
A Call for the Restoration of Monetary Order

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The state has stolen what for thousands of years was the collective property of those who used it to conduct their daily market affairs and made it the property of central bankers. This theft now threatens the individual liberty of every citizen of every nation.

The one piece of real estate that everyone could once own, and from which everyone could collect rent, has been taken out of circulation and replaced with a counterfeit surrogate employed by bankers and the state for the purpose of market control and real wealth transfer from the many to the few.¹

Where before money kept all of us in touch with the primary economy — namely, the production of food and the extraction of raw materials and energy from which everything else is produced — this close relationship has been severed and has perverted the natural order of economic activity. We no longer save in an effort to live better tomorrow; rather, we borrow for today, as if there were no more tomorrow.

This paper will briefly trace how this grave transfiguration has come about (Section I), propose a solution to correct the perversion of the natural order (Section II), and provide a mathematical representation of what this restored order might someday appear (Section III) from the point of view of economic science.

Section I - How It Came to Be

Or, How We Messed Up

INTRODUCTION OF STATUTORY COUNTERFEIT

During the late 17th century anonymous deposit and loan receipts circulated as a form of money in the Kingdom of England. These receipts bore only the name of their issuer who would redeem them for gold and silver specie upon presentation of the receipts by their bearer — no questions asked. A fee was charged for their issue and/or redemption, but once issued, this paper circulated freely — sometimes discounted, sometimes not — among those merchants who were familiar with the reputation of the issuer. Typically the paper was denominated in the same units as the local coin that was held on deposit.

¹ According to the supply and demand statistics published by the World Gold Council at the end of the first quarter of 2024, of the 1,283 new and recycled tons of gold supplied to the market 49 percent was consumed in the fabrication and consumption of jewelry, 7 percent was consumed in technology such as dentistry and electronics, 18 percent was used as a source of investment, and a full 26 percent was purchased and owned by a handful of central banks. <<https://www.gold.org/goldhub/data>>

Locally, the paper was often preferred over specie because it relieved the burden of having to lug around large quantities of heavy metal coin. There was, of course, a security trade-off: on the one hand, specie entrusted with a trusted guardsman that only the depositor (*nominé*) could claim was surely safer than specie left at home while the depositor was away; on the other hand, anonymous deposit receipts (*sine nominé*) stolen from your person while you slept during travel could be redeemed by anyone. In this latter regard, these anonymous receipts were just like coin.

Like grain stored in a silo coin was fungible; no one cared whose coin he received upon redemption so long as it was of similar quality and matched the amount written on the paper.² Moreover, the guildsman-banker was indifferent toward the claimant so long as he paid his fee. What made coin and deposit receipts — no matter the nature of the receipt (named or anonymous) — so very different was that specie could be traded world-wide, but the paper was rarely tradable beyond the geographically-bound reputation of its issuer.

The localized fungibility of the anonymous paper receipts (*sine nominé*) made it easy for a dishonest guildsman-banker to extend more credit than he held in specie, thereby inflate his company's capital worth, and grow his business with much less effort than his honest competitors. There was a catch, lending wealth that you did not actually own was an act of fraud that was subject to severe criminal penalty, if you were caught. Statutory counterfeit had not yet been introduced.

Still, exaggerating one's capital base was often a risk worth taking, if you were not exceptionally greedy and did not overextend yourself. Prudence was a virtue among thieves.

At the time, one also distinguished between the warehouse and lending functions of the banking trade. The lender could no more then, than today, lend what did not belong to him without the permission of the owner. Specie placed with a guildsman-banker for safe-keeping (the warehouse function) belonged to the depositor — not the guildsman-banker. This said, by the late 17th century time-deposit banking had become common practice throughout Europe.³

² During the latter half of the 17th century coin debasement was popular "sport" in London and elsewhere in England. One shaved a little here and cropped a little there, and still a coin could pass for the same market worth as a whole coin — well, at least, if no other coin were available in the moment of transaction. Important in the context that follows is that guildsman-bankers who provided the highest quality coin upon redemption, enjoyed a good reputation, no matter how fraudulent were the books that they kept behind closed doors.

³ Time deposits can be traced back to the *Dei Medici* family in Florence, Italy during the 14th century. Time deposit banking did not become common practice, however, until after the latter half of the 16th century with the Calvinist interpretation of the Christian Bible.

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Before becoming a Protestant Christian scholar and an object of persecution by the Catholic arm of the French Crown, Jean Calvin (1509-1574) was a student of law who understood well the importance of private property and market exchange. His eventual understanding of money was an amalgamation of the teachings of Christ, as found in the Holy Gospel, and pre-Napoleonic French law. Calvin concluded that in keeping with Christ's teachings one could hold title to money (*right-of-ownership*) while surrendering its use (*right-of-use*) for the purpose of earning a profit (lending fee).

Like all economic goods, gold and silver were scarce commodities. They were also both in very high demand and traded at a premium. Accordingly, the Catholic Church frowned on idle money (*hoarding*). Calvin saw in the Church's mandate a disincentive for the accumulation of liquid real wealth and its natural outcome — namely, new investment and wealth creation. He reasoned, in addition, that the status associated with accumulated real wealth — no matter its form — was an important incentive for the generation of new wealth, and that borrowed money, when put to proper use, was neither idle, nor immoral so long as new wealth could be created, the borrowed money repaid, and compensation given for its *right-of-use*. Calvin's treatise was carefully reasoned. He distinguished between those who broke their promises and those who kept them, on the one hand; and between those who preyed on the plight of others to advance their own position and those who created greater opportunity for others and themselves, on the other hand. In short, Calvin condemned usury (*excessive use fees*), as did the Catholic Church.

Time deposits worked, because the depositor surrendered his *right-of-use* to what he deposited for the time period agreed between the banker and the depositor. The banker had only to insure that, when the banker's right-of-use expired, he had enough money in his vault to insure payment to the depositor. By lending paper in lieu of specie the honest, time-deposit banker insured that he would never run out of specie. Unfortunately, this practice opened the door to defrauding the general public by lending greater nominal value in paper than the banker actually held in specie.

