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100 Percent Reserve Banking and the Path to a Single-Country Gold Standard

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ABSTRACT: One hundred percent reserve banking is an essential foundation and prerequisite for a country to establish long-term financial stability and sustained economic growth. It is also an essential element for a country contemplating the adoption of a stable gold standard monetary system. Debt money, i.e., debt created by banks, was once called *malum per se*, a thing that is evil in its nature. It has supported excessive government debt, inflated speculative bubbles, fueled inflation, reduced investment and growth, and resulted in an unjust redistribution of wealth. In this paper, we discuss some of the detrimental consequences of fractional reserve banking and outline its abolition as the principal reform before one or more countries can establish a viable gold standard.

KEYWORDS: fractional reserve banking, financial repression, gold standard, inflation, money

JEL CLASSIFICATION: E00, E4, E52, F33, G01, G21

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INTRODUCTION

The most challenging monetary reform in any country is the adoption of 100 percent reserve banking, or 100 percent money. Governments and banks have resisted this reform. A domestic gold standard becomes simply an appendix to 100 percent reserve banking or money by connecting money to the supply of gold. A 100 percent reserve banking system separates money from debt obligations; a bank can no longer create money in the form of demand deposits; and money would be independent of fluctuations in debt. A 100 percent reserve banking system was practiced by the Bank of Amsterdam (1609), the Bank of Hamburg (1619), the Postal System, and other 100 percent depository institutions that restricted their business to purely safe depository and transfer functions.

A fundamental condition for establishing a stable banking system has been the abolishment of fractional reserve banking, i.e., debt money, in favor of 100 percent reserve banking. This condition was stipulated by David Hume (1752), William Gouge (1833), Amasa Walker (1873), Charles H. Carroll (1850s), Frederick Soddy (1934), the authors of the Chicago Plan[1] (1933), Irving Fisher (1936), Ludwig von Mises (1953), Murray Rothbard (1962), Maurice Allais (1999), and a number of other economists and authors. They essentially proposed a two-tier banking system:

i. 100 percent reserve banking strictly for depository and payments operations

ii. Investment banking for financial intermediation and channeling savings into investments

One hundred percent reserve banking has been recommended for a number of reasons that include avoiding: (i) frequent bank failures and losses suffered by depositors;[2] (ii) wide expansion and

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[1] The authors of the Chicago Plan were: Henry Simons, Frank Knight, Aaron Director, Garfield Cox, Lloyd Mints, Henry Schultz, Paul Douglas, and A. G. Hart. Professor Irving Fisher of Yale University was a strong supporter of the Plan. His book, *100 Percent Money* (1936), was an attempt to win support for the plan among academics and policy makers.

[2] The Bank of England, founded in 1694, suspended convertibility of its notes into gold and silver as early as 1696, and not infrequently thereafter. It suspended convertibility during 1797–1821.

contraction of the money supply that created speculative bubbles, crashes, deep recessions, and loss of output and employment; (iii) unjust wealth redistribution via fictitious credit in favor of borrowers and speculators; (iv) debt money that was too costly to use, since interest has to be paid on outstanding debt; and (v) debt money contracts if interest cannot be paid. With fractional reserve banking, many banks have been bankrupted with ominous financial losses for their depositors, or by taxpayers through subsidized deposit insurance schemes and bailouts. Hence, many writers deemed it essential to separate the deposit of money from the lending and debt obligations.[3] This separation was needed to sever the relation between the money supply and debt, so money would not fluctuate with debt, and to insure that banks hold and lend true savings and do not issue fictive credit. Money should not be created and destroyed through debt expansion and contraction via the credit multiplier.

The depository system is a fundamental feature of a modern economy and could be provided by private banks, or the state (e.g., Bank of Amsterdam and Bank of Hamburg). It accepts deposits for safekeeping and undertakes domestic and foreign payments against fees paid by the depositors. Some authors have suggested that the government could provide the deposit system through a banking and postal system so as to minimize fees and increase the quantity of money for the economy (Gouge, 1833; Simons, 1947). Investment banks in implementing their investment banking function create no money and accept no demand deposits; they borrow or issue equities and debt securities; and lend or buy securities. Essentially, investment banks would operate as other businesses, they issue shares and attract capital that they invest on behalf of their shareholders.

Debt-based money is associated with the advent of fractional reserve banking. By definition, the state grants a charter for a bank to create money. In countries with fractional reserve banking, debt money made economies navigate from booms to busts (Juglar,

[3] With this separation, there is no need for insuring the safety of bank deposits through corporations such the Federal Deposit Insurance Corporation (FDIC).

1862) and destroyed the gold standard.[4] Ironically, it was the United Kingdom, the cornerstone of the gold standard and the world financial center, that dealt a fatal blow to the gold standard in 1931, which many of its eminent economists called a barbarous system. It was followed immediately by the United States, another model of the gold standard, abolishing gold money and sequestering the gold from its citizens in 1933, with the rest of the world following along. Proponents of debt money referred to the gold standard as gold shackles. But it was debt and paper money that have led to frequent financial crises after the gold standard was abolished (e.g., Greece 2009–2015, US and Eurozone 2009–2015, etc.). Moreover, debt-money system cannot stand on its own; it needs a central bank for liquidity and occasional government bailouts. It was the debt system that undermined the Bretton Woods gold exchange standard in 1971. Endless regulations in the 19th and 20th centuries have not prevented rapid creation of debt and financial booms and busts.

Money has been considered a principal pillar of the human civilization; it has enabled the development of commerce, industry, exchange and travel within and across countries and continents, and high level of scientific progress. If this pillar is undermined, economic decline follows, and social stability is put at risk.[5] With the advent of fractional reserve banking, debt-based money has risen to prominence. In the pursuit of gains from interest on fictitious loans, banks and central banks kept issuing debt money, out-of-thin air, until the breakout of a financial crisis. Debt money calls for more debt to provide for rapidly rising prices, replace repaid debt, and pay interest. The central bank and banks validate any price and wage rise through more debt money. As soon as the debt process slows down or hits general bankruptcy, a severe financial crisis breaks out and wipes a large part of the debt money causing

[4] Eminent writers stressed that debt money would certainly evict gold: David Hume (1752), Charles Jenkinson (1805), US Presidents Thomas Jefferson and Andrew Jackson, William Gouge (1833), Charles Holt Carroll (1850s), and Amasa Walker (1873).

[5] Examples of horrifying hyperinflations that ruined the real economy were John Law's system in France (1716–1720), the French assignats (1789–1795), the US continental currency (1785–1790), and the German hyperinflation (1919–1923). In all these episodes, paper became worthless, the economy lost its money, and famine spread in the country.

severe economic and financial disorders.[6] With debt organized as currency (Carroll, 1850s), financial crises became frequent; the most ominous was the Great Depression (1929–1936). The 2008 financial crisis was another ominous collapse of the debt money. Each financial crisis destroys money (Frederick Soddy, 1934; Irving Fisher, 1936), paralyses the economy, and spreads bankruptcies and human hardship. Governments resort to even pushing more interest-debt in order to cope with the disorders of the financial crisis. Hence, each economy is entangled in a vicious circle of debt followed by crises.

A 100 percent (or at least a long way toward 100 percent) reserve banking system or 100 percent money has become pressing in view of growing money disorders in the world. Many eminent writers had urged the abolition of debt-money and proposed reforms along the principles of 100 percent reserve banking and risk-sharing investment banking.[7] Despite repeated calls for reforms during the 18th–20th centuries, both governments and financial interests have remained adamantly against abolishing debt money. In what follows, we address the following themes:

- The nature of debt money
- Inherent inflationism, instability, and uncertainty of debt money
- Some notable rejections of debt money and proposals for 100 percent reserve banking
- Suggested reforms for reintroducing 100 percent reserve banking and a domestic gold standard
- 100 percent reserve banking and a convertible 100 percent domestic gold standard
- Structural reforms to support 100 percent money

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[6] Irving Fisher (1936) noted that US money was reduced by 35 percent during 1929–1933 following the collapse of debt money. He strongly advocated 100 percent reserve money so to eliminate the banks' power in creating and destroying money.

