The Rise and Fall of the Gold Standard in the United States

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Introduction

There is, in informal discussions and even in some academic writings, a tendency to treat U.S. monetary history as divided between a gold standard past and a fiat dollar present. For some the dividing line marks the baleful abandonment of a venerable pillar of sound money; for others it marks the long-overdue de-consecration of an antediluvian relic.

In truth, the "money question"—which is to say, the question concerning the proper meaning of a "standard" U.S. dollar—was hotly contested throughout most of U.S. history. Partly for this reason a gold standard that was both official and functioning was in effect only for a period comprising less than a quarter of the full span of the U.S. history, surrounded by longer periods during which the dollar was either a bimetallic (gold *or* silver) or a fiat unit. A review of the history of the gold standard in the U.S. must therefore consist of an account both of how the standard came into being, despite not having been present at the country's inception, and of how it eventually came to an end.

The Gold Standard Defined

Any history of the gold standard must begin by making clear what such a standard is, and (no less importantly) what it isn't.

In a genuine gold standard, the basic monetary unit *is* a specific weight of gold alloy of some specific purity, or its equivalent in fine gold, and prices are expressed in the unit or in some fractional units based upon it. Assuming that coinage is a government monopoly, the government offers to convert gold bullion into "full bodied" gold coins, representing either the standard unit itself or multiples or fractions thereof, in unlimited amounts. There must, in other words, be "free" coinage of gold bullion. Coinage may also be "gratuitous," with actual coinage costs paid out of the public funds, but that isn't essential: the mint might instead deduct the costs of coin manufacture or "brassage," and even some profit or "seignorage," from the amount of coin returned in exchange for bullion, without undermining the standard. Coins in that case will command a premium above their bullion value representing the total coinage fee, and the monetary unit can be understood to stand either for the weight of fine gold that must be surrendered in order to obtain the nominal equivalent in gold coin, or for its coined representative.

The other requirement of a genuine gold standard is that actual exchange media other than full bodied coins themselves must consist either of paper money that is readily convertible, by either domestic or foreign holders, into full bodied coin, or of "token" or "subsidiary" coins, generally representing small fractions of the standard money unit, that may consist of other metals but which are in any event rated well above their metallic worth. Rather than depending on their cost of production, the value of such coins, which are necessarily coined not freely but on the government's own initiative, derives either from direct limitation of their quantity or from their also being made freely redeemable in full-bodied coin.

As for what a gold standard is *not*, it is not, first of all, a standard or "measure" of *value*. Under a gold standard prices, not "values," are expressed in gold units, and those prices themselves reveal nothing more than that sellers of goods value the gold in question more than the goods they are prepared to exchange for it. The treatment of the gold standard as a standard of value invites the mistaken conclusion that, insofar as its presence does not rule out variations in the general level of prices, such a standard must be "inaccurate" and therefore faulty (e.g. Morgan-Webb 1934, p. 5). The analogy being perfectly false, the conclusion drawn from it is without merit.[1]

Nor is the existence of a gold standard a matter of gold coins having legal tender status. Such a status, though it may play a role in establishing or propping-up a gold standard, is neither necessary nor sufficient to sustain such a standard. In fact, although some U.S. states employed their Constitutional right to make either gold or silver legal tender, the Federal government, which was ultimately responsible for the establishment of the gold standard in the U.S., never made any sort of money legal tender until 1862, when it conferred that status, not upon gold, but upon greenbacks.

Substantial "backing" of paper money by gold is also both unnecessary and insufficient to make such paper "as good as gold." For that, what's usually required is unrestricted convertibility of paper money into gold coin, for which fractional gold reserves not only may suffice but in practice usually have sufficed. Thus "silver certificates" issued by the U.S. Treasury between 1878 and 1933, though "backed" by silver, were worth their nominal value not in the silver for which they were exchanged (the market value of which was well below its then inoperative mint value) but in gold, thanks to the limited number of certificates issued and (after 1890) to their being redeemable for gold.

To say that a genuine gold standard doesn't call for any particular degree of "backing" of paper money by gold is to insist, *contra* both Milton Friedman (1961) and Murray Rothbard (1962) that a gold standard can be genuine without being "pure," that is, despite the presence of paper money (or spendable bank deposits) backed by assets apart from gold itself. The emergence of redeemable substitutes for gold coin itself, backed only by fractional gold reserves and consisting either of circulating notes or transferable deposit credits, appears to have been both an inevitable occurrence as well as one which, despite setting the stage for occasional crises, has also contributed greatly to economic prosperity.

A genuine gold standard must, nevertheless, provide for *some* actual gold coins if paper currency is to be readily converted into metal even by persons possessing relatively small quantities of the former. A genuine gold standard is therefore distinct from a gold "bullion" standard of the sort that several nations, including the United States, adopted between the World Wars. The Bank of England, for example, was then obliged to convert its notes into 400 fine ounce gold bars only, making the minimum conversion amount, in ca. 1929 units, £1699, or $8269.

Equally misleading is the claim that a gold standard is an instance of government price fixing. Although the claim has some merit in the case of certain degenerate forms of the gold

[1] Whether such price level movements as the gold standard permitted did in fact make it inferior to alternative standards is nevertheless a valid question, which I will consider briefly below.

standard, in which responsibility for converting paper claims into gold had been placed entirely in the hands of public or semi-public authorities that might repudiate that responsibility with impunity, a genuine gold standard arrangement is one in which the convertibility of paper money into gold rests upon a binding contractual obligation that is no more an instance of price-fixing than, say, the obligation of a cloakroom to redeem claim tickets in those items originally given in exchange for such. In a genuine gold standard, in other words, it makes no sense to speak of exchanges of paper monetary claims for gold as so many "purchases" or "sales" at controlled "prices."

Finally, a gold standard needn't be either established or administered by government. In principle, it may be a purely market-based arrangement, with private mints supplying gold coins and private banks supplying both notes and deposits redeemable in privately-minted gold.[2] In practice, however, the universal tendency of governments to monopolize the minting of coins of all sorts made those same governments responsible for establishing and administering metallic monetary standards, with free (if not gratuitous) coinage serving as the approximate, monopolistic equivalent of competitive coinage.

The Bimetallic Dollar

The first steps toward establishing an official U.S. monetary standard were taken prior to the Constitutional Convention. In 1785 Congress made the Spanish (silver) dollar the United States' official unit of account, and in 1786 the Board of Treasury fixed the weight of that dollar at 375 and 64/100s grains of fine silver. These steps pointed toward a (monometallic) silver standard, but as yet no actual coining had been provided for.

The Constitution itself granted Congress "the power to coin money" as well as to "regulate the value thereof." In exercising this power Congress passed the Coinage Act of April 2, 1792. That Act established the United States dollar—a somewhat lightened version of its former Spanish counterpart—as the United States' basic monetary unit, providing for the free coinage of silver into dollar coins containing 371.25 grains of pure silver. But as the Act also provided for the free coinage of gold into 10-dollar "eagles" containing 247.5 grains of pure gold, it made the new dollar not a silver unit but a bimetallic one, standing either for a definite amount of silver or for a different but no less definite amount of gold.

Why bimetallism? Because, apart from being the arrangement most familiar to the founders owing to its long employment in the British Isles, bimetallism had the advantage of being capable of providing the nation with exchange media covering a wide-range of desirable denominations with a minimum need for either bank-issued paper or token coins: full-bodied gold coins would be too small to serve as anything other than money of fairly large denominations, while full-bodied silver coins would be suitable for smaller denominations, but not for larger ones. Though paper money and token coins might in contrast serve for all denominations, the former was anathema to at least some of the founders, while the latter was at best a necessary evil, to be adopted only for those tiny denominations for which even silver wasn't suitable, and even then with trepidation owing to the risk (all too familiar from both British and colonial experience) of rampant counterfeiting.[3]

[2] On instances of private gold coinage in the U.S. see Summers (1976).
[3] On bimetallism as a solution to the "small change" problem see Redish (2000) and Sargent and Velde (2003).

The first Coinage Act established a ratio of mint "prices" for gold and silver that made an ounce of gold worth 15 times as many dollars as an ounce of silver. When the Act was passed this mint ratio was more-or-less the same as the ratio of the two metal's world market prices. Under the circumstances either gold or silver bullion might be brought to the mint for coining, to satisfy a perceived need for coins of either metal, allowing bimetallism to be fully operative. But if for any reason the market ratio came to differ substantially from the mint ratio, the metal that was relatively undervalued at the mint would cease to flow there. For this reason, and because the relative market prices of gold and silver tend to change, and sometimes to change substantially, official bimetallism may in practice degenerate into *de facto* "alternating" monometallism, with a *de facto* silver standard in one period giving way to a *de facto* gold standard in the next.

Even before the new U.S. Mint was completed in Philadelphia, a few years after the Coinage Act had been passed, the world gold-to-silver market price ratio rose substantially above 15:1. It then became profitable to exchange gold for silver in the open market, since the silver could in turn be rendered into more dollars than the gold itself would have yielded. Consequently, the flow of gold to the new mint, feeble from the start, and eventually stopped altogether. So although the U.S. remained *officially* committed to bimetallism, for much of the period from 1792 until 1834 the U.S. was *unofficially* on a silver standard, will extant gold coins being sold for their commodity value, instead of circulating by tale.

