

Debt Monetization by States and Central Banks;

A Brief History and an Outline of the Theory

Nathaniel M. Edmands

Abstract

This paper leverages official government statistics and historical sources across five centuries to trace a brief history of debt monetization by states and their central banks. It derives from the history a sketch of a theory of debt monetization. The theoretical outline identifies the commodity money standard and details the mechanisms by which that standard is ultimately replaced by government debt instruments as the monetary base.

Debt Monetization by States and Central Banks;

A Brief History and an Outline of the Theory

Central Banking is ubiquitous. Commodity money is out of common use.

Fiat money with no backing by commodities is the world's standard currency. The history of transition by the global economy from commodity money – typically gold and silver – to fiat money is well documented, as are the ostensible reasons for the change over time. The centralization of banking, the institution by government of private monopoly in money creation, and the mechanisms of public debt monetization by central banks have also been covered; largely in separate, prior research.

From the history of money, central banking, and government's involvement in both, is distilled a framework of a theory of debt monetization. This paper is a brief first attempt to outline the history of debt monetization and to describe the theory behind it as pulled from the history.

History of Debt Monetization

The history begins with the origins of paper money as separate from warehouse receipts for commodities. It moves through some early results of the use of the paper money by governments and into the creation of central banking in Europe and in the United States, where it follows the fits and starts of various institutions. It ends with today's century-old Federal Reserve System and an account of its portfolio of United States Treasury debt as the base of the money supply.

Paper Money

Paper receipts, for commodity metallic money stored in warehouses, were a novel invention. Gold warehouses trustworthy enough to store gold for its owners could be

trusted to issue reliable paper receipts for use in transactions. Rather than carry gold, silver, or copper, which could be heavy in quantities required for large purchases, the owner of metallic money could instead carry and exchange paper receipts for it. These warehouse receipts, although paper instruments, were not fiat paper money. They were regarded precisely as was the metal they represented. Had not the nature and qualities of commodity money been popularly misconstrued, warehouse receipts likely would still serve today in exchange, and perhaps there would have emerged no fiat money at all.

China & Europe. The Chinese invented warehouse receipts representing 100% deposited copper; likely a mere trade convenience. Then, as now, copper was not high in value by weight relative to more precious metals. Bernholz (2003) found that the certificates were not intended to be money, but convenience led to their acceptance in exchange. The concept inspired the first purposeful private paper money before 1004CE, and from this idea the government monopolized paper money in 1024. Portending much of fiat money's future, this paper money was at first convertible to copper coins and was managed to official reserve amounts held by the regime. Issues of money paper after 1072 outpaced actual reserves to cover a budget deficit (p. 53). *This is history's first known paper money debt monetization.* Predictably, inflation occurred as a result of this over-issue. Nervous note-holders sought redemption in hard money, and government, not possessing of enough hard money to cover its liabilities, halted convertibility to protect itself. This cycle was repeated in almost every Chinese dynasty thereafter (p. 54).

According to Goldberg (2009a), after China's original invention Venice toyed with deposited-specie receipts in the thirteenth century (p. 6), still a legitimate use of paper as full stand-in for commodity money. Some European states introduced paper

monies not intended to be receipts for metal; namely Spain and Holland during wars in the fifteenth and sixteenth centuries, respectively. This history will show war as a common impetus for paper inflation of the money supply. A single Stockholm bank used a purpose-built paper which failed quickly after too much was produced and issued (p. 7).

New World Experience. In Antigua a tobacco-backed currency emerged in the seventeenth century. The scheme was just a flavor of warehouse receipts and was shut down by the government when it discovered some notes were issued lacking the requisite amount of tobacco behind them (p. 8). This discipline on the part of states would soon vanish.

The New World experience with *intentional* paper money emerged, curiously, in French Canada. It was innovative though it is given short shrift – if mentioned at all – by historians because of its nature. Most authors credit Massachusetts with the actual invention of paper money *as debt*, but Goldberg proved (2009a, p. 8) that it was from Canada's experiment prior that modern day paper money-as-debt evolved.

Canada. Famed Canadian banker and historian, Sir Byron Edmund Walker (1896, pp. 418-420) detailed the history of the development of paper money in Quebec. Prior to 1685, for a few years, France sent cash and supplies to Canadian military and civilian contingents in advance of payment. In 1685 the shipment did not arrive. Jacques de Meulles, the Intendant of New France, still had to pay his soldiers. With no hard money available he invented what became known as “card money”. He quartered playing cards and denominated them in amounts convenient to pay soldiers a month's pay at a time. Those under his command were ordered to accept the cards – de facto legal tender – in deference to de Meulles' personal pledge to redeem the cards. The cards were

handwritten and were signed by both the Intendant and the Clerk of the Treasury, and they bore an official wax seal of the fleur-de-lis and the French crown (p. 418). As ridiculous as playing card money may seem, it was used and accepted legitimately through the gravitas of the government and its local commander. *This was the West's first known deliberate paper money debt monetization.* De Meulles' subordinate in 1686 made a further issue of the cards (Goldberg, 2009a, p. 10).

Perhaps due to the efficacy of the card money, France made permanent its policy of ending year-in-advance shipments to Canada. By regime fiat the cards were made de jure legal tender. For 24 years the system worked, bolstered by reliable redemption in commodity money at the annual arrival of the supply ships, but in 1709 the system broke down with the bankruptcy of France. Redemptions were delayed. Amounts were diluted. The Canadian officials continued to cover the debts of their state with playing cards. The government did finally make good in 1717, beginning a full redemption of the cards and halting *new* issues of card money. Hard commodity money again became the *only* money to circulate in 1719 as redemption of all original cards was completed. Unfortunately for Quebec, the coined money almost always quickly made its way back to France, given that the colonies were in the position of purchasing more than they produced. Proving how well the card money had worked out for the state, in 1729 the King of France recreated the card money, this time in seven denominations. Unfortunately for history, the card money was never again redeemable in specie but in Treasury drafts, alone (Walker, 1896, p. 419).

Contrary to most authors, Canada's playing card money was very intentional. It arose out of emergency, but it became official quickly. Massachusetts does not deserve

the attribution most authors on the subject give it of creating the New World's first intentional paper money.

Massachusetts. The Massachusetts Bay Colony of Great Britain was between charters when it first issued paper money on December 24, 1690. Like de Meulles in Quebec, leaders in Massachusetts sought to assuage the cries for specie by unpaid, hungry warriors. The workings of the creators of the Massachusetts currency were not recorded, though a pamphlet published just afterwards does mention the Canadian playing card money (p. 14). By focusing on the relationship between Canada's card money and Massachusetts' paper money Goldberg (2009a, p. 15) found that Canada's invention directly inspired the Massachusetts paper money, based on his analysis of dates of key events. Massachusetts was not the inventor of North American paper money.

On November 7, 1690 Massachusetts began to raise funds to pay troops returning from a failed Canadian war campaign; the kind that normally brought back enough specie to pay for itself, and more. This particular raid had failed and put pressure on Massachusetts for funds to pay the soldiers and mercenaries it had sent to French Canada. Borrowing failed within a week. The paper currency discussion could not, according to Goldberg (2009a) have begun *before* November 15, 1690 (p. 18).

