Contents

FOREWORD

THIS conference presented an opportunity to review a subject that should be addressed at least once every 20 years or so: Does society gain advantages from adopting a gold monetary standard, and if so, how does it go about resumption from a practical standpoint?

The practical problems of resumption have received little consideration. For example, what should be the gold contents of currencies? One solution might begin with the realization that the original gold standard was privately produced and that its successful reestablishment depends on the desires and capabilities of modern financial players. What monetary standard would emerge if private banks and money markets were allowed to function freely? Recent deregulations and bank consolidations give hope that we are moving in the direction of free financial markets. The following papers consider these and related issues.

It is inevitable that some will question why the conference did not pay more attention to what many consider the economic inefficiencies, impracticalities, or distortions arising from the present fiat money system in the United States and other advanced industrial and post-industrial economies. Others will question why the conference did not challenge the presumptive immorality and unconstitutionality of the fiat money system.

In the 70-plus years since its founding by the late Col. E.C. Harwood, AIER is second to none in denouncing—regularly, routinely, and openly—both the purely economic and the strictly moral or legal consequences of the abandonment of the domestic gold monetary standard in 1933 and the international gold exchange standard in 1971. Col. Harwood considered fiat currency one of the three greatest swindles in the history of mankind. When approached by a coin dealer who wanted to mint a one-ounce gold coin bearing his likeness in his honor, Harwood agreed on the condition that the obverse carry the words "For Integrity There is No Substitute."

Such thinking, thankfully, also prevails to some extent outside AIER. There is no need for this institution, at this time, to engage in still another round of denunciations. The principal aim of this conference was to address the *practical and applicable* aspects of resumption.

The scholars and experts who participated in this conference do not necessarily endorse AIER's policy views; rather, they kindly accepted our

invitation to participate in pursuit of the goal of expanded *practical and applicable* human knowledge in a spirit of free inquiry—a goal that I believe Col. Harwood would have approved wholeheartedly.

Charles Murray
President

AN EXPLORATION OF THE PROCESS OF THE RESUMPTION OF THE GOLD STANDARD

Conference schedule

Note: All events at AIER

Thursday, May 13, 2004

Panel I: 9:00 a.m. to 12:00 noon
E.C. Harwood Library

Chair: Shirley J. Gedeon, University of Vermont

Lawrence H. White, University of Missouri – St. Louis
Is There Enough Gold in Fort Knox?
Anna J. Schwartz, National Bureau of Economic Research
The 1981-82 Gold Commission
Gerald P. O'Driscoll, Jr., Cato Institute, *Discussant*
W. Lee Hoskins, Pacific Research Institute, *Discussant*

Lunch: 12:00 noon to 2:00 p.m.
Helen F. Harwood Ballroom

Panel II: 2:00 p.m. to 5:00 p.m.
E.C. Harwood Library

Chair: W. Lee Hoskins, Pacific Research Institute

H. David Willey, Federal Reserve Bank of New York (retired)
Central Banks and the Restoration of the Gold Standard
Hugo Salinas Price, Grupo Elektra
The Reintroduction of Silver Coin into Mexico
Walker F. Todd, American Institute for Economic Research, *Discussant*
Thomas Ferguson, University of Massachusetts – Boston, *Discussant*
Shirley J. Gedeon, University of Vermont, *Discussant*

Thursday, May 13, 2004 (continued)

Reception for all attending the conference: 5:00 to 6:00 p.m.
Living Room, Main Stone House

Dinner for all attending the conference who registered in advance: 6:00 to 8:30 p.m.
Helen F. Harwood Ballroom, Main Stone House

Friday, May 14, 2004

Panel III: 9:00 a.m. to 12:00 noon
E.C. Harwood Library

Chair: Gerald P. O'Driscoll, Jr., Cato Institute

John C. Hathaway, Tocqueville Asset Management
Gold Portfolios
Michael T. Darda, MKM Partners
Nuts and Bolts
Richard Sylla, New York University
Is There an Alternative to Gold?
Jay Baker, Goldman Sachs / Spear, Leeds & Kellogg Division, *Discussant*
Michael Crook, New York University, *Discussant*
Robert E. Wright, New York University, *Discussant*

Lunch: 12:00 noon to 2:00 p.m.
Helen F. Harwood Ballroom

Conference adjourns

LIST OF PARTICIPANTS

Jay Baker, Vice President of Spear, Leeds & Kellogg, a division of Goldman Sachs, New York; formerly Vice President for Derivatives Marketing and Research, American Stock Exchange.

Michael W. Crook, graduate student in Economics at New York University, Graduate School of Arts and Sciences; AIER Summer Fellow.

Michael T. Darda, Chief Economist and Director of International Research for MKM Partners, Greenwich, Connecticut.

Thomas Ferguson, Professor of Political Science at the University of Massachusetts – Boston; author of *Golden Rule: The Investment Theory of Party Competition and the Logic of Money-Driven Political Systems* (1995).

Shirley J. Gedeon, Associate Professor of Economics and Director of the Center for Teaching and Learning at the University of Vermont, Burlington; author of "Free Banking School," *Encyclopedia of Political Economy* (1997).

John C. Hathaway, Senior Partner at Tocqueville Asset Management, New York; Portfolio Manager of the Tocqueville Gold Fund.

W. Lee Hoskins, Senior Fellow at the Pacific Research Institute, San Francisco; formerly Chairman and CEO of the Huntington Bank of Ohio and President and CEO of the Federal Reserve Bank of Cleveland; member of the Meltzer Commission, established by Congress to review the roles of the IMF and other international financial institutions, 1999-2000.

Gerald P. O'Driscoll, Jr., Senior Fellow at the Cato Institute; formerly Director of the Center for International Trade and Economics at the Heritage Foundation, and Vice President for Research at the Federal Reserve Bank of Dallas; Staff Director of the Meltzer Commission, 1999-2000.

Hugo Salinas Price, retired General Manager of Grupo Elektra, a retail chain which sells "Libertad" silver coins to the Mexican public through its outlets.

Anna J. Schwartz, Research Associate at the National Bureau of Economic Research and Adjunct Professor of Economics at the Graduate School of the City of New York; co-author of *A Monetary History of the United States, 1867-1960* (1963) and co-editor of *A Retrospective on the Classical Gold Standard, 1821-1931* (1984); Staff Director of

the U.S. Gold Commission, 1981-1982.

Richard Sylla, Henry Kaufman Professor of the History of Financial Institutions and Markets, at the Stern School of Business, New York University; Research Associate at the National Bureau of Economic Research; author of *The American Capital Market, 1846-1914* (1975) and co-editor of *The State, the Financial System, and Economic Modernization* (1999).

Walker F. Todd, co-organizer of the conference, Visiting Research Fellow at AIER and an attorney and economic consultant in Chagrin Falls, Ohio; author of *A Role for Gold in the Euro's Future?*, AIER Economic Education Bulletin (August 2000).

Lawrence H. White, Friedrich A. Hayek Professor of Economic History at the University of Missouri – St. Louis; author of *The Theory of Monetary Institutions* (1999) and editor of *The History of Gold and Silver* (2000).

H. David Willey, formerly Vice President of the Federal Reserve Bank of New York in charge of the discount window, and later responsible for oversight of the Federal Reserve's accounts (including gold) with foreign central banks (1964-82); advisor to Morgan Stanley's gold and fixed-income business (1982-2000).

John H. Wood, co-organizer of the conference, Visiting Research Fellow at AIER, and R.J. Reynolds Professor of Economics at Wake Forest University; author of *Money: Its Origins, Development, Debasement, and Prospects* (AIER, 1999) and *A History of Central Banks in Great Britain and the United States: Continuity and Change*, forthcoming.

Robert E. Wright, Visiting Assistant Professor of Economics at the Stern School of Business, New York University; author of *The Wealth of Nations Rediscovered: Integration and Expansion in American Financial Markets, 1780-1850* (2002) and co-editor with Richard Sylla of *The History of Corporate Finance: Development of Anglo-American Securities Markets, Financial Practices, Theories and Laws* (2003).

INTRODUCTION

For two days in the spring of 2004, a group of academic economists, business economists, financial managers, and other invited guests came to the American Institute for Economic Research to consider the possibilities of "resumption" in the modern world—that is, a return to money that is backed by free convertibility with gold. The E.C. Harwood Memorial Conference, titled "An Exploration of the Process of the Resumption of the Gold Standard," was held in Great Barrington, Massachusetts, on May 13-14, 2004.

The dominant observation in discussions of gold-backed money versus fiat money (paper money that is printed by the Government and not backed by anything of tangible value) is that the purchasing power of the dollar has plummeted since the United States began to abandon the gold standard 70 years ago. It has fallen by 93 percent since 1934, the year that President Roosevelt devalued the dollar from an official ratio of $20.67 per ounce of gold to $35 per ounce, and the same year that FDR made it unlawful for Americans to own or hold monetary gold. The buying power of the dollar has fallen by 78 percent since 1971, the year that President Nixon "closed the gold window" by suspending the United States' obligation to redeem its gold for any dollars presented to it by foreign governments. This renunciation broke the last official link between gold and the dollar.

Since 1971, gold has appreciated in real terms. Over the longer term, its purchasing power has been remarkably constant: It was about the same in 2004 as in 1930 and 1830. The prospect of slowing the dollar's loss of purchasing power by linking it to a commodity with such a strong record of long-term value would be, advocates say, one of the benefits of returning to a gold standard.

On the other hand, history suggests that re-establishing a gold standard would be difficult. Past resumptions were attempted following inflationary wartime suspensions of convertibility—and they were all accompanied by deflations that were politically controversial and economically painful. These deflationary episodes include the fall in the dollar exchange value of gold following the Civil War, from $55 worth of "greenbacks" in 1864 to the pre-war par of $20.67 by 1878, and the return of the British pound from 5.50 to 3.89 per ounce of gold between November 1920 and May 1925.[1] These changes were severe enough; there is no question that no one would support forcing the even more severe 90 percent deflation that would be necessary to reduce the dollar price of gold from its current level back to its level when Nixon closed the gold window.

The price of gold at which the dollar should be made convertible is unknown. Shocks to the price level are presumably to be avoided, so the current gold price of roughly $400 might be a good choice. But any attempt to choose the best ratio of convertibility between currency and gold invites speculation about how the choice might affect the future policies and actions of governments.

The conference participants generally took the advantages of the gold standard as given, and accepted the desirability of a return if it could be managed (or allowed to happen) without severe economic disruptions. Accordingly, most of the papers were about how resumption might occur and what might be the effects of the process on the price level. However, some participants focused on problems with the gold standard. Others helped to set the stage for resumption by describing the difficulties of operating in the financial markets in our current system, in which we rely on a fiat currency manipulated by a central bank without an anchor or apparent rudder.

The conference consisted of three sessions in which papers were presented by their authors and then discussed by commentators, followed by a general discussion with audience participation. Although AIER audio taped the entire proceedings, this volume is limited mainly to the text of the papers. A few discussants submitted written comments, and these are also included. A brief sampling of the general discussions that followed each session is also presented.

In his welcome address, Fred Harwood (*AIER's Founders and Environs*) described the founding of AIER by his father Colonel Edward C. Harwood in Cambridge, Massachusetts, in 1933, and the move to its present site after World War II. As he notes in the text of his address, AIER's position on gold as the essential basis of reliable money and banking has been consistent, and was first expressed in E.C. Harwood's *Cause and Control of the Business Cycle*, first published in 1932. Last updated in 1974, this book is still available as an AIER *Economic Education Bulletin.* Of particular relevance for the conference, Harwood notes, E.C. Harwood expressed the hope shortly before his death in 1980 that if enough people began to keep their accounts in terms of gold, "the restoration of a practicable system of exchanges appropriate to a modern industrial civilization" would evolve.

In the first session, Lawrence White (*Will the Gold in Fort Knox be Enough?*) considered the question of whether there is enough gold to maintain a gold standard. In his paper, he notes that a return to the official price in 1971 of roughly $40 would imply that the U.S. price level would have to fall to one-tenth of its current level. Convertibility at this price

would mean a loss of gold reserves and tremendous deflation. On the other hand, a price above the current $400 would mean price inflation. White suggests the appropriate gold price depends on the demand for monetary gold under the new regime. To avoid tying up gold, he says, we should have zero reserve requirements and no restrictions on private money issue (i.e., free banking). We should also abolish the central bank. He concludes that if all this is granted, and if we allow generously for public holdings of gold coin, at a gold price of $400 an ounce "There is more than enough gold in Fort Knox." However, he is skeptical about a switch to gold through private forces unless the government retires the fiat dollar.

Anna Schwartz, staff director of the 1981-82 Gold Commission established by Congress, did not present a paper but instead responded, via a telephone conference call, to questions submitted by Walker Todd, co-organizer of the conference. The text of that dialogue is included here. She points out that the Commission did not represent a serious effort to re-establish the gold standard or even to inquire into its possibilities, and that nearly all its members were opposed to gold. On the other hand, she believes that periodical reviews of the question of gold resumption would be useful to educate the public. Official defenses of monetary discretion have not softened over the years, she notes, as reflected in the current "inexcusable" inflationary policy of the Federal Reserve. She concludes that the best chance for a restoration of the gold standard will be in response to a politically unacceptable peacetime inflationary surge, and will also require the support of a persuasive public advocate such as Milton Friedman.

In the second session, David Willey (*Central Banks and the Restoration of the Gold Standard*) examined what the exchange ratio between gold and the dollar would have to be set at, given the existing gold stock, in order to resume a gold standard without triggering a major change in the price level. He looked to history for an answer. In his paper, he notes that in the years before 1914, the United States, the United Kingdom, and France held average gold reserves equal to roughly 12 percent, 4 percent, and 14 percent of broad money. Given that in September 2003 the U.S. money supply was $7,325 billion and official U.S. gold reserves were 262 million ounces, he notes that a 10 percent gold reserve ratio would now require a gold price of $2,800. He concludes that "restoring a gold standard in the U.S. would be hard to justify."

Hugo Salinas Price (*How to Introduce a Silver Coin into Circulation in Mexico*) discussed his own ongoing effort to arrange for the circulation of silver coins in Mexico. He believes that the world's monetary and financial system cannot be reformed. He says that his plan outflanks the problems of

a massive official resumption by introducing "real money" to circulate in parallel with the fiat paper money we presently use, in the hope that its use will spread.

In the third and final session, John Hathaway (*Three Papers on Gold, Interest Rates, and the Dollar*) described the advanced technologies of modern gold production and commented on the changes in the volume of production since the 1970s. In his paper, he comments on the Federal Reserve's repeated attempts to manipulate financial markets through "barrages of liquidity" and on the currency turmoil, debt growth, trade imbalances, and other distortions that have occurred under the dollar standard. He suggests that these problems will eventually "persuade a world of paper skeptics that the metal must be reinstated as the numeraire."

The alternative, according to Hathaway, is the fiat currency world that requires traders and investors to guess the actions of a Federal Reserve that has no clear goal or regular procedure. He also notes that although the CPI is widely regarded as the best measure of the "inherent value" of the dollar, this index has become a "highly complicated, politically charged, and controversial cornerstone" for the markets and for policy. He discusses the relationship between interest rates and gold, in particular the thesis that the price of gold varies inversely with returns on financial assets. He says it is preferable to look at the long run: at gold as a safe haven in a risky environment and as protection against price inflation.

Michael Darda (*The Restoration of a Ricardian Price Rule*) conceded that price stability is a desirable goal, but pointed out that targeting the CPI has many disadvantages, including problems associated with measurement. Such price-index targeting, in his view, would result in a monetary policy that is constantly behind the curve. He says that gold serves as a better proxy for market price signals, given its special history and qualities. He describes the four essential elements of a modern gold standard, and says it would have to be flexible because "if a return to a gold standard is viewed as extreme and painful, the electorate will not embrace it." In view of the unlikelihood of the explicit resumption of the gold standard, he suggests that one option to consider is "gold convertibility under the guise of a world central bank," an idea propounded by the Nobel Prize-winning economist Robert Mundell.

Richard Sylla (*Is There an Alternative to Gold?*) recounted previous occasions in history when gold-based monetary systems were established and re-established. In his paper, he reminds us that previous resumptions occurred after major wars caused governments to suspend convertibility. These efforts were tolerated mainly because wartime inflations of the price level were bad enough to make opinion leaders support a return to lower

price levels via deflation. The present is different, he says, in that there does not seem to be general discontent with the monetary system. He believes that the most propitious time for returning to gold would seem to have been the early 1980s, immediately after the inflation of the 1970s. Another problem with resumption, he writes, is that the gold price required to yield a "viable" gold standard is much higher than the price is today. Updating the 1982 analysis of Robert Flood and Peter Garber, in which they sought to find the price that would equate the value of the U.S. gold stock with the amount of outstanding high-powered money, Sylla estimates that the gold price would have to be set at about $2,700 per ounce. He concludes that finding a workable alternative to the gold standard is "one of the key unfinished tasks of political economy in the 21st century."

Most discussions of resumption assume it would be accomplished by the government (through the Treasury or the central bank) by means of a monetary rule aimed at a price target within a specified time period. In remarks delivered at a dinner for conference participants, co-organizer John Wood (*The Triumph of Private Discretion over Official Rules*) pointed out that legislated and other official rules, whether aimed at resumption or other objectives, have always been moderated or changed substantially by private forces. Famous examples he cites in his paper are the British resumption of 1819-21, which was intended to go smoothly over four years but moved rapidly in the course of a depression as businesses anticipated deflation; the 1846 Independent Treasury Act in the United States and the 1844 Bank Charter Act in Great Britain, both of which were circumvented by institutions that maintained their relations with the money markets; and the International Monetary Fund, which, following its creation in 1944, was similarly bypassed by governments that had already developed bilateral procedures for negotiating trade and exchange relationships.

Finally, Michael Crook and John Wood (*Private Paths to Resumption*) consider in their paper the path that private resumption could take if we assume that the Government acts with regulatory forbearance—that is, it does not try to disrupt resumption even if it does not necessarily support it. The recent trend toward removing restrictions on bank behavior, they note, suggests that the necessary forbearance may be forthcoming. Such deregulation, coupled with innovations in areas such as investment banking, insurance, derivatives, and other off-balance sheet items, shows that banks are being allowed to expand their activities as they seek out profitable opportunities and operate more efficiently. Crook and Wood suggest that money holders have incentives to hold deposits with values linked to gold in their portfolios, and banks might earn profits by offering them. These are essential elements for a free, market-based return to a gold standard. They point out that a long-run commitment by the Government to gold

need not threaten its fiscal ability to respond to national emergencies, as long as the Treasury retains credibility regarding its ability to repay its debts.

As you read the proceedings of this conference, keep in mind two things. One, stable money is important. It makes it easier for people to make plans—to save, to invest, and to make productive use of their time and resources. It protects individuals and businesses against the distortions created by an unsound currency—most notably, against the destruction of their savings and wealth. Monetary systems that encourage stable money also tend to limit the power of government, because they limit its ability to print money.

Two, the current worldwide experiment in fiat currency is unprecedented. For most of history, currencies were backed by (convertible into) something of tangible value, usually gold or silver. Today, a piece of any of the world's major paper currencies is convertible only into…another piece of paper. Governments essentially are asking everyone to "trust us" to do what is necessary to maintain the purchasing power of their currencies. History offers us many reasons to be skeptical. And looking forward, the growing demands on the public purse are likely to increasingly test the ability of governments to keep this promise.

The time may come when economic and monetary conditions deteriorate to the point that opinion leaders and public opinion support a change in the monetary system. In that event, an understanding of the gold standard and of previous efforts to re-establish it could help map the road toward a new system of sound money.

Endnotes

[1] From W.C. Mitchell, *Gold, Prices, and Wages under the Greenback Standard*, and Federal Reserve Board, *Banking and Monetary Statistics, 1914-41,* p. 681, based on the $/£ exchange rate, with shillings and pence converted to proportions of the pound.

AIER'S FOUNDERS AND ENVIRONS

Dinner Address by Fred Harwood in the Helen Fowle Harwood Ballroom May 13, 2004 to Attendees of the E.C. Harwood Memorial Gold Conference.

Thank you, Dr. Murray, and good evening.

This seemingly wild and remote part of Massachusetts became internationally famous for diverse economic reasons. Early in Colonial times, both New York and Massachusetts briefly claimed the area between the Taconic Range to the west and the Berkshire Hills to the east. As any economist might predict, the economic openness created by that jurisdictional dispute soon fostered enclaves of entrepreneurs. In that earlier and politically incorrect time, those entrepreneurs were known to be mostly horse thieves and tax evaders in hiding.

Still in Colonial times, a goldsmith from Connecticut, Mr. Belcher, counterfeited the King's currency in a limestone cave adjacent to Main Street in Great Barrington. Today, Belcher's Square at the eastern intersection of Routes 23 and 7 in fine Yankee spirit commemorates Mr. Belcher's silver cladding of small copper English coins.

More famous still and in the adjacent town of Egremont, Daniel Shays, a Captain of the American Revolution, led Shay's Rebellion, which protested heavy land, poll, and whiskey taxes compounded by judicial abuses, local depression, and extortionate rents paid to absentee landlords. The popular uprising began in August 1786 and its causes were debated at the 1787 Federal Constitutional Convention in Philadelphia. The contest is credited with strengthening the role of central government, which would soon "establish justice and insure domestic tranquility." A limestone monument to Shays Rebellion is in the town of Egremont about 4 miles south of here.

Arising from such Colonial chaos, the small town of Great Barrington garnered additional fame as the first in the world to enjoy alternating current street lights. William Stanley, chief engineer for George Westinghouse in Pittsburgh, moved to Great Barrington where in 1886 he demonstrated the utility of his new electric power transformer by lighting offices and stores on the town's Main Street with an alternating current electric generator powered by water turbines on the local Housatonic River.

In 1902 Frederick Stark Pearson, an international hydroelectric and industrial engineer and a millionaire before age 30, attended an international electrical engineering meeting in Great Barrington, where he fell in love with the area and began acquiring land. By the time of his death by the

German torpedoing of the Lusitania in 1915, he had acquired some 13,000 acres and built a large wooden English manor house atop this hill right where this stone building now stands. He supported his manor with a nearby working farm, which included an extensive wildgame preserve and prize-winning sheep.

Prentice Coonley, a Chicago stockbroker, purchased the idle farm, manor house, and some 500 acres in 1928. He burned down the manor house and began construction of this 35-room stone house. The husband of the Crane Plumbing heiress, he nonetheless speculated with and lost his fortune by 1932, when this house was about 90 percent complete. He, his wife, and two daughters never got to live in this Cotswold manor house or to enjoy their estate, which they appropriately had named Folly Farm. Fortunately, that's not the end of my story.

A 1920 West Point graduate stationed in Hawaii, Army Lt. Edward C. Harwood began writing economics articles published in leading journals during the 1920s. He furthered his study of economics by reading most of the economics and philosophy books in the Schofield Barracks Library in Honolulu. He finally found coherence amid the jumble of opinions expressed in the various books when he read Henry George's *Progress and Poverty*. He especially enjoyed George's clear exposition and careful application of technical terms. At that time he also discovered that William James and John Dewey similarly had clarified a jumble of philosophical matters. Armed with the then uncommon economic weapons of George, James, and Dewey, he wrote broadly in the journals of the day. From several articles widely published in 1928 and 1929, he gained considerable economic reputation by predicting the coming Great Depression.

From 1923 to 1933, Dad published some 175 articles in various leading journals, including the *New York Times Analyst*, *Barron's*, *Bankers Magazine* and others. Most of the articles dealt with the results of his continuing research into money-credit matters. While an associate professor in military science at MIT, in 1933 he published his *Cause and Control of the Business Cycle*, which was favorably mentioned by the Book-of-the-Month Club. (The reading public must have been quite different back then.) He also had personal correspondence with Lord Keynes about Keynes's proposal to employ supposedly hoarded money as part of a cure for the Depression. Those interested in his and Keynes's exchange can find it in AIER's book *Keynes vs Harwood*.

After turning down an invitation to head a Harvard brain trust assembled to end the Depression, with $200 and the encouragement of MIT's Dean, Vannavar Bush, Dad assembled a small group in Cambridge in 1933 to conduct basic economic research, which Dad felt must precede economic

policy recommendations. That group, which included my soon-to-be mother Helen Longfellow Fowle, formally associated as the American Institute for Economic Research, which finally incorporated in 1939 after AIER began to own property in its own name.

The Institute soon overburdened the MIT mail facility at 1200 Massachusetts Avenue in Cambridge and so moved to a refurbished building at 54 Dunster Street, near Harvard's main gate. After MIT, the Army assigned Dad as executive officer of the widening of the Cape Cod Canal and overseer of the Corp of Engineers' Massachusetts Flood Control Program. His engineering studies proving no need for locks on the canal saved millions of dollars on the project and in 1935 won him a prize from the American Society of Civil Engineers.

AIER grew until WWII, when Dad was transferred to England and served with planners for the Invasion of Normandy. He next was promoted to Colonel and transferred to Leyte with General Pat Casey to prepare for MacArthur's return to the Philippines. (Despite the war, Dad and Mother proudly claimed that AIER never missed an issue of its then weekly "Research Reports.") For his war service he was awarded the Legion of Merit and Bronze Star. While momentarily idled in New Guinea, Dad discovered the Dewey-Bentley cooperation on scientific method for the social sciences, a finding that directed the rest of his life, the writing of his and Handy's *Useful Procedures of Inquiry*, and the adoption of Dewey and Bentley's transactional approach to acquiring useful knowledge, a core aspect of AIER's scientific methodology.

During the war, Dad and Mother began a search for larger facilities, selecting for review three abandoned estates in western Massachusetts. In 1945 they purchased the core of Coonley's folly from a local lumberman. For just $25,000 they got this stone house, 110 acres of land to grow on, outbuildings, a pristine water supply, and views of three states.

In 1957 AIER added a small printing and mailing facility just to the east of this house and connected it by a convenient underground passageway to this building. From the lettershop the Institute recently printed in one year almost 9 million impressions, consisting of 6 million circulars, 300,000 Research Reports, and some 230,000 soft-cover books sent to subscribers and individual book buyers.

In 1963 the Institute moved into a new 10,000 square-foot research library, which in 1975 AIER's Board of Trustees formally dedicated the E.C. Harwood Library. In 1968 three additional staff houses were built to the east of the library

Over the past three years, the Harwood Library has been remodeled and

now contains 20,000 square feet of offices, class rooms, and the auditorium filled today with so many acclaimed critical thinkers dedicated to advancing economic knowledge. Those interested in the details of our programs and research findings will find them in our publication *AIER After 70 Years*.

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In June 1981 *Reason* magazine published its September 1980 interview with Col. Harwood, who had died three months after in December. In its interview, *Reason* asked him "How did you first become interested in hard money, and how long ago was that?" Harwood recollected that his most memorable thoughts had been at age 22 during the 1922 Geneva Conference, which would have led to "double-counting" of central bank gold reserves and "to very serious adverse [economic] results."

Reason asked Harwood what had motivated him to start AIER. He recalled that while "on duty" at MIT in the early thirties, he was also writing and publishing economics articles in various journals. A Senator, consultants, and other businessmen wanted a cure for the depression and were confident that a good economist could produce a cure in six months. They had pledges for several million dollars and wanted Harwood to start and head a Committee for Economic Development. Despite the obvious honor, Harwood turned it down because he had learned enough about economics and human nature to know that any "cure" would be longer in the making than six months. At the time he guessed that perhaps 25 years might be long enough, but in the *Reason* interview offered that his guess had been an example of his great optimism in the sensibilities of economists of the day. Instead of such a brain trust, he thought that an independent organization should work on the underlying and misunderstood problems, and started AIER with "a couple hundred dollars."

Reason also asked if AIER was the first in this country to advocate gold investments. Harwood thought so, allowing that another had claimed that position. In any event, he said, AIER began recommending South African gold stocks in 1958, some two years before the other advisor published his views.

Asked who might have inspired Harwood and others at AIER, he allowed that older non-Keynesian economists such as Professor Hutt, Henry Hazlitt, and Hayek saw at the same time as he did the fallacies of Keynes's work and policy recommendations. Their extensive writings had helped confirm Harwood's viewpoint.

Reason went on to say that Hayek relatively recently had proposed the idea that the only real solution to the problem of unsound currencies is to

remove the government monopoly on issuing money. Harwood thought that Hayek's idea probably was a good one, but went on to point out that Hayek's views might have been more fully developed and better received if he had employed modern scientific method in his studies.

In response to a question about how to limit government spending, Harwood suggested that anything that forced a full and careful consideration of both distant and immediate costs would be helpful. He despaired, however, that until we get "disciplined money, the discipline of gold in the system," that our problems will be so pervasive that one hardly knew where to begin to solve them.

He then elaborated on the gold standard as it came to exist before WWI as not something dreamed up. Rather, it had evolved as a cultural evolution that made possible sufficient money to expand the production of goods coming to market almost independent of the amount of gold in circulation and without inflating. In response to *Reason*'s statement that "critics of the gold standard say there isn't enough gold to permit trade to expand as it otherwise would," Harwood replied "That's exactly why there was the cultural evolution of commercial banking—because there wasn't enough gold to take care of all transactions...[no] economist alive...had the wit to think [commercial banking] up."

Commercial banking, or the creation of short-term checking deposits for manufacturers bringing goods to market, is not inflationary when the checkable amount is determined by the gold exchange value of similar goods already in the marketplace, and when the loan is repaid in one year or less. In that way the amount of purchasing media in circulation is always related to the gold-exchange value of goods offered in the marketplace. Unfortunately, for some time no gold-for-goods marketplace has existed, so bankers cannot know the gold-exchange value of goods produced by manufacturers seeking short-term loans. Without the independent barometer of gold in the marketplace, banks invariably create checkable loans in excess, which soon begin to bid up prices. In this way higher prices become ever-larger loans in an increasing price spiral.

Government and banking excess was Harwood's field of study very early, and earned him a lasting reputation for prediction. Writing "The Probable Consequences to Our Credit Structure of Continued Gold Export" in *The Annalist* of March 23, 1928, he noted that gold export would require either a large reduction in banking reserves or, if the then normal 75 percent reserve requirement were maintained, a huge reduction in bank loans because one billion of reserves supported "some 15.2 billion of deposits in member banks." He went on to say that because both member and non-member Reserve banks were fully extended then, and because

Federal Reserve banks themselves could not export gold without drastic reduction of deposits, our credit "shoe" was likely to pinch: "The foot has swollen; there are numerous 'bunions'; the Federal Reserve Board is tightening the 'lacing,' and there is a fair probability the 'shoe' itself will shrink materially. We should not be surprised, therefore, if a pinching sensation develops in the not far distant future."

After two more *Annalist* articles on deteriorating banking conditions, one last time he warned of a coming severe adjustment in *The Annalist* for August 2, 1929, titled "Deterioration of the American Bank Portfolio—A Ratio Analysis, 1920-28," when he concluded: "It seems to this writer that the concrete evidence herein presented offers a far more satisfying explanation of the prosperity of the past few years than the 'new-era' brand of reasoning; and further, that the time may not be far distant when the country will realize, in the light of a cold gray 'morning after,' that it has just been on another credit-splurging spree." As many more than economic historians now know, October 29, 1929, marked the end of that spree. Moreover, by 1931 some $50 billion [1931 dollars] had been lost in the stock market alone.

Harwood's analytical works were the basis for his 1932 book "Cause and Control of the Business Cycle." Last updated in 1974, "Appendix C, Elements of an Ideal Currency and Commercial Banking System Based On a Gold Standard," written long before Americans regained the right to own gold in any form beginning in 1975, nonetheless required:

1. A gold standard consisting of:
    a. The country's standard monetary unit a fixed amount of gold: a statutory unit of purchasing or exchange media constituting a standard of value and capable of serving as a store of value that consists of a specified weight and fineness of gold.
    b. All domestic currency and coin freely exchangeable at face value for gold, which the individual is then free to use as he chooses.
    c. No limit on the amount of gold that may be brought to the mint for coinage.
    d. Gold full legal tender in payment of all obligations.
    e. No restriction on the import or export of gold.
2. A *commercial* banking system where:
    a. All *demand* liabilities (checking accounts) of the commercial banks to represent either gold or other goods offered in the markets and all such demand liabilities to be payable in the statutory gold units

on demand.

b. *No* demand liabilities (purchasing media) to be created on the basis of investment-type assets such as mortgages, Government bonds, installment loans, term loans or loans to finance accumulations of excessive or speculative inventories by business. (Note: Once the principles of *commercial* banking are understood, legislation to exclude such loans probably would not be necessary. Of course, such loans would continue to be proper investments for savings.)

3. Both the Government and the commercial banks authorized to issue gold certificates (warehouse receipts for gold) on physical gold.

4. *Only* the commercial banking system authorized to issue currency in the form of bank notes, and such currency to be redeemable on demand.

5. *Only* the Government authorized to issue small denomination coins and to coin gold.

6. Interest rates to be determined at *all* times by *free* markets.

7. Government deficits, if any (both in peace and in war), to be financed by bona fide savings from current incomes."

And, in "Appendix D, The Dream World of Inflating and the Accountant's Nightmare," Harwood said: "Of all the possible accounting units that men have used, gold has proven to be by far the best. This fact is becoming increasingly obvious and is recognized by more and more people and businesses who are attempting to survive the difficult years, perhaps decades, ahead."

His idea was that if enough people and their businesses began to keep their accounting records in what he called a Metric Accounting Unit (MAU, where AU also is the periodic table symbol for gold), which he defined as one gram of .999 fine gold, they could avoid diverging too far from reality and create or reinvent a de facto monetary system that will supersede international and central banks. He hoped that: "By repeating in a shorter period the evolutionary progression that led via the merchant goldsmiths of old to modern commercial banking, those who thus put their own accounting in order may survive and hasten the restoration of a practicable system of exchanges appropriate to a modern industrial civilization." Of course, he was not referring to Great Barrington's infamous Mr. Belcher.

The year before his death in 1980 at the age of 80, Dad's lifetime of effort on behalf of Americans to once again own gold (a right taken away

in 1933 and restored in late 1974) and on behalf of sound money, sound economics, and sound scientific procedures was marked by an oversubscribed minting of the Harwood Gold Piece, a one-ounce standard gold coin bearing his likeness that in its first year sold more than 5,000 coins. Dad allowed the minting only after his supporters agreed to insert the words "American Institute for Economic Research" on one side and "For integrity there is no substitute" on the other.

Col. Harwood was 34 when government took gold money from his pocket. He was 74 when, due in no small part to his relentless efforts, government gave that right back. The work remaining for the gold money community is to press on with the re-evolution of sound commercial banking, and once again to foster the common use of gold in banking and in the marketplace. In that way, in the absence of government fiat and among a free people, the golden barometer once again can function as the long-term arbiter of value.

Thank you.

WILL THE GOLD IN FORT KNOX BE ENOUGH?

Lawrence H. White

IF the United States is to resume a gold standard, the physical volume of gold required will depend on the type of gold standard chosen (government-run or competitive-market-run) and the dollars-per-gold-ounce ratio chosen (if any) to make the transition away from the fiat dollar standard. I wish to advance a number of propositions as a basis for discussing these choices regarding resumption. I will argue that competitive market institutions can provide a more trustworthy gold standard without tying up wastefully large amounts of gold. The meaning of the title question will become clear by the end.

1. Markets won't readily abandon the dollar (absent high inflation), so to switch to the gold standard expeditiously in the United States requires the federal government to cooperate by redefining the dollar.

Some economists have hoped that a gold standard could restore itself. That is, removing legal obstacles would be enough to have the market spontaneously return to a gold standard (or some other commodity standard). Kevin Dowd (1993) has proposed that a clearinghouse association of banks could coordinate a switch in the monetary standard. Richard Timberlake (1991, p. 62; see also Timberlake 1995) proposes that gold could be remonetized, to whatever extent the public desired, simply by privatizing the gold in Fort Knox:

> In practical and realistic terms, a pure market-oriented policy would freeze the government's production of legal tender paper money [the monetary base], convert this stock to a limited tender only for government dues and payments, privatize the government's stockpile of gold and the twelve Federal Reserve Banks, and allow money to be produced on any terms agreeable to market participants. Those who wanted gold could use gold; those who wanted to use the government's limited legal tender currency could use the frozen stock of that medium; and those who wanted to innovate and use new and more efficient media could do so.

In fact gold remonetization will take a more concerted effort. Even if we take it for granted that most of the public prefers the properties of a gold standard (lower inflation, more predictable price level at long horizons) over those of a fiat standard, and that a metallic standard was spontaneously chosen by the market once before (which is more true of silver than of gold), it nonetheless does not follow that a gold standard would spontaneously re-emerge.[1] We are no longer starting from barter, but from an established monetary standard, the fiat dollar. The incumbent standard has

a substantial advantage due to its "network" property: a monetary standard is more useful to any one user, the greater the number of other users. It is not in the typical money-user's interest to switch from a dollar standard that has many users to a gold standard that has few, unless the dollar is very unstable. (We *have* seen spontaneous switches away from unstable peso and ruble regimes. So "leave it to the market" *is* sufficient in a high inflation setting.) As Menger's account of the origin of money teaches us (Menger 2002), any trader prefers to be paid in the medium of exchange that he expects to be the most popular with the other traders from whom he intends to buy. When the monetary unit that everyone uses is the fiat dollar, sellers of goods want to receive dollars, not gold, because it is only dollars that they know they can turn around and re-spend.

The same logic applies to banks and their customers. To avoid exchange-rate risk that could imperil its solvency, any bank that offered gold-denominated deposits would have to make matching gold-denominated loans or hold other gold-denominated assets. But before gold is re-established as a commonly used standard, we cannot expect much demand to hold gold-denominated deposits. Borrowers will be reluctant to take gold-denominated loans, and business firms to issue gold-denominated bonds, while their income remains in paper dollars rather than gold. If all the banks together could coordinate a simultaneous switchover to gold the new standard might stick. But it is not clear that any market forces compel the banks to make such a move.

The point is illustrated by the example of e-gold (www.e-gold.com), the most successful firm offering gold-denominated accounts transferable online. E-gold currently claims 732,000 gold-denominated accounts, and processed 25,000 spending transactions on a recent day totaling 136kg, which at $12.815/g amounts to $1.74 million. For comparison's sake, PayPal has about 40 million U.S.-dollar-denominated accounts, more than 50 times as many. During 2003 the Wells Fargo Bank, the payment processor for PayPal, handled some $12 billion in internet payments, or about $33 million per day, 20 times as great as e-gold's volume. The credit-card giant Visa meanwhile processed a reported 38 billion transactions during 2003 (mostly non-internet), which amounts to about 104 million transactions per day, with a daily dollar volume of about $7.9 billion, or about 4000 times e-gold's volume.[2] The marketplace has not stampeded to e-gold, or to bricks-and-mortar gold banks, because customers who try to spend gold-denominated account balances around the internet (or around town) will discover very few stores willing to accept them in payment.

The barrier to market re-establishment of a gold standard is one of achieving critical mass. A critical mass for gold-denominated payments

will not exist until the network of traders who do accept them is large enough to make paying in gold about as convenient as paying in dollars. Such a mass is needed to make the network self-sustaining.

I conclude that, to return to a gold standard without the duress of very high inflation, it will be necessary to persuade the U.S. government to retire the fiat dollar. The way back to a gold standard is to define "the dollar" once again as a fixed amount of gold. This principle is more important than the specific gold content to be assigned to the dollar. But we turn now to discussing how to choose the specific gold content.