Following the Appalachian gold discoveries, however, gold mining interests pressured Congress to raise gold's mint price so that the metal would cease to be undervalued. In fact Congress did more than that: while the world market gold-to-silver price ratio in 1834 was about 15.625:1, Congress made the new gold dollar consist of just 23.2 grains of gold, implying a mint price for gold of just under $20.672 dollars per ounce, and a corresponding mint ratio just above 16:1.[4] The new ratio was, therefore, almost as far *above* the market ratio as the old mint ratio had been below it. The predictable result was, not an operational bimetallic standard, but a switch from *de facto* silver monometallism to *de facto* gold *monometallism*.[5] From 1834 onwards, silver coinage would be limited, either by necessity or by design, to fractional "token" coins which, being rated well above their metal content, were minted only by government order.

The California and Australian gold finds of 1848 and 1851, by quadrupling world gold output, placed further downward pressure on the value of gold, reinforcing the effect of the 1834 legislation and assuring that the U.S. mint equivalents would continue indefinitely to sustain a *de facto* gold standard. By 1859 the market ratio was again close to where it had been in 1792, which meant that, at a mint equivalent of 16.1, there was little likelihood of a revival of silver coinage, or of silver being employed to pay off debts contracted on a gold basis.

The Greenback Era

The rapidly mounting expenses of the Civil War caused both sides in that conflict to resort to inconvertible paper money. With the exception of the banks of New Orleans, which

[4] An 1837 amendment to the 1834 act made the ratio almost exactly 16:1 by raising the content of the gold dollar to 23.22 grains of pure gold.

[5] This outcome, far from having been inadvertent, was an intentional component of the Jacksonians' assault upon the Bank of the United States, aimed at both providing convenient metallic substitutes for the Bank's notes while simultaneously interfering with its ability to make change for them (O'Leary 1937).

continued to remit specie until ordered to cease doing so by Richmond in September 1861, banks throughout what was to become the Confederacy suspended specie payments soon after South Carolina seceded. The suspensions were eventually sanctioned, subject to varying conditions, by state authorities, allowing the banks in question to advance a substantial part of their still considerable specie reserves to the Confederate Treasury, which arranged to repay them with its own notes. Although the first such notes were for large denominations not intended to serve as currency, the Confederacy soon resorted to issuing large numbers of smaller denomination paper which was to serve as the region's standard money until the North's victory rendered it worthless.

In the Union Salmon P. Chase, Lincoln's first Secretary of the Treasury, discovered upon taking office that the government had available "less than $2,000,0000, all of which was appropriated ten times over" (Hammond 1970, pp. ???). Between then and June of 1861 the Treasury had expenditures of $23,500,000 against receipts of only $5,800,000; and on July 1st, when the national debt had risen to $90 million, Chase informed Congress that the government needed another $320 million.

The immediate cause of suspension in the Union was a decision Chase made that warrants the adjective "Jacksonian": having convinced the bankers of New York, Boston, and Philadelphia to collectively purchase $50 million in Treasury securities, with the option of buying two further installments of the same size, Chase surprised them by insisting that they actually deliver $50 million in gold to the Sub-treasury, instead of allowing payment to take the form of deposits credited to the government that it might in turn transfer by check. By thus ignoring an August 5, 1861 reform that superseded the 1846 Independent Treasury Act by once again allowing commercial banks to serve as government depositories, Chase made it impossible for such banks to go on meeting the Treasury's needs without suspending specie payments. Finally, on December 30, 1861, the banks, finding their specie holdings cut in half, with many on the verge of violating their own minimum reserve requirements, suspended. The Treasury in turn was forced to suspend payment on the $5, $10, and $20 "Demand Notes" it had been using to pay the Union's military expenses since August 1861.

The change in Demand Notes' status from redeemable to unredeemable currency paved the way for the passage of the first Legal Tender Act on February 25th, 1862, authorizing the issuance of $150 million in "United States Notes," better known as "greenbacks," which were to be legal tender except for the payment of custom duties and interest on government bonds.[6] Two subsequent Legal Tender acts expanded the ceiling to $450 million. The scale of the new issues would eventually cause prices to rise substantially, while causing gold to command a substantial premium relative to its now-inoperative mint price. That premium meant of course that greenbacks had supplanted gold itself as the North's medium of account.

In California and Oregon, however, it was greenbacks themselves that were treated as a commodity rather than as money, thanks to merchants' refusal to either accept them or pay them out to their customers—a refusal informed by the prior prohibition of banks of issue in both states (Lester 1939). The West Coast thus remained on a gold standard, keeping some $25

[6] According to Albert Bolles (1886, p. 37), had Chase, instead of heeding his own bullionist instincts, followed the bankers' advice, the government's resort to greenbacks "would certainly have been delayed…and the evil effects flowing therefrom would have been far less than those which followed."

million in metallic money in open circulation after such money had all but vanished from the rest of the country, and avoiding almost all of the inflation by which the rest of the country was afflicted, and supplying a neat demonstration of the fact that a gold standard can prevail even despite legal tender legislation favoring an altogether different standard.

After the South's defeat the general consensus was that specie (meaning, given the relative world values of gold and silver at the time, gold) payments ought to be resumed, with most favoring a return to the prewar gold parity. But as the price level had approximately doubled in the course of the war, and the market price of gold was as yet 50 percent above its former mint price, restoring the old parity would require considerable deflation, which could only be achieved either by contracting the nominal stock of government currency or by allowing real output growth to bring prices down gradually.

Although Congress at first let Hugh McCulloch, Lincoln's third Secretary of the Treasury, pursue his preferred policy of "immediate and persistent contraction of the currency," when faced with the painful side effects of Chase's harsh prescription it was compelled first to reduce the rate of greenback contraction and, in February 1868, to end the contraction altogether in favor of the policy of letting the economy "grow up" to its still-enlarged money stock (Timberlake 1993, pp. 88-91).

However the economy grew only very slowly in the years immediately following this change, and then contracted after the panic of 1873. That panic dealt resumption a further setback by provoking the issuance of another $26 million in greenbacks. Progress toward resumption was finally made possible again by the Resumption Act of January 1875, which provided for renewed contraction of the stock of United States notes from the $382 million then outstanding to $300 million. To overcome opposition to monetary contraction from "greenbackists"—a mainly agrarian movement that favored currency expansion to combat deflation—the Act also removed official limits to the aggregate value of national bank notes, while only allowing $80 in greenbacks to be retired for every $100 in newly-issued bank notes. The catch—intentional or not—was that greenback retirements ended up being based on *gross* rather than net increases in national bank note circulation. So, notwithstanding appearances to the contrary, the policy allowed the quantity of both forms of currency to decline (Timberlake 1993, p. 112).

Bimetallism Abandoned

At last, on January 1, 1879, specie payments were officially resumed. As had been anticipated at the war's end, "specie" in practice meant, not silver, but gold. But while the revival of a *de facto* gold standard would have been the natural outcome of official bimetallism in 1865, in 1879 that outcome was something else altogether: it was, at least as far as champions of silver or genuine bimetallism were concerned, nothing less than a "crime."

The crime in question, now notorious as the "Crime of '73," refers to the failure of the Coinage Act signed by Grant in February of that year to provide for the coinage of full-bodied or standard silver dollars. This meant that, once resumption of metallic payments was achieved, the Mint's undertaking to coin silver freely would remain a dead letter, with silver employed only in making subsidiary coins, no matter what happened to silver's relative world price. Although the measure and its potential consequences were scarcely noticed at first, after 1875, when the world gold-silver price ratio began to rise well above 16:1, and especially after 1879, when specie

payments were at last resumed, the reality that silver had been quietly demonetized become increasingly evident until, after two decades of persistent deflation, it came to occupy center stage in American politics. The occasion was the Presidential election of 1896, in which the Democrats chose William Jennings Bryan, a prominent free silver advocate, to run against William McKinley. Earlier administrations had quieted the movement to revive free silver coinage by passing the Bland-Allison Act of 1878 and the Sherman Silver Purchase Act of 1890. Although neither measure restored the free coinage of silver, the first called for the Treasury to purchase and coin into dollars on its own account up to $4 million of silver, while the second increased the purchases to $6 million per month, while allowing the extra purchases to be paid for using new Treasury notes. The latter measure, however, almost caused the gold standard to come to grief when, during the Panic of 1893, the Treasury was only able to meet large-scale Treasury note redemptions after a last-minute rescue by a bankers' syndicate. The perception that it had contributed to the Panic caused the Silver Purchase Act to be repealed on November 1, 1893.

It was against this background that Bryan gave his famous "cross of gold" speech and otherwise made free silver a central plank in the Democratic Party platform. But though Bryan managed thereby to become the nominee of both the Democratic and the Populist parties, he failed to win over urban wage owners, who feared the prospect of a free-silver based inflation as much as farmers and silver miners welcomed it. Although McKinley's victory put paid to any immediate prospect of a revival of bimetallism, the Gold Standard Act passed on March 14, 1900, though something of an anticlimax, was rather more than a mere formality: it was intended to put an end, once and for all, to speculation that the U.S. might ever again elect to "do something for silver" by re-instituting the free coinage of that metal.