The money issued in December 1690 in Massachusetts fared poorly and was quickly either discounted or completely refused for purchases. It was in trouble and dropped in value by about 33% (Goldberg, 2009b, p. 1102). Two authors soon published, anonymously, letters to their fellows encouraging adoption of the currency. In 1691 the independent letters were united into a single handbill. Importantly, *both* letters mention the Canadian card money (Goldberg, 2009a, p. 15). Philologist Hammond Trumbull

(1885, pp. 279-281) examined the original letters and discerned the authors of the two sections of the handbill, “Considerations” and “Some Additional Considerations”, to be luminary Cotton Mather and Captain John Blackwell, respectively. Their public relations campaign bolstered acceptance of the currency, while the action of some influential and wealthy men, to trade their bullion for the paper at face value, contributed in parallel to its improved reputation (Goldberg, 2009b, p. 1102)

Goldberg (2009a) calculates that the letters comprising the pamphlet were written before February 1, 1691. Rather than accept that Massachusetts had suddenly learned of Canadian card money between November 15 and February 1, he postulates a causal link. Numerous were the water and land routes for trade and information between Canada and Massachusetts. Stories of the card money – and perhaps the actual card money itself – would have been easily transmitted along these routes. Some Colonial prisoners in Canada probably saw the card money. Lending credence to the idea that Massachusetts was unlikely to *first* learn of the Canadian cards between November 15 and February 1 is the knowledge that the period in question was one of absolute silence between Canada and Massachusetts in the wake of the failed American raid (p. 19-26).

Temporarily setting aside Goldberg’s (2009b) insights into the inspiration for the Massachusetts paper money, more than just hungry and defeated fighters precipitated its creation in the first place. Land had long been employed in the colonies as the instrument of paying down debts. When soldiers did not *directly* receive land as payment, debentures were issued that could be converted into land. Land also was used as security in more than one budding bank or other financial company (p. 1095). The abundance of land in New England made this very easy. Unfortunately for the colony and its soldiers, after

1684 the use of land as debt security came to a screeching halt in Massachusetts. Governor Andros voided all land titles in Massachusetts following King Charles II's revocation of the charter of the Massachusetts Bay Colony. Andros was the third administrator of the Dominion of New England, the political entity succeeding the Massachusetts Bay Colony between 1686 and 1689. King William did not reverse Andros' void of all titles to land in Massachusetts until the administration of the new Province of Massachusetts Bay was chartered in 1691; *after* the Massachusetts paper money was first issued in 1690 (p. 1096). Thus, there was no land in the colonies in 1690 unowned by the crown (p. 1097). No land could be used as debt payment. Restoring land-backed money was impossible in late November 1690 when the paper money scheme was first launched.

The anger of the British Crown at the Massachusetts Bay Colony's minting and coinage efforts in previous decades contributed to the Colony's charter revocation in 1684. By 1690, making "real" money or anything that looked like it was not an option. Without available land, paper money made to satisfy the debts owed soldiers would have to be disguised to not look as money (p. 1098).

In Goldberg's (2009b) opinion the Massachusetts paper money issues appeared to be common credit instruments. They promised to be convertible, bore typical credit terms, and were "voluntary" to use. The instruments were real contracts and found acceptance as a form of tax payment. Troops converted their previous land debentures into these new devices more readily accepted in commerce. No one called them "money" (p. 1099). Legal tender status was consciously avoided because there was no charter for Massachusetts in 1690. Such status for the notes would have to wait for the new charter.

At the passage of the paper money legislation of December 24, 1690, immediately all existing other forms of legal tender were abated – devalued – by a third. Grain was at that time legal tender, as were any other goods declared so by the regime. With this ruling, the new paper money became the *most reasonable* repayment choice of debtors, although it was not legal tender. Accepting any actual legal tender brought a one-third penalty to creditors, and the new paper money alleviated that burden. This abatement in its proper context of foretelling fiat money appears to have gone unnoticed, except by Goldberg. He found (2009b, p. 1101) that because of the abatement against real legal tender objects such as grain, the unbacked paper money became clear quasi-legal tender. The initial issue was 7,000 pounds in December 1690. The next May the issue was increased to the full 40,000-pound value of the colony's total debt. The one-third grain abatement continued. After the 1691 charter award, the paper was declared legal tender in 1692 to discharge all taxes and debts (p. 1100).

By 1692 Massachusetts' colonial debt had been fully monetized by an unbacked paper money, the acceptance of which was forced for all debts. Although Canada had also forced its card money's acceptance, their first cards were fully repaid in specie. In Massachusetts, there was no longer any expectation of repayment. As Goldberg noted (2009b, p. 1103), "It was a conceptual shift from tangible assets (specie, goods, land) to monetary obligations (taxes and debts) as the foundation of the monetary system." It was a watershed. Fiat money was here to stay.

Colonial spread. Murray Rothbard (2002), master of both Colonial American history and all things banking, traces the inexorable spread of debt monetization through the colonies. Twelve of the thirteen colonies turned to paper by 1740, and each felt the

similar experience of sharp inflation, bullion shortage, and market-driven overrun of legislated par values (p. 42). In contribution to the American Revolution, Great Britain outlawed all new issues of paper money-as-legal-tender in New England in 1751. By 1764 the ruling covered every colony, mandating redemption of all existing and circulating paper notes in silver (p. 43). In defiance of law, paper was again issued in and after 1775 by the Continental Congress to fund its fight against Britain. Ostensibly that issue was to be paid down by increased taxes after seven years. From a 1775 monetary base of \$364m in 2014 dollars¹, the Continental Congress issued another \$182m in the same year. Between 1776 and 1779, \$4.6b² was issued nationally (p. 47). Inflation followed. Rothbard (p. 48) calculates that from an initial level of parity in 1776 between the Continental paper dollar and the specie dollar, within five years the paper dollar would only buy .006 dollars of specie.

To Rothbard (p. 49), more palatable but “accidental” debt monetization came in the form of Continental loan certificates; promissory notes the government exclusively used for its purchases. These evolved quickly into a currency and fell to just over 4% of the dollar value of specie in the same nominal quantity by 1779. Loan certificates issued during the Revolution totaled \$18b, and the lion’s share went unliquidated and became ongoing United States national debt.

English Central Banking

Rothbard (2008) found that England was out of cash after 1690 due to wars. Its bonds were not in demand, and taxation of the populace in amounts needed to maintain

¹ All adjustments for inflation into 2014 dollars rely upon Sahr (2015).

² Sahr’s adjustment figures are averaged for multi-year periods.

Empire through war were politically inefficacious. Inspired by his Massachusetts Bay Colony brethren, Scotsman William Paterson urged a Parliamentary committee to create the private Bank of England to issue paper money to cover spending overruns and lack of specie. In the beginning of *direct monetization of debt by central banks*, the Bank would purchase bonds of the Crown with the new paper notes it fashioned specifically for this purpose. Putting skin in the game, King William became part owner of the new Bank of England, which received its charter in 1694 (p. 151). Canada and Massachusetts might have monetized debt with paper money first, but it was England that created the bald-faced system of buying government bonds out of thin air.

The new notes were not deemed legal tender at first, though to make up for this shortcoming the government kept all its deposits in the Bank of England. The first purchase by the Bank was over £95.13m in 2013 pounds³ of government bonds. Within two years the Bank of England was bankrupt. Rather than let its baby die, Parliament made a 1696 decision *pivotal in history* to allow the Bank of England out of its specie redemption requirement in order to keep the Bank solvent. The Bank could print away without worrying about redeeming its notes in bullion; a license to steal. A 1696 year-end accounting shows only £4.36m in specie to cover £95.62m in paper. This safety net lasted two years (p. 153).

More – and more permanent – privilege soon followed. In 1697 the Bank gained protection when Parliament forbade creation of any new commercial bank in England and made a capital offense of counterfeiting Bank of England notes. In 1708 Parliament

³ Pound inflation adjustments into 2013 values based on Officer & Williamson, www.measuringworth.com/ppoweruk/

criminalized the issue of any demand notes by corporations other than the Bank of England, or by partnerships with seven or more principals. Rothbard found (p. 154) the only lending competition remaining for the Bank of England under this law was not merely unthreatening to the Bank but became its very engine of money multiplication. These small partnerships, 400 of them by 1793, came to underlie the entire fractional-reserve process. They used Bank of England notes as their own reserves behind notes they issued for their customers (p. 155) and behind demand deposits the reserves allowed them to create.

