

An Analysis of History and Value: Bitcoin as a Global Currency Reserve

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To my family for their love and support

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Introduction

In an economy where financial innovations are becoming more and more frequent and the means by which consumer goods and services being exchanged are becoming increasingly more accessible, the ability to derive an accurate value of goods and services cannot be understated. But what is *value*, why is it important, and how is it determined? How should the value of a digital asset like Bitcoin function or be derived with regard to its potential as a global reserve currency when these definitions have not been properly established? Additionally, how has the history of U.S. banking played a role in terms of openness to pegged commodity exchanges?

Chapter 1

To begin, it may be prudent to imagine a separate closed economy with only two actors so as to illustrate a scenario by which the act of determining the value of goods is beneficial. Suppose for instance, that an Actor *A* has n units of good b and Actor *B* has n units of good c . Suppose also that Actor *A* is in need of some amount of good c and as such, requests that Actor *B* agree to a one-for-one exchange of goods, where $b = c$. Suppose once more that Actor *B* suggests that because he is not in dire need of good b but recognizes its potential usefulness, he will honor a two-for-one exchange instead, where $2b = c$. Suppose again that Actor *A* accepts; both parties walk off content with their goods. From the actors' perspective a relatively simple relationship has emerged by which future communication and business for the benefit of respective productivity may develop. From the perspective of an economist or an outside observer however, much more has changed. This new relationship between the two actors is a significant development, deepened by the intrinsic value derivistic processes of both parties.

Actor *A* presumes in this instance, a fairness and universality of the one-for-one exchange. Many might agree that a trade of this nature is simplest and by this single dimension, the most coveted. But coveted by whom? Actor *B* would have 'suffered' under the first rate of exchange, taking on a certain perceived loss that would have cost him perhaps, in some other way. By suggesting and agreeing upon a two-for-one trade, both actors have inadvertently created an unreal ledger of trade and this ledger, perhaps eventually made to be real, will serve as a benchmark for all other exchanges. In a closed economy where all else remains equal the total units needed for an 'even' exchange of these two goods should never change. However, it is very rarely the case that all other things do in fact, remain equal.

Suppose again that just one new actor, Actor *C*, is placed among both Actors *A* and *B*. Actor *C* has also introduced a new service, service *d*, into the economy but is only accepting good *b* as adequate exchange. Suppose also that both Actors *A* and *B* require this new service, enough so that a regular trade must be made. From Actor *A*'s perspective, this is advantageous. Both his goods and the new services offered by his contemporary are in high demand relative to each other and perhaps at one-for-one, where $b = d$. Actor *B* however, requiring this new service, must run to Actor *A* and request (after exhausting his own supply perhaps) more of good *b* for good *c* and ideally, at the original rate of exchange. Referring to the real or unreal ledger, Actor *A* may recognize the previous rate but may also recognize this new and immediate demand whereby good *c* has become less 'valuable' as a result. Actor *A* may choose to agree to a trade but only now at a reduced rate, whereby $b = c$. In order to remain productive by whatever means he defines as productivity, Actor *B* must determine the absolute value of service *d* relative to the cost of trading for good *c* and agree to a new rate. Both good *b* and its sister good *c* have become more and less valuable, respectively, with a single addition. At the outset, Actor *B*'s interpretation of good *b* could be described as semi useful, as its total utility lied solely in its potential future usefulness. Once Actor *C* emerged however, and his service, which was in high demand but only exchangeable with good *b*, the good's immediate utility to Actor *B*, both as a means of token exchange and some other potential future usefulness, had increased in its intrinsic value. In the process of determining value in this example, we may suggest that any good or service's intrinsic usefulness to the potential consumer will be tied somewhat to its overall utility at any given time.

Expanding on this example, a similar function of value might present itself with the continued addition of newer goods, services, and actors; particularly through historical time. The

growth of a system of this nature may become logistically difficult to maintain as fluctuations in value between the present and future values of one commodity to another become more complex and ever branching. Hence, it may be prudent to peg all commodities to one single commodity or set of commodities (as opposed to each other), so that some semblance of legitimate economic control may come about.

This was the case with the United States in 1879. Gold and silver, as tokens for trade by weight (grain), could be argued to have held a certain socio-economic value and a certain metalurgic value in its relative malleability. Their rarity and utility to consumers was high as they could serve a variety of functions. Fluctuations in the demand for metals however, have not always been steady. During the Colonial Era of U.S. history, the ability to mint metal for trade had not been established. Spain, France, and Great Britain's monetary system had trickled into the colonies, with subsequent foreign coinage as a means of profitable exchange. While gold was high in demand, it was also significantly undervalued with respect to another, silver. This overvaluation of silver to gold precipitated not the expulsion of but rather the dimming of gold as a common means of exchange in Europe which bled into the United States. Pre-Revolution America received gold coinage as a result, alongside imports of the English Pound Sterling and the Spanish Silver Dollar.

FIGURE. 1

A TABLE of the Value and Weight of COINS, as they now pass in ENGLAND, NEW-YORK, CONNECTICUT, PHILADELPHIA, AND QUEBEC.