Why had the U.S. financial community favored the demonetization of silver? Had bimetallism proven to be inherently flawed? Not according to Milton Friedman (1992, p. 155). "Far from being a thoroughly discredited fallacy," he writes, "bimetallism has much to recommend it, on theoretical, practical, and historical grounds, as superior to monometallism." Until the post-1848 increase in world gold production the French market was big enough to make France's bimetallic ratio of 15 1/2: 1 the dog that wagged the world market price ratio tail—an outcome to which John Law's paper money scheme had contributed by instilling in the French a lasting aversion to paper money.

Silver's relatively low value also was not a reason for abandoning it. Gold monometallists sometimes argued that a progression from less to more precious metal was a "natural" if not an inevitable consequence of growing wealth, with its accompanying increase in the average size of economic transactions. Therefore, just as Rome eventually gave up bronze for silver, the U.S. and other industrializing nations were bound eventually to favor a gold standard. But the tendency in question, much as it may have operated in ancient times, was no longer important after the development, first of reliable bank money and subsequently of reliable token coins, had made the bulkiness of the underlying standard commodity a largely irrelevant matter, even making it possible to have bullion rather than coin-based metallic standards.

Nor had silver's purchasing power been less stable than gold's. On the contrary, as Friedman also observes (1992, p. 154), silver's real price was actually less variable than gold's during the century that followed Britain's official abandonment of bimetallism in 1819; moreover, had Britain abandoned gold rather than silver it's decision, by encouraging other

nations to make the same choice, might eventually have given the more precious metal the reputation of also being more "restless."

In short, there is no reason to suppose that commercial considerations alone made a prosperous nation's unilateral transition from either a silver standard or bimetallism to a gold standard especially desirable, much less inevitable. Instead, the most important factor favoring that transition in the U.S. was simply that so many other nations had already made it, or were in the process of doing so. That the advantages of any sort of money depend positively on how widely it is employed makes money a quintessential "network" good, and that in turn means that, as the international popularity of any particular monetary standard increases, it becomes a more attractive bandwagon for other nations to jump on.

Great Britain's decision to officially abandon silver was, again according to Friedman (ibid., p. 156; see also Gallarotti 1995, pp. 141-80 "the pebble that started an avalanche" favoring gold. Britain's example was especially influential because Britain's financial preeminence made stable exchange rates between sterling and other currencies particularly desirable and also because that preeminence itself came more and more to be understood, rightly or wrongly, as having been aided by Britain's decision to embrace gold (Cf. Feaveryear 1963, pp. 212-23).

The response to Britain's decision was nevertheless slow in coming. At first, network effects favored bimetallism at the French ratio, if they favored any particular metallic system. The gold finds of 1848 and 1850 fortuitously reaffirmed Britain's decision to abandon its "ancient standard." But a genuine "avalanche" didn't happen until Germany joined Britain in the aftermath of the Franco-Prussian war, thereby tipping the scales decisively in gold's favor. Between 1870 and Resumption numerous countries joined the United States in embracing gold monometallism. France itself ended free coinage of silver on September 6, 1873, while the rest of Latin Monetary Union followed in 1876. But it was above all Germany's decision to switch to gold that prompted the U.S. to demonetize silver, both by making the gold network larger than its main rivals and by boosting the world gold to silver price ratio to an extent that made it highly likely that U.S. would be left out of that network unless it took steps to close its mints to silver.[7]

The "Classical" Gold Standard

Great Britain's own switch to gold was far from deliberate. The pound "sterling" originally referred to a pound weight (troy), or 5,560 grains, of silver, or its equivalent in silver coin. But subsequent debasements reduced the silver content of the pound. When, in early Tudor times, 20 silver shillings were made equivalent to one pound sterling, each contained only 144 grains of silver. The Great Debasement of the reigns of Henry VIII and Edward VI took the reduction of the pound's silver content much further. The resulting "60-shilling" standard (that is, a standard by which 60 silver shillings, or the equivalent of three pounds sterling, were cut from one troy pound of silver) prevailed until 1601, when it gave way to the 62-shilling standard that remained unchanged, officially, until the early 19th century.

[7] The world market ratio increased from 16.4 in 1873 to 18.4 in 1879 (Friedman 1992, p. 67). According to Friedman (1992, p. 72), had the increase been unaffected by the U.S. decision to demonetize silver, then its failure to do so would have meant that, instead of resuming on a gold basis in 1879, the country would have found itself on a de facto *silver* standard by 1876. But Friedman speculates (ibid., pp. 73-4) that retention of the 16:1 bimetallic ratio in the U.S. would itself have served to stabilize the world market ratio enough to spare the U.S. from the "continual shifting between silver and gold," but not enough to prevent it from resuming on a silver rather than a gold basis.

Although several attempts were made between 1489 and 1662 to introduce a gold "pound" or 20 shilling coin, the coins in question all ended up commanding more than their intended values, thanks either to the debasement of the silver coinage or to the relative appreciation of gold bullion. The pound thus remained a silver unit, still equivalent to 20 shillings, however much silver each might contain.

And though Great Britain did not officially abandon bimetallism until 1819 (when silver was formally demonetized), and did not have a gold standard that was both official and operating until 1821 (when specie payments were resumed), an unofficial and generally unacknowledged switch to gold had already taken place there more than a century before. The first step toward that switch consisted of Great Britain's prior switch from a simple silver standard to official bimetallism, which began when it introduced free and gratuitous coinage of both silver and gold in 1666. Because the gold coinage at the time consisted only of guineas, which (after an aborted attempt to rate them at 20 shillings when they were first introduced in 1662) were allowed to float against silver, there was as yet no "mint price" of gold, or implied mint gold-silver equivalent. But the transition to bimetallism was completed with Newton's decision, in 1717, to officially rate the guinea at 21 shillings, which established a mint price for gold of £3 17s 10½d per troy ounce. Although Newton hadn't intended it, his rating of the guinea undervalued silver, and so cut off the flow of that metal to the mint. England thus found itself on a *de facto* gold standard, which (despite great inconvenience caused by the lack of silver coin) prevailed until it gave way to the paper pound in 1797. In 1798 free coinage of silver, then long in desuetude, was formally ended, much as it was to end during similar circumstances in the U.S. three-quarters of a century later. Finally the Coinage Act of 1816 introduced the gold sovereign of 20s, reaffirming gold's former mint price. The 1819 Act thus served, much like its U.S. counterpart of 1900, merely to codify the *status quo ante.*

That Great Britain played a crucial part in the establishment of an international gold standard does not mean that the Bank of England, alone or in conjunction with other central banks, played an essential one in "managing" that standard. "Not only can we say," Guilio Gallarotti (1995, p. 140) concludes, "that the Bank did not manage the international monetary system, but it is questionable whether it even managed the British monetary system." And although central banks involved in the system did occasionally assist one another with loans, they drew just as often upon private lenders for similar assistance.

In truth the working of the world's most complete and successful international monetary standard appears to have been almost entirely automatic, with deliberate planning playing an even more minor part in its operation than it had played in its emergence. The institutional set-up consisted, first of all, of nothing other than the sum of national gold standard arrangements: there was nothing to it like the IMF or SDRs. Indeed, as Gregory (1934, pp. 7-8) observes, "The only intelligible meaning to be assigned to the phrase 'the international gold standard' is the simultaneous presence, in a group of countries, of arrangements by which, in each of them, gold is convertible at a fixed rate into the local currency and the local currency into gold, and by which gold movements from any one of these areas to any of the others are freely permitted by all of them." And the most notable achievements of the classical gold standard, including its tendency to keep international exchange rates from fluctuating beyond very narrow bounds, and to thereby encourage the growth of international trade and investment, appear to have required

nothing more than the individual countries involved kept their own gold standards in working order.

The means by which the international gold standard automatically regulated national money stocks and price levels was long assumed to be the so-called "price-specie-flow" first explained by David Hume, according to which excessive monetary expansion in any one gold-standard country will, by raising prices there compared to those elsewhere, will at some point make it worthwhile to import from abroad goods previously purchased at home. An adverse trade balance will then cause gold to flow from the country where prices are relatively high to those where they are not, encouraging monetary expansion in those countries that are gold recipients and monetary contraction in the one experiencing the gold drain. Equilibrium is reestablished when a given quantity of gold once again has the same purchasing power, at least with respect to internationally tradable goods, everywhere.

Hume's price-specie-flow mechanism will operate only if nation's price levels differ enough to move exchange rates beyond the so-called "gold export" points, reflecting transport and other costs associated with importing goods from abroad. In practice, however, disequilibrium seldom developed to the point of triggering it under the classical gold standard. Instead, so long as gold convertibility commitments remained credible, speculators had reason to buy currencies as they depreciated in the foreign exchange market, and to sell them as they appreciated. Capital movements thus served to keep exchange rates from varying beyond the gold points, making actual gold transfers largely unnecessary.