Legal Tender. Specie redemption suspensions were the norm whenever events such as war drained the coffers. One redemption reprieve lasted 25 years. Propitiously for the Bank of England, 1833 brought legal tender status for all its notes. At last, the Bank of England had become a true central bank for the Empire; a bank that, to Rothbard (2008, p. 156) would become the model for all future central banks.

Great Britain had by then become the United Kingdom. In the early days of the central bank and legal tender paper money, people still remembered the stability of commodity money. Not all the United Kingdom's inhabitants accepted the new game of counterfeiting and inflation. Though fundamentally flawed in its approach according to Rothbard (2008, p. 162), the Currency School attempted with Peel's Act of 1845 to rein in the inflationary practice of fractional-reserve bank note issuance and deposit creation. The Act insisted on 100% specie backing for notes, cash, and coin. Joseph Salerno (2010, p. 7) found that Peel's ultimate failure was ignoring the role of demand deposits in the inverse-pyramid of money expansion. Under Peel's Act, demand deposits were free to

balloon the money supply without any restraint whatsoever by global gold holdings. Demand deposits became the new basis for the banking system.

A seeming footnote to Peel's application across the United Kingdom was the destruction of Scottish Free Banking. The people of Scotland had enjoyed unregulated banking for 118 years prior and had proven that banking would police itself in the unforgiving marketplace. With one royal seal, the whole enterprise was gutted and was brought under the Bank of England's permanent dominion (Rothbard, 2008, p. 162).

American Central Banking

In the fledgling United States, Continental Congressman Robert Morris in 1781 led the movement to create the first central bank of the five-year-old nation. He called it the Bank of North America, and it was, to Rothbard (2008), clearly inspired by and designed upon the Bank of England. This Bank's privileges were many. Its paper money was received for all federal and state taxes and debts. As the only bank permitted to exist in the country, it lent heavily to the new United States Government (p. 163). Predictably the Bank of North America's issue quickly inflated. Before two years passed the Bank went private; chartered as a mere state bank thereafter. When its federal ownership was sold off in 1783, it was the end of America's only national bank of the post-Declaration, pre-Constitution period (p. 164).

Bank of the United States. In 1791, several years after the Constitution was ratified, Alexander Hamilton as Secretary of the Treasury asked Congress to charter the Bank of the United States for a 20-year period. It was structured to be quasi-private with federal government ownership of 20%. Its issue could be redeemed in bullion. The U.S. accepted its notes as payment for taxes in an effort to keep the paper at its printed specie

value. The Bank was to be the sole depository institution for the federal government, monetizing government debt to the tune of \$146m through 1796. By now well informed of English success in pyramiding the money supply via satellite banks, the United States leveraged 22 commercial banks to create growth in the fractional-reserve money supply (p. 165).

The system functioned until 1811 when its re-charter failed in Congress. Rothbard (2008, p.167-168) detailed how, in the wake of the dissolution of the Bank of the United States, government debt monetization became the purview of the remaining non-central banks. The War of 1812 provided a need for such funds. In illustration of the speed of the process, in 1811 the U.S. had 177 banks, \$271m in specie, and total notes issued and demand deposits of \$764m; an inflation factor of 2.8 over specie. By 1815, four years later, the number of banks had grown to 246. Specie by 1815 had dropped to \$208m, and total notes issued and demand deposits were \$1.2b; an inflation factor of 5.8, more than double that of 1811. Money for war arms was spent in New England, a Federalist stronghold, where the War of 1812 was unpopular. As may be expected, banks in New England redeemed the notes of other banks for specie. Governments both central and state accommodated insolvent banks by suspending specie redemption. Although there was no *single* central bank, unified action across the banking industry to garner government protection from redemption had created a de facto central bank. It would not be long before a de jure central bank would again arise.

Second Bank and Panic of 1819. Inflation raged after the War of 1812, Rothbard found (p. 169). Two camps had ideas to fix the problem. The first, the “Old Republicans” and Federalists, pushed sound money and a mandate that the numerous banks redeem all

their notes in specie. This would surely have destroyed many of the banks, as they had inflated with abandon. The second camp of Democrats and Republicans called for a new (second) Bank of the United States. They won. Its trappings included the familiar 20% federal ownership, notes and demand deposits made redeemable in specie, and federal government acceptance of notes and deposits as tax payments. The capitalization of \$583m for the second Bank of the United States was $\frac{3}{4}$ government securities. The other $\frac{1}{4}$ was specie. Thus, the Bank *began* its life with a capitalization of \$438m in monetized government debt (Caterall, 1903, p. 19).

It took only two years for the second Bank of the United States to be relieved of redemption in specie, and it enjoyed this privilege for two more years. Its notes were always, since 1817, discounted on their face against commodity money, so poor was the Bank's reputation. Because the second Bank of the United States was weak in enforcement of its requirement of state banks to deposit specie – not notes – it never amassed the minimum \$130m of specie legally required of it. It pulled in a meager \$46m, yet its deposits and issues totaled \$404m in mid-1818. At the same time, because state banks were multiplying so quickly at the opportunity, the inflation pyramided by more than 40% through 1818. The money supply rose to \$1.75b; a massive inflation (p. 173).

To save itself, the Bank forced specie payments from state banks. It shrunk its operations, would not redeem the notes of its own branches for specie, and restricted credit according to Rothbard (p. 173). Never before had the United States felt so ubiquitously and acutely the telltale central-bank-induced crash that must follow the inflation race. The depression was large and has since been named the Panic of 1819. The money supply attributed specifically to the Bank fell more than 47% in twelve months.

All told, the nation's fiat money supply contracted more than 28% between 1818 and 1819 (p. 174).

End of second bank, and contraction. The bell tolled for the second Bank of the United States in 1836. President Andrew Jackson, in myth (Trask, 2002) a vociferous enemy of central banking and fiat money, vetoed renewal by Congress of the charter of the Bank. This was not a sudden development. Three years prior the Administration's policy was to reacquire its deposits from the hated Bank and to spread its deposits among a large number of state banks; 91 institutions by the time the second Bank went private (Rothbard, p.176).

A large economic contraction occurred just after the 1836 expiry of the charter of the second Bank of the United States, contributing to history's poor treatment of the timing of the dissolution of the Bank. As Rothbard shows (p. 179) it was the *existence and actions* of the second Bank that caused the contraction, *not* the Bank's closure. From 1830 the Bank's collusion with state banks had increased the money supply from \$2.79b to a December 1831 total of \$4.19b; a 50% inflation. After Jackson's 1833 decision to pull U.S. government deposits from the Bank, the money supply inflation continued to an 1838 level of \$7.08b.

Did state banks directly cause the inflation in the post-1836 absence of the second Bank? No. Rothbard (179) attributes it to the Mexican state's action of tying newly minted copper coins at par with silver specie. This caused an influx of Mexican silver to the United States. It *was*, however, the individual states' system of fractional-reserve banking that multiplied the silver effect into a much bigger money supply increase.

The problem was not a central bank, or an array of state banks, or any bank whatsoever. It was the very idea of pyramiding notes and deposits on an insufficient base of commodity money that was, is, and will be at the root of the distortion of money.

The state banks were again left to monetize Uncle Sam's debt. In mid-1837, state banks halted redemption in specie of their notes. Their governments, and the government of the United States, failed to stop them. It is easy to see why. An insolvent or closed bank cannot purchase government debt. An insolvent or closed bank cannot print notes or create demand deposits for government. Crises, inflation, contraction, and insolvency aside, whenever government can get money out of thin air it has proven it will do so.

After brief recovery in 1838 another crunch came in 1839. Salerno (p. 406) found that a quarter of all banks imploded, and the bust bottomed out only in 1843. Deflation measured in wholesale prices was 42%. Overall, the United States money supply fell by more than 33%. Mainstream descriptions of economic busts normally end with the dramatic drop in the money supply. Salerno nods to the inevitable healthy effects of such predictable man-made contractions by noting that real gross national product rose during the 1839-1843 period by 16%.