	Sterl.	N. York.	Conn.	Philad.	Quebec.	Leat
	l. s. d.	l. s. d.	Weight	l. s. d.	l. s. d.	Weight
			dw. gr.			dw. gr.
ENGLISH Shilling,	0 01 0	0 01 0		0 01 4	0 01 6	0 01 4
 Crown,	0 5 0	8 9		6 8	7 6	6 8
 Guinea,	1 1 0	1 17	5 3	1 8	1 14	1 8
Spanish Piastre,	-	1 7		1 2 1-2	1 4	1 2
 Dollars,	-	8	17 6	6	7 6	6
 Pistole,	0 16 6	1 9	1 8	1 2	1 7	1 1
Portugal Moidore,	1 7 0	2 3	5 18	1 15	2 3 6	1 16
* Half-Johannes,	1 16 0	3 4	9 0	2 8	3 0 0	2 3
French Nisepence,	-	-	-	-	-	1
 Crown,	0 5 0	8 6	-	6 8	7 6	6 8
 Pistole,	0 16 0	1 8	4 5	-	1 6 6	1 1
Louis D'or or Guinea,	1 1 0	1 15	5 4	-	1 13	1 8
German caroline.	1 18	1 18	6 8	-	1 14	1 10

** At a Meeting of the Chamber of Commerce, the 7th of August 1770, it was Resolved, That the Members of that Corporation would, in future, pay and receive all HALF JOES, that weigh 9 Penny Weight, at £. 3 : 4 : 0 and for every Grain they weigh more, allow three Pence per Grain; and every Grain they weigh less, deduct 4d. and all other Gold in like Manner.*

As was overseas, the silver to gold exchange rate in the U.S. also favored silver over gold for everyday trade, in part due to its utility as a means for its foreign transactions. Its relative lightness as a metal (See Figure 1. for preferences and pricing at scale), as well as its preferred stock of choice for merchants and bankers symbolized a strength and created a demand for the commodity.

After its secession from Great Britain, the United States required a sound and independent monetary system that would allow for the circulation of a valuable mint but the earliest attempts at steady banking in the United States were far from perfect; falling frequently to panic and collapse. The goal for many banks was to offer a means of federal and state financing that would allow for the expansion of the U.S. monetary system; in turn creating spaces for businesses and free enterprise to begin. Issues of credit inflation however, began to emerge soon after the first printing of paper notes. A pattern of boom-bust cycles with central banking and insufficient reserve requirements created massive speculation in very little time.

State banks became common and independent printing of paper money by them depreciated the value of all monies, respectively, with the U.S. government 'handing' out loan agreements to merchants that were tantamount to legal tender. In effect, with multiple paper currencies in circulation, in addition to government loans, deposit agreements, and foreign coinage, eloquent exchange at the state level was non-existent and funding at the federal level was rendered near worthless by inconsistency. The worry soon became one of a 'hard-money deficit'; a term to describe the physical backing of U.S. print with, in this case, gold or silver.

Loose free-banking practices gave way to credit explosions that further devalued the monies of state printed paper. In an attempt to take power away from the state banks so that a uniform 'dollar' might emerge, the U.S. government created a series of national banks and reformed the entire system. A handful of National Banks would become the sole creators of new paper and smaller banks would be financed by them through the purchase of government bonds. In the 'old' system, it was suggested that state banks maintain a certain reserve ratio of preferred metal to state print. By keeping the reserve requirements high enough so that at least some physical withdrawals could be made in redeemable notes, state banks could be deemed safe. However, the competitive nature of independent colonies did not always lend well to the adherence of reserve levels. To remedy this, these newer national banks would effectively become the reserve base for all banking in the U.S. In this way, any explosions or rapid increases in the printing of money would have its impetus at the National Banking level and not be totally controlled by the arbitration of each state. The federal government then underwrote a series of 'safer' loans that would give it funding for infrastructure projects and war efforts while the subsequent Reserve Banks, City Reserve Banks, and Country Banks would be financed by the sale of those bonds to them by the National Banks. Ultimately, a cash and coin reserve would

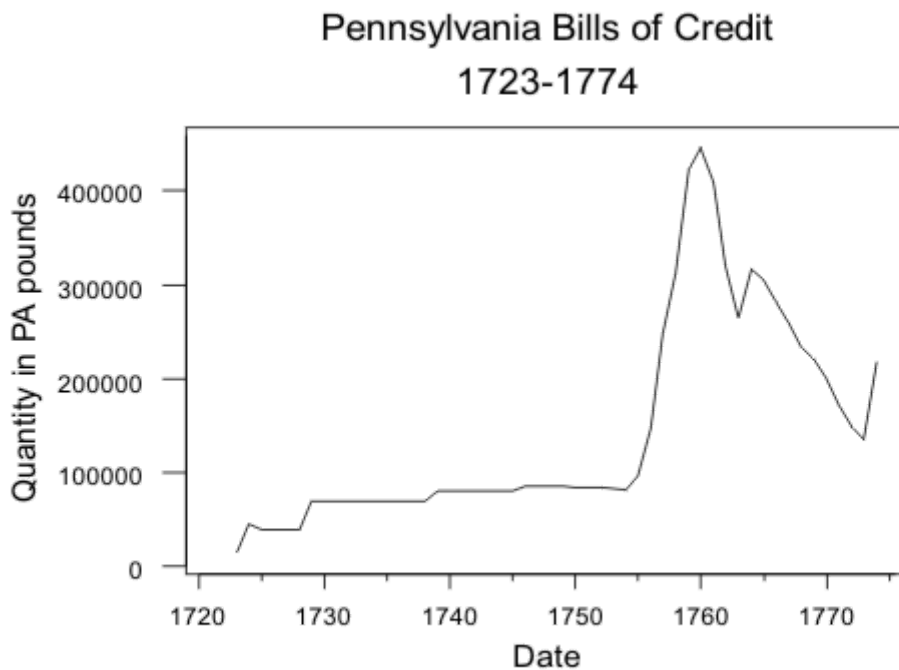
back the National Banks and thus, a new system of banking could begin. However, the fractional reserve requirements of the banks whereby the redeemability of paper money needed to be only fractionally backed by metal, left credit expansion without real oversight and still continued. Rampant inflation of prices could permeate as increases in the perceived money supply ensued to support production, until a necessary contraction forced all to slow. The resumption of the Metal Standard (referring again to its redeemability in paper money) and more specifically the Gold Standard, gave new confidence to the national print and paradoxically seemed to deflate general prices while inflating the dollar.