Alas, there were only two ways to detect that a guildsman-banker was engaged in imposture: someone besides an entrusted employee was made privy to the banker's books, or one day the banker failed to redeem in specie what rightfully belonged to a depositor-claimant.

What made the practice of these bank impostures particularly pernicious on the micro-level was their ability to claim in real wealth from the borrower an amount equal to what was written on the paper. Upon default of the borrower the banker presented to the court a contract and an accusation. Unless the borrower could somehow prove that he had returned — in the time allotted — the nominal value that he had borrowed from the banker he was helpless before the court and his accuser. Now, it may have been that the delinquent borrower was an ungrateful scoundrel; then too, he may have only been

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a victim of market misfortune. In either case, the dishonest banker-claimant profited enormously.

Were the banker honest and never lent out more in paper than he held as *specie-in-use* from his depositors, the banker could, in a court of law, recover the cost of processing the loan, any fees for the borrower's right-of-use (including, say, outstanding interest payments), and the principal. And, once the principal were recovered through the voluntary or involuntary surrender of real wealth on the part of the borrower, the banker could convert this wealth into specie and hold it to cover the outstanding paper that his delinquent borrower had borrowed and spent into circulation.

Were the banker dishonest and lent out more in paper than he held in specie, his claim before the court would be identical to that of the honest banker, but in reality there would be no loss of principal — only the cost of processing the loan and the losses right-of-use fees. Because the dishonest banker could claim in *real wealth* from the delinquent borrower the *nominal principal* that he had lent into existence, the dishonest banker could actually profit from the delinquency of his borrowers.

This said, the dishonest banker would incur damage that the honest banker would not, but damage that the dishonest banker dare not report to the court — namely, the additional default risk created by the circulation of paper without backing. It was a source of risk, however, that was easily extinguished by retiring the paper from circulation upon the successful repayment of outstanding loans by other borrowers.

The dishonest banker was not a banker that Jean Calvin envisioned; it is, however, what is being taught in our schools today as true market discovery and salutary monetary innovation — what led to the fraudulent “genius” of fractional reserve banking!

With the creation of the Bank of England (BOE) in 1694 the information asymmetry of this now ever-foul relationship between the dishonest guildsman-bankers of 17th century England and their merchant-clients became institutionalized by the English Parliament.⁴ Once “proven”, the BOE was copied around the world and served as the world's first and foremost central bank until the creation of the Federal Reserve System of the United States of America — a banking and congressional ruse introduced by American bankers and their congressional cronies to disguise the System's true character of a central bank.

In 1688 Prince William III of Orange, a member of the Habsburg House of Orange-Nassau and Stadtholder of Holland, the largest and most influential province of the very

⁴ Not all of the dishonest guildsman-bankers' client-merchants were ignorant of what transpired. Many reasoned that dishonest guildsmen could supply them with credit more cheaply than honest guildsmen, and they became accomplices to the crime. The ramifications are present today in the cozy relationships into which borrowers and lenders often enter in the upper echelons of global finance. The whole idea of “too big to fail” is emblematic of this corruption.

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successful United Dutch Provinces (1581-1795), was invited by a powerful group of English nobles to replace James II on the English throne.⁵ James was Catholic and was considered autocratic and a threat to the Anglican establishment. James II was also supported by Louis XIV of France who, like James, was a staunch Catholic. In contrast, William was Protestant, related through marriage to the English royal line, and a staunch opponent of Louis XIV. Upon invitation William III assembled a large army and invaded England. Whereupon James II abdicated his throne and fled to France where he died in exile. William III assumed the English throne with his wife Mary II in February 1689. These acts precipitated the Nine Years War (1689-1697), the formation of the imperial state of Great Britain, and the eventual emergence of the British Empire as a global hegemony.

War is nearly always a costly endeavor for the nations that wage it, and at the time it was impossible to wage war overseas without a significant drain on the local money supply. As money — no matter its form — is the life-blood of market activity, a sudden change in its supply has important real consequences for the economy in which it circulates. Seventeenth century England was no exception in this regard.

The purpose of the BOE was to provide King William with the specie that he required to fight his battles on the European continent while preserving at home the same level of local economic activity.

At the time, the British parliament had control over the king's allowance, and it was the custom of English kings to turn to the private sector for funding beyond what Parliament was willing or able to grant. Accordingly, the king had three potential sources of funding: the English Parliament, wealthy British landlords, and what the king could claim in war, discovery, or conquest. So, a deal was struck between England's most prominent and necessarily corrupt, dishonest, guildsman-bankers and the members of

⁵ William III was born in 1650 in the Dutch Republic. William's father was William II, Prince of Orange, the grandson of William I, a key player in the formation of the Dutch Republic. William III's mother was Mary, Princess Royal of England, and the oldest daughter of King Charles I, King of England. In 1677 William III married the daughter of James II who was the brother of Charles II of England and Mary, Princess Royal of England. In effect, the royal families of the Dutch Republic and the Kingdom of England were closely allied in marriage.

In 1672 Louis XIV invaded the Dutch Republic and brought about enormous damage. Prince William was appointed Stadtholder of the Dutch Republic by the *States General*, the ruling legislative body of the seven Dutch provinces, in order to repel the French advance. His appointment was a mixed blessing. Although the Prince was successful in repelling Louis XIV, he was hardly a republican.

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the British parliament.⁶ Briefly, it was agreed that Parliament would grant a corporate charter to a group of private bankers whose capital would be lent to the king in the form of specie. In return, the newly formed corporation would be allowed to lend into existence paper banknotes equal in nominal value to the real market value of what had been lent to the king. The amount not lent to the king would serve as a reserve to insure that the bank could meet whatever demands for specie placed it by those who presented the bank with its own banknotes. The king, parliament. and ultimately the people of Great Britain would serve as the guarantors of the king's debt, and parliament would pay an above-market, fixed rate of interest to the king's private lenders. And, all of this in the name of the homeland!

In effect, these ruse, highly privileged, guildsman-bankers would also be allowed to capture whatever profit the bank could earn from the lending of the bank's counterfeit notes and from the discount trade associated with the issue and capture of *bills of exchange* — this latter being the life-blood of most honest European bankers at the time.