Rothbard (p. 180) calculates the states' debt was \$4.36b by 1839. Despite calls during the crisis for the federal government to assume the state debt via bond issue the states were left to fend for themselves. Many states defaulted on their debt initially but eventually repaid. Several states repudiated debt entirely (p. 181).

Independent Treasury System. To prevent federal involvement in another inflationary boom-bust cycle, successors and adherents of Andrew Jackson oversaw in 1846 creation of the Independent Treasury System, wherein the federal government was

required to keep Treasury funds in specie or Treasury notes only and in its own physical control. The Independent Treasury totally cut out the state banks. The federal government could not monetize its debts with anything but hard money; which is to say, not at all.

Trask (2002) asserts that Neither Andrew Jackson, who is commonly credited with developing the original Independent Treasury concept, nor Martin Van Buren, who saw it through Congress, deserves the attribution. These are myth. William M. Gouge was the true author of the idea. Gouge edited the Philadelphia Gazette and was an author in the field of money and banking. In his 1833 book, *A Short History of Paper Money & Banking*, his notion was that the federal government would spend and receive only gold and silver, and it would keep its deposits out of banks. In Gouge's day the federal tariff was the main source of revenue for the United States. Gouge (1833) theorized that a federal government transacting solely in specie or Treasury notes, and thus receiving in specie or Treasury notes its tariff income from merchants, would lead the various state banks to better reserve practices in serving commercial customers. In Gouge's vision the federal government would not borrow from banks. It would remain fully independent. Although the Independent Treasury would be short-lived, banking was no longer a federal issue at all under Independent Treasury. Banking was the domain of only the states.

Where the federal government after 1846 could take no action to monetize its debt, the state banks colluded with state governments to fill the gap. The Whig party managed to pass "free banking" laws in many states. Contrary to the name, Rothbard (p. 183) found the movement was not at all about a free, unregulated market in banking as had existed in Scotland before Peel's Act of 1845. Free banking in the United States after

1846 was about privilege and protection from specie redemption of state bank notes.

Though no national debt monetization occurred in this period, wherever state banks were capitalized with state government bonds, the notes they issued were *pure monetized debt*.

The money supply grew whenever and wherever banks purchased such debt. The state banks were further bolstered by states accepting taxes in such notes, and then again by the federal government when the Independent Treasury System came to an end.

Civil War and national banks. Despite the discipline built during the Independent Treasury System, in its absence the Treasury Department printed notes recklessly to fund the Civil War. Specie redemption was suspended at Treasury and at the banks by the end of 1861. The money supply again predictably inflated from an 1860 level of \$20.14b to \$27.17b in 1863, according to Rothbard (p. 186).

The national banking specter loomed again when a new system of federally chartered national banks materialized in the National Banking Acts of 1863 and 1864. The prime mover was Jay Cooke, the sole selling agent of U.S. government debt. As selling government debt to companies and individuals was apparently not lucrative enough, an entire system of national banks would buy bonds and monetize debt exclusively through Cooke. The Comptroller of the Currency chartered these money supply-pyramiding national banks. The three tiers in the scheme were Central Reserve City, Reserve City, and Country banks, and they would go to work providing both debt monetization to the federal government and an inflated money supply. Most importantly, under the system – as under “free banking” prior – national banks could only issue notes if they purchased federal government bonds and deposited an equal amount of them with the United States Treasury.

Of course, the National Banking system was based on fractional reserve and a forced capitalization of Treasury bonds. The Central Reserve City banks were required (p. 191) to hold only 25% reserves in *lawful money*; specie and already-inflated fiat greenbacks. The system compelled the second tier, or Reserve City banks, to hold 25% reserves, though fully half those reserves could be simple demand deposits in the Central Reserve banks. Country banks were ordered to hold only 15% reserves, and up to 60% of those could be demand deposits.

Since the banks were private, there was no legal tender status for the notes of the national banks under the National Banking Acts. This would have to come later with the Federal Reserve Act of 1913, according to Rothbard (2008). In the absence of legal tender status, and to protect national banks from state banks refusing to join the national system, in 1865 Congress passed a 10% tax on all state bank notes.

More panics, and a “cure”. For Uncle Sam and the banker architects of the system there were problems. For 50 years between the passage of the Acts of 1863 and 1864 and the Federal Reserve Act of 1913, various panics, all due to the inherent failing of fractional-reserve banking, plagued the system. Money supply growth was restricted by design to purchases of federal bonds. Such bonds sold over par value, so a greater amount of specie would need to be sold than the amount of face-value bonds they were purchasing. Rothbard (2008, p. 197) found this “restricted” the money supply growth that bankers and government desired. Further, there was competition. National banks since 1864 were growing smaller as a proportion of total banks in the country. By 1913, 71% of the banks and 57% of the banking assets in the U.S. were in non-national banks.

Insulting New York, other centers of power were rising in the Midwest; St. Louis and Chicago.

New York banks, the American Bankers Association, and William McKinley's administration all favored a top central bank that could bail out the entire system if needed. The German Reichsbank was their model, and Paul Warburg knew it best. His firm Kuhn, Loeb, & Company aligned with an unprecedented union of Morgans and Rockefellers after the watershed Panic of 1907 drove public opinion and raised cries for a central bank, per Rothbard (p. 199). The team was ultimately successful in securing passage of the Federal Reserve Act of 1913, creating the central banking system known today in the United States.

Federal Reserve. The effects of the new Federal Reserve System were immediate. At the genesis of the System, gold certificates, backed fully by Treasury gold, had been standard issue. Federal Reserve Notes replaced them immediately, but these were only 40% gold-backed. Average reserve requirements across all banks fell from 21.1% to 9.8% by 1917. The money supply increased two-fold between 1913 and 1919 (p. 202).

How has the Federal Reserve System monetized a staggering amount of debt since 1913? It does as all central banks do. It purchases assets. It is important to note that anytime a central bank purchases *any* private asset, money is created out of nothing; either in the unlikely case of cash or most often as a check that is, in turn, deposited with another bank to become a demand deposit. As Rothbard (1994) illustrates in a simple example, any purchase of any asset by the central bank triggers payment by the central bank with *money it invents* strictly for this transaction. The scope of this paper is limited

to the monetization of public debt, though it is fact that any central bank purchase is an act of monetizing the asset purchased.

With the exception of a period during the Second World War (Rothbard, 2008, p. 149), during which the Federal Reserve purchased new debt directly from Treasury, the Federal Reserve has obfuscated its monetization through Open Market Operations and its use of the System Open Market Account, or SOMA. Whether the public debt instrument purchased by the Federal Reserve is purchased from an institution with an account at the Federal Reserve, or whether the securities are purchased from organizations or individuals that cannot have accounts with the Fed, monetization occurs. The extent to which the transaction expands the money supply depends on where the deposits are created (Rose, 2012).

SOMA growth. The SOMA portfolio has exploded since creation of the Federal Reserve. Researchers at the New York Federal Reserve Bank (Bukhari, Cambron, Fleming, McCarthy, & Remache, 2013) found that the SOMA portfolio in 1915 was \$1.8b⁴. World War I debt was monetized by 1918, leaving a SOMA balance of more than \$7b dollars at the end of that year. It was only nine years later, in 1924, when open market operations were first used by the Fed to manipulate interest rates, that U.S. Government debt monetization skyrocketed. SOMA rose to a level of more than \$10b in 1924. By 1945, at the height of the Second World War, SOMA reached more than \$308b. SOMA contracted in the years following the War, not reaching wartime levels again until 1966. In 1973 it hit \$414b; in 1988, \$475b. By 2006 it was over \$886b. Within three

⁴ In the SOMA Account section, all dollars are 2012 dollars calculated via the Consumer Price Index.

years SOMA would more than double. After three more years, by the end of 2012, SOMA sat at \$2.6t. Put another way, from 1915 to 2012, Federal Reserve holdings of United States government debt measured in constant 2012 dollars increased *1,444 times*.