There was, in any event, no need for deliberate central-bank regulation of national money stocks, much less for deliberately coordinated policies, that is, for central bank "cooperation," under the classical gold standard. In fact, many of the countries that were part of the classical gold standard did not have central banks at the time. These included the U.S., which was the largest participant, and Canada, Australia, and Switzerland, which were among those most successful in adhering to the standard. Central banks were, on the other hand, responsible for some of the less robust gold standard commitments in Latin America and Asia.[8]

When central banks did seek to exert some influence, they generally sought not to expedite but to forestall the gold standard's normal consequences, avoiding adjustments needed to preserve or restore international equilibrium (Gregory pp. 37-8). In particular, instead of managing their discount rates as if to mimic the response of decentralized arrangements, central banks attempted to take advantage of the ability their monopoly privileges gave them to defy the gold standard "rules" by sterilizing gold transfers. But while such attempts might succeed for a time in deferring needed adjustments, more often they proved entirely futile. Under the classical gold standard, Trevor Dick and John Floyd (1992, p. 5), conclude, "central banks face[d] constraints, not rules," and could not sterilize the effects of gold flows or control their domestic money stocks even if they wanted to.

For some, of course, the impotence of central banks operating under the classical gold standard's constraints is enough to condemn that arrangement as a barbarous relic. For others, though, it was a key to the classical gold standard's success in stabilizing both money's long-run

[8] On the generally superior credibility of commercial bank redemption commitments compared to those of central banks see Selgin and White (2005).

purchasing power and international exchange rates—a success that, as we shall see, twice inspired government initiatives aimed at its replication. That those initiatives *did* depend, and depend heavily, on central bank cooperation, and that neither even came close to replicating the classical gold standard's success, lends credence to the latter view.

The long-term stability of world prices, and of the U.S. price level in particular, under the gold standard reflected the connection under that standard of price level changes to changes in gold's average cost of production. If the average, real costs of gold mining remained unchanged, a growing demand for money would place downward pressure on money prices, including the prices of labor and other inputs in gold mining, and so promoted greater gold output that served to limit the rate of deflation by keeping the relative price of gold equal to its (rising) marginal cost of production. When, on the other hand, gold mining became less costly, owing either to new discoveries or more economical extraction techniques, the mines' increased output resulted in both increased coinage of gold and greater deposits of gold into the banking system. The consequent monetary expansion then raised the general demand for goods and, ultimately, the world price level. In the long-run, inflation following gold discoveries and gold-mining innovations tended to just offset the deflation that took place during periods between such, leaving the price level about where it started out, and stabilizing long-run price level expectations.

But the deflationary intervals could be long; and one such interval—the period starting in the early 1870s and ending in 1896—was notoriously so. That period's persistent deflation caused some authorities to refer to the British episode as another "Great" depression and to the U.S. one as the "Long" depression. But despite these popular labels neither episode actually involved a persistent decline in any measure of aggregate real income or employment. Instead, those who characterized them as depressions appear to have simply assumed, mainly on the basis of the experience of the 1930s, that deflation and depression must always go hand in hand. Notwithstanding that assumption, actual statistics for the interval in question point to healthy average real income growth for both total and per-capita real income in both countries, with declining prices generally reflecting, not flagging demand (as they did in the 1930s) but robust productivity growth.[9]

This isn't to deny, of course, that the U.S. and other countries experienced occasional recessions or depressions during the gold standard era. There was indeed a relatively long depression beginning in 1873—but "relatively long" in this case means something like two or three years, not over two decades! There were also major financial crises in 1884, 1893, and 1907. But it is by no means clear that gold standard was to blame for any of these episodes. That it can't be blamed for the 1873 downturn should be obvious enough, as the U.S. was still on a greenback standard, and had as yet not taken any step toward resumption, at the time. As for the other crises, the fact that Canada largely avoided them, and much other evidence besides, strongly suggest that they were due not to the gold standard but to monetary and banking arrangements peculiar to the U.S. (Selgin 1989). Despite their regulatory origins these disturbances were to supply a rationale for the passage of the Federal Reserve Act in 1913. As the original Act itself makes clear, the Fed was supposed, not to override the gold standard, but to secure and preserve it by preventing it from being undermined by further financial panics. In

[9] See Selgin (1997, pp. 49-53) and sources cited therein. On the absence of any strict correlation of deflation with depression or recession see Atkeson and Kehoe (2004).

fact, by placing responsibility for gold convertibility entirely with semi-public authority, instead of with numerous private firms, it represented a step, albeit an unintended and largely unrecognized one, toward the gold standard's eventual downfall.

World War I and the Reconstructed Gold Standard

On the eve of the outbreak of the war, and before the Federal Reserve System was operating, the U.S. monetary system endured yet another crisis as the closing of London's acceptance and discount houses caused foreigners to start liquidating their holdings of U.S. securities, causing heavy gold exports. A suspension of gold payments and bank credit contraction were both avoided thanks to the closing of the New York Stock Exchange and to the issuance of emergency currency that had been authorized by the Aldrich-Vreeland Act—a temporary measure set up in the wake of the Panic of 1907 that was to expire once the Fed was up and running (Silber 2007).[10]

The outbreak of the war itself was quickly followed by the suspension of gold payments by all of the Continental belligerents. Great Britain did not formally suspend; but the British government allowed the Bank of England to place obstacles in the way of persons who attempted to withdraw gold from it and also began a publicity campaign against "unpatriotic" gold hoarding.

The United States also avoided outright suspension immediately after it entered the war in April 1917. But five months later President Wilson issued a proclamation requiring all persons seeking to export gold from the country to secure permission to do so from the Secretary of the Treasury. Since that permission was almost always denied, the proclamation, which remained in effect until June 1919, amounted to a full embargo on gold exports, and hence a partial suspension of gold payments.

The combination of reduced European production and a monetary policy aimed at boosting the demand for Liberty Bonds and no longer constrained by the risk of an external gold drain resulted during the war in 70 percent increase in the M1 money stock and an increase in prices of more-or-less the same magnitude4 as that which had taken place during the Civil War (Crabbe 1989, p. 427). But when the Fed continued to pursue the same policy after the gold embargo was lifted in 1919, the result was a net gold drain that, having already reached $300 million by March 1920, threatened if it continued to drive the Fed's gold reserve ratio below its legal minimum. In response the Fed banks hit the brakes on credit growth, sharply raising their discount rates and keeping them raised for the better part of a year. The policy U-turn succeeded in bringing the Fed's gold reserve ratio well above its minimum level, thereby avoiding a suspension or renewed restriction of gold payments, but not without plunging the U.S. into a deep (though short lived) depression.

Other belligerent nations also hoped to reestablish their pre-war gold standards, despite far more substantial wartime increases in their national money stocks and price levels, though not all succeeded in doing so. Following their hyperinflations Germany, Austrian, and Hungary

[10] The success of the Aldrich-Vreeland plan in its only trial is significant both because of the contrast of that success with the Fed's subsequent failure to avert monetary collapse in the early 1930s and because the plan was to a large extent a mere formalization of previous, ad-hoc "emergency currency" measures undertaken by private clearinghouse associations, themselves designed to sidestep legal restrictions on banknote issuance dating from the Civil War.

established new currencies. France abandoned its former gold coin standard in favor of a gold bullion standard, while also electing, with several other nations, to permanently reduce the gold content of its currency. But haphazard, seat-of-the-pants settings of new gold parities led to precisely the sort of substantial (gold) price-level disparities that Hume's price-specie-flow theory takes as its starting point, but which were for the most part avoided under the classical gold standard. The parities chosen by Denmark, Italy, and Norway appear to have overvalued their currencies, that is, made those countries' price levels, expressed in terms of a common gold unit, high relative to other nations), while those chosen by France, Germany, and Belgium were such as caused their currencies to be relatively undervalued.

Great Britain's strategy for restoring gold payments was to prove particularly ill-advised. Despite the substantial increase in the British money stock and price level since the outbreak of the war, it was determined to restore the pound's prewar gold parity, and to do so not gradually (as the U.S. had done after the Civil War, and as Great Britain itself did after the French wars) but quickly. Churchill's now-much maligned decision to resume gold payments on April 28, 1925, is supposed by most authorities to have overvalued the pound by about 10 percent, thereby severely depressing British exports, provoking a general strike, and giving rise to what were euphemistically termed balance-of-payments "difficulties." The two obvious alternatives for bringing the pound back into purchasing-power parity with the U.S. dollar and other currencies were further deflation (and corresponding depression) or devaluation. British authorities, however, opted for "none of the above." Drawing inspiration from the 1922 Genoa Conference, they responded to the general strike by means of a further expansion of bank credit, while attempting to address the "gold shortage" (that is, the now further enhanced "overhang" of sterling monetary liabilities) first by abandoning (as France had already done) the prewar gold coin standard in favor of a gold bullion standard and, second and more importantly, by convincing other central banks to treat sterling balances rather than gold itself as their principle reserve asset.