[7] We may cite David Hume (1752), Thomas Jefferson, Andrew Jackson, William Gouge (1833), Charles. H. Carroll (1850s), Amasa Walker (1873), Irving Fisher (1936), the numerous authors of the Chicago Plan (1933), Ludwig von Mises (1953), Murray Rothbard (1994), and Maurice Allais (1999).

THE NATURE OF DEBT MONEY

Debt money has been rising without limit in almost every country at rates that far exceed real GDP growth. Money supply, measured by M2 (currency plus deposits) may increase at a double-digit rate for decades in many countries. The source of this increase is simply debt. Simons (1947) stated:

> We have reached a situation where private-bank credit represents all but a small fraction of our total effective circulation medium…. Thus the State has forced the free-enterprise system, almost from the beginning, to live with a monetary system as bad as could well be devised…. An enterprise system cannot function effectively in the face of extreme uncertainty as to the action of the monetary authorities or, for that matter, as to monetary legislation. We must avoid a situation where business venture becomes largely a speculation on the future of monetary policy. (p. 55)

If we examine the balance sheet of the US Federal Reserve (Fed), we see that gold and foreign assets ($30 billion) are negligible in relation to total liabilities ($4,452 billion), i.e., 0.6 percent. All money expansion was through money creation, with money becoming overly dependent on domestic debt. Moreover, as the latter expands, imports tend to rise faster while exports tend to shrink, which results in reduced net foreign assets. Moreover, debt money is costly; banks earn interest and commissions on the outstanding debt.

Debt money has fueled inflation.[8] The latter has been considered as a form of fraud, which has to be eradicated.[9] It is a fallacy that

[8] Two definitions of inflation are proposed. The most common one is a persistent general rise of prices. Another definition considers the general rise of prices as an effect of a rise of money supply that is not offset by a corresponding increase in the demand for broad money so that a fall in the objective exchange-value of money must occur. In this definition, inflation is measured by the increase in broad money supply.

[9] Inflation is an inherent feature of paper and debt money. It emanates from money created out-of-thin air in form of a monetization of fiscal deficits or issues of un-backed loans. Commodities are purchased against paper and not commodities. The practice of appropriating wealth unjustly was severely condemned by John Locke (1691).

inflation stimulates employment and growth.[10] Inflation is a tax that unduly transfers free wealth to one group at the expense of another group. The income distribution is altered by a heavy inflation tax, which deprives labor from a sizable part of its real contribution to real GDP. At a high rate of money depreciation, holders of cash will get rid of it as soon as they receive it. Financial savings is discouraged (McKinnon, 1973; Shaw, 1973). Forced savings will replace voluntary savings, imposed upon creditors and workers through the inflation tax (Hayek, 1932). Production will be discouraged as producers hike prices and reduce output.[11] Exports will be reduced. Figure 1 portrays the Consumer Price Index (CPI) for the US and the Retail Price Index (RPI) for the UK under the metallic system during 1800–1913. In both countries, there was a significant trickling down of productivity gains and technical change in form of long-term trends of price declines. In 1913, the US CPI stood at 79 (1800 = 100) and the UK RPI stood at 82 (1800 = 100). Workers had shared in the fruits of growth (Farrer, 1898). Such sharing has been diminished under the debt money in almost every country where this system is in effect. Figure 2 portrays the inherent inflationary feature of the debt-money system supported by central banking in the UK and the US. Inflation tax has become permanent, penalizing the holders of the currency, workers, pensioners, and creditors. The inflation tax benefits the government, debtors, and speculators. Inflation is vital for the perpetuation of the debt system. There has been little trickling down of productivity gains to consumers.[12] In 2013, US CPI stood at 1,294 (1945 = 100), and the UK RPI stood at 3,766 (1945 = 100).

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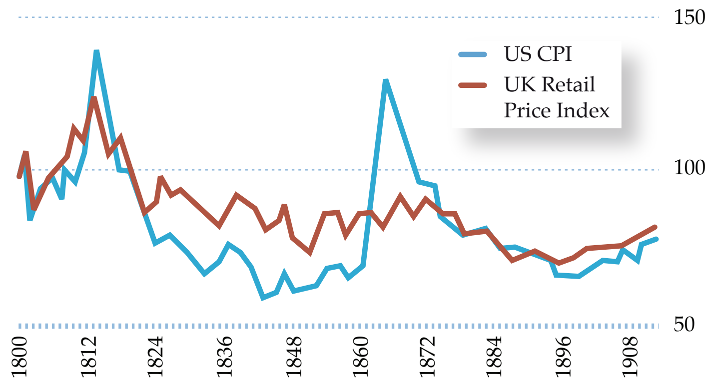
[10] Bastiat, *The Seen and the Unseen*, 1877.

[11] In an inflationary context, producers reconstitute their money working capital through increasing prices and reducing quantities. In a non-inflationary context, they have to generate money working capital through higher quantities sold. They are compelled to produce much more to generate cash. The drop in prices improves in turn external competitiveness and exports.

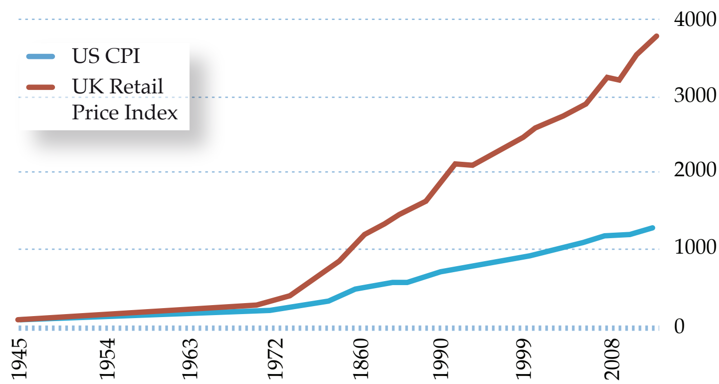
[12] Mises (1953) noted that CPI underestimated inflation during 1922–1929, a period characterized by high productivity gains. Let the recorded CPI be 3 percent, let productivity gains be 7 percent; the true CPI would be 10 percent.

Figure 1: The United Kingdom and the United States Annual Price Indices, 1800–1913



Source: Measuring Wealth.

Figure 2: The United Kingdom and the United States Annual Price Indices, 1945–2013



Source: Measuring Wealth.

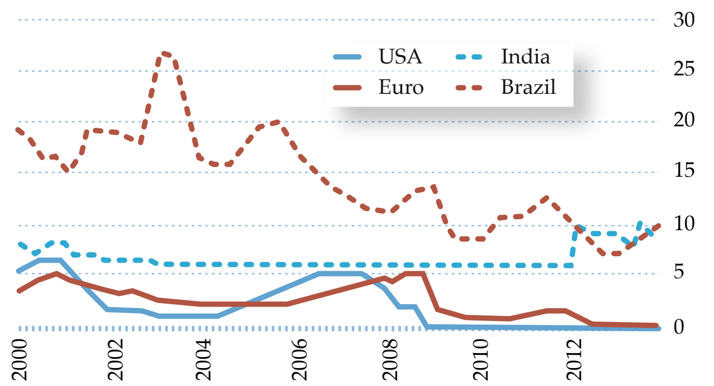
THE INHERENT INFLATIONISM, INSTABILITY, AND UNCERTAINTY OF DEBT MONEY

The debt money model has resulted in adverse social consequences in many countries where it has been adopted.[13] Recurring financial crises and ensuing economic dislocation have been its inherent features. In each debt crisis episode, economic prosperity was reversed into decline and mass-unemployment as demonstrated by the 2008 financial crisis. Being inter-related by a web of trade, banks and capital flows, a crisis breaking out in one country spreads to other countries. Fractional reserve banking was a violation of the original and authentic 100 percent reserve banking that characterized goldsmith houses as well as the Bank of Venice, the Bank of Amsterdam, and the Bank of Hamburg.[14] It developed very fast in Europe and the US during the 18th-19th centuries mainly because of the leverage it provides to bank owners from the emission of banknotes and discounts, and ease of obtaining charters.