2. The new dollar/gold ratio should be one that avoids major inflation or deflation from the current price level.

Suppose that the Federal Reserve System and the Treasury offered to redeem paper dollars for gold at the rate of $40 per troy ounce. (The Fed's gold reserves are still valued on its books at $42.22. I have rounded down for simplicity's sake.) Such a redemption rate is sometimes called the "official price of gold," but it isn't a price; it is a fixed ratio set by custom or decree rather than a market price set by supply and demand. Since 1971, the last year when the market price of gold passed through $40, the U.S. consumer price index has risen approximately 4.5-fold, while the market price of gold has risen 10-fold to its current price of around $400. To maintain the current relative price of gold against the other goods and services (as represented by the CPI bundle), gold at $40 per ounce implies that the U.S. price level would have to fall to 10 percent (1/10) of its current level. To return to the 1971 relative price of gold, the price level would have to fall to 22.22 percent (1/4.5) of its current height. Either way, a massive deflation is implied. Gold would flow out of the U.S. economy, where its purchasing power at $40 per ounce would be well below its purchasing power in the rest of the world. The outflow would continue until the U.S. money stock and prices collapsed 77.77 percent to 90 percent, to the level consistent with the low nominal dollar/gold ratio.

By the same logic, choosing a new dollar/gold ratio well above $400 per ounce implies a massive inflation. Murray Rothbard in *The Mystery of Banking* (1983) offered the following method for choosing the gold content of the dollar. To provide 100 percent gold reserves for currency held by the public and demand deposits (*i.e.*, for the items that make up the monetary aggregate M1), simply divide M1 by the number of ounces of gold held by the federal Treasury. At the time Rothbard wrote, using 1981 figures, his method implied that the dollar/gold ratio would be set at $1,696. To apply the same method today, after twenty-three years of additional fiat monetary expansion, we would divide current M1 ($1,335 billion as of April 19, 2004) by the current stock of Treasury gold (261.6 million fine Troy ounces as of March

31, 2004) to get a dollar/gold ratio of $5,111 per ounce.

Choosing $5,111 per ounce of gold, when the current (April 2004) price is in the neighborhood of $400, implies a massive transitional inflation. Gold would flow into the United States as gold-owners elsewhere in the world took advantage of gold's hugely enhanced purchasing power in the United States. The arbitrage would continue until the U.S. dollar price level rose to the level consistent with gold at $5,111 per ounce. To restore the current relative price of gold, the U.S. price level would have to rise 12.8-fold (*i.e.*, by the ratio 5,111/400).

For well-known reasons (the noise and distortions to relative prices, the shock to aggregate demand driving the economy away from its natural rate of output, the debtor-creditor redistribution), massive monetary contraction or expansion, giving rise to massive deflation or inflation, is undesirable. As a practical matter, either event would endanger the political consensus (supposing one had been formed) for restoration of the gold standard. Adopting a dollar/gold ratio that requires a massive movement in the price level would therefore be self-defeating.

To avoid a large movement in the price level upon re-adoption of gold, the dollar/gold ratio should be chosen to make the new equilibrium U.S. price level close to the current price level. As discussed in the next section, the ratio to be chosen depends on how the U.S. regime shift will affect the world relative price of gold. If we imagined it to have no effect (if we were discussing a negligibly small country), we would simply choose the current dollar price of gold. Given any particular dollar/gold ratio, we can figure whether the U.S. will be importing or exporting gold by estimating how many ounces of monetary gold would be demanded for supporting the U.S. money stock, and compare that figure to the current U.S. Treasury stock. (Rothbard's approach, by contrast, takes the stock of monetary gold ounces as given, and calculates the necessary dollar/gold ratio, without concern for any inconsistency with the current price level.) In other words, our objective is to adopt a combination of dollar/gold ratio and initial stock of U.S. gold that would provoke neither a massive inflow nor a massive outflow of gold to the rest of the world.

Suppose we choose $400 per ounce. We can ask: at that ratio, how many ounces of gold would be needed to support the current stock of dollars? Comparing that quantity to the current stock in Fort Knox (and in the other U.S. depositories at Denver and West Point), plus the private holdings of monetary gold, is the existing U.S. monetary gold stock enough? If it is too small, how many ounces of gold would have to be imported to sustain the dollar/price ratio without major inflation or deflation? Then, what effect would that level of imports have on the world price of gold?

3. The appropriate dollar/gold ratio depends on the demand for monetary gold under the new regime.

The dollar price level under a gold standard (measured in $ per bundle of goods) can be understood as the product of the dollar/gold ratio ($ per oz. Au) and the relative price of gold inverted (oz. Au per bundle of goods). In algebra,

$P / bundle = ($Q / oz. Au)(R oz. Au / bundle), where P = QR. (1)

P is endogenous, the result of the other two ratios. Q is the ratio whose choice we are considering. R is determined by world supply and demand for gold, of which U.S. demand is a part. Given that the U.S. demand is a non-negligible part of the world demand for gold, R is presumably somewhat sensitive to U.S. policy choices, at least in the short run. (In the very long run, R is determined by flow supply and demand conditions in the world gold market. See White [1999, ch. 2.])

The U.S. demand for monetary gold will be the sum of the demand for gold reserves by the banking system and the demand for gold coin by the public. The banking system's demand for reserves will depend on the level of legal reserve requirements (to the extent that these are enforceable – sweep accounts have presently rendered end-of-day reserve requirements virtually irrelevant). The public's demand for gold coin will depend on the availability of substitute forms of currency, and thus on the rules about private issue of banknotes and token coinage.

An intelligent decision about the dollar/gold ratio must therefore be made jointly with decisions about gold reserve requirements and the rules for private money issue. The more gold the U.S. monetary system ties up, the greater the world demand for gold and (at least in the short run), the higher the world purchasing power of gold.

4. A zero level of reserve requirements and zero restrictions on private money issue (free banking) are preferable.

Reserve requirements are costly under a gold standard. So too are legal restrictions that block use of banknotes and token coins in place of full-bodied gold coins. Both restrictions artificially enlarge the demand to hold monetary gold and thereby raise the equilibrium U.S. stock of monetary gold. A larger gold stock entails a greater tying-up of scarce social capital. The advantage of substituting paper for gold in circulation, thereby freeing capital to be put to productive alternative uses, was famously noted by Adam Smith (1981, pp. 292, 321):

> The substitution of paper in the room of gold and silver money, replaces a very expensive instrument of commerce with one much less costly, and sometimes equally

convenient. Circulation comes to be carried on by a new wheel, which it costs less both to erect and to maintain than the old one. […]

The gold and silver money which circulates in any country may very properly be compared to a highway, which, while it circulates and carries to market all the grass and corn of the country, produces itself not a single pile of either. The judicious operations of banking, by providing, if I may be allowed so violent a metaphor, a sort of waggon-way through the air; enable the country to convert, as it were, a great part of its highways into good pastures and corn fields, and thereby to increase very considerably the annual produce of its land and labour.

Similarly Ludwig von Mises (1981, p. 359) observed that "fiduciary media," meaning banknotes and token coins in circulation, to the extent that their value exceeds the gold reserves behind them, "tap a lucrative source of revenue for their issuer; they enrich both the person that issues them and the community that employs them."

A standard objection to fractionally-backed banknotes (noted also by Adam Smith) is that they are not as secure as gold coins. The historical instability of banknote issuers in U.S. history, however, should not be taken as representative of the best we can do. The fragility of U.S. banks was the byproduct of inadvisable legal restrictions on banking. Private note-issue in other countries, where banking was freer, was quite reliable (Dowd 1992). Needless to say, in a free banking system gold coins (preferably from competing private mints) should and would be available to those who want to use them. But we should not foreclose the option of using fractionally backed bank-issued substitutes (banknotes, token coins, and their digital counterparts) to those who prefer them, especially since history indicates that the vast majority will prefer them.

Banks under a gold standard seek to economize on their holdings of non-interest-bearing gold reserves. But they do not hold zero or inadequate reserves. Even with a zero level of required reserves, banks hold adequate positive reserves for the purpose of avoiding payment default. Requiring banks to hold additional reserves that they *may not use* (making it illegal ever to go below the required reserve ratio) does not make banks any more liquid. To the extent that the required reserves pay a sub-competitive return (the Fed pays zero), a reserve requirement acts as a distortive tax on intermediation.

5. It would also be preferable to privatize the clearing system, removing the central bank as a gold demander.

With gold as the monetary standard, there is no need to have a central bank provide currency or clearinghouse services. The fact that commercial banking systems adhered to silver and gold standards while providing

currency for centuries before the advent of central banks shows that no "official guarantor" is required to assure convertibility.[3] In fact, having a central bank is counter-productive. The classical gold standard of a century ago was needlessly fragile, subject as it was to manipulation and suspension by central banks like the Bank of England that had monopolized the issue of currency and centralized the system's gold reserves. An issuer's commitment to redeem for gold is never fully credible when the issuer is a sovereign central bank. Only when banks of issue are private institutions can a note-holder sue a bank that fails to redeem its notes. Only when banks of issue face open competition do reputational forces strongly deter suspension (White and Selgin 2000). To be more durable than the gold standard of the nineteenth century, a gold standard of the twenty-first century should operate with competing private mints, competing private banks of issue, and private clearinghouses. It is only because of the non-credibility of government issuers, not bound by competition or contract law, that costly "gold cover" requirements on central banks and Treasuries might be necessary to avoid suspension.

6. If all that is granted, will the gold in Fort Knox be enough?

In classical (pre-1914) silver- and gold-standard countries that did not suppress bank-issued currency, and thus allowed a high level of financial sophistication, the use of gold coins as a hand-to-hand medium of exchange became quite rare as the public learned to prefer banknotes and token coins. A privatized gold standard today thus might practically resemble an ingot standard. As a lower bound, we might assume that public holding of gold coins is zero. To make this plausible, note that the largest current coin is the $1 coin, and a gold $1 coin would be impracticably tiny at anything like $400 per ounce. What would be a reasonable high-end estimate? Lacking better numbers, estimates published by the World Gold Council[4] place worldwide "Gold Coin in Circulation or with Commercial Banks" at 44 percent of the value of "Central Banks/ Treasuries Stocks" in 1910, but only 6 percent in 1930, the last reported date before the demonetization of gold at which U.S. citizens were permitted to own gold coins. As an upper bound on the public's gold coin holdings, we might then take 40 percent of the banking system's reserves.

We can estimate the prudential reserve ratio that banks today would choose to hold by observing that in Canada, where reserve requirements have been eliminated, banks presently hold reserves equal to about 0.5 percent of their deposit liabilities. Let us then assume that banks would hold 0.5 percent gold reserves against demand liabilities.

If private issue of notes and token coins is allowed, we can assume that the stock of currency (apart from full-bodied coins) is backed by gold in

the same half-percent ratio. This ratio is consistent with the gold reserves held by some Scottish banks against their notes toward the end of the free banking period.

United States M1 money supply currently being $1,335 billion, a reserve ratio of one-half of one percent of M1 implies the need for $6.675 billion in gold bank reserves. Multiplying by 1.4 to allow for public holdings of gold coin raises the monetary demand for gold to $9.345 billion.

At $400 per ounce, the Treasury's 261.6 million ounces of gold amounts to $105 billion. In addition, we can assume that the U.S. public would make its private hoards of gold available to the banking system (would deposit their Eagles, Kruggerands and other coins into the banks) because under a reliable gold standard it would be pointless to continue holding them as an inflation hedge. Private holdings of gold coin and bullion in the U.S. are estimated to be about 200 million ounces, equivalent (at $400 per ounce) to $80 billion. Together the banking system would have $185 billion available for gold reserves, against a demand of less than $10 billion. There is more than enough gold in Fort Knox and the other Treasury depositories.

This analysis implies that returning the U.S. to a gold standard while (re-) privatizing the Treasury's entire gold stock would *depress* the world relative price of gold. This implication is consistent with the fact that the relative price of gold has risen since the gold standard was abandoned. (Private demand for gold as an inflation hedge has evidently exceeded the reduction in central bank demand for gold reserves.) A fall in the purchasing power of gold means an increase in the variable R in equation (1), and a consequent rise the U.S. price level P. To avoid this result there are two options: either choose a dollar/gold ratio below $400 per ounce, or do not release more of the Treasury's monetary gold stock than is demanded at $400 per ounce. The first option better economizes on the resource costs of operating a gold standard, but obviously raises the question of how to calculate the dollar/gold ratio that would sustain the current price level. A rough purchasing-power-parity calculation (based on the price level rising 5.3-fold since gold was $35 per ounce) suggests a dollar/gold ratio of about $190 per ounce. It is probably better to err on the high side, and let the Treasury retain undemanded monetary gold, than to err on the low side.

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Endnotes

[1] Parts of this section draw on White 2002.

[2] E-gold statistics from www.e-gold.com/stats.html. Paypal statistics from http://www.epaynews.com/newsletter/epaynews238.html. Visa statistics from http://corporate.visa.com/mc/press/press216.html.

[3] Contrast the first sentence of Willey (2004). Nor did Treasuries guarantee convertibility. Rather convertibility was assured by the contractual obligation of a commercial bank to redeem its banknotes for gold or silver, an

obligation enforced primarily by concern for reputation in a competitive environment and secondarily by the courts.

[4] http://www.gold.org/value/stats/statistics/gold_reserve/index.html, document entitled "Historical Data."

THE 1981-82 GOLD COMMISSION

Anna J. Schwartz

Dialogue with Walker F. Todd

ANNA J. Schwartz graciously agreed to participate by telephone. By prior arrangement, she agreed to respond to a series of ten questions that Walker Todd asked her during the conference. There follow his questions and her answers (transcribed from the conference audiotape recording), and some audience questions with her answers.

References in the text are to the following articles by Ms. Schwartz: "Reflections on the Gold Commission's *Report*," *Journal of Money, Credit and Banking*, November 1982 and "Alternative Monetary Regimes: The Gold Standard," in Colin D. Campbell and William R. Dougan, eds., *Alternative Monetary Regimes*, Johns Hopkins University Press, 1986. The Gold Commission's *Report* is: Commission on the Role of Gold in the Domestic and International Monetary Systems (the "U.S. Gold Commission"), *Report to the Congress*, 2 vols., U.S. Government Printing Office, 1982. Ms. Schwartz was the staff director for the Gold Commission.

PRELIMINARY QUESTION: Is there anything that you wish to say generally in light of your experience with the Gold Commission?

PRELIMINARY ANSWER: Unfortunately, this was not a serious attempt to study what a gold standard could contribute to public welfare. Establishment of the Commission was a political decision to appease former U.S. Senator Jesse Helms (R.-NC), who insisted that a gold commission be established as a *quid pro quo* for the support he and the people he represented advanced for the subject of the legislation that was then being considered, namely for an increase of the quota of the United States in the International Monetary Fund (IMF). [The quota increase was approved and became effective in 1981.] The decision was made as, "Yes we shall allow a gold commission to be formed, but it is only in order to appease Sen. Helms; it is not a serious effort on our part." That was the political background for the creation of the Gold Commission in 1981.

QUESTION 1: As an overview, is there anything you wrote in the articles referenced above that you would like to modify in light of subsequent events?

ANSWER 1: I continue to believe that the chance for a restoration of the gold standard will be a response to a peacetime inflationary surge, accompanied by accelerating interest rates. Politicians will then be hearing from their constituents that existing monetary arrangements are intolerable.

Whether the protests will take the form of a public demand for a gold standard is not obvious. Only if that manner of remedy to end inflation is forcefully argued by someone with the persuasive powers of Milton Friedman will the public embrace such a program. So I think the requisite conditions for a restoration of the gold standard are, first, a replica of peacetime inflation in the U.S. comparable to that of the 1965-early 1980s period and, second, a persuasive public advocate for adopting a gold standard as the reform measure. That was my conclusion at the end of the Gold Commission, and I have not changed my mind.

QUESTION 2: In your opinion, would it be useful for Congress to mandate the appointment of a similar commission once every 20 years or so to review the question of resumption of a gold standard?

ANSWER 2: I am in favor of examining the case for a gold standard as an intellectual exercise even if no policy change would result. It would serve as an opportunity to educate the public. I doubt that there is an understanding by the general public and even by the leaders of our political establishment of how a gold standard works. In that sense, I think a gold commission every 20 years is a reasonable sort of program.

QUESTION 3: You wrote (Schwartz 1986, p. 71) that a principal hurdle to an effective gold standard is "the resistance of political authorities and of modern democracies to precommitment and to forswearing of discretion. That hurdle is also a problem for a fiat money regime governed by a rule." Assuming that we all agree that the worst of all possible regimes is fiat money ungoverned by any rule, then what progress have we made, in your view, toward increased respect for precommitment and limitations on, if not forswearing of, discretion on the part of the political and monetary authorities in the United States and Western Europe in the 20 or so years since you wrote those words?

ANSWER 3: I think the defense of discretion by political and monetary authorities in no way has been softened in the years since 1981-82. They are just as adamant that the only way that they can proceed with any kind of goal is to have discretion. Also, the arguments for a rule-based arrangement are regularly shot down, as they were during the course of the Gold Commission's life.

QUESTION 4: The Democrats (led by former House Banking Committee Chairman Henry Reuss, D-WI) and the three Federal Reserve officials on the Gold Commission (former Governors Charles Partee, Emmett Rice, and Henry Wallich) objected many times to various points in the main Commission *Report* and inserted many footnotes that are interesting to read in retrospect. I know that the *Report* was criticized by many in the

gold community for not taking a more foursquare stand in favor of a prompt resumption of the gold standard. But given the divisions on the Commission, was that *Report* about as favorable to gold as could have been expected in the circumstances of the time? Has anything changed with the congressional Democrats (or Republicans, for that matter) or at the Federal Reserve Board today that would give you greater hope of cooperation on the Commission's deliberations if it were reconstituted?

ANSWER 4: Well, I think one of the serious hurdles to a really sympathetic investigation of what a gold standard could achieve was the fact that the Reagan Administration never signaled that it was interested in having that kind of investigation by the Commission. The Act to which the establishment of the Gold Commission was an amendment was passed during the Carter Administration, but there was an agreement on both sides of the aisle in Congress that there would be no appointments to the Gold Commission until after the election in November, and of course in November the Reagan campaign won. But at no point did the Reagan Administration signal that they wanted some serious consideration of the gold standard, and the fact that many of the members of the Commission were appointed by the Reagan Administration left them free to decide what they would oppose and what they would support.[1] So I think a crucial problem for that Gold Commission was that it had no support from the Administration.

TODD COMMENT: And of course, we don't see much prospect for such political support from the White House even under the current Republican Administration, correct?

SCHWARTZ RESPONSE: Yes.

TODD COMMENT: By the way, two members of the Council of Economic Advisers, direct appointees of the President, Murray Weidenbaum and Jerry Jordan, were on the Gold Commission, am I right about that?

SCHWARTZ RESPONSE: Right. Those were the two. Now we know what Jerry Jordan's position was: He was certainly someone who wanted reform of the monetary system. But whether he would have supported a gold standard is something that he never really revealed during the course of the meetings of the Commission, and the same was true of Murray. They never really expressed any views that either supported or opposed a gold standard. So the fact that they were representatives of the Administration didn't mean that you could count on them for the kind of study of the gold standard that in my view would have been a serious one.

QUESTION 5: One of the most important and lasting contributions of the Gold Commission's proceedings was the stimulus that it gave to men like former Rep. Stephen L. Neal (R-NC) to introduce measures in Con-

gress to require the Federal Reserve to make achievement of price level stability the Fed's overriding and principal monetary policy objective. One may argue that the lingering influence of the Neal Resolution was to pave the way for the appointment of men like Lee Hoskins to the Federal Open Market Committee (FOMC) and for Chairman Alan Greenspan eventually to make a public declaration in favor of price level stability (albeit not for a zero inflation target). Do you share my interpretation of the importance of the Neal Resolution in influencing the subsequent conduct of Fed policy, at least after Greenspan became Chairman in 1987? I'll be interested in hearing Mr. Hoskins on this point, too.

ANSWER 5: I think it was a very important advance in the struggle to get monetary policy based on some kind of price stability objective. But the Gold Commission, much to Stephen Neal's regret, didn't propose a similar resolution. They proposed a study of the need for such a policy objective. Stephen Neal objected strenuously, "We don't need any more studies! We need a definite statement that we support price stability as the sole objective of the Federal Reserve System." He didn't achieve it at the Gold Commission, but he did so in the Congress, and it was a landmark achievement, I think. I think it did have the kind of influence that you suggest. I'm not sure that Lee Hoskins's appointment, valuable as it was, [as President of the Federal Reserve Bank of Cleveland in 1987], was actually connected with that resolution, but certainly there has been a sea change in the way central banks all over the world now regard what their mission really is. Despite any quibbles that one might express with respect to what the central banks are doing, there is no question that they are much more attentive to the problem of their performance measured by how stable the price level is as the result of their efforts.

QUESTION 6: Because we have a few proponents of free banking present here, please tell us how strongly the free banking arguments were presented to the Gold Commission. Was there any consistent support apart from Rep. Ron Paul (R-TX) for what could be called a classical free banking view? Also, to what extent do you think that a 100 percent reserve requirement (vs. some much lower fractional reserve requirement) would be an essential component of a banking system organized along the lines of free banking principles? There seems to be a rival free banking view that holds that no reserves should be required by governmental order but that bankers who chose to project the image of a stronger bank could hold larger disclosed reserves if they wanted to. What do you think of these views?

ANSWER 6: Ron Paul was the only member of the Gold Commission with libertarian views. He was a strong advocate of 100 percent reserves.

He regarded fractional reserves as a form of theft. And the others on the Commission regarded him as an honest oddity, not as someone whose views merited respect. The importance of 100 percent reserves has faded as a prescription for stable money growth. Since reserves are costly, I doubt that the banking industry would adopt the position that it is useful to hold larger reserves to gain a reputation for soundness. The banking system works well without a legislated reserve requirement, and the central banks are easily able to monitor the growth of money supplies based on the voluntary accounts that all financial institutions maintain with their central banks.

QUESTION 7: In Schwartz 1986, p. 66, you wrote:

> If we assume that convertibility can be arranged without creating serious problems, countries would then be required to give up the discretion that they currently exercise in determining the level and growth rate of their domestic money supplies; under a gold standard, they must accept the effects on their money supply that changing gold reserves would dictate. This is the key issue raised by the proposal to return to the gold standard.

That statement poses fairly directly the domestic monetary policy dilemma that the Federal Reserve or Treasury would confront if a gold standard were restored. Has anything happened since 1984 (when you wrote these words) that would cause you to alter the conclusion that you stated above? Would a return to the pre-1971 Bretton Woods regime (international convertibility but no domestic convertibility) at least partially resolve this dilemma by supposedly separating the domestic and international consequences of a gold standard?

ANSWER 7: I'm not in favor of reinventing the Bretton Woods fixed-but-adjustable exchange rate system. It certainly was operated in a fashion to restrict convertibility of the dollar, and it collapsed when there was no possibility of even partial convertibility. I think that the committee that sought restoration of the Bretton Woods arrangements some time ago really failed because there is no real respect for the way the Bretton Woods system operated. Reinventing it would only land us into the same mess that existed during the period when the Bretton Woods system seemed actually to be able to operate as planned.

TODD COMMENT: All right, but the obvious consequence then would be to say, as far as you are concerned, "Let the full brunt of international transactions in gold be reflected in the U.S. domestic money supply if we were on a gold standard." Do you think that attempts by the U.S. monetary authorities to sterilize gold inflows would be a good, a bad, or an indifferent idea in those circumstances?

SCHWARTZ RESPONSE: Sterilization was a problem for the operation of the gold standard according to the rules that governed the way a successful gold standard should perform. It was one of the circumstances that undermined the gold standard. So any kind of restriction on sterilization would certainly improve the possibility of a workable gold standard. This ties in with the discretion problem: As long as the monetary authorities prize discretion above all other restraints on their actions, I don't see how you could guarantee that they wouldn't again take the opportunity to sterilize or do other things that are not conducive to a successful gold standard.

QUESTION 8: In the same article (Schwartz 1986, p. 71), you wrote:

> An important aspect of the successful operation of a gold-centered monetary system [like the international gold exchange standard centered on the dollar in the Bretton Woods era] is an unshakable confidence that the reserve currency of a dominant country will always be converted into gold on demand. What country is willing to be the candidate for such a role in a future gold standard?

Robert Triffin (*Gold and the Dollar Crisis*, 1960, p. ix) makes essentially the same point. He notes that any country performing the key currency function is vulnerable to a foreign exchange crisis because it has to incur enough of an external deficit to supply international liquidity in the absence of widespread holdings of gold reserves but increases its vulnerability by increasing the amount of such deficits. Was the move spearheaded by former Treasury Under Secretaries Robert Roosa and Paul Volcker in the 1960s to create and issue IMF Special Drawing Rights (SDRs), which finally happened in 1969, an attempt to get around this dilemma by having the IMF instead of any particular national currency bear this burden? There have been no new SDR allocations since 1981, and the United States now holds more than 40 percent of all SDRs ever issued (combined share of US and IMF is nearly one-half). Should SDR allocations be resumed? Or, rather, as some of us believe, should SDRs be retired from circulation (by purchase by the United States alone, if need be) as part of the wrapping up of the IMF to close out the entire Bretton Woods chapter of our history? I note in passing that the 2000 report of the Meltzer Commission does not address the problem of SDR issuance.

ANSWER 8: The issuance of SDRs was a failed solution to the flawed Bretton Woods system. SDRs represent fiat money created by a political institution, the IMF. Central banks of course are political institutions that create fiat money. But a national central bank in a democratic society is more subject to reproof than an international institution like the IMF. So if we have to have fiat money, I think we are better off with a national central bank issuing it that is responsive to political dissatisfaction with what it is

doing. It is not that case with the IMF. They get away with anything, even when there are a half dozen reports pointing out all the inadequacies of the performance of the IMF. I don't see that there has been a great change in the way the IMF operates as a result of all the criticisms that it has received in recent years. So if we have to have fiat money, I would say, "Let it be issued by national central banks in a democratic society."

TODD QUERY: Regarding the roles of men like Messrs. Roosa and Volcker in the 1960s in creating SDRs, have you ever heard any of them express regret for doing so?

SCHWARTZ RESPONSE: Well, I can't say that I've seen anything of that nature, so if they have expressed regret, I haven't been familiar with it.

QUESTION 9: Please explain for this Conference how the 1981-82 Gold Commission study came about. That is, I understand that it was a *quid pro quo* insisted upon by various factions in Congress, led by Sen. Jesse Helms (R-NC), in return for enactment of the IMF quota increase that took effect in 1981. How the Commission was put together is described very well, I think, in your 1982 *JMCB* article. Do you want to summarize or elaborate upon that article as a guidepost for those attending this Conference regarding difficulties to be overcome if a similar study commission were created today?

ANSWER 9: Well, I've already said something about the composition of the membership of the Gold Commission. The act which established it specified who it was going to be, who would be the members. The members would be appointed by the Administration, if they were from the Council of Economic Advisors, and from the Federal Reserve. The Senate and the House committees on banking were to appoint majority and minority members who were members of the Joint Economic Committee. It turned out that, instead of having 15 members of the Commission, there were 16, because Rep. Henry Reuss (D-WI), who was then chairman of the Joint Economic Committee (JEC), appointed himself as a majority member, and his friend Rep. Chalmers Wylie (R-OH), a Republican, as a minority member. But Sen. Roger Jepsen (R-IA), who was a Senate Republican [member of the JEC], appointed himself as well, so there were three members from the JEC when there should have been only two. That was the way the Commission was finally composed.

Also, the fact that there were three representatives from the Federal Reserve meant that their opposition to any kind of discussion of gold was an important constraint on the way the Commission operated. At the first meeting, Gov. Henry Wallich announced that there could be no discussion of monetary policy or reform because that was not part of the mission of

the Commission. And that really is the basis for many of their [the Federal Reserve representatives'] dissents from the final *Report* of the Commission.

Two volumes were issued as the *Report* of the Commission. The first volume was one that I wrote, and I was not aware that there was going to be a minority second volume, which the Administration agreed to, even though nothing had been discussed with the Commission members about this second volume. The minority members who were pro-gold, who consisted of Rep. Ron Paul (R-TX), Arthur Costamagna, who was one of the four public members, and Lew Lehrman, who was in favor of a traditional gold standard with convertibility of paper money into gold coin, didn't really pull together because they had such different conceptions of what they sought from the gold standard. Ron Paul in particular was only interested in having gold coins minted by the Treasury from the existing gold stock, with no dollar amount on the face of the coin, and his idea was that prices would be expressed in weights of gold. So this was a view of how the reform of the present system would be effected which, I think, had no support from the other members who were in favor of gold in some form. It was this absence of a real core of people on the Commission who favored the same thing and who might have had some strength in producing the final recommendations of the Commission that resulted in this kind of lame Commission *Report*, I think.

I know that I was subject to a lot of hostility from those who favored gold because they didn't think I was sufficiently supportive of their views, but that was not supposed to be my role in the Commission. I was there to represent the views of all the members, and that's what I tried to do. And if you represented the views of all the members, there was no real core of agreement on what the monetary system in this country should be like.

I think a future gold commission probably should be constituted in a way that would provide a serious effort. To get gold considered would be a valuable sort of future development. I don't know that there is any kind of public demand for it, but I think if there were enough interested people to promote it, it could happen.

TODD COMMENT: On the amount of public interest, I note that we have nearly 45 people in this room listening to you, so there is some interest out there.

QUESTION 10: In an appearance before the Committee for Monetary Research and Education in New York several years ago, someone in the audience asked you what the principal objection to resumption of the gold standard would be. I liked your response at that time, which was to the

effect that it is necessary to shrink government first: In 1933, government may have consumed only 10 percent of aggregate resources (GDP). Today, the Federal Government alone consumes around 20 percent of GDP, and government at all levels may consume around 40 percent of GDP. The point you made was that all external shocks have to be absorbed and financed by the private sector, which was proportionately much larger in 1933. The burden of shock absorption by the private sector today even could cause a much greater decrease in the standard of living than was the case in 1933. Your 1982 *JMCB* article discusses these and comparable arguments to some extent. John Wood, one of the Conference co-organizers, points out that the most successful resumption, in 1879, was announced four years in advance and was overseen by Treasury Secretary John Sherman, who had been the foremost congressional advocate of resumption four years earlier.[2] Could some/most/all of the "burden of adjustment" arguments against resumption be dealt with simply by announcing a resumption date sufficiently far ahead and allowing, as Sherman put it, the economy to "grow into" the resumed gold standard? Isn't most of the pain of resumption attributable to too-rapid attempts to force it upon an economy in a "cold turkey" exercise?

ANSWER 10: I agree with John Wood that the 1879 resumption was successful because it was not effected until the burden of adjustment, the adjustment of the U.S. price level to the world price level, was complete by 1879. I think that this lesson is borne out by the British experience in 1925. They resumed when there was still a great deal of adjustment that confronted the British economy, and the stress under which the British economy operated during the six years that the gold standard was still in effect – it might have a much more successful resumption had it been delayed until the adjustment of the British price level had been completed. There is no telling whether it would have worked, but I do believe that delaying a resumption has a virtue because it permits the adjustment that is inevitable after suspension of the gold standard, particularly if the suspension related to inflationary circumstances and the resumption is at the earlier parity. The adjustment is the significant factor which will make the resumption either successful or not.

Also, nobody has mentioned the 1934 resumption in this country,[3] and I think the fact that it was a resumption with a devaluation helped the resumption succeed as far as it was able to, given all the other circumstances that accompanied it. There was no further adjustment that had to be made: The adjustment from four years of deflation, from 1929 to 1933, was made much more appealing by the fact that the dollar was devalued, and you could expect inflation to resume once the policies that accompanied the resumption were implemented.

TODD COMMENT: Much more could be spoken or written about this subject, but this will suffice for now. Thank you, on behalf of all of us at this Conference. The discussant for Ms. Schwartz is Lee Hoskins.

Questions for Anna Schwartz

Asked if the promised Volumes III-VII of the Gold Commission were ever made available, she answered that she didn't even know about Volume II.

Sylla: You said that gold wouldn't be considered unless higher inflation threatened. How close are we to that?

Schwartz: There is reason for concern about future inflation. The Federal Reserve's failure to raise interest rates, ostensibly to help employment, is inexcusable. They should have learned that they affect only nominal values. Their behavior has implications for the future of the Fed itself. Governor Bernanke, et. al., having assured us that they are on top of things, a surge of inflation would be bad for public relations.

Hoskins to Schwartz: I've never written a paper on gold; or mentioned gold in an FOMC meeting. I suppose that I was invited to this Conference because of my support for price stability. I was part of a change in Fed thinking that wanted new people who favored price stability. I favor central banking with a rule, although the success of this approach has been limited. It suffers from moral hazard (such as the loans to Mexico, Korea, and Long-Term Capital Management) which might be corrected by the gold standard.

Commenting on the decision process at the Fed, Hoskins said that FOMC members have diverse views and never engage in intellectual discussions of objectives. But it is easy to talk about small movements in interest rates. There is much discussion of the language of directives, such as the meaning of "patient." He noted that the present Conference skips the question of the right policy, but applauded the discussion of gold resumption.

Schwartz observed that the Gold Commission did not encourage gold proponents to testify, and asked Hoskins if the FOMC discusses the advantages of gradualism. She said she is in favor of gradualism generally, but that in this case the Fed has done nothing for several years.

Hoskins: The Shadow FOMC believes that gradualism tends to make the Fed late in fighting inflation, as in the 1970s. The FOMC is very data focused. There is much discussion of the "bias" of the directive; and of the meanings of words, as in moving toward "measured" or "orderly" responses. Lots of discretion was given to Chairman Greenspan in the early years (moving the Fed funds rate 2 percent between meetings without

consultation), but this was taken away in 1994.

Ferguson: Would you have done it differently in '94?

Hoskins: It was okay to move rates a lot. Discussions have revolved around governance, such as whether the chairman should consult the rest of the FOMC. The new FOMC members (especially the academics) are looking at capacity utilization and apparently think that the Fed has real effects. It looks like the resurgence of the Phillips Curve.

Darda to Schwartz: What are you looking at when you see future inflation?

Schwartz: All the measures (e.g. CPI, core CPI, commodities) show rising inflation. I'm in favor of gradualism generally, but the Fed's delay in raising rates is inexcusable.

Endnotes

[1] Members of the Gold Commission were as follows: Chairman, Donald T. Regan, Secretary of the Treasury; Arthur J. Costamagna, Attorney, Employee Benefits Insurance Company, San Jose, CA; Herbert J. Coyne, President, J. Aron & Co., New York, NY; Christopher J. Dodd, U.S. Senate (D-CT); Roger W. Jepsen, U. S. Senate (R-IA); Jerry L. Jordan, Member, Council of Economic Advisers; Lewis E. Lehrman, President, Lehrman Corp., New York, NY; Paul W. McCracken, Edmund Ezra Day University Professor of Business Administration, University of Michigan, Ann Arbor, MI; Stephen L. Neal, U.S. House of Representatives (R-NC); J. Charles Partee, Board of Governors, Federal Reserve System; Ronald E. Paul, U.S. House of Representatives (R-TX); Henry S. Reuss, U.S. House of Representatives (D-WI); Emmett J. Rice, Board of Governors, Federal Reserve System; Harrison H. Schmitt, U.S. Senate (R-NM); Henry C. Wallich, Board of Governors, Federal Reserve System; Murray L. Weidenbaum, Chairman, Council of Economic Advisers; Chalmers P. Wylie, U.S. House of Representatives (R-OH). Commission *Report* 1982, vol. 1, p. v.

[2] John Wood, *Monetary Policy in Democracies: Four Resumptions and the Great Depression*, AIER, *Economic Education Bulletin*, vol. 40, no. 3 (March 2000), esp. p. 82.

[3] Under the Gold Reserve Act of 1934, the United States resumed international transactions in gold, but with the dollar devalued by Executive Order to 59 percent of its former value against gold (from $20.67 to $35 per ounce).

COMMENTARY

Gerald P. O'Driscoll, Jr.

LARRY White provides an excellent framework for more detailed discussions that will come, although his model is underspecified. He wants to solve for the dollar price of gold as well as its value relative to other commodities. Another problem is his assumption that the Treasury won't dump gold if the market price exceeds the resumption price, when it is likely to behave like any other monopolist. He assumes that the market will voluntarily abandon the dollar even though the man on the street has gotten used to the Greenspan standard.

Professor Schwartz provides us with important insights concerning the ill-fated U.S. Gold Commission. She identifies a cause for the commission's failure: the lack of support from the Reagan Administration. In the process, she rebuts a longstanding charge that her hostility to gold prevented serious consideration of a gold alternative. Instead, she points to the disunity among the advocates of gold on the commission.

Schwartz's recollections are important for understanding why the commission was so ineffective. They are more than an exercise in the history. Diagnosing a commission's failure also provides important information for those attempting to design a successful commission in the future.

The absence of support from the Reagan Administration may surprise some. It shouldn't. If one examines *Reagan In His Own Hand*, there is not even an entry for gold in the index.[1] That volume contains hundreds of speeches, columns, radio addresses, etc., written by Ronald Reagan between 1925 and 1994. He certainly addressed inflation, budget deficits, and other economic issues. He hated inflation and believed that reigning in federal spending was critical to ending it. The technicalities of monetary policy he seemed prepared to leave to experts.

We must also remember the delicate state of the U.S. economy when Reagan took office. He was determined to implement dramatic tax cuts, while needing to count on the Fed to sustain a tight monetary policy. Perhaps he felt that he could not afford to pick a fight with the central bank on which so much depended.

Whatever the reason, the Reagan Administration provided neither aid nor comfort to the small pro-gold faction on the Commission. It is perhaps a bit too facile, however, to identify the absence of presidential leadership as the critical factor in the commission's failure. Let us consider the situation under which another commission operated almost 20 years later.

Like the gold commission, the Meltzer Commission was also born in the battle over a quota increase for the International Monetary Fund. In the aftermath of the Asian financial crisis, the Clinton Administration applied to Congress for a quota increase. The Republican leadership in the House steadfastly opposed the increase. For many months, they resisted the usual arm-twisting by both the Administration and corporate interests. House Majority Leader Dick Armey was steadfast in his opposition, and was backed by an unusual coalition that included, importantly, Congressman Tom Campbell.[2] The IMF's record in Russia had turned Campbell into one of the strongest critics of the IMF.

Eventually a compromise was crafted in which the IMF got its money and the Republicans got a commission to re-examine all the Bretton Woods institutions. The environment in which the commission operated could not have been more hostile. The Clinton Administration obstructed the commission's work. Despite Administration opposition, however, the commission operated efficiently and effectively. Its recommendations, if not enacted into law, continue to frame the debate over the institutions. Two factors were responsible for the success of the Meltzer Commission:

1. The naming of a strong chairman, Professor Allan Meltzer, who was determined to use the commission to prod reform of the Bretton Woods institutions.

2. The leadership of Professor Jeffrey Sachs, who kept at least some of the Democrats on board for a reform program. On two important issues, there was unanimity in the recommendations. Despite occasional rancor, there was generally a good bipartisan spirit in the deliberations.