These steps by Great Britain created the so-called gold exchange standard, under which Bank of England promises became, along with those of the Federal Reserve, the principle reserve and settlement medium of many gold standard nations. England's "one reserve system," condemned long before by Walter Bagehot (1873; see also Selgin 2012) as an "unnatural" and destabilizing by-product of the Bank of England's monopoly privileges, was thus transformed into an *international* one-reserve system that was correspondingly more dangerous because it tended to delay still further "the moment when the braking effect that would otherwise have been the result of the gold standard's coming into play would have been felt" (Rueff 1972, p. 19). Thanks to it, Great Britain could continue, at least for the time being, to be a debtor to other nations without running short of bullion.

Unlike the classical gold standard, the interwar gold exchange standard depended crucially upon central bank cooperation. Moreover it required such cooperation, not just to run smoothly, but to run at all. The decision on the part of any major participating central bank to defect might easily suffice, given the Bank of England's modest gold reserve ratios, to cause the whole arrangement, and the gold economies it was designed to achieve, to come crashing down, triggering general deflation or widespread devaluations or some combination of the two. The arrangement was, in short, exceedingly fragile. On the other hand, as we shall see, when national

central banks did cooperate to keep it from collapsing, they might find that they were doing so at the cost of abandoning domestic stability.

The U.S. for the most part cooperated with Great Britain after 1924. Although it had switched from easy to tight money in 1920, sterilizing gold inflows (Crabbe 1989, pp. 428ff.), and thereby putting pressure for some years on sterling, beginning in 1924 it leaned the other way, largely in an order to assist Great Britain with its own effort to restore gold payments. U.S. gold holdings, having reached a peak of $4,234 million in August, 1924 (Anderson 1949, p. 153), began to decline thereafter in response to the resumption of gold payments, first by Germany (in accordance with the Dawes Plan), then by Holland, and finally by Great Britain itself. Still the Federal Reserve Banks for the most part kept their discount rates low and, when that proved insufficient to stem British gold losses, resorted for the first time to a large-scale open market purchase of government securities as a means for fueling bank expansion and combating deflation (Anderson 1949, pp. 155-56).

Ultimately it was France's efforts to restore the franc that were to prove the gold exchange standard's undoing. France's *de facto* stabilization of 1926 undervalued the franc approximately as much as Great Britain's 1925 decision had overvalued sterling. In the spring of 1927, in an attempt to stem the inflow by compelling the Bank of England to raise its discount rate, France began converting its sterling holdings, putting the Bank of England under a severe strain. The process of converting sterling balances into gold was then accelerated by the French Monetary Law of June 25, 1928, which called for 100 percent gold backing of the Bank of France's note circulation. Between then and 1932 France's share of world gold reserves soared from 7 percent to 27 percent.

Under the classical gold standard, France's accumulation of gold would have promoted monetary expansion there and contraction elsewhere, and so would have been self-limiting. France, however, chose to sterilize its gold inflows. But it does not follow, as some authorities (e.g. Johnson 1997; Irwin 2010) have claimed, that had it done otherwise the result would have been similar to that to which a true gold standard would have led. For under the gold exchange standard increased lending by the Bank of France might ultimately have served only to inspire still more lending by the Bank of England, perhaps forestalling but not avoiding the gold exchange standard's eventual demise. In this respect the interwar standard resembled, not a genuine gold standard, but a "child's game in which one party had agreed to return the loser's stake" after every contest (Rueff 1972, p. 22). The fundamental problem was, not that France was a "gold sink," but that neither France nor any other country could be expected to accumulate foreign currency reserves indefinitely, instead of eventually taking advantage of the right to cash them in.

Montague Norman, having failed to convince the Bank of France to remain content to hold sterling instead of gold, turned again for help to the U.S. where, at a secret conference arranged by Benjamin Strong at the New York Fed to which representatives of the Reichsbank and Bank of France were also invited, he succeeded in convincing Strong, but not the others, to

cheapen credit still further, which Strong arranged to do by means of more large security purchases and the further lowering of regional Fed bank discount rates.[11]

According to several economists, most notably Hayek and Lionel Robbins, the Great Depression began, not as a response to post-1929 deflation, but as the collapse of a prior "malinvestment" boom the Fed had inadvertently fueled through its easy money policy of the latter 1920s. The Fed, according to Benjamin Anderson (1949, pp. 146-7), "was created to finance a crisis and to finance seasonal needs for pocket cash. It was not created for the purpose of financing a boom, least of all for financing a stock market boom. But from early 1924 to the spring of 1928 it was used to finance a boom and to finance a stock market boom."

The Fed's efforts nevertheless proved inadequate to save the pound, whose convertibility, already jeoparadized by France's actions, was dealt a further, fatal blow by the Austrian banking crisis, which in turn triggered a general abandonment of sterling and, hence, of the exchange standard. As T. E. Gregory (1934, p. 57) explains, the attacks on sterling were understandable, if not justified, for under the gold exchange set-up "any failure of London to meet demands in gold meant that the security behind, e.g. the Dutch currency, was in effect reduced in value. The anxiety of certain Central Banks to draw out gold at a time when gold withdrawals appeared highly embarrassing to the Bank of England must not be put down to blind panic or selfishness on the part of those Banks." Great Britain withstood the attacks until September 1931, when it elected at last to devalue the pound.

Ideally Britain's abandonment of the parity dating back to Newton's 1717 rating of the guinea might have done "nothing more than restore Great Britain's competitive position to what it would have been if the gold standard had been restored at a lower gold content, or if it had not been restored at all, in 1925" (ibid., p. 71). But happening when it did, after so many nations had made the convertibility of their own currencies dependent upon the inviolability of sterling, it led to the general abandonment of gold parities that had been so laboriously established or reestablished since the war. Just as one "domino effect" led from Great Britain's adoption of the gold standard to that standard's general adoption, another, more cataclysmic domino effect now led from Great Britain's abandonment of gold to its almost universal abandonment. As T. E. Gregory (1934, p. 145) explained at the time,

> The ability to maintain a local currency at par with gold carried with it economic consequences of the most far-reaching kind. But every breach in the system of gold standard countries diminishes the advantages of the system. If only a single country remained upon gold, its price structure and its foreign exchange rates with the rest of the world might be more unstable than those of the remaining areas *inter se*".

The mechanics of gold's downfall were however different from those that had sponsored its rise: there was at work, not merely the usual advantages of remaining in a fixed, sterling-based exchange network, but the tendency of gold to flow from those nations that clung to the gold standard to Great Britain and others that chose to abandon it. This tendency only served to further encourage other countries, and important suppliers of crops and raw materials especially,

[11] It was on this occasion that the governor of the Chicago Federal Reserve Bank at first refused to lower that bank's discount rate in accordance with Strong's recommendation, but was overridden by the Federal Reserve Board in a step which, for all practical purposes, marked the end of independent regional bank policy making.

to follow Great Britain's example. Great Britain's move was therefore, in Gregory's words, "highly infectious" (ibid., p. 74). After it chunk after chunk of the remaining gold block broke off and floated away. By the close of 1932 Norway, Sweden, Egypt, Denmark, Finland, Northern and Southern Rhodesia, Canada, Japan, Siam, and South Africa had all gone off gold; and the gold standard's allure had given way to the perception that it was to blame for the worldwide economic catastrophe.

But was it? The commonly-heard claim that "the gold standard" was what fell apart in the 1930s, after having brought about the world's worst depression, betrays a failure to appreciate the crucial difference between the genuine gold standard that prevailed until the outbreak of World War I and the far more fragile gold exchange standard that was cobbled together after the war. It was the latter standard that failed, with cataclysmic consequences, in the early 1930s.

It remains true, nevertheless, that the collapse of the interwar gold exchange standard ultimately had the effect of discrediting, not only that particular sort of gold standard, but the gold standard broadly understood. Some years before Great Britain's suspension, when France first began to cash-in its pounds, a Bank of England official had anticipated this very outcome. "If one country decides to revert to the [classical] Gold Standard," he observed, "it may lay claim to more gold than there is any reason to expect the gold centre to have held in reserve against legitimate Gold Exchange Standard demands. What is then endangered is not merely the working of the Gold Exchange Standard, but the Gold Standard itself" (Johnson 1997, p. 133).

Gold and the U.S. Depression

Despite the gathering momentum favoring abandonment of gold, reinforced by international runs on the dollar in both 1931 and 1932, the U.S. clung to its gold standard until March 6, 1933, when a run on the New York Fed's gold reserves led to Roosevelt's declaring a national Bank Holiday that was to keep all U.S. banks closed until March 13th. In the course of the holiday, President Roosevelt ordered commercial banks to exchange their remaining gold reserves for Federal Reserve notes and credits, and to submit lists of persons who had withdrawn gold or gold certificates since February. He also prohibited gold exports except by special arrangement with the Secretary of the Treasury. Finally, anticipating banks' reopening, he stipulated that "No permission to any banking institution to perform any banking functions shall authorize such institution to pay out any gold coin, gold bullion or gold certificates except as authorized by the Secretary of the Treasury, nor to allow withdrawal of any currency, for hoarding, nor to engage in any transaction in foreign exchange except such as may be undertaken for legitimate and normal business requirements, for reasonable traveling and other personal requirements, and for the fulfillment of contracts entered into prior to March 6, 1933."