[13] Interest-based bank money has been severely condemned by Thomas Jefferson, William Gouge, Charles Holt Carroll, Frederick Soddy, Amasa Walker, and many others. Mises, Rothbard, Irving Fisher, authors of Chicago Plan, Maurice Allais, and many authors proposed abolishing debt money and its replacement by a non-interest money.

[14] These institutions were created as depository and payments institutions and not to economize on gold and silver, which were abundant in supply to the point of causing high inflation worldwide.

Figure 3: Monthly Central Bank Interest Rates, 2000–2013



Source: International Monetary Fund (IFS).

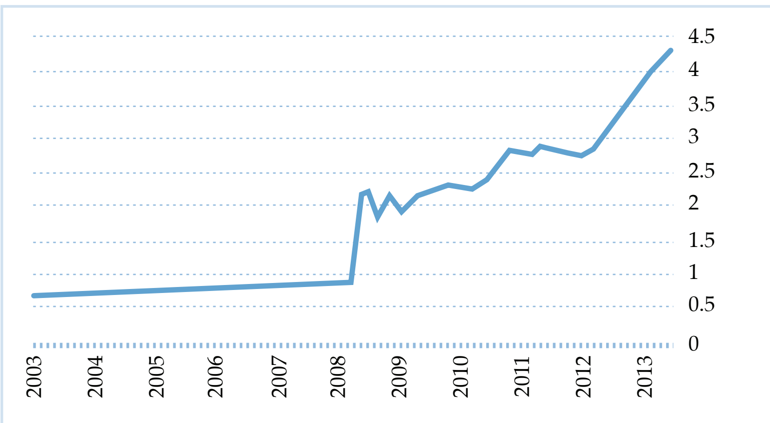
By turning money into a policy tool, to secure full-employment of labor, devalue exchange rates, and inflate asset and housing prices, central bank actions could become somewhat arbitrary.[15] Simons deplored money as an instrument policy and called discretionary policy as a form of lawlessness. He urged the abolition of fractional reserve banking and central banking, and the creation of a "National Monetary Authority" that controls money according to fixed rules. The systemic risk and uncertainty could be described by the cheap money policy of major central banks as portrayed by the interest rates in Figure 3. The Fed practiced a repressive policy, which lowered money rate to 1 percent during 2002–2004 under the guise of fighting deflation at a time the economy was operating at near full-employment for more than a decade. Credit rose at 12 percent year at the expense of creditworthiness; asset, housing, and commodities prices spiked. A financial collapse followed thereafter in 2008, creating massive unemployment in the US and Europe. After 2008, the Fed forced interest rates to near zero, this time, to fight unemployment. Hence, the Fed used a cheap money

[15] Friedman (1959) opposed the discretion power of the Fed; he proposed a fixed rule according to which money supply ought to increase at about 2 percent-3 percent. He reiterated that the Fed could only control the money supply; it cannot control the unemployment rate, the interest rate, or the rate of inflation.

policy as a panacea for both diseases. The Fed decided to inflate money under quantitative easing programs; it hiked up without any restraint its credit to $4.5 trillion in 2015 from $0.8 trillion in 2008 (Figure 4).[16] This gigantic money-out-of-thin air printing was aimed at monetizing record fiscal deficits and pushing cheap loans in the economy. The Fed, and most politicians and academics are convinced that near-zero interest and unlimited money were most appropriate policy for full-employment and economic growth.

Fed's policy has in part led the Eurozone and other countries into monetary difficulties. As long as the dollar is a reserve currency, the Fed faces no external constraint in printing as much money as it wishes and in setting interest rates at near zero. The latter measure is dangerously distortive and assumes that real capital supply is overly abundant in relation to demand for capital. The danger of this policy was already established by the 2008 financial crisis.

Figure 4: The Federal Reserve Credit, 2002-2014 (Trillions of Dollars)



Source: The Federal Reserve.

Debt money created too much uncertainty. The monetary base, credit, interest rates, exchange rates, asset prices and commodity

[16] Excess reserves of banks at the Fed were $2.5 trillion in December 2015. If this amount is drawn down, credit expansion will be too gigantic and will increase credit risk as well as inflation.

prices are all moving in a most unpredictable and volatile way. Huge resources are devoted to hedging against high volatility of exchange rates and asset prices, which increases inefficiencies. In stable markets, hedging resources would have been used for productive investment.

With near-zero interest rates and cheap money, the US government debt skyrocketed to about $18 trillion in 2014 (103 percent of US GDP) and is still rising due to large deficits. Private debt had already reached bankruptcy point in 2008 and is still rising fast. The huge indebtedness makes inflation the only way out of debt. Most likely, the Fed will maintain ultra-cheap policy for some time, since any tightening of money policy will send debt into bankruptcy and result in a crash of asset prices.

Only reserve currency countries, today principally the United States, can afford the luxury of near-zero interest rates without setting off hyperinflation as happened in Germany 1919–1923. In 2015, central bank interest rates were 0.08 percent (US), 0.20 percent (Eurozone), 10 percent (Brazil), and 10 percent (India) (Figure 4). The contrast is obvious. Being non-reserve currency countries, Brazil and India could not afford to set interest rates at near zero. They face a foreign exchange constraint. Low interest rates would fire up inflation, undermine their banking sector, and destroy their export sector.

Setting interest rates at zero or near zero is most distortive policy. It leads to unlimited borrowing by subprime markets, encourages consumption through loans that may never be repaid, it consumes savings and depletes capital, and by introducing distortions enables mal-investment. It confiscates real capital from one group in favor of the group who benefits from cheap money. It exposes the banking sector to significant interest and credit risks. It pushes up asset and commodity prices, and creates an environment of economic uncertainty. Speculation becomes intense. Income and wealth inequality becomes aggravated. The harmful effects of cheap money policy appear only when a financial crisis breaks out. Abolition of fractional reserve banking is the reform that would reduce the depletion of capital, volatility, and ominous free redistribution of wealth via inflationism. Under a gold standard, low interest rates would immediately drain all the gold from the country, and force gold suspension as happened in the UK in 1931 and the US in 1971.

SOME DISTINGUISHED CRITICISMS OF DEBT MONEY AND PROPOSALS FOR 100 PERCENT RESERVE BANKING

Fractional reserve banking has provided the foundation for high leverage[17] and swindling schemes, inflation of banknotes, financial crises resulting in economic dislocation and bankruptcies. As a result, numerous authors have called for a definitive end of fractional reserve banks, a cancellation of their charters, and the re-introduction of 100 percent reserve banking and money. A partisan of gold and 100 percent money, David Hume (*Political Discourses*) wrote: "of those institutions of banks, funds, and paper credit, with which we are in the kingdom so much infatuated. These render paper equivalent to money (i.e., gold), circulate it throughout the whole state, make it supply the place of gold and silver...." (Hume, 1752) The same discredit was held by Charles Jenkinson, Earl of Liverpool (1805): "Paper currency, which is carried to so great an extent, that it is become highly inconvenient to Your Majesty's subjects, and may prove in its consequences, if no remedy is applied, dangerous to the credit of the kingdom."