A strong chairman would seem to be more important for a commission's success than a nurturing presidential administration. Support for the commission's work from the House Republican leadership, and their staff, helped. Finally, the IMF's serial bumbling in Asia and Russia created a climate favorable to a serious debate. Meltzer seized the opportunity and drove the commission. A first-rate staff can support but not substitute for a strong chairman.

If, as Schwartz endorses, there is to be another gold commission, greater attention must be put into its composition. We should not lose a second opportunity, in her words, "to educate the public" and "the leaders of our political establishment" on how a gold standard works.

Endnotes

[1] Kiron K. Skinner, Annelise Anderson, and Martin Anderson, eds., *Re-*

agan In His Own Hand (2001).

[2] Campbell had both a Ph.D in economics and J.D. He was appointed one of the commissioners. Had he not taken up an unsuccessful Senate race, he would likely have been an influential member.

GENERAL DISCUSSION: FIRST SESSION

White: I doubt if a parallel private gold standard would develop. We certainly should dismantle any legal barriers, but does merely unbarring the door go far enough to restore gold to a monetary role, if we leave the fiat dollar in place? Due to the fiat dollar's advantage of incumbency, it will be very difficult for a parallel gold standard to achieve the critical mass necessary for gold to displace the fiat dollar as the predominant transactions medium. Granted, it will also be very difficult to muster the political support necessary to get Congress to redefine the dollar in terms of gold and retire the Federal Reserve note. A period of high dollar inflation may be practically necessary to generate the votes for such a move. Possibly the necessary inflation rate is so high that before it is reached a spontaneous shift over to gold would already have taken place. That belief may even be true. But because we don't know whether it is true, and because we would all prefer not to go through such a high inflation, we should not fatalistically stop trying to muster the political support for redefining the dollar in gold.

Hoskins: I don't see where gold fits into free banking.

White: Free banking as such is consistent with any form of basic money. You could have free banking on a gold standard, a silver standard, a multicommodity standard, or a fiat standard. In the historical competition among commodity monies, silver and gold are the standards on which market traders converged. They uniquely have track records as reliable market-based monetary standards.

Ron Phillips to White: What would bank assets be? Won't they be too risky without reserve requirements?

White: Under free (unprotected/unregulated) banking, the market forces banks to pay attention to their risk. They have to convince customers to bring them their money. In the absence of deposit insurance, bank asset portfolios would have to be safer and more liquid than banks currently hold, because riskier banks would have to pay higher deposit rates to attract funds. So long as banks can expect to be properly penalized for any breach of their redemption obligations, they will have the incentive to hold adequate liquid reserves.

O'Driscoll: We already have many of the elements of free banking, such as small reserves (with sweep accounts). They hold few long-term assets anymore.

Hoskins: The Fed needs "reputational credibility," which ought to be

attainable without gold.

Sylla: White said that the government could redefine the dollar in terms of gold. How would that be done and what would be the role of the central bank? Who would handle financial crises (be lender of last resort)? How would free banking handle that?

White: History shows that crises are fewer under free banking. In the U.S., where legal restrictions on banking made crises unnecessarily frequent and severe in the late nineteenth century (the National Banking laws restricted note-issue, branching, and reserve-holding in destabilizing ways), clearinghouses served as crisis managers and lenders of last resort. Less regulation in countries like Scotland and Canada contributed to stability there. A lender of last resort wasn't needed. Demands for central banks such as the Fed arose to correct the instability that was caused by regulation. In response to *Hoskins* concerning reputation, White asked: Where does the reputation come from? The gold standard is such a way. Unconstrained authorities will cash in their reputations.

Phillips: In the 1906 San Francisco earthquake, the local U. S. mint allowed banks to issue notes based on its coin.

Ferguson to White: Canada had a lot to do with New York. U.S. banks haven't shown much prudence.

White: Canadian banks used New York City banks as correspondents for clearing some payments, but they certainly didn't rely on New York for their stability. They didn't have any non-market lender of last resort in New York. There were no bailouts from New York.

Sylla: The small reserves of free Scottish banks may have been made possible by access to the Bank of England.

White: True, in the sense that smaller gold reserves can be held, the more readily the reserves can be replenished from the market. But the Bank of England was never a lender of last resort to Scotland during the free banking period. It wasn't even a lender of last resort to London banks before 1890.

Hoskins: Lenders of last resort may give the system time to respond. When the Fed refused Drexel's bailout, it was handled by private banks. Moral hazard is the great problem here.

Ed Thompson: Why not dispense with dollars, etc., and deal in weights of gold—obviating the need to consider the price of gold.

Todd asked *Fred Harwood* about the design of the coin on the program brochure, who said that his father had agreed to it only with the inscription:

"For integrity there is no substitute."

White: Setting the price of gold is a transitional problem.

Wood: Currency under the gold standard was a claim on a weight of gold, a $20 bill, for example, on an ounce (approximately).

CENTRAL BANKS AND RESTORATION OF THE GOLD STANDARD

H. David Willey

Introduction

OPERATION of a gold standard has required an official guarantor in each major gold standard country to assure convertibility of currency, deposits and non-gold coins into gold and vice versa. This has been true even when the holding of gold has been widespread among financial institutions and the public. The central bank, where existing or at such point as it was formed, has fulfilled this role as a natural counterpart of its control over the national currency.[1] Central bank powers have been used in ways helpful to the economy but at times harmful to it.

One attraction of the gold standard was the limitation it provided to harmful economic policy actions by the central bank or government. Such actions would lead to a gold outflow, which in principle would be countered by economic contraction. In practice, raising interest rates to attract flows of private capital, manipulating gold points or other measures often substituted for contraction (Bloomfield 1959). A gold reserve centrally held by the Treasury or central bank backed up a country's commitment to the gold standard and, if sufficient, provided leeway for policy actions that might at least temporarily avoid economic contraction.

While it is conceivable that currency, deposits and non-gold coins be 100 percent backed by gold reserves, such a restriction would provide no leeway for increasing the currency in case of need without purchase of additional gold and has been seen as expensive and unnecessary. Partial backing of currency by gold reserves has been sufficient to maintain public confidence in convertibility. Where a country has prescribed a fixed limit to the amount of currency that may be issued against the gold reserve, as in the Bank of England after 1844, provision has been made for lifting the limit in case of emergency.[2]

Until the First World War ended the classical gold standard, instances of temporary suspension of convertibility did not break the system because market participants believed convertibility would be soon restored.[3] Efforts to reintroduce a form of the gold standard in the 1920s foundered in the 1930s with the U.K.'s suspension of the gold standard and the U.S.'s dollar devaluation. The gold-dollar standard introduced after World War II ended in August 1971 with the U.S. suspension of gold sales to official institutions

In considering restoration of the gold standard, a major question is what

value of gold reserves would be required to build and maintain public confidence that conversion between gold and national money will not again break down. The value can be changed by the price set by official authorities for their purchases of gold. Too low a price would doom restoration from the start. Too high a price could offer authorities policy leeway that restoration would be intended to deny. Cooper suggests there may be no suitable price.[4] This paper attempts (1) to arrive at a hypothetical price for restoration by examining the relation between gold reserves and the money supply during the gold standard heyday and translating this relation to current circumstances, (2) to examine some consequences of applying this hypothetical price to U.S. gold reserves, and (3) to review what this price might mean for some other major currency areas. Also examined are some practical changes that might occur in the gold market and in official operations related to gold under a restored gold standard.

The relation in the United States, the United Kingdom and France between gold reserves and the money supply in the late 19th century and until World War I

In considering restoration of the gold standard, it seems only natural to look back to the years when gold was truly the monetary standard. In the late 19th century until World War I, the gold standard prevailed among most major trading countries. Like today, capital moved freely and in large flows. Unlike today, exchange rates were fixed by adherence to the gold standard.

To make the review more relevant to today's conditions, broad money supplies, rather than currency and coin alone that were the main focus earlier, are compared with gold reserves. The ratios in three countries are presented: the United States, because this is the focus of possible restoration, the United Kingdom, because this was the leading economic power at that time, and France, which was also a very important gold standard country. The experiences of these three countries offer a range of ratios that may be suggestive if the gold standard is to be restored.

The United States

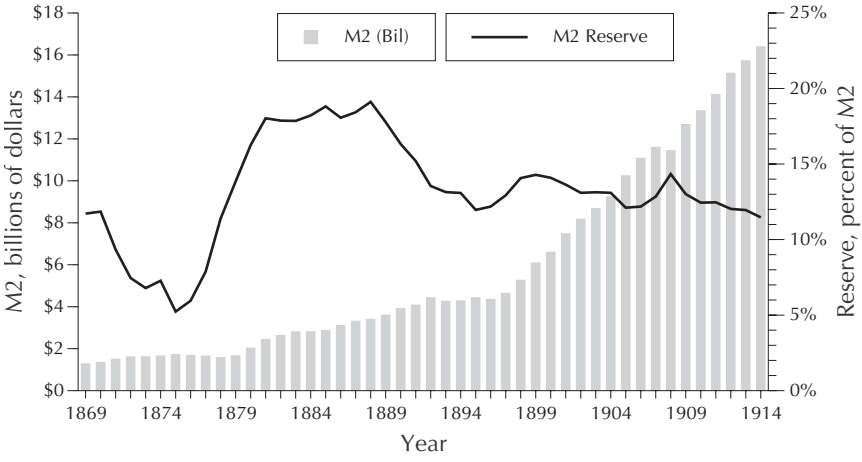
The gold standard in the United States was restored in 1879 after a hiatus dating from the Civil War. The gold standard was, however, mired in purchases by the Treasury of silver and accompanying minting and issue of silver coins mandated by the Bland-Allison Act of 1878 and the Sherman Act of 1890. The Congressional requirement stemmed from silver interests wishing to enhance demand for silver and from debtors in the West and South that favored a larger supply of money in the form of silver dollars of which the silver value was less than that of a gold dollar. (Laughlin 1897).

This legislation raised the question of U.S. commitment to the gold standard and made the Treasury's task of maintaining an adequate gold reserve very difficult.

The Treasury during these years saw a gold reserve of $100 million as a dangerous minimum. The gold reserve came close to this minimum in the years 1884-1886, but fell below the danger point in April 1893, as investors feared abandonment of the gold standard. In July of that year the "panic of 1893" broke out. In August a special session of Congress ended the silver purchase requirement, but a legacy of Treasury notes redeemable in gold or silver coin remained to weigh heavily on the gold reserve and to cast doubt on the country's ability to maintain the gold standard. In 1894 the gold reserve dipped below $100 million and by January 1895 fell to $68 million (Chernow 1990). President Cleveland turned to the Morgan and Rothschild firms for assistance. A Morgan-Rothschild syndicated gold bond issue in February strengthened Treasury gold reserves. The private sector was thus lender of last resort to the Treasury.

The yearly averages in Chart 1 do not reveal monthly low points in the gold reserve, but do show the decline in the percentage ratio of gold reserves to M2 (currency and coin plus demand and time deposits) after 1888. The decline ended at 12 percent in 1895 and was followed by a ratio that remained relatively stable despite the rising money supply. After the

Chart 1
United States: Money Supply and Gold Reserve Percentage 1869-1914



Source: U.S. Bureau of the Census, *Historical Statistics from Colonial Times to the Present.*

failure of a series of international conferences at which the United States sought acceptance of a bi-metallic, silver/gold standard, in 1900 the Gold Standard Act made the gold dollar the monetary unit of the United States.

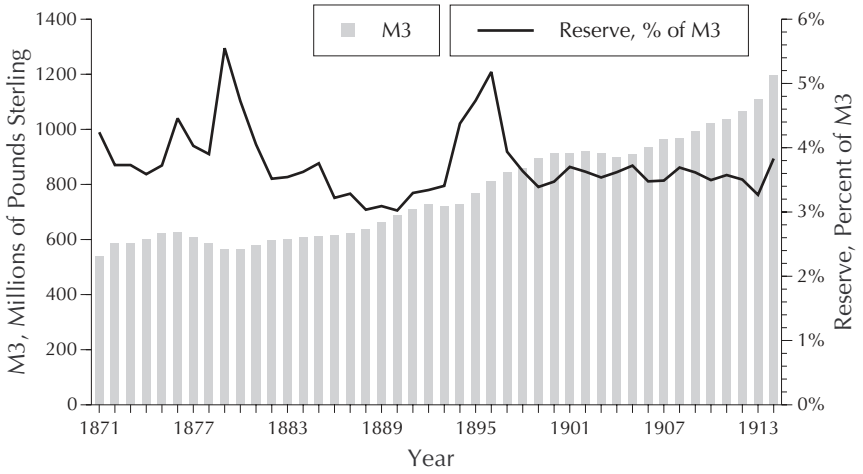
Had the gold reserve remained at what was seen as the dangerous minimum of $100 million, the resulting ratio given M2 expansion would have been 8 percent in 1869, 2 percent in 1900 and 1 percent in 1914. The ratio of about 12 percent would seem to have been adequate, once the worst threats to gold standard adherence had passed.

The United Kingdom

Unlike the United States, the English commitment to gold had been questioned only momentarily since the Act of 1819 authorized resumption of payments in gold, which had been suspended since 1797. Steps to free the gold reserve from statutory limitations were sufficient to allay panic in the crises of 1847, 1866 and 1914, while there was no strain on the gold reserve in the crisis of 1890. (Hawtrey 1923, pp. 81 and 324) There is thus little surprise in finding the Bank of England's gold reserve to broad money (M3) ratio of 3-5 percent for most of the late 19th century until 1914 to have been adequate. The ratio is shown in Chart 2.

As a postscript to this period, the ratio in 1925, when England resumed

Chart 2
United Kingdom: Money Supply and Gold Reserve Percentage 1871-1914



Source: B.R. Mitchell, *British Historical Statistics*. Cambridge: Cambridge University Press, 1988.

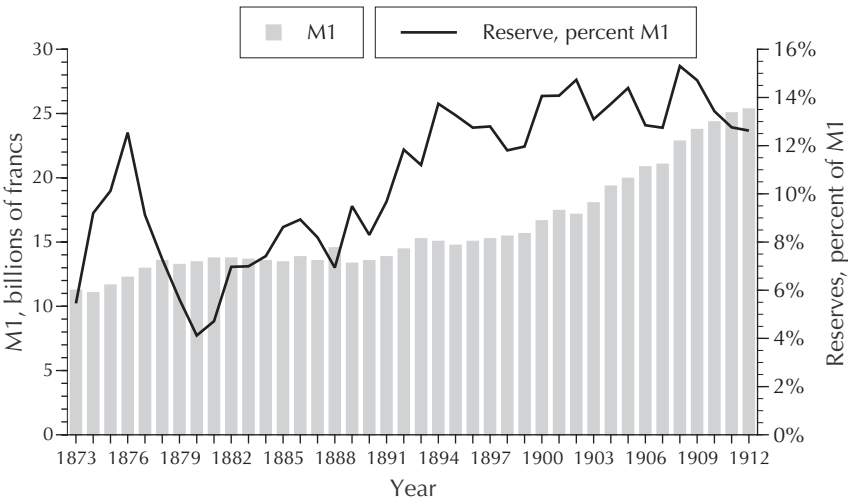
gold payments, was 6 percent and in 1931, when it left gold, was 5.5 percent. Clearly, what sufficed before World War I would not do after, when domestic and international tensions had become much more stressed.

France

During the greater part of the 19th century, France was on a bi-metallic standard of gold and silver at a ratio of 15.5 silver to 1 of gold. When an ounce of gold became more valuable in the bullion market than at the official mint ratio, gold was gradually withdrawn from circulation. Between 1820 and 1850, gold largely disappeared from circulation. The opposite of this process was also true. Discoveries of gold reversed this process so by 1865, silver rapidly disappeared from circulation. After the 1870 Franco Prussian war, as silver prices fell and Prussia announced in 1873 its decision to demonetize silver, France and other members of the Latin Monetary Union in 1874 fixed very limited quotas for the minting of silver into coins to stop the takeover by silver. France was sympathetic to U.S. proposals for an internationally agreed bi-metallic ratio, but monetary conferences in 1878 and 1881 failed to agree. France became de-facto a gold standard country and gold coins circulated.

The rise in French gold reserves was erratic, reflecting the 1870 defeat

Chart 3
France: Money Supply and Gold Reserve Percentage 1873-1912



Source: Gold reserves, Pierre Sicsic, Banque de France, unpublished letter, December 4, 1996. M1, Michèle Saint Marc, *Histoire monétaire de la France*, 1800-1980.

and ensuing large reparations to Prussia, civil war, emergence of the Third Republic, and a depression that began in 1875 and lasted until the late 1880s. The ratio to M1 rose in two decades before World War I to around 14 percent as may be seen from Chart 3.

France resumed the link with gold, broken at the onset of World War I, by 1928 at a parity reflecting changes in wages and prices since the pre-war period. The gold reserve at the end of 1928 was 32 percent, nearly the same as the 31 percent when France broke the link to gold again in 1936.[5]

The historical record of gold reserves to money in the pre World War I period thus ranges from around 5 percent in the U.K. to 14 percent in France, with the U.S. on the high side of the range at about 12 percent. The next section reviews a hypothetical gold ratio in the United States under current circumstances.

A hypothetical gold reserve ratio in the United States under current circumstances

The ability of private institutions and markets to move funds within and between countries is probably greater now than in pre-World War I times and money supplies are much larger and continue to grow and to flow quickly. Turnover in the foreign exchange market was running $1.2 trillion per day in April 2001, the latest survey date.[6] A further element in the current situation is the growing number of banks with capital of more than $100 billion, heralding the "age of banking titans."[7] Hedge funds and pension funds also command very large placements. To the ability of institutions and markets to challenge convertibility must be added the seeds of such a challenge in the huge and growing U.S. public debt. On April 14, 2004, this debt in hands of the public had grown to $4.2 trillion.[8] Foreign monetary authorities held a substantial share of the debt. Foreign exchange reserves in dollars, much of which are in the form of U.S. Treasury securities, totaled $1.4 trillion at the end of 2002.[9] The great growth of foreign exchange reserves in Mainland China (from $140 billion at the end of 1997 to $420 billion at the end of November 2003), and in Japan ($208 billion at the end of 1997 to $721 billion at the end of January 2004) shows increasing concentration that might one day prove unstable.[10]

U.S. Treasury debt would not be directly convertible into gold; it must first be sold for cash. Very large sales of Treasury securities for cash would be a problem in itself and could trigger wider apprehensions that could bring other dollar holders to convert their holdings to gold. Ultimately, it is the U.S. money supply, whether held by residents or non-residents, that presents a potential threat to the gold reserve.

The increase in the price of gold needed to raise the value of the current

gold reserves to a level sufficient to maintain confidence in the durability of a U.S. commitment to uphold a certain dollar price of gold would be quite large. As a starting point, a gold reserve of 10 percent, approximately midway between the high and low of historical experience reviewed in the previous section, does not seem unreasonable.

By September 2003 (the most recent data available at the time of writing[11]), money plus quasi money in the United States totaled $7,324.5 billion. The 261.56 million ounces of U.S. gold must be valued at a price of $2,800/ounce to provide the 10 percent hypothetical ratio. This price would raise the gold reserve value to $732 billion. The higher price implies a 7 times increase in the current market price of gold, and a 66 times increase in the book value price of $42.22/ounce. Raising the price of gold to $2,800 would in itself create an initial leeway for economic policy excess. The Treasury would be able to issue gold certificates to the Federal Reserve in the amount of the additional $721 billion in gold stock value and receive deposits at the Federal Reserve in return.

To maintain gold convertibility, the Treasury would be obligated to purchase gold offered to it. The $2,800/ounce price would surely lead to immediate sales of gold to the United States as gold holders sought to collect a windfall profit. This would further raise the value of the U.S. gold reserve and probably its percentage ratio to the money supply.

The Treasury could finance these purchases from current funds, borrowing, or issuance of gold certificates, all of which were done after the new official gold price of 1934.[12] Issuance of gold certificates would seem to be the inevitable primary method of finance, given the obligation to purchase all gold offered. Instead of increasing pressure on the U.S. Government to bring its budget more into balance by decreasing spending or increasing taxes, restoration of the gold standard could thus bring about very large additional government spending and additions to the money supply.

The Federal Reserve might attempt to sterilize Treasury actions through open market operations by selling U.S. Treasury securities, but the total amount of U.S. Treasury securities held outright by the Federal Reserve System on April 14, 2004 was $674 billion,[13] considerably less than the hypothetical revaluation of the gold reserve before considering the probability of additional gold purchases by the Treasury. To sterilize, the Federal Reserve would be forced to raise reserve requirements. An additional 15 percent in required reserves could sterilize some $670 billion at today's level of commercial bank deposits.[14] Higher reserve requirements would, however, impose heavy extra costs on the commercial banking system and constitute an undesirable competitive burden on U.S. banks that would reverse earlier Federal Reserve actions to minimize required reserves. The

higher hypothetical price of gold and convertibility requirement would in all probability be inflationary, at least at the outset. Perhaps, after the initial price rise and flurry of gold purchases by the Treasury, the restored gold standard would begin to play its expected role of restraint. The initial effects, however, might prove to be a long-lasting burden, as efforts to diminish the expanded money supply could take time to be fully effective.

A sharp rise in the gold price would have other consequences. Private flows into gold mining would be greatly encouraged and the equity values of mining companies would soar, both at the expense of other investments. Gold holders would be enriched, but users of gold for jewelry and industrial purposes would be severely penalized. As the U.S. bought gold from foreign holders, the sellers would presumably convert a part of the proceeds into other currencies, thereby tending to depress the exchange value of the dollar. With the probable ensuing U.S. inflation, there would be further downward pressure on the dollar.

Other countries, to prevent a rise in the exchange value of their currencies might resist this pressure by buying dollars and adding to their foreign exchange reserves. Or, they might themselves fix a not too unfavorable exchange ratio to the dollar by also restoring the gold standard. Their ability to do the latter would depend in part on the adequacy of their gold reserves. The next section examines hypothetical ratios for selected major currency areas.

Hypothetical gold reserve ratios for the European Monetary Union, the United Kingdom, Japan, China, and Switzerland

Consideration of gold reserve ratios under current circumstances for many countries is hypothetical in two senses: one, a gold price of $2,800 and two, an increased reliance on gold as an external reserve asset. In the latter respect, gold has been declining as an external reserve asset; the absolute number of ounces of official gold has fallen with official sales, while foreign exchange reserves have greatly increased. In March 2004, the European Central Bank, the twelve national central banks of the eurozone, the Swedish Riksbank, and the Swiss National Bank arrived at a new five-year agreement limiting sales from their gold reserves to 500 tons a year. This agreement succeeds the previous five-year agreement expiring in September 2004 limiting such sales to 400 tons per year. The purpose of these agreements has been to reassure the gold market that European central banks will sell only limited quantities, even though gold is no longer necessary as a component of central bank external reserves. The United Kingdom, which sold 395 tons under the earlier agreement, is not part of the new accord. Under the new agreement, it is possible that Germany and perhaps France and Italy will become important sellers.[15]

Table 1: **Hypothetical Gold to Money Ratios**

Area	*Date of data*	*Money definition*	*Percentage Ratio, Gold to money*
European Monetary Union	12/2003	M2	16
United Kingdom	12/2003	money+quasi money	1
Japan	12/2003	demand deposits+	1
Japan	12/2003	time deposits+CDs	1
China	11/2003	money+quasi money	2
Switzerland	12/2003	money+quasi money	46

Source: International Monetary Fund, *International Financial Statistics*

Despite gold sales under the earlier accord by central banks part of the European Monetary Union, their gold reserves remaining at the end of 2003 left them with a hypothetical ratio of gold to M2 of 16 percent, a higher ratio than that suggested above for the United States. There would thus seem to exist now the possibility for the European Monetary Union to join in restoring a gold standard. Further gold sales and increases in M2 would, of course, reduce this ratio. Whether the European Monetary Union would choose to establish a direct link between gold and the euro is another question. The Union's tolerance of dollar/euro rate changes would suggest that at this point it would choose to retain the flexibility of further exchange rate fluctuation rather than fix a dollar/euro rate through gold. Should, however, U.S. adoption of a gold standard result in a sizeable depreciation of the dollar, this opinion could change.

The other areas selected for comparison, displayed in Table show wide variation. Swiss gold sales, although large, have left that country with a hypothetical ratio of 46 percent at the end of 2003, while the U.K. and Japan would have only 1 percent, and China 2 percent. Switzerland, with its close ties to Union countries, might establish a gold link if the Union were also to do this, but such a link would appear to be out of the question for the U.K., Japan and China without great investment in adding to their gold reserves. In all likelihood, restoration of a gold standard in the United States would have at most a limited following from other major currency areas.

The higher gold price, however, would be world-wide, for the U.S. would stand ready to buy gold from all those willing to exchange gold for dollars. This higher, fixed price in dollars would have a number of practical consequences for gold markets and for the U.S. Federal Reserve.

Other, practical consequences of the hypothetical gold price

Raising the price of gold to $2,800 per ounce would greatly raise the value of the standard ways in which wholesale gold is held, 400-ounce

bars, 100-ounce bars, and taels, approximately 1.3 ounces, often used as "biscuit" bars of 5 taels. The 400-ounce bar with a purity of .995 gold is "good delivery" in the London market. Much central bank gold is held in this form. Gold held by foreign authorities under earmark at the Federal Reserve Bank of New York may be in the form of coin bars only approximating 400 ounces and with a much lesser purity. The 100-ounce bars are used for COMEX deliveries in New York. The tael is a common measure in Asia. At $2,800 per ounce, the 400-ounce bar would be approximately $1,120,000, the 100-ounce bar $280,000 and the biscuit $18,200.

To maintain the market, dealers would seemingly be forced to market gold of much lesser weight. An ounce of gold would be $2,800 and a tenth of an ounce $280. Very small weights would make gold coins impractical as a circulating medium, but gold might be readily saved in smaller weight forms.

The higher price of gold would make the cost of re-refining of coin bars into purer gold a smaller percentage of the bar value. Coin bars held at the Federal Reserve would probably be converted into London good delivery bars that would be weighed and stamped with individual weights. This process would upgrade the coin bars and make them eligible for transactions such as gold loans. Such upgrading of bars under earmark at the Federal Reserve could put great pressure on the Federal Reserve Bank of New York, which has limited space in its vaults for handling gold.

In the last decades, there has been a gradual migration of central bank coin bars from the New York Federal Reserve vaults to the Bank of England. These bars have been first re-refined into London good delivery form. Once at the Bank of England, the bars can readily be used for gold loans or sales. A higher price of gold would lessen gold held under earmark at the Federal Reserve Bank of New York through sales to the U.S. Treasury and migration to the Bank of England.

The Federal Reserve Bank of New York provides limited facilities for gold transactions. The Bank will allow gold accounts only for foreign monetary authorities and for banks that are members of the Federal Reserve System, not for other gold dealers in the U.S. markets. The Bank of England will accept a much broader range of accounts so that bars can be easily transferred from one dealer to another.

The private gold markets would become much different from those that exist today, because a fixed dollar price of gold would virtually eliminate the price volatility on which dollar-based dealer profits are largely dependent. There would be little need for a dollar/gold futures exchange, since tomorrow's price would be the same as today's. The wholesale market

might become more of a lending market, as gold with a fixed dollar value would be much like cash, and a distribution point for retailing gold in smaller weight formats.

Gold markets in currency areas that are not fixed in relation to the dollar or to gold would retain volatility that would make traditional dealer operations still useful. As the previous section suggests, this would be a large part of the world.

To facilitate these higher value gold transactions, automation would become essential. Gold transfers are much easier to effect through book entries than through physical delivery.

Conclusion

While restoration of the gold standard in the United States would be possible, the higher gold price needed for an adequate official reserve to assure convertibility would be disruptive and perhaps even contribute to economic policy profligacy. There would be little possibility of a worldwide gold standard restoration. With these prospects, restoring a gold standard in the United States would be hard to justify.

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Endnotes

[1] "An associated purpose for which these early Central Banks were founded was to unify what had become in some cases, e.g., in Germany, Switzerland, and Italy, a somewhat chaotic system of note issue, to centralize, manage and protect the metallic reserve of the country, and to facilitate and improve the payments system." Goodhart, 1988, p. 4-5.

[2] "It is true that the intention of Peel and of those who assisted him in framing the Act of 1844, was rather to prevent the use of an unlimited note issue to stimulate a credit expansion, but Peel himself admitted after the crisis of 1847 that its real merit was to be found in the accumulation and preservation of a large stock of gold which could be made available by a suspension of the Act." Hawtrey, 1923, p. 82.

[3] "Furthermore, we argue that the gold standard that prevailed before 1914 was a contingent rule. Under the rule, gold convertibility could be suspended in the event of a well-understood, exogenously produced emergency, such as a war, on the understanding that after the emergency had safely passed convertibility would be restored at the original parity. Market agents would regard successful adherence as evidence of a credible commitment and would allow the authorities access to seigniorage and bond finance at favorable terms." Bordo and Kydland, 1995.

[4] "Is there a price that just balances between these conflicting considerations—too low a gold stock to make continued convertibility credible, or such a high gold stock that it would exert no monetary discipline and de facto would be a regime of discretionary management? Conceivably there could be such a price, one that would persuade hoarders to disgorge enough gold such that a combination of the higher price and the enlarged quantity of monetary gold would make the system credible but not too undisci-

plined. But my guess is that there is no such price. The relevant public would be skeptical about continued convertibility up to quite a high price, and only then would be won over; but the price that would be persuasive would be too high to provide the discipline." Cooper, 1982, p. 32.

[5] The gold reserve figures for this calculation are from Board of Governors of the Federal Reserve System (1976). M1 is used because broader measures are not available for France for much of the period.

[6] Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity 2001.*

[7] Nicholson, Dayal and Viner (2004).

[8] U.S. Treasury.

[9] International Monetary Fund, *Annual Report 2003*, Attachment II, Appendix I

[10] Data from International Monetary Fund, *International Financial Statistics,* March 2004.

[11] International Monetary Fund, *International Financial Statistics.*

[12] Friedman and Schwartz (1963), p. 473.

[13] Federal Reserve System release H.4.1.

[14] Total deposits at U.S. commercial banks on April 7, 2004 were $4,473 billion. Federal Reserve System release H. 8 (510).

[15] *Financial Times*, March 9, 2004, p.5.

HOW TO INTRODUCE A SILVER COIN INTO CIRCULATION IN MEXICO: THE HYBRID COIN

Hugo Salinas Price

I am honored by the invitation of the American Institute for Economic Research, to present a paper on the subject "How to Introduce a Silver Coin into Circulation in Mexico."

I think I have discovered a means—perhaps the only means—by which a silver coin can be introduced into circulation in Mexico.

My discovery is applicable, I believe, not only in Mexico and with regard to a silver coin, but anywhere in the world where the requisite political will might exist to implement my plan; and further, all I have to say with regard to silver in Mexico is equally applicable to gold coins as well, anywhere in the world.

So, since this series of conferences at AIER is principally devoted to the problem of resumption of the use of gold as money, I must emphasize that while I speak of silver in Mexico, all I have to say can be interpreted as a plan for the reintroduction of gold as money, into the U.S.A.

My plan is the result of nine years of thinking about the problem of fiat money in Mexico. The last Mexican economic debacle of 1994-1995 prompted my search for monetary stability. Intuitively, I first thought of gold, but I reached the conclusion that the enmity of the United States and of the I.M.F. to the monetization of gold, would make that avenue a dead end. Therefore, I took the alternate route, the theme of monetizing silver, of which Mexico is the world's number one producer.

Mexico's history is inextricably linked to silver money, since silver minted in Mexico was the world's most important money for centuries. All of you know that the U.S. silver dollar, as defined in the Constitution, is based precisely on the characteristics of the "Ocho Reales" coin minted in Mexico.

The historical memory of our silver coinage is still with us. It was a popular coinage for everyday use, unlike the gold coin which was reserved for more important transactions, until U.S. pressure after the Spanish-American War forced Mexico onto the monometallic use of gold. I refer you to *Financial Missionaries to the World* by Emily S. Rosenberg for an account of that episode.

The Mexican audiences which I have addressed in the last nine years, have enthusiastically received my idea regarding the introduction of silver into circulation. It is too early to say whether or not, my plan will come to

fruition, but there are hopeful signs.

I believe that the only road to a monetary system which will permit the survival of industrial civilization, has something to do with retracing the steps that brought us to our present plight.

Paper money was introduced after real money existed. For a time, paper and gold and silver coin circulated together, side by side. The abuse of over-extending and mismatching credit finally resulted in the creation of such large amounts of paper money, that real money became an obstacle to further creation of the paper money required to keep an overextended credit system solvent, and so, real money was finally ousted and we are today, worldwide, struggling desperately with fiat paper money to keep our civilization working.

I believe that we must go back the way we came, by reintroducing real money to circulate in parallel with paper money.

I cannot imagine any country in the world, or any group of countries, reforming paper money and our banking systems as we know them, and reinstituting gold or silver coinage and bills redeemable for metal at sight.

I do not believe that the world's monetary and financial system can be reformed; any attempt at reform would decimate the world's economic activity instantly. There is no alternative: we have to let the world's monetary and financial system proceed to its own destruction; we cannot "go back to gold."

What we must therefore strive for, as soon as possible, is the reintroduction of silver or gold—or even both—to circulate in parallel, along with the fiat paper money we presently use everywhere. Eventually, the world fiat money system will destroy itself through its own inherent defects. Humanity has selected gold and silver as money. No other metals or objects have served humanity as well. The precious metals will never be supplanted by fiat money. The fiat money time we are living in, is an aberration in an instant in human history which will soon pass.

Once silver and gold, or either one, in whatever quantity, is in circulation in parallel with paper money, a number of beneficent things will begin to happen. These things will further enhance the attraction of the precious metals as money, reinforcing the movement towards real money.

Slowly, the world might begin to regain its monetary and financial composure, after the paper orgy of the past hundred years, with paper issue tamed and civilized by the presence of gold or silver circulating in parallel with it.

Is there a political will to implement my plan anywhere in the world? That I do not know. I do have the conviction, that the plan I propose will work, that silver in Mexico, or gold in the United States or Europe or anywhere else, can be brought into circulation in parallel with paper money.

At the present time, it is becoming increasingly clear that the present monetary and financial paradigm based on fiduciary money is close to coming to a catastrophic end. There exists international concern which heightens day by day. It is imperative to effect significant change and to restore sound money, on which the very survival of our industrial civilization depends. However, how to get there from here, is by no means clear.

I believe my plan offers a viable way to "get there from here." It does not address the reform of the present worldwide system of fiduciary money. It outflanks the problem by resorting to the introduction into circulation of real money, in parallel with fiduciary media. It is my fond hope that other minds interested in the vital subject of sound money, may find some inspiration in what I present, and that better minds than mine may wish to focus their political efforts and monetary research along the line I am sketching, sharing my conviction that it is the way forward to viable change.

In my view, *when silver coinage is introduced into circulation, the idea that silver coins can be money becomes an enormously important and irrefutable fact.* The precious metals are painted as "antiquated," superseded by technology and modern finance; those of us who insist on gold are derisively labeled "goldbugs;" however, as soon as we are able to put silver or gold into circulation in parallel with paper, all those arguments crash, faced with the fact that silver or gold can and do circulate in parallel with paper, and actually receive the total approval of the population. It is vital to remove the intellectual obstacle to a return to sound money that is based on the simple fact that silver or gold are not in use.

As in all things that are to work naturally and automatically among millions of human beings, simplicity is essential.

The plan I propose is quite simple.

Here is my plan, as it stands for Mexico:

1. The one troy ounce pure silver coin minted by the Mexican Mint, which is currently an official coin with certain quite limited legal tender characteristics, and which is one of the "Libertad" series of silver coins, will be selected as the coin to circulate in parallel with paper (fiduciary) pesos. This coin has *no nominal value engraved upon it.* This is an essential characteristic of any coin that is to circulate in parallel with paper money.

2. The Mexican Central Bank will issue a daily quote on the full legal tender value of the one ounce "Libertad" coin, expressed in fiduciary pesos. At its quoted legal tender value, the coin is good for all types of payments, without discount of any sort.

3. The Mexican Central Bank will not reduce any quoted value of the "Libertad" ounce in fiduciary pesos, in any future quote. Successive quotes may stipulate a higher value in fiduciary pesos; or, there may no change in a quote for a period of time; but in any case, there will never be a lower quote for the "Libertad" ounce.

Such is my plan for the introduction of silver into circulation in Mexico.

What follows is an explanation of the three points I have mentioned, and some opinions with regard to consequences which might be foreseen.

The coin must have no nominal value. In our paper money universe, with bills distinguished mainly by the numbers printed upon them, to engrave a precious metal coin with a value which is expressed in terms of paper money, is to condemn the coin to disappear from circulation. This will occur with complete certainty, the moment that the market price of the precious metal in the coin approximates or surpasses the engraved paper money value. At that moment, the coins will be gathered for melting into bars which are worth more, in paper money, than the total engraved paper money value of the coins.

Nominal value coins are static in value. They cannot float in a universe of paper money which is inflating. It is indispensable that the legal tender value of a precious metal coin must be *a floating value*. Only a precious metal coin of floating value can remain indefinitely in circulation, along with paper. The gold and silver coins that were displaced by paper, all had values engraved upon them—that is why they disappeared.

Another point is that the coin to be selected for use as money, must be of a weight, or a fraction of a weight that is defined by the system of weights and measures. The troy ounce is such a weight. A half, a quarter, a fifth, a tenth or twentieth of a troy ounce might be monetized, instead of the full troy ounce. It would not be possible to monetize more than one unit at a time. What must be avoided is the monetization of a coin called "the silver peso," with a definition of its weight, for the simple reason that it is all too easy to change the definition. A troy ounce or fraction thereof, will always be the same weight.

The reason I selected the full troy ounce "Libertad" coin for monetization, is that there exist in the hands of the Mexican population, well over 20 million "Libertad" coins. It is good to start from something already in

place.

If the price of silver were to rise to unsuspected heights, then later, the new coin to be monetized and quoted, might be the one-tenth of a troy ounce coin, which incidentally, already exists. The full ounce coin would not be demonetized formally; I believe it would continue to function monetarily, as a multiple of the smaller, quoted coin. However, the legal unit would in this case, be the smaller, one-tenth ounce coin.

My plan calls for the monetization of only one coin, not for a set of coins; for the same reason that the U.S. Constitution defines only one unit of precious metal as the "coin of the realm"—the silver dollar.

The Mexican Central Bank, Banco de México, S.A., is to quote a legal tender value for the "Libertad" coin. I have suggested a method by which a quote could be determined, but this suggested method is optional and can be modified to suit the convenience of the Central Bank.

Basically, the coin should be quoted starting from the international price of silver; the source of that international price is optional. The international price must then be translated to Mexican fiduciary pesos, according to the rate of exchange prevailing at that date.

The Banco de México will wish to cover its minting costs and also, obtain a reasonable seignorage. After these have been worked into the quote, the quote should be rounded up to the nearest higher figure which is a multiple of five. (We cannot expect the populace to remember the day's quote if it is such a number as $107.43 pesos, nor to use such a figure in payments made or received.)

How high should the seignorage be? It should be a reasonable seignorage. Not more than 10 percent, I would venture to suggest.