These emergency measures already amounted to an indefinite suspension of the gold standard. Then, on April 5 1933, yet another executive order required all U.S. residents to exchange, on or before May 1st, most of their holdings of gold coin, bullion, and gold certificates for Federal Reserve Notes and token coins valued at the then still-official rate $20.67 per troy ounce, and made subsequent possession of monetary gold a criminal act. For the remainder of 1933 the dollar remained inconvertible, while its foreign exchange value was allowed to float. Finally, the Gold Reserve Act of January 30, 1934 established a new, official price of gold of $35 per troy ounce, while requiring that all gold and gold certificates held by the Federal Reserve be surrendered to the U.S. Treasury.

The United States decision to cling to its pre-World War I gold standard until the spring of 1933 has since been blamed for both the severity and the persistence the U.S. depression. But the facts do not support such a simple interpretation. Although there can be little doubt that the post-1929 "Great Contraction" of the U.S. money stock, and the consequent collapse in nominal spending, played a major part in the depression, the "gold standard" as such cannot be said to have been responsible for this contraction, which the Fed might have combatted without sacrificing its ability to convert gold into dollars. As one Board of Governors staff member himself (Crabbe 1989, p. 427) succinctly put it, "Because the [Fed's] gold reserve requirement rarely restrained policy between 1914 and 1933, the Federal Reserve had broad discretionary powers to manage the nation's money supply in the advancement of domestic objectives."

The Federal Reserve Act required that the Fed maintain a gold reserve equal to not less than 35 percent of its deposits and not less than 40 percent of its outstanding notes. Although the Fed came close to being constrained by these requirements during the 1920-21 crisis, thanks to subsequent gold inflows that it initially sterilized it held substantial excess reserves, not only throughout the remainder of that decade, but also after the onset of the depression. Indeed, as Richard Timberlake (1993, pp. 270-72) observes, "At the same time that Fed policymakers refused to provide relief to member banks, gold in Fed Banks was piling up. By August 1931, Fed gold had reached $3.5 billion (from $3.1 billion in 1929), an amount that was 81 percent of outstanding Fed monetary obligations and more than double the reserves required by the Federal Reserve Act." Although it lost gold during both the autumn of 1931 and the summer of 1932, the Fed enjoyed a net increase in gold in both years. Mounting fears of devaluation during the early months of 1933 led to both extensive earmarking of gold for foreign accounts and an internal run on gold.[12] But even at its nadir, at the end of the Bank Holiday, the gold stock stood at $4,282 million, leaving the Fed with more than $1 billion in excess reserves. Moreover, the Fed's gold constraint, however tight it became, could always be loosened, since the Federal Reserve Board had the authority to suspend the Fed's gold reserve requirements altogether, and for an indefinite period, in an emergency (ibid).[13]

Nor, despite suggestions to the contrary (e.g. Elwell 2011, p. 9), is it certain that more aggressive Fed expansion to combat the Great Contraction would have posed a threat to the dollar's convertibility. Bordo, Choudri, and Schwartz (2002) find that, even had there been perfect capital mobility (which was far from the case), open market purchases on a scale capable of having prevented the monetary collapse would not have sponsored gold outflows large enough to pose a threat to the dollar's convertibility, while Hsieh and Romer (2006), drawing on both statistical and narrative evidence, reject the more specific hypothesis that prior to 1933 the Fed

[12] Elmus Wicker (1996, pp. 161-2) finds that gold outflows played only a minor role in the banking panics that were the proximate cause of the monetary collapse prior to 1933.

[13] This is not to claim that the Fed did not consider itself constrained in *some* fashion. In fact, it was constrained, not by a lack of gold, but by Board members' adherence to the real-bills doctrine. The problem was thus neither an absolute lack of gold nor even by a shortage of gold relative to the minimum 40 percent gold-backing requirement for outstanding Federal Reserve notes but the requirement, inspired by the real-bills doctrine, calling for it to back the other, 60 percent of its notes with either gold or "commercial paper." It was this artificial constraint on the Fed's non-gold assets that was chiefly responsible for its having stood by while the U.S. money stock collapsed (Timberlake 2007). Although the Federal Reserve Act's commercial paper requirement was relaxed somewhat by Glass-Steagall Act of February 27th, 1932, which made U.S. bonds substitutable for gold, the Fed failed to take full advantage of the legislation.

had been compelled to refrain from expansionary policies out of fear that expansion would provoke a speculative attack on the dollar. The U.S. monetary contraction, Hiseh and Romer conclude (ibid., p. 142), took place, not because the Fed was encumbered by "Golden Fetters," but because its administration was inept. Finally, although it is true that the Bank Holiday of March 1933 was itself triggered by fears of an impending devaluation (Wigmore 1987), those fears arose, not owing to the perception that the Fed was in danger of running out of gold reserves, but owing to the newly elected President's unwillingness to unequivocally commit to maintaining the gold standard.

In brief, the decision to suspend the dollar's convertibility into gold was as unnecessary as it was contrary to the proclaimed purpose of the Federal Reserve System. That system, T. E. Gregory (1934, p. 102) reminds us,

> was expressly created in 1913 for the purpose of avoiding any suspension of cash payments in the future, for the received tradition of central banking contains no place for a suspension of cash payments as a remedy for banking panic. On the contrary, the received tradition is that, so long as the foreign exchanges continue favourable, the way to avoid suspension of cash payments is to lend freely against adequate security, but at a rate of interest sufficiently high to deter irresponsible borrowing and at the same time to attract back to the country a portion of its outstanding short-term assets.

The U.S. decision to abandon gold, Gregory (1934, p. 103) concludes, was "an arbitrary act of statesmanship, which may indeed be justified on political or psychological grounds, but which was certainly not inevitable on technical economic grounds."

Although both the Great Contraction and the banking crises that accompanied it might have been prevented without abandoning the gold standard, this did not mean that devaluation of the dollar played no part in the post-contraction economic recovery. By reducing the dollar's official gold content to 59 percent of its former content, the Roosevelt Administration increased the nominal monetary gold stock from $4,033 to $7,438 million overnight (ibid., p. 119), thereby compensating somewhat, though belatedly, for the Federal Reserve's past failure to take advantage of its unused capacity to expand credit.[14] By cheapening U.S. exports devaluation may also have contributed to subsequent, substantial net U.S. gold receipts, though those appear to have been mainly due to the growing likelihood, following Hitler's assumption of power, that Europe would once again find itself engulfed by war.

Bretton Woods and the Fiat Dollar

Although, according to our understanding of the meaning of a gold standard, the U.S. abandoned that standard during the national bank holiday in 1933, officially the abandonment of gold was a gradual process completed only in the 1970s.

The collapse of the interwar gold standard left the world monetary system in a state of disarray in which it was to remain throughout the Second World War, when the prewar problem of unstable exchange rates gave way to one of extensive exchange controls. The war completed the process, begun during the previous World War, by which sterling hegemony gave way to

[14] Later Fed and Treasury actions, however, more than offset the boost devaluation had given to the U.S. money stock, helping to bring about the "secondary" depression of 1937-8 (Timberlake 1993, pp. 288-99).

dollar hegemony in world monetary affairs. Whereas substantial U.S. gold receipts during World War I had given way to substantial gold losses afterwards, the close of World War II only served to revive net gold flows to the U.S. that had begun before the war's outbreak, ultimately leaving it in possession of roughly three-quarters of the world's monetary gold. The U.S. dollar was by then also the only major world currency still meaningfully linked to gold.

Various proposals for restoring other currencies' convertibility eventually gave rise to the Bretton Woods plan, calling for the establishment of a new exchange standard that was to have been based upon both sterling and the U.S. dollar, but which ultimately came to be based upon the dollar alone. [15] Under it participating nations' currencies were to be "pegged" not to gold directly but to U.S. dollars, which would remain uniquely convertible into gold. The pegged exchange rates were subject to adjustment with the approval of the newly-established International Monetary Fund, so named because it also administered a dollar endowment to which participants held specific "drawing rights" for use in maintaining their currencies' par values.

Under Bretton Woods, although it remained impossible for U.S. citizens to convert U.S. dollars into gold, foreign central banks had the right to convert dollars into gold at the new official rate of $35 per ounce. Furthermore U.S. dollars could be freely sold in the London gold market, where in 1961 a gold "pool" was established for the purpose of aiding such conversions, with the Fed contributed half of the pool and a consortium of European central banks contributing the other half. It was thus possible in practice for any foreigner to acquire gold in exchange for U.S. dollars at the official rate, and to do so anonymously. Because most system currencies did not become fully convertible at the new par values established for them in 1946 until the close of 1958, the system only became fully operative at the latter date.

