

Understanding the Modern Monetary System

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ABSTRACT

This paper provides a broad understanding of the workings of the modern fiat monetary system in the United States. The work is primarily descriptive in nature and takes an operational perspective of the modern fiat monetary system using the understandings of Monetary Realism.

Part I – Introduction to Monetary Realism

The principal aim of this paper is to objectively describe the operational realities of the modern fiat monetary system in the United States using the understandings of Monetary Realism. The paper seeks to provide the reader with a better overall understanding of money, the modern monetary system, the banking system and how the monetary system as a whole can be used to achieve prosperity. Although I will focus primarily on the USA this subject can be applied to many other nations throughout the world.

Overview - Monetary Realism

Monetary Realism (MR) is a description of the fiat monetary system applicable to nations who are issuers of their own currency, but have outsourced the broader money supply to the private banking system. Monetary Realism describes the complex institutional relationship between the government (public sector) and the non-government (private & foreign sectors) and how the “machine” works to achieve general prosperity.

Monetary Realism is based on the following principles:

- The primary role of “money” is to serve as a means of payment. Money can take many forms, but in the modern money system the final means of payment comes primarily from *within* the private banking system in the form of bank deposits. In other words, the dominant form of money in the modern monetary system is issued almost entirely by the private banking system.
- The monetary system exists primarily for private purpose in order to create a system for efficient exchange of goods and services. The private sector plays the lead role in helping to advance the well-being of the society in which money is used.
- In many market based systems such as the USA, the money supply is essentially privatized and controlled by private banks that compete to create loans which create deposits (money). Contrary to popular opinion, governments in such a system do not directly control the money supply or create most of the money.
- The public sector (the government) plays a facilitating role in helping to regulate and manage the infrastructure within which the money system operates. If properly utilized the government can be an extremely powerful tool in helping to stabilize and create efficiencies within the money system.

- The Federal Reserve (the central bank in the USA) and the government have a symbiotic relationship and together are issuers of the currency to the monetary system. Currency, or what MR refers to as “outside money” (because it comes from *outside* the private sector), accounts for bank reserves, cash notes and coins. In addition to the Fed, who issues bank reserves, the US Treasury is the other issuer of outside money in the form of cash and coins. Households, businesses and state governments are *users* of public sector supplied currency and also private bank issued monies (i.e. bank deposits or inside money because it comes from *inside* the private sector).
- The private banking sector issues bank deposits (“inside money”) and the public sector issues coins, paper cash and bank reserves (“outside money”). Nowadays most means of payment involving private agents are transacted in bank deposits and, as such, the ins and outs of “inside money” are vital to understanding how the modern monetary system functions. While the private sector component of the monetary system takes center stage in the daily business of market exchanges and economic progress, the public sector also plays an important role.
- As the issuer of currency, the government has no solvency constraint as there might be for a household or business. In this regard, one must be careful comparing the federal government to a household because the federal government has no solvency constraint (i.e., there’s no such thing as the federal government “running out of money” as it can always call on the banks and the Federal Reserve to serve as agents of the government to create money for its own spending needs). Households, on the other hand, have a very real solvency constraint as they can quite literally “run out of money”.
- The federal government’s true constraint is never solvency, but inflation. The government must manage its policies so as to avoid imposing undue harm on the populace via mismanagement of the money supply or via inefficient use of government taxing/spending.
- Government serves as a facilitating feature within the monetary system. While government assists in the economic process it is ultimately the private sector that is the primary driver of innovation, productivity and economic growth. It is the private sector that primarily propels increases in living standards with its activities being the most important factor in giving value and viability to fiat money. But it is helpful to view government as a tool available for public purpose where appropriate.

- Money can serve many purposes, but is most commonly used as a means of payment and a record of account. There are many different instruments and items that can serve as “money-like” things within a monetary system, but the dominant form of money in most modern money systems are bank deposits since they are the most common form of money for means of payment. Understanding the “scale of moneyness” (discussed later) is crucial in understanding this important point.
- Because the money supply is mostly privatized and is created by banks in the form of loans (debt) it is crucial to understand the central role that banking plays in the money system and how the stability of the private banking system is central to achieving economic stability and prosperity.

The Dismal Science & Getting Back to a Da Vinci Methodology

The primary purpose behind the formation of Monetary Realism was to formulate a better understanding of the monetary system at its operational level without emphasizing the role of policy. Therefore, one of the key elements of Monetary Realism is its political agnosticism. MR is a blend of many different economic schools and takes this broad understanding to offer an explanation of how the economic system—the machine—works within the existing set of institutional practices. The purpose of MR is not to offer a political or policy bias, but rather to describe the operational realities of a fiat monetary system in an attempt to better educate the reader and provide them with the understanding to make their own informed decisions as to how this system might be utilized and optimized.

One of the great problems with the economics profession is that there is no firm foundation of understanding from which analysts can build their policy prescriptions. Further, one tends to find schools of thought based on normative rather than positive thinking; prescriptive rather than descriptive. The MR approach is similar to that utilized by Leonardo Da Vinci regarding medicine and human anatomy. Da Vinci viewed the human body as a machine and as one of the first anatomists he provided the world with a better understanding of how that machine functioned (e.g. how its pieces worked together, how it was built, etc). To Da Vinci, it was all about finding out what IS, not what CAN be. It was only through rigorous analysis of how the machine worked that he and others were able to be in a position to offer advice on medicine and surgery.

The “dismal science” need not be so unscientific. Unfortunately, most of its practitioners are trying to be Hippocrates and not Da Vinci. And like the surgeons of the days of Hippocrates, they do not fully understand how the system works and while they might believe they will “do no harm”, too many are too often working from a false premise or a false understanding of the system due to a preconceived ideology. It is my hope, through MR and a true focus on understanding how the system works at an operational level, that we can provide a primarily positive (descriptive) approach to money, economics & finance.

Part II – Understanding Modern Money

Understanding Fiat Money

Money, as it exists in a modern monetary system, is a social construct that serves primarily as a medium of exchange (means of payment). Money also serves other purposes, but we will focus primarily on its most basic and common function. As a social species we exchange goods and services via the use of this tool. Throughout history many things have served as money and still do serve as money. But certain forms of money can be thought of as having a higher “moneyness” than other forms of money within a particular society. In general, that which is most readily accepted as a means of final payment can be thought of as having the highest level of moneyness.

- ***Fiat money:*** *A form of money that is widely accepted due to government law.*
- ***Unit of account:*** *A standard monetary unit for measurement of value of goods, services and financial assets. In the USA the unit of account is the US Dollar.*
- ***Medium of exchange:*** *A widely accepted intermediary instrument that facilitates the sale, purchase or trade of goods/services.*

The most prominent form of modern money is fiat money. That is, money that exists due to legal mandate. All fiat money is a specific legally mandated unit of account. These forms of money have no intrinsic value. That is, this money is not necessarily a physical “thing”. In the USA, the US Dollar is the legally mandated form of money that we use as a medium of exchange and unit of account¹. The US government determines the US Dollar as the denomination of money in the USA and oversees the regulation of the use of dollars within the US payments system. The actual money in this system can take many forms with varying levels of “moneyness”, but only the denomination of US Dollar applies to the specific US monetary system as the unit of account.