As of March 4, 2015 the entire monetary base of the United States, upon which the money supply pyramids via fractional reserve banking, was \$3.78t (Board, 2015, March 26). The monetary base is strictly defined as currency in circulation plus vault cash, combined with all the reserves the commercial banks keep in accounts with the central bank (Rose, p. 380).

As of March 5, 2015, the Federal Reserve System Open Market Account includes \$4.23t in “Securities Held Outright”. Noting that the entirety of all the Federal Reserve System’s “total factors supplying reserve funds” sums to \$4.53t, it remains that only \$294b or 6.4% of all central bank reserves are something other than securities (Board, 2015, March 5). Debt *is* the mass of the U.S. monetary base.

Subtracting from the \$4.237t SOMA total the \$1.74t in mortgage-backed securities that are part of the Fed’s fiscal manipulation program (Federal, 2014), the remainder is comprised of United States Treasury securities and Federal agency debt; \$2.497t. This amount is *pure* United States government debt monetized by the Federal Reserve. The entirety of SOMA assets, however, whether purchased from a primary dealer with an account at the Federal Reserve or from an entity without such an account, is at the bottom of the inverted pyramid of the fractional reserve money supply. Every dollar of it has been purchased with money that *did not exist* before the purchase.

Theory of Debt Monetization

Outlining the theory of the monetization of public debt requires first the identification of the commodity money standard that arose naturally over time as man refined his conduct of exchange. The key objections that developed, primarily in the last 400 years, to the reliance on commodity money as the backbone of exchange in a modern economy led to specific rationale for its elimination and replacement. These rationale gained ground in the West and inspired mechanisms by which concentrated state power could supplant the commodity standard with monetized debt.

Commodity Standard

Carl Menger (2007), one of three contemporaneously separate discoverers of the principle of marginal utility wrote, “Money is not the product of an agreement on the part of economizing men nor the product of legislative acts. No one invented it” (p. 262). Many things have been money; among them agricultural products, livestock, textiles, animal skins, salt, glass, and metal. In the organic development of money it was always a commodity with value for consumption and use in human endeavor, and possessing of other qualities making it fit as the medium of indirect exchange, that became the money of a given region or people. Those qualities are durability, divisibility, portability and “high value per unit weight” (Rothbard, 2008, p. 19), ease of measurement, and most importantly, desirability, so that market participants will readily accept it either to satisfy their own needs or because they know others want it and will accept it in exchange.

Value or Price? Money is a commodity that serves as a measure of *price*, not value. The commodity used as money has its own market-derived value based on the commodity’s uses. Metal in its money purposes stands as a measure of price because it is easily divided and because metal typically has somewhat stable determinants of its

market value as a commodity. Commodity money is used as a measure of price in an exchange, while the commodity chosen as money has its *own* value determined by the market, based on competing uses of the commodity (Menger, p. 316).

Price and value are today still commonly conflated as they were in Menger's day. In illustration: A seller posts a sign offering a bag of socks for \$5, a price clearly measured in money. Assume the buyer pays, concluding the exchange at the \$5 price. Nothing in this exchange quantifies how either party *values* the socks, however. Value here is incalculable. Why? All that can possibly be known is this: If the seller concluded the transaction, he clearly valued having \$5 more than he valued having this bag of socks, else he *would not* have traded away the socks. It is also clear that the buyer valued having this bag of socks more than he valued having \$5, otherwise he would have kept his money.

Perhaps the seller *would* have sold his socks for \$4.75, or \$4.50, or even \$2, if pressed by the buyer. There is no way for the observer to know the seller's valuation of this bag of socks. Perhaps, also, the buyer *might* have paid \$5.50, \$6, or even \$12 for the bag if asked. Would this buyer have responded to a \$7 sign and transacted at \$7? Again, there is no way for the observer to know the value to the buyer of the bag. Had negotiation occurred and the exchange concluded at a higher or a lower price than \$5, value would still be incalculable. Price, as both a market signal and a reflection of an exchange outcome, is the only thing money measures. The participant's individual valuation cannot be known.

In accordance with the concept of marginal utility, the values to the participants of the next unit bag of socks will also *change* after the transaction. Value is always

subjective and cardinally immeasurable. Value, of the cow to a buyer, of wheat to a seller, and of the intermediary metallic commodity to all its *own* buyers and sellers of both its money and non-money purposes, is always changing. Value cannot be known. What cannot be known cannot be measured. Therefore, money can never be a measure of value, only of price.

Defined. What, then, is the commodity standard, the definition of which must precede the theory of debt monetization? “The commodity that has become money is also the commodity in which valuations answering the practical purposes of economizing men and in which accumulations of funds for exchange purposes can most appropriately be made” (Menger, 2007, p. 317). Summed up even more succinctly, “Under a pure commodity standard, the monetary unit would be a unit of weight of the commodity chosen by the market as the general medium of exchange” (Salerno, 2010, p. 474).

Whenever a marketplace had access to gold and silver, gold and silver became money. Each is portable, durable, divisible, measurable, and in demand. Each has a high *enough* value per unit weight. For recorded history silver has been more abundant and less in demand, so its market price per unit weight has always been smaller than that of gold. Gold is scarce because it is hard to produce; harder than silver. Accordingly, gold’s market price over a long time horizon is, and has been, more stable than silver’s. Each metal typically has its place; gold in high-priced exchanges, silver in lower-priced exchanges (Rothbard, 2008, p. 21). Before 1914, when events in the Western world caused the extinction of the commodity standard, the main commodity standard was *gold*.

The market, only, created this commodity standard of gold as money. The standard survived long after the state and its laws found ways to distort other elements of

economics. The commodity standard was highly immune to the whims of the government and its actors, even if it did not – could not – produce the unicorn that is “invariable objective exchange value”, according to Mises (1953, p. 416). Gold is the very best money that has ever been developed.

Objections to Commodity Money

Objections to the commodity standard abound. Some arise from ignorance about the impact of quantity on gold’s price, conflation of the concepts of price and value, or focus on meaningless indicators of economic performance. Other objections of more sinister origin aim at the very reason gold became the commodity standard; its predictable resistance to the caprice of the anointed, the elected, and the appointed. Salerno (2010) found four principal objections to commodity money.

No growth. One objection (p. 482) says the commodity standard is unfit to service an economy in growth mode. Since no monarch, president, or prime minister wishes to oversee a shrinking economy, this objection has powerful adherents. Such believers say that more money is needed to procure the greater amount of goods and services resulting from an outward-shifting supply of these goods and services. The objectors ask: Without a growing supply of money, thus without the means to expand economically, what else is an economy to do but to stagnate or contract? This objection ignores the price mechanism entirely.

The quantity of money is irrelevant because prices move. *Any* quantity of money will do for *any* economy. Growth of production results in a higher quantity of goods to exchange. Presentation of a higher quantity of goods to exchange is really an increase in the demand for money. If the seller increases the number of things he supplies to the

market, his demand for money *necessarily* has also increased. If the money supply is fixed – an assumption that can be made about gold given gold’s glacial supply accretions – but the fruits of production have grown, each unit of the money supply simply becomes higher priced. Each unit of gold can buy more. The general price level falls. A simplistic example should suffice. Assume a worldwide money supply of 100 ounces troy of gold. Assume a one-product world economy with total production of 100 widgets. Each widget has a market price of 1 ounce troy. Over time, labor and capital collude to grow the economy to 200 widgets. The money supply remains fixed at 100 ounces. Each of the 200 widgets now has a market price of one half-ounce troy of gold. The economy has grown, yet the money supply has not increased. This first objection can be dismissed out of hand.