The much larger issue, after a period of significant economic growth, came in the form of a static money supply. Low interest rates and the relative inelasticity of the value of gold made it difficult to freely expand the economy when it was needed. Bimetallism and the gradual shift to monometallism had its cost inefficiencies as, it was argued, the strength of the U.S. print and its relationship to the price level of goods and services did not lend well to heavy inflationary practices (as history had shown). However, the idea that the growth of the U.S. economy would at all be limited to an unspecified and gradual pace did not bode well for budding industry and financial innovation. Following the near two decade long production increase after the adoption of the Gold Standard, investments began to slow. An increase in the demand for money and increasingly liquid assets slowed the economy to a crawl as production lines settled for clearing out inventory rather than induce an increase in the cost of operation. Unemployment rose as a result and many state run banks (chartered by the National Banks) became restless.

With respect to the monometallic value system in the U.S. at this time, the improved confidence in the proper valuation of currencies and goods could not be understated. Earlier periods in American history pointed to near unconstitutional suspensions of fair banking

practices during times of crisis and at the cost of restructuring the entire monetary system, violations of property rights did not often give rise to faith in state and federal markets. Soon after the failed attempt of the Massachusetts militia to conquer the northern territory that would now be called Quebec for example, the usual regular payments to militiamen could not be made by the state. With no coinage, foreign or otherwise, and no ‘spoils’ of conquest to trade, a revolt seemed imminent. In order to avoid an uprising, the state printed roughly \$7,000 worth of ‘paper’ that could be redeemable after some time.

FIGURE. 2



At first satisfied but then horrified at the truth of the act after attempted exchanges with local merchants proved difficult against the speculative currency, which seemed only profitable during wartime (See Figure. 2 as an example of a Bill of Credit from Pennsylvania and its value spike during the French and Indian War), the militiamen quite literally forced the paper onto farmers

and the like. A vicious cycle of inflation by way of the flooding in of this new, unbacked, and essentially worthless currency drove actual coinage out of the state. In order to compensate for the debt, the state printed more money and so on. In some cases, state merchants settled instead for other means of compensation for trade; typically commodities that were intrinsically valuable to the agrarian lifestyle. North Carolina and Virginia most notably, adopted a tobacco and rice exchange, respectively, that would substitute for a variety of purchases.

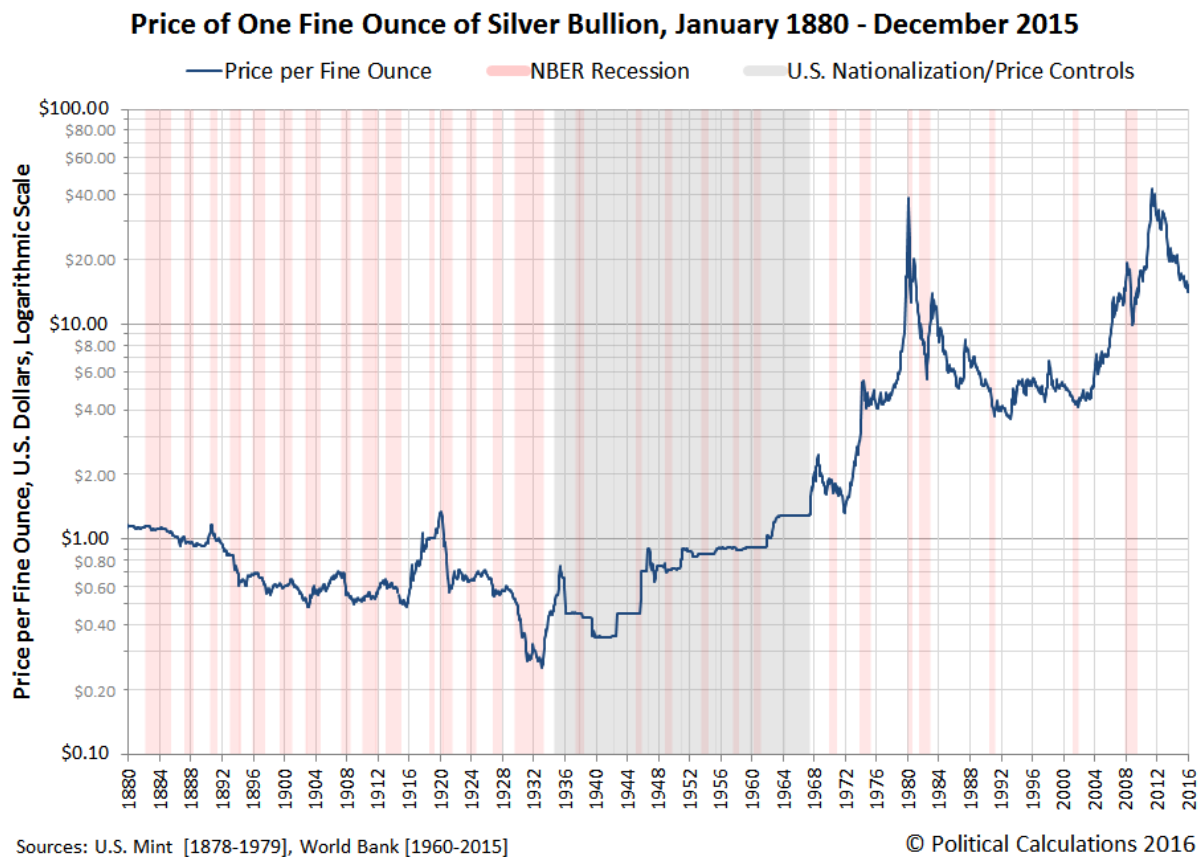
Innovations in banking had come a long way since but only a hundred or so years had passed since the propping, subsequent termination, and reformation of more than a handful of different financial structures had begun. The 'new' Gold Standard assisted in making sure that the banking industry could not extend much farther than the actual supply and ultimate value of gold. In addition to the recognition of its pace, the decentralized nature of the metal forced banks at all levels and across all state lines to acknowledge the limits of their reserves. This method of decentralization complicated matters for many bankers who held hope in a system that allowed loan issuances and credit increases with somewhat limited collateral. In the mind of many of these state and country banks, the leveling off of demand deposits and the continued increase in state financing was the only aim. If worse came to worse and a liquidity issue emerged, the general consensus, if the panic was widespread, was to request the federal government effectively suspend all redeemable notes. By the time resumption continued, it was generally to the 'benefit' of consumers so that panic withdrawals were seen as unnecessary. To an extent, the system worked well in the period following the complete uncertainty of earlier markets but now that a foundation had been established, it was deemed necessary to again reform and make way for new growth. Creditors began pushing for a central bank that mirrored the European banks overseas; a central maestro that could orchestrate an expansion or shrinkage of the economy