“Money” is a vague term. Technically, anything can serve as money. And historically, many things have served as “money”. As a social construct “money” is really nothing more than a tool that helps us interact in our everyday lives. The history of “money” is lost in time, but there is ample evidence of forms of monetary systems in primitive monkeys in which sexual favors are traded in exchange for protection, grooming and other “bonds”. These primitive societies use forms of money in exchanges as a form of social bond that interlinks the species in the attainment of survival. In a primitive society money is essentially an unspoken bond. In a modern economy money takes a more structured and institutionalized form.

It is best to think of “money” as being the social tool with which we primarily exchange goods and services. Money has its highest level of “moneyness” when it is widely accepted as a final means of payment for goods and services. Of course, money is more than merely a medium of exchange, but its primary purpose for existence and most prominent use is in exchanges for goods and services. Throughout history, many things have served this purpose and in modern transactions many different instruments can be classified as “money”.

If we consider something that serves as a means of payment as “money” then “money” can be different things to different people. For instance, in your local pawn shop gold might be considered a form of money since it might be one of the few things that the shop owner will accept as a medium of exchange. If you buy a sandwich from a shop that does not accept credit cards they do not consider bank deposits to be “money”, but instead prefer cash bills. Most

businesses in the USA will accept not only credit cards, but also cash. In other words, they consider both forms of money to have a very high level of moneyness. What most businesses do not consider to be money are things like physical gold, stocks, bonds, or physical commodities. Therefore, their level of moneyness can be thought of as being relatively low.

In the modern monetary system fiat money is the form of money we primarily utilize on a daily basis. It derives its value in part as a result of government law which dictates a particular thing as the unit of account. Because money is a sensitive social construct built in large part on trust between parties, it helps that government organizes and institutionalizes specific forms of money. But money does not primarily have value because the government deems it so. Money primarily has value to the degree that it is useful in the means of exchanging goods and services so it is crucial to understand that money is regulated by the state, but given value by its users in the creation of goods and services (after all, money has no value if it does not enable you to obtain goods and services). In the next few sections we will dive deeper into the structure, value of money and the importance of money to our society.

Understanding Inside Money & Outside Money

In most modern monetary systems money is primarily distributed through the private competitive banking process. Banks compete for the demand of loans in a market based system. The primary form of money in existence today resides in bank accounts as bank deposits within the US payments system. This mechanism to distribute money is essentially a privatization of the money supply to the private banking system. That is, the primary form of money we all utilize on a daily basis is controlled almost entirely by private banks (though its growth is largely contingent upon demand).

Bank money is what MR calls “inside money”. Inside money is created *inside* the private sector. Inside money includes bank deposits that exist as a result of the loan creation process (loans create deposits). It is the dominant form of money in the modern economy and as the economy has become increasingly electronic it has taken on a more prominent role in the means of transacting business. Money is no longer just a physical thing, a cash note or a gold bar. Its most common form is now numbers in a computer system.

It is helpful to think of the US monetary system as mainly existing within the US payments system. The US payments system is a primarily electronic system regulated by the government and maintained primarily by the private banking system. That is, the government helps oversee the use of this system, but private banks maintain the daily processing of transactions that occur within this system.

In today’s modern electronic monetary system just 26% of all transactions occur with cash notes while electronic payments dominate the means of payment. In addition, over 90% of the money supply is created by private banks. As we will see below, the idea that cash is a more dominant form of modern money, is false since cash serves primarily as a facilitating feature to inside money. Like all forms of outside money in the modern system, cash is a facilitating money to the central form of money in the system (inside money).

Inside money (money created by banks inside the private sector) can be inherently unstable as the entities that issue this money are inherently unstable. The 1800’s and early 1900’s, for instance, experienced substantial volatility in banking as an inherent conflict of interest developed. Banks, as private profit seeking entities are inclined to maximize profits at all times. As Hyman Minsky

once noted, stability creates instability². This is particularly true in banking as economic stability tends to result in banks relaxing their lending standards to maximize loan creation and profit potential. But this stability is often a mirage that results in future instability and often banking crisis. Those who understand the credit crisis of 2008 know this all too well. Therefore, government money can serve an important facilitating feature to help stabilize the inside money system.

This brings us to the other dominant form of money in our monetary system – outside money. Outside money is money created *outside* of the private sector. This includes cash notes, coins and bank reserves. Cash and coins are created by the US Treasury while bank reserves are created by the Federal Reserve (reserves can be thought of as deposits held on reserve at the Fed). Although cash & coins are becoming obsolete in some money systems, they remain prevalent forms of money in most economies. This form of money primarily serves for convenience purpose that allows one to draw down a bank account of inside money (via ATM for instance) to make transactions in physical currency. In other words, cash and coins are primarily used by those who have an account in inside money for the means of conveniently transacting business in physical form.

The most important form of outside money is bank reserves or deposits held on reserve at Federal Reserve banks. These deposits are held for two purposes: 1) to settle payments in the interbank market; 2) to meet reserve requirements. Bank reserves are ONLY used by banks and the central bank in the interbank market and do not reside in the non-bank private sector. It is best to think of reserves as deposits held in accounts at the various Fed banks to settle payments within the banking system. For example, if you have a bank account at JP Morgan and you use your bank deposits to purchase a sandwich from someone who banks at Bank of America (who subsequently deposits the funds at B of A) the banks will settle this payment by transferring reserves in the interbank market. This interbank system creates a market where the Federal Reserve can help streamline settlement of payments and ensure stability and liquidity within the payments system.

What's crucial to understand here is the way that outside money serves primarily to facilitate the existence of inside money. That is, the creation of outside money is almost entirely a facilitating feature to influence or stabilize inside money, the primary form of money in the economy. Through its vast powers the government can serve as an important stabilizing force in a system that is designed primarily around inherently unstable private competitive banking.

In understanding inside money and outside money, one must also understand that it is the banks who “rule the monetary roost” so to say. That is, banks issue almost all of the money in circulation today in the form of loans and the government is designed primarily to support this privatized money creation source. Contrary to popular belief, the government does not issue or “print money” (except in the most literal sense, ie, the US Treasury prints notes to meet demand for use at private banks by bank customers who have accounts in inside money). The government is only the issuer of outside money which is designed to facilitate and support the use of inside money.

Understanding “Moneyiness”

Modern forms of money are largely endogenous (created within the private banking system), but are organized under the realm of government law. The specific unit of account in any nation deems how money will be denominated. The government therefore decides the unit of account and can restrict/allow certain media of exchange. The unit of account in the USA is the US Dollar. Organizing money under the realm of law increases a particular form of money's

credibility in the process of transaction as laws create protection for its users. Being a trust based creation, money is likely to be unstable without proper oversight by its users. The government also helps oversee the viability of the payments system and can decide what can be used within that payment system as a means of settlement. In the USA the primary means of settlement are bank deposits and bank reserves. Therefore, these forms of money serve as the most widely accepted forms of payment within the money system.

There are different forms of money within any society and they have varying forms of importance and “moneyness”. Moneyness can be thought of as a form of money’s utility in meeting the primary purpose of money which is as a medium of exchange.