Hoarding. A second objection Salerno found (p. 482) is to the hoarding of commodity money. These people proclaim that the commodity standard cannot “respond” to this condition. What condition precisely is it? Put simply, hoarding reflects an increase in the demand for money. It is the decision by economic actors to hold more money. That is all. An outward shift of the demand curve for money will meet a static supply curve of money at a higher money price. Just as in the previous objection, this higher price for money means each unit can buy more. The general price level falls everywhere in the economy. There is no disaster. No one is worse off from an increase in demand to hold money. Objection to the hoarding of money – really just objection to an increase in market demand to hold money – is as baseless as the previous objection.

Price instability. Third comes an objection (Salerno, p. 483) following the fallacious quantity argument that closes in on the rationales that have developed for the

elimination of the commodity standard. This contingent claims that prices are unstable under the commodity standard. They purport that because price is always changing, calculation mistakes lead to misallocation in market decisions, leading inevitably to wealth redistribution in the face of these mistakes. They make the mistake Menger (2007, p. 316) warned against. They confuse price and value in objecting to the commodity standard's apparent inability to be a stable measure of *value*. They do not understand that the money commodity, whatever commodity it is, has its own value determined by the subjective decisions of market participants. Those values are always changing. Gold has uses other than serving as money, and its value changes with respect to those purposes. Money measures *price*, *not value*. Money is a way to transact at a market-determined price to bring both the seller and the buyer the higher (ordinal) subjective value of that for which he has traded away something else.

At all times, according to Salerno (p. 485), commodity money represents an almost infinite set of things it could buy. Those things are always changing in price against the other things for which money can be traded. This "price level" can never be made static, unless the money price of every good or service to be bought or sold would be, by fiat, fixed. Commodity money functions marvelously in economy, regardless of its overall quantity, because all prices are expressed relative to the commodity and adjust to changes in the supply of it.

Unpredictable supply changes. In the final objection found by Salerno (p. 486), some bemoan the unpredictable changes in the commodity money supply that arise from discovery and production of additional amounts. If demand for the commodity-as-money does not change, but supply does, prices everywhere adjust. The higher supply of the

commodity in general, in the face of an unchanged demand for it *as money*, renders a greater supply of the commodity available for its *non-money* uses. It is the purchasing power of commodity money that is stable, not the millions of market prices expressed *in terms* of the commodity money. Price is the ultimate resolver of changes in supply and demand of anything; a good, a service, or the money commodity itself.

The above four objections to the commodity money standard are easy to refute today with traditional supply-demand analysis. It was not always so easy, since rationales for the abandonment of the commodity money standard clearly went on to win minds of the people; thankfully not all the people, but enough to have long since tipped public opinion against commodity money.

Rationale for Abandonment of Commodity Money

As shown in the history section, whenever notes fully convertible into hard money and backed 100% by it are made inconvertible or become backed by less than 100% hard money in a fractional-reserve setting, state or empire was singularly to blame. War and its associated costs were usually the excuse. Following, the rationale for the abandonment of hard money is most often that government, a monopoly on violence organized along imaginary borders, lacks enough purchasing power from its own productive activities that it must arrogate, for itself, more purchasing power.

To raise funds for its activities, government has options. When it can take from its subjects – taxation – it does. When it cannot, it distorts and manipulates the commodity money standard to the extent possible; suspending convertibility, playing games with reserves, et cetera. History shows the piper must always be paid, and it is the productive class that does the paying. The state is a taker. It takes of makers. Because the state does

not make, its actions come at the expense of makers. Monetization of state debt is the capstone manifestation of the abandonment of commodity money. Fiat money created by debt monetization is the polar opposite of commodity money.

Mechanisms of abandonment

The abandonment of the commodity standard progressed quickly. Recalling the North American example, it took only three steps to go from gold to baseless paper. First, the Canadian playing card money of 1685 was legitimately a substitute for gold specie arriving too late by ship. It arose from necessity, and likely no one early considered suspending the convertibility of the cards into specie once the specie arrived onshore. Next, inspired by the function and success of Canada's paper money, Massachusetts' money experiment in 1690 went from ostensible backing to complete fiat in only two years. Finally, in the American Revolution the paper money issued was unabashedly monetized debt; issued without a thought to backing with hard money, but with a plan to recoup it all via taxation seven years later.

In order: The progression began with printing notes. Such notes were at first allegedly backed with commodity money, though they were never backed 100%. At some point holders of the notes attempted to redeem them for hard money. Because notes denominated in units of hard money outnumbered the actual hard money the authority had on hand, the authority suspended redemption of notes or deposits denominated in the commodity money. The authority was protecting itself. This suspension continued until the people forgot or ignored that the system was insufficiently capitalized, and the people stopped demanding redemption. The central power declared its notes and deposits to be legal tender and enforced their acceptance. It penalized those who used other existing

forms of commodity payment for debts and taxes, forcing those other methods out of common use.

The state next legislated fractional-reserve banking and crushed the expectation that notes and demand deposits would, or could, ever again represent hard money. It pegged a weight of its currency to a quantity of commodity money, as in the original gold standard. When this fell apart upon full redemption demand in wartime, as occurred in Western nations in 1914, a new scheme was hatched wherein world currencies were tied to a single key currency that was, itself alone, pegged to a quantity of gold. This was the *gold-exchange* standard from Bretton Woods, commonly confused with the gold standard before it. Finally, when this latter ploy inevitably failed, government fully decoupled the arbitrary assignment of a quantity of gold to the currency unit, leaving the economy with full fiat money, unbound in any way to actual commodity money.

John Law (1671-1729)

Having defined the commodity standard, stated common objections to it, highlighted the rationales for abandonment of commodity money, and explained the mechanisms by which it was supplanted in Western nations, the question remains: Where and from whom developed the *very idea* of creating paper money and deposits unbacked by real, hard, commodity money? Standing in primacy as the culprit was John Law. Born a Scot and convicted of murder after an English duel, Law fled London and eventually became the finance minister of France. Salerno (2010) found that Law had inordinate influence on modern world banking. Law was the author of books. Law (1705) purported that the entire money supply is the property of the monarch and is only used for its proper purposes when used by the regime. He also called money an “exchange token” and

denied any intrinsic value of the money supply; the main reason he discouraged specie (Salerno, p. 33). Metal had other uses in enterprise and, therefore could not *be* money, as it was not merely an otherwise-worthless “exchange token”. Portending Franklin Roosevelt’s ban on private ownership of gold, Law believed the crown should ban hoarding of these “tokens of exchange” in order to encourage their continuous use (p. 31). To increase the supply of money was to grow the economy, provided hoarding could be eliminated. Objection #1 to the commodity standard has its roots in John Law. Money, to Law, was a tool to be used in pursuit of some politically motivated end policy, like “full employment” or “economic growth”, in today’s parlance (p. 39).

Law believed that, with money’s only function to serve as a token of exchange, money should be of stable value; objection #3. Because all other historic monies were commodities with uses beyond exchange, new money was to be paper, and it was to be backed by something finite. Law suggested land as the best choice of security for his notes (Salerno, p. 36). Law (1705) wrote, “...land is more qualified for the use of money than silver...being more certain in its value”. It may be ironic to consider that Law would have been moved from his position by the housing boom and bust of the 2000s, but it is more ironic to ponder whether the housing crises ever would have happened without Law’s pernicious writings.

In Law’s plan the money authority had three methods of note issuance, according to Salerno (p. 36). The first, lending against land pledged as collateral by borrowers, is a fairly standard way loans are made in the free market. The notes were to be issued at a discount from the market value of the land. The second way notes were created under Law was in return for land given to the authority in exchange for the “loan”, and at 100%

of the value of the land. Third and final, the authority would buy land from owners and pay for it with notes that required no repayment. It was not commodity money with intrinsic value that was to be loaned in exchange for land-as-security or exchanged for title to land. It was a completely phony paper money, printed up for this purpose, and paid out in exchange for land or its promise.