Because the BOE was chartered by parliament in the service of the king, without parliamentary approval the bank could not be lawfully charged for failure to redeem its notes for specie upon demand. During the first hundred years of its operation the BOE failed on no fewer than eight occasions to meet its payment obligations. Those who demanded specie that was rightfully theirs would simply be turned away and told to return later at the bank's convenience.

Alas, the dishonest trade of lending money into existence was made legal, and statutory counterfeit was institutionalized with the consent of the English parliament. The lid to Pandora's box had been opened, and its evil released into the world.

It is this fraud that is often heralded today in high-schools and colleges around the globe as monetary "genius" and "innovation". The fiat money that we use today is, of course, an entirely "higher" order of theft. Unfortunately, this is not where the story ends.

OUR FALLING OUT WITH THE NATURAL ORDER

For several thousand years precious metals served to keep the primary and secondary economies in synchronization. The primary economy consists of the production of what Roy Sebag calls *energy embodiments* — namely, food, fuel, and the minerals and other raw materials taken directly from the earth to produce food and fuel. In effect, these

⁶ In order to become a prominent guildsman-banker one needed to grow one's capital. Lending out more capital in the form of paper than one actually held in specie meant not only that one could collect more borrowing fees, but the fees that one charged were less than those charged by your honest banking counterparts. Thus, it was *natural* for dishonest guildsman-bankers to enjoy a disproportionate market share. Dishonest banking became a way to "get rich quick". The trick, of course, was never to lend out so much counterfeit paper that you could not cover any and all calls for redemption. For, if you failed in this simple endeavor, you risked everything: your business, reputation, and possibly even your life.

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embodiments are the things from which all other things are made. They cannot be replicated in the secondary economy, and the secondary economy is totally dependent on their production in the primary economy. Also important is that one of them — the most important, namely food — is cyclical in nature, and that the others are not easily replenished once consumed. What they all share in common is that each represents a store of energy that can be accurately measured and serve as nature's reward to those who work in the primary economy.⁷ Because the entire, often much larger, secondary economy depends on these three sources of energy, and because it is in the production and extraction of these embodiment that our species comes face to face with nature, it is in the primary economy where ecological accountability is achieved and human societies flourish, or alternatively fail.

In effect, a unit of account that is not derived from one of these energy embodiments abstracts from the aforesaid accountability. In times of drought, for example, the entire economy must adjust. A secondary economy that moves forward irrespective of the natural cycles of the primary economy brings about disruption in the balance between nature and those who labor in the primary economy on the one hand, and between the primary economy and the secondary economy on the other hand. This disjunction between the primary and secondary economy via a money supply that is not anchored in the primary economy necessarily disrupts the ability of the primary economy to cope with natural disaster and the common, but significant vagaries of life's cyclical nature.

Among the aforesaid energy embodiments the precious metals — including gold, palladium, platinum, and silver — preserve their energy embodiment the longest and are therefore the best standard against which all other embodiments — especially, the cyclical or exhaustible — can be measured. And, of the four aforementioned precious metals it can be shown that gold is the best standard for the purpose of nature's measure and reward.

When the primary and secondary economies are bound together by the same unit of account, and that unit of account is bound through direct and objectively measured energy content, then changes in the primary economy signal well to the secondary economy how it must adjust to meet the demands of nature.

The notion that we can alter the rules of nature and somehow mitigate its every whim is absurd. At best, we can adapt and accommodate — not control.

Because our money supply is issued by governments from around the world, it bears no resemblance to the natural world order on which our economies depend. It is a small number of market agents in a much larger secondary economy who have placed their own wants and desires above those of all others and have thereby imperiled human life itself. By substituting their own unit of account for the natural standard on which those

⁷ Sebag, Roy. 2022. *The Natural Order of Money*. Canada: Chelsea Green Publishing, 2023. Originally printed in the United Kingdom with Goldmoney Publishing in 2022.

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in the primary economy have depended on for millennia these thieves have imperiled the entire natural order.

That money should be the only commodity whose temporary shortage should be supplemented with a false substitute in order to sustain its current market value should make every economist shake his head. That our money supply should be dictated by anyone, but nature itself should be pilloried for ecological negligence and abuse of those who toil in the primary economy. The primary role of any economy should be the responsible extraction of energy from our mighty, but humble planet — not the pleasure of a governmental and banking elite who are out of touch with the natural order.

Indeed, those of us who understand the corrupt nature of statutory counterfeit, its most recent replacement, fiat currency, and the false prophesy of central banking digital currency (CBDC) are considered unsophisticated by the apologists for state corruption. Unfortunately, these apologists include nearly the entire modern economics profession!

THE MACROECONOMIC TRAVESTY

In his book *Theorie des Geldes und der Umlaufsmittel* Ludwig von Mises asked and answered a simple question that went something like this⁸:

HIS QUESTION: *How is it that highly experienced CEOs — each in his own industry of expertise — can make the same mistake at the same time and bring about across-the-board economic catastrophe?*

HIS ANSWER: They cannot. Unless, of course, they are all confronted with the same important, but erroneous market signal.

Von Mises rightly concluded — certainly I have neither read, nor heard a better explanation — that the only market signal of such importance that all CEO's share in common is the price of credit. Keep in mind that at the time of his writing: one, Great Britain's so-called "gold standard" was in effect across the British empire; two, many European states had yet to develop a central bank and depended on the price of gold for both domestic and international trade; and three, the world was not nearly as connected and developed as it is today. OPEC was not founded until 1960, and the industrial revolution had still not peaked. Further, oil was not necessarily the primary source of energy, and there was far more market competition than there is today. On

⁸ Von Mises, Ludwig. 1912. *Theorie des Geldes und der Umlaufsmittel* (Theory of Real Money and Statutory Counterfeit). 2nd Edition (1924). Leipzig: Verlag von Duncker und Humboldt.

Note: This work has been translated into English as *The Theory of Money and Credit*. I reject this translation as statutory counterfeit can be just as easily spent into existence as it is lent into existence. More important, credit has not always been lent into existence. The government of the United Dutch Provinces (17th century Dutch Republic) was entirely financed with taxes and bond sales that were based on specie. The global economic success of the Dutch Republic was based almost entirely on silver.