In the USA the money supply has been privatized and is dominated by private banks who issue money as debt (which creates bank deposits representing over 90% of the money supply in most modern fiat money systems). Banks are granted charters by the government in the USA to maintain the payments system in a market based system. Banking is essentially a business that revolves around helping customers settle payments. So it’s helpful to think of banks as being the institutions that run the payments system and distribute the money within which that system operates. As mentioned previously, outside money plays an important role in helping facilitate the use of the payments system, but primarily plays a supporting role to inside money and not the lead role.

In a capitalist economy like the USA inside money exists primarily to disperse the power of money creation away from the government towards a market based system where banks compete to create money. This paper will not opine on whether that system is optimal or not, but rather, will simply state what is.

Outside money could theoretically serve as the most dominant form of money in the system (for instance, if the government did not choose to use bank money to spend, but instead chose to simply credit accounts by issuing money directly), but takes a backseat to inside money by virtue of design. That is, outside money always facilitates the use of inside money by serving as a support feature for inside money. Cash, for instance, allows an inside money account holder to draw down their account for convenience in exchange. Bank reserves help stabilize the banking system to serve interbank payment settlement. These are facilitating roles to inside money. Therefore, we place inside money as having the highest level of moneyness in the monetary system.

It is helpful to think of money as existing on a scale of moneyness where particular forms of money vary in degrees of utility (see figure 1). As Hyman Minsky once stated, anyone can create money, the trouble is in getting others to accept it. Getting others to accept money as a means of payment is the ultimate use of money. And while many things can serve as money they do not all serve as a final means of payment.

The primary forms of money within the monetary system include cash, coins, reserves, bank deposits, financial assets (such as stocks and bonds), SDRs, commodity money (such as gold), foreign currencies (such as the Yen and Euro) and other rare media of exchange (such as BitCoins or other alternative forms of money). Understanding the level of moneyness in each of these forms of money is crucial to understanding the modern monetary system.

Bank deposits have the highest level of moneyness within the modern monetary system because they are the primary means of settling payments. As users of the modern electronic payment system we are all users of the US payments system which requires us to transact in bank issued

deposits. The electronic payment system is, by a wide margin, the most widely utilized means of payment in the USA.

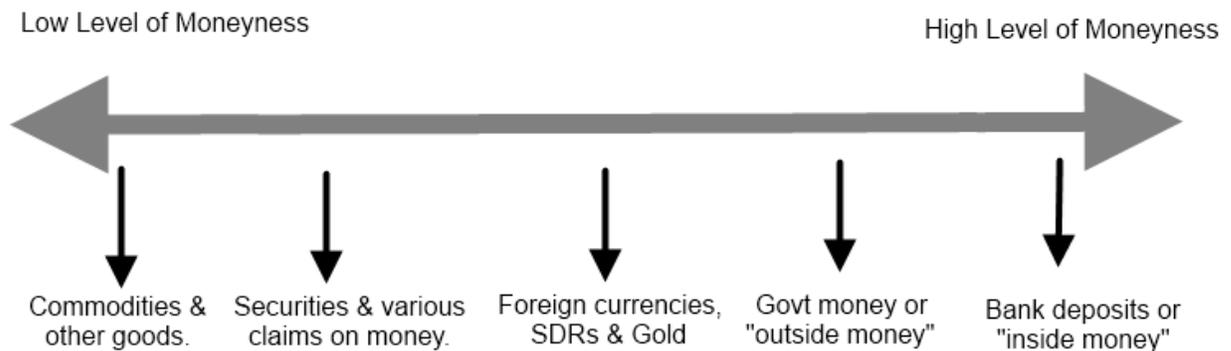
Cash, coins and bank reserves are also important forms of money in the modern monetary system, but serve primarily as facilitating forms of money to the inside money system. Cash is a convenient form of money, but because it serves to facilitate the use of an inside money account (by allowing one to draw down this account) it has a lower level of moneyness. Reserves are a crucial element of the interbank system of payment settlement, but again serve mainly to facilitate the system of inside money. So while reserves play an important role in the settlement process their existence as a facilitating form of money for interbank settlement renders them a lower level of moneyness.

Since foreign currencies are fungible on a foreign exchange market most foreign currencies have a moderately high level of moneyness. For instance, a Euro is not good in most stores in the USA (because the unit of account in the USA is the dollar), but can be easily exchanged for US Dollars of various forms. SDRs and gold, which are broadly viewed as universal mediums of exchange, can be viewed similarly though they vary in degrees of convenience for obvious reasons. Gold for instance, is widely viewed as money and can be easily exchanged for money, but is not widely accepted as a means of final payment.

Most financial assets like stocks and bonds are “money like” instruments, but do not meet the demands of money users in terms of having high liquidity or acceptability as a medium of exchange. These financial assets are easily convertible into instruments with higher moneyness, but are not widely accepted as a final means of payment.

Lastly, most commodities and goods are low on the scale of money since they are unlikely to be accepted by most economic agents as a means of final payment.

The Scale of "Moneyness"



(Figure 1 – The Scale of Moneyness)

What Gives Fiat Money Its "Value"?

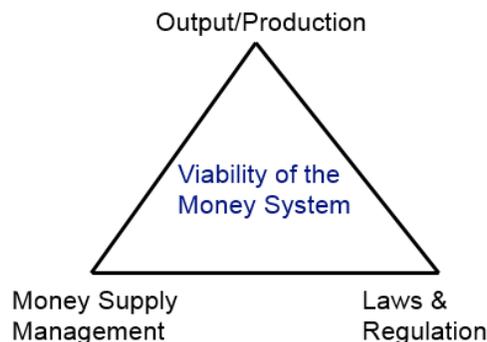
Monetary Realism views money as being driven by many different factors. But what gives this money value if it has no intrinsic value? What backs the notes or electronic records of account that a society creates? What gives these pieces of paper, coins and inputs value? It's helpful to break the demand for fiat money down into two components.

The first is acceptance value and the second is quantity value. *Acceptance value* represents the public's willingness to accept something as the nation's unit of account and medium of exchange. This is achieved mainly through the legal process. That is, the government and the people deem a specific thing (such as the US Dollar) as the accepted unit of account and medium of exchange. The government also regulates the monetary system within which that unit of account is utilized. But the government cannot force currency acceptance upon its users merely by stating the thing that is usable as the nation's unit of account.

Quantity value describes the medium of exchange's value in terms of purchasing power, inflation, exchange rates, production value, etc. This is the utility of the "money" as a store of value. While acceptance value is generally stable and enforceable by law, quantity value can be quite unstable and result in monetary collapse in a worst case scenario.

Ultimately, these pieces of paper or electronic records of account represent some amount of output and production that can be purchased. Notes or cash, for instance, in and of themselves have no intrinsic value, but serve as a medium of exchange that allows the citizenry to exchange various goods and services. The willingness of the consumers in the economy to use these notes is largely dependent on the underlying value of the output and/or productivity, the government's ability to be a good steward of the currency, the banking system's distribution of money and the ability to regulate its usage. I like to think of this as an interconnected bond between these various forces. If any link in the bond is broken the nation's monetary system is at risk of collapse.

