold assets only to the extent of indirectly supporting the open market, by forestalling potentially large liquidations of official gold stocks at prices below SDR 35 per ounce. Alternative approaches could also be devised, but since negotiations on international monetary issues take time, it is not too early to start thinking now about various types of contingency plans.

FOOTNOTES

[1]After the United States and Germany. For data on official gold reserves, see table on page 12.

[2]For a detailed analysis of demand and supply conditions in the gold market, see the accompanying article by Michael W. Keran and Michael Penzer, "Gold as a Private Hedge Against Inflation."

[3]Robert Triffin, *Our International Monetary System: Yesterday, Today, and Tomorrow* (New York: Random House, 1966), especially pages 3-60; and Robert A. Mundell, *The International Monetary System: Conflict and Reform* (Quebec, Canada: The Canadian Trade Committee, 1965), especially page 21.

[4]Triffin, *op. cit.*, page 25.

[5]For instance, "The Rise of Gold as a Domestic Standard" in this *Review*, May 1961, pages 84-96.

[6]Robert Triffin, *op cit.*, Table 1.2, page 26. The balance of the aggregate money supply in 1913 was accounted for by silver (3 percent) and currency (19 percent), both of which had declined sharply since 1815.

[7]*Ibid.*, page ix.

[8]See the accompanying article by Kurt Dew, "Gold Policy: The Thirties and the Seventies."

[9]For earlier proposals of commodity standards other than gold and silver, see Benjamin Graham, *Storage and Stability* (New York: McGraw-Hill, 1937) and *World Commodities and World Currency* (New York: McGraw-Hill, 1944); also Frank D. Graham, *Social Goals and Economic Institutions* (Princeton, New Jersey: Princeton University Press, 1942), pp. 94-119. For an analysis of the conceptual basis of commodity standards in general and the commodity-reserve standard in particular, see Milton Friedman, "Commodity-Reserve Currency," *Journal of Political Economy*, June 1951, pp. 203-232.

[10]Among the necessary conditions for the smooth working of a commodity standard are (a) a close relationship between GNP and changes in money's share of total national assets and (b) the existence of a large stock of the commodity currency that can readily shift into or out of official money holdings in response to small changes in commodity prices. On the other hand, if monetary changes exert only a weak impact on GNP, the smooth functioning of a commodity standard requires (a) a highly elastic supply of the currency commodity, such that the output of the commodity can be rapidly expanded or contracted in response to small changes in the general price level, and (b) that the industry producing the commodity (say, gold) account for a sizable fraction of GNP. Friedman notes that gold satisfies only one of these conditions—the existence of a large private stock capable of shifting back and forth between monetary and private holdings. He cites Charles O. Hardy's view that common building bricks (except for their lack of glamor) would be a much better currency commodity than gold. Friedman, *op. cit.*, pp. 204-210, esp. p. 208.

[11]Mundell, *op. cit.*, p. 22.

[12]In Robert Mundell's words, "Trade unions made the gold standard inefficient, while universal suffrage made it unpalatable." *Ibid.*, p. 23. It can also be argued, of course, that expansionary monetary policies since the 1930's have indirectly supported unions and oligopolistic producers by "validating" cost-push price increases. The latter interpretation, however, is not inconsistent with the view that growing unionism and market concentration have made monetary contraction politically and economically less feasible than previously.

[13]In fact, one could well argue that price and output fluctuations in the nineteenth century were mild in comparison with those in the last fifty years. Moreover, since the 1930's there has been a pronounced inflationary bias in the system, which was not true under the gold standard.

[14]Foreign exchange holdings (mostly dollars) comprised about 70 percent; gold, about 20 percent; and IMF reserve positions, 5 percent of total world reserves.

[15]The system *per se*, however, does not preclude over- or under-creations of SDRs. Creations of SDRs require the approval by an 85-percent weighted vote of IMF participants. A handful of surplus countries conceivably could block SDR creations if they together hold more than 15 percent of the vote. On the other hand, excessive creations could arise if members holding more than 85 percent of the vote were so inclined.

[16]*New York Times*, January 17, 1975, p. 39.

[17]Merrill, Lynch, Pierce, Fenner & Smith, Inc., *Gold, Special Report*, November 1974, p. 14. The Soviet Union's gold reserve is a tightly held national secret, but is perhaps on the order of 64 million ounces. *New York Times*, November 6, 1974, p. 67.

[18]See, for instance, *The Wall Street Journal*, July 23, 1973, p. 1.

[19]Indeed, IMF members are legally prohibited by the present Articles of Agreement from buying gold at prices in excess of the current official price.

[20]The same stricture applies to the so-called "Ossola Plan," proposed by the Deputy Governor of the Bank of Italy, Rinaldo Ossola. Under this plan, the IMF would sell gold-denominated bonds to help provide temporary relief for the countries hardest hit by oil-price increases. *New York Times*, December 3, 1974, p. 57.

[21]Middle East nations hold small amounts both in absolute terms and in relation to the size of their total reserve holdings. At mid-1974, they held only $1.2 billion of their $21.1 billion total reserves in gold. International Monetary Fund, *International Financial Statistics*, December 1974.

Gold Policy: The Thirties and The Seventies

By Kurt Dew

The gold policy of the United States during the twentieth century has been marked by two distinct shifts. The first shift in the 1930's was characterized by expropriation—with citizens turning their private holdings over to the U.S. Treasury—and by a rise in the price of gold in terms of the U.S. dollar. This policy was conducted during a period of unprecedented economic weakness, evidenced by a rise in the value of the dollar in terms of domestic goods and services, that is, deflation.

A second change in U.S. gold policy began in 1968 with the establishment of a two-market gold-trading system—one for the public, one for central banks. This shift was continued with the closing of the gold window in 1971, and it culminated in the legalization of private holdings of gold on December 31, 1974. The rationale for these actions was the termination of the role of gold in U.S. monetary dealings. As in the Thirties, this policy is being conducted during a period of economic weakness—but a period marked this time by a rapid fall in the value of the dollar, that is, inflation.

Three questions may be asked about these seemingly quite different policies. First, could we reasonably expect them to produce the results for which they were intended? Secondly, could external actions cause these policies to result in detrimental side effects capable of overpowering the intended beneficial effects? Finally, was gold itself in either case a useful vehicle for the attainment of national economic welfare?