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the other hand, the world bond market was quite sophisticated with large international banking houses lending around the world.⁹ This said, the Bank of International Settlements (BIS) had not yet been created, but it was just around the corner.¹⁰

So, how does this false market signal work?

Putting aside today's fiat debacle in which the money supply continues to grow with no end in sight, more money, means lower interest rates, greater borrowing, higher propensity to spend, and greater transactional activity. This activity means higher incomes and more investment. Investment projects, that would not have otherwise been undertaken, are undertaken. In order to realize these projects resources must be redeployed. The incentive for this redeployment is higher wage and product prices with fewer goods and services produced as the redeployed sources no longer contribute to final goods production. With higher income and fewer real goods and services available prices rise across the board, and the new projects become more costly and difficult to complete. More is borrowed, and bankers emboldened by the rise in market activity brought about by the temporary wealth effect, gladly lend more, and the boom phase of the economic cycle is set into motion.

In an inflationary economy lenders typically lose because the purchasing power of what they lend is less than that of what is returned. It is for this reason that bankers are compelled to raise the price of borrowing as prices continue to rise. At some point the cost of project completion simply exceeds the projected benefit, and the boom phase transitions to the bust phase. A large number of firms stop borrowing. Many of the investment projects that never should have been started cannot be completed. Many of the resources that were previously redeployed are no longer needed or depleted. Incomes fall and with them demand. Price deflation sets in. Because interest payments remain unchanged, businesses find it difficult to maintain their margins and begin to default on their loans. Most start-ups are crushed, and many struggling business are thrown under the bus. Unemployment sets in, demand falls further, inventories build, and prices fall, as the demand for new loans tumbles. The money supply contracts, as old loans are not renewed, and little new credit is extended.

Provided that government does not interfere, but in the most dire of circumstances — famine, disease, and war — inventories eventually clear, and those businesses that have managed to sustain the financial and economic carnage observe as their money

⁹ The world that we live in today is, of course, very different than it was in 1912, and the amount of money lent into existence appears endless. We all know, of course, that this cannot continue indefinitely, and that the underlying economic laws that existed in the pre-FED era, in which Ludwig von Mises wrote, exist today.

¹⁰ The Bank of International Settlements was founded in 1930 as part of the Young Plan. It was advertised as a means to help Germany cope with its war reparations. In reality, it was a meeting of our world's central bankers to manage the world's supply of statutory counterfeit.

flows begin to recover. The bust phase comes to an end, and the economy begins to rebuild.

Those with deep pockets buy up the assets of those who failed to survive the financial and economic carnage, and wealth becomes more concentrated in fewer hands. New projects that were begun during the previous boom cycle and were beginning to show promise are expanded. Depending on the amount of economic devastation and misguided government intervention, the new boom phase can even start with greater economic potential than the previous boom — albeit, with a less uniform income distribution. The income gap has widened.

This is the way we have been living in America since the first recorded wide-spread economic downturn marked by *The Panic of 1819*.¹¹ With the passage of time these boom-and-bust cycles have become ever more frequent and massive, and have accelerated since the creation of the Federal Reserve System in 1913, FDR's confiscation of our domestic gold supply in 1933, Nixon's withdrawal from the Bretton-Woods Accords in 1971, and the monetary policies pursued by the Federal Reserve Board since Alan Greenspan became the Board's chairperson under the Reagan administration. This is a non-partisan issue. What is more, the world is now threatened with the widespread use of Central Bank Digital Currencies (CBDCs) and the end of voluntary free markets as we have known them throughout most of human history.¹²

Section II - Real World Solution

Restoring Our Monetary House to Order

In the following several paragraphs I will outline my own solution to the problem — a solution that is well within our grasp of the American state.

THE SEVEN-STEP PROCESS

STEP ONE: The economics profession must renounce the use of statutory counterfeit and fiat currency as a substitute for real money and embrace afresh voluntary free markets. The capitalist system that Karl Marx renounced in the mid-19th century was that of the British empire that by 1848 had been in existence for more than a century and a half. It began with the founding of the Bank of England. It benefited Great Britains' elite and stoked the pride of the English people.

¹¹ Rothbard, Murray N. 1962. *The Panic of 1819: Reactions and Policies*. Columbia University Press.

¹² It should be noted that fractional reserve banking has been with America since its outset. It was introduced with the creation of the Bank of North American in 1781 — the same year that General Cornwallis was defeated at Yorktown. Before this, the British provincial governments issued *bills of credit* that served as interest-free government debt. These latter were non-interest bearing paper sold into existence with a promise of redemption in gold or silver specie at a future date. Although issued at par with locally circulating specie, they were nearly always abused and eventually discounted as their number grew. If there was a positive aspect to this paper, it could be used in the payment of taxes. No, America has never known a *true* gold or silver standard.

STEP TWO: The value of the dollar must be fixed to either gold or silver specie in such a way that it cannot be undone. This can be achieved first through a presidential order followed by a constitutional amendment ratified by three-quarters of the States. There is no lack of precedent regarding the authority of the United States president when it comes to modifying our nation's money supply. Simply, presidential orders can be easily undone. Constitutional amendments are relatively permanent.

STEP THREE: In the same presidential breadth and with the same constitutional amendment the further issue of all counterfeit reserves must be banned, and either gold or silver be designated the legal tender of the United States of America. Although this task could be achieved through congressional legislation, our nation and the world would be better served, if it were included in the aforementioned constitutional amendment.

STEP FOUR: Legal counterfeit — be it in the form of statutory counterfeit or fiat currency — must be banned. This cannot be achieved all at once, however, as it would be devastating to the real economy. Our banks must be given time to adjust to the new monetary regime.