The Central Bank quote of the silver "Libertad" ounce will overvalue the coin, in terms of silver bars. This should be the case, in order to ensure that the coined silver remains in Mexico. The coined silver will purchase more in Mexico, than it will in the U.S., because the "Libertad" ounce will be legal tender in Mexico, but not in the U.S., where it will simply be a silver coin and valued as such.

However, I should note that even with overvaluation, a not inconsiderable number of people in the U.S. may want to acquire this coin, since it will be legal tender in Mexico, with a floating value which is constructed upon the dollar (or euro) value of silver, and which floating value cannot be reduced. I leave to your imaginations, the attractiveness of such a coin for Americans.

No subsequent quote can reduce the value of a prior quote. This is an intriguing point which has caused criticism, due to lack of understanding.

The silver ounce "Libertad" coin would be what I have decided to call a *hybrid coin.*

There has never been a hybrid coin in the history of the world. But then, the world has never in its history been in thrall to paper money, as it is today.

The "Libertad" would be a hybrid coin, because some of its qualities would derive from its precious metal content, and some of its qualities would be shared with fiduciary money—not surprisingly, if it is to circulate in parallel with fiduciary money.

When the international price of silver goes up in dollars, or pounds, or euros, whatever the base chosen for the quote; or whenever the fiduciary peso falls in value with regard to the dollar or other chosen base currency, the quoted legal tender value of the "Libertad" goes up. It will not go up for small changes, because the quote contains certain buffers: the seignorage and the rounding up to the nearest multiple of five are buffers which absorb small changes in silver prices and small changes in exchange rate of the peso.

In going up this way, the "Libertad" is acting like a *commodity coin*.

However, when the international price of silver falls, or when the exchange rate of the peso strengthens, the quoted legal tender value of the "Libertad" does not fall. As in the case of any printed bill anywhere in the world, whatever happens to the exchange rate does not affect the legal tender value of the printed bill, nor the quoted value of the "Libertad" coin. The printed peso bill may buy more, if the exchange rate strengthens, but the legal tender value is still, for example, One Hundred Pesos.

The same situation applies to fiduciary coinage. We have coins for one peso, for five, ten, twenty and fifty pesos, but they do not lose a part of their legal tender value, because the peso price of nickel or copper or whatever other metal they are made of, has fallen. Similarly, if the peso price of the silver contained in the "Libertad" coin falls, whether due to an increase in foreign exchange value of the peso, or to a fall in the international price of silver, the quote established for the coin does not diminish.

In retaining its legal tender value this way, the "Libertad" is acting like *fiduciary money.*

In order for a precious metal coin to circulate permanently alongside of fiduciary money, it *must* be a hybrid coin. It can go up in purchasing

power, like a commodity coin; but like fiduciary money, it retains its legal tender value when the metal it contains goes down in price or when the exchange rate of the medium in which it circulates appreciates. It is a hybrid coin, it has a double nature.

We have an abundance of commodity coins, but they are not money. Holding them may be a good speculation on future purchasing power, but it is still speculation. Some people like to speculate, but the mass of any population does not wish to speculate. The vast majority of individuals cannot, under any circumstances, accept in payment, without question, a coin whose legal tender value may diminish tomorrow.

For the commodity coin to turn into *money*, it must have a quoted legal tender value which must not diminish, like fiduciary bills and coins. Unlike fiduciary bills and coins, the commodity coin which has become money must appreciate in legal tender value, when the metal it contains goes up in value or when the fiduciary money amongst which it circulates, falls in exchange rate. Otherwise, that coin is headed for extinction at the smelter.

I repeat the three steps to introducing a precious metal coin into circulation:

1. No nominal value. A recognized unit of weight, or fraction thereof.

2. A quote by the Central Bank which gives it full legal tender value.

3. No subsequent quote can diminish the previous quote.

Now you know the substance of my plan for the reintroduction of silver into circulation in Mexico. I think you will agree it is a simple plan. The Banco de México quotes a daily price for the U.S. Dollar. I cannot see why it should be so difficult to quote a full legal tender value for the "Libertad" ounce. Given a method, any subordinate employee may carry out this quote function quite easily, and communicate it to all the banking system and the media, for its communication to the population.

A few people may make the mistake of using the quoted coin, with a previous, lower quote, to their loss. But they will soon learn to avoid such losses. Such people can also make the mistake of using their dollars at less than their present worth in pesos. Such mistakes are totally inconsequential, except to the individuals concerned—and they quickly learn not to make those mistakes.

The reintroduction of silver into circulation in Mexico, would make it the first country in the world to have in circulation, simultaneously, two monies of different quality. The fiduciary peso on the one hand, with no quality whatsoever (it is simply a digit, like the dollar) and the "Libertad"

ounce on the other hand. It is my opinion that the first country in the world to carry out such a reintroduction of precious metal into circulation, will acquire enormous prestige and will soon be imitated by other countries.

I can visualize an enormous demand for this silver coin turned into money. The holder of the "Libertad" ounce is no longer speculating on a future appreciation of his ounce. He owns a coin which is money, and which will not diminish in legal tender value, and which has the possibility of rising in tandem with any possible rise in the price of silver.

Unless the demand for the coin were fully satisfied by the Banco de México, there would probably arise a parallel market for the coin. Its advantage of being an undevaluable coin would cause such a demand for it, that people would be willing to pay more than the legal tender value of the coin, in order to possess it. In order to bring the parallel market price for the coin down to its legal tender value, the Banco de México would be compelled to coin large quantities of this coin.

Our monetary inflation in Mexico is considerable. In the past eight years, from December 1995 to December 2003, according to Banco de México figures, the quantity of M1 has increased five times. This is mainly because of the influx of dollars coming in from the U.S. Whatever the cause, the increase in M1 need not come about as a result of silver coinage going up in quoted legal tender value. If the coins go up in value, the quantity of additional fiduciary media put into circulation might easily be reduced to accommodate the silver money. If we are necessarily going to have an increasing M1, why not make a substantial part of it, "Libertad" coins with full legal tender value?

The internal market for the silver "Libertad" ounce could be in the hundreds of millions of ounces.

How would the Central Bank know when the market was saturated? The clear sign would be, when people begin to return silver coin to the banks for deposit or transfers. When the banks report that they have sufficient silver coins on hand for their operations, the market is saturated.

It seems to me, that it is necessary to understand clearly, that savings—that indispensable fount of future wellbeing—do not and should not require interest on the savings, to seduce people into saving. People will save—some of them more disposed by nature to save than others—when what is saved is worth saving. That savings should be motivated by a corresponding interest earned, is a vicious idea. Savings are their own reward—the knowledge that one is secure in one's future, is a great reward. No further reward is necessary, if the medium for saving is worthwhile.

Mexico is a country that needs savings, but our peso does not satisfy us. We turn to other money, for instance the U.S. dollar, for savings. Or, we require high interest payments on short-term or even sight deposits. Clearly, this a requirement impossible to satisfy in reality. No stable and serious financial system can provide high interest on short-term or sight deposits. Financial breakdown is guaranteed, in time.

The "Libertad" ounce, turned into money, would be a powerful incentive to savings, indeed.

By exporting our silver as a raw material, Mexico is doing itself great harm. It has at hand, the means to create for itself, the best money in the world, which can circulate in parallel with its fiduciary money. But this has not been done. We are depriving ourselves of the possibility of possessing real wealth in the form of our money, a wealth that can increase if silver prices go up in the world.

Our fiduciary money can proceed as it has been proceeding, buttressed perhaps by the prestige of the silver which circulates alongside it. Eventually, all fiduciary money all over the world, will turn to dust. The silver "Libertad" ounce with no nominal value, will be in existence for centuries to come, when our turbulent times are chronicled in dusty libraries.

One thing that could not be done with the monetized silver "Libertad" coin, would be to denominate credit contracts in "Libertad" coins. Borrowers would be going short silver in accepting loans denominated in "Libertad", and lenders would be going long. The predictable result would be, an inability on the part of borrowers, to return "Libertad" coins in payment. The lenders would find themselves unable to collect.

Therefore, the contractual vehicle must continue to be the Mexican fiduciary peso, exclusively.

Only at a much later date, invisible in our time horizon, would it be possible to think of a Mexican peso fully convertible at a given rate. Perhaps, given our experience with human frailty, the attempt at full convertibility at a given rate would prove disastrous. Our whole world is based on credit expansion and credit mismatch. We cannot change that, without changing our whole world. For practical purposes the silver "Libertad" would be, for a very long time, a vehicle for savings on a personal level, perhaps on a corporate level as well, and for payments in day to day needs.

Banking systems the world over, are allergic to real money. If they are obligated to turn to real money for denominating loans, they collapse and with them, our industrial world. It is essential to their life, to borrow short and lend long, and to continually expand loans outstanding. They cannot

be saved in their present state.

Therefore, let us allow the paper, fiduciary money games to go on. Credit contracts will be denominated in pesos, not in "Libertad" ounces, except for the imprudence of those who dare to do otherwise.

Personal savings in silver "Libertad" ounces would be secure, to be mobilized by the individual at his discretion, for whatever he might deem important enough to mobilize his savings, be it ordinary purchases, emergencies, or investments for the purchase of capital goods.

Another doubt which I have heard expressed, regarding the possibility of having silver circulate in parallel with fiduciary money, is that "the silver will be hoarded."

Of course it will be hoarded! That is just another name for savings. Those that do not want the people to have their own savings in their own custody, are the banks, of course. They want deposits! They do not want people to hold on to their savings in the form of silver coins. They want to have the people deposit their savings in the banks, so they can lend the savings and make money for themselves on the interest charged. They are against any alternative for people, regarding savings.

The beauty of the hybrid coin, is that the hoarding or saving is done is with a coin that is spendable with a known legal tender value. This saving is not a speculation; as I have said, people in general are averse to speculating with the value of their wages or profits. Hoarding silver or gold commodity coins is a good speculation, in my view. But few people want to speculate in this way. If the silver coin is money, spendable at any moment for an emergency or for any other reason, saving silver "Libertad" ounces becomes a very different matter. That a coin is hoarded does not mean it is "out of circulation." It certainly is in circulation. The owner knows at any moment how many coins he owns, and their exact legal tender value. His coins will be spent, when he decides to spend.

There is a limit to the aggregate amount of hoarding or saving that any community wishes to effect. Some peoples are more disposed to save than others. When individuals in Mexico decide that their savings of "Libertad" coins are sufficient for their needs, they will begin to spend the additional "Libertad" coins that come into their possession, along with fiduciary bills.

This is when the banks will notice that silver coins come back to them just as fast as they pay them out. At that point, the Central Bank can suspend further coinage of "Libertad" coins, until demand increases again. That moment, I am quite sure, would not be reached until after decades of coining the "Libertad" ounce.

How would the introduction of silver into circulation affect the banking system? This is a question which invites further study. I shall only point out, for the sake of brevity, that this is not a "silver problem;" it is a "banking problem" that might be likened to a flight from pesos into some foreign currency.

At first sight, there might be two ways to stanch the flight.

The first is that the Central Bank would determine the quantity of silver to be minted. This is not a plan for the free coinage of silver.

The second is that interest rates might compensate the saver for not saving in silver.

Would the monetization of the silver "Libertad" ounce be inflationary? This point has no practical significance at present, and will not have it for the foreseeable future. Mexico is on a fiduciary peso system which is a derivative of the dollar. We are importing American monetary inflation whether we like it or not. It cannot be avoided, because our Central Bank produces monetary inflation when it acquires additional dollars for its reserves. Our banking system, like all others around the globe, functions by borrowing long and lending short, and this inherently requires the creation of additional money to remain solvent.

However, the quality of the silver ounce as money precludes, I believe, any impact on rising prices from the coinage of silver, because people would be saving most coins that would come into their hands. When, as I have said, the impulse to save has been satisfied—something that will take some doing—then we might see the coin used in everyday commerce. However, until that happened, we would not feel any inflationary pressure beyond what we already suffer, since we are on a monetary system which is inherently inflationary. When the Mexican population's need for silver is satisfied, the next point becomes interesting.

The Mexican fiduciary peso, unlike the dollar, has no "international passport." It cannot travel. Fiduciary pesos created, exert their inflationary influence in Mexico, they do not go abroad like dollars. The silver ounce can acquire an international passport. The outlet for additional coinage of silver, could be once again, what it was one hundred years ago: payments for foreign purchases.

The monetary use of the "Libertad" coin need not be necessarily limited to Mexico. If the Banco de Mexico in the future were to gradually reduce the overvaluation of the silver coin to a point slightly over par with silver bars, then I suspect that Mexico might offer payments in silver to cover part of its imports. This is still in the distant future, but for the sake of

argument, I doubt that payment in monetized silver would be rejected internationally. This was *made* a problem one hundred years ago, and served to pressure Mexico and Latin America to abandon the monetization of silver and go to gold, in line with London and New York, to the great detriment of all Latin America.

At present, savers in Mexico are the victims of the same "Catch 22" situation that prevails around the world. If your country's Central Bank has too many dollars in reserves, it is inflating your pesos, and prices will go up in your country; eventually your industry is priced out by foreign competition. Your savings will eventually have to be devalued.

If your country's Central Bank does not acquire more dollar reserves, your money will go up in value as the dollars are sold in the internal market, and so your country's export markets disappear. Your savings will eventually have to be devalued.

Silver coinage represents real wealth in the hands of its owner. Silver coinage is oblivious to any question of reserves, of good or bad politics, of intelligent or inept management. It is an alternative to the pernicious dollar reserve system that prevails.

There are other possible effects of silver in circulation, which might merit the attention of those interested in a theoretical analysis. I can only sketch the outline.

Mexico has, like so many other countries in the world, striven to create industries as a means of creating jobs.

In order for Mexican industries to achieve significant size, they have had to resort to borrowing dollars. In order to obtain dollar credits, they have had to demonstrate a capability of earning dollar income, and thus, they are naturally oriented primarily to serving an export market, not an internal market.

If there were an important amount of silver in the hands of the public, providing this public with goods produced in Mexico might become more attractive to Mexican industries, than it is at present. Why seek dollar payment, when the silver "Libertad" ounce is a superior currency?

Silver in the hands of the public in significant quantities, strengthens the internal market. In the case of a collapse of exports, which would surely come with a collapse of the dollar and international trade, we could count on the support of an internal market ready to pay with silver. The world relies far more than is healthy on exports.

Argentina is an excellent warning about what can happen to the popula-

tion of a country that is left without sound currency. At one point in recent years, 18 different kinds of scrip were invented, to keep production moving to consumers. Why expose ourselves to such an ordeal?

In my view, the best protective action that can be taken to minimize the danger of a collapse of exports is to place important amounts of silver in circulation, at once.

I invite those interested in the subject, to delve further into this theme.

How high might the price of silver go, if this plan were adopted? No one knows, but I think it likely that the creation of a new and vast market for silver as money, would probably exert an upward influence on international silver prices. This would certainly benefit Mexico, which has been exporting its precious silver at extremely low prices for many decades, to the detriment of its mining sector and Mexicans in general. I can easily imagine the silver "Libertad" worth $100 U.S. dollars in present day dollars.

What if there were a speculative spike in silver prices, like that produced by the Hunt brothers' speculations of the 80's? Would the silver ounce receive an unrealistic legal tender value as the price went skyward? What happens when the price collapses?

The Central Bank need not be hasty. It can take its time, if in doubt, about issuing a higher legal tender value quote. If the price of silver left the quote of the "Libertad" far behind, some people would begin to sell their ounces to entrepreneurs who would melt them down for sale as high-priced bullion. But it would certainly take a long time for this activity to impact seriously on the stock of silver in the hands of the public. Most people might well decide to hold on to their "Libertad" coins, expecting a new, higher quote in due course.

The Central Bank, faced with the emergence of a speculative bubble in the price of silver, could delay a new and higher quote until it became clear that a new and higher price of silver was in place. Then it would issue a new quote.

If the price of silver should fall precipitously, nothing at all would happen. The silver coin would continue in use, with a lower value for its silver content, but not for its legal tender value. If anything, the Banco de México would derive a higher seignorage from further minting of "Libertad" ounces. Certainly, no one would turn in their coins because the price of silver had fallen. If anyone wished to speculate on a new rise in the price of silver, they would turn in their paper pesos to do this—something which they can do at any time, at present, in any event.

In the coming world monetary, financial and economic debacle, perhaps silver payment might become acceptable internationally. In this case, I can imagine that all of Mexico's silver might be directed to coinage, for an indefinite period. Present production is over 2,000 tonnes per annum. Reserves in the ground are ample.

In conclusion:

I believe my plan makes it possible to place silver coinage in circulation in Mexico in parallel with fiduciary money.

If at the present time, it is not politically feasible to carry out this plan, a hyperinflationary situation might change the attitude of the monetary authority. It is convenient to have a well thought-out plan held in reserve for such a terrible emergency. Silver circulating in parallel with hyperinflating paper, might serve to stem the destructive tide.

A country where the savings of the people are not only in banking deposits, but in silver coins, usable as money, held at home or in other secure places, is a happy country.

A satisfied population has less incentive to revolution and less incentive to emigration to the U.S. Tranquility and enjoyment of life as Mexicans understand it becomes possible, along with political stability, financial security at the home level and pride in their country. And besides this, a plethora of other blessings too numerous to mention.

I thank you all for your kind attention.

GENERAL DISCUSSION: SECOND SESSION

Ferguson on Willey's paper: Good regulation is important but you can't get away from discretion. Gold standard questions are worth pondering but people are involved.

Todd on Salinas Price's paper: Grupo Elektra has a contract with the central bank to buy silver and distributes the coin through its retail stores. The arts medallions recommended by the Gold Commission failed because they were cumbersome to acquire. Salinas Price deserves high marks for his market distribution of a good currency. However, although his guarantee against the downward revision of the value of the Libertad coin may not be a problem in Mexico, it is probably not a characteristic transferable to the U. S.

Gedeon on Willey: He supports the free banking idea of no reserve requirements, which is part of the withering away of the Federal Reserve. However, why did Willey mention the age of titans – the concentration of the banking industry? Wouldn't unregulated concentration lead to rigidity and exploitive interest rates? Wouldn't oligopolistic banking restrict money, leading to deflation? How would a free-banking system respond to a trade deficit leading to a loss of gold and public runs in anticipation of that?

Willey: A guaranteed one-way price change of the Libertad would lead to hoarding.

Willey to Gedeon: He hadn't thought about free banking but large banks might attack the gold value. Therefore a central reserve that guarantees the reserve ratio is needed.

White rejected the first sentence of Willey's paper, saying that many countries have had a gold standard without a central bank.

O'Driscoll did not believe there would be a lack of competition among free banks.

Wood referred to the large literature on the inability of the few large New York banks to agree on deposit rates in the 19th century through the 1920s.

Sylla noted from the day's paper that inflationary expectations as measured by Treasury Inflation-Indexed Securities are at an all-time high (since their introduction in 1997).

Wright said there was at least one instance in which fiat currency and silver money circulated together: the middle colonies of the U. S. Is the

Libertad defined by its legal-tender status or its silver content? Silver could be extracted.

White was troubled by restrictions in the Salinas Price plan. The legal tender aspect forces people to accept it. Contracts required to be written in pesos would seem to prevent the development of the Libertad.

After the conference ended, Hugo Salinas Price provided written response to questions and comments:

Mr. Todd said that "although the guarantee against the downward revision of the value of the Libertad coin may not be a problem in Mexico, it is probably not a characteristic transferable to the U.S."

My reply: Since I am not advocating the introduction of real money into circulation in parallel with fiduciary paper in the United States, whether or not this can be accomplished in the United States, is a question for others to examine.

Mr. Willey observed that "a guaranteed one-way price change of the Libertad would lead to hoarding."

My reply: First, please note that the correct term Mr. Willey should have used, is not "price" but "legal tender value." The aim of my plan is to give the Libertad coin a floating legal tender value; thus, it becomes part of the monetary system. It becomes money.

As to Mr. Willey's statement that it would "lead to hoarding." Yes, I most certainly agree. Hoarding is but another name for saving. The monetized Libertad would be a powerful incentive to saving, wellspring of all future improvement in the standard of living.

Hoards of Libertad coins—or, in future, Libertad certificates—could be used as collateral for bank loans in fiduciary pesos by both individuals and corporations. The monetized Libertad ounce need not remain secreted away in "hoards." It would be a most acceptable form of collateral, due to its characteristic of being "ready money."

Mr. Wright asked, "Is the Libertad defined by its legal-tender status or its silver content? Silver could be extracted."

My reply: The Libertad, monetized according to my plan, would be a hybrid coin. Its legal tender value in fiduciary pesos (which would continue to be the unit of account of the Mexican monetary system) would float upwards with rises in the international price of silver expressed in pesos, as do commodity coins, but remain at the last quoted legal tender

value, in the event of a fall in the international price of silver expressed in pesos, as do fiduciary coins in the Mexican monetary system. Perhaps Mr. Wright might provide a definition himself.

As to Mr. Wright's affirmation that "Silver could be extracted." I take this to mean that the coins might be melted down for their silver content. If this is what Mr. Wright means, I must reply that there would be no point in melting down the coins, as their legal tender value would always be superior to their value as bullion, precisely because the monetized Libertad would have a floating legal tender value, slightly overvaluing the silver content, under my plan.

Mr. White states that he "is troubled by restrictions in the Salinas Price plan. The legal tender aspect forces people to accept it. Contracts required to be written in pesos would seem to prevent the development of the Libertad."

My reply: "The legal tender aspect forces people to accept it." The statement implies that people might not wish to accept it, but would have to do so against their will. In the first place I should point out that all over the world, people are forced by the legal system under which they happen to live, to accept in payment the money which is legal tender in their country. All legal tender money is today, money under forced circulation in each country. So there is no special case of forcing people to accept it, in the case of the Libertad with a quoted legal tender value.

In the second place, I should point out that individuals will most happily accept this monetized Libertad coin in payment at the quoted legal tender value, because this coin, due to its silver content, will float along with the international price of silver expressed in pesos, which thus makes it highly desirable to own.

Mr. White further said that "Contracts required to be written in pesos would seem to prevent the development of the Libertad." Indeed, the purpose of monetizing the Libertad under my plan, is primarily to further savings by protecting them against the depreciation of fiduciary money. The Mexican people have been impoverished by the depreciation of their fiduciary peso. The monetized Libertad offers a refuge for savings which is urgently necessary. Offered the alternative of saving in Libertad coins, the savings rate of the Mexican people would surely increase notably. As I pointed out, saved or hoarded Libertad coins (or in future, certificates) would certainly become acceptable collateral for credit. Contracts in any country, expressed in a foreign currency, imply a risk. Contracts expressed in Libertad coins, would imply a risk. It would certainly not be recommendable for Mexicans to denominate contracts in Libertad coins, though

they might do this at their own risk. As I have stated, the monetized Libertad has the primary purpose of serving as a vehicle for mass savings. In a country which has seen the exchange rate of the peso vis-a-vis the dollar plummet, in 28 years, from 12.50 pesos to the dollar, to 11,500 pesos to the dollar (taking into account the elimination of three zero's in the early nineties) a refuge for Mexican savings would provide all the impulse for its development that could possibly be desired.

THREE PAPERS ON GOLD, INTEREST RATES, AND THE DOLLAR

John Hathaway

1. Numeraire to Saucissons?

BACK in the days when Greenpeace cast but a faint shadow across the affairs of the global extractive industry, Newmont and its partner, Buenaventura began to explore for gold at 14,000 feet in the Andes of Peru. The exact year was 1982. By 1986, these efforts had borne fruit with the discovery of Yanacocha. Production commenced in 1993, and today, the Yanacocha Mine, owned 51.35 percent by Newmont, 43.65 percent by Buenventura, and 5 percent by the World Bank, is the world's second largest producer of gold. It is surely one of the most profitable.

On a daily basis, giant machines and 5,000 workers move 600,000 tonnes (metric) of waste rock and ore. Noteworthy is the fact that each tonne of ore contains .028 ounces of gold per tonne. This ratio means that by volume, each tonne contains .000088 percent of gold. Gold mining of this type is essentially a giant earth moving operation. Each year, approximately 200 million tonnes of ore and waste are displaced. Ore grade material is loaded by 240 ton trucks onto symmetric pyramids of crushed rock called heap leach pads. These pads are sprayed with a chemical solution, which contains, among other things, cyanide to separate the gold from the rock. Environmental compliance is to the highest standard. Cyanide and other potentially harmful chemicals are contained and recycled via closed circuits. Day by day, a chemical solution containing gold and silver trickles to the bottom of the leach pads into collectors, which are then transported to a local refining site. The solution is cast into crude bars called dore, containing more than 90 percent precious metals.

Yanacocha is the very model of a modern gold mining operation. It is above ground (open pit), capital intensive, and highly efficient. However, much of the world's gold is still produced from accident-prone, labor-intensive underground mines. On a comparative basis, underground mining is generally riskier, especially for those who labor in high temperature stopes with unpredictable rock conditions. Wages in underground operations represent a comparatively high component of production costs. Labor disruptions, including strikes, are not unknown. In the decades to come, even Yanacocha could move to underground mining. Potential copper-gold deposits now are being explored.

The vast operations of the Yanacocha mine produce 2.7 million ounces of gold per year, or roughly 3 percent of the world total. That works out to

revenues of around $1 billon. While the typical gold mine is far smaller, it is safe to say that the lead-time between discovery and date of initial production is comparable. Given the proliferation of environmental concerns and the growing presence of Greenpeace-like interest groups, it is unlikely that these lead times have contracted. In this context, the sharp decline in gold exploration by the mining industry since its peak year of 1997 at the very least suggests a hiatus of several years before the curve of global mining production resumes any semblance of growth. Each year, global mine production removes 90 million ounces of gold from the surface or near surface of the earth. If the industry kept track of its reserve-to-production ratio, as does the natural gas industry, it would cause one to think that the maintenance of the current rate of world production is in jeopardy.

The dore bars, hard-won treasure from the earth's crust, have only a notional market value at the end of the mining process based on their gold and silver content. They are unsightly, crudely shaped bars of bullion, which bear only slight resemblance to the final products contained within.

Therefore, the operators of Yanacocha periodically load the dore bars onto jet freighters at the Lima airport 375 miles away. The bars, representing potential revenue to the mining operation, are shipped to Zurich where they are loaded onto armored trucks. The trucks wind their way south over the Alps and through the Gothard Tunnel to arrive at a non-descript building tucked away between an outlet mall and the railroad tracks in the Italian zone of Switzerland.

The Argor-Heraeus refinery is not a particularly welcoming sight to unannounced visitors. Ringed by a high wall topped with barbed wire, the only entrance is a steel gate devoid of a company logo or much else in the way of identification. In our case, we had requested a visit in order to view the gold bullion purchased for our clients in the past year. Dr. Wilfried Hoerner, a shareholder-manager of the refinery, was our cordial and informative tour guide.

In the ordinary course of business, drivers communicate with internal security to gain access in order to unload their cargo. Trucks bearing dore bars from Yanacocha and other world gold mines are joined by those loaded with the sweepings from the factory floors of Swiss and other European watch and jewelry manufacturers, and scraps of jewelry discarded from the souks in the Persian Gulf, Africa and Asia. The flow of scrap and dore is periodically augmented by high purity 400-ounce gold bars from the vaults of world central banks, as they continue their multiyear campaign to reduce their exposure to this non-earning, albeit appreciating, reserve asset.

Inside, the source materials are ground, chopped, melted, purified, extruded and reconstituted in a series of low and high tech stages. State of the art security is impressive. The combined material flow is recast into new shapes of "four 9's" gold, the highest purity, or alloyed with silver, copper and other metals depending on customer specifications. Final output includes coin blanks, 1 kilo bars favored on the Indian Subcontinent, rods and bars for jewelry manufacturers, and even semi-fabricated watch cases. In this way, central bank gold, once the numeraire for all paper currencies, is decommissioned from its official monetary status so that it may satisfy the growing world appetite for luxury goods.

Twenty-five years ago, the elite mainland Chinese wore mechanical steel wristwatches. Today, the affluent wear Rolexes, Patek Philippe or similar brands. Twenty-five years ago, local moonshine was the adult beverage of choice in many reaches of Asia. Today, first growth Bordeaux is served in the better restaurants throughout the Orient. Perhaps this explains the more than ten-fold price appreciation in first growth vintages over the past two decades. The traditional quick and dirty benchmark for assessing the purchasing power of an ounce of gold, bespoke men's suits, has gone haywire. According to Alan Flusser, renowned author and designer of exclusive menswear, a bespoke gentleman's Saville Row suit could be purchased in the early 1980s for around $800. Today, the number is over $3,000. A look at college tuition, exotic sports cars, luxury real estate and other items on the "cost of living it up" index would tell a similar story of scarcity against rampant growth in the global appetite for the finer things in life. Gold stands alone in the bargain dustbin of luxury goods.

The managers of the Argor Heraeus refinery purchased the facility in 1999 along with a consortium that included the Heraeus Group, Commerzbank, and the Austrian Mint (at a later stage.) Their growth plan for the business is to integrate further downstream into "value added" fabrications for their customer base. The refinery is strategically located for "just in time" deliveries to Swiss watchmakers and the Italian jewelry industry in centers such as Geneva and Vicenza. Absent in the company's expansion plan is any provision for the possible needs of those who might be short the metal including Wall Street traders, commercial players, holders of derivatives, or managers of mining company hedge books.

The Argor Heraeus facility is not your typical sausage factory. It is as technologically advanced and environmentally compliant as any precious metals refinery in the world. In their own words, "The Swiss environmental regulations are among the most severe in the world and Argor Heraeus for its part is dedicated to constant research and development in order to guarantee state of the art technology in this field." The entrepreneurial

management group focuses on increasing throughput and adding value for their customer base. They are motivated by the desire for profits and growth and therefore pay close attention to matters of cost cutting, efficiency, environmental compliance and process improvement. The monetary and macroeconomic aspects of gold appear nowhere on their agenda. The refinery's exact capacity is classified but it represents between 10 percent and 20 percent of world gold output. At periods of peak demand, customer requirements are met thanks only to a supply of 400 ounce bars from central banks.

There was a time when the prevailing opinion of policy makers and individuals alike was that gold and money were synonymous. However, times change and opinions with them. Central bankers are not immune to these forces. Today, most have little use for gold and view it as an antiquity. Their collective opinion matters since central bank gold reserves amount to 33,000 tonnes, about 20 percent of the above ground supply. They are steady sellers of the metal and for that, jewelry consumers, coin collectors, and value investors have much to be thankful. If it were not for central bank distaste for gold, its rarity as a natural element and difficulty of procurement would result in a much higher price. While supply and demand analysis suggest that gold is scarce and would trade at a higher price if not for central bank sales, it is equally important to view gold as just one asset among many in the universe of equities, bonds, real estate, and other commodities. As such, it is in constant competition for capital flows against anything else that can promise to deliver an investment return.

Viewed as a portfolio asset, the supply of gold is not the 2,500 tonnes produced by the mining industry each year plus scrap and other recycled metal. Instead, one must consider the entire above ground supply, marked to market, and theorize that at any given moment this quantity could be bought or sold in its entirety. The "market cap" of gold, like the market cap of Microsoft, is subject to daily reappraisal on its investment merits.

As sellers of gold, central bankers came to the realization in 1999 that episodic but relentless attempts to liquidate were depressing the price of the metal. In an attempt to create a more transparent market, but stopping well short of the sort of the promotion and inflated claims often utilized in the investment world to unload a large position, the banks agreed to sell at a measured pace of 400 tonnes per year for an initial five year term. That initial term expires September 2004, but seems likely to be renewed as new sellers want to join the action. Most vocal of among these has been the Bundesbank, whose 15,000 employees might regard an ongoing gold sales program as a path to job security against a background of declining rel-

evance for European central banks.

In any investment situation, it is essential to determine whether the seller is right or wrong. To be charitable, it is quite likely that the motivation and mandate for central bank selling transcends the narrow investment exercise of whether a sale at current prices is well advised. As government (and mostly anachronistic) institutions manned by bureaucrats, central banks do not rank particularly high in the realm of investment acumen. It therefore does not require a major ration of courage to suggest that it is better to be a buyer than a seller of gold at this particular juncture in history. The inevitable investment inference is that gold is too cheap and that money, as the modern world has come to understand the term, is over-valued. The same observation would apply to the handmaidens of paper money, i.e. equities and bonds.

It is a truism that all the gold ever mined exists above ground. It is never consumed but forever recycled into different shapes— artistic, monetary and otherwise. During a recent restaurant experience, I was served an entrée garnished with 24k gold leaf. However, let's assume that the truism is essentially correct. That works out to 140,000 tonnes, which in turn equates to a market cap of $1.5 trillion. Only a small part of that total is represented by monetary gold. Using highly conservative assumptions, monetary gold including coins, bars, and quasi jewelry and central bank reserves account for perhaps 50 percent of this total. The remainder, which exists in the form of Rolexes, museum artifacts, gold leaf on frescoes, and tooth fillings, is not in play for the sake of this discussion. Neither is most of the central bank gold. However, for discussion purposes only, let's assume that it is. Based on this reasoning, the market cap of financial gold, assuming a $400 price, is a paltry $750 billion.

As an investment, gold has only two things going for it. First, and the one we prefer, is the possibility that it can rise in value, perhaps substantially, against other things, in particular stocks, bonds, and its paper money price. The second, and potentially very appealing feature to a wider population of investment constituencies, is uncorrelated performance. Pension fund investment managers, for example, who oversee multi-billion dollar portfolios of stocks and bonds have a mandate to defend the purchasing power of plan beneficiaries not for tomorrow, or next year, but for generations. Whether gold rises or falls in the short term is irrelevant to such managers, as would be the case in contemplating the imminence of a fire when purchasing insurance.

Unlike most alternatives, however, gold generates no investment return of its own. There is no coupon or internally generated rate of return to explain investment appeal. That appeal rests exclusively on the premise

that no return is better than a negative return. Gold does well during prolonged bear markets in financial assets.

The market cap of gold today at $750 billion seems pitifully small when measured against world financial assets of $60 to $70 trillion. If only a sliver of that total were reallocated to physical gold, the price impact would be highly disproportionate to the fraction of reallocation. There are numerous ways to illustrate the imbalance. In the following discussion, we use U.S. equities plus government debt including agencies as a proxy for global financial assets, since historical data on global financial assets proved hard to come by.

In 1982, gold traded briefly above $800 per ounce. By subtracting cumulative production since 1982 of roughly 38,000 tonnes, the above ground supply in that year was 102,000 tonnes of which 35,820 tonnes was held in the official sector. Since gold had been a strongly appreciating asset for the previous decade and a half, it would not be implausible that more than today's 50 percent ratio of above ground gold was held as an investment. We will assume 60 percent. If so, the 1982 market cap of investment gold at $800 would have been $1.6 trillion. In 1982, according to Morgan Stanley, the market cap of U.S. equities was $1.5 trillion while U.S. dollar denominated debt of all descriptions was $4.7 trillion. At that particular swing of the pendulum, the market cap of gold represented about 25.8 percent of U.S. financial assets.

In 1934, the Roosevelt administration felt compelled to raise the price of gold to $35 per ounce in order to restore confidence in the financial system. Federal and non-federal debt totaled $159 billion while the market cap of all equities was $30 billion for a total financial asset proxy of $189 billion. Subtracting the 47,000 tonnes of cumulative production from 1934 to 1982 (World Gold Council web site) suggests that the above ground supply was 55,000 tonnes. Official sector gold reserves in that year totaled 20,172 tonnes, or 37 percent of the total. Using a 60 percent ratio of above ground gold supply hypothetically in play, the market cap was $39.6 billion or 21 percent of U.S. financial assets.

During these two noteworthy episodes when investors fretted most about the value of their paper assets, they placed a hefty premium on gold's safety. As nearly as we can measure the degree of concern exhibited in those two instances, the safety premium for gold translated into somewhere between 21 percent and 25 percent of U.S. financial assets. Today, that fraction is 1.6 percent ($750 billion over $46 trillion, based on an equity market cap of $15 trillion and total debt outstanding of $31 trillion.)

With stocks trading at 26 times trailing earnings and a 1.6 percent yield

(S&P 500), investors in general do not seem to be fretting. However, certain investment world luminaries are beginning to sound downright alarmist. Warren Buffett, in the November 17th issue of *Fortune*, suggested radical measures to deal with the trade deficit in the form of a complex scheme of import credits to stimulate exports. Whatever its other faults, his proposal is no more than a clever disguise for a substantial devaluation of the dollar vs. other key currencies. Forgoing the social engineering impulse, John Templeton recently advised investors to "get out of U.S. stocks, the U.S. dollar, and 'excess' residential real estate." His sell recommendation was based on the belief that "the dollar will fall 40 percent against other major currencies….and that this will lead the nation's major creditors, notably Japan and China, to dump their U.S. bonds" (as reported in the *Herald Tribune*, October 16th). The certain aftermath would be a run-up in interest rates, a decline in stocks, and "the beginning of a long period of stagflation." Echoes can be found in the musings of George Soros, Bill Gross of Pimco, and James Grant.

What about those non-U.S. creditors who already hold 46 percent of U.S. treasury debt as well as 20 percent of all agency debt? A continuation of the status quo means they would end up holding considerably more U.S. paper both in absolute and relative terms in years to come. Maybe it works for them. By so doing, they gain access to the U.S. market and thereby provide jobs, exports, and even the prospect of economic growth for their domestic constituencies. Fiscal prudence has never been high on the agenda of any government, so why would the central banks of our trading partners feel moved to act based on the prospect of a substantial devaluation of their most important reserve assets? We (the U.S. and its trading partners) are all in this together. Dollar devaluation would undermine our collective prosperity. A 26-times multiple on stocks and record low bond yields say worries over dollar valuation are misplaced. Long live the virtuous circle!

Thoughtful investors wonder what could ever replace the dollar. The U.S. is still the world's most important economy, beacon of freedom, and strongest military power. No other nation or group of nations have or most likely could ever construe a superior currency. Still, there are the unanswered issues of valuation and capital imbalances. We are reminded of Cisco and similar equities at the top—over-owned and over-valued. As with Cisco, the skeptic is powerless to predict the turning point but quite capable of identifying what is unsustainable. One's inability to imagine an alternative to the current dollar's reserve currency status provides no assurance as to its permanence.

Some small reasons for concern might include China's recent contemplation of a non-dollar peg for the yuan. Zhou Xiaochuan, governor of the

People's Bank of China, said in September 2003 that there was room for debate on whether the yuan should be tied to a cocktail of currencies. What should one make of the September sale of $3 billion of U.S. Treasuries by China, Korea, and Thailand, as noted by Stephanie Pomboy (*MacroMavens*, October 24, 2003)? Was this just a subtle reminder to the visiting U.S. Treasury Secretary Snow of who held the cards in the currency debate or were they just testing the water? It seems inconclusive. With a far smaller stake in the debate, perhaps Russia was able to speak more freely when Deputy Finance Minister Alexi Ulyukayev said "he wants the structure of reserves to change to reflect the structure of the nation's foreign debt and trade contracts." This could be accomplished by reducing the portion of its $63.8 billion reserves held in dollar-denominated assets by 3 to 5 percentage points in favor of euros. However, the Russian stance also seems inconclusive.