when needed. This too seemed a viable solution with the correct oversight but early Wall Street investment banks were apprehensive about any government hand. In an attempt to meet the demands of a regulating body, a handful of influential bankers like J.P. Morgan assembled a committee of finance experts and historians to handle the demands of the future economy. Thus the Federal Reserve Bank was born.

Circa 1913 the Federal Reserve Act was born which, in effect, served as a sort of compromise between decentralized reserve banking and central banking whereby the ‘The Fed’, acting the main lender of last resort, could print paper and enforce monetary policy for the benefit of a sound economic system. With the ability of this new central bank to increase or decrease interest rates, federal fund rates, and discount rates as needed, provided soft cushions for the smoothing of economic cycles. The early Federal Reserve was not perfect however, as its ability to manipulate rates required a certain cessation of the recognition of the Gold Standard. By the end of World War I, the Federal Reserve had managed to successfully regulate foreign trade through the use of its newfound powers just as Open Market Operations boasted the greatest effect on the expansion and contraction of credit over general coinage and gold supply. The Federal Reserve Bank’s relationship with the Bank of England also complicated matters. In order for Great Britain to fund production and keep up regular exports during the war effort, it required stability in the form of frequent trade. The Federal Reserve and its managing governors suggested that for the benefit of the two governments, inflationary policies should be practiced so as to balloon an economy that kept pace with England. The result was an adequate funding of the war and an expansion of credit in the U.S. The Federal Reserve’s indirect hand in foreign affairs however, did not stop there. Vested American interests in the recovery of England’s economy had subtly suggested that Great Britain should attempt to reassert its political pre-war

reign as the financial powerhouse of Europe. To do so, a return to the pre-war Gold Exchange Standard would be the first step. Speculation points to the return of the exchange as a sort of heavy handed play by overvaluing the metal. Looking back historically at the U.S.'s attempt at overvaluation for the sake of the 'flowing out' of old coinage, one might mark the initial success of the effort.