Importantly, production sits at the top of this hierarchy. After all, if a nation has nothing to produce then the formation of a monetary system serves little purpose. Further, a system that does not evolve via production can expect to become increasingly unstable over time as living standards stagnate.



(Figure 2 - The Fiat Money System's Linkages)

The value of any form of fiat money is ultimately derived from three key linkages:

1. Output/Production
2. Money Supply Management
3. Laws & Regulation

Production is vital in giving money its value. The goods and services that are produced by the citizens and the value that other citizens are willing to pay for these goods and services is what ultimately makes any fiat money viable. Therefore, government has an incentive to promote productive output and maintain sound stewardship of the money supply. A government that implements poor policy, disincentivizes productive output and abuses the money supply threatens the stability of the monetary system. A money system whose institutions and government are corrupted will likely become corrupted as a whole. The autonomous nation's government, which is the organized body formed through representation of the private sector, deems what is acceptable as money and plays an important role in helping to regulate and maintain stability of money.

While the state plays an important role in setting the acceptance value of money, money is not necessarily valuable only because the state says it is valuable. The “value” of money involves the other linkages described above. JM Keynes once compared money to a theatre ticket:

“money is the measure of value, but to regard it as having value itself is a relic of the view that the value of money is regulated by the value of the substance of which it is made, and is like confusing a theatre ticket with the performance”.³

This is an accurate portrayal of money in a modern fiat monetary system. Fiat money, in and of itself, has no intrinsic value. The theatre ticket has no value aside from the paper it is printed on, however, given the value of the performance citizens will be eager to attribute a certain value to these tickets because they are deemed by the theatre as being the tool of entry into the show. If the theatre mismanages the number of tickets in circulation they will devalue the tickets. In much the same way, the US government deems the US Dollar to be the ticket with which we can see (and interact in) the US economy. If the show is good (productivity is high), the number of outstanding tickets are not mismanaged (the banking system prudently manages the money supply) and the tickets are sustained as the only form of entry into the show (the tax and legal system sustains itself) then this money remains a viable medium of exchange. But ultimately, the “value” of the tickets are primarily dependent on the quality of the show which is determined by the supply and demand for the nation’s productive output. So we can see how the linkages shown above work in tandem to give a fiat money a particular value.

"Money" is Not "Wealth"

It’s important to understand that “money” is not necessarily “wealth”. Money is the tool that allows citizens to exchange and transact in the underlying goods and services. In other words, it gives us access to a form of wealth (goods and services), but does not necessarily represent wealth in and of itself. If a society spends money in excess of a nation’s underlying productive capacity it will devalue this money and generate destructive inflation. This would result in too much money chasing too few goods leading to a potential decline in real living standards. It can help to think of money as being the thing with which we “chase” forms of real wealth. It gives us

access to real wealth, but having a lot of money does not necessarily mean we are “wealthy” (though it could certainly make it easier!). In fact, seeking to accumulate money can often lead one astray as they begin to view money as the ends and not the means. After all, as a social construct, money is the thing that allows us entry into the show, but entry into the show does not necessarily equate to becoming wealthy. As participants in the economy we can derive prosperity by being productive within that economy and adding value to the lives of those around us. “Wealth”, happiness or prosperity can mean different things to different people so it is unwise to generalize and confuse the accumulation of money or even real goods and services as being the ultimate end and not just a means to an end.

From the perspective of the money supply, the key for government or society as a whole is to balance the amount of money in the system in order to keep the temperature just right - not too hot and not too cold. But we must be careful not to confuse the “performance” for the “ticket”. In this regard, money can be thought of as access to real wealth, but not the wealth itself. Creating more access to wealth will not necessarily provide society with superior living standards and could in fact reduce living standards if this tool of exchange is circulated in excess of productive capacity. Ideally, money creation will result in productive output and increased living standards though it’s entirely possible that the money supply can expand and result in inflation as a result of malinvestment.

Is Time The Ultimate Form of Wealth?

The reason why any society forms in the first place is because we have a collective understanding that we can achieve a better **overall** living standard if we leverage one another’s strengths and abilities. I have argued that human beings are the ultimate pack animals even though we like to think of ourselves as rugged individualists. This basic innate understanding is what drives us to need one another and understand that we are better off in groups than we are alone.

Our monetary system is simply an evolution of this understanding from spoken bonds (and even unspoken bonds) to written bonds. But the goal of a society has not changed despite the fact that the tools we use have changed. The end game has always been the same. It is the desire to generate improving living standards through the efficient use of resources resulting in the optimization of time. The element of time, in my opinion, is the key piece of this puzzle. Time is the ultimate form of wealth in a modern society. It is through time that we are able to live fuller and more meaningful lives. What you do with your time is up to you. But the key is that having more time means being able to do more of what you want to do.

In theory, we can consume and produce an infinite amount given the time. But time, as we all know, is not infinite for finite creatures. Here, I introduce the “MR Law”:

“We generate improving living standards through the efficient use of resources resulting in the optimization of time”

This is a powerful concept and one that can change the way modern societies approach economics, public policy and everyday life. While full employment and price stability are admirable goals, they become secondary to this understanding that sits above them in the hierarchy of societal goals because full employment and price stability are not always synonymous with improving living standards and time optimization.

How does the entrepreneurial process work to create real wealth?

Ultimately, the real benefit of our labor and output is the time it provides us. Adam Smith once said:

“The real price of everything, what everything really costs to the man who wants to acquire it, is the toil and trouble of acquiring it.”⁴

The value of money is the amount of labor time required to obtain that money. Said differently, the value of our output in terms of goods and services produced, is what gives us access to a certain amount of money. To understand this concept a bit better it might help to understand how output, innovation and the value of money are all inter-linked.

Alexander Graham Bell is one of the greatest innovators in American history. So what did Mr. Bell do exactly? He created a more efficient way to communicate by inventing the telephone. Clearly, communication is a vital part of human life. And in theory, there is infinite demand over the long-term to communicate.

At some point in his life, Mr. Bell sat down and probably said something to the extent of – “it would be far more efficient if I could talk to Mr. Smith immediately as opposed to sending him a telegram”. Clearly, this desire was not unique to him. And all Mr. Bell did was fill a demand by inventing a product that helped consumers meet this demand. But the important role that Mr. Bell played in the job creation process is not that he necessarily created jobs independent of his consumers (they are interdependent). After all, there were plenty of messengers already employed and working before the telephone came into being (Mr. Bell actually *destroyed* their jobs).

What Mr. Bell did is give his consumers more **time** to consume *other* goods and services. He reduced the toil and trouble of having to acquire things by providing them with a product that made their lives more efficient and productive. Just imagine all the ways that the telephone improves our quality of life and makes us more efficient. The businessman in NYC no longer had to wait for the telegram from his business partner in Chicago to discuss their new business decisions. Instead, he picked up a telephone and a decision was made in a matter of minutes. There are innumerable (better) examples of the ways that a simple innovation such as Mr. Bell’s helps us to improve productivity, efficiency and ultimately our standard of living.