Today it is a short intellectual walk from a fiat money system based on land, with notes issued out of nowhere in exchange for mortgage or outright title, to a fiat money system based on government debt, also with notes issued out of nowhere in exchange for bonds. Henry MacLeod (1892) saw through it and wrote of parallels between Law's system of fake money for mortgages and land, and central banking's system of fake money for government debt monetization. Both cases were simply invented money given in exchange for a debt instrument. MacLeod was right.

Debt Monetization Today

Two trends deserve mention. The first is the general avoidance by those monetizing government debt of the term *debt monetization*. The second, evidenced by the platinum coin movement, is the state's utter frenzy to create fiat money; through the debt mechanism when allowed, and by skirting central banking altogether when blocked.

Euphemism. The term used today for central bank monetization of government debt is *quantitative easing*. At once soft yet esoteric, the term sells better than "debt monetization" does. Many see through the fog. At those who do, the St. Louis Fed aimed a pamphlet (Andolfatto & Li, 2013) entitled "Is the Fed Monetizing Government Debt?" In this essay that cites only other Federal Reserve papers, the authors acknowledge that between August 2008 and February 2013, the Fed grew the monetary base more than

300%. They further admit “half of this new money was used to purchase U.S. government bonds (Treasury debt), which has led some commentators to complain that the Fed is ‘monetizing government debt’” (Andolfatto & Li).

In their attempts to persuade, the authors surround and limit the term, “monetizing the debt”. They first remind the reader of the Fed’s mandates to smooth business cycles and to maintain low inflation, and that to achieve these results the Fed’s major weapon is transacting securities on the open market. They claim it is in the Fed’s manipulation of interest rates in pursuit of its mandates that open market purchases of government debt, paid for with *brand new Fed money*, are mistakenly assumed to be debt monetization. Next, they closely define debt monetization as only money created in order to *permanently* fund government borrowing. For the St. Louis Fed, purchases of Treasury debt cannot decisively be called debt monetization by anyone unless he knows what the Fed “intends to do with its portfolio of assets over time.”

Andolfatto and Li (2013) assert that the public should know whether the Fed’s security purchases are intended to be permanent, or whether they were made in a temporary fashion to combat “an unusually large recession”. They allege the trebling of the monetary base between 2008 and 2013 was only temporary and cannot be debt monetization.

To believe all this, a reader would have to cast aside the plain fact that the securities are purchased with created money, that they land in the SOMA account, and that they increase the monetary base; facts the authors’ words support. Further, Treasury debt *always* has a maturity date, even if purchased with the intention to hold to maturity.

It can be only temporary by definition. There can be no permanent purchase of a temporary asset. The entire time premise of the authors is spurious.

Of course, the reader should expect the Federal Reserve to defend its actions and to shroud them in references to mandates and market-based measures. The authors' final justification of the asset purchases is the Fed's achievement of its mandate to curb inflation. Average inflation has run below 2% since the 2008 SOMA run-up began; below even the Fed's target rate, they write. Putting this in perspective is left to Murray Rothbard:

So: if the chronic inflation undergone by Americans, and in almost every other country, is caused by the continuing creation of new money, *and if* in each country its governmental "Central Bank" (in the United States, the Federal Reserve) is the sole monopoly source and creator of all money, *who then* is responsible for the blight of inflation? Who except the very institution that is solely empowered to create money, that is, the Fed (and the Bank of England, and the Bank of Italy, and other central banks) *itself*? (Rothbard, 1994, p. 9).

Platinum Coin. Even with a willing Federal Reserve, the United States Treasury department may not fund all the government wishes to spend. Treasury runs into a wall sometimes; a legal debt ceiling. Actors in Congress play a game whenever the debt level of Treasury approaches this limit. Debates occur over how to deal with the problem. The one solution that is, unsurprisingly, taken least seriously is to cut spending by government. In 2011 and 2013 the debt ceiling was raised, and for periods it has also been suspended and rendered moot, just as specie redemption was often suspended in

history. This entire process is costly and troublesome to Treasury, and it seeks a way out. In U.S. law, coinage operations by Treasury are specifically limited in numerous ways by *31 U.S. Code 5112 – Denominations, specifications, and design of coins*. In it, weights and dimensions of gold, silver, copper, and nickel are painstakingly detailed; measured in millimeters, grams, and fineness out to three decimal points. It is as specific as a law can be, except for one nondescript, innocuous passage (italics in original):

(k) The Secretary may mint and issue platinum bullion coins and proof platinum coins in accordance with such specifications, designs, varieties, quantities, denominations, and inscriptions as the Secretary, in the Secretary's discretion, may prescribe from time to time.

From this passage something astonishing has been proposed and debated with increasing seriousness; the minting and circulation by Treasury of a platinum coin denominated in \$1 trillion. Kotlikoff (2013) claimed that two have already been minted. If one were circulated it would be immediately deposited with the Federal Reserve, which would put \$1 trillion in Treasury's deposit account at the Fed. Brushing aside all the inflation pyramiding and resultant malinvestment that would rifle through the economy from an increase of over 25% in the monetary base, Treasury could write all the checks it wanted from this account to cover deficit amounts up to \$1 trillion, minus required reserves. This would *not* be debt, per se. It would not even be counterfeiting, except to the extent that all fiat money is counterfeit money.

The platinum coin idea completely evades the standard mechanism of Treasury debt monetization by the Federal Reserve. That mechanism racks up the debt count and necessitates Treasury interest payments to the Federal Reserve in the future; payments

that must either be covered by more borrowing or by taxation. The Economist (Toss, 2013) takes great offense at the platinum coin. Perhaps predictably, and in illustration of how far off the rails is economic literacy on Planet Earth, the Economist contrasts the Fed's independent choice to purchase Treasury debt with being forced by Treasury "to buy the \$1 trillion coin" in a debt monetization "textbook case". In truth, the Fed would not be buying anything. Treasury would simply deposit currency it created lawfully into its Fed account.

The platinum coin idea is a modern version of the ancient truth that a state will, if it wants, and if it is willing to suffer the inevitable inflation and loss of gravitas, issue as much money as it sees fit. Rothbard (2008, p. 147) highlighted three ways states finance deficits:

1. Government borrows from individuals or from non-governmental entities. The money government consumes in this case is simply money the lenders cannot use for other purposes. There is no increase in the money supply.
2. Government directly prints or coins money, as much as it wants to create.
History has shown this to be reckless and immediately hyperinflationary to the money supply. *This* is the platinum coin.
3. Government grants a central bank monopoly on production of notes and bank deposits. The central bank will, in turn, create new money out of thin air to purchase the government's bonds and other securities. *This* is modern debt monetization, though lately it has run into Treasury's debt ceiling.

The platinum coin is, on its face, an attempt by the executive branch of the United States government to circumvent the legislative branch's limits on Treasury borrowing. To the extent that private buyers do not demand all the debt Treasury willingly supplies, Treasury has since 1913 and most often in the last decade relied upon the Federal Reserve to buy the remaining supply.

The Federal Reserve is a creation of Congress, just as the debt limit on Treasury is a creation of Congress. The irony is that, while the \$1 trillion platinum coin is a bald-faced threat by Treasury to neuter Congress' control of Treasury borrowing, the coin may also be a seed of central banking's destruction. Who needs a central bank at all if Treasury can print or mint its way to spending?

If Treasury has become so addicted to deficits and to funding them through Fed creation of fiat money that it is willing to cut off its nose – the Federal Reserve – to spite its face – Congress – by circulating a \$1 trillion coin to accomplish what its pet Fed cannot legally do with a debt ceiling in the way, the world may have gone back in time. At the point before fractional-reserve banking was invented but incontrovertible fiat money was newly the rage, the choice was then, and appears to be again, either hard money or Treasury printing press. There is no middle ground.

Conclusions

Gold as money is a peak achievement of mankind. After its development through purely market processes it became the foundation for exchange throughout the world. Gold was, and is, incredibly stable in its purchasing power. What an ounce of gold never could do for its holder, however, was to purchase more than an ounce of gold could ever purchase anywhere in the market, for any holder. Those who sought to purchase more than their money stock could support were generally able to borrow more gold, provided they were creditworthy in the eyes of the lender.