FIGURE. 3

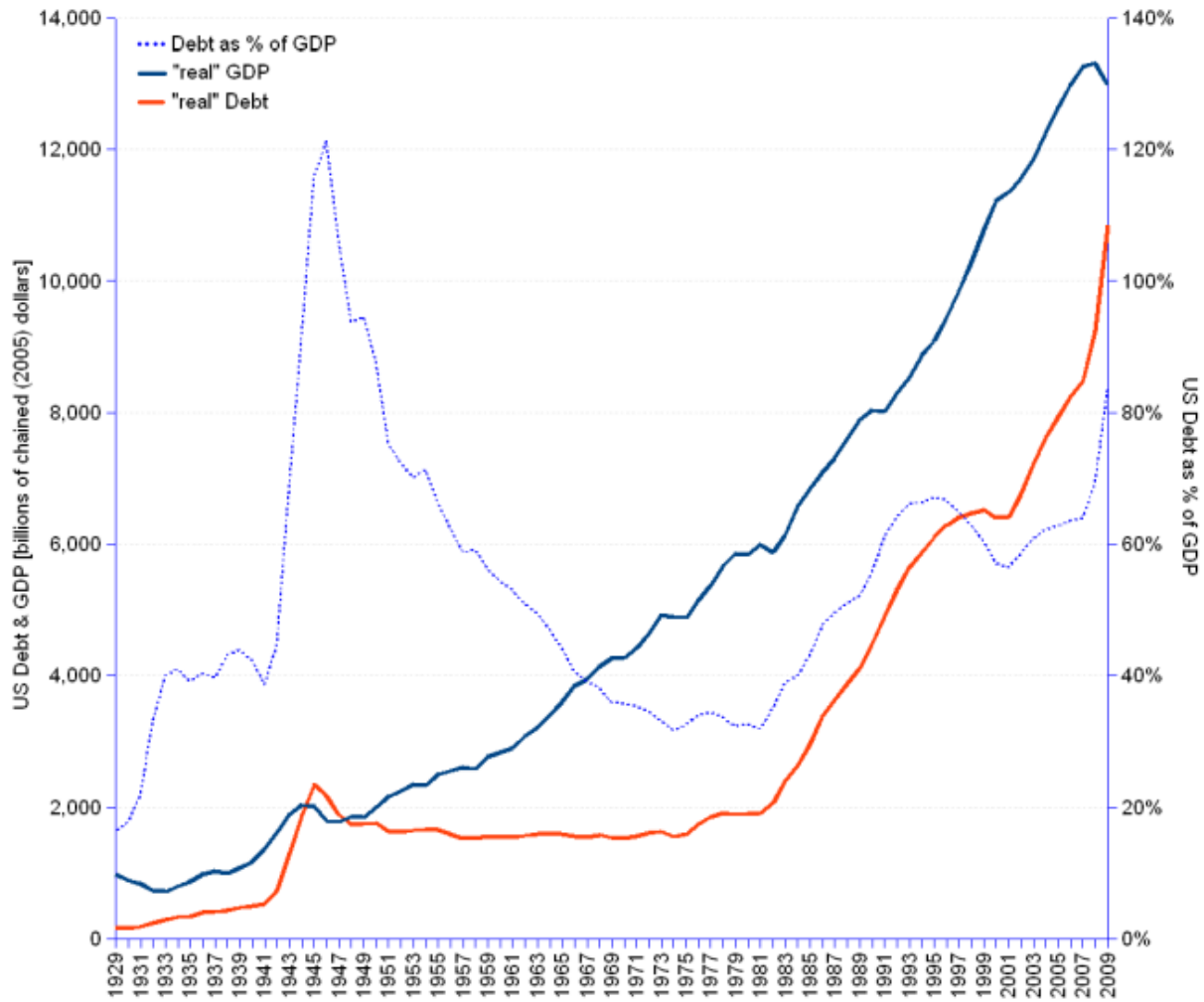


However, in this case, as was with the free floating silver markets in the States, England was inadvertently pushing out the regular Sterling Pound Silver Standard it was known for (See Figure 3.; silver market crash as a result of its cessation). The immediate effect would be drastic on its economy, as consumers and businesses alike would attempt to drop all silver for the benefit of gold; ultimately flooding the silver markets and depreciating the currency. Instead of

simultaneously contracting the money supply in Great Britain, so as to allow the pre-war value of gold a chance to take hold, the Federal Reserve Bank instead suggested that England stay steady with its current monetary policy as the U.S. would attempt a near second inflation to match the new economy. With another rapid expansion in credit, a reinstatement of the classical Gold Standard, and a newly inflated fiat currency a sharp contraction of both economies ensued and global depression emerged.

It was at this point that the Federal Reserve and federal government would do its best to recognize the most significant monetary policy that would keep the U.S. economy afloat: “Outlaw Depression.” Herbert Hoover is noted to, having a two year history as a professional in banking for the Republican party during a time, have acknowledged the factors that led to bust cycles in the American economy in earlier histories. During a time where most bankers would be scared to expand credit even further, the Federal Reserve did exactly that. By increasing the money supply and keeping interest rates low enough so that borrowing and the purchasing of securities could continue, the global crash that followed the international return to the Gold Exchange Standard would be mitigated in the States. For a year, the expansionist policy did well to keep credit circulating but the American public was beginning to again lose faith in the current system. The inflationary practices so similar to earlier stories of United States banking did just enough to increase producing and lending post-war. A slowdown however, was inevitable. Wall Street on the other hand, did their best to keep the markets up. Rampant speculation and zero oversight on floor trading led to insane highs in the valuation of the market while economic data suggested the opposite was looming.

FIGURE. 4



In 1929, when the stock market crashed (See Figure. 4 for total debt as a percentage of GDP; as a function of the necessity for federal spending until World War II), what was once a significant decrease in consumer confidence became a soaring distrust. Banks, still recovering from the expansion of credit, had no means by which to compensate the mass consumer demand for the withdrawal of funds. Many banks shut down and the Federal Reserve was left to its devices.

It should be noted that the Federal Reserve is the recipient of a fair amount of criticism. Private interests of governors and committee heads were often of mind to push forth policies that benefited banks of their choosing and quite specifically. As briefly mentioned earlier in the

section, bond and security underwriting for example, and the opportunity for it, became increasingly seductive with notorious bank affiliates like the Cooke Brothers. Bankers, both private and commercial, were privy to theories of production, signs of economic downturn, and recognitions of opportunity that most did not have access to. While the pursuit of banking was not in itself unethical, for the profession did have its advantages in information, history would have suggested that political affiliations between bankers and whole governments were not uncommon and that because of this, issues of private interest were perhaps considered more often than they should have. In response to greater crashes or bust cycles that typically followed rapid expansionist policies, resorting to the Federal Reserve Bank quickly became synonymous with the printing of more money to fix what went wrong. In the case of the Great Depression, precipitated by the Stock Market crash, the Fed was seemingly tied up. The Gold Exchange Standard of Great Britain and by extension much of the rest of the world, suffered immediate resistance following the crash of 1928. A relative or just significant slowdown of production in Great Britain might have been enough for the Bank of England to wait out its re-balancing to a pre-war economy but a complete cessation of production could not be tolerated. As such, the Gold Standard was discontinued in England near 1931, with many neighboring countries following. The United States however, decided to remain on the exchange for some time after and here is perhaps where the crux of this thesis comes to bare.

Due to U.S. hesitation in dropping the gold standard, the Great Depression lasted much longer than it should have, domestically, and while the eventual dropping of the system did occur to make way for a centralized fiat currency system, the effect of the hesitation on the American economy was significant. The value of pre-war gold was, in effect, an anchor by which the likes of nations like Great Britain could not quickly deflate to. There is no reason to suggest that the

inherent value of gold was itself an issue, for its intrinsic value as an exchangeable commodity only suffered when attempts to push or favor other kinds of currency were made and as such, generally remained constant (by its rate increase in value). It could be argued that the inherent cost value of gold was in itself flawed, which would surely have led to massive bank system reforms geared to work around the commodity's value. However, gold's historical and cultural significance as an artifact of value precipitated its popularity as a good of desire and should have been recognized by its cost and value much sooner. With no real surprises stemming from intrinsic value of the metal, this paper suggests that it was gold's general scarcity as a good for exchange and its decentralization that led to its downfall but not in isolation. While perhaps reductive, it was the desire for more growth, more trade, and more expansion that bred gold's resentment in banking circles and because there was no way to truly justify an increases in the money supply or credit without setting the stages for a recession or a panic, the Gold Standard quickly became something to be resented.