1. So, as to avoid a sudden reduction in the supply of money, banks must be allowed to draw down their outstanding loans and replace their phony reserves with real money gradually. Each time a loan based on statutory counterfeit matures, only a fraction of what has been returned will be allowed to reenter into the market place as a new loan. The size of this fraction must be set at a fraction large enough to accommodate a gradual, non-traumatic contraction in our nation's phony money supply. Further this fraction must be highly visible and uniformly applied across all banks. It is in this latter regard that the current Federal Reserve System with new leadership could play a vital role.
2. As the supply of statutory counterfeit contracts, interest rates will rise and the demand for, and price of specie will rise. Concomitant with the rise in the value of the real money supply, incremental, but salubrious price deflation will set in. In order to accommodate the fall in the prices of goods and services, new smaller denominated forms of the dollar will become necessary.
3. The aforementioned fraction can be made adjustable to accommodate changing economic conditions, but a settled mandatory incremental increase in the current fractional reserve ratio must be agreed — say, two percent —, and the amount that the FED can lend to its member banks that is not daily maintenance of account balances must be frozen (see Step 3 above).

STEP FIVE: After nearly two and one half centuries in the United States and an additional century in England it would be difficult today to hold anyone, in particular, accountable for the massive fraud and global grand theft that is currently in place. This said, institutional habits do not die easily, and we must be well-prepared for resistance and

perpetuation of the institutional crime that has already been committed. For this reason, a system of oversight must be constituted in which the American people can trust.

To insure that the oversight is properly conducted the oversight activities of the federal and State governments should be undertaken independently. The need for this system of oversight should be outlined in the aforesaid amendment to the US Constitution, but the details should be left to Congress and the various State and commonwealth governments.

STEP SIX: The Federal Reserve System and all congressional and state legislation that currently cater to the issue of statutory counterfeit and/or fiat currency must eventually be rendered void. The role of the FED must be completely transformed, if not eliminated. The clearing house functions of the various regional banks are an example of the sort of system remnants that could be preserved, if they are not supplanted by Bitcoin in the meantime.

STEP SEVEN: It is important that those who put their faith in specie for the past three centuries be rewarded for their effort. This said, shifting from the junk paper that we use today to real money would result in a massive windfall transfer of wealth from those who hold no specie to those who hold it. It is for this reason that a windfall capital gains tax should be imposed — say, of 80 percent —, and that this tax be used to fund the transition from junk paper to real money and pay down the our national debt. None of this windfall should accrue to any government agency or central bank that is not for one of the aforementioned purposes.

Specie vs Cryptocurrency

Many would argue and with stubborn conviction that Bitcoin is a better medium, and that those who would return to specie are “old-fashioned”, “nostalgic”, or “out-of-touch” with contemporary technological innovation. These notions must be dispelled. Bitcoin is not *digital gold*. No, I am not against the development and use of Bitcoin. Simply, it should not become our national currency. The reasons our several.

NOT A STORE OF ENERGY: Once precious metals are mined and minted in the form of bullion or coin they require no further processing and become a permanent part of the available money supply. They are for all practical purposes immutable energy embodiments. Although it is costly to transport large amounts of gold or silver, smaller more numerous amounts can be transported at next to zero cost. Bitcoin, in contrast, cannot be transacted without cost in both time and energy, and as the number of Bitcoin transaction increases the cost, time and energy also increases. Bitcoin is essentially

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just another creation of the secondary economy.¹³ Whereas it overcomes the issue of fraud, it contributes to the current dysfunction of ecological accountability.

VULNERABILITY: In time of war it is imperative that market activity continues to thrive. The primary role of a military during time of war is destruction. Even in peacetime militaries are, generally speaking, wealth-destructive. Without a thriving economy at home a war cannot be sustained at home or abroad.

In 2021 there were 400 submarine, fiber cables connecting the entire world. Of these 70 were connected to the United States. On September 26, 2022 two of the more than ten major natural gas pipelines connecting Russia with the rest of Europe were deliberately sabotaged. The sabotaged pipes crippled Germany's economy. The submarine cables that service the internet are no less vulnerable.

REPLICATION: Bitcoin is often trumpeted for its unique and finite character. Anyone with the proper knowledge can create a blockchain. Although the number of Bitcoin is finite, the number of Bitcoin-like blockchains is infinite. Other Bitcoin-like versions can, in principle, be created. Where does it end? Once gold or silver is selected, it is one of a kind and not replicable.

Section III - A Theory of Money Based on Real Money

Jean Calvin distinguished between *money-in-exchange* and *money-in-use*. Money-in-exchange was property whose title and use was surrendered in exchange for some good or service provided by another. Money-in-use was property for which one retained title, but surrendered its use to another for a specified length of time.

This theory of real money assumes that each market agent — be it a firm, household, other free market agent, or even government — has a liquidity preference. This

¹³ In 2021 the market value of total global transactions was estimated to be approximately USD two quadrillion. The market value of total Bitcoin transactions was estimated at a mere, but still impressive USD 10 trillion. This means that Bitcoin accounted for only one half of one percent (0.005) of the market value of all global transactions. Bitcoin's market share would have to increase 200 fold in order to account for total transactional value.

In 2021, it was also estimated that global electrical energy consumption was 165,000 TWh (terawatt hours) and that Bitcoin's total electrical energy consumption was only 117 TWh or seven hundredths of one percent of total consumption. If Bitcoin had accounted for 100 percent of all market transactions at the time, it would have consumed 14 percent of global energy consumption.

To provide perspective residential electrical consumption in the United States accounts for about 28 percent of all electrical energy consumption. And, in 2018 it was estimated that internet usage accounted for about 1 percent of this total. Could our current infrastructure even bare the load?

preference is determined by the ratio of one's real liquid wealth to his real illiquid wealth.¹⁴

MONEY IN EXCHANGE

In this paper we will substitute for the top-down, flow model defined as

$$MV = PQ$$

or

$$1 = \frac{MV}{PQ}$$

the following bottom-up, stock model of money-in-exchange:

$$l_i = \left(\frac{1}{V} \right) \frac{M_i}{A_i} \quad \text{equation 1}$$

where l_i = individual's liquidity ratio

M_i = market value of individual's real money in exchange

A_i = market value of individual's illiquid assets

V = velocity of money

such that

$$M_i = P^M Q_i^M \quad \text{equation 2}$$

and

$$A_i = \sum_{a=1}^{N_a} P_i^a Q_i^a \quad \text{equation 3}$$

where P^M = market price of the underlying commodity of money

Q_i^M = quantity of commodity used as money and held by the i th market agent¹⁵

where P_i^a = the market price of the a^{th} good to which the i th market agent has title

Q_i^a = quantity of the a^{th} good to which the i th agent has title

¹⁴ Ludwig von Mises. 1912. *Theorie des Geldes und der Umlaufsmittel*. München: Duncker & Humblot

¹⁵ This quantity can be represented by electrons or paper, but the representation must be one to one, and only one (the commodity) or the other (its digital or paper representation) can be used in exchange or in the form of money-in-use. This eliminates all forms of fractional reserve banking.