The state also spends. When gold was money, the state spent gold. If it desired to purchase more than its money stock could buy, it, too, could borrow, but it could also tax. Both borrowing and taxation have limits. The state's appetite for spending appears not to, particularly spending on war and conquest.

To overcome the limits of taxation and private borrowing, the state created paper money. The state found it could create as much of this new money as it wanted, but it found that doing so created immediate and wild swings up and down in commercial fortunes. It legislated away connections between paper money and commodity money. It invented fractional-reserve banking to allow the phony money to multiply itself through the private banking system. Keenly desirous to continue creating money for itself, but wanting also to lessen the destabilizing effects counterfeiting, government created more powerful, central, monopolized banking institutions they could influence directly to lend the state money. In doing this, state actors distanced themselves from the mechanisms of these "private" institutions. Through trial and error the system has been "improved", and time has erased all memory of the stability of commodity money. That stability was long

prized by market actors but long derided by states seeking more power; that is to say, all states.

Today, fiat money and government debt are one and the same. In a complex, opaque, and well-refined process, central banks create fiat money out of nothing for the purposes of lending this new money to their states; states that cannot or will not either curb spending or raise money through taxes and legitimate borrowing from non-state sources.

If all the Treasury debt in the United States (or any country for that matter) was to be repaid tomorrow with bank deposits and central bank notes, the impostor which is mistakenly called today's money would simply disappear, as would all the institutions that have purported this fraud. Left behind would be only the real, commodity money hidden away by state power since a Frenchman in the Canadian wilds chopped up some playing cards in 1685.

References

- Andolfatto, D., Li, L. (2013). Is the Fed Monetizing Government Debt? *Economic Synopses*, 2013 Number 5. Retrieved from http://research.stlouisfed.org/publications/es/13/ES_5_2013-02-01.pdf
- Bernholz, P. (2003). *Monetary Regimes and Inflation, History, Economics and Political Relationships*. Cheltenham, UK: Edward Elgar
- Board of Governors of the Federal Reserve. (2015, March 5). *H.4.1 Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. Retrieved from <http://www.federalreserve.gov/releases/h41/20150305/h41.pdf>
- Board of Governors of the Federal Reserve. (2015, March 12). *Z.1 Financial Accounts of the United States; Flow of Funds, Balance Sheets, and Integrated Macroeconomic Accounts; Fourth Quarter 2014*. Retrieved from <http://federalreserve.gov/releases/z1/Current/z1.pdf>
- Board of Governors of the Federal Reserve. (2015, March 19). *H.4.1 Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. Retrieved from <http://www.federalreserve.gov/releases/h41/Current/h41.pdf>
- Board of Governors of the Federal Reserve. (2015, March 26). *H.3 (502) Aggregate Reserves of Depository Institutions and the Monetary Base, Table 2*. Retrieved from <http://www.federalreserve.gov/releases/H3/Current/H3.pdf>
- Bukhari, M., Cambron, A., Fleming, M., McCarthy, J., Remache, J. (2013, August 10). *The SOMA Portfolio through Time*. Retrieved from

- <http://libertystreeteconomics.newyorkfed.org/2013/08/the-soma-portfolio-through-time.html>
- Carpenter, S. B., Ihrig, J. E., Klee, E. C., Quinn, D. W., Boote, A. H. (2013). The Federal Reserve's Balance Sheet and Earnings: A primer and projections. *Finance and Economics Discussion Series*, 2013-01. Retrieved from <http://www.federalreserve.gov/pubs/feds/2013/201301/201301pap.pdf>
- Catterall, R. C. H. (1903). *The Second Bank of the United States*. Chicago: University of Chicago Press
- Defoe, D. (2014). *John Law and the Mississippi Scheme, An Anthology*. United States: Newton Page
- Eccles, W. J. (1959). *Frontenac: The Courtier Governor*. Toronto: McClelland and Stewart
- Federal Reserve Bank of New York. (2014). *FAQs: Agency MBS Purchases*. Retrieved from http://www.newyorkfed.org/markets/ambs/ambs_faq.html
- Goldberg, D. (2009a). *The Inventions and Diffusion of Hyperinflatable Currency* (Unpublished working paper). Bar-Ilan University, Ramat Gan, Israel. Retrieved from <http://www.biu.ac.il/soc/ec/wp/2009-06.pdf>
- Goldberg, D. (2009b). The Massachusetts Paper Money of 1690. *Journal of Economic History*, 69(4), 1092-1106.
- Gouge, W. M. (1833). *A Short History of Paper Money and Banking in the United States to which is Prefixed an Inquiry into the Principles of the System*. New York: Augustus M. Kelley Publishers

- Kotlikoff, L. (2013, January 19). The Treasury Has Already Minted Two Trillion Dollar Coins. *Forbes*. Retrieved from <http://www.forbes.com/sites/kotlikoff/2013/01/19/the-treasury-has-already-minted-two-trillion-dollar-coins/>
- Law, J. (1705). *Money and Trade Considered: With a proposal for supplying the nation with money*. Edinburgh: Heirs and Successors of Andrew Anderson. Retrieved from http://avalon.law.yale.edu/18th_century/mon.asp
- MacLeod, H. D. (1892-1893). *The Theory and Practice of Banking* (5th ed.) (Vols 1-2). London: Longmans, Green
- Menger, C. (2007). *Principles of Economics*. Auburn, Alabama: Ludwig von Mises Institute
- Mises, L. v. (1953). *The Theory of Money and Credit, New Edition, Enlarged with an Essay on Monetary Reconstruction*. New Haven: Yale University Press
- Murphy, A. E. (1997). *John Law, Economic Theorist and Policy-Maker*. New York: Oxford University Press
- Officer, L. H., Williamson, S. H. (2015), *Purchasing Power of British Pounds from 1270 to Present*. Retrieved from www.measuringworth.com/ppoweruk/
- Rist, C. (1961). *The Triumph of Gold*. New York: Wisdom Library
- Rose, P. S. (2012). *Financial Institutions and Markets* (11th ed.) (Vol. 1). Detroit: University of Detroit Mercy
- Rothbard, M. N. (1994). *The Case Against the Fed*. Auburn, Alabama: Ludwig von Mises Institute

- Rothbard, M. N. (2002). *A History of Money and Banking in the United States: The Colonial Era to World War II*. Auburn, Alabama: Ludwig von Mises Institute
- Rothbard, M. N. (2008). *The Mystery of Banking* (2nd ed.). Auburn, Alabama: Ludwig von Mises Institute
- Sahr, R. C. (2015). *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014*. Retrieved from <http://liberalarts.oregonstate.edu/sites/liberalarts.oregonstate.edu/files/polisci/faculty-research/sahr/inflation-conversion/pdf/cv2014.pdf>
- Salerno, J. T. (2010). *Money, Sound and Unsound*. Auburn: Ludwig von Mises Institute
- Toss a Coin: The platinum-coin option (2013, January 12). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21569413-crackpot-idea-circumvent-americas-debt-ceiling-gains-currency-toss-coin>
- Trask, H. A. S. (2002, March). *The Independent Treasury: Origins, Rationale, and Record, 1846-1861*. Paper presented at the Austrian Scholars Conference, Auburn, Alabama.
- Trumbull, J. H. (1885). Report of the Council. *Proceedings of the American Antiquarian Society, New Series, Vol. III*, 257-303.
- Walker, B. E. (1896). Banking in Canada. In Editor of the Journal of Commerce and Commercial Bulletin (Ed.), *A History of Banking In All The Leading Nations; Comprising The United States; Great Britain; Germany; Austro-Hungary; France; Italy; Belgium; Spain; Switzerland; Portugal; Roumania; Russia; Holland; The Scandinavian Nations; Canada; China, Japan* (Vol III). New York: The Journal of Commerce and Commercial Bulletin