Perhaps investors and corporate managers should continue to contemplate business as usual, as did Pravda, until one day before the regime change. In this respect, the managers of the Barrick Gold hedge book can take solace in the company of large numbers. Their view, it may be inferred from their posture regarding their most recent financial statements, would differ from our view that gold is seriously mispriced and unlikely to revisit levels that would vindicate indefinite extension of Barrick's 16mm ounce short position. The company reported a negative mark to market of its hedge position as of September 30, 2003 of $1.2 billion, based on a spot price of $385. Since the company's net worth was well above the $2 billion threshold at which counter parties could call for an early close out of hedges and long term debt to net worth was even more distant from the trigger of 1.5:1, financially induced hedge book stress seems remote. Notwithstanding the relative underperformance of ABX shares since the bull market in gold commenced in August 1999, or repeated investor calls to reduce hedge exposure, the company has elected not to exercise its right "to accelerate the delivery of gold at any time during the life of our contracts." Instead, during the most recent quarter, it exercised its right to defer delivery while the spot price floats substantially above the average of $311 per ounce that would be realized by satisfaction of its hedge book obligations.

Comex option writers agree with Barrick. They have written call premiums for near term expiration at 400 to 450 amounting to nearly 5.6mm ounces, or more than 160 tonnes of gold, a very sizable bet by historical standards, that these strike prices will go unbreached. Months ago, when these calls were written, 400 seemed distant and the premium income like easy money. 2.6mm ounces are at nearby strikes, 400 to 420 that expire in early December.

The stance of Barrick and the option writers is consistent with the prevailing financial market view that any foray by gold above $400 ounce would likely be a short-lived and anomalous event. Implicit is the thought that the dollar will remain unchallenged as the world's reserve currency. Also implicit is the thought that world financial policy makers, especially the Federal Reserve, possess the wisdom, the skills, and the power to promote global prosperity and stave off contractionary market forces that from time to time threaten global financial stability.

In this view, the Fed's increasingly transparent attempts to manipulate financial markets through barrages of liquidity would be seen as clever adaptation to the realities of the 21st century economy. A contrasting take would be that of James Grant, editor of *Grant's Interest Rate Observer*, who wrote: "Our age in finance is an age of heresy. Budgets go unbalanced, currencies go uncollateralized, current account deficits go uncorrected, securities go unanalyzed and bubbles go unpopped (until too late)" (October 24, 2003).

The impressive headline numbers on the economy's recent performance cannot hide a disproportionate dependence on consumer spending and service jobs. For example, despite 7 percent GDP growth, corrugated box shipments, usually a good proxy for coincident economic activity, were flat during the period. Manufacturing employment continued to decline despite overall job growth. GDP, having moved far afield from the manufacturing sector, would be better measured in terms of cell phone traffic, hamburgers flipped, casino winnings, or box office receipts. Traditional measures of economic health such as inventory-to-sales ratios, the purchasing managers index and similar ratios have become less relevant. To understand the economy, one must comprehend the engine that drives consumer spending. That engine is the wealth effect. Its principal moving parts are financial asset prices, employment levels, consumer sentiment and personal income. Of these parts, financial asset prices are the core, and the others mere derivatives.

In its November 14th *Economic Newsletter*, the San Francisco Fed asked whether the Fed should "react to the stock market." Fed senior economist Kevin Lansing concluded that "although central banks control only short-term interest rates, their ability to influence longer-term rates and other asset prices is part of the transmission mechanism of monetary policy. Movements in asset prices can have important consequences for real output and inflation."

Over the past several years, the Fed's excursion into extreme liquidity has disembodied financial asset prices from their fundamentals. The Fed wants investors to forget that the invariable precursor to positive equity

returns has been bear markets, complete with high dividend yields, low p/e multiples and pervasive skepticism. With bond yields at multi-decade lows despite record fiscal and trade deficits, what positive outcome to these historically troublesome issues is necessary to prevent the bloodshed that normally results from overvaluation? If generous bond market valuations cannot be sustained, how can the equity markets continue to flourish? Lack of inflation is essential to low interest rates. The basis for low inflation is high productivity, or outsourcing of manufacturing to Asia by another name.

Factory orders, unemployment claims, capacity utilization and housing starts do not hold the key to the future, celebrated though they may be by the wise men of CNBC. What we need to know in order to peer into 2004 and thereafter is where stock and bond prices are headed, for it is these and these alone that will affect consumer psychology and behavior. Consumer spending held up despite a cyclical downturn thanks to the Fed's aggressive cycle of interest rate cuts, justified by fears of deflation. The desired boom in housing, mortgage refinance, and auto sales kept the cyclical downturn from accelerating. The unintended consequence was a bubble in yield instruments of all types as risk averse investors sought refuge from equities. Now that the refinancing boom has waned, will housing and autos decline and choke off an incipient upturn in business spending? Clearly, the Fed is not waiting for an answer. Their response to the sharp downturn in mortgage refinance has been aggressive expansion of the monetary base.

The Fed has become a prisoner of its policies. It cannot tolerate an economic downturn. Flood upon flood of liquidity has not put to rest long-term issues of solvency. The price for relief from short-term stress has invariably been increased debt issuance. The consequences of a possible protracted bear market in equities and bonds have become intolerable. In attempting to avoid the experience of Japan, it has launched a direct attack on saving and financial prudence. "Under Greenspan, the Fed has evolved into a kind of national financial fire department. It is not merely the lender of last resort but also the damage-control coordinator of first resort…Repeated and predictable acts of intervention can't help but change behavior….. The more dependably the Fed fends off disaster, the bolder and more leveraged investors become" (*Grant's*, November 7, 2003).

The willingness and/or ability of international trading partners to hold U.S. paper defines the limit of the Fed's discretion. While the Fed has demonstrated its capacity to cause financial markets to defy gravity, and in so doing, induce desired real world economic results, we remain skeptical that it can do so indefinitely. The limits of our trading partners to sop up

additional spillage of dollar-denominated debt cannot be known, but that there is a finite limit to that capacity cannot be disputed. As stated by Morgan Stanley economist Steven Roach, "the model of a sustained U.S.-centric global growth dynamic rests critically on a very stylized depiction of the world economy. It implicitly presumes that ever-mounting current account deficits in the world's growth engine do not trigger a depreciation in the value of the U.S. dollar." He goes on to say that "a still sluggish world is listing increasingly toward trade frictions and the pitfalls of competitive currency devaluation….That underscores the mounting tensions that another bout of U.S.-centric global growth most assuredly produce. For that reason, alone, I believe that the global economy is now nearing the end of an extraordinary seven and a half year period of unbalanced growth" (September 15, 2003).

A slowdown in the rate of purchase or outright sales of foreign held treasury and agency debt could easily lead the trade-weighted dollar index to a level of, say, 65 or 75 versus the current 92. An index at that lower level would depict a far different world than the one we know. It would be a world of higher interest rates, lower bond and equity prices, inflation, faltering economic activity and permanently higher gold prices. In the words of Roach, "it boils down to flows versus analytics." In other words, it may be difficult to make an abstract analytical investment case for the yen or the euro. However, it is not difficult to imagine, in light of the existing imbalances, that safety-seeking investment capital might flow to liquid alternatives based on convenience and expedience.

In his day, Otto von Bismarck warned the squeamish to avert their eyes from the manufacturing of sausages by sausage makers and laws by politicians. Today, that advice could be updated by including the deconstruction of money by central bankers. Saucissons, in the mining lingo of the early 20th century, referred to the flexible casings used for explosives in mine operations. Numeraire, of course, refers to gold's historical role as the reference point for all paper currencies once used by the entire commercial world including central bankers. The numeraire function, according to economist David Ricardo, was essential if "one wish(ed) to make intertemporal or interlocal comparisons (in the) problem of measuring value." Over the last three decades, it has been the practice of central bankers to demonetize gold, thereby making intertemporal and interlocal assessments of value much more difficult, if not impossible. In theory, a dollar standard might have worked, but in practice it has not. Without a global monetary compass, unrestricted issuance of government and corporate debt, trade imbalances, misallocations of capital, periodic banking crises, and currency turmoil should come as no surprise. It seems more likely than ever that the world's central bankers will eventually convene to

reprice gold to a level sufficient to persuade a world of paper skeptics that the metal must be reinstated as the numeraire. That level will exceed whatever is at that time by a substantial amount. Our guess is the market at the time of an official sector bid will be well into 4-digit territory.

November 18, 2003

2. The "Real" Value of a Dollar

In a January 4 speech this year, Fed Governor Bernanke opined that the rising gold price was caused by terrorism. Geopolitical tensions, he said, "account for the bulk of the recent increase in the real price of gold." He also downplayed the weakness of the dollar. Weakness against the euro was less important than the fact that the dollar's "real value against the currencies of important U.S. trading partners, weighted by trade shares, has fallen only about 12 percent from its peak in the first quarter of 2002." Bernanke's remarks in total formulate the rationale for the Fed's easy money policy. As such, they illuminate reality as perceived by the Fed versus reality as perceived by the rest of humanity.

Bernanke's references to the "real" price of gold and the "real" value of the dollar suggest that he and his colleagues have access to information and knowledge unavailable to ordinary citizens. Policy decisions, and most specifically, the Fed's ultra easy money stance, are based on these "realities." Those of us who believe the price of gold is rising in response to easy money as well as repeated interventions in past and prospective capital market crises have got it all wrong. Those who fear that the overvaluation of the dollar and resulting capital market imbalances may spell trouble for the financial markets and the economy can toss out the tranquilizers.

There are three ways to assess the Fed's worldview. First, they are indeed right. Critics should just simmer down. Second, what the governors say for public consumption (and the Fed has become increasingly vocal in recent years) is primarily designed to affect the behavior of consumers, corporations and other governments in order to achieve desired results such as economic growth, financial market tranquility, and retention of dollar holdings by foreign central banks. In other words, they don't believe what they are saying but are using the Fed pulpit to achieve policy objectives. Third, and most disturbing: they actually believe what they are saying.

What is the "real" value of a dollar? It is a question of metaphysical dimensions. The dollar is the unit of account by which all participants in the economic process make decisions. Whether or not to buy, hire, produce, or invest depends on millions of daily calculations measured in dollars. Decades ago, thirty-three years to be exact, dollar-centric deci-

sions were pretty much confined to the borders of the United States. The 1971 decision to decouple the dollar and gold marked the beginning of an explosion of international reserves. It gave birth to the dollar-based system of global credit and an era of unprecedented world prosperity. Today, the preponderance of global economic decision-making is rooted in some notion as to the intrinsic value of a dollar expended, received, or held as an investment.

For the dollar to continue as the global numeraire, it is essential that its value remain stable. What participants in the economic process believe the value of the dollar to be has the power to affect global economic activity. There can be no room for doubt as to the dollar's value either in the present or in the future. The enticing question is what information should the market utilize to assess the dollar? Should it use the price of gold? Not according to Gov. Bernanke. Should it use exchange rates?

Again, the answer is no. Let us then turn to the mini-maestro for the correct answer. He concludes his January 4th speech:

> "The achievement of price stability must not and will not be jeopardized. We at the Federal Reserve will closely monitor developments in prices and wages, as well as conditions in the labor market and the broader economy for any sign of incipient inflation. We will also look at the information that can be drawn from surveys and financial markets about inflation expectations. For now, I believe that the Federal Reserve has the luxury of being patient. However, I am also confident that, when the time comes, the Fed will act to ensure that inflation remains firmly under control."

In other words, "trust us" to get it right. But is Bernanke's confidence that the Fed will act appropriately to maintain the dollar's value enough to dispel all doubts? Perhaps central bankers in Asia have not yet had a chance to digest Bernanke's words. This might explain the January 28 comments of Japanese Finance Minister Sadakazu. He said he wanted to carefully consider whether to change the weighting of gold in Japan's foreign reserves, which are "mostly made up of dollar-denominated assets." Japan's reserves reached a record high of $673 billion at the end of December 2003. Zhu Min, general manager and advisor to the president of the Bank of China, the largest holder of dollar reserves in China, recently stated: "all the Asian countries hold dollars for security reasons, but at some point, this has to end." Speaking at the Davos World Economic Forum in January, he added: "Over time, China's pace of export growth would wane, weakening its ability to buy dollar-denominated assets."

Central bankers, upon concluding that they hold more of a particular reserve asset than they desire, have been known to act without any consideration of intrinsic value. One need only recall the relentless divestment of

gold holdings by European central banks at prices well below the current market. That episode alone suggests that central bankers are either incapable of judging or indifferent to matters of valuation.

By now, any literate investor knows there are too many dollars held by Asian central banks, but nobody can figure out what happens next. It is obvious, for example, that if they were to sell, or even stop buying, the ever-increasing supply of Treasury debt, interest rates in the United States would rise substantially. The less obvious but inescapable side effects would be lower stock prices, higher inflation, and a softer economy. It could also cause dislocations in China, which needs the U.S. market to provide job growth. In a recent article in *Foreign Affairs* (November/December 2003) David and Lyric Hughes Hale wrote "the unemployment rate in (Chinese) urban areas is estimated at more than 8 percent; there may be an additional 200 million jobless workers in the countryside. According to Zhai Zhenwu, the director of the Population Research Institute at China's Renmin University, China will need to create 20 million new jobs a year to absorb the 8 million people who have lost their jobs in state-owned enterprises."

It seems unlikely that Chinese bureaucrats would initiate any precipitous move away from the dollar, either in the composition of their reserves or in the manipulated peg of 8.3 renminbi/$. It is more plausible that external events will impose change. Still, financial officials in Asia are telegraphing creeping abandonment of the dollar. Stephanie Pomboy of Macromavens notes that the percentage of Chinese foreign-exchange reserves recycled into Treasuries declined to 24 percent in the second half of 2003 from 54 percent for all of 2002. These signals, alone, may prove sufficient to accelerate the dollar's slide from its perch as the global numeraire. Perhaps a resurgence of U.S. protectionism based on the issue of job losses will add momentum. Spreading credit worries tied to deflation of the Chinese bubble, an unexpected global downturn, or a sharp rise in interest rates are also capable of greasing the skids.

One could speculate endlessly on the scenarios. It is impossible for anyone to write tomorrow's headlines. What is absolutely and irrefutably certain, however, is that oversupply, a term without which it would be impossible to describe the dollar, will be corrected by market forces in due course. The Fed, notwithstanding its privileged knowledge of the true value of the dollar, is powerless to dictate that the dollar will trade for one penny more than its market- clearing price.

The presence or absence of value cannot be determined apart from a context of scarcity or abundance. Value is also inextricably tied to usefulness. Water may be cheap in most parts of North America, but in the

Sahara, it can be priceless. The hard-pressed debtor may thirst for a few dollars, but not the rock star. While the principal is easy to apply locally, it is more challenging on a global scale. The earth is 80 percent water and so, for most, it is relatively cheap. Essential to life itself, water can be very expensive.

The value of money is fundamentally different from all other daily necessities. Money is useful both for its current transaction value and for its future purchasing power. While its transaction value can be known at any given moment, future purchasing power is a matter of speculation. Money should not be confused with currency. Real money is scarce. A five million Turkish Lira note sits on my desk. There are plenty more where it came from. Its utility ends with its curiosity value (and its transaction value for those in Turkey.) Otherwise, a low opinion of the Turkish Lira is shared universally. No central bank accumulates the Turkish Lira as a reserve asset. Its future purchasing power is expected to decline because the issuing authority lacks any credible commitment to maintaining its current value. To hold more of a currency than one requires for daily transactions, one must believe that its future purchasing power will approximate that of today.

The Federal Reserve would have us believe that the inherent value of the dollar is best represented by the Consumer Price Index. The American Institute for Economic Research informs us in its *Research Reports* (January 12, 2004) that this measure of the general price level was first introduced in World War I at the request of President Wilson to help mediate disputes between labor and management in defense-related industries. Its usage spread over the next several decades, almost always in relation to wage issues. By the 1960s and 1970s, it became the basis for cost of living adjustments for benefit packages including Social Security. The index, compiled and published by the Bureau of Labor Statistics (BLS), is the most widely used and trusted barometer of the dollar's value. It is the basis for calculating the excess return on Treasury Inflation Protected Securities (TIPS) and real interest rates (T-bills minus trailing twelve month CPI). It is the method by which investors calculate their inflation-adjusted returns from government bonds and private sector debt securities. Since short-duration government bonds approximate risk-free return, the CPI indirectly but most powerfully influences the valuation of the entire equity market.

What started out as a fairly simple and pragmatic attempt to hammer out equitable wage settlements some 90 years ago has become a highly complicated, politically charged, and controversial cornerstone for the capital markets. The BLS, in a never-ending and earnest effort to keep up with the

times, has changed the items, the composition, and the pricing methodology of the CPI components. It has distinguished between core inflation and reported inflation to iron out unsustainable fluctuations in commodities. It has introduced seasonal adjustments to smooth out comparisons on a month-to-month basis. The index currently contains 400 items thought to approximate a market basket of goods and services that best represent the general price level. In recent years, the index has been tame, advancing at a rate of 1.9 percent for the last twelve months, and down from 2.4 percent for 2002. The signal transmitted to the capital markets is that there is little or no inflation and therefore the value of the dollar is rock solid. In fact, the Federal Reserve has been more preoccupied with potential deflation, or a general decline in the price level. The expectation of low CPI readings for the foreseeable future is a key justification for the Federal Reserve's aggressively accommodative stance on interest rates, the lowest bond yields since the 1950s, and the highest equity market valuations since the dot-com crash of 2000.

Arnirvan Banerji, Director of Research at the Economic Cycle Research Institute, scrutinizes CPI data for hints about potential changes in direction. The Future Inflation Gauge or "FIG" has fairly reliably anticipated changes in direction with lead times of several months. The "FIG" according to Mr. Banerji, is currently forecasting a further decline in the CPI, more good news for the capital markets, or so it would seem. He hastens to add that the FIG is helpful only in pinpointing changes in direction of the CPI. It does not capture the amplitude of an imminent rise or decline in the CPI. It also cannot detect secular shifts in magnitude that span more than a single business cycle.

This leading analyst of the CPI questions whether the information conveyed by the series is as meaningful as the financial markets take it to be. In a very effective sound bite heard by this listener on Bloomberg radio, Banerji said that a person with one foot in boiling water and the other in a bucket of ice is on average perfectly comfortable. So it would seem that the tranquility of the CPI does not capture underlying turbulence. The thematic cross current would be one of rapidly escalating price levels for goods and services that are in scarce supply or have some measure of pricing power such as health care or raw commodities. On the other hand, price deflation is evident in many consumer goods. Sixteen percent of Wal Mart's (purveyor of many of the 400 items measured in the CPI) 2003 sales were sourced in China. At the current exchange rate for the renminbi, this percentage will undoubtedly grow and keep a ceiling on consumer goods prices. Thanks to Asian outsourcing, the BLS was able to report declines of 83 percent in computers, 56 percent in televisions, 18 percent in women's dresses, 7.8 percent in sports equipment, and 1.7 percent-5.1

percent in other apparel categories for the period 1990-2003. For the same period, the all-item average rose 46 percent. Over the same period, college and tuition fees rose 171 percent, cable television plus 114.7 percent, bank services up 104.5 percent, motor vehicle insurance up 85.2 percent, and movie, theater, and sporting event tickets plus 81.8 percent.

But there is more to this than simple crosscurrents, according to Banerji. Several years ago, the very important housing component of the CPI was increasing at an annual rate of 4 percent. Today, that number is 2.2 percent and heading lower. Housing is weighted at 40.85 percent of the total CPI. How is it falling when house prices are rising? Simple. The BLI calculates this important component on the basis of "imputed rent" rather than the capital cost of buying a new home. Imputed rent synthesizes the cost of home ownership into a rental factor putting all citizens, both renters and homeowners, on the same footing. The BLS gathers the information for imputed rent, or the "Owners' Equivalent Rent Index" by asking "each homeowner (surveyed) for their estimate of the house's implicit rent and what the occupants would get for their rent …. if the owner did rent their home." (U.S. Department of Labor Program Highlight-Fact Sheet No. BLS 96-5.) It should be noted that in light of the Federal Reserve's highly expansionary monetary policy, single-family owner-occupied housing has enjoyed an unprecedented new construction boom. Mr. Banerji observes that a felicitous (for the CPI) consequence of the single family housing boom has been a rise in vacancies and a decline in rental rates for apartment properties. Pressure on the rental market appears to go a long way towards explaining the mystifying decline in the housing component of the CPI. Could it be that the sagging apartment rental market also explains rising bond and equity markets?

There is still more to the tale. Gertrude Stein's famous dictum: "Rose is a rose is a rose" speaks to the mutation of a word's meaning over decades or centuries of usage. We can surmise that Big Brother is alive and well at the BLS where a computer is not a computer is not a computer. In other words, added features, memory capacity, and random bells and whistles are not captured in the straightforward list price of a computer. To expunge all continuity of meaning, the BLS brought forth "hedonics," the science of measuring the value of a product or a service after allowing for qualitative improvements. A laptop with twice the memory as last year's model sold at the same price this year is counted as a 50 percent price reduction. This sort of analysis was applied initially to computers and information technology equipment. More recently, a broad range of consumer goods including electronics and automobiles has been subjected to hedonic measurement. Health care has been a particularly ill-behaved sector of the CPI. Hospital services, nursing homes and adult day care, for example, increased 141.4

percent over the period 1990 to 2003, versus an average of 46 percent for all items measured. It should come as no surprise, then, that the Bureau of Economic Analysis is considering adjusting prices of medical services for quality changes (*Grant's Interest Rate Observer*, January 30, 2004.)

Proponents of hedonic price measurement admit that the process is not without flaws. In a July 12, 2001 paper, Jack Triplett of the Brookings Institution found that "the hedonically based computer equipment deflators in the national accounts of OECD countries recorded …ranged from +80 percent to –72 percent for the decade of the 1980s." Happily, after the misadventures of the 1980s, the European practitioners of hedonics achieved a "smaller dispersion" by the early 1990s when the computer deflators ranged from "-10 percent to - 47 percent."

The notion underlying hedonic adjustment is that normal price measurement techniques fail to capture qualitative improvements. However, we are entitled to ask whether there are any objective standards by which these price adjustments are applied. Why should an increase in memory capacity or a ramp up in processing speed equate to a price reduction? By what factor are auto prices reduced because of airbags, catalytic converters, seat warmers, or tinted glass? Should health-care costs be adjusted downward because patients are discharged in two days rather than three? Hedonic adjustments, as with pro-forma earnings, require a great deal of subjectivity to rearrange reported information into a new kind of reality. Slashing reported list prices for a computer because of advanced specifications over last year's model implies there is quantifiable improvement in productivity or output. As noted in *Grant's* (February 16, 2001) a computer "like a piano depends on the individual at the keyboard: He may play the 'The Moonlight Sonata' or 'Happy Birthday.' The implication of hedonic adjustment is that the computer-using U.S. workforce studied at Julliard."

We must address one final layer to understand the mystery of price stability in the midst of a falling dollar, rising deficits, and ongoing trade imbalances. The problem goes further than the constant re-jiggering of the index or the application of abstruse price measurement techniques. The problem is that the prices that are being measured are themselves fake. Preposterous? Blame it on manipulated exchange rates. Does the dollar trade at 8.3 renminbi or 105 yen because of intrinsic value? Asian governments that peg or manipulate their currencies to these levels have no interest in value. An undervalued renminbi is needed to create jobs and investment. It is for the United States, "an unholy partnership with its Asian creditors. They would produce; we would consume…..the United States and its lenders have entered into the biggest vendor-financing scheme in the history of borrowing and lending." As a result, "the prices are fake. The

exchange rates are manipulated, the interest rates are adulterated and the product prices are contrived." (*Grant's* January 16, 2004) What prices would the CPI measure if the U.S. dollar bought only half as many renminbi, rupee, or yen? The valuation of the dollar as supported by the CPI is a testament to institutional inertia, delusions of elitist intellectuals, and public gullibility. The myth of price stability conveyed by the CPI would shatter upon contact with freely floating exchange rates.

The CPI was conceived to measure price levels within the borders of the United States. It was thought to convey helpful information to consumers, managements, and investors as to the presence or lack of price stability. It did so in a context of stable exchange rates and international trade flows that are minuscule by today's standards. Thanks to the evolution of financial markets and trade reform, the dollar is a borderless currency. For the substantial holders of dollars outside of the U.S., the notion that a benchmark so flawed as the CPI should be the preeminent measure of value is laughable. Extra-territorial dollars are held not for consumption but for investment. The more astute holders of these dollars must look beyond the CPI to the future supply and demand for the currency. In assessing those fundamentals, they must take into account the integrity of the issuing authority. They must also evaluate the suspect reliability of the principal and the only readily available measure of the currency's value, the consumer price index. As for future supply and demand, Richard Duncan remarks in the *Financial Times*: "The amount of new yen that Japan 'printed' and converted into dollars during January 2004 alone was enough to finance 13 per cent of the U.S. budget deficit." Earlier in the column, he states: "It is inconceivable that economic policy makers in Tokyo and Washington do not understand the impact that this unprecedented act of money creation is having on global interest rates and economic output."

In its infancy, the CPI was a tool for settling disputes, not a measure of the dollar's value. In those days, twenty dollars bought an ounce of gold and that was the measure of the currency's value. It was simple to understand for one and all. Armies of bureaucrats, statisticians, and academicians were not required to collect, massage, interpret or invent obscure information in order to divine the dollar's value. No financial high priests comparable to today's Fed were needed to reveal the truth. Credibility of the currency rested simply on its link to gold. The dollar's viability as the cornerstone for international credit is in jeopardy. The over-valuation of the dollar cannot help but breed further capital misallocation, production overcapacity, inflation of asset values and debt buildup, all precursors to another bubble.

How will world financial authorities orchestrate a graceful retreat for

the dollar from center stage? The possibility of an orderly, well-choreographed exit seems remote. Whether it goes out with a bang or a whimper, the end game will be deflationary. Bob Hoye of *Chartworks* (February 6) observes: "central bankers merely assist the credit expansion that, by necessity, is hypothecated against rising asset prices. Once the top is in, the power inevitably shifts to margin clerks (whose) mandate is to get the accounts on side and, after rampant speculations, that means selling into a collapsing market." The perceived safe havens offered by the euro or the yen will eventually yield only losses. While these currencies provide a liquid alternative in the short run, their fate is inseparable from the dollar. The three are like inebriated celebrants wobbling home, propping each other up and incapable of orbiting too far from their collective gravity. The day when each becomes confetti is within sight.

What is the value of a dollar? For us, the simplest and most reliable measure is the amount of dollars required to buy a fixed quantity of gold. We respectfully disagree with Mr. Bernanke. Whether he and his fellow governors are hypocritical or delusionary in their assessment of the dollar's intrinsic worth is of no matter. What is important is that they are flat out wrong. As anyone can see, the dollar is falling against gold and has been doing so for almost five years, long before terrorism became a front-page item. As we are very busy figuring out how to profit from the view that it has much further to fall, we have given little thought on how to fix the mess. Let us leave financial diagnosis and prescriptions to those wise policy makers who got us here. Still, we cannot resist offering some friendly advice. The next time around, respect history. Anchor a new global currency to something that has real monetary value.

February 14, 2004

3. Interest Rates and "The Death of Gold"

According to the *Financial Times*, "the end of gold as an investment has come a little closer." The op-ed writer reached this conclusion in a April 16, 2004 editorial as he pondered the significance of the withdrawal of NM Rothschild from gold dealings at the London Fix and the contemplation by Bank of France officials of reserve gold sales. The writer also counseled that "gold is now a rather risky investment with a nil or low return." Given that the global macro environment is now characterized by "low inflation" and that "independent inflation-targeting central banks are the norm," the risk is negligible that governments will debase the value of "fiat money" in pursuit of their policies.

The prospective investment return offered by gold is an especially timely subject, now that Chairman Greenspan has suggested that risk-free interest

rates may actually begin to rise from the current "emergency" 1 percent 46-year low. The unique attribute of gold is safety. Its free market price is a function of the level of comfort investors have in financial instruments that offer an investment yield, but are less than perfectly safe. For the first time since the secular bear market in financial assets commenced in 2000, there is a prospect of rising interest rates, and possibly for a "considerable period of time." Does this mean a new world for gold?

How does gold do in a period of rising interest rates? The casual and perhaps superficial answer, and the one already reached by supposedly savvy street-smart traders over the last several weeks, is that it does poorly. The recent precipitous 11 percent decline in gold prices from $430 to $385 suggests that the fund managers, TV commentators and traders dumping gold were collectively reading from the Summers-Barsky script (the 1988 thesis by former Undersecretary of the Treasury and current President of Harvard Lawrence Summers). That paper, "Gibson's Paradox and the Gold Standard" (The *Journal of Political Economy*, June 1988, pp. 528-50), posits that the price of gold must be inverse to the return on financial assets:

> "The willingness to hold the stock of gold depends on the rate of return available on alternative assets. We assume the alternative assets are physical capital and bonds."

In his paper "Gold 2002: Can the Investment Consensus Be Wrong? The Summers Barsky Gold Thesis," Peter Palmedo of Sun Valley Gold demonstrated that the weekly price fluctuations in gold were almost entirely (88 percent) explained by the stock market. Notwithstanding the covariance of both in 2003, it is a matter of common sense. Expectations for good returns on financial assets put gold in the doghouse. However, losing money in stocks and bonds, especially the expectation of more of the same, drives investors to consider the merits of safe havens including cash, T-Bills, and gold.

The residue of high investment expectations built up in the previous bull market, even though the S&P remains 22 percent below its all-time peak four years ago, occludes the merits of safe-haven investing. The survival of optimism in the aftermath of the dot-com crash is a testament to the resilience of institutional and popular memory as well as to the inherent difficulty, at the broadest cultural levels, of recognizing and adapting to new realities. In addition, high hopes have been sustained well beyond the norm by the Fed's stance of aggressive ease. Almost free 1 percent money (and the promise of more) sustained the illusion of positive returns by allowing carry trade artists to craft "new" investment products built on nothing more than speculative leverage. The reflation trade, which centered on "hard assets" of any kind, was a corollary of the Fed stance, and explains both the

speculative excess in base metals as well as the temporary misperception of gold. It also explains why 2003 provided an exception to the rule that gold prices tend to vary inversely with those of financial assets.

While a rise in interest rates might be presumed in the popular media to be theoretically bad for gold, it is more important to ask and answer several related questions before jumping to any particular conclusion. First, is the prospective rise in interest rates the beginning or the end of a process? Second, are the increases in nominal interest rates identical to real interest rates? Third, and most important, will the interest rate increases be favorable or adverse for the returns on financial assets?

The next interest rate increase will, it can be stated with confidence, begin rather than complete a process. How far must the Fed raise interest rates before monetary policy can be considered neutral rather than aggressively accommodative? Assuming, for the moment, that measured price inflation is running at 1.7 percent (latest 12 months), most would put a "neutral" Fed Funds rate at +/- 4 percent. Should measured inflation begin to rise, as it did most emphatically in the most recent Consumer Price Index (CPI) report and as it is doing on an anecdotal basis almost everywhere, to what level would short-term rates have to rise in order to be considered restrictive? Almost certainly, that number would be substantially above 4 percent. It does not seem far-fetched to suggest, considering the level of existing and prospective budget deficits, the unprecedented build-up of debt, the open-ended nature of American military commitments, and the disinclination among political leaders to restructure Medicare and Social Security entitlements, that the year 2004 bears a strong resemblance to 1968. In that year, the Dow Jones Industrial Average peaked at 1,000, a level it would not exceed until 1982. The Fed Funds rate was 5.66 percent in 1968 and rose to 16.39 percent in 1981. Returns on financial assets were poor during those 14 years. Gold and gold shares, on the other hand, turned in a stellar performance.

The 1970s, for those of us who were around to enjoy them, do not conjure up happy associations when it comes to investing. The decade began with the demise of investment managers who had posted the gaudiest returns in the late 1960's, the "three Freds," Mates, Carr and Alger. The bond market was sound asleep, as detailed by *Grant's*, "Where We Came In" (April 23, 2004). By the end of 1970s, bonds had been dubbed "certificates of confiscation" and being bullish on America was hazardous to one's financial health. The idea that stocks could provide positive investment returns was radical and socially risqué at the proverbial cocktail party. The decade-long process of undermining public confidence in financial assets was never obvious except in hindsight. It was not a blinding

flash of awareness that minimized investment expectations. Instead, the investment equivalent of Chinese water torture, a repetition of bad experience sufficient for mass extrapolation, caused investors to demand single-digit equity multiples and double-digit coupons for 30-year Treasuries.

The entrenchment of mistrust depends on deception, both externally applied and self-induced. In due course, history will reveal multiple deceptions at the core of the current bear market. In the 1970s, a short list would include the Watergate scandal, failure to communicate the war-time realities of Viet Nam, and "Guns and Butter" fiscal policies. For the financial markets, the disparity between nominal and real interest rates was central. During the decade, sky-high Fed Funds did not provide a positive yield due to an even higher rate of inflation. Real interest rates stayed in solidly negative territory from 1973 through 1981.

A core deception of the moment is the notion that a few up ticks of 25 to 50 basis points in short-term rates will be sufficient to arrest the forces of inflation set in motion by the most aggressively accommodative Federal Reserve in history. Real interest rates, defined as the 90 day T-bill discount rate less trailing twelve months inflation, are negative by approximately 100 basis points (see chart below). This is, no doubt, a very gold-friendly statistic. A few hundred basis points of rate increases over the next twelve to eighteen months raises the possibility that this measure will no longer be so friendly. On the other hand, if measured inflation rises in lock step with the rate increases, the environment will remain positive for gold.

To predict real interest rates 18 months hence would require insight unavailable to most mortals and certainly to this writer. There are two

components to the equation. Variable A is the future trailing twelve-month rate of inflation. The CPI "run rate" is 6 percent. Future CPI releases will be closely watched to see if inflation maintains the torrid pace suggested by recent data. Variable B lacks the apparent exactitude of the first. It is the measure of aggressiveness yet to be employed by the Federal Reserve Board in countering the incipient inflationary threat. Will it be ruthlessly Volcker-like, administering interest rate medicine so strong that the economy grinds to a halt, or will it continue to be Greenspan-like in staying behind the curve in order to not to shatter the eggshell pyramid of debt grounded upon the Fed's easy stance? While we have our own ideas on this matter, the behavior of the gold price in future months will provide the necessary illumination.

This analytical exercise is complicated by the fact that the CPI, a statistic revered by CNBC, brokerage house economists, and most of the investment community emits a signal that is profoundly less clear than its 1970s antecedent. Hedonic adjustments are applied to 50 percent of the item prices measured in the index. Readings from the tricked-up CPI of 2004 amount to little more than radar-confusing chaff. Other key indicators guiding economic policy may be similarly flawed.

Will the financial market add the missing 200-300 basis points back to the CPI in calculating the real interest rate? Our guess is that it will not. Understatement of inflation by the CPI will ultimately disenchant investment expectations. An inaccurate read on inflation will justify prolonged monetary ease. A continuation or widening of the present disparity between nominal and real interest rates is an important premise for a commitment to gold.

Finally, what collateral damage would arise from a multi-year rise in interest rates sufficient to quell gathering inflation? The policy choice will come down to whether it is preferable for the U.S. consumer to pay for $3.50/lb. copper or 10 percent mortgage rates. Which is more visible and which is easier to hide? Since the days of Volcker and Reagan, the sensitivity of the U.S. economy has shifted dramatically away from the price of copper and other raw materials and towards the price of money. The Fed has said as much in numerous speeches. With the interest rate on 56 percent of sub-prime mortgage loans calculated the adjustable way, unprecedented carry trade leverage, and the stock market "wealth effect" a beacon of policy, a political Fed seems likely to opt in favor of glossing over substantive issues versus Volcker-style tough love.

The gabby Greenspan Fed has failed to communicate to those offside in junk bonds, overpriced equities, interest rate swaps, emerging market sovereign debt, and all other unfathomable reaches of the carry trade the stark

choice between tolerating a further buildup in inflation or aggressive rate increases that would choke the economy and collapse the carry trade. To preempt inflation fostered by four years of aggressive ease, the Fed must drive a sustained and politically untenable rise in real interest rates. Rate increases cannot be tepid or token. Once inflation becomes entrenched in the industrial economy, financial structure, and public expectations, it is notoriously difficult to root out. The longer the Fed waits, the more severe the market pain. The Fed's policy dilemma contains the seeds of a prolonged bear market in financial assets. The unwillingness of political leadership to address the fiscal issues surrounding the open-ended financial aspects of terrorism in conjunction with generous entitlement programs is a recipe for expanding debt issuance, which the Fed will be called upon to accommodate. The Fed may continue to bark but it cannot bite.

Anyone who thinks that the recent slaughter of speculative longs in the gold market is an isolated event may wish to revisit their conclusion. It was a mini-version of the Asian Meltdown, the 1987 crash, Long-Term Capital Management, and the dot-com bust. It was one more misadventure of hot money. The mere inkling that interest rates might rise was a lethal pinprick to the hard asset investment bubble, which had co-opted gold. The prospect of higher rates also helped to strengthen the dollar versus the euro, adding further impetus to gold's sell off. The debacle was the work of an imaginary rate increase on a tiny sliver of the capital markets. Damage to a far broader range of financial assets will occur when the inexorable rise in rates actually begins. In such a context, gold's ability to protect capital will become widely appreciated.

Fear of collateral damage to financial assets has weighed on Fed thinking for several years. In the September 29th, 1998 Federal Reserve Open Market Committee (FOMC) transcript, in the wake of the Long-Term Capital Management meltdown, Greenspan proposed a 25 basis point cut in the Fed Funds rate. He reasoned:

> "I believe that the stock market decline has had a very profound effect, and indeed one can argue that a goodly part of the increased risk aversion is itself a consequence of the collapse in stock market values…so, in one sense differentiating equity markets and the credit markets is not something that is very meaningful because both very much reflect the same underlying process of pulling back….the approximately $3 trillion capital loss in the aggregate value of equities in the United States, most of which are held by U.S. residents, just cannot be occurring without considerable breakage of crockery somewhere."

Greenspan correctly observed that there is a seamless linkage between credit and the stock market. He goes on to say that this represents a fundamental change from 30 years ago because "the aggregate size of stock

holdings relative to income is so much higher now and so many more people have equity investments that the effects of stock market declines on economic choices is almost surely higher." A protracted decline in the equity markets, in the mind of the Fed (and correctly so) would be a credit contraction by any other name.

Gold is without question a seasonal investment. Decades can slip by while gold slumbers, or worse. However, during extended credit contractions, when lenders and investors alike shy away from risk, credit spreads widen and safety becomes paramount. In the rainy seasons of the 1930s and the 1970s, gold rose against financial assets. It did so not because it was part of some "reflation cocktail" dreamed up and packaged by promotional investors. It did so because a general movement towards safety caused by adverse experience in financial assets investments bid up its price.

While monetary and fiscal policy can be temporarily marshaled to counter a market-initiated credit contraction, as has been done with some success since 2000, such intervention can only delay market forces. Worse, the cost of overriding such forces only increases the potential damage from a contraction. For example, does anyone think that the safety of leveraged closed-end funds peddled to satiate the public's appetite for yield in a 1 percent interest rate environment is more than illusory? The narrowing of credit spreads since the Enron blowup (see above chart) reflects not a more sanguine assessment of general credit conditions but rather the success of the investment community in promoting junk to satisfy the desperate scramble for yield. According to David Hale (April 19, 2004):

> "During the last twelve months the total return on emerging market C rated debt has been 34.5 percent compared to 6 percent on A rated securities…The share of triple C borrowers in the U.S. high yield market rose to 23 percent during the past few months, or the highest level ever recorded."