The Thirties

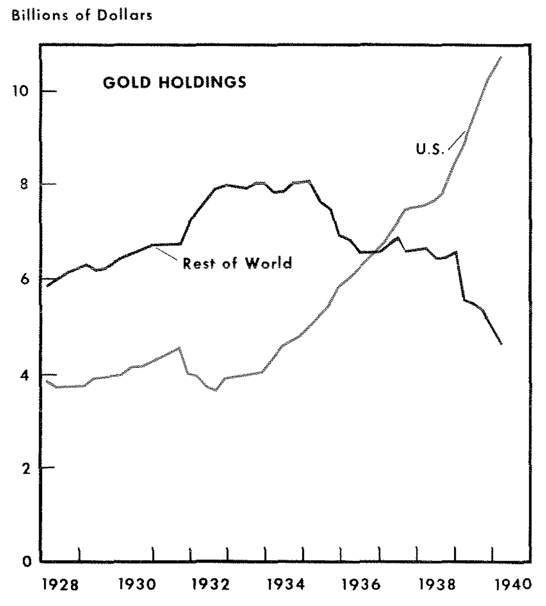
In the earlier case, the evidence suggests that the first two questions can be answered in the affirmative, and the last, in the negative. In the Thirties, the basic intent of President Roosevelt's gold policy was originally ill-defined, but it evolved gradually into an attempt to influence food prices. The gold decisions of that era had their genesis in Roosevelt's inaugural speech, where he affirmed his intention to subordinate international interests to those of the United States. The exact means of accomplishing this were unclear at first, possibly even unclear to himself. However, the form of his commitment became clearer at the International Monetary Conference of 1933.

This conference had been called to explore the possibility of a return to the gold standard and a reduction in the tariff and quota restrictions which were hampering international-trade flows. Advocates of these goals hoped that the United States would take a leading role in a successful outcome; in fact, Cordell Hull, a firm internationalist, headed the U.S. delegation. But Roosevelt sounded the death knell of the conference with his statement: "Let me be frank in saying that the United States seeks the kind of dollar which a generation hence will have the same purchasing and debt-paying power as the dollar value we hope to attain in the near future. That objective means more to the good of other nations than a fixed ratio for a month or two in terms of the pound or franc." In other words, while we were still tied in 1933 to fixed-exchange rates between the dollar and other currencies, there was no firm commitment to a continuation of that policy.

After the conference, the dollar prices of goods—especially agricultural goods—continued to fall, further exacerbating an already serious farm situation. Professor George Warren of Cornell suggested a solution —a dollar devaluation *vis-a-vis* gold— on the basis of the close relationship he had observed between weekly agricultural prices and gold prices in terms of the pound sterling. The President bought the idea as a way to help the farmers, and raised the gold price from $20.67 per ounce on September 8, 1933, to its final level of $35 an ounce on February 1, 1934. The prices of a large range of commodities (including agricultural ones) rose on international markets, and Roosevelt's goal was largely achieved. The answer to the question, "Did he achieve his purpose?" is yes.

Yet the increase in farm prices was in many ways a Pyrrhic victory, primarily because of the lack of coordination between the Administration's gold policy and the policies of two other governmental entities, one foreign, one domestic. Consider first the behavior of the foreign entity, the gold bloc.

The first effect of the higher dollar price of gold was an inflow of gold to the U.S. Treasury. This inflow was naturally associated with an outflow of gold elsewhere, most importantly from the gold bloc, the group of European nations determined to maintain a fixed price of their currencies in terms of gold. When the United States raised the dollar price of gold, private holders of these foreign currencies (and of gold) had an incentive to exchange their holdings for dollars. This phenomenon was damaging to the gold bloc in the short run, but it need not have had the long-lasting detrimental effect upon them that it eventually had. Initially the devaluation of the dollar followed the classic pattern of a currency devaluation in a gold-standard world. The dollar remained a gold-backed currency throughout this period — at least in the minds of most citizens, economists, and government officials — and thus the total U.S. money stock increased as gold flowed into the country.



Note: Does not adjust for change in price of official gold

In principle, the growth in the money stock should have helped to raise both U.S. income and U.S. export demand, potentially in sufficient amounts to reverse the inflow into this country and to return the gold-bloc economies to their pre-devaluation level of prosperity. However, reality failed to coincide with principle. France and several other European countries had remained on the gold standard in 1934 with insufficient gold reserves, and holders of these gold-bloc currencies hence suspected that devaluation was inevitable. This suspicion further increased private incentives to trade for dollars, and the ensuing run on gold-bloc currencies reduced their domestic money stocks and brought about a deeper depression. The adverse primary effects of gold-bloc decisions upon their own economies had adverse secondary effects upon the U.S. economy as well, by sharply reducing the demand for internationally traded goods produced in this country. Had the gold-bloc countries devalued at the same time as the United States, they would not have suffered severe gold outflows. If they had raised the price of gold in terms of their own currencies, they could have avoided the problem of insufficient gold reserves.

On the home front, the expansionary effects of the Administration's gold policy were partly offset in the late Thirties by a tightening of Federal Reserve policy. Money expanded in line with the post-1933 gold inflows, thereby helping to stimulate the economy. But the monetary authorities became concerned about the large quantities of excess reserves building up in the banking system. They responded in late 1936 by doubling bank reserve requirements within a six-month period. This action sterilized a large share of bank reserves, which induced a reduction in loans and in the gold-backed supply of money, and thus helped create the recession in 1937.

Yet the fundamental flaw — the thing that turned a potentially beneficial policy into a disaster — was the tendency of both the United States and the gold-bloc countries to follow gold policies rather than monetary policies. President Roosevelt's mistake was in assuming the increase in the price of agricultural goods to be mystically related to the dollar-price of gold — in failing to realize that the economic source of this relationship was the monetary expansion which had been induced by the higher dollar-price of gold.

The Administration need not have purchased gold at all to achieve its aims, but instead, could have purchased labor, bridges, dams, and other useful resources rather than gold for storage in Fort Knox. Sale of the resulting debt to the Federal Reserve would have provided the same base for monetary expansion as did gold, without any damage to the gold-bloc countries. For their part, these countries viewed devaluation as almost immoral, a move to be made only under compulsion. Their policy, ironically, became the source of their desperate situation. Had they not been so intent on linking their currencies to gold, the outflow of gold they suffered would not have affected their money supplies. This experience suggests that gold was not a beneficial vehicle for the provision of economic welfare in the 1930's.