Chapter 2

The idea of exchangeable cryptocurrencies has had a mixed reception over the last fifteen years. The most notable, Bitcoin, has been the subject of most crypto discussion and is currently the most referenced currency of the class and as such will be the only coin spoken of here. Unfortunately, due to the relative newness of the currency's adoption as a means of localized exchange, adequate information on its origins are limited. It is speculated that an individual or group of individuals operating under the pseudonym, Satoshi Nakamoto, developed Bitcoin as a method of payment stemming from the completion of computer 'puzzles.' These puzzles had roots in the earlier digital cash domains like *hashcash*, whereby users who were successful at coding protections against malware for example, could be compensated by way of digital payment. In an ideal world, these digital currencies could then be exchanged or converted into cash for purchase. The idea that the convertibility of a digital asset was a requirement for legitimacy soon came to be refuted and spurred on the idea of a global digital network that was capable of not only exchanging these tokens of value amongst participants in the market but also serving as a substitute for real world transactions. David Chaum and Stefan Brands laid an additional peg to the idea of an autonomous cryptocurrency network, through their *ecash* project, that suggested digitally based transactions be also recorded anonymously. The anonymity provided by their earlier software argued against payments that required the divulgence of actual or financially relevant information from banks so that personal data and account access was always hidden or limited by anyone else's access to the network. Holders of a digital wallet could hold off on third party signage from banks for the benefit of legitimate purchases at their discretion.

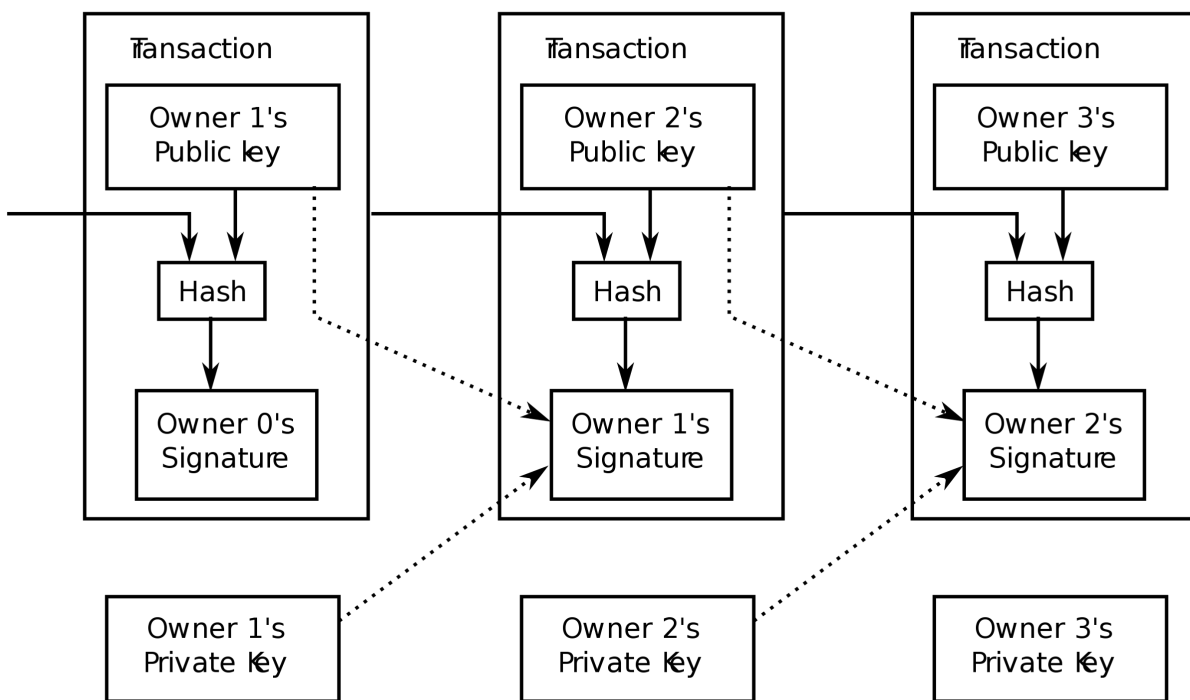
The fundamental question remains: What is Bitcoin? Bitcoin, as a store of value, is a public ledger that records transactions. The transactions recorded are done meticulously so that fraudulent activity is limited. The entirety of the network on the whole, is stored in a single unit of Bitcoin as the ledger is updated. The next 'coin' that is produced will quite literally contain all data from the total network which includes but is not limited to; the miners, the blockchains, the pending transactions, the coin bases, and the participants. This single Bitcoin however, is limited in its production and completely decentralized. Chapter 1 referenced the limited powers of a decentralized monetary operation where bankers were hampered by the limitations of necessary reserve supplies and when suggestions of credit expansion and money supply increases sprang up, resistance was typically met. Historically speaking, the banking system needed to become a centralized institution by which all transactions could be invariably recorded and monitored. The benefit of this monitoring was that 'trusted' individuals who had access to more economic data than the average individual, would be able to correctly react, foresee, and suggest rate changes and changes in the money supply when appropriate. The objective of Bitcoin was, to an extent, to remove centralized banking from the transactionary behaviors of the individual, shifting from third party ledger keeping to Actor to Actor recording. In this way, an autonomous and self-serving ledger could be monitored with the only interest in mind is one of accurate keeping.

Security issues immediately arise with the system from a regulatory perspective. If banks could not be trusted to keep an accurate log of transactions then how would personal liberties and property rights ever be maintained? The answer, supposed by Nakamoto in his paper on the Bitcoin Network, was to introduce a reward system by which accurate accounting through peer-to-peer effort would produce a single unit of Bitcoin. This coin, in part valued highly because of the computational effort required to safely and securely update the public and

personal ledgers of the entire network, would now hold an intrinsic trust value which would give legitimacy to the rest of the system.