Aware of the danger of debt-money, the US Third President Thomas Jefferson wanted to abolish fractional reserve banking and preserve metallic money. In fact, he opposed the renewal of the charter of the First Bank of the United States. Witnessing the severe dislocation caused by banks and their corrupt nature, President Andrew Jackson pronounced to a delegation of bankers discussing the re-charter of the Second Bank of the United States in 1832: "You are a den of vipers and thieves. I intend to rout you out, and by the eternal God, I will rout you out." He abolished central banking in the United States and allowed the country to enjoy sustained prosperity. The re-establishment of central banking in 1913 with the Federal Reserve inflicted on the US its worst economic depression during 1929–1936, and has been since destabilizing the economy and falsifying prices and income distribution.[18]

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[17] In 1694, the Bank of England made a loan to the government; it immediately monetized the loan and issued banknotes in equal amount, extending more loans to both the government and business. Through leverage, the bank earned interest income on capital, which it did not possess.

[18] Ron Paul (2009) considered "the creation of the Fed the most tragic blunder ever committed by Congress. The day it was passed, old America died and a new era

Maurice Allais wrote (1999): "In essence, the present creation of money, out of nothing, by the banking system is, I do not hesitate to say it in order to make people clearly realize what is at stake here, similar to the creation of money by counterfeiters, so rightly condemned by law. In concrete terms, it leads to the same results." Bastiat (1877) deplored the redistributive injustice of paper inflation. It steals wealth from losers and showers it for free on the gainers. He wrote:

> I must also inform you that this depreciation, which, with paper, might go on till it came to nothing, is effected by continually making dupes; and of these, poor people, simple persons, workmen and countrymen are the chief. […] Sharp men, brokers, and men of business, will not suffer by it; for it is their trade to watch the fluctuations of prices, to observe the cause, and even to speculate upon it. But little tradesmen, countrymen, and workmen will bear the whole weight of it. (Bastiat, [1849] 2011, p. 131)

Carroll (1850s) severely condemned the redistributive injustice of fictive money and credit, favorably quoting Daniel Webster: "that of all the contrivances for cheating mankind, none has been more effectual than that which deludes them with paper money. This is the most effectual of inventions to fertilize the rich man's field with the sweat of the poor man's brow." (Carroll, [1856] 1972, p. 35) Carroll noted that "the truth is, an expanded and consequently cheap currency is the most costly and wasteful machinery a nation can possess; the history of the world shows it to be uniformly unprofitable or disastrous…. There was never a greater mistake in any science, and never one so fatal to the stability of property and the well-being of society." (Carroll, [1858] 1972, p. 76) Carroll deplored the devastating effects of paper money. He stated that "the value of money is regulated to disorder, to the impairing of contracts, and to the confusion of all just ideas regarding the rights

began. A new institution was born that was to cause the unprecedented economic instability in the decades to come. The longer we delay a conversion to sound money and away from central banking, the worse our crises will grow and the more the government will expand at the expense of our liberties. Our wealth is drained, our productivity is sharply diminished. Our freedoms are eroded. We have been through nearly a hundred years of this same repeating pattern, so it is time to wise up and learn something. When the printing presses are available to the government and the banking cartel, they will use them rather than do the right thing."

of property, as effectually by the powers exercised by the States in granting bank charters, with authority to issue bills of credit." (Carroll, [1855] 1972, p. 6) He described the notion of "price without value"; namely, currency generated by bank lending pours forth only to drive up prices without creating additional value.[19]

In 1833, William Gouge noted: "Our American Bankers have found that for which the ancient alchemists sought in vain; they have found that which turns everything into gold—in their own pockets; and it is difficult to persuade them that a system which is so very beneficial to themselves, can be very injurious to the rest of the community." (Gouge, 1933, p. 227) He regretted the evils caused by banks of issues. These institutions constantly altered the measures of value, caused uncertainty to trade, and conferred undeserved advantages on some men over others. He stated: "It has always been my opinion, that of all evils which can be inflicted on a free state, banking establishments are the most alarming. They are the vultures that prey upon the vitals of the Constitution, and rob the body politic of its life-blood." (Gouge, 1833, p. 111)

Gouge stressed the redistributive evils of bank money.

> It made a lottery of all private property. These Banks, moreover, give rise to many kinds of stock-jobbing, by which the simple-minded are injured and the crafty benefitted. …They see wealth passing continually out of the hands of those whose labor produced it, or whose economy saved it, into the hands of those who neither work nor save. The natural reward of industry then goes to the idle, and the natural punishment of idleness falls on the industrious. The reckless speculator, who has no capital of his own, but who operates extensively on the capital of other people, has much cause to be well pleased with this system. (Gouge, 1833, p. 31)

Gouge rejected the notion of over-production as pure nonsense as huge human needs in food, shelter, medication, etc., in every country remain unfulfilled; he attributed the business disruption to the disappearance of fictive money created by banks.[20] He rejected

[19] Figure 1 showed that an item that cost £1 in 1945 would cost £38 in 2013.

[20] Irving Fisher (1936) explained the Great Depression (1929-1936) by the evaporation of bank money. His reform plan (*100 percent money*) urged the abolition of fractional reserve banking.

the notion of elastic money, which underlined the Federal Reserve Act in 1913. He noted that

> the flexibility or elasticity of Bank medium is not an excellence, but a defect, and that "expansions" and "contractions" are not made to suit the wants of the community, but from a simple regard to the profits and safety of the Banks. The uncertainty of trade produced by these successive "expansions" and "contractions," is but one of the evils of the present system. That the Banks cause credit dealings to be carried to an extent that is highly pernicious—that they cause credit to be given to men who are not entitled to it, and deprive others of credit to whom it would be useful. (Gouge, 1833, p. 136)

He rejected the notion that banks make money plentiful, saying,

> Banks make money plenty. Nay, they make real money scarce. As Bank notes are circulated, gold and silver are driven away. It is contrary to the laws of nature that two bodies should fill the same space at the same time; and no fact is better established than that, where there are two kinds of currency authorized by law or sanctioned by custom, that which has the least value will displace the other. (Gouge, 1833, p. 45)

Gouge challenged the principle that paper was cheaper than specie. That paper money has some advantages must be admitted; but its abuses are also inveterate. Gouge rejected also government paper stating that: "Government issues of paper would be incentives to extravagance in public expenditures in even the best of times; would prevent the placing of the fiscal concerns of the country on a proper basis, and would cause various evils. Further than this, Government should have no more concern with Banking and brokerage than it has with baking and tailoring." In terms of reforms, Gouge was ahead of both the 1933 Chicago Plan and Irving Fisher's *100 Percent Money* (1936). For Gouge, debt-money is an evil that has no remedy, except be abolished or extinguish itself through bankruptcy or when paper become worthless. He stated:

> [N]o legislative enactments can afford an adequate remedy for the evils which flow from incorporated paper money Banks. The system is, to use the language of the lawyers, *malum per se*-or a thing which is evil in its nature. The very principle of its foundation is wrong. No immunities should, in a Republican Government, be granted to any, save those which are common to all. (Gouge, 1833, p. 52)

And, "'You may say what you will, paper is paper, and money is money.'" (Gouge, 1833, p. 232)

Gouge proposed prohibition of all incorporated paper money banks; that is, to eliminate their privileges of limited liability and note issue. In their place he would have banks subject to unlimited liability, lending only their own capital plus savings deposits (time deposits) and maintaining a hundred percent specie reserve. "With private Banks, and public Offices of Transfer and Deposit, we should have all that is good in the present system, without the evil." (Gouge, 1833, p. 230) For Gouge, money is metallic:

> The high estimation in which the precious metals have been held, in nearly all ages and all regions, is evidence that they must possess something more than merely ideal value. It is not from the mere vagaries of fancy, that they are equally prized by the Laplander and the Siamese. It was not from compliance with any preconceived theories of philosophers or statesmen, that they were, for many thousand years in all commercial countries, the exclusive circulating medium. Men chose gold and silver for the material for money, for reasons similar to those which induced them to choose wool, flax, silk, and cotton, for materials for clothing, and stone, brick, and timber, for materials for building. They found the precious metals had those specific qualities, which fitted them to be standards and measures of value, and to serve, when in the shape of coin, the purposes of a circulating medium…. (Gouge, 1833, p. 10).
>
> No instance is on record of a nation's having arrived at great wealth without the use of gold and silver money. Nor is there, on the other hand, any instance of a nation's endeavoring to supplant this natural money, by the use of paper money, without involving itself in distress and embarrassment. (Gouge, 1833, p. 17)

Gouge was cognizant of the time dimension of reform:

> [T]he sudden dissolution of the banking system, without suitable preparation, would put an end to the collection of debts, destroy private credit, break up many productive establishments, throw most of the property of the industrious into the hands of speculators, and deprive laboring people of employment. …[T]he system can be got rid of, without difficulty, by prohibiting, after a certain day, the issue of small notes, and proceeding gradually to those of the highest denomination. (Gouge, 1833, p. 138)
>
> All that it will be necessary for Congress to do, will, probably, be to declare that, after a certain day, nothing but gold and silver shall be received in payment of dues to Government, and that no corporation

> shall be an agent in the management of its fiscal concerns. The people will then begin to distinguish between cash and credit; and public opinion will operate with so much force on state governments, that they will, one by one, take the necessary measures for supplanting paper by metallic money. (Gouge, 1833, p. 234)

The obstacles to reform noted by Gouge would not be very different from those of today. Besides political and deep-vested financial groups, Gouge recognized a degree of ignorance of people about the nature of the paper system.

> Their only misfortune was, being ignorant of the principles of currency, and having rulers as ignorant as themselves. Certain individuals who have never caught a glimpse of a more improved state of society, boldly affirm that it cannot exist: they acquiesce in established evils, and console themselves for their existence by remarking that they could not possibly be otherwise. (Gouge, 1833, p. 227)

Henry Ford once said, "It is well that the people of the nation do not understand our banking and monetary system, for if they did, I believe there would be a revolution before tomorrow morning." Holding similar views as Gouge and Carroll, the 1921 Nobel Prize winner in chemistry, Frederick Soddy (1934), condemned debt money as a form of legal swindling and counterfeiting and a violation of democracy. He accused it of sending millions of workers into unemployment and poverty and presenting a stumbling block to progress of technology, full employment, and the smooth distribution of the produce of industry. He urged abolition of debt-money and reconstitution of mints that would issue a state paper currency as a relief from taxation. Aware of hyperinflations in Germany, Austria, and many other countries, he recommended that state paper be regulated by a stable price index.

The money system condemned by Gouge, Carroll, and Walker was superior to the money system that has become deeply rooted since early 20th century. During their times labor, capital, and commodities markets were competitive with no customs barriers, no government-set prices and wages, no central bank, no labor unions, no formidable taxation, and oversized government.[21]

[21] During the 19th century, labor markets recovered very quickly from depression caused by banking failure through a free market mechanism. In the depth of the

Simons (1947) lamented the erosion of competition, and the institutions that control capital and labor market. He was appalled by the use of government force in money area and money as policy tool, often referring to central bankers as "dictators" who inflicted great uncertainty and upheavals on the economy; he deplored the wide contraction and expansion of the money supply and the consequent alteration in the value of contracts which he called a perverse elasticity. He deemed that too much uncertainty was created needlessly by money policy. He strongly supported 100 percent money and abolition of both central banking and fractional reserve banking. Opposition to fractional reserve banking and its pillar central banking was not limited to the monetary system but also to the economic system it helped to shape in the form of too much government, too-powerful interest groups, and a totally rigid price and wage structure.[22] Mises (1953) explained that rigidities and government support of monopolies of all kinds hindered recovery from depression. Massive quantitative easing in the US and the Eurozone illustrates clearly the belief of Mises, Simons, and many others on how deeply rigid the system has become. Mises argued that the best approach to unemployment was to remove legal restrictions on wage flexibility and let the labor markets clear on their own. Instead, governments force money expansion as the road to full-employment.

The principle of 100 percent reserve banking, (100 percent money) and the gold standard can be stated as follows. Banks are essential intermediaries in payments and investment; however, they should have no prerogative for money creation. Gold and silver are purely economic commodities and not an interest-based debt. Gold producers sell gold in the same manner as a farmer sells wheat. Gold is exchanged against wheat. As money, gold does not contract in the same fashion as a debt money, which contracts when borrowers pay it back or when issuers refuse to issue or

Great Depression, with unemployment close to 25 percent, the US hiked up wage rates tremendously in the effort to stimulate spending. Not surprisingly, unemployment remained above 19 percent until the breakout of the war (1939–1944). With the war, unemployment fell to less than 1 percent.

[22] Greece is an example of an economy saddled by oversized bureaucracy and deeply rooted rigidities that kept the economy in a depressed state during 2009–2015, with little scope for removing structural rigidities and downsizing government.

when it goes into a general default. Gold does not expand at the stroke of a pen as debt-money does. Gold does not confer to any country a privilege status of a reserve currency. Under the gold standard, countries may not use their own currencies as a means of settlement and may have to settle balance of payments in gold if no other commodities are available for exports. Gold exerted the development of exports; nations exchanged commodities, and rarely settled in gold. With paper money, many countries neglected exports since they import with paper. Other countries, mainly developing countries, relied on borrowing, and in turn neglected their export sectors.

SUGGESTED REFORMS FOR REINTRODUCING 100 PERCENT RESERVE BANKING AND A DOMESTIC GOLD STANDARD

Restoring a gold standard following a suspension of gold convertibility is technically simple; it is purely a political decision. It requires relating changes in money (paper and demand deposits) to the flows of gold and foreign exchanges until the national currency reaches a stable rate vis-à-vis gold, at which point convertibility may be implemented on a permanent basis.[23] For instance, the German rentenmark was instantly pegged to gold in 1923, with no convertibility provision and almost no gold reserves, simply based on a full commitment to control the German money supply. Restoring a gold standard is exactly the same experience as restoring convertibility of a currency. After World War II, many European currencies, such as the French franc, were not convertible into foreign currencies at par as stipulated by the Bretton Woods system of fixed exchange rates. To reestablish convertibility, countries had to regain control of both money and fiscal policies and achieve macroeconomic stability. As long as the fiscal deficit was out of control and was being constantly monetized, countries could not attain convertibility.

[23] The International Monetary Fund (IMF) adjustment programs imposed a strict ceiling or even reduction on the money supply in order to allow a country to reconstitute net foreign assets to a desired target. The IMF used the monetary approach to the balance of payments, which considered that the balance of payments reflected changes in domestic monetary aggregates.