This is important when considering the quantity of money within a monetary system relative to the aggregate supply of output and its impact on living standards. For instance, it’s not uncommon to hear someone in the mainstream press state that the US dollar has fallen 95%+ since the Federal Reserve was created in 1913. This is technically true because inflation has increased substantially (about 3.2% per year), but despite its decline in purchasing power, our real standard of living has increased dramatically because we have become so much more productive. An American in 2011 lives a much higher quality of life than an American in 1913. This is because we have been afforded (through productivity) the luxury to use more time as we please. In other words, it takes far less time to purchase 1 hour of output today than it might have in 1913. Therefore, we are far wealthier despite the rising inflation.

The key point here is that improvements in our standards of living provide us with the ultimate form of wealth – they give us more time to do the things we think will help us find fulfillment (whatever that might be to any particular person). This is the ultimate form of wealth. The

entrepreneur gives us more time to consume more goods and services and do the things we want in our lives.

If we look at the modern economy we can see how streamlined this process has become. For instance, last night at 7 PM I put my laundry in the wash, I put the dishes in the dishwasher, ordered dinner from a local restaurant and went upstairs into my office where I did 30 minutes of work. At 8 PM my dinner arrived, my laundry was done, I ate dinner on a fresh clean plate and I had done 30 minutes of work in this period. Imagine trying to do all that 100 years ago? How long would it take you? Days? Perhaps even weeks? That is a remarkable increase in living standards despite the fact that it costs substantially more to do all of these things than it would have in 1913. And why are we able to do all these things in such a condensed period of time? Why am I able to consume so much more than I could have 100 years ago? Because entrepreneurs created a machine that cleans my clothing for me, they created a machine that cleans my dishes for me, they created an oven that cooks my dinner, a car that allows the deliveryman to deliver my dinner, and invented a computer which allows me to efficiently and effectively accomplish work.

Importantly, we must understand that consumption and production are two sides of the same coin. We often hear economists arguing about supply side policies and demand side policies. The reality is, BOTH are important. Mr. Bell needs customers to sell his phones just like Mr. Bell's customers needed Mr. Bell to communicate more efficiently. Too often the world of economics devolves into a black and white story when the truth generally lies somewhere in between. Supply and demand imbalances can develop, but we must approach each environment as though it's its own unique environment and not attempt to apply an ideological perspective to what is certain to be a unique economic environment. Therefore MRists would never describe themselves as "supply siders" or "demand siders" because the answer is usually "it depends".

Lastly, it's important to understand in these discussions of inflation and living standards that hyperinflation is a very different phenomenon from inflation (which is quite normal in a fiat money system).⁵ In recent years we have heard many hyperinflation predictions based on misunderstandings of banking and the monetary system. Hyperinflation is a disorderly economic progression that leads to complete rejection of the nation's money. It is not merely a monetary phenomenon, but primarily a political phenomenon. Throughout history, hyperinflations have tended to occur not because the money supply expands, but because of unusual exogenous factors. The primary causes have been decline in production, corruption, regime changes, ceding of monetary sovereignty and loss of a war. Although hyperinflation is widely viewed as a monetary phenomenon, the explosion in the money supply is generally the result of one of the aforementioned factors.

The Basic Purpose of a Monetary System

Understanding the money system, its structure and its purpose is ultimately about understanding how this system is a system of flows. The money system exists so we can exchange goods and services. Someone spends, another person earns this income, this person invests, the recipient spends and the cycle goes on. Without the cycle of spending the monetary system essentially dies. That is, if there are no flows then incomes decline, profits dry up, output goes unsold, workers get fired, etc.

The money system is very similar to the way the human body works. The human body is largely based on a system of flows. As long as the blood flows the body receives the nutrients necessary

for survival and every day operation. But the flow is not necessarily enough on its own to sustain the system. The system must be properly nourished and taken care of. A human being who sits on his/her couch every day eating unhealthy food is likely to experience an interruption in this flow at some point as the system deteriorates in health over time. And when the flow stops (for whatever reason) the system dies.

In the money system, the “health” of the system is based largely on how this flow results in an improvement in living standards over time. Are the economic agents using this flow to create goods and services that improve the overall standards of living for the system as a whole? Are they, as we described above, creating goods and services that optimize our time? The “sitting on the couch eating unhealthy food” equivalent for the economic system is a system in which the economic agents are unable to find productive uses for this flow. In this scenario living standards stagnate, the flow stagnates and the system deteriorates.

The monetary system is designed in such a manner so as to enhance the efficiency of this flow of funds through the system and encourage and reward those who contribute positively to it. The later sections of this paper will focus largely on the institutional design of the US system, but it is important to understand that the institutional structure of the system is merely the infrastructure within which the system operates.

Part III – The Basic Institutional Structure of Fiat Monetary Systems

Monetary Policy, Fiscal Policy & the Strategic Currency Issuer

To understand the structure of the US monetary system it helps to understand why we have the system we have today. The USA was founded on the idea of a market based economy with deep skepticism towards centralized government powers. Thus, the design of the system in the USA has always remained consistent with keeping the power of money creation from being controlled entirely by the government. To the surprise of many in the mainstream and even in the field of economics, the government has far less control over the money supply than most presume. Money creation in the USA is dominated by the private banking system that competes for business (loan creation). But this system designed around private money issuance has proven terribly unstable at times and in need of a stabilizing force. What has evolved over the course of hundreds of years is a complex private/public hybrid system. That system involves a complex set of public institutional structures that play a facilitating role to the private banking system.

In addition to the banking system, the monetary system of the USA includes the Treasury and the Federal Reserve. Together these domestic monetary authorities form a facilitating currency issuer. In modern fiat money systems the government, as the legitimate representation of the people, writes the rules of the game. The term “facilitating currency issuer” is a shorthand way to denote the ability of policymakers to determine macro policies and development strategies in the process of public purpose.

Understanding the institutional design of the monetary system is crucial to understanding the roles of monetary and fiscal policy within the money system. The US Treasury, for instance, is the arm of government through which fiscal policy is enacted. The Treasury enacts policy by managing the tax system and engaging in the sale of bonds in order to procure funds for spending. The Federal Reserve is an independent hybrid public/private entity that engages in monetary policy via the banking system primarily by impacting the levels of inside bank money that exist.

Why Does the Federal Reserve System Exist?

The US Federal Reserve System was established by a legislative act of Congress in 1913 and can best be thought of as a public/private hybrid entity. The Fed system created what is known as the “interbank market” where banks can settle payments within one centrally regulated market. All member Fed banks are required to maintain reserves on deposit for the purpose of meeting reserve requirements and helping to settle payments. This system was created after a series of banking crises in the late 1800’s and early 1900’s exposed the inherent fragility of private banking. The interbank system maintained the private competitive nature of banking and money issuance while bringing stability to the payments system by providing a federally regulated interbank system of payment settlement.