An explicit explanation of some of the security features of the Bitcoin Network should be expanded upon in brief, if only to assert its claim as a proper substitute for traditional trade. In order to process a ledger of transactions, a cryptographic key must be maintained.

FIGURE. 5



At the basic level, this two fold key; public and private, would allow two actors to record a transaction of value. Actor *A* would send a message or request to Actor *B* and after being thoroughly encrypted by public key, decrypted by private key, Actor *B* would sign off on the transaction and so forth (See Figure.5). All transactions are recorded on this network and are up for public eyes in encrypted form and in this way anonymity is maintained. Unfortunately, there is no way to verify whether the sent message is true. In this case, true is meant to be synonymous

with authentic. Actor *A* could, for instance, request that Actor *B* pay out one hundred coins and the transaction would theoretically be slotted to occur sometime in the future. Without the approval via private key this transaction should not go through but the ledger itself still records that a request was made to start a transaction. At this point it is up to the peer-to-peer network to check and validate the message.

It should be noted that the peer-to-peer network is free to enter. Similar to the free banking philosophy that precipitated earlier banking processes whereby sufficient capital and estate were the only criteria necessary to become one, the Bitcoin network offers the same entry and exit policy. In this way, network validation is done on a voluntary basis with no real actualized benefit to the individual until work is completed. Here, ‘work’, refers to the act of collecting transactions posted to the network, grouping them together, and sorting out their respective validities by solving complex crypto algorithms. The algorithms are promised to be distinct and unique from one another so that no algorithmic replications and attempts at transaction replication can be made. The process of sorting, verifying, solving, and adding transactions to the ledger is known as mining. For the sake of simplicity, ledgers on the Bitcoin Network are grouped in blocks of data and are referenced as such. A chain of these ‘blocks’ containing a set of transactions during some given period is called a blockchain. Upon the miners completion of the algorithmic work process, the subsequent block created is added to the next block in the chain. The act of attaching that block produces one unit of Bitcoin.

In truth, the total units produced should be astronomical as technological innovations continue to develop and this too is a main concern of larger institutions. As was covered in the previous Chapter, the dangers of an ever increasing money supply is known. Inflationary spirals and the complete devaluation of the currency runs the risk of imminency. Satoshi marks that to

combat this, Bitcoin production is set to discontinue after a set amount units have been mined (somewhere north of 210,000,000 million). After the discontinuation, the only available Bitcoin will be ones already owned and used for transactions and at that point the combat against its own inflation via supply decreases will have been made. It should be discussed that while the argument for the intrinsic value of one unit of Bitcoin is, in part, reliant on its ability as a means of exchange, its monetary value by unit is directly meant to be a function of supply, demand, and rate of mining. Anticipating the potential for massive computing power and large scale mining operations, the mining process itself is programmed to become more difficult, so that the average rate of Bitcoin creation by unit does not exceed one coin every ten minutes. By the time that Bitcoin production stops, it is suggested that the amount available by unit should be so scarce (by means of total distribution) that the value per unit will increase tantamount to its total demand.

As technological advances become more frequent and increases in computational power also increase, the ability for digital currency networks to absorb new ledgers and attract new buyers or holders will allow for the mining of Bitcoin to flourish until its projected production ceases in 2140. This thesis argues that while the Bitcoin network is uniquely complex and open source, which allows for some competition, the risk of remaining fringed in finance groups remains. If it is to be believed that history repeats itself, it could be argued that the introduction of this new digital asset will do nothing but provoke the largest financial institutions in the world to stop its adoption.

Chapter 3

The issue that many economists and investment bankers may have with the adoption of Bitcoin is that it is eerily similar to the commodity based systems of exchange in that the suspension of it once adopted will lead to chaos and that the absolute absorption as a token of global exchange will slow or crash the economies of standing powers considerably. There is no reason to suggest that a full switch would ever take place but the benefits cannot be denied from the perspective of the individual. Chapter 1 was set to explain, in brief, the stages of banking evolution. While structurally, there are discrepancies amongst the interests of banking institutions and individuals, there is also a fundamental question of behavioral economics that perhaps aren't being considered. The idea that any one power would willingly and uniformly relinquish monetary control at this stage of international relations is incomprehensible and one need only look at the wars following World War I for proof of the benefit of absolute powers. The Great Depression was a significant force of change for the United States but for the rest of the world as well. After its recognition as a standard of exchange but flawed by its inelasticity, gold quickly fell from discussion as a viable factor in the forming of monetary policy.

The commodity itself may have still held a significant value as a rare and malleable metal, but global and domestic reliances on the goods have shifted tremendously. The Federal Reserve Bank has monopolized a system by which checks and balances are present but severely under reproach during times of crisis. In effect, the Federal Reserve holds the ability, with regard to all other banks, to print money whenever necessary or remove it when conditions deem it right to do so. At this point in human and market development, Bitcoin and cryptocurrencies are a direct threat to the uniform power that is the centralized banking system of the 21st century. This is not to say that reconciliation is not possible or that an all out conflict will emerge between the