Historical experiences of restoring the gold convertibility and gold standard are numerous. The basic principle was the same: strictly controlling banknotes and deposits emission. This principle was observed by the Bank of England in 1819 to pave the way for convertibility of its banknotes in 1821 following the suspension in 1797. In like manner, the US Treasury established gold convertibility of the greenbacks in 1879 through running fiscal surpluses that reduced paper money. As major industrial powers such as the United States, Germany, and France adopted gold standards during 1870–1900, the value of silver in relation to gold depreciated considerably. Numerous partner countries that were on a silver standard saw their currencies depreciate significantly, causing serious fiscal and external difficulties. Many silver standard countries had to introduce currency reforms consisting of achieving a fixed exchange rate of their currencies in relation to gold. These reforms were needed to establish stability of exchange rates and settle trade and capital operations in gold with gold standard countries (Kemmerer, 1916),

With the outbreak of war in 1914, many countries suspended the gold standard, meaning that their currencies were no longer convertible into gold; the currencies were floating in the exchange markets against each other. As soon as the war ended, countries were eager to restore the gold standard. An important feature of the return to a gold standard was the contrast between the doomed British experience and the successful French experience. The British experience restored gold at prewar parity in 1925 in the context of very high inflation. This rate did not reflect the very high degree of inflation since 1914 and was totally unrealistic. It necessitated a grave deflation that severely impaired the economy as well as external competitiveness. Mass unemployment developed, as wages could not be reduced. However, France was not as fast as the United Kingdom in restoring gold; it stabilized its economy until it reached a stable market rate of its currency in relation to gold that reflected past inflation as well as trade equilibrium. France restored a stable gold standard in 1928 at a highly devalued market rate, about one-fifth of the prewar parity, which enhanced external competitiveness without any reduction in nominal wages and was maintained with no difficulty thereafter.

Mises emphasized that a return to sound money, i.e., a gold standard, is technically simple; however, politically very difficult.

His gold plan required an end to inflation by setting an insurmountable barrier to any further increase in paper and demand deposits; it required a safeguard against deflation. He proposed the establishment of a conversion agency, different from the central bank, which would be entrusted with exchange operations. The agency would have the monopoly to issue paper money against 100 percent gold and foreign exchange coverage. The banking system would be 100 percent reserve banking, with no discounting by the central bank. No privileges would be accorded to the agency, other than paper money issuance. It would not get a monopoly for dealing in gold or foreign exchange. The foreign exchange market would be perfectly free from any restrictions. Everybody would be free to buy or sell gold or foreign exchange. There would be no centralization of such transactions; any bank or dealer could settle foreign payments with foreign correspondents. Nobody would be forced to sell gold or foreign exchange to the agency or to buy gold or foreign exchange from it. Mises emphasized that the United States should restore the classical gold standard, which existed in the United States until 1933 with gold coins circulating freely, and not the gold-exchange standard. Gold should be in everybody's cash holdings. Everybody should see gold coins changing hands, and everyone should be used to having gold coins in their pockets, receiving gold coins when they cash their paychecks, and spending gold coins when buying something from a store.

Rothbard (1962) proposed a gold standard with the dollar tied to gold permanently at a fixed weight, and redeemable in gold coin at that weight. The dollar should once again be defined as a unit of weight of gold. Rothbard urged the replacement of the name "dollar" by gold ounce or gold gram. Rothbard insisted that gold coins should circulate and be used in transactions. He emphasized that there seemed little point in advocating fundamental reforms while neglecting the causes that undermined the gold standard in the past. Besides abolishing the Federal Reserve, Rothbard wanted to eliminate, or at least dramatically reduce, inflation and business cycles. Consequently, he proposed 100 percent reserve banking, along the Chicago Plan (1933), Irving Fisher's *100 Percent Money* (1936), and Simons (1947) that would take away the ability of banks to create money and thus reduce leverage and inflationary and deflationary pressures. David Hume, Thomas Jefferson, Andrew Jackson, John Adams, W. Gouge, Charles H. Carroll, Amasa Walker, Isaiah W. Sylvester, Elgin Groseclose, and Ludwig von Mises all adhered to the 100 percent gold reserve tradition, i.e., paper and deposits are 100 percent covered by gold reserves. They considered the issuing of demand liabilities greater than reserves as a fraud.

Ron Paul (1985) asserted that Menger (1892) and Mises (1953) showed that money emerged by evolution from the market process. Namely, governments did not invent gold bullion as money. He proposed a new troy ounce gold coinage. Paul supported Mises's Conversion Agency that would be responsible for issuing gold coins and bullion to the public and for exchanging gold and paper. Only the conversion agency should be allowed by law to legally exchange genuine coin for paper dollars at the par value. In Paul's plan, a main step to restoring the gold monetary system is gold coinage; gold must be in the cash holdings of everyone. As with Mises, everybody must see gold coins changing hands; everybody must be used to having gold coins in their pockets, to receiving gold coins when they cash their paychecks, and spending gold coins when they go to buy goods in a store. In the critical importance of the gold coinage lies the key to establishing a new gold standard. In Paul's gold standard plan, the coinage should be based on exact units of bullion weight. The coins should be denominated in troy ounces, half-ounces, and smaller sizes if feasible. The denomination of the coinage is the secret to success in the later stages of the political agenda.

Mises, Rothbard and Paul considered that a single country could go it alone and adopt the gold standard without waiting for the rest of the world to be under the gold standard.[24] They rejected the idea of an international conference for restoring a gold standard, since in the past each country had gold money established by a sovereignty act and not by coordinating with partner countries. Mises (1944) wrote:

[24] Soddy (1934) insisted that monetary reform is purely a national matter and should not require an international conference. The United Kingdom was the only gold standard country during 1816–1873. It introduced its gold legislation in 1816, without approval from another country; it rejected bimetallism proposed by the international monetary conferences of late 19th century in favor of its own gold standard.

> No international agreements or international planning is needed if a government wants to return to the gold standard. Every nation, whether rich or poor, powerful or feeble, can at any hour once again adopt the gold standard. The only condition required is the abandonment of an easy money policy and of the endeavors to combat imports by devaluation (p. 252).

In the same vein, Walker (1873) wrote:

> If the principles we have previously laid down, and the practical results which follow, are such as we have stated, then no one nation needs to hesitate in making this experiment for fear that other nations may not follow their example; for the community which has the soundest currency will, other things being equal, have the most profitable industry and the most advantageous commerce. There need be no legal restriction whatever upon the issue of such a currency, and it matters not how voluminous it may be since it will be composed in fact of value money, will obey the laws of value, and, of course, will regulate itself. There would then be no expansions or contractions, except from the legitimate operations of trade; and the currency of the nation would be perfectly sound (p. 245).

ONE HUNDRED PERCENT RESERVE BANKING AND A 100 PERCENT CONVERTIBLE GOLD STANDARD

An essential reform, even before thinking about restoring the gold standard, is establishing 100 percent (or close to 100 percent) reserve banking or 100 percent money. The introduction of this reform has been thoroughly described by Soddy (1934), and Fisher (1936). Legislation has to change the banking into two components: (i) a 100 percent depository system, which issues no loans; and (ii) investment banking, which borrows or issues securities and bonds, and invests, lends or buys bonds and securities (Walker, 1873). This component cannot create money, i.e., issuing a loan, which has no money available, by simply crediting a borrower account and creating deposits. An investment bank operates like a development bank[25] or a mutual fund whose

[25] For instance, the World Bank cannot lend without raising the funds prior to its lending by selling bonds. These funds are held at depository institutions. Certainly, it cannot create deposits in favor of its borrowers.

funds are held by a depository institution. Hence, starting from an implementation date, legislation has to require that a new loan issued by an investment bank would have to be fully covered by funds held in a separate depository institution. This decision will arrest the creation of new debt money; it will stabilize the money supply; and will enable the banking system to transit to a two-tier banking.[26] Money holders would have to decide how much non-interest earning deposits they wish to keep, and how much interest-earning assets they acquire through the investment banking system. Simons stated that the best investment banking is the one that has no fixed money contracts at all:

> What arrangements as to the financial structure would be conducive to lesser or minimum amplitude of industrial fluctuations? An approximate ideal condition is fairly obvious—and an unattainable. The danger of pervasive, synchronous, cumulative maladjustments would be minimized if there no fixed money contracts at all—if all property were held in residual equity or common stock form. With such a financial structure, no one would be in a position either to create effective money substitutes (whether for circulation or for hoarding) or to force enterprises into wholesale efforts of liquidation. (Simons, 1947, p. 165)

This reform enables the implementation of the McKinnon-Shaw financial deepening scheme. McKinnon and Shaw emphasized the importance of money deepening and a well-developed banking and financial sector. Large saving is pooled from small savers, large scale and efficient projects may be implemented, and risk is highly reduced. Investment banks borrow, or issue bonds, and stocks, and buy securities or extend loans to investment projects. Simons preferred that investment banks issue more equities than interest-bearing loans in mobilizing savings. Accordingly, the investment bank reduces its risk by linking the cost of its resources to the performance of its assets and to be able to raise long-term capital. Moreover, equity financing reduces the conflict between debtors and creditors and changes in value of debt due to changes in the price level.