The Seventies

The same questions may be asked about the gold policy of the Seventies as were asked about the Thirties. First, will the current Administration's goals be fulfilled? Secondly, will these actions have repercussions, at home or abroad, that would make these intended aims more difficult to achieve? Finally, is gold beneficial for the conduct of economic policy in the 1970's?

The first question may be answered in the affirmative. The Administration's intention is to relegate gold to the same status as that of any other commodity, rather than to continue gold's historical role as a constraint upon the decisions of the monetary authorities. It is clear that this objective is being realized. With private gold purchases and sales legalized in this country, gold has become more like all the other items traded in the commodity markets. Also, since the closing of the gold window, the monetary authorities have not been substantially affected in their decisions by the price of gold or the shifting of gold across international boundaries. This is largely because we are now operating in a world of flexible exchange rates, where the link between money and gold has been effectively broken, despite gold's continued role as a major reserve asset.

The second and more interesting question concerns the factors which could offset the effects of the current gold policy. To limit the discussion, we should make two basic assumption. These are (1) that the American public has been well-informed enough about gold that it will not operate irrationally with its new found freedom, and (2) that all current gold agreements among nations will be honored. These two assumptions, if correct, put firm limits on the possible detrimental side effects of the new gold policy.

The public at large and, indeed, some economists believe that the whole issue is rather simple — namely, that legalization of private gold ownership is part of the U.S. Government's covenant with its citizens to provide a maximum of individual freedom consistent with general welfare. Yet, while legalization demonstrably increases freedom of choice, some analysts question its benefits for the general welfare. They raise the question — if a substantial number of investors choose to buy gold, what assets will they sell in order to do so? As the price of gold and/or the quantity held by private citizens increase, the price of the assets sold and/or the quantity of these assets held by private citizens will go down. The economy could be adversely affected if investors sold substantial amounts of two types of assets: first, time deposits of banks and thrift institutions; and, second, corporate equity and debt liabilities.

In the first situation, such sales would represent a decision by large groups of relatively small investors that the yield on gold would be higher than the yield on savings deposits. This would be reasonable if the price of gold were to increase so rapidly as to make its yield greater than the 7.75-percent maximum yield available from savings-and-loan deposits. But this possibility appears rather remote, since the price of gold would have to rise 30 percent just to make it possible for the small investor to break even after paying commissions plus storage and assay costs. The investor might also choose gold if he believed that thrift institutions were going to collapse and the government default on its insurance, but this of course would happen only in a period of complete economic and social chaos.

A second posibility is that holders of corporate stocks and bonds transfer their holdings into gold. These investors are primarily large institutions with portfolios controlled by quite sophisticated financial managers. To assume that they would now shift into gold, we must first suppose that they have not been able to do so in the past — a dubious assumption in their case, especially since it has been quite legal to own equities of corporations that produce gold. Second, we must suppose that these financial managers believe an asset whose chief virtue lies in its fixed supply is preferable to an asset whose value depends upon the productivity of American capital — again an unlikely assumption in the absence of an actual decline in the effective stock of capital, as would happen only in the case of confiscatory taxation or physical destruction of assets. Thus, for either small individual investors or large institutional investors, the potential demand for gold should be relatively small.

Is it possible that other government actions might offset the benefits of the recent Treasury decision, repeating the experience of the Thirties? Again, this seems unlikely. First, in view of the U.S.-French agreement regarding the official valuation of gold at free-market value, the Administration may have achieved the international cooperation that its predecessor so signally failed to achieve a generation ago. If the major national holders of gold have agreed not to be net purchasers, any increase in the gold price will be the result of private decisions. This is the type of accord that could have helped forestall the serious difficulties of the 1930's.

But on the domestic scene, what if the monetary authorities should feel compelled to adopt a course of excessive monetary expansion, say, to forestall a deepening recession? Most projections of the effects of monetary expansion are based upon experience prior to the legalization of gold trading. These projections, utilizing the quantity equation $MV=PT$, assume that an increase in money balances (M) held by the public will initially result in an increase in real economic growth (T), because velocity (V) is relatively constant over long periods of time, and because the price level (P) does not change as rapidly as real economic growth in view of the high cost to the market place of changing P. But there are two factors that can act to reduce the cost of changing P — first, inflation, and second, the existence of close substitutes for currency.

Now, consider the case of an overly rapid monetary expansion in today's situation, with the legalization of the closest of money substitutes — gold. Sophisticated investors with large portfolios, realizing the implications of excessive money growth for the rate of future inflation, and uncertain of the future course of monetary policy, might switch to gold, or more importantly, debt and credit instruments payable in terms of gold. But inflation would have to be rapid enough to make such an expensive institutional change profitable. In particular, pervasive substitution of gold for money by small traders would be entirely unlikely without a hyperinflation, simply because money is legal tender, while gold is not.

In the inflationary case, where the transition from cash to gold is profitable for trading purposes, the excess supply created by monetary expansion would be rapidly soaked up by a corresponding excess demand for gold. In response, the relative prices of gold and other "real" commodities (those not denominated in dollars) would rise more rapidly than they usually do in response to a given monetary expansion. The pass-through of easy money into inflation would be more rapid than before, leaving the economy with less real growth and higher unemployment than expected.

Judging from the experience of other industrial nations, it is somewhat unlikely that there could be an extensive substitution of gold for currency. But a dilemma could be created for monetary policy if such substitution should occur. It would be dangerous to assume that a greater increase in nominal money balances would have the same impact on real growth that it had in the past, for such an hypothesis ignores the presence of major changes in the economic environment. It would be better to recognize that rapid inflation in the presence of close currency substitutes, such as gold, is tantamount to a self-imposed reduction in influence of monetary actions upon the behavior of real economic variables.

Finally, as in the Thirties, there are fiscal implications to the current policy. Treasury sales of gold could make possible the attainment of such objectives as tax reductions, increased public-service jobs, or reduced deficits. The monetary expansion of the Thirties could have been accomplished — but was not — by the purchase of things other than gold. The current Administration has learned that lesson well, as it showed with its recent gold auction.