The Bretton Woods System was supposed to reproduce the most desirable features of the classical gold standard while nevertheless allowing participating central banks some freedom to pursue independent monetary policies. For a time, it seemed to achieve its purpose, by reestablishing a system of stable exchange rates accompanied by low inflation. However the system's apparent stability masked serious inherent flaws that became especially serious once the dollar emerged as its only "key" currency. That status ultimately led U.S. authorities to take advantage of the system to engage in inflationary finance, ultimately exposing the dollar to speculative attacks like those to which the interwar sterling-based exchange standard had succumbed. "As outstanding dollar liabilities held by the rest of the world monetary authorities increased relative to the U.S. monetary gold stock," Michael Bordo explains (1993, p. 51), "the likelihood of a run on the 'bank' increased. The probability of all dollar holders being able to convert their dollars into gold at the fixed price declined."

In two respects at least, the Bretton Woods arrangement was even more vulnerable to speculative attacks that its interwar predecessor had been. The Bretton Woods exchange rate commitments were, first of all, known to be subject to change; secondly, interwar devaluations, and the devaluation of the U.S. dollar itself especially, gave speculators more reason than ever before to distrust the new regime's commitments—to view them, not as so many binding

[15] The change in Great Britain's status from creditor to debtor nation, the loss of its empire, and its more general postwar economic decline, greatly limited sterling's anticipated role as a reserve or "key" currency. After Great Britain devalued the pound in November 1967, it effectively ceased to be an important reserve currency.

contractual obligation, but as a mere exercise in government price-fixing that might be abandoned with relative impunity. For these reasons the Bretton Woods System was especially likely to come under attack in the event of a perceived shortage of gold cover.

Still the situation not long after the (dollar) convertibility of system currencies had been restored was not such as gave U.S. authorities reason to be concerned about the system's strength. In 1960 U.S. gold holdings stood at $17,800 million, while the U.S. gold tranche ("ordinary drawing rights") at the IMF stood at $1,600 million, giving the U.S. total reserves of $19,4000, against foreign private and official U.S. dollar holdings of $18,700 million (Rueff 1972, p. 208). But beginning around that time persistent and mounting U.S. balance of payment deficits caused the ratio of U.S. gold stock to foreign dollar holdings to decline almost continuously to such levels as no longer supplied grounds for sanguinity (see Bordo 1993, p. 39, chart 1.10).[16] In June 1967 France became the first country to act upon growing doubts about the dollar's future convertibility by quitting the gold pool and starting to shift gold from New York and London to Paris. France's move put sterling under severe pressure that led, in November 1967, to its devaluation, which in turn dealt a mortal blow to confidence in the dollar's convertibility into gold. The United States' creditors, having long since become, according to Rueff (1972, p. 182), "tired of having to accept indefinitely growing amounts of U.S. currency which were totally useless to them," at last began to convert substantial portions of their dollar balances into gold. Mounting gold withdrawals during late 1967 and early 1968 gave way in mid-March of the latter year to a massive run.

U.S. authorities responded to the run by terminating the gold pool on Sunday, March 17. This stanched the gold outflow by forcing requests to convert dollars into gold at their official par value "through the narrow channel of some U.S. monetary authority," thereby both limiting requests to foreign monetary authorities and making them "obvious and conspicuous" (ibid. pp. 184-5). The change, besides ruling out private conversions, discouraged those countries that depended on the U.S. either for military protection or for economic aid, or that simply wished to maintain friendly diplomatic relations with it, from cashing in dollars.

Although it came close to converting the Bretton-Woods gold-exchange standard into a de facto dollar standard, the new arrangement also succeeded for a time, with the help of Special Drawing Rights created to supplement the previously available IMF gold tranches, at preserving the appearance of some sort of gold standard. But as the supply of foreign-held dollars continued to increase their holders overcame their politically-motivated reluctance to cash them in: "Piling up dollars," Rueff observed (ibid., p. 190), will eventually "make people allergic to them." By the end of 1970, U.S. gold holdings had fallen to just $11,100 million, with total reserves (including IMF drawing rights) at $14,500 million (ibid. p. 210), while total external dollar balances amounted to over $45,700 million, or more than three times available reserves. The Fed managed to accommodate requests for gold for another eight months when, on August 15,

[16] The claim of several authorities (cited in Bordo., p. 68), that the problem was that "the growth of the monetary gold stock was insufficient to finance the growth of world output and trade", rather than that the quantity of dollars had been allowed to grow excessively, is belied by the behavior of U.S. and other dollar-area annual inflation rates, which remained positive throughout the (convertible) Bretton-Woods era, and approximately doubled during the 1960s, as well as that of Federal Reserve liabilities, growth of which accelerated correspondingly rapidly, in part in response to fiscal pressures connected to the escalation of the Vietnam War (ibid., pp. 74-6). The fact that the monetary gold stock did in fact shrink after 1960 was mainly a reflection of the public's increased tendency to hoard gold in anticipation of the system's impending breakdown.

1971, its "gold window" was closed for good. Even so appearances where to some extent kept: in March 1972 the dollar was officially devalued to $38 per ounce, though no U.S. agency was actually prepared to exchange gold for dollars at that price. A further, official devaluation in December 1973 was still more meaningless, for gold was then already trading for more than its new, official price of $42.22, to which it was never to return. Official acknowledgement that the dollar was no longer based on gold did not come until October 1976; and to this day U.S. gold holdings continue to be carried on the Fed's books at $42.22 per ounce, although general inflation and a recent bull market in gold have raised gold's market price to about $1600 per ounce.

A Revived Gold Standard?

Although a genuine and official gold standard prevailed in the U.S. only for about half a century, that experience was successful enough to give rise to a widespread (though by no means universal) perception that, notwithstanding the *theoretical* advantages of an ideally-managed fiat money, the gold standard was uniquely capable of keeping both exchange rates and the general price level relatively stable and predictable. Nor has this perception been a popular one only, unsupported by expert opinion. Jurg Niehans (1978, pp. 140), for example, observed some decades ago that while "a non-commodity system, since it gives monetary policy more freedom, can if it is ideally managed, always do at least as well as any commodity money system and probably better…from a practical point of view, commodity money is the only type of money that, at the present time, can be said to have passed the test of history in market economies."

Indeed, the double-digit inflation that had taken hold in the U.S. when Niehans wrote led not long afterwards to the establishment of a Gold Commission, charged with conducting "a study to assess and make recommendations with regard to the policy of the U.S. government concerning the role of gold in domestic and international monetary systems." The measure's sponsors, Senator Jesse Helms of North Carolina and Congressman Ron Paul of Texas, had each attempted to introduce legislation aimed at re-establishing a gold standard of some sort, but had been unsuccessful. They hoped by means of the Gold Commission to gain new support for a gold revival; but they were disappointed when the newly-elected Reagan administration, instead of showing enthusiasm for such a revival, allowed its own appointees to the Commission to join what became a substantial anti-gold majority. That majority's final report recommended, unsurprisingly, against reestablishing a gold-based dollar, prompting two of the dissenting commissioners, Ron Paul and Lew Lehrman, to prepare and publish a minority report (Paul and Lehrman 1982).[17]

Since the convening of the Gold Commission several other (usually Republican) politicians have ventured to defend the gold standard and in some instances to urge its revival. The general consensus, however, has remained that reached by the former Commission, namely, that despite the infirmities of the present fiat dollar standard, a transition back to gold convertibility would likely prove still more problematical.

[17] It did not help that three Federal Reserve Governors sat on the commission, where "their primary concern was to limit discussion touching on" the Fed's performance, and where they insisted "that the subjects of inflation and monetary policy were not a proper concern of the Commission" (Schwartz 1987, p. 323). How the relative merits of gold versus paper were supposed to be discussed and evaluated without reference to the actual performance of the latter was, apparently, not a matter of great concern to them, or to the two JEC House members who supported their position.

Some popular arguments against proposals for a new gold standard are not very compelling. The claim that the real price of gold has become too volatile to allow that metal to be relied upon as a standard, for example, overlooks the extent to which gold's price depends on the demand for private gold hoards, which has become both very great and very volatile precisely because of the uncertainty that fiat money regimes have stirred up. The claim also overlooks the tendency, discussed earlier, for a metal's price to become more stable as it becomes more widely adopted as a monetary standard.