In a real economy with real money the value of *money-in-exchange* necessarily increases as the quantity and quality of all other goods and services increases relative to the increase in the much scarcer quantity of real money. In the absence of a change in the velocity of money this relative increase in the market value of the real money supply will always result in upward pressure on the ratio of the market value of liquid to illiquid assets. This is, of course, problematic. More importantly, perhaps, the ability of market agents to participate in smaller valued transactions is diminished.

The chief determinants of the velocity of money are technological improvement and the denomination of the money exchanged. In the absence of a change in the rate of real economic growth, it is assumed that the velocity of money will keep pace with the rate of real economic growth as technology improves. This said, technological improvement in one sector of the economy, does not necessarily result in technological improvement in the availability of money.

A perceived shortage in the real money supply, brought about by whatever cause, will necessarily result in an increase demand for an increase in the money supply. In the past, the failure to accommodate such perception with smaller denominations in the available money supply has opened the door to the issue of statutory counterfeit and fiat currency.

In effect, it is not enough to increase the velocity of money through improved technology, smaller denominations of the money exchange must be made available from time to time.

MARKET FOR MONEY IN EXCHANGE (DEMAND)

From equation 2 we aggregate across all individuals to obtain the total market value of the current money supply.

$$\begin{aligned}
 M_i &= P^M Q_i^M \\
 \sum_{i=1}^N M_i &= \sum_{i=1}^N P^M Q_i^M \\
 M &= P^M \sum_{i=1}^N Q_i^M
 \end{aligned}
 \tag{equation 4}$$

From equation 3 we aggregate across all individuals to obtain the total market value of the total wealth.

$$\begin{aligned}
 A_i &= \sum_{a=1}^{N_a} P_i^a Q_i^a \\
 \sum_{i=1}^N A_i &= \sum_{i=1}^N \sum_{a=1}^{N_a} P_i^a Q_i^a \\
 A &= \sum_{i=1}^N \sum_{a=1}^{N_a} P_i^a Q_i^a
 \end{aligned}
 \tag{equation 5}$$

Substituting the values of A and M obtained from equations 4 and 5 into equation 1 we obtain the liquidity ratio for the entire economy.

$$l = \left(\frac{1}{V} \right) \frac{M}{A} \tag{equation 6}$$

Summing across all Q_i^M in equation 4 and substituting into equation 6 obtains

$$l = \left(\frac{1}{V} \right) \frac{P_M Q_M}{A}$$

Solving for Q_M obtains the demand function for money-in-exchange.

$$Q_M = V \frac{lA}{P_M} \tag{equation 7a}$$

or

$$Q_M^d = Q_M(P_M; V, l, A) \tag{equation 7b}$$

where $\frac{\delta Q_M^d}{\delta P_M} < 0$ $\frac{\delta Q_M^d}{\delta V} < 0$ $\frac{\delta Q_M^d}{\delta l} > 0$ $\frac{\delta Q_M^d}{\delta A} > 0$

Given the liquidity ratio (l) and the quantity of money (Q_M) in equation 7a

$$\bar{l} = \left(\frac{1}{V} \right) \frac{P_M \bar{Q}_M}{A}$$

and recalling equation 5

$$A = \sum_{i=1}^N \sum_{a=1}^{N_a} P_i^a Q_i^a$$

it becomes clear that any increase in A brought about by an increase in any Q^a for all i , or any number of i , results in an increase in A and a subsequent rise in the value of money — namely, a rise in P_M . Because a rise in P_M results in a subsequent fall in the price of all other goods (P^a for $a = 1$ to N_a), the value $P_M \bar{Q}_M$ must rise more quickly than the value of A . If V does not accommodate for this disproportionate change, then there will be trouble in the economy.

and necessarily a fall in P_a . Accordingly $P_M \bar{Q}_M$ must rise more quickly than A .

In other words, when the value of the available money increases in value relative to all other goods and services, incremental price deflation occurs, and transactions of small value are inhibited. This can result in a constraint on economic growth, as trade is stifled. This problem can be overcome with an increase in velocity and the creation of smaller denominations of some portion of the available money.

MARKET FOR MONEY IN EXCHANGE (SUPPLY)

An alternative resolution of the problem would be an increase in the supply of money (Q_M^s) resulting in a fall in the price of money (P_M).

We can represent the supply of money as follows:

$$Q_M^s = Q_M^s(P_M; P_f, \tau, \nu) \quad \text{equation 8}$$

where P_M = the price of money

P_f = the price of fuel

τ = the level of mining and other money-related technology

ν = new ore discoveries

and

$$\frac{\delta Q_M^s}{\delta P_M} > 0 \quad \frac{\delta Q_M^s}{\delta P_f} < 0 \quad \frac{\delta Q_M^s}{\delta \tau} > 0 \quad \frac{\delta Q_M^s}{\delta \nu} > 0$$

MARKET FOR MONEY IN EXCHANGE (EQUILIBRIUM PRICE AND QUANTITY)

Combining equations 7b and 8 we can solve for the equilibrium price of money (P_M^*) and quantity (Q_M^*):

$$P_M^* = P_M \left(V, l, A, P_f, \tau, \nu \right) \quad \text{equation 9a}$$

$$Q_M^* = Q_M \left(V, l, A, P_f, \tau, \nu \right) \quad \text{equation 9b}$$

MONEY IN USE

THE CREDIT CONSTRAINT

In a real economy with real money one neither lends, nor prints money into existence; rather one lends and borrows only money that is actually owned by the lender. Indeed, one cannot pretend to own what one does not actually have!