There’s a great deal of misunderstanding regarding the Fed’s role in the economy and how it influences various actors. First, it’s important to understand that the Fed is an agent of the government who enacts policy by serving private banks. It is created by act of Congress and remits 95% of its profits to the US Treasury. So, contrary to popular opinion, the Fed is not merely an agent of the banks seeking to enrich private bankers, but also a public purpose entity. The Fed is aligned with the US government and has a legislative mandate to achieve price stability and full employment (though it does not always achieve this). Confusion on the Fed’s role in the economy stems from the fact that its primary role in stabilizing the money system involves stabilizing and often bailing out private banks (because the Fed enacts policy THROUGH the banking system). The Fed serves as the role of “lender of last resort” to banks who cannot find sufficient liquidity so it is often seen as an enabler of bad banking behavior. You can see how this might cause some to conclude the Fed’s existence to be a conflict of interest of sorts. It is indeed serving two masters, one private and one public.

Prior to the Federal Reserve System the USA had what was essentially rogue banking dominated by these private entities. And when one of these entities experienced a crisis the system was often thrown into turmoil as Bank A would refuse to settle the payment of Bank B due to solvency concerns. The Federal Reserve System reduced this risk by creating one cohesive and internal settlement system. The interbank market is the banking market controlled and regulated by the Federal Reserve. Banks are required to maintain accounts with Federal Reserve banks where they maintain deposit accounts. You can think of this market as the market exclusively for bank payment settlement as it is not accessible to the non-bank public. This market creates one clean market where banks can always settle payments and where the Fed can intervene and provide aid and oversight where necessary. As the Federal Reserve has explained:

“By creating the Federal Reserve System, Congress intended to eliminate the severe financial crises that had periodically swept the nation, especially the sort of financial panic that occurred in 1907. During that episode, payments were disrupted throughout the country because many banks and clearinghouses refused to clear checks drawn on certain other banks, a practice that contributed to the failure of otherwise solvent banks. To address these problems, Congress gave the Federal Reserve System the authority to establish a nationwide check-clearing system.”⁶

The Fed system was created to support the private for-profit banking system, but helps stabilize the entire economy by ensuring that the payments system (or the “flow”) remains healthy. So, in a sense, the Fed is a servant to the banking system as its design is consistent with a mandate to always support the private banking system. This system helps to maintain private competitive

banking while also leveraging the strengths of the Federal government to create a support mechanism to help keep the banks from imploding on themselves due to their inherent inability to properly manage risk at all times.

Understanding How the US Government is a Self-Determined User of Money

The US Treasury is a user of bank money and reserve money since it settles all its transactions in reserve money in its bank account at the Federal Reserve that are initially funded via the procurement of inside money. The Treasury is also the issuer of notes and coins to the banking system. The US Mint and Bureau of Engraving issue notes and coins to the banking system on demand as needed to meet the demands of users of bank customers who have accounts in inside money. For instance, if demand for cash notes is higher than usual the regional Fed banks will request more notes from the US Treasury to meet the demands of bank customers.

In terms of taxation and spending the US Treasury must settle all transactions in its account at the Federal Reserve (which settles in outside money or bank reserves). In this regard, the Fed is the banker to the US government. But the US Treasury can only settle funds in its reserve account by first procuring funds from the private sector (taxing) in the form of inside money (the US Treasury cannot legally run an overdraft in its Fed account). It is best to think of this process whereby the government can only spend from its account at the Fed if it has already obtained credits via inside money transactions involving taxes or bond sales. This procurement of funds allows the government to then *redistribute* pre-existing inside money back into the banking system completing the flow of funds that starts with the banking system's creation of inside money (in the form of loans which create deposits) and ending in a private bank account user being credit with the government's spending.

Said differently, when the US government taxes Paul, Paul pays with bank deposits or inside money. This inside money provides a credit to the Treasury's Treasury Tax & Loan account at a commercial bank. The Treasury will settle this payment by having the Fed credit its account in what is called the Treasury General Account (the Treasury's account at the Fed). This flow of funds from Paul allows the Treasury to then spend a bank deposit into Peter's account. From start to finish, this process results in inside money in (taxation) and inside money out (government spending).

It's important to note that the US Congress has *chosen* to make the Treasury a user of reserves and bank money in the modern era, however, that was not always the case in US history and could very well change. Remember, the Federal Reserve is the banker to the US government so while the current arrangement requires the Treasury to be a user of reserves and bank money, it could in theory simply harness the central bank to always provide a funding source. It is also theoretically possible that the US government could nationalize the entire banking system which would effectively eliminate the distinction between inside money and outside money since ALL money would automatically become government issued outside money.

In practice the US Treasury finances all of its spending by first collecting fiscal receipts. It does so by taxation or via the sale of government bonds. In doing so, the government is always a redistributor of existing inside money. The fact that the Treasury is a user of bank money does not mean that it need be revenue-constrained though one would not get this actuality from the words of our politicians or the mainstream media or even most economists. There is a broad myth that the government has a true solvency constraint similar to that of a household, business or state government, all of whom are currency users.

It is important to understand that the Federal Reserve and private banks can always be relied on to provide financing for the Treasury with the mechanics working via borrowing operations. Yes, the existing US monetary system is one where banks can be harnessed as agents for the federal government. Although the US government chooses to be a user of private bank money this does not mean it can “run out of money”. Like any bank, the Federal Reserve is an issuer of money and could always be counted upon to fund the spending of the US government, even in a worst case scenario.

It’s also crucial to understand how the US government harnesses its banking system to help provide certain funding sources given the legal constraints imposed on the government. There are a number of legal obligations on the “primary dealers” (i.e. a select group of the largest private banks who provide various services for the US government) not least of which is to offer bids at Treasury bond auctions.⁷ So the US Treasury will *always* find a buyer for its bonds; and, if there is weak demand from private banks, non-bank private agents and/or foreign agents for T-bonds, the central bank can *always* buy them in the open market. The US Fed is a bank and has a potentially unlimited capacity to buy T-bonds (or any other asset in the economy) with *ex nihilo* (from nothing) money creation. So it is misguided to worry too much if at all about the US Treasury ever going bankrupt on its fiat dollar-denominated debts: it never need do so and if it were that would be due to political wrangling. Usually the US Congress postures on whether or not to raise the “debt ceiling” of the federal government and then acts sensibly.

The US Federal Reserve can never “run out of money”. Under current laws the US federal government could run out of money if and only if the “debt limit” is not raised. Barring extreme politics it must be acknowledged that US T-bonds are essentially default-free assets: that is how financial markets view them. Why did global capital flock to the United States after the bankruptcy of Lehman Brothers in 2008 even though it was clear only that the US financial system was sitting on a proverbial mountain of mispriced ‘sliced and diced’ toxic debt? The answer is simple: the “market” sought the safety of the State most capable of handling the most severe financial crisis since the Great Depression. That Washington acts as if the Treasury is “revenue-constrained” and “running out of money” is a perception problem: the Fed is a bank and has a limitless capacity to create money (albeit it must buy T-bonds in the open market).

With this understanding it’s important to note that the government does not operate without constraint. The true constraint for a currency issuer is always inflation and not solvency. This is a crucial distinction that makes a currency issuer quite different from a currency user (like a household or business). Of course, this does not mean the government can spend infinitely, but we will cover this topic more fully in section IV.