Nor is it the case that there is not enough gold in the U.S. to support a new gold standard. This does not mean, of course, that it would be possible to make dollars redeemable in gold at gold's official bookkeeping price of $42.22 per ounce, much less at any of the still lower prices that pertained before the gold standard was abandoned. Any such parity would confront the U.S. with a monetary "overhang," and a corresponding need for monetary contraction and deflation, such as would make the overhang Great Britain faced in 1925 seem trivial in comparison. But there need be no monetary overhang or gold shortage provided that the dollar is given a new gold parity closer to its current market price. According to Lawrence White (2012, p. 416) the Treasury's gold stock, assuming that it is indeed what the Treasury itself claims, would at an official gold price of $1,600 per troy ounce be worth almost 20 percent of current (2012) M1, making for "a more than healthy reserve ratio by historical standards." Indeed, even at a gold price of only $800 per ounce the gold reserve ratio would under normal circumstances be quite adequate, and especially so if, as White assumes, the restoration of gold convertibility reduces the demand for gold itself as an inflation hedge. [18]

There are however some more compelling reasons for doubting that a return to gold would prove worthwhile even allowing that a system that could perform as the classical gold standrad did would be well worth having. One is the prospect that any restoration of the convertibility of dollars into gold might be so dispruptive that the short-run costs of the reform would outweight any long-run gains it might bring. The problem here is, not that there is no new gold parity such as would allow for a smooth transition, but that the correct parity cannot be determined with any precision, but must instead be discovered by trial and error. Consequently the transition could involve either costly inflation or its opposite: a deflationary crisis such as the one Great Britain confronted when it resumed gold payments in 1925.[19]

A second compelling reason has to with the specific disadvantage of a *unilateral* return to gold. Here once again it must be recalled that the historical gold standard that is remembered as having performed so well was an *international* gold standard, and that the advantages in question were to a large extent advantages due to belonging to a very large monetary network. Consequently, a gold standard that is limited to a single country, and even to a very large country, cannot be expected to offer the same advantages as a multi-country gold standard or set of gold standards. The problem here was already evident to T. E. Gregory in 1934, when the prospect of a general gold revival was far less remote than it is today. "One may take it as

[18] Of course circumstances aren't normal at present, owing to banks' extraordinarily high excess reserve holdings since 2008. Consequently steps might first have to be taken to reduce the excess before gold payments could be successfully restored.

[19] The alternative of establishing a "parallel" gold standard, instead of restoring the gold convertibility of the current dollar, though less disruptive, is also unlikely—barring a substantial increase in inflation—to lead to any substantial substitution away from the fiat dollar (White 2012, p. 413).

axiomatic," he wrote, "that none of the countries at present off gold is likely to want to go back without others going back simultaneously." To arrange for a coordinated revival an international Conference would have to be convened; but then, Gregory observed, "[t]he danger is that the proposed Conference will degenerate into a mere wrangle over new [gold] parities" (Gregory 1934, p. 168).

Finally and perhaps most importantly, it is more doubtful than ever before that any government-sponsored and administered gold standard will be sufficiently credible to either be spared from or to withstand redemption runs. "If a government can go on a gold standard," James Hamilton (2005) has remarked, "it can go off, and historically countries have done exactly that all the time. The fact that speculators know this means that any currency adhering to a gold standard will…be subject to a speculative attack." The breakdown in the credibility of central bank exchange rate commitments since World War I cannot be easily repaired, if it can be repaired at all. Consequently nothing short of the removal of responsibility for enforcing such commitments from public or semi-public authorities to the private sector—that is, a return to private and competitive currency issuance—is likely to be capable of establishing a robust and sustainable gold standard (Selgin and White 2005).

In brief, if they are to recreate a gold standard capable of being both stable and credible, governments must be both able and willing to engineer a concerted return to gold, and yet must also be prepared to renounce their currency monopolies or otherwise deny themselves the ability to revise their countries' convertibility commitments with impunity. To say that the prospects for both requirements being met are remote is to understate matters considerably. The truth is rather that the brief efflorescence we call the classical gold standard is hardly likely ever to be witnessed again.

References

Anderson, Benjamin. 1979. *Economics and the Public Welfare: A Financial History of the United States, 1914-1946.* Indianapolis: Liberty Press.

Atkeson, Andrew, and Patrick Kehoe. 2004. "Deflation and Depression: Is There an Empirical Link?" *American Economic Review* 94: 99–103.

Bordo, Michael D. 1993. "The Bretton Woods International Monetary *System*: A Historical Overview." In Michael D. Bordo and Barry Eichengreen, eds., *A Retrospective on the Bretton Woods System: Lessons for International Monetary Reform*. Chicago: University of Chicago Press and NBER, pp. 3-108.

Bordo, Michael D., Ehsan U. Choudhri, and Anna J. Schwartz. 2002. "Was Expansionary Monetary Policy Feasible during the Great Contraction? An Examination of the Gold Standard Constraint." *Explorations in Economic History* 39(1) (January): 1-28.

Bolles, Albert. 1886. *The Financial History of the United States, from 1861 to 1885*. New York: D. Appleton and Company.

Crabbe, Leland. 1989. "The International Gold Standard and U.S. Monetary Policy from World War I to the New Deal." *Federal Reserve Bulletin*, June: 423-40.

Dick, Trevor J. O., and John E. Floyd. 1992. *Canada and the Gold Standard: Balance-of-Payments Adjustment, 1871-1913.* Cambridge, U.K.: Cambridge University Press.

Elwell, Craig K. 2011. "Brief History of the Gold Standard in the United States." Congressional Research Service Report for Congress R41887, June 23.

Feaveryear, Albert. 1963. *The Pound Sterling: A History of English Money,* 2nd ed. Oxford: The Clarendon Press.

Friedman, Milton. 1961. "Real and Pseudo Gold Standards." *Journal of Law and Economics* 4 (October): 66-79.

_____. 1992. *Money Mischief: Episodes in Monetary History*. New York: Harcourt Brace Jovanovich.

Gallarotti, Giulio M. 1995. *The Anatomy of an International Monetary Regime: The Classical Gold Standard, 1880-1914*. New York: Oxford University Press.

Gregory, T.E. 1935. *The Gold Standard and its Future*, 3rd (revised) ed. New York: E. P. Dutton.

Hammond, Bray. 1970. *Sovereignty and an Empty Purse: Banks and Politics in the Civil War.* Princeton: Princeton University Press.

Hsieh, Chang-Tai, and Christina D. Romer. 2006. "Was the Federal Reserve Constrained by the Gold Standard During the Great Depression? Evidence from the 1932 Open Market Purchase Program." *Journal of Economic History* 66(1) (March): 140-76.

Irwin, Douglas A. 2010. "Did France Cause the Great Depression?" NBER Working Paper No. 16350, September.

Johnson, H. Clark. 1997. *Gold, France, and the Great Depression, 1919-1932*. New Haven: Yale University Press.

Lester, Richard A. 1939. *Monetary Experiments: Early American and Recent Scandinavian*. Princeton: Princeton University Press.

Morgan-Webb, Charles. 1934. *The Rise and Fall of the Gold Standard.* New York: Macmillan.

Niehans, Jürg. 1978. *The Theory of Money*. Baltimore: Johns Hopkins University Press.

Officer, Lawrence H. 2010. "Gold Standard." *EH.net*

O'Leary, P. M. 1937. "The Coinage Legislation of 1834." *Journal of Political Economy* 45(1) (February): 81-94.

Paul, Ron, and Lewis Lehrman. 1982. *The Case for Gold: A Minority Report of the U.S. Gold Commission*. Washington, D.C.: The Cato Institute.

Redish, Angela. 2000. *Bimetallism: An Economic and Historical Analysis*. New York: Cambridge University Press.

Rothbard, Murray. 1962. "The Case for a 100 Per Cent Gold Dollar." In Leland B. Yeager, ed., *In Search of a Monetary Constitution.* Cambridge, Mass.: Harvard University Press, pp. 94-136.

Rueff, Jacques. 1972. *The Monetary Sin of the West.* New York: Macmillan.

Sargent, Thomas J., and François R. Velde. 2003. *The Big Problem of Small Change.* Princeton, N.J.: Princeton University Press.

Schwartz, Anna J. 1987. "Reflections on the Gold Commission *Report*." In idem., ed., *Money in Historical Perspective*. Chicago: University of Chicago and NBER, pp. 317-32.

Selgin, George. 1989. "Legal Restrictions, Financial Weakening, and the Lender of Last Resort." *The Cato Journal* 9(2) (Fall): 429-59.

_____. 1997. *Less Than Zero: The Case for a Falling Price Level in a Growing Economy*. London: Institute of Economic Affairs.

_____. 2008. *Good Money: Birmingham Button-Makers, the Royal Mint, and the Beginnings of Modern Coinage.* Ann Arbor: University of Michigan Press and the Independent Institute.

_____. 2012. "Central Banks as Sources of Financial Instability." In David Beckworth, ed., *Boom and Bust Banking*. Oakland: The Independent Institute, pp. 339-53.

Selgin, George, and Lawrence H. White. 2005. "Credible Currency: A Constitutional Perspective." *Constitutional Political Economy* 16: 71-83.

Silber, William. 2007. "The Great Financial Crisis of 1914: What Can We Learn from Aldrich-Vreeland Emergency Currency?" *American Economic Review* 97(2) (May): 285-89.

Summers, Brian. 1976. "Private Coinage in America. " *The Freeman* 26(7) (July): ???

Timberlake, Richard H. 1993. *Monetary Policy in the United States*. Chicago: University of Chicago Press.

_____. 2007. "Gold Standards and the Real-Bills Doctrine in U.S. Monetary Policy." *The Independent Review* 11(3) (Winter): 325-54.

White, Lawrence H. 2012. "Making the Transition to a New Gold Standard." *The Cato Journal* 32(2) (Spring/Summer): 411-21.

Wicker, Elmus. 1996. *The Banking Panics of the Great Depression*.

Wigmore, Barry. 1987. "Was the Bank Holiday of 1933 Caused by a Run on the Dollar?" *Journal of Economic History* 47(3) (September): 739-55.