Accordingly, a transfer of liquid wealth with a promise to repay necessarily diminishes the liquidity of the lender and increases the liquidity of the borrower. Similarly, the promise to repay increases the real illiquid wealth of the creditor and diminishes the real illiquid wealth of the debtor. Equations 10a and 10b capture this result mathematically.

Once again, we start from the bottom and work our way up.

Creditor

$$l_i = \left(\frac{1}{V} \right) \frac{M_i - c_i M_i}{A_i + c_i M_i} = \left(\frac{1}{V} \right) \frac{M_i^{adj}}{W_i} \quad \text{equation 10a}$$

and

Debtor

$$l_j = \left(\frac{1}{V} \right) \frac{M_j + d_j M_j}{A_j - d_j M_j} = \left(\frac{1}{V} \right) \frac{M_j^{adj}}{W_j} \quad \text{equation 10b}$$

where c_i = the individual's fractional propensity to lend

d_j = the individual's fractional propensity to borrow

The need to borrow and lend is both psychological and practical. It is practical in so far as markets are anything, but stable, and the need for additional market liquidity from time to time is something that everyone experiences. It is psychological in so far as dependency is a natural state of humankind, and the creditor-debtor relationship is the natural market reflection of this natural state. Hence, we can speak about an individual's fractional propensity to lend and borrow.

As one must always pay back in real wealth more than one has borrowed, the tendency to borrow for the sole purpose of consumption in a real economy with real money is

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diminished, and the inclination to borrow for the purpose of investment and increased future reward is enhanced. As a result, fewer resources are squandered.

In a world of real money it must be true that

$$\sum_{i=1}^{N_i} c_i M_i = \sum_{j=1}^{N_j} d_j M_j \quad \text{equation 11}$$

where N_i = total number of lending market agents
 N_j = total number of borrowing market agents

Notice that N_i and N_j need not be the same, and are likely not. This is because bond sales that are, of course, a form of lending might have only one seller-borrower and many buyer-lenders, for example.

We solve for $c_i M_i$ and $d_j M_j$ in equations 10a and 10b, respectively.

$$c_i M_i = \frac{M_i - l_i V A_i}{1 + l_i V} = \frac{M_i}{1 + l_i V} - \frac{l_i V A_i}{1 + l_i V} \quad \text{equation 12a}$$

and

$$d_j M_j = \frac{l_j V A_j - M_j}{1 + l_j V} = \frac{l_j V A_j}{1 + l_j V} - \frac{M_j}{1 + l_j V} \quad \text{equation 12b}$$

Substituting equations 12a and 12b into equation 11 and summing across all i and j, respectively, obtains

$$\sum_{i=1}^{N_i} \frac{M_i}{1 + l_i V} + \sum_{j=1}^{N_j} \frac{M_j}{1 + l_j V} = \sum_{i=1}^{N_i} \frac{l_i V A_i}{1 + l_i} + \sum_{j=1}^{N_j} \frac{l_j V A_j}{1 + l_j}$$

If we assume $l_i = l_j = l$, we can show that

$$l = \frac{1}{V} \frac{M}{A} = \frac{1}{V} \frac{M}{W} \quad \text{equation 13}$$

Once again, this is a basic assumption about money that is ignored by the *Quantity Theory of Money* by the top-down flow-model developed by Irving Fisher in 1911.¹⁶

THE MARKET FOR MONEY IN USE

Let us assume further that there exists a market for loaned and borrowed money, and that the fractional propensities to lend and borrow are influenced by the market rate of interest and business outlook.

So,

$$c_i = c_i(r, \varphi) \quad \text{equation 14a}$$

where r = real rate of interest
 φ = business outlook

such that $0 \leq c_i \leq 1$

and $\frac{\delta c_i}{\delta r} > 0$

$$\frac{\delta c_i}{\delta \varphi} \geq 0$$

Once again, the idea is that you cannot lend more than you own — a real economy is mostly honest. Accordingly, higher real rates of interest and an optimistic future encourage greater lending.

In contrast,

$$d_j = d_j(r, \varphi) \quad \text{equation 14b}$$

where r = real rate of market interest
 φ = business outlook

such that $d_j \geq 0$

and $\frac{\delta d_j}{\delta r} < 0$

¹⁶ Fisher, Irving. 1911. *The Purchasing Power of Money*. 2nd Edition, Macmillan Co., New York. By 1937 even Fisher had already argued for several years for an end to fractional reserve banking. Unfortunately, it was not a system based on *real money* founded in the *primary* economy. See Irving Fisher. "100% Reserves, An Old System Adapted to Modern Needs". *Commercial and Financial Digest*, June 1937.

$$\frac{\delta d_j}{\delta \varphi} \geq 0$$

The idea here is that a borrower with good credit can borrow up to any amount, that higher real rates of interest discourage borrowing, and that an optimistic future promotes it.

Substituting for c_i and d_j into equation 11 yields

$$\sum_{i=1}^{N_i} c_i(r, \varphi) M_i = \sum_{j=1}^{N_j} d_j(r, \varphi) M_j \quad \text{equation 15}$$

Recall equation 4 and substitute for M_i and M_j . This obtains

$$\sum_{i=1}^{N_i} c_i(r, \varphi) Q_i = \sum_{j=1}^{N_j} d_j(r, \varphi) Q_j \quad \text{equation 16}$$

because P_M drops out.

The left-side of equation 16 obtains the credit supply function

$$Q_{credit}^s = Q_{credit}^s(r; \varphi) \quad \text{equation 17a}$$

where

$$\frac{\delta Q_{credit}^s}{\delta r} > 0 \quad \frac{\delta Q_{credit}^s}{\delta \varphi} > 0$$

and the right-side of equation 16 obtains the credit demand function

$$Q_{credit}^d = Q_{credit}^d(r; \varphi) \quad \text{equation 17b}$$

where

$$\frac{\delta Q_{credit}^d}{\delta r} < 0 \quad \frac{\delta Q_{credit}^d}{\delta \varphi} > 0$$

and solving for the equilibrium rate of interest and quantity of credit yields, of course

$$r^* = r(\varphi) \quad \text{equation 18a}$$

$$Q_{credit}^* = Q_{credit}(\varphi) \quad \text{equation 18b}$$

And, note that the supply and demand for credit depends neither on the price of money (P_M), nor its velocity (V).