The Federal Reserve and How Monetary Policy Works

Monetary policy involves the use of central bank policy to influence the money supply via interest rates and other channels. The central bank enacts monetary policy primarily through influencing the amount of bank reserves in the banking system. The US Fed finances all of its activities by net/new money creation, that is, *ex nihilo* money creation, “out of thin air”. But it is crucial to understand that the Fed primarily creates money in the interbank market. That is, the Fed can determine the amount of money within the interbank market by buying and selling securities for its own account, but does not usually inject or “print money” into the non-bank private sector as is commonly believed.

The Federal Reserve serves as the banker to the US economy, often referred to as “the lender of last resort”. It can best be thought of as a clearing agent to ensure that the system of payments in the USA is always running smoothly. Since the Fed’s operations run primarily through the private banking system it is often seen as only benefiting banks and no one else. But a healthy and competitive private banking system benefits us all so this goal is not necessarily misaligned with public purpose. As the primary steward of the banking system and the payments system the Fed must ensure a healthy banking system before all else.

The central bank is the most important bank in any economy. The US Federal Reserve is the most important central bank in the global economy because of the comparative size of the US economy in the global economy and also because the US dollar serves the role of the key international currency. In the United States the Fed has a dual mandate to promote full employment and price stability. The key policy lever in the Fed’s toolkit is its direct control over the Federal Funds Rate that is the interest rate (i.e. price of money) that private banks pay on reserves. Contrary to popular opinion, depository banks do not “lend out” or “multiply” reserve balances though they do lend money (loans create new deposits ex-nihilo) at a mark-up over the cost of reserves (with lending rates varying in respect to loan duration and the credit risks of individual borrowers). Because most “money” in the US monetary system is credit based the changing of this spread can have an important effect on the demand and supply of credit and thus the overall economy.

When economists speak of monetary policy they most often have in mind how the central bank manipulates the Federal Funds Rate. In modern economies there is a variety of lenders in addition to private banks (e.g. money market mutual funds, hedge funds, government sponsored enterprises, issuers of asset-backed securities, etc.) and an array of credit market instruments (e.g. credit cards, mortgage finance, Treasury bonds, etc.) where the lending of money occurs over time spectrums from the short-term (overnight) to the long-term (thirty-years) and much in between. As a result there is a multiplicity of interest rates in the economy. The federal funds rate has the biggest impact on short-term interest rates with longer-term interest rates and privately related debt instrument based interest rates being determined by what the market can bear. It is important to recognize that the Fed’s influence on other rates occurs via arbitrage in other markets against the federal funds rate. The US Federal Reserve attains the federal funds target rate by engineering quantity changes in the volume of reserve balances and also by “open mouth policy”.

To be exact, the central bank adds or deletes reserves to accommodate demand by depository banks at the target Federal Funds Rate; and does so to maintain an orderly clearing and payments system. By “open mouth policy” it is meant that the announcement of a policy change can itself help to attain the new federal funds rate target as opposed to the Federal Reserve actually engaging in operations. In some respects market participants adjust to the new interest rate level based on their assessment that the Fed would otherwise enforce the rate via open market operations (e.g. the selling or buying of securities and the conducting or unwinding of positions in ‘repo’ markets). Normally the variance in the Federal Funds Rate is minor though it can be substantial during moments of market stress such as after the collapse of Lehman Brothers in September 2008.

It’s important to note that the Federal Reserve could, in theory, control the entire yield curve of government debt. As the monopoly supplier of reserves there is nothing stopping the Fed from pegging the long end of the US government bond yield just as it pegs the overnight Fed Funds Rate. That is, if they wanted to pin long rates at 0% there is nothing stopping them from achieving this aside from political and public backlash. In this regard, it’s important to understand that the Fed only allows the marketplace to control long rates on US Government

Bonds to the degree that the Fed permits. In this regard the term “don’t fight the Fed” is most appropriate since the Federal Reserve can always set the price of the instruments it buys. This of course does not apply to the entire spectrum of financial system assets since the Fed is only permitted to purchase government guaranteed assets.

It is worth taking a look at the US Federal Reserve’s balance sheet in order to understand how the Fed attains the overnight Federal Funds Rate through activities mainly with depository institutions. Table 1 presents a simplified version. The reader should take note that the US Treasury has two deposit accounts at the Federal Reserve: how the Treasury obtains these deposits is crucial to understanding fiscal policy. Here let us consider how monetary policy worked prior to the payment of reserve interest in late 2008. Typically, on a short-term day-to-day basis, the central bank engages in repurchase agreements (repos) to add reserve balances and reverse repurchase agreements (reverse repos) to drain reserve balances. The Fed can also unwind repos such that a private bank must part with a reserve or unwind reserve repos such that the Fed must supply a reserve.

ASSETS		LIABILITIES	
Reserve Bank Credit:	(1)	Currency in Circulation	(5)
Securities Held Outright Holdings		Reverse Repurchase Agreements	(6)
Repurchase Agreements		Treasury Cash Holdings	(7)
Term Auction Credit		Deposits with FRB, other than Reserve Balances	(8)
Other Loans (e.g. discount window)		US Treasury General Account	
Net Portfolio Holdings (various)		US Treasury Supplementary Financing Account	
Preferred Interests (in AIG Subsidiaries)		Foreign Official	
Float		Service-Related	
Central Bank Liquidity Swaps		Other	
Other Federal Reserve Assets		Other Liabilities and Capital	(9)
Gold Stock	(2)	Total Factors, other than Reserve Balances,	(5-9)
Special Drawing Rights Certificate Account	(3)	Absorbing Reserve Funds	
Treasury Currency Outstanding	(4)	Reserve Balances with Federal Reserve Banks	(10)
Total Factors Supplying Reserve Funds	<u>(1-4)</u>	Total Factors Using Reserve Funds	<u>(5-10)</u>

(Table 1 – The Fed’s Balance Sheet and Factors Affecting Reserve Balances)

Over the longer-term, and when the central bank wants to increase the size of its balance sheet and the volume of reserves, it typically engages in open market purchases of T-bonds. In the recent financial crisis, especially the period from September 2008 to the end of 2010, the US Fed grew its balance sheet by purchasing a wide variety of financial assets other than T-bonds from depository and non-depository financial firms (e.g. mortgage-backed securities). In rare instances the Fed also engages in open market sales of T-bonds to remove “excess” liquidity by draining reserves in order to put upward pressures on the Federal Funds Rate. Banks will always try to reduce their holdings of excess reserves by lending them (banks ONLY lend reserves to one another and not to the public) out to one another. This puts downward pressure on overnight interest rates and helps the Fed control what that rate is because the Fed determines the aggregate quantity of reserves in the banking system. Today, the Fed sets a floor on the overnight interest rate by eliminating the desire to lend reserves via the payment of interest on excess reserves.

Prior to December 2008 the US Fed’s daily management of the monetary system revolved mainly around repo and reverse repo operations, that is, with open market purchases of T-bonds used to enact more permanent changes in the volume of reserves. In December 2008 the Federal Reserve

acquired the legislative power to pay interest on reserves and that has changed how the overnight Federal Funds Rate target is obtained and hence how monetary policy works. For those readers interested in the technical details we refer you to a paper by Marc Lavoie titled “Changes in Central Bank Procedures during the Sub-prime Crisis and Their Repercussions on Monetary Theory”.⁸ The gist of it is that the US Fed now has an additional policy tool at its disposal and can obtain the overnight Federal Funds Rate even when the banking sector is holding large amounts of “excess” reserves. In other words, large amounts of excess reserves will not put downward pressure on the overnight rate.