Perhaps the most important conclusion to be drawn from this comparison of the 1930's and the 1970's is the necessity for understanding and cooperation among government policymakers at home and abroad. Otherwise, the consequence of a given decision can be quite different from the planned result. The recent monetary agreement with the French Government suggests that we have learned from our earlier experience.

A second lesson from the Thirties concerns the differential impact of the gold policy of that period—beneficial for the United States but disastrous for the gold bloc. The benefits of that policy in no way stemmed from any intrinsic property of gold itself. If the reasons for this beneficial effect had been correctly understood, we might have conducted a superior policy without resorting to gold purchases—a policy that would have been better for us without wreaking havoc abroad. However, our early-1975 sale of gold suggests that that lesson of the Thirties has also been learned.

Gold as a Private Hedge Against Inflation

By Michael W. Keran and Michael Penzer

On December 31, 1974, American citizens were, for the first time in 41 years, legally permitted to buy, sell and hold gold bullion. The extent to which they exercise this privilege will depend largely on their private views concerning the future rate of increase in the price of gold and the variance in this rate of change. In other words, will the price of gold increase faster than the general price level, and will variations in its price be sufficiently narrow so as not to expose holders to undue risks? The purpose of this article is to examine the role of gold as a private hedge against inflation. This will be done by analyzing the factors which have determined the price of gold during both the distant and more recent past, in order to come to some conclusion regarding gold's possible role as an inflation hedge during 1975 and beyond.

Gold Prices

Whether or not gold proves to be a good inflation hedge for the private U.S. citizen obviously depends upon the amount of appreciation in the dollar value of his gold holdings between the time that he buys the gold and the time that he sells it (Chart 1). In this regard, our primary criterion for evaluating gold's performance as an inflation hedge is the degree to which the price of gold moves with the general price level (either up or down). The question of whether gold is a good investment depends upon factors other than its role as an inflation hedge, mainly the return available on alternate investments. We will consider both issues here.

Timing one's purchase obviously is very important. For example, someone purchasing gold in 1929 and legally entitled to hold it beyond 1933[1] would have seen each ounce of his gold investment increase by 69.5 percent, from $20.65 in 1929 to $35.00 on January 31, 1934, when the Roosevelt Administration officially revalued gold. During the same interval the value of other U.S. goods declined by about 30 percent as measured by the wholesale price index. Hence, a gold purchase in 1929 would have been an unusually good investment because while most prices were falling, the gold price rose in succeeding years (Chart 2a).

Chart 1

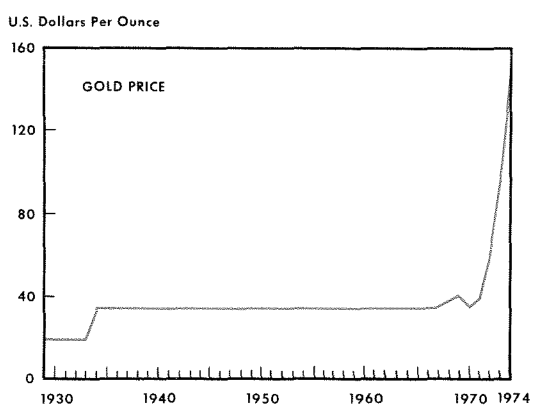


Chart 2 (a)

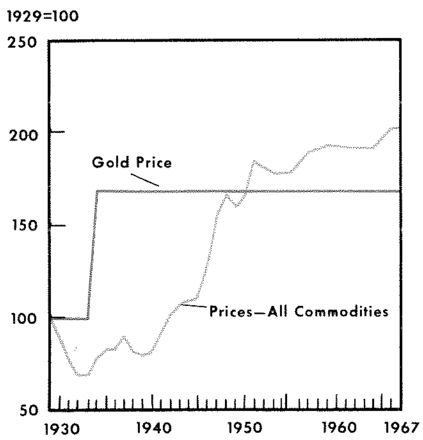


Chart 2 (b)

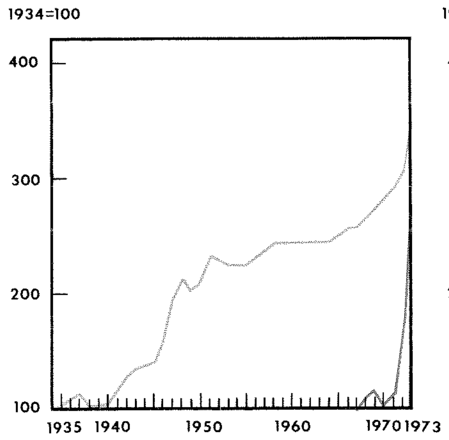
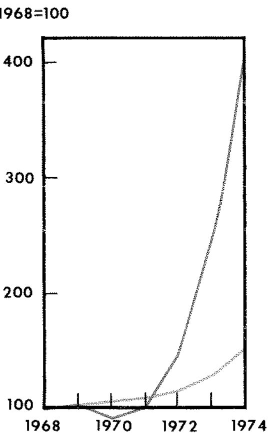


Chart 2 (c)



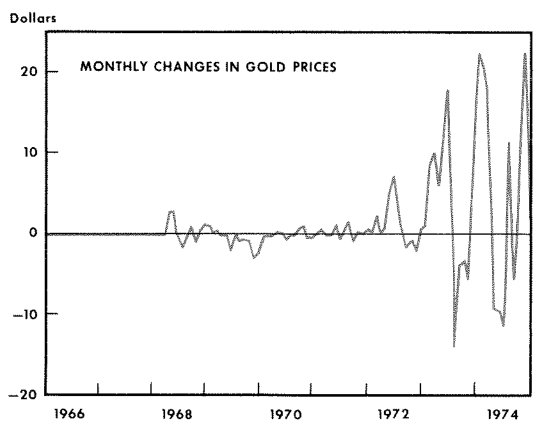
On the other hand, if our hypothetical gold buyer had purchased gold in February 1934, after gold's official price had been raised, and if he held his gold until 1968, he would have gained only a 12-percent rise in price, compared with a 165-percent rise in wholesale prices (Chart 2b). Hence, during this 34-year period, gold would have been no hedge against inflation; indeed, our buyer would have lost more than one-half of the purchasing power of his gold.