The introduction of gold standard becomes an appendix to 100 percent reserve banking and 100 percent money, since a main

[26] To prevent a resurgence of fractional reserve banking, depository institutions issue no loans; they are payments institutions. Investment banks have no money creation role. The depository banks settle all their payments.

obstacle to its existence has been removed, which is debt money. A gold standard with debt money would fail, since gold and debt money were like water and fire (Carroll, 1850s). A non-reserve currency country has nothing to lose by adopting a gold standard. It is presently in a pseudo-gold standard, since its foreign exchange can be converted instantly into gold at prevailing gold market prices. The gold standard cannot operate in any country with restrictions on the trade of gold. Gold restrictions were most futile and were imposed as a measure to force devalued paper on people as shown in France in 1720 and 1789–1795, the US after 1933, and the United Kingdom after 1931. A country has to establish a fully free gold market with no taxes on imports or exports of gold. The state assumes a role of quality control to prevent fraud. A free gold market establishes an equilibrium price free of distortions and contributes to a return to gold at true prices.

Peel's Act in 1844 split the Bank of England into two departments: the Issue Department and the Banking Department. The issue department was in charge of issuing banknotes with 100 percent gold coverage. In like fashion, the central bank of a country envisaging 100 percent money with a gold standard will be re-organized into an issue department; the banking department becomes purely redundant in 100 percent money and may be eliminated. The issue department will issue national paper money only against foreign exchange and gold at floating market rates. The issue department has the strict monopoly of paper money. However, it has no monopoly in foreign exchange and gold markets. Banks, foreign exchange bureaus, and gold and silver dealers are entirely free in their trade of gold and foreign exchange within the regulatory framework. The issue department has no banking operations within or outside the country. It immediately turns its foreign exchange into gold at market rates and sells gold against national money at market rates.

A gold standard act would re-establish the mints and the gold and silver coins. The mints would be open to all the public, including domestic and foreign gold dealers, as well as to the issue department of the central bank. The mints would turn gold into coins and certify the quality of the coin at a simple fee for covering the cost of assaying and coining the gold metal. Nationals should be allowed to acquire gold coins minted locally or abroad.

If residents export commodities, say, wheat, oil, and others, they may elect to import gold and transform the gold into coins. These coins should be allowed to circulate in the economy especially in settling large transactions. The purchase of gold coins should be facilitated through licensed banks and foreign exchange dealers. Monetary gold would be acquired through external trade, local mining if available, and diversion from non-money uses. The import of gold would be paid for by foreign exchange earned from exports of merchandise and services. Gold trade would be carried out at international prices in the same way as for all tradable commodities such as corn, crude oil, sugar, coffee, and others. The economy would have to export commodities in order to import gold or any other commodity. Gold would be bought and sold against national paper at the issue department or any appointed dealer at the market rate. Gold coins and bars may be deposited for safekeeping at depository institutions and used in payment operations. Depository institutions have to keep deposited gold in coins or bars and reconstitute them in coins or bars and never in paper money. Customers would convert their gold into national paper in separate operations at authorized banks and foreign exchange bureaus or directly at the issue department. During the transition period, gold would circulate alongside paper at floating rates in the same way as foreign currencies circulate alongside the paper. Traders may directly use their foreign currencies or convert them into paper to settle payments. Silver coins, to be issued by the mints, would circulate at a free rate as a commodity.

The issue department should monitor the exchange rate of the paper money in relation to gold only and not to foreign currencies; there should be no effort to economize on gold circulation or limit it only to bullion. The length of the transition is of little relevance, provided the issue department operates strictly as a conversion agency and the 100 percent money is in force. When paper is about to appreciate considerably in relation to gold, following a period of floating in relation to gold, a country would have reached the end of the transition period and would be ready to operate under a classical gold standard. The government may then fix the value of the paper in terms of gold. From this point of time onward, the issue department will buy and sell gold against paper at par. The paper has a denomination in units of accounts, and the gold coins and bars will continue to be denominated in weights. At par, paper will be as good as gold.

A country would have 100 percent coverage of any newly issued currency; that is, each new paper will have a full gold back up. Inversely, gold sold by the issue department entails a withdrawal from circulation of an equal amount of paper. The risk of a speculation against paper, once it is pegged to gold, is nil, since with 100 percent money, no money can be emitted as a debt. The paper has been strictly controlled and tightly linked to the transaction needs; there is no more redundancy of paper. However, there may be crop failure that necessitates considerable gold for imports, which may strain the gold holdings of the issue department or the foreign exchange dealers. In such contingency, the issue department may consider temporarily floating the currency until it reestablishes the previous parity again. We may observe that there should be a subsidiary metallic coin system in silver, copper, bronze, and nickel to supplement gold in the settlement of small transactions, as was the case with the UK system during 1816–1914. The subsidiary coinage is denominated not in weight but in decimals of units of account. To prevent inflation through subsidiary coinage, a number of paper money has to be drawn for each equivalent amount of decimal coins.

We should underscore that no initial condition is needed for the stock of the paper currency or the stock of gold. A country would not have to amass gold before it moves to a gold standard nor does it have to withdraw its paper currency from circulation through taxation and budget surpluses.[27] The prior conditions would be to lift any restriction on gold as money and establish a totally free gold and silver market; establish a monopoly issue agency; and apply 100 percent reserve banking. The stock of gold acquired would be determined by the demand for gold; the higher the demand for gold, the more the country has to increase its exports and reduce its non-gold imports. The market would also determine the composition of its money in stocks of paper currency and gold and the convenience offered by each form of asset.

[27] A country can instantly peg its currency to gold at prevailing market rate, as the case of the German Rentenmark in 1923 with no convertibility provision. It reduces its currency when gold appreciates and expands when gold depreciates in relation to the fixed rate.

The Chicago Plan (1933) stressed 100 percent reserve money and equity-based banking without specific reference to gold. Why insist on re-introducing gold in a country when 100 percent reserve money would secure financial stability with paper money? We observe that all previous 100 percent money plans during the 18th and 19th centuries assumed a gold standard and aimed at securing gold convertibility. The authors of the Chicago Plan might have stressed a return to gold had they experienced a pure paper system such as prevailed after 1971. A removal of debt money is essential for stability under a paper or a gold system. Debt and money have to be split; money should not vary in relation to debt. Inconvertible paper is not natural money and did not emanate from market forces. As a result, the state has found paper money convenient to finance deficits. Paper representing gold may be coined as fully backed money; inconvertible paper is not, since it is often created through debt or fiscal deficit monetization. Moreover, gold is both a standard of value and an equivalent (i.e., exchanged commodity). Inconvertible paper has no intrinsic value and is not a standard of value. Hence, a country may not benefit by holding its foreign reserves in inconvertible paper. It will be safe to hold them in gold. A national paper pegged to gold has a known metal content and is stable money. It is no longer influenced by inconvertible and rapidly depreciating foreign currencies. A country will shelter its economy against the instability and uncertainties caused by reserve currencies countries. If not pegged to gold, the national paper will have an unstable exchange rate, and may suffer a degree of depreciation as reserve countries keep inflating their respective currencies. This will discourage investment and increases exchange rate risk and uncertainty.