The reflation trade has been a truly reckless game. It depended on the inconsistent rationale of 1 percent money, Fed largesse forever, and the prospect of synchronized non-inflationary global growth. Now that inflation is knocking on the door, the Fed has been forced to blow the whistle. However, it cannot go beyond issuing warnings without sabotaging investors and borrowers alike who cannot tolerate the portfolio markdowns or cost increases that a restrictive stance would imply.

Richard Russell, veteran market analyst, harbors no doubt that we are in the early days of a protracted bear market: "First, what's happening—and I'm not talking about markets, I'm talking about fundamentals. I've been talking about the monster edifice of debts in the U.S.—debts in the cities, the counties, the states, the corporations—consumer debt, mortgage debt, credit card debt, you name it, anywhere you look all you see is debt. The nation is up to its eyeballs in debt" (*Dow Theory Letter*, April 19, 2004). Under these circumstances, Russell observes, rising interest rates are deflationary. The potential destruction to financial asset values from rising rates is unprecedented.

To time the tipping point between inflation and deflation, as with calling the top for the dot-com mania, seems futile. What is clear, however, is that the fear of deflationary outcomes begets inflationary policy responses, as Fed Governor Bernanke has so forcefully stated over the last few years. While there can be no doubt that the end game is deflationary, an inflationary episode or two may occur along the way. For gold, it makes little difference because either prospect erodes confidence in financial assets.

"Investors continue to buy into the notion that this or that government official can pull a few levers and make things right again," says David Lewis, a former New York foreign-exchange options trader. There is an unstated assumption that economic outcomes can be achieved through adherence to information known only to a small circle of practitioners. The proper examination of arcane data somehow yields clues as to whether or not to raise interest rates. The totality of capacity utilization rates, unemployment claims, PPI, CPI, the Taylor rule, productivity and countless other "objective" data points comprise the compass for economic policy. In his excellent study of financial market risk "Fooled by Randomness," Nassim Nicholas Taleb remarks: "Pseudo science came with a collection of idealistic nerds who tried to create a tailor-made society, the epitome of which is the central planner."

As for the *Financial Times*' (FT) observation that gold is a risky investment because it offers little or no return, we agree in part. However, the risk in gold is not the inherent lack of return. The risk is whether holding a position is timely or not. There is little to analyze about gold itself. It is what it is—inert, mute, and passive. Unlike stocks or bonds, there is no internal compounding or coupon. However, there is much to analyze about whether investors will eventually find gold to be attractive or otherwise.

We were cheered by the recent FT disparagement of gold. It reminded us of an FT opus entitled "The Death of Gold" published December 13, 1997, approximately 18 months before the bull market in gold commenced. Then, as now, the FT point of view was heavily influenced by official sector actions: "And, two weeks ago, Argentina revealed that it had sold its entire gold reserves in the first half of the year, all 124 tonnes, and invested the proceeds of $1.46 billion in U.S. treasury bonds." Our math says that Argentina received approximately $342/ounce or 13 percent less than the current market, to invest in a depreciating asset. We were cheered also by the cover story in *Barron's* (May 3, 2004) titled "Bear Overboard: The Big Money Poll bulls outnumber bears by a wide margin, despite the market's recent woes." As contrarian investors, we are thankful for the continual feast of ignorance served up by the financial media. The day that the *Financial Times*, *Barron's*, or the equivalent begin to advocate gold will rank among the classic sell signals of all time.

May 5, 2004

THE RESTORATION OF A RICARDIAN PRICE RULE: AN INVESTIGATION INTO A GOLD-BASED MONETARY REFORM

Michael T. Darda

THE fundamental question to be answered by this conference is whether the benefits of a gold-based monetary system offset the costs. Resumption of the gold standard would create winners and losers, but on a global scale the benefits would clearly offset the costs. We know this because sound money would allow labor and capital to be directed toward the production of usable goods instead of managing the myriad risks associated with floating money. Thus, it would lead to a more productive division of labor, enhanced economic efficiency and higher global living standards.

Those who get paid to play the arbitrage opportunities associated with floating money would surely lose if the dollar were fixed to gold. This is one reason we can never really expect a push for the gold standard to emerge from Wall Street functionaries or members of the Federal Reserve System. It would be akin to the Internal Revenue Service (IRS) embracing the flat tax. In other words, we cannot expect those who would lose under a gold-based monetary reform to lead the way to it.

A move to gold is much more likely to happen if the ideas spring from the grassroots level and catch fire with politicians that have the ability to influence national policy. In order to start the process, it is necessary to review the costs of the current system and to show why other monetary rules are less desirable. Lastly, it is important to think about what a modern gold standard should look like and whether there is a "third way" that would move us closer to gold without actual convertibility. With these goals in mind, this paper is broken up into eight sections:

1. Currency chaos and growth
2. Price versus quantity and the failure of monetarism
3. Price-level targeting: a poor substitute for gold
4. Why gold is special
5. Gold as an error signal
6. Domestic convertibility: four essential elements
7. An alternative to domestic convertibility: world convertibility
8. An oasis to convertibility: market prices

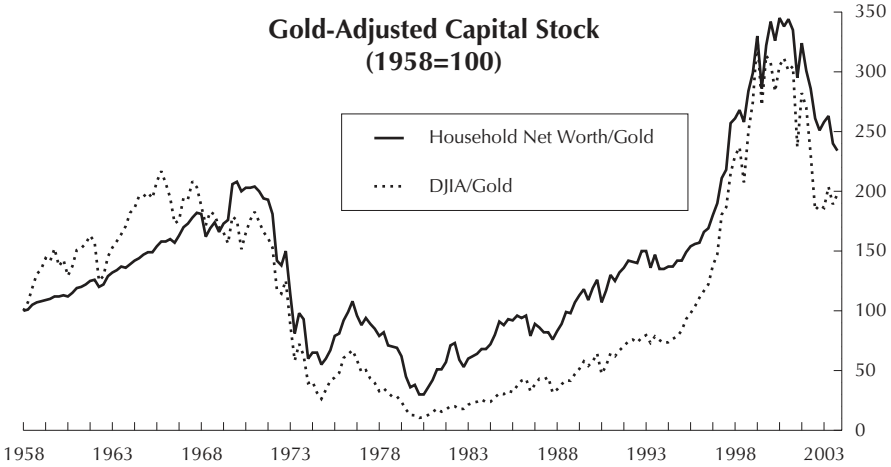
1. Currency chaos and growth

The current monetary system is littered with 180 different currencies, volatile exchange rates, unstable interest rates, and fickle capital flows. This permanently increases system-wide financial risk. The cost of hedging and risk-management strategies necessary to deal with monetary uncertainty diverts time, energy and capital from producing usable goods. When the costs of doing business rise, less business will be done. Currency instability thus is a direct tax on prosperity and the standard of living.

A gold standard or "price rule" ensures stability by anchoring a currency to something real. It provides certainty and confidence. The elimination of currency risk naturally allows for long-term interest rates to be lower than those under a fiat system. Long term interest rates were rarely above 6 percent during the gold standard and in many cases were below 4 percent. (See chart below.)

While some will argue that gold holds back progress, the data suggest just the opposite. When adjusted for the price of gold, household net worth—total assets less total liabilities—is only about 12.5 percent higher now than its pre-1971 peak. The gold-adjusted Dow Jones Industrial Average is about 12 percent *below* its 1965 peak. (See chart on next page.) The average hourly wage rate was about $3/hr. before the U.S. left the gold standard in 1971. Today it is equivalent to $1.27/hr. in gold-adjusted terms. The broader measure of personal income is 6 percent lower now than it was just over three decades ago. Gold-adjusted GDP is 8 percent lower. This is the cost of floating money.

Source: Global Financial Data.com



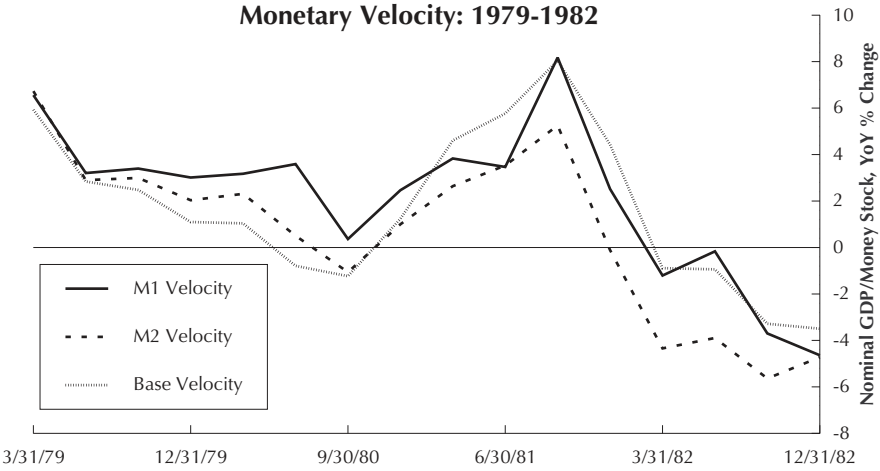
Source: Bloomberg; MKM Partners

An anchored dollar would not only produce growth and rising living standards at home, but it would encourage pro-growth monetary and fiscal change internationally. The benefits of anchoring to a sound dollar would be so great that most countries would likely choose to latch their home currencies to the dollar. This would eliminate the inefficiencies that result from a plethora of floating (and in many cases sinking) exchange rates around the world.

Global currency stability would breed fiscal competition among countries, which is now taking place on a micro scale in the euro zone where virtually every country has moved to lower tax rates since the euro's birth in 1999. A stable monetary system would also cut against the poisonous advice of the International Monetary Fund (IMF), which has persistently encouraged disastrous currency devaluations and destructive tax hikes to client countries. A gold standard would allow the IMF and World Bank to get back to their original mission of helping to foster stability instead of constantly undermining it.

2. Price versus quantity and the failure of monetarism

At its core, any monetary reform has to choose between price and quantity. A price rule seeks to stabilize the value of a currency as a unit of account, which makes it more efficient and desirable as an exchange media across time and space. If price is fixed, quantities adjust to keep the currency's purchasing power constant or "at par" with gold. Conversely, a quantity rule attempts to stabilize values by controlling some definition of money. If quantity is the target, prices and interest must adjust as the



Source: Bloomberg

demand for money changes.

The quantity theory of money typically is associated with Nobel Laureate Milton Freidman, but its origins go all the way back to classical thinkers such as Jean Bodin (1530-1596) and John Locke (1632-1704). David Hume (1711-1776) was the first to expound on the undeniable equation of exchange (MV=PT) or money multiplied by velocity equals prices multiplied by output or transactions.

In order for a quantity rule to work, two critical assumptions need to be satisfied. The first is that the Bank of issue can control some definition of money. The second is that the demand or velocity of some definition money will be stable. Neither of these propositions have ever been satisfied in an environment of fluctuating commodity prices and volatile interest rates. This renders quantity targeting ineffective at best and disastrous at worst.

As can be seen in the chart above, during the U.S.'s experiment with monetarism from 1979-1982, velocities proved to be highly unstable. Interest rates and prices also underwent wild fluctuation as the Federal Reserve tried to stabilize the quantity of money. From 1979 through 1980, the monetary base adjusted for base velocity grew at 10 percent and 9.5 percent respectively while the prices of gold and commodities skyrocketed.

After marginal tax rates began to fall in 1981-82, however, the demand for dollar liquidity picked up while the Fed's M-targets were forcing it to restrict supply. The result was a massive collapse in commodity prices and a debt debacle in Latin America. After Mexico threatened to default on its

dollar debt—collateralized with anticipated oil revenues that vanished as commodity prices sank—Fed Chairman Paul Volcker set aside the quantity targets and eased. This U.S. experiment with quantity targeting ended in August 1982.

Nobel Laureate Robert Mundell summed up the problems inherent in a quantity rule during a recent lecture on poverty reduction and monetary reform:

> Under normal circumstances, it is almost never optimal to fix the money supply or its rate of growth if the objective is to achieve price stability. There are too many different definitions of money; its measure is not easily obtainable on a day-to-day or even weekly basis; the demand for money is quasi-random in the short run, being influenced by exchange rate and interest rate expectations; the meaning of money is constantly changing with innovation and, even if a single definition of a monetary target could be agreed on, it would be rendered obsolete by innovations. *Monetary targeting has failed in every country in which it has been tried [emphasis added]*[1].

3. Price-level targeting: backward-looking inflation leads to policy error

The problems associated with a quantity rule are not eliminated by a so-called price-level targeting based on a government price index like the CPI. Well known problems associated with measurement, weightings, revisions, and re-benchmarks make targeting any specific level or rate of change in a government-constructed price index problematic. Since it takes time for wages and contracts to unwind, price index targeting would at best deliver a monetary policy that would be constantly behind the curve[2].

Using a lagging index of prices as a guide to monetary policy also lays the foundation for persistent policy error. To see why, consider two conflicting signals: crashing commodity prices and a rising index of lagging prices like the CPI. If a central bank chooses to ignore the forward-looking commodity signal and heed the backward-looking price index, monetary tightening would be undertaken at precisely the wrong time. This could turn disinflation into deflation or at a minimum unnecessarily slow growth. Conversely, a central bank could wind up pursuing an inflationary monetary course if it were easing to bring up a lagging inflation rate while commodity prices were exploding.

These theoretical examples apply to the U.S. Fed in the late 1990s and in 2003 even though it was not on a formal price index target. By following backward-looking information, the U.S. Fed essentially mimicked what would have occurred under a price index target and allowed the value of the dollar to rise by about 30 percent against gold and commodities from 1997-2001. During the same period, monetary velocities were crashing

and the dollar's foreign exchange value rose by nearly as much as commodities in dollars fell. These were clear signs that monetary policy was too tight, but the Fed ignored the symptoms and hiked the funds rate above long-term bond yields and nominal GDP growth anyway. A profit and growth collapse followed. Countries that did not throw in the towel on their dollar links all were experiencing outright statistical deflation by mid-2001.

In 2003, the Fed took the opposite strategy and decided to push overnight interest rates to 1 percent in order to ward off deflation risk. This policy was put into place even though commodity prices were rising rapidly, the dollar was falling against foreign exchange and the collapse in monetary velocity was reversing. By following backward-looking information, the Fed looks to have once again erred with higher long-term interest rates and inflation likely to follow.[3]

To avoid these problems and pitfalls, monetary policy needs to be geared around a forward-looking, market price signal that can serve as a proxy for all others. A lightning-speed signal would allow policy to respond sooner rather than later and for the magnitude of the response to be smaller and less disruptive.

4. Why gold is special

According to the World Gold Council, above-ground gold stocks amount to 140,000 metric tones while annual production and consumption (including central bank purchases and sales) run at about 2-3 percent of that volume. Unlike most other hard and soft commodities, any stepped up demands for physical gold surely could be met out of above ground stocks. This means that changes in the price of gold are almost exclusively driven by alterations in the dollar's value. We know this because the price of gold, like any other commodity, is the *ratio of two ratios*: the supply and demand for dollars relative to the supply and demand for gold itself. Gold allows us to isolate the numerator of this ratio, which makes it more important that any other commodity in assessing a central bank's monetary posture.

Swings in the price of gold thus should be viewed as changes in a currency's value arising from an imbalance in the supply of or demand for central bank liquidity. If this imbalance is not corrected by central bank action, a permanent price level change will result over time. In his 1977 magnum opus *The Golden Constant,* statistician Roy Jastram showed that during a four-hundred-year period in England and a two-hundred-year period in the U.S., gold has retained a remarkable constancy of value:

> [O]ver the long run …, gold maintains its purchasing power remarkably well. Basically this is due to the Retrieval Phenomenon. *Gold prices do not chase after commodities;*

commodity prices return to the index level of gold over and over [emphasis added]. This is one of the principal findings of my study (pp. 178-79).

Jastram's investigation also showed that the price of bread in London in 1767 was essentially the same in 1934, 167 years later. Nominal wages rose 4600 percent in London between 1700 and 1972. Since the price level did not follow the explosion in money wages, real wages increased dramatically. In other words, *"an ounce of gold just about held its purchasing power over these centuries, but the value of an hour's labor increased seven-fold"* (p. 184; author's emphasis).

While commodity prices did fluctuate under the gold standard due to business cycles, harvests, tariff changes, and weather, the price level was stable during the long-term. This insured that inflation did not rob workers of their savings or wages. Price-level increases under the gold standard were temporary and even at their extreme never really amounted to more than a 3.5 percent price advance at a compounded annual rate[4].

5. Gold as an error signal

Clearly a credible gold standard requires a thick and thin commitment to exchange paper for specie at the specified price. However, as long as the Bank of issue can get gold on a moment's notice and exchange it for specie, there is no earthly reason for a modern gold standard to require massive quantities of gold to collect dust in bank vaults.

A neoteric gold standard could simply use gold as a monetary traffic light. If the Bank of issue heeds the gold signal by selling bonds to extinguish excess currency and bank reserves (or acquire gold), no threat to the currency's purchasing power would arise. David Ricardo, in his epic *Principles of Political Economy and Taxation*, put it this way:

> On these principles, it will be seen that it is not necessary that paper money should be payable in specie to secure its value; it is only necessary that its quantity should be regulated according to the value of the metal which is declared to be the standard.… A currency is in its most perfect state when it consists wholly of paper money … of an equal value with the gold which it professes to represent. The use of paper instead of gold substitutes the cheapest in place of the most expensive medium, and enables the country, without loss to any individual, to exchange all the gold which it before used for this purpose for raw materials, utensils, and food; by the use of which both its wealth and its enjoyments are increased.[5]

In *Money and the Mechanism of Exchange* (1875) Stanley Jevons described how Ricardo's theory was put into practice in France:

> Assuming an inconvertible paper currency to be issued, and to be entirely in the hands of government, many of the evils of such a system might be avoided if the

issue were limited or reduced the moment that the price of gold in paper rose above par. *As long as the notes and the gold coin which they pretend to represent circulate on a footing of equality, they are as good as convertible [emphasis added].* Since the beginning of the Franco-Prussian war, the Bank of France appears to have acted successfully on this principle, and the inconvertible notes were never depreciated more than about one-half or one percent in spite of the vast political or financial troubles in France.[6]

Moreover, if the market knows that the government will act to secure the currency's value relative to gold, speculative forces will aid rather than thwart the adjustment process. According to Mundell[7]:

As long as the public is aware of and anticipates the link between gold or foreign exchange flows and the money supply adjustment mechanism, speculative forces will assist, rather than frustrate, the achievement of a new equilibrium. The success of the gold standard over long decades was contingent on knowledge and anticipation of the consequences of the re-equilibrium mechanism.... The mechanism, rightly understood, did not require for its implementation either price level or employment changes, since adjustment was contingent on changes in domestic expenditure of one country in the opposite direction to the equivalent change in the rest of the world. *[emphasis added]*

The simple fact is that a government or central bank can effectively raise the value of its currency to any height that it chooses and to drive its price level down to any depth[8] by simply floating a loan and destroying the paper money borrowed[9]. As long as the Bank of issue acts to mop up surplus currency and reserves when necessary by either selling bonds or raising its discount rate to make paper assets more attractive than gold, its currency will remain at par with gold. As a result, paper backed by a bond is just as sound as paper backed by gold. Strict gold "covers" are not necessary and really amount to little more than crude quantity rules masquerading as the gold standard.

6. Domestic convertibility: four essential elements

Any modern gold standard should be erected based on four guiding principles[10]:

- **Gold's chief role should be as an error *signal*.** Gold's usefulness is as error signal, or a light flashing green or red. As long as this signal is heeded with maximum efficiency by the central bank, there should never be a threat to the currency's integrity as a unit of account or the system's sustainability in general.
- **If the dollar is fixed to gold it must be done at an *optimum price* so as to prevent inflation or deflation.** Any move toward a convertible

paper currency would surely be stopped in its tracks if the "wrong price" of gold were selected. If too high a price was chosen (too low a value for the dollar), domestic price inflation and rising interest rates would follow. Creditors would be punished by being paid back with inflated currency. Too low a price (too high a value for the dollar) would force the domestic price level down, increasing real interest rates. This would punish debtors who would have to discharge debts in dearer currency. In order to balance the interests of debtors and creditors and prevent inflation or deflation, the government simply should tell the market that it will once again fix the dollar to gold at or near the price of gold that prevails one month hence[11]. This would allow the market to choose the correct gold price, reducing the probability of an unnecessary price-level adjustment. From a practical standpoint, any price between $350-400 per ounce would probably be appropriate.

- **The modern global economy requires *monetary flexibility*.** Central banking should not be repealed. It should be improved by having as its sole goal ensuring that the domestic monetary unit retains its value relative to gold. This would at a minimum require a repeal of the Humphrey-Hawkins Act of 1978, which directs the Fed to target full employment and growth. Growth and employment should be the job of fiscal policy and only fiscal policy. Taxes, tariffs, regulations and government spending can be altered to influence the growth rate, or aggregate supply curve. The value of the currency (aggregate demand) should be the central bank's task. It is not necessary to embrace free banking or a 100 percent gold-backed currency in order to have a "real" gold standard. If a return to a gold standard is viewed as extreme and painful, the electorate will not embrace it.

- **A gold standard means that paper currency is *convertible* into gold at a fixed price.** In order for the dollar to be as good as gold, economic actors need only be confident that surplus dollars could be presented to the U.S. Treasury or the Fed and exchanged for gold. As long as the supply of dollars is of sufficient scarcity, there should never be a threat to domestic gold reserves.

7. An alternative to domestic convertibility: world convertibility

If no single country is willing to move toward domestic currency convertibility, gold convertibility under the guise of a world central bank is an option. A world central bank could be created by U.S., European and Asian allies. Other countries then could peg their currencies to the world currency. If the world currency retained a constancy of value relative to gold, pegging countries' currencies would also be stable in terms of gold.

World Central Bank (WCB) Balance Sheet

Assets (Trillions U.S. $)		*Liabilities (Trillions U.S. $)*	
Gold	0.50	Reserve Deposits	1.0
Currencies	0.25		
Debts	0.25		

Source: Cato Journal, 1983.

This idea was propounded by Mundell, who outlined five basic functions of a world central bank[12]:

- To provide a global money when it does not exist and it is desirable to create one;
- To provide a source of international money when it is unduly scarce and to curb its growth when it is excessive;
- To act as a risk-bearing intermediary between surplus and deficit countries;
- To reduce, if not eliminate, undesirable and unnecessary fluctuations in exchange rates;
- To provide an intermediary between debtor and creditor countries for rescheduling or funding debt service commitments when ordinary channels and bilateral solutions no longer work.

The Mundell plan envisions a $1 trillion dollar World Central Bank (WCB) that would be able to take in as assets gold, foreign exchange and debt of foreign countries. The Bank could issue a new currency unit whose value was fixed in terms of gold. According to Mundell, "The WCB could take the lead in accepting gold from national central banks that desire more central bank liquidity or in selling gold to those central banks which to reduce their holdings of the world reserve currency." The plan would effectively lay the groundwork for a world currency based on gold.

8. An oasis to convertibility: market prices

An intermediate step to domestic and/or world convertibility could be taken without passing any new laws, repealing old ones, or initiating executive orders. It could be accomplished without even changing the current operating mechanisms of the Federal Reserve. In all likelihood, it *would* require new leadership at the Fed. The idea would be to jettison the Fed's current philosophical fixation with inept monetary models such as the Phillips Curve and output gap. In their place, the Fed would heed signals from a host of sensitive, forward-looking financial market indicators[13]. This method was laid out exhaustively in *Monetary Policy: A Market Price Approach* by Manuel Johnson and Robert Keleher. The forward-looking

approach would use several financial indicators to guide the Fed's bank-rate policy:

- The dollar price of commodities, particularly gold;
- The dollar's forex position;
- Long-term bond yields and the *spread* between long-term bond yields and the Fed funds rate.

This approach views the spread between long rates and the *administered policy rate* as torque behind the money creation process. When the spread is wide, the incentive structure of the banking system is weighted toward stepped up money creation and rising velocity. When the spread is narrow or inverted, a reduced or negative arbitrage situation between the cost of money and the return on it develops. The former is associated with rising commodities prices and a falling dollar while the latter a rising dollar and flat-to-falling commodity prices.

If gold prices are strong, commodities are rising, the foreign exchange value of the dollar is dipping and the spread between long and short rates is wide, it is a sure sign that the Fed has placed its policy rate below an equilibrium level. Conversely, when commodities are falling, the dollar is rising on forex markets and the spread is narrow, the Fed likely has its policy rate north of what would prevail in an equilibrium setting. The Fed would thus monitor the spread between long and short rates along with the evolution of the dollar's value against auction market indicators in order to guide policy action. The goal would be to avoid large deviations in the dollar's value, not to stabilize any of the above mentioned indicators at some specific level.

Using bank-rate policy to foster an environment of equilibrium between the money and commodity markets is not a new concept. The theory was promulgated most clearly and forcefully by Swedish economist Knut Wicksell in a series of writings during the late 19th and early 20th centuries. For Wicksell, what mattered were the arbitrage opportunities that arose or evaporated when the central bank's policy rate deviated from what he called "the natural rate of interest," or the rate that would appear "if liquid capital, production's means of support, was in reality lent in kind without the intervention of money." Wicksell's discovery was in essence a technical and theoretical elaboration of what David Ricardo articulated more than seventy years earlier in describing the Bank of England's discount policy:

> In another part of this work I have endeavoured to show that the real value of a commodity is regulated, not by the accidental advantages which may be enjoyed by some of its producers, but by the real difficulties encountered by the producer who is

least favoured. It is so with respect to the interest for money; it is not regulated by the rate at which the bank will lend, whether it be 5, 4, or 3 per cent., but by the rate of profits which can be made by the employment of capital, and which is totally independent of the quantity or of the value of money. Whether a bank lent one million, ten million, or a hundred millions, they would not permanently alter the market rate of interest; they would alter only the value of the money which they thus issued. The applications to the bank for money, then, depend on the comparison between the rate of profits that may be made by the employment of it, and the rate at which they are willing to lend it. If they charge less than the market rate of interest, there is no amount of money which they might not lend; if they charge more than that rate none but spendthrifts and prodigals would be found to borrow of them. We accordingly find that when the market rate of interest exceeds the rate of 5 per cent. at which the Bank uniformly lend, the discount office is besieged with applicants for money; and, on the contrary, when the market rate is even temporarily under 5 per cent., the clerks of that office have no employment.[14]

As noted, the Wicksellian approach could be accomplished without gold convertibility. To be effective, however, it would need to be guided by forward-looking indicators, not backward-looking "real" variables like growth, employment levels and capacity utilization. The so-called neo-Wicksellian models that use the unemployment rate and the output gap as proxies for the natural rate are nothing more than the Phillips Curve in drag and would not offer a legitimate departure from the current system.

If the market knew the Fed's model was to target sensitive prices, *speculative forces would help the Fed to stabilize the value of the dollar by anticipating a policy response aimed to that end.* This monetary model is based on rational expectations in the Mundellian sense of the term. If executed and communicated correctly, dollar stability would allow the price indices to converge toward zero over time.

It is worth pointing out that there could be times when this process may not work as advertised. Interest rate targeting has proved to be ineffective during periods of financial crisis or when there has been a tremendous rise/fall in the value of the currency. As such, there could be times when it would be best for the Fed to manage its balance sheet directly in order to stabilize the value of the dollar. As long as the fundamental aim of monetary policy was to stabilize the purchasing power of the monetary unit, monetary policy would no longer be a threat to peace and prosperity around the globe. For all practical purposes, we would once again have a currency anchored to something real and all the attendant benefits thereof.

Endnotes

[1] Robert Mundell **[to come]**

[2] Reuven Brenner, *The Force of Finance (*New York: Thomson/Texere, 2002), pp.106-107.

[3] Michael Darda, "The Fed's Last Hurrah," *National Review Online*, June, 24, 2003

[4] Roy Jastram, *The Golden Constant: The English and American Experience 1560-1976* (New York: Wiley & Son's, 1976), p. 183-184.

[5] David Ricardo, *The Principles of Political Economy and Taxation*, 3rd ed., 1821 (London: Everyman's Library, J.M. Dent & Sons, 1911), pp. 239, 244.

[6] Stanley Jevons, *Money and the Mechanism of Exchange*, 1875 (New York: D. Appleton and Co., 1898), p. 226.

[7] Robert Mundell, "International Monetary Options," *Cato Journal*, Vol. 3, No. 1, 1983, pp. 194-95.

[8] Knut Wicksell, *Selected Papers on Economic Theory* (London: George Allen & Unwin, 1958), p. 247.

[9] Ludwig Von Mises, *Human Action, A Treatise on Economics* (Yale University Press, 1949), p. 566.

[10] Jude Wanniski, "Gold Standard Mechanisms," Polyconomics, Inc. December 12, 1997.

[11] The one month transition period was proposed by supply-side economist Arthur Laffer, "The Reinstatement of the Dollar: The Blueprint," in *Experiences of the International Monetary System* (Siena: Monte dei Paschi di Siena, 1983).

[12] Mundell, "International Monetary Options," *op. cit.*

[13] Manuel Johnson and Robert Keleher, *Monetary Policy: A Market Price Approach* (Westport, Conn.: Quorum Books 1996).

[14] Ricardo, op. cit., p. 246.

IS THERE AN ALTERNATIVE TO GOLD?

Richard Sylla

A 21st-century discussion of gold-standard resumption has to begin with gold's advantages and disadvantages compared to alternatives such as a fiat-paper standard.

A nice property of gold as money or as the base of a monetary system is that gold is not easy to produce. The gold stock therefore cannot be changed quickly when people or governments want to have more money to spend. As a consequence, price levels tended to be more stable, at least in the long run, in countries that had gold-based monetary systems than in those that did not. People living under a gold standard therefore had more trust in money and more confidence in money's ability to maintain its purchasing power over time.

On the other hand, a bad property of gold is that it is not easy to produce. That is, gold is expensive in terms of its opportunity costs. Economic resources that might be used to meet such pressing human needs as food, clothing, and shelter, and nourishment of the mind and the soul, are instead diverted by a gold standard from these uses. Miners equipped with expensive capital equipment tunnel into mountains and dig deep into the earth in search of gold ore. Refiners with expensive capital equipment refine the ore into gold bars and ingots. Mints at some expense coin a part of the bullion. And for what purpose are all these resources expended? In the end, people in countries on the gold standard usually preferred paper money and check transfers for most transactions. Much of the gold, therefore, was essentially put back into the ground, in the vaults of central banks, banks, and governments. Although refined gold obviously has a more useful and liquid form than gold ore, the time-honored behavior of extracting gold from the earth to put it back into vaults in the earth made a gold standard seem a "barbarous relic."

A nice property of paper as money is that it is easy and inexpensive to produce. It is also more convenient to carry around than bags of coins and metal ingots. These nice properties of paper were at the heart of John Law's fundamental insights as a monetary theorist. The world would not be ready totally to accept the insights for two and a half centuries after John Law came up with them. But since the 1930s perhaps, and since the 1970s certainly, fiat money has achieved virtually worldwide acceptance. Nonetheless, we ought to remember that a fiat paper standard is not really a recent concept.

On the other hand, a bad property of fiat paper money is that it is easy

and inexpensive to produce. Governments that print paper money and declare it to be legal tender could easily—and some would say, inevitably—be tempted to print too much of it. That would lead to inflation and a loss of confidence in money's ability to maintain its purchasing power.

So gold-based and fiat-paper-based monetary systems have a common characteristic, namely that the advantage of each type of system is also its disadvantage.

I

What are the prospects for re-establishing a gold standard? Is this a good time? To an economic and financial historian, one approach to answering these questions, or at least considering them, is to examine previous occasions in history when hard-money-based monetary systems were established or re-established. In U.S. history, the specie standard (bimetallic—gold and silver) was established in 1791, and resumed after major interruptions at the old parities in 1817-1818 and in 1879. Across the Atlantic, Great Britain famously resumed in 1819-1821, and again in 1925.[1]

Establishing the U.S. specie standard. The U.S. Constitution ratified in 1788 took away the power of states to issue fiat paper money. It was silent on whether the new federal government did or did not have such a power. Nonetheless, Alexander Hamilton, the Founding-Father poster boy of 2004 thanks to the recent best-selling biography by Ron Chernow, thought the federal government ought to heed the warning. In his Report on a National Bank of December 1790, Hamilton wrote as follows:

> The emitting of paper money by the authority of Government is wisely prohibited to the individual States by the National Constitution. And the spirit of that prohibition ought not to be disregarded by the Government of the United States. Though paper emissions under a general authority might have some advantages not applicable, and be free from some disadvantages which are applicable, to the like emissions by the States separately, yet they are of a nature so liable to abuse, and it may be affirmed so certain of being abused, that the wisdom of the Government will be shown in never trusting itself with the use of so seducing and dangerous an expedient. In times of tranquility it might have no ill consequence, it might even be managed in a way to be productive of good; but in great and trying emergencies, there is almost a moral certainty of it becoming mischievous. The stamping of paper is an operation so much easier than the laying of taxes that a government, in the practice of paper emissions, would rarely fail in any such emergency to indulge itself too far in the employment of that resource, to avoid as much as possible one less auspicious to present popularity. If it should not even be carried so far as to be rendered an absolute bubble, it would at least be likely to be extended to a degree, which would occasion an inflated and artificial state of things incompatible with the regular and prosperous course of the

political economy.

> Among other material differences between a paper currency issued by the mere authority of Government, and one issued by a Bank payable in coin is this: That in the first case, there is no standard to which an appeal can be made as to the quantity which will only satisfy or which will surcharge the circulation; in the last the standard results from the demand. If more should be issued than is necessary, it will return upon the bank. Its emissions, as elsewhere intimated, must always be in a compound ratio to the fund [of coin and specie reserves] and to the demand. Whence it is evident that there is a limitation in the nature of the thing, while the discretion of the government is the only measure of the extent of the emissions by its own authority.
>
> This consideration further illustrates the danger of emissions of that sort, and the preference, which is due to bank paper.[2]

Well before Britain's suspension of 1797-1821 and the cogent analyses of Henry Thornton, David Ricardo, and the Bullion Committee (of which Thornton was member) that it provoked, and even longer before the U.S. suspensions of 1814-1817/1818 (outside New England) and 1862-1879, as well as the British suspension of 1914-1925, Hamilton's supple financial mind had grasped the essence of the political economy of fiat-paper and metallic-based standards.

In January 1791, six weeks after the Report on a National Bank, Hamilton delivered to Congress his Report on the Establishment of a Mint. That report essentially defined the bimetallic U.S. dollar as certain weights of silver and gold in the ratio of 15 to 1 as the monetary base of the country. Hamilton was not in ignorance of Gresham's Law. In fact, he stated it very clearly in the Mint Report. Instead, he hoped that the stable relationship of silver to gold that had held for many years would continue, that the U.S. monetary base would consequently be larger than with just one metal, and that the American proponents of one metal or the other would be satisfied by having the dollar defined in terms of each of them. Republican government involves compromises.

Why did all of this happen at that particular time? The main reason is that the United States had just come through a crisis of many dimensions, one of which was monetary. The Continental currency issued by Congress during the War of Independence had become worthless by 1781, and the fiat currencies issued by states during and after the war had also depreciated substantially in relation to specie money. American leaders, witnessing the negative consequences of the excessive issues and depreciations of fiat paper money, vowed to do better. Hamilton became their leader and chief spokesman on these matters. He drew up the plans for an improved system, and led the way to their implementation as the first Secretary of the Treasury from 1789 to 1795.

Britain's suspension and resumption, 1797-1821. Fears of a French invasion, and a small actual invasion in February 1797, led to a run on banks in Britain. An order-in-council quickly exempted the Bank of England from having to convert its liabilities into gold until Parliament could consider what to do. In early March, Parliament endorsed the measure, and Bank of England paper pounds became inconvertible legal tender.

The price level roughly doubled during the Napoleonic Wars from 1797 to 1815, and the gold pound went to a substantial premium over the paper pound in the marketplace. Widespread concern over the depreciation of the paper pound led Parliament in 1810 to appoint a "Select Committee to enquire into the Cause of the High Price of Gold Bullion, and to take into consideration the state of the Circulating Medium, and of the Exchanges between Great Britain and Foreign Parts."

Over a three-month period in spring 1810, the Bullion Committee took testimony from expert witnesses, including representatives of the Bank of England. The Bank witnesses denied that the premium on gold and Britain's depreciated exchange rate was the result of an excessive issue of Bank notes. Such an excessive issue was impossible, they contended, because notes were issued in the process of lending, and borrowers would not pay interest on loans of Bank notes if they did not have a legitimate use for the notes. In short, the discretion of bankers including the central Bank of England would tend to give the country the proper amount of money to meet the needs of trade. The price of gold and the exchange rate were separate, seemingly unrelated problems.

The report of the Bullion Committee begged to differ from the contentions of the Bank of England witnesses. It contended that the suspension of the Bank's obligation to convert its notes to gold gave it discretionary powers over the economy that it was not really able to discharge with any certainty of effectiveness. In a rather understated passage that echoed the stronger statement of Alexander Hamilton (see above) two decades earlier, the Bullion Report said with respect to such discretionary powers:

> In the judgement of the Committee, that is a trust, which it is unreasonable to expect the Directors of the Bank of England should ever be able to discharge. The most detailed knowledge of the actual trade of the Country, combined with the profound science of all the principles of Money and Circulation, would not enable any man or set of men to adjust, and keep always adjusted, the right proportion of circulating medium in a country to the wants of trade.
>
> When the currency consists entirely of the precious metals, or of paper convertible at will into the precious metals, the natural process of commerce, by establishing Exchanges among all the different countries of the world, adjusts in every particular country, the proportion of circulating medium to its actual occasions.... If the natural

> system of currency and circulation be abandoned, and a discretionary issue of paper money substituted in its stead, it is vain to think that any rules can be devised for the exact exercise of such a discretion.[3]

In 1811, Francis Horner, a member of the Bullion Committee, introduced a resolution that convertibility of paper pounds to gold pounds take place in two years from that date instead of six months after peace was restored, as the 1797 act that had suspended convertibility had stipulated. Because the Napoleonic Wars still raged, the resolution was decisively defeated. The Bullion Committee had lost the battle. But it would win the war. After 1815, Britain deflated, restoring the 1797 price level by 1821, when convertibility was resumed.

The U.S. suspension of 1814-1817/18. The United States was swept into the turmoil of the Napoleonic Wars when President James Madison asked Congress to declare war on Britain in 1812. When British forces invaded the Chesapeake Bay area in 1814, U.S. banks everywhere but in New England suspended convertibility.

As the charter of the first Bank of the United States had been allowed to lapse in 1811, the U.S. government did not have the equivalent of Britain's Bank of England during the War of 1812. So instead of having the central bank issue notes to finance government borrowing for the war effort, the U.S. Treasury directly issued short-term, interest-bearing treasury notes that were legal tender for all payments by and to the government. Banks held most of the treasury notes as reserves in support of credit expansion. When the amounts outstanding roughly doubled from early 1814 to the end of the war a year later, banks outside New England suspended convertibility.[4]

During 1816 and 1817, the Treasury redeemed virtually all the treasury notes outstanding by using its deposits at banks to pay them. The nation's banks thus lost both deposits and reserves. Congress chartered the second Bank of the United States in 1816, but in its first years it was little more than an adjunct to the Treasury, which ran central-bank policy. The credit contraction prompted by redemption of treasury notes deflated the price level, allowing resumption of convertibility to occur. The related economic contraction of 1818-1820, marked by many business failures and a financial panic in 1819, was not pleasant. But it gave way after 1820 to the 'era of good feeling' and the central banking career of Nicholas Biddle at the Second Bank.