Finally, if our buyer had purchased bullion in 1968, his gold investment would have been a good inflation hedge by the end of 1969, no hedge at all by year-end 1970 and 1971, and an excellent hedge by year-end 1972, 1973, and 1974 (Chart 2c). Nevertheless, there is no assurance that gold purchased now would continue to be a good inflation hedge. Gold purchased on December 30, 1974 at the London afternoon gold-fixing price of $195.25 per ounce, a record until that time, fell by $25.75 per ounce over the next week. *Ex post,* we see the necessity of timing one's gold purchases well if one desires to hold gold as a worthwhile inflation hedge.

As Chart 3 demonstrates, the variance in gold prices has increased as the price of gold has increased.[2] Hence, the risk of buying high and selling low has increased through time; this risk, of course, is one of the costs of holding gold, of which more shortly.

In the most recent period, when gold prices have shown their most dramatic increases, prices of other internationally-traded goods have also risen very sharply. As Chart 4 demonstrates, world export-price indices for all commodities — and primary commodities in particular — increased substantially between the first quarter of 1971 and the first quarter of 1974 (latest data available). During this three-year period, gold prices rose by nearly 290 percent, while export prices of all commodities rose by more than 50 percent, and those for primary commodities increased by more than 160 percent. Hence, the gold price has been moving in the same direction as the prices of all other internationally-traded goods.

Chart 3



Costs and Benefits of Holding Gold

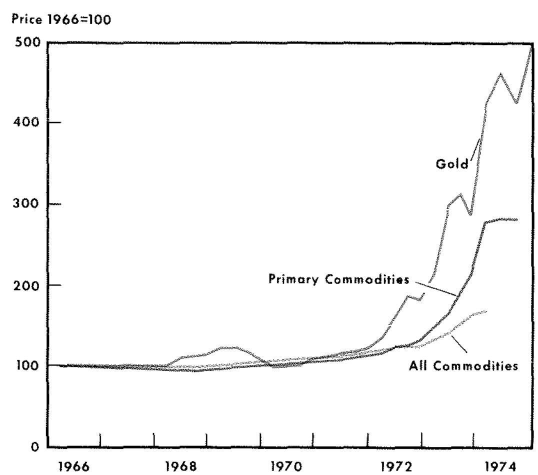
Before proceeding further in an analysis of gold as a commodity investment, we need to be aware of the essential difference between this and other commodities, and the many costs (as well as benefits) incurred in buying, selling and holding gold. Because of its historical monetary role, gold cannot (yet) be treated like any other commodity, whether it be soybeans, pork bellies or steel scrap. Even now, despite official U.S. efforts to demonetize gold, it is still regarded by many nations, including the United States, as an integral part of their international reserves.

Besides being a possibly good hedge against inflation, gold ownership may bestow other benefits. These include the psychological satisfaction from holding a metal which historically has provided security in times of trouble and uncertainty, as well as the enjoyment of gold's intrinsic physical properties. However, these benefits must be matched against the possible costs of gold ownership. There is an opportunity cost in terms of the benefits that could be obtained from holding other goods instead of gold — from holding, for example, other commodities, foreign currencies, and interest-bearing financial assets. The prices of all commodities, industrial commodities, and metals and metal products each increased faster than the gold price between 1934 and 1973 (Table 1), so that a basket of various commodities held during that period would have been a better inflation hedge than the single commodity gold. By November 1974, only the prices of metal and metal products continued to remain above those for gold. Thus, depending on the period chosen for comparison, investments in other commodities may be better inflation hedges than gold.[3]

Foreign currencies may at times be a better hedge than gold against increases in the U.S. general price level. Since various currencies were allowed to float against the U.S. dollar in June 1970, the dollar has depreciated against some currencies (Table 2), and appreciated against others. While each dollar now buys 80.8 percent less gold than it did in May 1970, the dollar also buys less foreign currency — in particular, 48.5 percent fewer Swiss francs and 41.9 percent fewer German marks. One must thus conclude that gold has been a better inflation hedge than foreign currency in that particular time span, May 1970 to December 1974. This is because the current inflation is worldwide in nature, so that even a "strong" currency (such as the German deutschemark) has experienced record inflation rates by recent historical standards. In such an environment, a commodity will always be superior to currency. However, when the current bout of worldwide inflation ends, that particular advantage of gold should also end.

Interest-bearing financial assets are another alternative to gold. While interest rates rose to record levels in 1973 and 1974, they still did not compensate investors for inflation because the nominal rate of interest — which included an inflation premium over and above the real interest rate — was less than the actual inflation rate. As a result, investors were attracted to commodities, such as gold, during this period. Nevertheless, financial assets in certain recent periods have been a better

Chart 4



store of value than gold. For example, if a conservative U.S. investor had placed the equivalent of $1 million in West Germany in 1949 at an average yearly rate of 6.75 percent, he could have repatriated $8.8 million by June 1974. In comparison, $1 million invested in gold at $35 per ounce in 1949 would represent today a value of $4.5 million, less storage charges over a period of 25 years.[4] In this example, the investor in deutschemarks benefited not only from the compound interest on his investment, but also from the appreciation of the West German mark.

There are many other risks and costs involved in holding gold besides the opportunity costs involved in not holding other commodities, foreign currencies, or paper assets. For example, gold prices fluctuate widely, especially in the short-run, as speculative activity develops in a thin market because of the relatively small demand for use in the arts and industry in relation to current supply (Chart 3). Moreover, the extent of speculative buying is a function of the current price and the expectation that the gold price will rise by at least the cost of owning and holding gold. If this expectation is not realized, the price must fall enough to create a new expectation of a rise. These changes in speculators' expectations result in gold prices fluctuating more than the prices of other commodities.