THE MARKET FOR REAL MONEY

Unlike in economies characterized by Fisher's *Quantity Theory of Money*, in a *real economy* with *real money*, money is just another energy embodiment that must be obtained from the earth. It is neither the *statutory counterfeit* that we experienced with the *gold standard* of the British Empire, nor is it the *gold-exchange standards* that came into being with the Genoa Agreement (1922) in the wake of World War I and the Bretton Woods Agreement (1945) in the wake of World War II. Nor, is it the vehicle for the undeserved transfer of real wealth from the many to the few — more commonly known as *fiat currency* — that we have experienced since the *Roosevelt-Nixon Two-Step* was completed in 1971.¹⁷

That we in America never adopt a CBDC!¹⁸

VELOCITY OF MONEY

Once again, in a *real economy* with *real money* an important determinant of the velocity of money is the assortment of denominations. For, unlike in a *real economy* with *statutory counterfeit* or *fiat currency* a *real economy* with *real money* experiences incremental deflation that keeps lending in check and avoids the boom and bust cycles that have plagued us since the industrial revolution and the introduction of mass production.

Further, in a *real economy* with *real money*, the price of money is not the rate of interest of borrowing and lending. Alas, *real money* does not serve the interests of dishonest bankers; rather, it serves the honest interests of those who trade with across time and space — the people. Honest bankers insure that excess real balances find a proper use.

As the supply of the commodity that serves as the basis of real money is exceptionally scarce, and the economy is forever growing, the denominations of the money must become ever-smaller in order to accommodate the general, but incremental fall in prices. This can be easily achieved through the issue of a paper or electronic representations that are calibrated by the weight of the commodity. For, if this recalibration is not regularly performed, small purchases cannot be made, because the

¹⁷ In 1933 Franklin Delano Roosevelt (32nd US President) confiscated the gold of American citizens and took the US off the American domestic gold-exchange standard. In 1971 Richard Milhous Nixon (37th US President) withdrew the US from the Bretton Woods Accord agreed in 1944. This effectively destroyed the world's gold exchange-standard and introduced the *Petro-Dollar*.

¹⁸ Central Banking Digital Currency (CBDC)

market value of the money supply is forever rising and the general price forever decreasing.

ROLE OF GOVERNMENT

Government in a real economy with real money is much like a common household. It receives income, makes purchases, and provides services. This said, its source of income is taxation, and unlike the common household it uses a partial monopoly on the use of force to extract them. Also, the state tends to dance to the rhythm of its own drum, and its decision to borrow or not to borrow, has more to do with its tax revenue and spending decisions than market place performance. In time of war, for example, there is no end to how much it willing to borrow and spend. It will exhaust an entire economy to stave off defeat. This said, when the state borrows, notwithstanding its important negotiating leverage due to its size and political influence, it is subject to the same market interest rates as everyone else. Furthermore, once a state goes into debt, it rarely comes out of it; rather, it balances the interest that it must pay on what it owes with its ability to tax and borrow at the moment that its interest becomes due.

With these thoughts in mind we can adjust equation 6 as follows:

$$\sum_{i=1}^{N_i} c_i(r, \varphi) Q_i^M = \sum_{j=1}^{N_j-1} d_j(r, \varphi) Q_j^M + d_g(r, D) Q_g^M \quad \text{equation 17}$$

where $d_g(r, D)$ = goverment propensity to borrow

r = market rate of interest
 D = government debt
 Q_g^M = quantity of money held by government

$$\frac{\delta d_g}{\delta r} < 0$$

$$\frac{\delta d_g}{\delta D} < 0$$

Because this model is built from the bottom up

$$l_i = \left(\frac{\gamma}{V} \right) \frac{M_i}{A_i}$$

rather than from the top down

$$MV = PQ$$

separating out government from the aggregation of individual debtors is only one example of the utility of starting with individual market agents. In effect, one could separate out small firms from large firms with all individual agents in the same group sharing the same liquidity preference. The possibilities of recombination are numerous and rely only a shared liquidity ratio — say, l_m and l_n , by way of example.

In the end, this model is only a first step to set you on your way toward understanding what the study of macroeconomics might look like in the absence of *statutory counterfeit*, *fiat currency*, general price inflation, and the booms and busts of financial dishonesty and misguidance associated with these phenomena.

Conclusion

The transition from *real money*, that is close to nature and places the needs of the *primary economy* over those of the *secondary economy*, to that of *statutory counterfeit* and *fiat currency* that emphasizes the priorities of the state, corrupt bankers and their closest associates in the secondary economy was fairly sudden and the direct result of state intervention. The resulting three-hundred-year illusion of monetary sophistication has not only led humanity down a painful, tortuous path, but it now threatens to destroy the very liberties that have brought Western civilization the greatest material prosperity the world has ever known.

In this paper, I have offered not only a different way of modeling the role of money in a *real economy* with *real money*, but have struck at the roots of today's failed monetary system. In addition, I have shown why crypto-currency is a product of the secondary economy, and therefore a poor substitute for precious metal as a standard against which all goods and services can be reliably measured and rewarded.

The path to the restoration of *real money* is as simple and straight forward as was the path to its demise. What stands in our way today is the absence of courage and wisdom on the part of economists around the world to take a moral stand.

Pierre-Joseph Proudhon, the 18th century anarchist who condemned private property as the source of all human conflict, demonstrated clearly why the right to own property is not a natural right, and how unfair it is that only a small number of the world's population owns land.

Land, as we have just witnessed, is what sustains all human endeavor. As every economist knows, land is also an important source of rent. As the market value of the primary and secondary economies increase through technological innovation, the value of the land on which these two economies sit automatically increases in value. Small

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pieces of gold formed into coin or bullion are a piece of land that everyone can own and from which everyone can collect rent in harmony with their individual endeavor and nature's source.

Were gold or silver the sole source of our money supply, then everyone would share in its ever-rising value.¹⁹ What could be more equitable?

¹⁹ Although gold, among the precious metals, is the demonstrably superior energy embodiment, silver may be, politically speaking a better alternative to gold. It is a matter for another paper. Important is that we do not fall into the trap of bimetallism.