The U.S. suspension of 1862-1878. Treasury demands for Civil War financing in 1861 produced a consensus among public and private financiers that it was necessary to suspend convertibility of bank liabilities into gold at the start of 1862. Shortly thereafter, Congress authorized a first

issue of United States notes, the fiat legal-tender greenbacks. Unlike the treasury notes of the War of 1812, greenbacks paid no interest. Further issues of greenbacks caused both the price level and the price of gold roughly to double from 1860 to 1864.

After the war ended in 1865, another consensus emerged. The money stock would not be contracted to promote a rapid restoration of convertibility at pre-war parity. Rather, the money stock would be held roughly constant, and economic growth would reduce the price level gradually to the point where resumption of gold convertibility could occur. By 1875, it became apparent that resumption was within striking distance. Congress authorized it as of the start of 1879, when it occurred without incident.

Although resumption was a success, an ominous byproduct of the suspension had emerged. The Constitution had been silent on the question of whether the U.S. government had the right to issue fiat paper currency, although it explicitly had prohibited the states from doing so. Alexander Hamilton in 1790, as we have seen, argued "the spirit of that prohibition ought not to be disregarded by the Government of the United States." But a series of court cases in the greenback era led to *Juilliard v. Greenman* in 1884, in which the Supreme Court ruled that the United States government could constitutionally issue fiat paper money and make it a legal tender even in times of peace. That was after resumption, and it mattered little then. It would matter a lot more in the 20th century.

The British suspension of 1914-1925. In the Anglo-American world, the last successful resumption of gold convertibility after a protracted suspension came in 1925, in the so-called Norman Conquest of 4.86. (Montagu Norman was the Governor of the Bank of England from 1920 to 1944, and 4.86 was the ratio of the gold content of the British pound to that of the U.S. dollar from the 1830s to 1914.) Lasting only six years, this resumption can be described as "successful" in only a quite limited sense.

The scenario of events by now should be familiar. The outbreak of the Great War, later to be called World War I, in 1914, caused Britain to suspend convertibility of paper pounds to gold. The price level rose, and along with it so did the price of gold in terms of paper pounds. After the war, old-fashioned British honor (or honour) dictated deflation and resumption at prewar parity. The mission was accomplished by 1925. But seven million Britons were out of work, and the number of unemployed was rising. That grim statistic, much more than old-fashioned honor, would dictate the course of events for the rest of the 20th century and into the 21st.

II

Can the gold standard be brought back? No, I don't think it can. At least

not now or any time soon.

I base that opinion—and it is only an opinion—partly on my reading of the history just recounted. Resumptions occurred in modern history after major wars caused governments to suspend convertibility. The ensuing inflations of price levels were viewed as bad enough to make opinion leaders in and out of government want not just to end the inflations, but also to undo them by means of policies of deflation. The public went along, not always happily, with such policies until the 20th century. By that century it appears, however, that extensions of the voting franchise and greater awareness of what was happening in the economy made a policy of deflation to restore previous lower levels of prices a ticket to electoral defeat.

For nearly a century now, electorates have been content if price levels stabilize after wartime or peacetime inflations, and then remain fairly stable. There appears to no desire at all to deflate. Indeed, the specter of imminent deflation is enough to set off alarm bells and cause central banks to ease. An annual inflation of two percent is identified as price stability, even though a simple calculation indicates it would cause the purchasing power of money to be halved in less than the typical working careers of most people.

Before the 20th century, deflationary policies aimed at resuming convertibility at old parities were tolerated, often reluctantly, and did not cause a loss of trust in policy leaders. The electorates and labor forces of that era were not regularly treated to national unemployment and job-creation statistics, which did not then exist. Nowadays, when we have such statistics on a regular basis, a "jobless recovery," such as the United States experienced in 2002 and 2003, was thought by some to be a good reason for the Federal Reserve System to keep money "easy" (a zero or negative real federal funds rate), and by others to be an argument for changing the administration in Washington.

Finally, there is no big war now, and no big inflation resulting from it that might cause people to want to go back on the gold standard, with or without going back to old parities and price levels. After twenty or so years of pretty good central bank policy, there is even a great deal of confidence that oracular central bankers can somehow manage to do what the Bullion Committee in 1810 thought that "any man or set of men" could never do, which essentially is to fine-tune the economy to produce stable, non-inflationary growth.

So the time is not propitious for a return to the gold standard, at least any time soon. If there was a chance of doing so within living memory, surely it was in the early 1980s. Then the United States had just come through a

decade and a half in which the annual rate of inflation averaged about 6 percent. Most prices were two to three times higher than they had been in the mid 1960s. Interest rates were double digit, and even the U.S. government had to pay upwards of 15 percent to borrow money for 20 years. Unemployment was also in the double digits. In a reprise of 1810 in Britain, the U.S. Congress created a Gold Commission to inquire into the reasons for the high price of gold and related topics. Unlike Britain seventeen decades earlier, nothing of much consequence resulted from it.

But my doubts about the possibilities for restoring the gold standard are not based on history alone. There are some technical considerations that bear on the political economy of resumption in ways that suggest a tough road to resumption. In the good old days from the 1790s to the 1930s, the dollar was defined in such a way that the price of gold was $20 to $21 an ounce.

President Franklin Roosevelt's New Deal administration changed that to $35 an ounce, but only for international transactions as the gold held by U.S. citizens was "nationalized" and put back into the ground in federal depositories.

In 1971, the "official" price of gold was raised to $38 per ounce.

In 1973, the "official" value of gold became $42.22, a number still used to value the U.S. stock of gold.

In 1975, E. C. Harwood of AIER estimated that an equilibrium price of gold would be in the $130 to $400 range.

Actual market speculation raised the prices paid for gold to $523 at the end of 1979 and to a peak of $850 three weeks into January 1980.

In 1982, the Gold Commission staff narrowed Harwood's range to $230 to $340 per ounce as of 1980, or perhaps from $330 to $490 an ounce using an estimated income elasticity of demand for gold.

At about the same time as the Gold Commission was coming into being, two economists—Robert Flood and Peter Garber—estimated that "any gold price equal to or above $619/oz. must yield a viable gold standard," although that price "is not the lowest price that will yield a viable gold standard."[5]

The attraction of the Flood-Garber analysis is that it comes up with a simple, easy to understand condition to estimate the price that "must yield a viable gold standard." That condition says essentially that a gold standard for the United States is certainly viable if the value of the U.S. gold stock is equal to the amount of outstanding high-powered fiat money—the

fiat monetary base—that would be convertible and could be converted into gold under a gold standard. In the early 1980s, the U.S. gold stock was about 264 million ounces, and the stock of high-powered money was $163.3 billion, yielding a gold price of $619 that would equalize the two in value.

I repeated the Flood-Garber calculation with more recent data. It appears from a recent *Federal Reserve Bulletin* (October 2003) that the U.S. gold stock has changed very little since the early 1980s. By my calculation using the Fed's data, it is about 261.6 million ounces. The same cannot be said for the stock of high-powered money, which has grown from $163 billion in the early 1980s to about $710 billion now. To equalize the value of the gold stock with that of the stock of high-powered money would now require a gold price of some $2,714 per ounce.

Like Flood and Garber, I hasten to add that such a "high" price for gold is not the lowest price that would yield a viable gold standard. It is only the price that would make all of the government's monetary-base liabilities convertible entirely into gold, meaning that a run on the gold stock could not by itself succeed in forcing a suspension of convertibility, as such runs did or almost did (in the mid 1890s) at previous times in history.

The current market price of gold is around $400 per ounce. We can imagine all sorts of things that would happen if the President of the United States came on television tonight to announce that, as of tomorrow morning, the U.S. government would buy or sell gold at, say, $2,700 an ounce, or even half of that, thus re-establishing the gold standard. Were that to be done, it probably ought not to be done tomorrow morning, but only after an international monetary conference, and in cooperation with the Europeans, who now hold in the euro zone about 30 percent more gold than does the United States, and possibly with the British, the Japanese, and others as well.

I am less interested in what the "What if…?" imaginings would find than in an implication of the last few paragraphs. Around the time of the Bullion Report in Britain, Henry Thornton argued that the longer a nation stayed off gold, the harder it would be re-establish the gold standard. I suspect he was right. Events of the last seven decades have taken the market price of gold from $20 up to $850 an ounce, and now back to around $400 an ounce. If the Flood-Garber analysis is roughly correct, establishing not just any gold standard, but a viable one, might well require a substantially higher price than any we have seen thus far. There would be a lot of windfall winners from such a price, as well as a lot of losers. Others less directly involved would nonetheless smell all sorts of rats. Wise politicians would likely shy away from this.

Suppose despite all these problems that it could be done. Should it be done? Would it be successful? I have some doubts. In the 18th and 19th centuries, the international gold standard emerged as more and more of the leading countries in the world economy defined their national currencies as certain weights of gold. Those definitions established fixed-par of exchange rates, and then trade and capital flows distributed the world's growing stock of gold among the leading countries to support the operation of the classical gold standard. But large parts of the world remained less developed economically and played little part in the international monetary system. Great per capita income gaps opened up between the developed and less developed nations and areas of the world. Nonetheless, even with the major new gold discoveries of the 19th century, all of the economic growth in the modernizing nations of Western Europe, North America, and Japan imparted a deflationary bias to 19th-century price levels. And this was despite the fact that the extension of modern banking technologies vastly supplemented money stocks with bank notes and checkbook moneys far beyond the monetary base of gold. These innovations of bank money also led to more than a few "old-fashioned" convertibility crises.

As the 20th century progressed, the economic development of a comparatively small number of countries in the 19th century became the goal of every country in a world of many more countries after old empires gave way to new nations. Moreover, world economic growth in the 20th century, as the rich countries continued to grow and as many lagging latecomers to economic modernization also began to grow, was at the highest rate of any century in history. Had the world maintained the old gold standards with a dollar price of $21/oz. or even $35/oz., it is quite likely that the 20th century, like the 19th century, would have had a worldwide tendency toward price-level deflation. It would have been an unavoidable consequence of the economic growth rate of the world (say, 3-5 percent per year) exceeding the growth rate of gold production (say, 1-3 percent per year).

The problem, as already mentioned, is that the electorates and policymakers of the 20th and 21st centuries appear to have considerably less tolerance for price deflation than did those of the 19th century, the heyday of the gold standard. A quarter-century ago, I argued in two articles that monetary innovation is a fact of history, and that it occurs when existing monetary arrangements are strained by new developments, one of which is a higher rate of economic growth than anyone had anticipated.[6] One can view the vast extension of banking and bank moneys convertible into hard-money bases of the 19th century as an example of such monetary innovation, and even they could not prevent a tendency toward deflation. The fiat paper moneys of the 20th century, although introduced for many reasons, can also be viewed as monetary innovations designed to accommodate the

economic growth of nations and the world in ways that might have stressed and strained the old gold standard.

There can be no question that the current high price of gold, like the high price of gold at the time of the Bullion Report two centuries ago, is mainly the result of fiat currency debasement of the type Alexander Hamilton warned against more than two centuries ago. But it is at least in part a result of a faster rate of growth of the world's production of goods and services than of its gold stocks. The conclusion I draw from this is that in a world disinclined to tolerate deflation, the price of gold might have to be adjusted upward from time to time in order to make a gold standard viable. But who would make such decisions? When? And would the result really be a gold standard?

There are thus some major economic problems and political risks that would have to be faced if there is to be a serious attempt to resume the gold standard. Rather than taking on such complicated problems and risks, wise politicians might be better advised to defend recent gains in monetary management that seem to have resulted in greater economic stability since the early 1980s than was the case in the 1930s and the late 1960s and the 1970s. These gains are not free from attack. Hardly had the European Central Bank appeared in 1999 than it was attacked in a lead article by two Princeton University politics professors in the prestigious journal *Foreign Affairs* for "its almost complete freedom from democratic oversight and control."[7] The ECB's independence of politicians, it said, turned monetary policy over "to unelected and often unaccountable technocrats." The authors even attacked their Princeton colleague Alan Blinder, who as a former member of the president's Council of Economic Advisors and also a former Federal Reserve vice-chairman was described as one of the "most thoughtful advocates of central-bank independence," but one who unfortunately showed a "disdain for democratic policy-making."

Jeffersonian democratic earnestness as well as the old American populist tradition holding that the politicians of the moment ought to set monetary policy are alive and well in 21st-century America. More than that, they are recommended for Europe and all other places as well. The thoughts of Alexander Hamilton, the Bullion Committee, and modern-day gold-standard resumptionists are at the opposite end of the political-economy spectrum. In between there is perhaps a middle ground also worth defending.

III

Defending the middle ground just referred to involves finding a viable alternative to gold, assuming as I do that a return to gold is not likely just

now or in the foreseeable future. There have been suggestions. One is a Friedman rule: discern the rate of growth of the money stock that is consistent with long-run price stability, and then let the money stock grow at that rate month after month. Presumably the rule might be subject to another rule allowing some adjustment of the rate if the original discernment turned out not to produce the desired end.

Inflation targeting is another suggestion. The central bank would set an inflation target (modest or zero, one would hope), announce it, and then work to achieve it with all the tools of central banking. A forthcoming study contends that inflation targeting tends to stabilize expectations of inflation in response to changes in actual inflation in countries that practice it (Australia, Canada, New Zealand, Sweden, and the U.K.) as compared with countries that don't (Japan and the United States). In response, some Fed policymakers contend that inflation targeting has a downside in reducing the discretion a central bank might need to respond to changing macroeconomic conditions and one-time events.[8] In new guises, it is the old debate over rules versus discretion in monetary policy.

A third approach, the so-called Taylor Rule (after John Taylor, Stanford University economist and sometime federal official) combines rules with discretion.[9] It calls for the central bank to establish an inflation target and a federal funds rate consistent with reaching it in the long run, but to vary the federal funds rate to "lean against the wind" in the short run, raising it when the economy overheats (as measured by actual inflation or by current output exceeding potential output consistent with non-rising inflation) or lowering the federal funds rate when current output is below potential output.

Is a Taylor Rule more discretion than rule? Some would argue that it is, and that it is rather akin to the old Phillips Curve concept of a policy tradeoff between inflation and unemployment. Phillips-Curve monetary policies more concerned with unemployment (roughly speaking, current output below potential output) than with inflation may have led to the "great inflation" and "stagflation" of the late 1960s and 1970s. That experience gave discretion a bad name.

Recognizing the failures of monetary policy during the "Great Inflation," influential economists and policymakers in the past decade have put a new spin on Taylor-like rules, calling them "constrained discretion." Economist and Fed governor Ben Bernanke uses the term to describe "the middle ground between the inflexibility of ironclad rules and the instability of unfettered discretion."[10] Bernanke defines constrained discretion by "two simple and parsimonious principles:"

First, through its words and (especially) its actions, *the central bank must establish a strong commitment to keeping inflation low and stable.*

Second, *subject to the condition that inflation be kept low and stable*, and to the extent possible given our uncertainties about the structure of the economy and the effects of policy, *monetary policy should strive to limit cyclical swings in resource utilization.*

This sounds a lot like a Taylor Rule with strong priority given to controlling inflation. But what guarantees us that the current Fed or the next one, or the one after that, would follow such a rule? And even if the Fed wanted to follow it, what guarantees that Congress, whose creature the Fed is, would allow it to do so? Where do the constraints on discretion come from?

Is there an alternative to gold? If I am right about gold's slim prospects for a comeback as a monetary standard, let's hope so. What might it be? Friedman-type rules, inflation targeting, and Taylor-type rules could be steps in the right direction toward the elusive goal of stabilizing the value of money. But adopting them is just like adopting the gold standard and resuming it after it is suspended—all are steps of discretion. So for that matter is adopting fiat paper. Of that standard, recall the words of Hamilton: "… the wisdom of the Government will be shown in never trusting itself with the use of so seducing and dangerous an expedient. In times of tranquility it might have no ill consequence, it might even be managed in a way to be productive of good; but in great and trying circumstances there is almost a moral certainty of it becoming mischievous." We have seen examples of both monetary mischief and arguably effective monetary management under the fiat paper standard during the past four decades. How under a fiat paper standard can we raise the probability down the road of having the latter? That in my estimation is the key question of our time in relation to money.

Bernanke's "constrained discretion" is a concept that suggests answers to this key question. The problem now is that it is just a nice-sounding term. Much as we would like to think otherwise, there are no strong constraints on either the Fed's or Congress's discretion when it comes to money. But perhaps there could be such constraints, if they were created and observed. That after all is what constitutional government is about—restraining the discretion of those in governmental authority. If the United States could produce an effective form of overall government with constrained discretion—with checks and balances in and between the levels of governmental authority in a federal system—more than 200 years ago, surely it ought to be able to do so, if only it set the task for itself, in the realm of money. That might lead to an alternative to gold, and an alterna-

tive to Hamilton's 1791 suggestion that the United States government follow the same constraint on fiat paper money creation that the Constitution applied to U.S. states.

If gold is to have a chance for a comeback, it likely will be in response to a major war coupled with high inflation, one of those "great and trying circumstances" such as led to the adoption of metallic standards in the first place, and to returns to them after they were temporarily suspended. Would we want to hope for such a crisis? Probably not. Will we have such a crisis? Probably. But we might be able to avoid it if we find a way before it happens to put constraints on the discretion of the monetary authorities and the government of which they are a part. A gold standard is one way of doing this, but as I emphasized at the outset of this essay, it is an expensive way. And it has other problems in a world in which economic growth outstrips the growth of the gold stock. A gold standard, however, might not be the only way of increasing confidence in the longer-term value of money by constraining the discretion of monetary authorities and governments. Finding and implementing an alternative that works tolerably well is one of the key unfinished tasks of political economy in the 21st century.

Endnotes

[1] John Wood, *Monetary Policy in Democracies: Four Resumptions and the Great Depression*, AIER Economic Education Bulletin, 40, 3 (March 2000) discusses several of these episodes in some detail, so that here I can be brief.

[2] Harold C. Syrett, ed., *The Papers of Alexander Hamilton* (New York: Columbia University Press, 1961-87), vol. VII, pp. 321-22. (Punctuation and spelling slightly modernized.)

[3] As quoted by Peter L. Bernstein, *The Power of Gold: The History of an Obsession* (New York: Wiley, 2000), p. 214.

[4] See Richard H. Timberlake, *Monetary Policy in the United States: An Intellectual and Institutional History* (Chicago: University of Chicago Press, 1993), Chapter 2.

[5] Robert P. Flood and Peter M. Garber, "Bubbles, Runs, and Gold Monetization," in Paul Wachtel, ed., *Crises in the Economic and Financial Structure* (Lexington, MA: Lexington Books/D.C. Heath, 1982), 275-94.

[6] See Richard Sylla, "Monetary Innovation and Crises in American Economic History," in Paul Wachtel, ed., *Crises in the Economic and Financial Structure* (Lexington, MA: D.C. Heath & Co., 1982), 23-40; and "Monetary Innovation in America," *Journal of Economic History* 42 (March 1982), 21-30.

[7] Sheri Berman and Kathleen R. McNamara, "Bank on Democracy: Why Central Banks Need Public Oversight," *Foreign Affairs* (March/April 1999), pp. 1-8.

[8] Andrew T. Levin, Fabio M. Natalucci, and Jeremy M. Piger, "The Macroeconomic Effects of Inflation Targeting," *Federal Reserve Bank of St. Louis Review* 86 (July/August 2004).

[9] A concise description of the rule is given by Charles T. Carlstron and Timothy S. Fuerst, "The Taylor Rule: A Guidepost for Monetary Policy?" *Economic Commentary,* Federal Reserve Bank of Cleveland Research Department (July 2003), available at www.clev.frb.org/research.

[10] "'Constrained Discretion' and Monetary Policy," remarks by Governor Ben S. Bernanke before the Money Marketeers of New York University, New York, New York, February 2, 2003, available at www.federalreserve.gov/boarddocs/speeches/2003.

COMMENTARY

Michael W. Crook

THE papers presented by Michael Darda and Richard Sylla both support two general conclusions that we have touched on over the past two days. First, by historical standards we are not at a suitable time for the resumption of the gold standard, and second, it might be more appropriate to work within the current monetary environment utilizing alternative methods to add the benefits of the gold standard without undertaking a "resumption" in the typical sense. Practically, a "middle ground" is needed to achieve any reforms at present time.

A movement for resumption is not presently gaining, and will not gain, any traction politically in Washington. It can be readily assumed that Bill Clinton and James Carville never considered gold resumption as an agenda for the campaign. The same can be said of George W. Bush and Karl Rove. The gold standard has not been a politically debated topic for over 25 years and shows no signs of a return. We have heard more than once that the high inflation period of the early 1980s would have been the most opportune time to resume in recent history. I believe that it is important to recognize that it did not happen. It was the best opportunity, but it did not occur. That is meaningful in itself, and should further the conclusion that a resumption, in the historical sense, will probably not occur absent serious economic crisis. Even then, it is possible that the citizens will scream for more government protection and control instead of recognizing how destructive a force regulation can be to markets. As mentioned by Sylla, politicians must keep an ever-watchful eye on a handful of economic indicators that are continuously updated and reported in the media. This is a different political situation than past presidents and politicians had to deal with. Add to this the empirical research that shows electorates only have a one or two year memory come election time and there is not much room for structural changes in the monetary system, even in moderate economic times. The "growing pains" associated with historical resumptions would surely be enough to lose an election. In that case, what chance does a gold resumption have?

So what are the requisites for a successful gold resumption? To summarize our speakers over the past two days, we would need

1. a strong, charismatic leader,
2. major inflation with a crisis of some sort, and
3. (my own addition) a committee of ex-soviet planners to tell us what the price should be set at.

I am not going to say anything further about what the price of gold should be, except that it only makes sense to have it set by the market, not government planners, professors at a conference, or day laborers. Any attempt to "price" gold would be inefficient. Doing so has caused problems in the past, and we should expect the same now.

This point is where I tend to disagree with many of the supporters of the gold standard at this conference. I can see no reason why a government-run gold standard is any better than our current system, especially if there is a lack of accountability. Historically, the gold standard has been abandoned in times of fiscal crisis, and there is no reason to believe that the same thing would not happen in the future, or that there will be any fewer crises. I believe that one of the main failings of the gold standard is its inability to weather a fiscal crisis. Politics can be blamed for the crisis, but we need a system that operates effectively under those conditions.

Along with John Wood, I have offered an alternative solution to this problem in a paper included in this volume. It is the possibility of a private resumption, one where the current regulatory environment is coupled with the steady erosion of the dollar's value as a holding currency over time. We do not know when a resumption will start to take place, or even if it will, but if the market chooses to undertake the resumption it will do so.

Briefly, we propose a situation where the government follows a policy of forbearance. Improvements in technology and deregulation help lead to a situation where firms offer demand deposit accounts denominated in gold. Currency is not necessary, considering that 99 percent of the value of transactions is handled electronically. In this situation, more and more institutions and individuals could switch to using gold-backed currency, as they deemed fit. Over time, there might be a private resumption in which the more sound gold-backed currency is chosen over the fiat currency we use today. A more extensive analysis can be found in the paper.

So what would this accomplish? For one, the Treasury would find itself competing with another currency. As long as our assumption of forbearance holds, this competition would force the Treasury to act reasonably and credibly in an attempt to maintain the value of its currency. The market would determine how well the Treasury does this task, and we could end up with anything from a still monopolized dollar currency to a mixed use of both or to a complete transition to gold-backed currency. One thing is certain, and that is that the Treasury would not be able to inject worthless fiat currency into the system to meet obligations. To meet large increases in revenue, it would have to devise methods that would maintain the value of the dollar while allowing it to compete with others to borrow funds. Overall, fiscal policy would be more conservative and restrained. Credibil-

ity is the issue at that point, and a long-term commitment would be forced.

In effect, the route to a private resumption briefly mentioned above would accomplish many of the "essential elements" that Michael Darda mentioned, specifically monetary flexibility to create price stability. There is no more flexible system than one that will naturally change to achieve price stability as the market deems necessary. Just the prospect of competing against another currency would force the Treasury to ensure price stability.

COMMENTARY: INTERNATIONAL PRIVATE MONEY

Robert E. Wright

PROFESSOR Sylla asks: "Is there an alternative to gold?" I answer: "No, but there could be." The alternative that I propose is a form of international private money.

The problem with Professor Sylla's paper, of course, is that it does not confront the problem of the Central Planner. Professor Sylla seems to think that if we tweak the Constitution or the central bank's mandate in just the right way we can all rest easy. Since I have never heard him espouse any other form of central planning, and cannot believe that a student of Gerschenkron would ever turn commie, I must conclude that he believes that monetary policy is somehow an exception, that an institution that we would not trust to determine the price or quantity of chewing gum is able to properly set short-term interest rates or the money supply. Michael Darda is closer to the truth, I think, when he notes, following Robert Mundell and other modern theorists, that getting discretionary monetary policy right is tricky business indeed.

As Crook and Wood point out, nineteenth century theorist Henry Carey had it right too: "Were the government to *regulate* the markets, as they do the currency, there would be a succession of over supplies." We could cite many other authorities too, including David Ricardo, who was fond of arguing that "neither a State nor a Bank ever have had the unrestricted power of issuing paper money, without abusing that power." To be fair to Professor Sylla, Ricardo also argued that in a "free country, with an enlightened legislature, the power of issuing paper money … might be safely lodged in the hands of commissioners … and they might be made totally independent of the control of ministers." Of course Ricardo referred to a system where paper money remained fully convertible "at the will of the holder"[1] or, as Darda points out, where the independent commissioners soaked up excess paper money whenever gold began to sell at a premium to paper. Colonial Pennsylvania, New York, and New Jersey managed to put paper money into circulation with salubrious results with a similar mechanism, the careful monitoring of the amount of circulating coin and the price of paper in terms of specie.

Professor Sylla is never wrong, so I grant that his proposals may make the central planner less inefficient, if you will allow that circumlocution. But I doubt that any central planner can ever be efficient, except perhaps temporarily and through pure dumb luck. The world is a complex place. It generally yields its secrets only to the most powerful computing device yet

devised, the neural network that economists call "the market."

Mr. Hathaway, in contrast, knows that central planning is bound to fail. He has generously provided us with not one but three papers, the gist of which appear to be that we might not be far away from a dollar meltdown. I am an historian, not a prognosticator, so I won't venture to guess if he, and the slew of impeccable authorities that he cites, is correct or not. I do know this, though: fiat money is a crappy investment. The stuff almost constantly loses purchasing power and worse still at a rate that apparently nobody can successfully predict on a regular basis. Worse, most fiat currencies are horribly undiversified. Just look at the Fed's balance sheet: a little gold, a few dollar-denominated loans, a smidgen of foreign exchange, and a big old pile of Treasuries.

So why do people hold fiat money? Well, because other people do and there are network effects. And at some level people hold fiat money because the government forces them to. That puts quite a damper on monetary innovation. But if Crook and Wood are correct when they surmise that governments might give up their monopolies on currency issuance, we can begin to dream up alternatives.

"The next time around," Mr. Hathaway advises us, "respect history." As one of only perhaps a few score living persons who have made serious study of monetary and financial history, I cannot argue with that, if only because the prospect of monopoly rents and recognition intrigues me. "Anchor a new global currency to something that has real money value," he further advises. Again, no quibbles there. But what precisely is "real money value?"

Sr. Price provides us with a key insight: What is needed is a medium of exchange that cannot depreciate. Holding such a medium is a no-brainer, so I agree that demand for it would be strong. Furthermore, the proposed institutional mechanism for achieving non-depreciation, a hybrid coin that has both a legal tender and a significant intrinsic value, is ingenious. In fact, it bears a striking resemblance to the practices of early American merchants and governments, which regularly rated foreign coins in terms of their respective local units of account. So, for example, in 1795 the U.S. federal government rated the Dutch Florin at $0.40. The coins could be exchanged at a premium but were a legal tender in private contracts at their official rating. The major difference with Price's plan is that the ratings could go up or down and banks and merchants played a major role in their determination.

The fatal flaw in Sr. Price's plan—and Darda's too I fear—is that it relies too heavily on the government. Sometimes governments do the right

thing but, alas, often they do not. There are simply too many opportunities for graft in the scheme and the cavalier way that Sr. Price chose a seigniorage rate of 10 percent points to the lack of competition inherent in his scheme. Moreover, if the commitment never to reduce the legal tender value of his Libertads is an ironclad one, a long term secular decline in the price of silver would reduce the coins to just another form of fiduciary coinage, with, for instance, a tender price of 100 pesos and a market value of, say, 30 or 40 pesos.

How else could we create a medium of exchange that only appreciates? A few years ago it occurred to me that an international money market mutual fund (IMMMF) could easily issue liabilities that would supplant the world's weaker currencies. After all, the dollar, awful as it is, has replaced weak fiat monies in a number of countries. What, then, prevents a private money issuer offering a superior product from doing likewise? Certainly not entrenched interests. Darda rightly points out that Wall Street is not likely to back a return to the gold standard. But there is serious wealth to be made by supplying the world with an exchange medium. The margins will likely be slim, but the volumes involved would be unprecedented.

Here are the bare outlines of the plan, which admittedly has holes. My partner Virgy Quist and I have plugged the largest of those holes, but you will have to fork over some gold to induce us to turn over the details.

1. Establish a money market mutual fund in optimal offshore haven(s). (Ah, those details!)
2. Issue liabilities in the form of shares, along the usual model, but offer investors the option of receiving bearer shares analogous to banknotes.
3. Endow the bearer shares with the latest anti-counterfeiting devices. (More details.)
4. Invest the fiat currencies received for the shares in a safe, balanced international portfolio, which will include some precious metals, designed initially perhaps to net an average of 1 to 2 percent per year. (Many more details but suffice it to say that the institution's balance sheet would be considerably more complex than Mundell's plan as outlined in Darda's paper.)
5. Denominate the shares in a new, private unit of account. In other words, the shares will not be denominated in dollars, or yen, or any other fiat currency. Each share might be called, for lack of a better term, a Hamilton.
6. To minimize redemption, encourage dealers to create a secondary

market for the shares. Assuming the portfolio is properly managed, over time each Hamilton would purchase an increasing number of units of fiat currencies.

Needless to say, entry would be unrestricted, so over time competition would produce the optimum set or sets of arrangements.

The advantages of this plan are several. First, money market mutual funds are inherently stable. Because money market mutual fund portfolios are relatively transparent and liquid, their shares do not need to be insured and to my knowledge no honest money market fund has ever been run upon. Second, due to its international operations and global portfolio, the fund will be less exposed to country risk than fiat currencies typically are. Third, as a mutual fund, conflicts of interest could easily be mitigated by paying fund managers in Hamiltons and insisting that they keep most of their net worth invested in Hamiltons or Hamilton-denominated assets.

That is right, Hamilton-denominated assets. As Hamiltons out-compete weak fiat currencies, employees will begin to regularly exchange their paychecks for Hamiltons. Soon, they will begin to insist that their employers pay them in Hamiltons and that storekeepers quote prices in Hamiltons. Not long thereafter, the public will call for Hamiltonization of the economy. In most places, that will be much more politically palatable than dollarization. (Of course the shares need not be called Hamiltons if that is considered too American. It is originally a Scottish surname so it could pay tribute to Scotland's legendary banks as well as to the first U.S. Treasury Secretary.)

Essentially what I am calling for is the creation of competing, private international banks of issue. Not tied to politics and unable, at least initially, to create money when a demand for it does not exist, IMMMFs would be restrained only by the demands of the market. Assuming that Crook and Wood are correct about governments not strenuously seeking to protect their currency issuance monopolies, central banks would be forced to compete with the IMMMFs or wither away. Either way, market participants, and not politicians, would again decide the constitution of money.

Endnotes

[1] Piero Sraffa and M.H. Dobb, eds., *The Works and Correspondence of David Ricardo*. (London: Cambridge University Press, 1951), 1:356, 362-363.

GENERAL DISCUSSION: THIRD SESSION

Baker presented a brief seminar on exchange-traded funds that could be extended to gold.

Larry Pratt wondered whether the early 1980s was really a window of opportunity to return to gold. How would the last twenty years have been different if we had returned to gold in 1980?

Wood thought that a serious return to gold in 1980 would have required very different financial policies on the part of the government, especially the absence of large deficits.

THE TRIUMPH OF PRIVATE DISCRETION OVER OFFICIAL RULES

John H. Wood

The best-laid schemes o' mice an' men
Gang aft agley.

Robert Burns, *To a Mouse, on Turning Her up in Her Nest with the Plough*.

The restored gold standard of the 1930s had no institutional framework and was diversely operated, mainly by national governments and politicians, for national ends: the old gold standard had been operated by monetary technicians, according to widely accepted technical criteria.

W.M. Scammell, "The Working of the Gold Standard."

... economists ought to stop acting as if they were advising benevolent despots. If you want to improve government, you must try to improve the rules of the game rather than the individual players.

James Buchanan, "Interview," Federal Reserve Bank of Richmond *Region Focus*, Spring 2004, p. 34.

WE are gathered here this evening in the eyes of Adam Smith, who taught us that "It is not from the benevolence of the butcher, the baker, the brewer, or the banker that we expect our dinner, but from their regard to their own self-interest," which leads them like "an invisible hand to procure ends which were no part of their intentions.... Their uniform, constant, and uninterrupted efforts to better their conditions are powerful enough to maintain the natural progress of things toward improvement, in spite of both the extravagance of government (which presumably includes advisors) and of the greatest errors of administration. Like the unknown principle of animal life, they frequently restore health and vigour to the constitution, in spite not only of the disease but of the absurd prescriptions of the doctor."[1]

Some of these prescriptions—and their modifications in practice—are the subject of my brief talk this evening. I hope that it will serve as part of the backdrop for our conference. Maybe as students of Smith we should consider not how the experts ought to impose a monetary system, as if they could know, but how traders might do it themselves in their own interests.

British Resumption, 1819-21

The Bank of England suspended convertibility during the war with France and the gold value of the paper pound was depreciated 10 to 25 percent most of the war. After four years of peace, it was still inconvert-

ible, 3 percent below par, and the Government was tired of waiting on the Bank. It laid down a path in the Resumption Act of 1819, which was the first statutory monetary rule beyond convertibility, if only for a transition: The Bank was directed to deliver gold on demand for notes 4 percent less than par beginning February 1, 1820, 2 percent below par from October 1, 1820, and for par from May 1, 1821.[2] The Bank could go faster if conditions were favorable, but it might not reverse course.

It protested the burdens of an Act that made it responsible for the currency under a system that required it to anticipate the future:

> If the Directors of the Bank have a true comprehension of the [Act, they wrote to the Chancellor], they are obliged to infer that the object … is to secure, at every hazard, and under every possible variation of circumstances, the return of payments in Gold at mint price for Bank Notes at the expiration of two years….
>
> The Directors … cannot but feel a repugnance [toward] a System which, in their opinion, in all its great tendencies and operations, concerns the Country in general more than the immediate interests of the Bank….
>
> It is impossible for them to decide beforehand what shall be the course of events for the next two, much less for the next four years; they have no right to hazard a flattering conjecture, for which they have not real grounds, in which they may be disappointed, and for which they may be considered responsible. They cannot venture to advise an unrelenting continuance of pecuniary pressures upon the Commercial world of which it is impossible for them either to foresee or estimate the consequences.
>
> *Representation by the Directors of the Bank of England to the Chancellor of the Exchequer,* May 20, 1819.[3]

Several merchants and bankers had testified to parliamentary committees that they feared the planned deflation, which was to be supported by a substantial repayment of the Government's debt;[4] but Ricardo defended the plan in the House of Commons as a "trivial exercise" that raised the currency only 3 percent.[5] It was, he wrote, a "triumph of science and truth over prejudice and error."[6]

In the event, the price of gold dropped to par almost immediately as its anticipation led to gold sales for Bank notes, and full convertibility at par was achieved in less than two years. That was the good news. The bad news was the realization of the feared deflation, as Bank credit and prices fell a third between 1819 and 1822.

The historian A.W. Acworth, Keynes's student, wrote about this episode (I would say ironically) that "The success of even the best thought-out scheme depends to a great extent on the efficient co-operation of those who are to put it into practice."[7] The Bank accumulated gold but did not use it as a basis for credit. Its 5 percent rate of interest, which had been too

low in war, was too high in peace. Thomas Tooke believed that the Bank did not aggressively pursue a deflationary policy, but was "simply passive in the regulation of [its] issues, following the routine by which they were guided previously to 1819."[8]

The Independent Treasury, 1846-1914

> *Be it enacted* …, Sec. 6. That the treasurer of the United States … and all public officers … are hereby required to keep safely, without loaning, using, depositing in banks, or exchanging for other funds than as allowed by this act, all the public money collected by them … till the same is ordered by the proper department or officer of the Government to be transferred or paid out….
>
> Sec. 18. That … all duties, taxes, sales of public lands, debts, and sums of money accruing or becoming due to the United States … shall be paid in gold and silver coin only, or in treasury notes ….
>
> Sec. 19. That … every officer or agent engaged in making disbursements on account of the United States … shall make all payments in gold and silver coin, or in treasury notes if the creditor agree to receive said notes …
>
> *The Independent Treasury Act*, August 6, 1846.[9]

United States deposits became a political football after their withdrawal from the Bank of the United States in 1833, for example, their shifts to President Jackson's "pet banks." Congress sought to avoid the problem in the Independent Treasury Act of 1846, which directed the Treasury to keep its money in its own vaults.[10]

The new system exposed the monetary base to shocks from federal budgets. Seasonal movements in net Treasury receipts often absorbed reserves in active times such as the autumn crop movements. The fiscal surpluses common to peace had longer-term deflationary effects.

The Treasury soon got around these stringencies by early payments of interest and debt redemptions, that is, open-market purchases. Secretary Guthrie reported in the summer of 1853 that[11]

> … the amount still continuing to accumulate in the Treasury, apprehensions were entertained that a contraction of discounts by the city banks of New York would result, … and … might have an injurious influence on financial and commercial operations. With a view, therefore, to give public assurance that money would not be permitted to accumulate in the Treasury, a public offer was made on the 30th of July to redeem … $5 million of the loans of 1847 and 1848 …

In the next century, Secretary Shaw declared selected commercial banks to be offices of the Treasury.[12] We should note that many Treasury officials came from or went to the financial sector, and of course the Treasury as a borrower has a stake in the viability of the financial markets.

The first decade of the 20th century is regarded as the heyday of the Treasury's monetary policy, in which, according to Friedman and Schwartz, its "central-banking activities … were being converted from emergency measures to a fairly regular and predictable" pattern of open-market operations and variations in bank deposits (equivalent to the later discount window).[13] When he was criticized for violating the Act, Shaw replied: "It has been the fixed policy of the Treasury Department for more than half a century to anticipate monetary stringencies, and so far as possible prevent panics."[14]

The Bank Charter Act of 1844

Parliament's renewal of the Bank of England's charter in 1844 reaffirmed its monopoly of legal-tender currency but tied it to the Bank's gold in the manner of later currency boards. Bank notes would be issued or redeemed—one-for-one—for gold, thus removing discretion from the note issue.