The illiquidity of gold investment and the large variance in gold prices represent real costs of ownership. If circumstances require the quick sale of a gold asset, such a sale is more likely to occur in a down market than is the case with alternative investments. Moreover, buying and holding gold include costs of fabrication, packaging, shipping, handling, storage, insurance and state sales taxes. Such costs may boost the cost of the typical purchase to more than 20 to 30 percent above the free-market price for gold bullion. In addition, transaction costs of between 6 and 15 percent may be charged for trading by dealers; usually, these costs are higher for small than for large transactions. As a result, the free-market price would have to rise more than 20 percent before the purchaser could recover his total buying and selling costs. Because of the risks associated with counterfeiting, he would also have to pay assay costs whenever he decided to sell his holdings. Thus, holding gold as an asset in one's portfolio requires much expertise. Those who are tempted to view gold as a good inflation hedge ignore the fact that it may not be better than other hedges and that there are many costs involved.

Gold During the Greenback Period

Besides the recent (1968-74) experience, one other period in American history had no officially-fixed price of gold in terms of the U.S. dollar; namely, the Greenback Period from 1862 to 1879.[5] The average monthly price of gold varied widely during this period, but by 1879, the United States was back on the gold standard at the pre-Civil War parity. The price level rose throughout the Civil War, then dropped 50 percent between 1865 and 1879, with the price of gold in greenbacks moving in parallel. A unit of gold in greenbacks that was worth a dollar before the war was worth $2.50 in 1865, before beginning to decline. Given this historical perspective, anyone wishing to make a good investment would have been well-advised to trade his greenbacks for gold at the beginning of the Civil War and then to trade back in 1864 when the gold price was at its height.

Different supply and demand factors operated during the 1862-79 period than during the more recent (1968-74) period. A century ago, the price of gold was essentially the dollar-pound exchange rate. With the United Kingdom on the gold standard, the Bank of England stood ready to settle transactions at the rate of one pound sterling per unit of gold. Hence, the gold price in terms of greenbacks was determined by the demand and supply for greenbacks vis-a-vis the pound sterling. Although gold was traded on the New York Stock

Exchange, its price in terms of greenbacks reflected changes in the day-to-day value of greenbacks vis-a-vis British pounds in the foreign-exchange market. Today, no country operates on a gold standard; instead, all major currencies float against each other, and the gold price also floats freely in its own market. Nevertheless, one implication may be drawn from the experience of a century ago: if the price of gold is not fixed by government action to a given currency, then gold is a good investment only during inflation and is a very bad buy during deflation.

Gold Price Determinants - Supply

In order to evaluate gold's future value as an inflation hedge, we need to consider those supply and demand factors which resulted in generally-rising gold prices during the past seven years and, in particular, during the past four years. While part of the recent price increase may be traced to a stock-adjustment process which occurred when the gold price was set free, most of the increase reflects changing supply-and-demand forces which have implications for the future price of gold.

Stock and flow determinants affect both the supply and demand sides of the gold market. On the supply flow side, free-world output decreased from 1,288 metric tons in 1970 to an estimated 1,034 metric tons in 1974, a drop of almost 20 percent in four years (Table 3). South Africa, the dominant producer, accounted for more than 90 percent of the production decline. Labor problems, a shortage of skilled technicians, and occasional operational difficulties contributed to the lower South African output. This decline also reflected the perverse short-run elasticity of supply in response to higher gold prices; gold producers have been either encouraged or required to transfer men and equipment to mining poorer-quality veins, in an attempt to conserve higher-quality ore, and hence to extend the life of the mines. A downward-sloping flow supply curve is implied by South Africa's emphasis on long-run rather than short-run production considerations, which depend on that producer's expectations regarding long-run prices and mining costs. This policy assumes that incentives to increased exploration will not lead to increased gold discoveries. If the assumption is incorrect, then South Africa's limitation on current production will be self-defeating.

In contrast, the U.S.S.R., the world's second largest producer, increased its annual gold production from 304 metric tons in 1968 to 371 metric tons in 1973, an increase of almost 22 percent (Table 3). Nevertheless, only a portion of the Russian output is sold in the West each year — an estimated 220 metric tons in 1974. Altogether, the total supply in Western gold markets declined from 1,634 tons in 1970 to 1,473 tons in 1973.

World supply is also dependent on the gold strategies and foreign-exchange needs of South Africa and the U.S.S.R. Russian sales depend largely on the market price and on the size of liabilities incurred by the U.S.S.R. in its transactions with the West. These sales were particularly large in the 1972-74 period, but there is no guarantee that they will continue to be so. In the South African case, the Reserve Bank performs the role of a price leader by withholding gold from the market in the face of sluggish demand or an unusual increase in supply, such as the recent Treasury sales from the U.S. gold stock.

Conflicting factors thus have affected production during the recent period of rising gold prices. Hence, from the supply flow point of view, the private inflation-hedger cannot feel confident that gold prices will continue to rise faster than the general price level. World production apparently declined in 1974 for the fourth straight year, helping *ceteris paribus* to raise the gold price. For the longer-run, however, higher gold prices are likely to result in more gold production.

The supply-stock side of the market is dominated by the amount of monetary gold held by central banks and by the amount in private gold holdings, which together are many times larger than annual world production. Total stocks today may approximate 3.7 billion ounces. Central-bank holdings alone are more than 25 times as large as annual production. Incidentally, the United States still holds more than any other nation, accounting for more than 23 percent of central-bank holdings at the end of November 1974 (Table 4).

Consequently, if central banks sold off only 4 percent of their gold stocks, they could have a disastrous effect on prices, because that would equal the total world production for an entire year. The U.S. Treasury conducted such a sale on January 6, 1975, when 753.6 thousand ounces — from a total of 2 million ounces offered at auction — were sold at prices varying between $153.00 and $185.00 per ounce. Future sales either by the U.S. or foreign governments are always a possibility. In fact, Senator William Proxmire, new Chairman of the Senate Banking Committee, recently said that he will introduce a bill requiring the Treasury to sell 25 million ounces of gold (9 percent of its stock) in 1975 at prevailing market prices. Such sales should certainly tend to lessen gold's role as a good hedge against inflation.

A decision by foreign central banks to sell their stocks in the free market will depend largely on their views concerning gold's future role as international money. If gold is gradually demonetized, then central bankers may gradually sell off their gold holdings. The trend towards the use of gold as collateral for loans (as recently done by Italy) is a practical step in this direction.