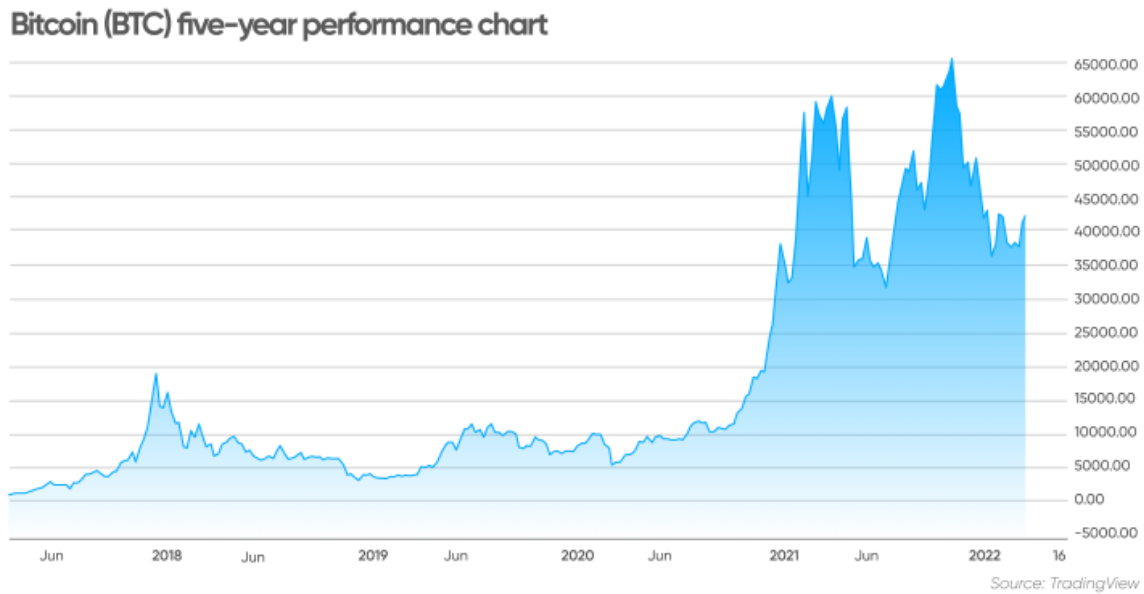
powers of the public and the powers of the state; however, there is evidence to suggest that if the Bitcoin Network, at worst, begins to legitimately threaten the power of the U.S. dollar, precautionary actions will be taken.

The closest thing to the absorption of an exchange standard that did function well for a time was the Bretton Woods System. Soon after victory against Axis powers in 1944, global powers convened to discuss what was to become of the monetary policy for international trade. John Maynard Keynes was recognized as a person of note at what had come to be known as the Bretton Woods Conference, so named for its location in New Hampshire and the discussion surrounding the gathering was one of fair pricing. With new currencies exploding all over the world, it was imperative that discrepancies in pricing for the sake of trade be looked over. Keynes suggested it was perhaps time to consider a new worldwide reserve currency, recognizing the aforementioned cost value of a commodity like gold, and suggested the *bancor*, which could serve as a functional peg of exchange. To do so would include the creation of a global central bank that would be known as the Clearing Union, overseen by elected delegates of various countries. The suggestion was met with some resistance, most notably from Harry White, Chief International Economist for the U.S. Treasury at the time, who instead wondered if this was not an opportunity to follow up the State's decisive intervention in World War II with the propping up of the U.S. dollar. A compromise was reached whereby the international bodies known today as the International Monetary Fund (IMF) and the World Bank were created. These two institutions would be tasked with regarding the oversight of trade relations and proper exchange rate practices as its top priority. The World Bank however, could, after international deliberation, loan funds out to governments in need following an international crisis.

Perhaps more immediately significant was the pegging of the U.S. dollar to the post-war value of gold at \$35 an ounce. In addition, all other countries would fix their exchange rate to the dollar, effectively fixing their currencies to gold. In this way, fixed rates were not susceptible to unprecedented fluctuations of more than 1% outside of economic disaster and the U.S. dollar would solidify itself as the world's global reserve currency. For a time, the Bretton Woods System proved to be uniquely fitted to bettering the volatile nature of exchange rates and promoted healthy economic growth pacing. In 1971 however, the Nixon Administration concluded that the U.S. gold reserves were not adequate enough to cover the dollars currently in circulation. As a result of the ultimate devaluation of the dollar, massive gold runs erupted at the cost of the Bretton Woods System. Interestingly enough the U.S. dollar is still regarded as the global reserve currency of choice.

It is fantastical to note the appeal that the digital asset has garnered over the last decade. Investment banks like Goldman Sachs and J.P. Morgan Chase have become actively involved in the valuation and creation of digital assets like Bitcoin. As of 2022 the number of merger acquisitions done with exchanges in those assets in mind has also increased significantly with the consensus being that economic forces pointing toward recession, a rethinking of asset allocation should also be done.

FIGURE. 6



Bitcoin as a speculative asset on the stock market has overperformed the last two years alone (See Figure 6.) but there is a reluctance still to accept it as a viable market investment from larger hedge funds.

Conclusion

The deterioration of adequate definitions of value gives way to rampant speculation of goods. Had the Gold Exchange Standard been respected at the pace of its natural valuation, the U.S. and global economy would be more uniform. The United State's history of federal and state banking practices however, has brought to light the credit expansion and inflationist monetary policies indicative of the dissatisfaction of natural growth rates. Ironically, the dropping of the Gold Exchange Standard allows for manipulations in the money supply and interest rates that help to smooth out sharp declines in market value and taper off excesses of overproduction. While the theorizing of market agitators has given rise to cleaner economic models, underlying credit and monetary policies now run through centralized institutions are farther away from true valuations than they have ever been. Bitcoin and its decentralized network is, in many ways, the antithesis of modern U.S. banking principles and while a promising alternative to the global monetary system in place today it is, at best, a transactionary network to be assimilated by federal legislature into monetary theory. The issue remains that historically, centralized entities do not return to decentralized models of finance for long and that without the discipline to remain on such a system, commodity based valuations of currency will always prove to be too static. Bitcoin's limited supply by unit offers stable pricing and has the potential to become a valuable 'good' of last resort but until other international powers including the U.S. agree to the dollar's withdrawal as a reserve currency or as, in the Bretton Wood agreement, a currency to be pegged to Bitcoin, the probability is slim that the cryptocurrency will ever be fully adopted.

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