In 1847, the end of a railway boom and gold exports due to poor harvests produced a liquidity crisis and a panic demand for Bank notes. The Government eventually told the Bank to lend as freely as it wished, and if this involved an increase in the issue beyond the legal maximum, Parliament would be asked for an act of indemnity. The Chancellor suggested that a rate of interest of at least 8 percent be charged. We are told that news of the Act's suspension restored confidence, and notes, now that they could be had, were no longer wanted. The new notes that had been hastily printed by the Bank were not taken, and the legal issue was not exceeded.

The Act was as good as the wit of man allowed. But no one could tell the future. In simultaneously defending the Act and the Government's decision to break it, the Chancellor told the House of Commons that the Government had followed the course recommended by the best authorities:

> For all contingencies which can be reasonably anticipated, and which are susceptible of being previously defined by law, the firm application of … the Bill is essential. [However], should a crisis ever arrive 'baffling all ordinary calculations' and not amenable to the application of any ordinary principle, the remedy must be sought not in the previous provisions of the law, but, … "in the discretion of those who may then be at the head of affairs, subject to their own responsibility, and to the judgment of Parliament."[15]

The Government's course was defended by John Stuart Mill in the 1857 edition of *The Principles of Political Economy.* "I think myself justified," he wrote, "in affirming that the mitigation of commercial revulsions is the real, and only serious, purpose of the Act of 1844. No Government would hesitate a moment," he wrote, anticipating Walter Bagehot, to stop con-

vertibility in order to assure the continuity of the Bank of England's support of the financial system "if suspension of the Act of 1844 proved insufficient…."[16]

Permission to suspend the limit was given again in 1857 and 1866, and on the former occasion the law was actually broken.[17] The nearly crisis-free experience of Britain after these events led Barrett Whale to conclude in the next century that "the Act of 1844 has worked satisfactorily because it did not work in the way designed."[18]

The International Monetary Fund

Moving to another formula adopted 100 years later Robert Mundell observed that "There never was a 'Bretton Woods *system*'…. The Bretton Woods Agreement accommodated the rest of the world to an international monetary system that already existed. After the Tripartite Agreement among the United States, Britain, and France in 1936, the essential structure of the gold-dollar standard was already determined." [19] Martin Feldstein called Bretton Woods "a system that never was."[20]

The system envisioned by Harry Dexter White and John Maynard Keynes of the U.S. and U.K. Treasuries, in which adjustments would be supervised and financed by an international body, never got off the ground. In 1954, Raymond Mikesell reported that the Fund had not been able to perform its task "of making exchange rates a matter of international deliberation and judgment. Even the general realignment of exchange rates in September 1949 that accompanied the devaluation of sterling was undertaken with little more than token consultations with the Monetary Fund."[21] As before the war, changes were made unilaterally or after consultations between the major countries concerned.[22]

In 1960, Robert Triffin predicted the end of Bretton Woods because of the inconsistency between the increasing liquidity demand for U.S. dollars to compensate for a virtually constant monetary gold stock and the inevitable collapse of confidence in the dollar as its supply eclipsed American gold reserves.[23]

In 1993, however, Rudiger Dornbusch wrote that "the Bretton Woods system may not have come to an end in 1971—it is alive and well." If we think of it "as a narrowly defined system of fixed exchange rates, … it lasted only from 1958 to 1971. But if we take the broader purpose of an exchange rate system that supports open trade and the financing of imbalances, the system is still functioning. We do have open trade, and, flexible exchange rates notwithstanding, current account imbalances are financed with substantial ease.… If we take this to be the agenda of Bretton Woods, and not the narrow issue of the IMF and fixed parities, then the system

continues functioning quite well.... One might well argue that the system has evolved to cope with the challenges."[24]

There was hardly a pretense of abandoning the procedures of the Tripartite Agreement to an international organization. Central banks had wanted to continue this approach, with adjustments as conditions dictated, and they got it—not by deliberately undermining the system, but because there was no other way. When Bretton Woods interfered, it was suspended, like the Act of 1844.

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Endnotes

[1] Paraphrased from *An Inquiry into the Nature and Causes of the Wealth of Nations*, pp. 14, 423, 326.

[2] That is, £4 1s, £3 19s 6d, and £3 17 10 1/2d; in 60-ounce ingots until May 1, 1823, thereafter in coin of the realm.

[3] *British Parliamentary Papers, Monetary Policy, General, 2*, pp. 359-62.

[4] *Second Report* of the *House Committee on Resumption*, Minutes of Evidence, pp. 219-20; P. Sraffa, "Notes on the Evidence of the Resumption of Cash Payments," in Ricardo's Works, v, p. 350-70.

[5] Hansard, May 24, 1819; *Works*, v, p. 10.

[6] Letter to Hutches Trower, May 28, 1819; *Works*, viii, p. 31.

[7] *Financial Reconstruction in England, 1815-22*, p. 93.

[8] *Letter to Lord Grenville.*

[9] Hermann Krooss, *Documentary History*, pp. 1163-73.

[10] The Independent Treasury had been established in 1840, and repealed the next year by the Whig Congress in preparation for a national bank, which was vetoed by President Tyler.

[11] *Cong. Globe*, 33rd Congress, 1st sess., appendix, p. 250.

[12] Richard Timberlake, *Monetary Policy in the U.S.*, p. 192.

[13] Milton Friedman and Anna Schwartz, *Monetary History of the U.S.*, p. 149.

[14] Speech to the American Bankers' Association, Timberlake, *loc.cit.*

[15] The Chancellor quoted Samuel Jones Loyd (*Thoughts*, pp. 439-40), who quoted William Huskisson, *The Question*, p. 88.

[16] Bk. 3, ch. 24.3, p. 657n.

[17] Ralph Hawtrey, *A Century of Bank Rate*," pp. 23, 81.

[18] "A Retrospective View of the Bank Charter Act of 1844."

[19] "Discussion," p. 604.

[20] "Lessons of the Bretton Woods Experience," p. 613.

[21] *Foreign Exchange in the Postwar World*, p. 24.

[22] Announcing sterling's devaluation in 1949, Chancellor Cripps said that the decision "had to do with matters that were entirely our own concern and upon which there was no question of consulting others, even our best friends"(Mikesell, *loc.cit.*).

[23] *Gold and the Dollar Crisis.*

[24] Dornbusch, "Comment."

PRIVATE PATHS TO RESUMPTION

Michael W. Crook and John H. Wood

> Governments have arrogated to themselves the task of *regulating* the currency, and the natural effect is that nothing is less regular. At present each day brings to London an abundant supply of fish, meat, vegetables, &c., and each day proves that the persons who furnish those supplies understand tolerably well what is required. Were government to *regulate* the markets, as they do the currency, there would be a succession of over supplies, during which vast quantities of provision would be spoiled, followed by a succession of scarcities, when double prices would be paid for the necessaries of life, precisely as is now the case with *money*. Whenever those who control the operations of government shall learn that the trade in money is like all other trades; that every man has a right to associate himself with his neighbours and to trade with others on such terms as they may mutually deem most likely to be advantageous—whether of limited or unlimited liability; and that every man has the same right to furnish currency that he has to furnish hats, coats, or shoes; and whenever they shall abolish all restrictions thereupon, there may and will exist a good, sound, safe, and cheap currency, but not till then.
>
> Harry Carey, *The Credit System in France, Great Britain, and the United States* (1838), p. 117.

THIS is not another paper on the properties of a functioning gold standard, least of all one that is managed by Governments and official central banks. Rather we enquire into how a gold standard might grow out of the present environment, although we appeal to the same market/choice/laissez-faire principles on which studies of free banking rely (White 1984; Selgin and White 1994). Our paper is also in the spirit of Selgin and White's (1987) inquiry into how the banking system might evolve in an unregulated environment, although we accept most of the current regulatory structure. We make only one assumption about Government behavior, although it is strong: forbearance, that is, allowing the suppliers and demanders of financial claims to construct them according to their preferences. As the largest player in the financial arena, Government must be considered, but not, we assume, as an obstructive regulator. In a world in which over 99 percent of the value of money transactions is by checks and electronic transfers, we do not require the elimination of the prohibitive tax on private currencies, although that would benefit small transactors.

We say "grow out of the present environment" because we expect it to spontaneously innovate when monetary conditions warrant, not necessarily immediately or even in the next few years. A private resumption will result from the same types of market forces that have created other finan-

cial innovations. It would not have been constructive twenty years ago to ask when sweep accounts would become popular for avoiding reserve requirements. The better question is what conditions would lead to such a development. That is the same question we ask here.

Finally, the substantial gold reserves of western Governments—one-third of currency liabilities by Euro central banks, one-seventh by the U.S. and U.K.—combined with their interests in general price stability as well as the price of gold, amounts to an overall strategy of returning to a Government convertibility, which would of course facilitate a general resumption (Mundell 1997; Todd 2000).

Sufficient and necessary conditions for private resumption are discussed in Sections 1 and 2. Competition is sufficient for a gold standard, deregulation is tending in that direction, and the record of Governments suggests that a relatively painless resumption requires it to stand aside. Sections 3 and 4 consider difficulties in the way of official resumptions that have been proposed, and Section 5 sets out a possible private resumption. We touch on the U.S. Treasury's place in the process in Section 6, and Section 7 suggests that war finance need not be hindered and would be made more efficient by a gold standard. The Federal Reserve is noticed, but it performs no service in a free system. A summary and conclusion are presented in Section 8.

1. Sufficient reasons for private resumption

1.1. Competition

Most monetary standards have not been originated by Governments, which rather joined existing standards and seized monopoly privileges. They sometimes supported commodity standards but more often disrupted and depreciated them. These processes are described in hypothetical accounts of how competitive money might have arisen and in the recorded actions of Governments (Menger, 1871, 257-85; Burns, 1965, 136). Coins exchanged for their market values. That much is straightforward in a "pure" system in which business is transacted in coin. But the classical gold standard consisted of the preservation of the values of paper claims on gold, including the Bank of England's currency until 1931, state bank notes in the U.S. until the 1860s, national bank notes the next half-century, and Federal Reserve notes until the prohibition of private gold money in 1933. Excessive issues that raised doubts of conversion led to gold losses, suspension, and fiat money. Even responsible Governments (those that refrained from debasements) were more obstructive than helpful, such as when they tried to fix the gold/silver ratio (bimetallism). They minted coins, but prevented others from doing the same, and monopolized curren-

cies. Bank deposits remained private, but were forced to be convertible into Government paper.

The possibility of a free gold standard is probably uncontroversial. Gold and silver were standard domestic and international monies for hundreds of years, although Government coins and currency were often depreciated. Objections center on its supposed rigidity relative to discretionary fiat money.[1] These objections are belied by history and the monetary policy rules that are required by the absence of incentives for modern central bankers. The supposed problems of the gold standard that led to its suspension in the 1930s in fact belong to the alternating expansions and contractions of central banks. The American paper money expansions and contractions of 1919-21 and 1929-33 almost certainly would not have happened without the Federal Reserve.

A note on the kinds of gold claims, specifically long- and short-term, is appropriate. Most American long-term claims on money (private and Government bonds) were indexed to gold from the late 19th century until they were voided by Congress in 1933. British courts did not recognize contracts not denominated in pounds, although Alfred Marshall (1887) thought that only permissive legislation was needed for their use. That did not happen, and American indexed securities were effectively outlawed from 1933 until 1977, when Congress repealed its ban (McCulloch 1980). Indexed bonds are clearly possible — and may dominate as they did for several decades in the United States—in an otherwise regulated environment. However, the rest of our discussion focuses on the possibility of short-term claims on gold, particularly media of exchange, which is what is normally meant by "the gold standard."

1.2. Deregulation

Free resumption is more than hypothetical because deregulation is tending in that direction. Important restrictions on banks were designed to protect local banks. Anti-branching laws and regulations were reinforced in 1933 by federal insurance on small deposits to promote confidence in small banks without disturbing their local monopolies (Golembe 1960). The FDIC was added to the regulatory arsenal to prevent banks from exploiting the risk transfer. Invariant premia on deposits regardless of size and portfolios (virtually true even today) meant that small banks with higher failure rates were subsidized by large banks. Consolidations—the number of banks fell from 14,500 to 7,800 between 1984 and 2003—have reduced the advantages of deposit insurance to the historically important local bank lobby.

The Federal Reserve Act gave big banks what they wanted in the dis-

count window (Government credit at rates determined by themselves), admission to and support of the market for bankers' acceptances, and release from the cost of gold reserves. Open market operations and the federal funds market have reduced the importance of the first, and Congress's reaction to its abuse as a bail-out device in the 1980s further restricted the value of discounting to banks. The Fed stopped supporting the market for bankers' acceptances in the 1980s (LaRoche 1993).

The third subsidy must be taken into account by any private resumption. Society bears the cost of gold reserves, but the money-center banks prefer that it be someone else. The costs and benefits of private money claims govern their adoption. An advantage of private resumption is that they are incorporated in the process. If the market refuses the costs, gold resumption will not occur. However, they may not be large in a fractional-reserve but committed system. The large gold reserves of the U.S. Treasury in the 19th century (and carried over to the Federal Reserve) that were thought necessary because of the political vulnerability of the system would not have to be matched by a more credible private system subject to the law of contract. Samuel Jones Loyd compared the employment of a large reserve to compensate for the lack of a credible monetary policy with "The man who, because he had accumulated an unusual quantity of water, thought he could therefore will with it a tub which had lost its bottom …." (1840, 51) Nevertheless, although the Bank of England managed with "a thin film of gold" and an active Bank Rate, it complained of the cost (Sayers 1951; Clapham 1944, ii, 345).

The *Report* of the 1982 Gold Commission—whose gold proponents did not consider the possibility of a gold standard, or any monetary system, not managed by the Government—listed the changes in law necessary for the Treasury to deal in gold. None of these or any other (we think) legal steps are necessary for the private resumption of a gold standard. There must be regulatory forbearance, but that may be developing. Restrictions on bank portfolios and other activities have been lifted—such as investment banking and insurance—and securitization and off-balance-sheet commitments have become important. The Fed and other official agencies are patrons and protectors as much as regulators (in the sense of Stigler 1971), and profit opportunities, including those that may lead to resumption, will not be denied.

1.3. Innovation

We move to an analysis of the innovation process that could result in private resumption, using William Silber's (1975) constraint-induced hypothesis as a framework. Also important is Richard Sylla's (1982a, 1982b) finding that crisis often led to the joining of firms and individuals to

develop a new monetary system (convertible to fiat, for instance). While his paper focused on the development of fiat currency, the logic can be applied in reverse. Individuals and firms suffer the costs of fiat currency, and might join in supporting the innovation of a convertible product when paper money becomes undesirable. However, while it might quicken the process we do not assume that crisis is necessary for private resumption.

According to the constraint-induced innovation hypothesis, firms are bound by a number of internal and external factors. An example of an internal constraint is that a minimum percentage of profits be paid to shareholders. External constraints include regulator restrictions. Firms maximize expected utility subject to these constraints, and according to the model it is only when an exogenous change occurs that innovation is spurred. This can show up in two ways, either in the cost of adhering to an existing constraint or a decrease in utility due to a change in constraints.

We believe that there are three exogenous factors in the short-term money market that might spur the innovation process towards convertible deposits: inflation, technology, and regulation. The experience of real rates of return on fiat money should be enough to stimulate innovation, but increases in inflation further reduce returns. Improvements in technology have lowered the costs of creating a new convertible-deposit market, and continued deregulation would decrease or remove existing constraints in the way of entering this market. Many financial innovations have stemmed from the need to handle inflation. Silber (1983) identified seventeen financial innovations between 1970-82 that were at least partly related to inflationary concerns. The real rate of return on fiat demand deposits has averaged -4 percent and -2 percent per annum, depending on whether we date it from the devaluation of 1934 or consider only the lower inflation of the last twenty years. Either is a substantial money market differential. The real return on gold has been about zero in these periods. The cost (shadow price) of fiat money, along with the factors discussed below, would seem to be high enough to spur innovation.

Two examples indicate the significance of seemingly small differentials in interest rates. Money market accounts were created in 1971 to circumvent the prohibition of interest payments on demand deposits. At the time, market interest rates were 0.23 percent higher than the Regulation Q ceiling (5.5 percent vs. 5.25 percent)—much less than the average differential between gold and fiat money. Silber's (1983) example of sweep accounts has been given further weight by their acceleration in the current environment of very low interest rates (1700 percent increase between 1991-2000).[2]

Improvements in technology are important in decreasing the costs of

designing new contracts, creating and operating a new market, integrating convertible currency into the payments system, educating firms and the general public about the new product, and the other costs associated with financial innovation. As these costs are decreased, the necessary utility gain required to justify innovation also decreases. Innovation should happen quicker and more often. Recent improvements in computing power and the resultant decrease in computer size could make the costs associated with a competing currency minimal compared to what they would have been ten or twenty years ago. For instance, new wireless technology and electronic price tags enable prices to be displayed in multiple currencies at up-to-the-minute conversion rates. The marginal cost associated with pricing items in more than one money becomes virtually zero, especially considering that firms are finding the cost of electronic tags to be mitigated by the benefit of being able to easily make price changes as conditions warrant.[3] Next, the spread of the internet enables large numbers of people to be educated about new products quickly and efficiently, which could be used to help drive up demand for convertible demand deposits. Lastly, the methods behind efficient payments-system integration are beyond the scope of this paper, but the idea is that new technology is continually decreasing the costs associated with a private resumption. There are clearly other areas where technology will decrease the costs involved with innovation.

The last factor, and possibly the most important, is continued deregulation, which can be viewed as the relaxation of external constraints on individuals and firms. As we discussed earlier, the recent regulatory trend has been to remove restrictions on bank behavior. Most of this deregulation has enabled banks to seek out profitable opportunities and operate more efficiently. As the barriers to private resumption are removed the costs of sticking to previous constraints increase, resulting in a higher shadow price for fiat deposits. This will provide additional incentives to seek out alternatives, like deposits with values linked to gold.

2. The necessity of private resumption

The record of Government attempts to improve the monetary structure is a litany of failures: disruptions, distress, and in the end, when it was lucky, submission to markets. Theory and history suggest that a *smooth* resumption has to be free. This section gives examples of Governments' failures to improve existing monetary systems and their mismanagement of resumptions.

A famous case was the monetary rule prescribed by the Bank Act of 1844, which "worked satisfactorily because it did not work in the way designed" (Whale 1944). The Bank of England continued to respond to market conditions in spite of Act, and suspended the rule that linked cur-

rency to gold when it got in the way.

Bretton Woods, "a system that never was" (Feldstein 1993) was also an irrelevance because the principles of the less formal attempts to revive international trade and exchange in the late 1930s as conditions permitted (most notably the Tripartite Agreement between England, France and the United States) continued after the war. The post-World War II European economies lowered their trade barriers cautiously in their own interests. They were not about to relinquish their policies to an international organization. The British devaluation of 1949, for example, was done without regard to the IMF. The gradual dismantlement of exchange controls during the 1950s continued the process that had started in the 1930s. The final breakdown of the system in 1971 was caused by the inconsistency of monetary discretion with fixed exchange rates.

Our last example of extensive revisions, or rejections, of legal monetary systems concerns the behavior of the U.S. Treasury under the Independent Treasury Act of 1846, which directed that Treasury gold be kept in its own vaults instead of banks (Krooss 1969, 1163-73). This meant fluctuating reserves as the Treasury shifted between surplus and deficit. Secretaries were forced to confront this problem not only because of the political pressures of those affected but because the Treasury, as a major borrower and lender, was interested in healthy financial markets. Some Secretaries saw themselves as virtual central bankers (Taus 1943; Friedman and Schwartz 1963, 149-52).

In all these cases legal arrangements were overridden, and the systems were made to work, by markets. Rules however well-intentioned cannot stand against market incentives.

Closer to the theme of this paper, resumptions of Government convertibility after wartime suspensions were painful: Britain after the Napoleonic Wars and World Wars I and II, and the U.S. after the War of 1812 and the Civil War. The depressions associated with the last stages (1819-21) of the earlier resumption in both countries are famous (Acworth 1925; Rothbard 1962; Hammond 1957; Wood 2000). The long process of American resumption after the Civil War was characterized by political controversy and economic uncertainty (Unger 1964). The British resumption after World War I was forced on a reluctant public by the Bank and the Government after substantial inflation and economic shocks (Moggridge 1972). It cannot be called successful because it was abandoned after six years of tight money in the presence of high unemployment. This resumption was the worst of two worlds: restrictive policies without the benefits of a credible currency (Keynes 1925).

These resumptions were conducted in situations of relatively stable gold values in world markets after relatively short periods (compared with the time elapsed since 1971). Gold values were relatively clear. Even so, the processes were fraught with error, uncertainty, and economic distress. Although the monetary policies of Government are most often criticized for their debasements, neither have they been very good at technical adjustments.

3. Proposals for official resumption

A major technical impediment to an official return to gold is the selection of its price in a world in which marginal costs are unknown and market prices are affected by uncertainties of what central banks might do. The tremendous depreciation of all currencies since the United States refused redemption at $35 an ounce in 1971 means that, unlike previous resumptions, there is no obvious target. Some suggest that the official gold price be fixed at that which prevails after a period of price stability. Nevertheless, there remains the possibility that gold will be overvalued so that a flood of reserves will produce inflation, or undervalued with deflation. Arthur Laffer (1983) proposed that convertibility be terminated in either event and resumed at the new price determined in the market during suspension. The process could be repeated until the reserve appeared secure.

The Gold Commission *Report* (pp. 130, 144) suggested that a gold standard might be introduced gradually by issuing gold coins to see if they and "convertible substitutes" (bank deposits?) were used as money. The Commission did not consider the possibility that private traders would take the initiative. Phillip Cagan (1984) worried about the complications of more than one kind of money and the possibility that Government money might lose value—which of course it does during inflations. He did not consider that gold and its convertible deposits might impose discipline on Government issues.

The thinking behind these methods is similar to Irving Fisher's (1920) *compensated dollar*, by which the purchasing power of money would be maintained by linking its gold content to a price index. Suppose that the price of a basket of goods has risen from $20 to $22 (let "p" equal 10 percent). The real depreciation of gold, from say $20 per ounce, is restored by raising the gold content of the dollar by 10 percent. In general, $1/(1 + p)$ oz. = $20, or 1 oz. = $20(1 + p) and the real value of an ounce of gold is always the basket of goods costing an initial $20.

Its proponents admit that a practical difficulty of this scheme is that it gives rise to speculation. If the official price index is expected to be raised by 1 percent at the next adjustment date, speculators will buy gold at, say,

$20 in the expectation of selling it at $20.20. Proponents would discourage large conversions by means of substantial transactions costs. We do not see speculation as a problem. It would on average maintain the real value of gold, and should be encouraged—unless it came at the expense of a Government committed to the old fixed price, which is another reason for excluding the Government from operating the gold standard.

A more fundamental objection to the compensated dollar is that it leaves the supply of gold undetermined. Under the uncompensated gold standard, increases in its value speeds the exploration and extraction of gold. If the compensated dollar had been applied the last quarter of the 19th century, the real value of gold would have been prevented from increasing, and so, presumably, would its subsequent increase in production. More recently, the price of gold rose from $35 in 1970 to a peak of $680 in 1980 (monthly averages), falling to $320 in 1982. Annual production rose 75 percent percent between 1980 and 1990, before settling down to a rate of increase of about 2 percent since 1990 (www.goldsheetlinks.com).

4. The monetarist alternative

Monetarists also want price stability and the removal of Government discretion over money, but think that these could be achieved by a monetary rule (Simons 1936; Friedman 1959). Cagan (1984) wrote in his review of the 1982 Gold Commission Report: "Price stability is what the gold standard is all about." Moreover, monetarists contend that their rule is superior in providing price stability in the short as well as the long run, and there is no guarantee that gold would provide even the latter.

The monetarist position is too narrow. It overlooks the flexibility of the gold standard and its contributions to efficiency and growth, and denies the roles of banks and money. It eliminates incentives for the efficient production of money and substitutes Government controls. For these reasons we cannot expect its development except by compulsion. Even then it is infeasible because it lacks a stable specification of money, i.e., one that markets will not override. An examination of the omissions of monetarism helps us understand the workings of the gold standard and the forces tending to restore it.

Gold's value is determined by its cost of production relative to other goods. This will not be constant because of changes in technology. Increases in the value of gold in the second and fourth quarters of the 19th century induced exploration and the exploitation of known deposits. The gold standard depended on the credibility of paper claims on gold. It was more flexible than fiat money rules because its participants were bound by incentives and contract. The so-called rules of the game by which Govern-

Table 1. **Real (gold) and $ Balance Sheets at Beginning (T_0) and end (T_1) of Quarter; Initial price of gold $400 per ounce and inflation -1%, 1%, or 3%.Nominal outcomes top lines; real outcomes bottom lines in ( ).**

T_1	T_0	*Assets*	*Liabilities*	T_0	T_1
40		Fiat	Fiat		406
(40.4, 39.6, 38.8)	40	reserves	deposits	400	(410, 402, 394)
408		Fiat			
(412, 404, 396)	400	loans			
39.6, 40.4, 41.2		Gold	Gold		398, 406, 414)
(40)	40	reserves	deposits	400	(402)
400, 408, 416		Gold			83.6, 84.4, 85.2
(404)	400	loans	Capital*	80	(84.4, 83.6, 82.8)

*Additions to capital do not reflect operating costs.

Off Balance Sheet

Gold futures and options with expirations determined by maturity differences between gold deposits and loans.

Interest on fiat loans is 2%; for equal chances of -1%, 1%, and 3% inflation, real returns are 3%, 1%, or -1%, giving real payoffs of $412, $404, or $396, or expectation of 404.
Interest on gold loans is 1% (in gold), giving 404 in real terms and nominal $400, $408, or $416.
Fiat deposits pay 1.5%, paying $406, or in real terms, 410, 402, or 394
Gold deposits pay 0.5%, giving $398, $406, or $414.

ments reinforced the international transmission of business cycles were more honored in the breach than the observance (Bloomfield 1959). Central banks tended to offset gold losses, and could do so without threatening the standard if holders of their currency trusted their long-run commitment to gold convertibility.

This commitment allowed credit money and prices to fluctuate over the business cycle, which was a key element in the growth of industrial economies. Money is more than the medium of exchange, and banks are more than printing presses. Growth is financed by credit, and banks are central to the process. They are "not so much primarily a middleman in the commodity 'purchasing power' as a *producer* of this commodity" (Schumpeter 1934, 74).

We want prices to fluctuate. They perform the same functions in the money market as in other markets, including the provision of signals to suppliers. This does not mean indifference to the size of fluctuations. Traders avoid (require premia to trade in) volatile markets. When the gold value of silver fell from 1/15.5 to 1/40 in the last part of the 19th century, countries abandoned silver money because investors are discouraged by

depreciating currencies. Controlled specifications of money that the monetarists select will break down as markets respond to opportunities. Friedman and Schwartz's use of reported commercial bank deposits and government currency had been circumvented by NOW accounts, overnight investments, and foreign holdings almost before its proposal. In a private system, on the other hand, people can choose (supply and demand) the money or monies (they may be a portfolio) that suits them. Monetarists admit these problems in severe legal restrictions, such as 100 percent reserves and the abolition of potential money substitutes that overlook the information, evaluation, and other productive services of banks and other financial intermediaries.

The absence of market incentives behind existing fiat money requires extreme rules to attempt to make up for the fundamental lack of commitment. Fixed money targets must be adhered to for fear that a deviation represents a rejection; it is a political decision and in no one's direct interest to get back on path. The same holds for price-level and inflation targets.

5. Free resumption of a gold standard

We say "a" rather than "the" gold standard because it can take several forms. There was never a "pure" gold standard in which only gold coins circulated as money. Silver and copper were necessary for small transactions, and credit money came to dominate large trades. At the end of the 19th century, gold-exchange countries used money convertible into gold claims (e.g., rupees into pounds) rather than gold directly—thereby earning interest on their reserves. David Ricardo (1816) proposed an ingot system without gold coins that limited gold transactions to central banks. Its application, however, in Britain in 1928 and the United States in 1933, was preliminary to abandoning the gold standard. Complaints of gold shortages and steps to economize on its circulation have been precursors to its elimination. In any case, a modern gold standard will differ significantly in its operations from earlier systems, as e-gold is enough to tell us.

The rate differentials and technological developments described above suggest that money holders have incentives to include deposits with values linked to gold in their portfolios, and banks might earn profits by offering them. We look at a bank's offer in the context of a simple hedged portfolio.

Letting the period be a quarter, Table 1 assumes 1 percent expected inflation (in the fiat prices of gold and other goods), 1 percent expected real interest on fiat loans, so that their fiat value rises from $400 to $408 during the quarter, and a 1 percent rate on gold loans, under which borrowers receive $400 or 1 ounce of gold and repay 1.01 ounces of gold, or an expected nominal $408. Nominal and gold depositors receive 1.5 percent

and 0.5 percent, respectively, or a premium of 1 percent for the real protection offered by gold. The bank matches the quantities of its nominal and gold assets and liabilities at the initial date T_0. Nominal outcomes for inflation, p = -1 percent, 1 percent, 3 percent are shown in the top line for each balance-sheet item. Real (ounces of gold or deflated by p) are in parentheses on the second line. There is no inflation risk if loans and deposits have the same maturities. The net nominal and real returns on nominal and gold loans and deposits are both 0.5 percent. The sensitivity of capital to inflation is due to reserves.

However, many of the deposits will be demand. The bank can use the already developed gold futures and options markets to protect itself against short-term changes in the gold price (Cross 2000). The costs of this activity and of holding gold cut into the profits of the bank's gold operations, which in the end depend on the real losses that depositors fear from fiat money. If they could be certain of the value of fiat money, they would not pay premia for gold claims.

This is one bank on one decision date. Other banks may issue gold deposits, and our Bank A may issue deposits with other gold values at other times. It may issue a range of gold values. If Bank B issues 1 ounce deposits for $440, B and A deposits will trade at the ratio 1.10. We would expect banks to issue, and depositors to demand, ranges of gold values, especially in the initial period in which the future value of gold in especially uncertain. These are not flexibilities with which Governments feel comfortable. Correspondent banks might issue deposits convertible into A's, that is, a gold reserve system.

The range of gold values will depend on preferences and costs of exchange, although we might expect a standard money to emerge (Klein 1971). The problem of "the" price of gold that worries official resumptionists would not exist. It (or its range) would be market-determined and no one would have to take an undiversified position.

What can go wrong? If a bank or group of banks offers gold deposits at $400 per ounce and no one takes the offer, there is no change. If they pay too much, they will refuse gold beyond a certain amount. Remember that private offers have at least two components: price and amount. In any case, this is not likely to be a serious problem as long as banks match their deposits and loans. If they undervalue gold at $400 (when the public thinks that $450 is imminent) borrowers are unlikely to accept a $400 loan with the obligation to repay the value of an ounce of gold.

6. Option clauses

Kevin Dowd (1993) suggests that banks can anticipate unusual situa-

tions by *options clauses* that permit them, for a price, to suspend convertibility. Media of exchange would still circulate for credible banks in the face of runs on gold. Our assumption of Government forbearance is important here because the regulators have worsened panics by standing in the way of such flexible arrangements.

The option clause was one of many significant innovations to come out to the Scottish "free" banking system in the early 18th century. In order to combat bank raids, the Bank of Scotland issued notes with the option to suspend convertibility for six months at 5 percent interest. The notes enjoyed circulation alongside non-optional competitors' notes and maintained in circulation during periods of illiquidity for the Bank of Scotland. Option clauses allow banks that are facing illiquidity the ability to remain solvent in the face of unusually high specie withdrawal.

Once a bank had instituted an option clause, its mere existence prevented further raids. The banking public was assured of the liquidity of the bank, and all incentives and mechanisms for a panic- induced run were removed along with the incentives for a raid. Historically and presently, banks would only use the option clause when it was cheaper than borrowing liquidity from other sources. This could happen for a number of reasons. For example, if the bank is illiquid or near insolvency and cannot borrow from other creditors or the market interest rate is higher than the penalty on the clause. As Dowd points out, in this case the bank could suspend all convertibility and make arbitrage profits while providing liquidity where it is needed.

Bank panics in the United States, problematic before the Great Depression, have largely been mitigated in recent history. However, incentives for bank runs on convertible deposits would be present in times of bank crisis. A modernized option clause could provide banks with a method of preventing bank runs while also increasing bank stability and deposit quality.

One problem immediately arises with using an option clause in its traditional form. Historically, banks that used option clauses were formed with unlimited liability. Without it, there is a moral hazard problem, similar to the one created by Federally-sponsored deposit insurance, which must be resolved. With unlimited liability there is no incentive to "bet the bank" if it is nearly insolvent. Losses resulting from such a strategy would fall on the bank's owners and depositors would recover their losses. However, in today's market, shareholders with limited liability own banks. Managers, who are responsible to shareholders and face job loss if their bank goes under, could be tempted to suspend convertibility and take excessive risk when near insolvency in order to save the bank at the expense of the

depositor. At the brink of insolvency the shareholder would incur no further losses (no downside) and the depositor would suffer all of the losses (no upside). A solution would need to be created that would put shareholders at risk and prevent such problems.

The solution need not be overly complicated and we offer one such possibility. An additional clause that would require an outside audit verifying a certain level of solvency before the bank could suspend convertibility might have the desired effect. Depositors would be assured that their funds would not initially be used to bet the bank, and banks would still be defended against unusual specie withdrawal levels. This solution is incomplete long-term, because banks would still have a moral hazard problem if they approached insolvency while in a period of convertibility suspension. However, we have no doubt that a sufficient market solution will develop, such as ongoing audits during a period of suspension.

7. The Treasury

The Treasury is a major player in the money markets, and cannot be ignored. We assume that, at least in the beginning, the Treasury pays and insists on receipts in fiat Government currency or deposits convertible into that currency. This involves transaction costs for those who ordinarily prefer gold deposits. This addition will not be significant, however, for personal income taxes or businesses with market investments in anticipation of taxes. Multiple monies have existed throughout most of history and still exist for international businesses and e-gold users.

If people prefer the less risky gold deposits, the Treasury has two options: to shift to gold deposits (in the 19th century the Treasury only accepted bank notes convertible into gold) or make fiat money as reliable as gold, although that it could do this without convertibility is doubtful. In either case the Federal Reserve has no function. The Bureau of Engraving would be able to provide the fiat currency desired. The quantity of gold money would be determined by its price relative to its costs, as under gold standards.

The Treasury clearly has different incentives than individuals and firms, but it shares many of the same ones. Therefore it is not obvious whether or not the Treasury would attempt to (or accidentally) sabotage private resumption. We believe the assumption that the Government will refuse to give up its monopoly on currency is wrong. The end result will be heavily dependent on leadership in the Treasury and large gold-supply shocks not being used to manipulate the market. This goes back to our assumption that the Government does not necessarily support private resumption, but also does not set out to disrupt it. Under this assumption, the Treasury is placed

under constraints that make it more likely to be responsive to market forces.

In order to analyze the response of the Treasury to a private resumption, it is important to understand its mandated function. It is responsible for "Collecting taxes, duties and monies paid to and due to the United States and paying all bills to the United States."[4] It appears likely that the Treasury could (or would) require transactions in Government currency in the short term. It cannot be expected that convertible currency would obtain a market-dominating position overnight without a crisis. But as gold-backed currency becomes more prevalent, the Treasury will start to feel pressure to accept and make payments in convertible currency. Part of the Treasury's function is to pay the bills of the U.S. Government. If firms and individuals started demanding high premiums for fiat currency, the Treasury would feel strong pressure to use both forms of money (assuming that it wants to perform its legislated duties efficiently). However, because the Government's market power is greater in some sectors than others, we might see the Treasury's adoption of the new forms of payment at different times.

The long-run result would depend on many of the factors discussed earlier. If the benefits of private resumption are great enough, the market will move in that direction and the Treasury will make a complete shift to convertible money as fiat money becomes worthless. Otherwise, convertible demand accounts will remain as a diversification tool alongside fiat-denominated accounts. In this situation the Treasury could still exclusively use its fiat currency or a combination of both. An analogous situation is seen in stores that accept some credit cards but not all, and stores that accept cash exclusively. In the same way, each individual or firm will make the cost/benefit analysis to determine what forms of payment to use and accept.

8. War finance

Governments insist on cheap and ready finance in wartime, but wartime finance is not structurally different from any sharp increase in needed revenue. As noted by Sylla (2000), there are essentially three methods by which a government can raise revenue: taxation, printing money, and borrowing. In a post-private resumption world, printing worthless money would only provide a very short-term solution. The United States, acting as an issuer, would quickly become insolvent unless it instituted price controls and monopolized currency under central control.

During the Civil War, the U.S. Government took a similar step by issuing fiat "greenbacks" to pay a small part of the war cost. They were

deemed legal tender and resulted in massive inflation for four years after their issue. This option was only available to the Treasury because they had a legal monopoly on currency. In a private resumption world, the Treasury would not be able to force fiat currency into the system.

We consider another alternative. First, if it has committed to entering the money market, the Treasury can issue nonconvertible, interest-bearing paper while promising convertibility at a future date. It is not obvious in light of the benefits of tax-smoothing that this procedure is inefficient. A major key to this policy would be the trustworthiness (creditworthiness) of the Treasury. It would essentially be competing with other borrowers for funds.

The last option is increased taxation, which has been utilized throughout American history to raise wartime revenue. The results here are obvious, but increased taxation is a difficult and generally slow political measure.

We merely point out that a long-run commitment to gold need not threaten the ability to respond to national emergencies—although a deviation must raise doubts concerning commitment and involve some devaluation. Success hinges on the credibility of the Treasury to successfully repay its debts. An example of the benefits of long-term commitment was Britain's superior access to finance over France during the Napoleonic wars (Bordo and White 1991).

9. Summary and conclusion

There is considerable and growing interest in inflation-indexed securities. Governments issue indexed bonds and banks have begun to issue indexed certificates of deposit.[5] In addition, the global development of gold bullion banking has demonstrated that banks are capable of providing liquidity and hedging in gold markets (Cross 2000).

We have set forth a possible course of action that would result in a private resumption. We have also examined the workings of such a system. Increases in technology, deregulation, and inflation in fiat currency are all pushing the system toward innovation. A free resumption would result in a more stable system that could either act as a diversification tool or replace fiat currency. The U.S. Treasury would be forced to partake in the resumption to the same extent that the private markets do. It could retain its position as an issuer of money, but it would have to compete with private firms. Wartime finance, long a problem for the gold standard, would be possible provided that the Treasury took steps to remain credible leading up to and throughout its need to borrow.

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Endnotes

[1] The suggestion that unregulated money is (more likely to be) indeterminate because all competitive banks may expand together is contradicted by the records of free banks and monopolistic central banks (Selgin and White 1993; Dowd 1993).

[2] http//secure.sheshunoff.com/media/pdf/716_sample.pdf; Anderson and Rasche (2001).

[3] http://www.bell-labs.com/news/1997/january/7/1.html

[4] http//treasury.gov/education/duties.

[5] *Wall Street Journal*, Oct. 29, 2003, p. D3.

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