Gold Price Determinants - Demand

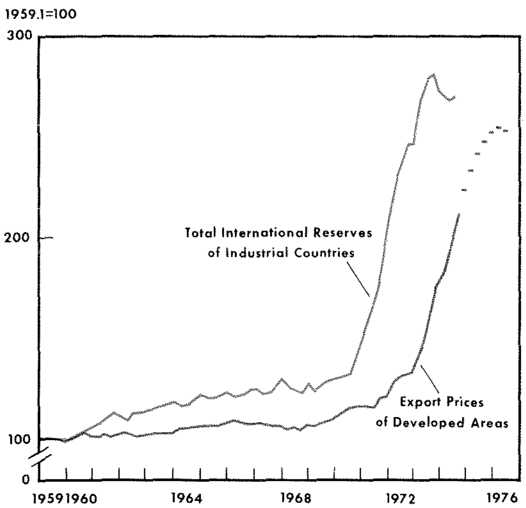
The demand for gold depends on stock and flow considerations, as does the supply. There is a flow demand for gold for industrial, commercial and artistic purposes. There is also a stock demand for purposes of inventory building, whether it be by central banks or by private hoarders, investors and speculators. As gold prices have risen, flow demand generally has declined (Table 5). The largest decline has occurred in jewelry fabrication, which in 1973 was less than half of the 1970 level as a consequence of the 170-percent rise in gold prices over that period. At currently high prices, flow demand may continue to decrease in 1975 and beyond, reflecting the high price elasticity of demand for gold jewelry, and also for coins, medals and medallions. Another factor likely to reduce flow demand is the current world recession, which is causing a decline in demand for most raw materials, including gold.

The private stock demand for gold increased in the 1972-74 period, as world inflation accelerated and as investors bought gold as an inflation hedge. This demand could continue to increase during 1975, the first year of legal bullion purchases for American citizens. In contrast, central-bank stock demand has been constant for several years. Increased official gold holdings overseas (71.8 million ounces) were almost matched by declining official U.S. gold holdings (62.8 million ounces) between the end of 1969 and late 1974 (Table 4).

The speculative and investment demands for gold became very large in 1973, and undoubtedly continued high in 1974, with investors and speculators buying relatively large amounts of official gold coins. Hoarding demand meanwhile expanded in 1973 after an earlier decline. It should be noted that different factors underlie each of these three types of demand. Hoarding demand is strongest in those parts of the world with a long record of political and economic turmoil, such as France and South and East Asia, particularly India. Gold is regarded in those areas as the ultimate store of value, as well as a means of exchange in times of emergency or flight. Hoarding demand appears to be price elastic as indicated by Table 5, which shows smaller or negative additions to hoards during the recent period of rising gold prices.

The basic motive for investment demand is to

Chart 5



buy and hold gold for an extended period, at least until investment in other assets becomes more attractive. In contrast, the motive for speculative demand is to profit from short-run variations in gold prices, buying when the price is relatively low and selling when it is relatively high. Both of these types of demand have been encouraged by the 1973-74 inflation, and also by the expectations of inflation which many market participants hold for 1975. Inflation and inflation expectations promote speculative commodity purchases rather than currency or paper-asset retention.

Central-bank demand has decreased in recent years, reflecting the continued efforts to demonetize gold. When the two-tier market was established in March 1968, central banks agreed not to purchase any newly mined gold, nor to buy or sell gold on private markets. In 1973, this agreement was terminated, and central banks may now sell gold in the free market at going prices. However, International Monetary Fund rules currently prohibit government purchases in the free market at more than the official price of $42.22 per ounce. Hence, central-bank gold purchases have been minimal in recent years. The trend to demonetization was confirmed this January, when France abolished the official price of its gold reserves.

Between March 1968 (when the two-tier market was established), and September 1974, gold reserves of non-Communist nations increased only one percent (11.6 million ounces), reflecting restrictions on central-bank purchases during this period. South Africa accounted for all of the increase since 1971. Because the South African Reserve Bank purchases all of that nation's output and releases gold in the free market only when it desires to do so, its recent tendency to add to its stocks reflects its intention (as the world's dominant producer) to keep gold prices high.

Future Course of Gold Prices

Gold is unlikely to be a good short-term hedge against inflation, because of the wide price fluctuations which can occur on a month-to-month basis. Even during the inflationary 1972-74 period, the price of gold sometimes fell for months at a time (Chart 3).

Over the entire course of the 1972-74 inflation, gold turned out to be an excellent investment. Nevertheless, the remaining years of this decade will inevitably bring changes in the many supply and demand factors which determine its price. This paper has shown the many costs and risks involved in gold-market participation, as well as the complexity of factors which affect the gold price. Hence, *caveat emptor:* gold may not continue to be a good private hedge against inflation.

Among the many price determinants analyzed here, gold's role as a hedge against world inflation is one of the most important. Just as domestic inflation is strongly influenced by growth in the domestic money stock, so world inflation is also influenced by growth in the world money stock.[6] World money is a common factor in the demand functions of all internationally traded goods (including gold). Thus, the rate of increase in the world money stock will, with a substantial lag, lead to an increase in the prices of internationally traded goods. When world money growth was relatively moderate, as in the period from 1963 through 1968, internationally traded goods prices were stable (Chart 5). However, when world money growth later accelerated sharply, prices of internationally traded goods responded. Given the substantial lag between world money and world prices, the stability in world money growth which was resumed in early 1973 should be reflected in renewed stability in world prices in 1975.

A renewal of stable prices for internationally traded goods should reduce demand for gold as an inflation hedge. Given the relatively small demand for gold for other purposes at its current price, this could lead to a substantial fall in the price of gold.

FOOTNOTES

[1] In 1933, U.S. citizens were forbidden by law to own gold except by license from the U.S. Department of the Treasury for certain specified artistic, commercial and industrial purposes. At the end of 1973, U.S. restrictions were eased on the holding of gold coins originally minted prior to 1960. On December 31, 1974, U.S. citizens were once again legally entitled to purchase, sell and hold gold bullion.

[2] Technically, it would be more appropriate in Chart 3 to plot percentage changes in the gold price rather than absolute changes, but for practical purposes it makes little difference.

[3] The choice of any commodity as an inflation hedge depends crucially upon the particular time span in which it is held, as well as the price appreciation of that particular commodity as compared with the increase in the general price level during the period in question.