STRUCTURAL REFORMS TO SUPPORT 100 PERCENT MONEY: FULLY LIBERALIZED LABOR, CAPITAL, AND COMMODITIES MARKETS

In almost every country, governments intervene in a multitude of sectors and areas of the economy. The more the government expands and intervenes, the more it needs resources, which it does by increasingly resorting to an inflation tax. Adam Smith, who demonstrated the fallacies of tariffs and bounties and warned against the expansion of the unproductive government sector, has detailed the dangers of government expansion and intervention. He confined the role of government to defense, justice, education, and public works. Among opponents to government intervention was Lysander Spooner (1886) who called for abolishing tariffs and monopolies and restoring free markets in capital, labor, and commodities. He stated:

> [I]f a government is to "do equal and exact justice to all men," *it must do simply that, and nothing more*. If it does more than that to any, that is, if it gives monopolies, privileges, exemptions, bounties, or favors to any, it can do so only by doing injustice to more or less to others. *It can give to one only what it takes from others; for it has nothing of its own to give to anyone*. (Spooner, 1886, p. 15)

Historically, therefore, the government had to force paper currency, make it a legal tender, to be able to levy inflation taxes and promote interest groups.

Paper money and fractional reserve banking have led to large government bureaucracies and powerful interest groups; the economy has reduced mechanisms for adjustment, except through inflation. Numerous writers have criticized the model of excessive intervention of the state in the economy. Mises (1949, 1953) stressed the necessity of unhampered markets and elimination of inflation as conditions for re-introducing a gold standard. He noted that government needed inflation to finance its expanding size. Simons (1947) deplored the devastating consequences of statism, and stressed that a monetary reform along the lines of 100 percent money has to be accompanied with abolishing monopolies and price rigidities. Hayek (1944) called it "the road to serfdom." Anderson (1945), and a number of other writers showed the dangers of the present system of statism. The government keeps expanding in size.[28] Failure of the state is called failure of the market. In spite of financial crises, economic decline and social inequities, this system is fully supported by politicians. Reserve

[28] In his book, *Our Enemy, the State*, Albert Jay Nock (1935) showed the adverse consequences of an ever-bigger government in terms of economic decline, despotism, and social decline. F.A. Hayek (1944) deplored statism in many Western countries, which reduced people to serfdom.

currencies were able to finance their excessive statism by printing money. After 2008, reserve currency countries set interest rates at near zero with a view to running fiscal deficits and transferring part of the bailout cost to other countries. A non-reserve country has a strict external constraint. Admittedly, no Western country has the adoption of a gold standard on its radar, especially given wage and price rigidities, the dominance of statism, high spending, monetization of deficits, huge public and private debt, as well as the dominance of powerful financial groups. In many countries, the statist economic model has damaged exports, turned a previously rich agricultural economy into a food deficit country, and caused high external debt. With statism and rigid labor and control laws, a country will not be able to adopt a gold standard, or even, a restrictive money policy to tame inflation. It has to rely on inflation taxation to run large budget deficits.

A gold standard embedded in 100 percent reserve banking has been proposed by many writers since the 17th century because of the extensive damage caused by paper and fractional reserve banking. Although such a system has not existed in a recent past and there is no historical experience to prove its superiority, there are instead a great number of counterfactual cases regarding the disruptive consequences of inconvertible paper and debt money, by which leading industrial countries as well as developing countries are suffering economic stagnation, high unemployment, high inflation, high indebtedness, and continued financial instability. Very high income and wealth inequality prevails through redistribution caused by money printing, leverage and financial crises. The income distribution is no longer determined by the real contribution to the national output but by non-market advantages. In contrast, there is a substantive evidence that economic growth was rapid under the gold standard and benefited labor considerably in the form of substantial real wage increases with full-employment fully maintained in all gold standard countries (Farrer, 1898). Exchange rates were fixed for decades, and international trade was flourishing. However, the gold standard could not survive alongside fractional reserve banking. A system of 100 percent money, which abolishes debt money, does not allow money creation out of thin air.

Opponents of the gold standard have claimed that gold scarcity would prevent circulation of increasing volume of commodities, ignoring the role of clearing that clears almost all transactions in asset, commodities, international trade, etc., with almost no cash. Unlike the US Fed, which printed $4 trillion in money within 5 years to finance government expenditures, there is no mining company that could dig out as much gold within the same period. Banks, in emitting money, were guided by profit maximization and much less by commodity circulation. The redundancy of debt money evolved into a rampant inflation showing that too much paper was crippling the economy.[29] The US dollar has a purchasing power in 2016 that is less than 2 cents of what it had in 1914. Gold was used essentially as a standard; it rarely circulated as a means of payments as illustrated by the establishment of goldsmith houses, and the Bank of Venice, Bank of Amsterdam, Bank of Hamburg, and other similar banks that settled accounts without physical gold movements. By late 19th century, actual gold payments represented less than 2 percent of total payments in the United Kingdom. Be it for gold or paper, only the economy determines the actual real money in the economy via changes in prices. Moreover, there is a huge stock of gold buried deep in storage that could be released and used as money. Opponents also claim that gold impaired external competitiveness. In case of many countries, paper money inflation ruined the export sector as some countries relied on foreign debt to finance their external deficit, instead of exports. Moreover, domestic inflation impaired competitiveness. Improving external competitiveness via inflation and exchange rate depreciation amounts simply to a subsidy to exporters at the expense of importers and the fixed income groups; it is not a true improvement in competitiveness, which emanates from productivity gains and innovation. There is plenty of evidence that the gold standard improved competitiveness via substantial gains in productivity and a consequent drop in prices as witnessed during 1871–1914.

CONCLUSIONS

We have recommended 100 percent (or realistically closer to 100 percent) reserve banking as the most important reform in restoring

[29] Paradoxically, inconvertible paper creates money shortages. Cagan (1956) showed that real money was almost non-existent in hyperinflation countries.

sound money and financial stability. This would also provide the foundation and a stepping stone to re-introducing a domestic gold standard in one or more countries that wished to do so. Sound monetary reform would help a country restore economic growth and social equity. As Gouge (1833) stated, fractional reserve banking is a *malum per se*, and has no remedy, except to be abolished and replaced by 100 percent reserve banking, in other words 100 percent money, as strongly advocated by the Chicago Plan (1933), Soddy (1934), and Irving Fisher (1936).

In the context of a cheap money policy by reserve currencies countries and consequent uncertainty, a non-reserve country might consider a gold standard to immunize its economy against fluctuations in exchange rates and prices. China has expressed such an interest at different times over the last 10 or so years. Besides 100 percent money, a country ought to encourage risk-sharing equity investment banking as suggested by Simons, thus alleviating the conflict between debtors and creditors and securing financial stability.

The inconvertible paper system has become highly unstable, as shown by the 2008 crisis, its aftermath as well as the turbulences that caused it. Controlling interest rates at near-zero bound will reduce savings, foster debt-financed consumption and misallocate resources away from their best physical investment opportunities in the real sector; increasing the level of debt, redistributing wealth with growing inequalities, fueling volatile exchange rates and asset prices, and all damaging growth, social equity, and international trade. By re-establishing 100 percent money, a country will have a most propitious money that will extricate an economy from inflation, restore fast growth, full employment, and enhance social justice, with its money and interest rates being market determined and not administered by the state.

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