[4] Charles R. Stahl, American Metal Markets' Gold Conference, October 1974. David O. Tyson, "Record Gold Price Abroad Anticipates Dominance of Coming U.S. Market, Dealers Feel", *American Banker,* November 12, 1974, p. 1.

[5] For a more detailed discussion of this period, see Milton Friedman and Anna Schwartz, *A Monetary History of the United States 1867-1960* (Princeton: Princeton University Press, 1963), pp. 15-88.

[6] World money stock may be measured by the total international reserves of industrial countries.

Table 1

Price Indices
(1934 = 100)

Period	Gold Price (Free-market average)	U.S. Wholesale Prices: All Commodities	U.S. Wholesale Prices: Industrial Commodities	U.S. Wholesale Prices: Metals and Metal Products
1934	100	100	100	100
1940	100	105.0	106.1	111.4
1950	100	212.0	187.6	196.1
1960	100	245.9	229.2	273.3
1968	112.2	265.6	246.5	303.5
1969	117.5	276.0	254.9	320.9
1970	102.7	286.0	264.5	345.2
1971	116.6	295.2	274.1	352.0
1972	166.3	308.7	283.5	365.3
1973	277.8	349.0	302.7	392.7
1974 (Nov.)	519.1	445.4	398.7	552.2

Sources: Gold Price: Index constructed from London gold price data (U.S. dollars per ounce fine at daily fixing), *Annual Bullion Review*, Samuel Montagu and Co. Ltd., London, various years; and *Dow Jones News Service*, Dow Jones and Co. Inc., New York, New York, daily reports for November 1974. U.S. Wholesale Prices: Index constructed from the B.L.S. wholesale-price index, *Economic Report of the President* (Washington: Government Printing Office, 1974), and *Monthly Labor Review*, December 1974.

Table 2

Depreciation of the Dollar vis-a-vis Gold and Foreign Currencies May 1970 to December 20, 1974

	Depreciation (percent)
Gold	-80.8
Swiss franc	-48.5
West German mark	-41.9
Dutch guilder	-36.4
Belgian franc	-30.1
Swedish krona	-22.5
French franc	-21.2
Japanese yen	-18.0
Australian dollar	-17.1

Table 3

Estimated World Gold Production (metric tons)

	1968	1969	1970	1971	1972	1973	1974
South Africa	969.5	973.0	1000.4	976.3	908.7	852.3	n.a.
Canada	85.3	79.2	74.9	70.3	64.7	59.9	n.a.
United States	46.0	53.9	54.2	46.5	44.4	36.7	n.a.
Ghana	22.6	22.0	21.9	21.7	22.5	22.7	n.a.
Philippines	16.4	17.8	18.7	19.8	18.7	18.2	n.a.
Australia	24.3	21.7	19.4	20.9	23.4	18.0	n.a.
Rhodesia	15.5	14.9	15.6	15.6	15.6	15.6	n.a.
Japan	7.0	7.7	8.0	7.9	7.4	7.8	n.a.
Colombia	7.5	6.8	6.3	5.9	5.9	6.5	n.a.
Mexico	5.5	5.6	6.2	4.7	4.5	4.7	n.a.
Zaire	5.3	5.5	5.5	5.4	4.3	3.6	n.a.
Other Non-Communist Countries	43.3	52.9	56.8	55.1	52.8	48.0	n.a.
Total Non-Communist	1248.2	1261.0	1287.9	1250.1	1172.9	1094.0	1034.2
U.S.S.R.	304.2	318.2	335.5	344.8	360.2	370.6	n.a.
Other Communist Countries	8.4	8.4	8.4	8.4	8.4	8.4	n.a.
Estimated world total	1560.8	1587.6	1633.8	1603.3	1541.5	1473.0	n.a.
Sales by the U.S.S.R. to the West	10	—	—	60	220	280	220

Sources: Bank for International Settlements, *Annual Reports,* June 1973, p. 116, and June 1974, p. 123.

Peter D. Fells, *Gold 1974* (London: Consolidated Gold Fields, Ltd., 1974), pp. 24 and 47.

E. M. Bernstein, Ltd. *U.S. Participation in the Free Gold Market,* Report No. 75/1, p. 3.

Table 4

Official Gold Reserves
(millions of ounces at end of period)

	1968	1969	1970	1971	1972	1973	Nov. 1974
United States	311.2	338.8	316.3	291.6	276.0	276.0	276.0
Rest of World*	857.5	833.1	863.0	884.4	905.3	904.7	904.9
Total World**	1168.7	1171.9	1179.3	1176.0	1181.3	1180.7	1180.9

* Rest of World includes International Monetary Fund

** Excludes U.S.S.R., other Eastern European countries, and Peoples Republic of China.

Source: International Monetary Fund, *International Financial Statistics*, Vol. 28, No. 1, January 1975.

Table 5

Estimated Uses of Gold
(metric tons)

	1968	1969	1970	1971	1972	1973	1974
Flow Demand	1159.6	1180.3	1335.6	1339.2	1287.8	800.2	496.1
Jewelry	913.3	906.2	1062.6	1058.7	992.7	505.2	267.5*
Electronics	84.2	102.4	93.6	90.6	110.2	129.5	93.3
Dentistry	64.5	64.6	63.9	70.0	72.5	72.7	65.3*
Other Industrial and Decorative	57.6	63.1	61.9	68.2	71.2	71.0	60.7
Fake Coins, Medals and Medallions	40.0	44.0	53.6	51.7	41.2	21.8	9.3
Stock Demand	+58.8	+56.8	−61.7	−43.1	+115.4	+601.0	+908.2**
Purchases by Governments	−619.0	+90.2	+236.4	−96.4	+152.4	−6.2	n.a.
Hoarding	+72.0	+60.0	+88.0	+80.0	−8.0	+46.0	n.a.
Speculation and Investment	+537.0	−118.0	−432.0	−79.0	−91.0	+508.0	n.a.
Official Coins	+67.8	+24.6	+45.9	+52.3	+62.0	+53.2	+293.9

* Does not include Middle East and Far East demand for these purposes.

** Includes errors in estimates of other uses.

Source: Peter D. Fells, *Gold 1974* (London: Consolidated Gold Fields, Ltd., 1974), pp. 12 and 13.

E. M. Bernstein Ltd., *U.S. Participation in the Free Gold Market*, Report No. 75/1, p. 3.