It might help to think of the rate on reserves as the de-facto Fed Funds Rate. The reason why this is important is simple. Were the Fed unable to pay interest on reserves the banks would bid down the overnight rate in an effort to rid themselves of reserves. This would put downward pressure on the Fed Funds Rate unless the Fed removed the reserves. By paying interest on reserves the Fed is able to maintain the size of its balance sheet (thus keeping reserves in the banking system) while also keeping control of the Fed Funds Rate. In this regard, the Fed can always be seen as manipulating the Fed Funds Rate HIGHER since excess reserves put downward pressure on the rate.

The Fed’s manipulation of short-term interest rates is often called a blunt policy instrument. Why? When the Fed lowers or raises interest rates it has an indiscriminate impact on economic activity. Take, for example, when the central bank wants to moderate mortgage lending. The policy option of lowering or raising the Federal Funds Rate will influence mortgage interest rates in addition to other interest rates. But the Fed only sets the overnight rate and not the entire curve. So the Fed loosely influences the profit spread that banks earn on their lending, but the Fed does not necessarily control the demand for loans which is what allows banks to maximize that spread. In this regard, monetary policy and interest rate setting is a rather blunt and indirect tool.

Monetary policy is mainly about setting short-term interest rates though it covers other areas as well including: (1) liquidity support to financial institutions to fulfill the Fed’s role as a “lender of last resort”; (2) appropriate financial regulation; and, (3) maintaining a healthy payments system.

Monetary policy is quite distinct from fiscal policy though the two do overlap and there is much coordination between the domestic monetary authorities. Consider that the US Federal Reserve’s “aggressive” interventions during the crisis, particularly after the collapse of Lehman Brothers, effectively “bailed out” financial institutions. In taking distressed assets off the balance sheets of financial businesses in such large volumes there was a fiscal component to the Fed’s actions (that did not require Congressional approval). By supporting these firms and essentially “making a market” in illiquid assets (and even removing them from bank balance sheets) the Fed was able to keep asset prices higher than they otherwise would have been and helping make these firms more solvent than they otherwise would be.

It’s important to make a distinction between the purchase of T-Bonds in fiscal policy (which is done by the Primary Dealers) and the purchase of T-Bonds on secondary markets such as the Fed’s quantitative easing policy. When the Fed engages in purchases of T-bonds they are swapping assets with the private sector. I.e. there is no overall change in the net financial assets of the private sector even though these operations do create new money ex-nihilo. Such operations when undertaken with private banks in fact change the composition of private sector financial assets (swapping reserves for T-bonds) and do not add to the supply of private bank issued money. If the seller of a T-Bond is a non-bank then the amount of inside money can

change, but the net financial assets will remain the same. Whether this results in inflation is contingent upon many other variable factors, but we should not necessarily assume that such a swap in financial assets is inflationary even if it does increase the amount of inside money or outside money. Fed policies such as “Quantitative Easing” are often mistakenly referred to as “money printing”, but we must be very specific in using such terminology as it can often be misleading.

Treasury’s “Symbiotic Relationship” with the Fed & Fiscal Policy

Fiscal policy involves the use of government taxation and bond issuance to spend money in the means of enacting public purpose. Understanding the different means through which the Treasury obtains deposits before and in order to finance spending is the most crucial aspect of fiscal policy. It is best to think of all fiscal policy as a redistribution of money. Because banks issue almost all of the money in the money system, the government is a self-determined user of bank money (because it has outsourced the right to create money to a private market based system). Government taxation is a simple redistribution (taking from Paul to pay Peter) whereas bond issuance results in a government deficit (spending more than it takes in via taxes). Deficit spending is also a redistribution of private bank money, but involves the issuance of government bonds as well as the redistribution of bank money. That is, Paul buys a bond from the government and the government uses Paul’s inside money to pay Peter. Unlike taxation, the private sector (Paul in this case) obtains a net financial asset because a bond is issued into the private sector without a corresponding private sector liability (such as when a corporation makes a loan which results in BOTH a private sector asset and liability).

In the present era the US federal government must collect and draw on fiscal receipts before and in order to spend. The Treasury, as a user of bank money, must always obtain deposits before it can spend. But we should be careful about confusing the Treasury’s reality as a bank money user with that of a household or business. Households and businesses are always constrained in their ability to obtain funds so they have a real solvency constraint. The US Treasury, however, is always able to procure funding by harnessing its banking system or even its central bank in a worst case scenario. Therefore, the commonly held beliefs about the USA going bankrupt are largely misunderstood.

Like commercial banks, the US Treasury has an account with the Federal Reserve that renders it a currency user. But the US Congress has a unique relationship with the Fed that would allow the Federal Reserve to always make good on payments if necessary. In this regard, the US government as a whole can also in some respects be viewed as a money issuer because the political unity and symbiotic relationship with the Federal Reserve renders the possibility of default practically nil (assuming no willing default). I.e., there is no such thing as the US Treasury not having a funding source since the Federal Reserve can always theoretically serve as the lender of last resort to the government and the Primary Dealers are required to make a market in government debt.

To understand this point we can review government bond auctions in the USA. These auctions are a carefully orchestrated event that are designed not to fail – that’s why they never do. The NY Fed describes the way in which their operations are intricately intertwined with the US Treasury:

“Staff on the Desk start each workday by gathering information about the market’s activities from a number of sources. The Fed’s traders discuss with the primary dealers how the day might unfold in the securities market and how the

dealers' task of financing their securities positions is progressing. Desk staff also talk with the large banks about their reserve needs and the banks' plans for meeting them and with fed funds brokers about activities in that market.

Reserve forecasters at the New York Fed and at the Board of Governors in Washington, D.C., compile data on bank reserves for the previous day and make projections of factors that could affect reserves for future days. The staff also receives information from the Treasury about its balance at the Federal Reserve and assists the Treasury in managing this balance and Treasury accounts at commercial banks.

Following the discussion with the Treasury, forecasts of reserves are completed. Then, after reviewing all of the information gathered from the various sources, Desk staff develop a plan of action for the day.”⁹

Paul Santoro of the NY Fed recently elaborated on this “symbiotic” relationship:

“The U.S. Treasury and the Federal Reserve System have long enjoyed a close relationship, each helping the other to carry out certain statutory responsibilities. This relationship proved beneficial during the 2008-09 financial crisis, when the Treasury altered its cash management practices to facilitate the Fed’s dramatic expansion of credit to banks, primary dealers, and foreign central banks.

...Understanding the relationship between Federal Reserve credit policy and Treasury cash management is important because the relationship illuminates an important but sometimes unappreciated interface between the Treasury and the Fed. It also underscores the symbiotic relationship between the two institutions, in which each assists the other in fulfilling its statutory responsibilities.”¹⁰

So you can see that this is all well orchestrated policy. The Fed and Treasury are working in tandem with the Primary Dealers. As mentioned, part of the agreement in becoming a Primary Dealer is to make a market in treasuries:

“The primary dealers serve, first and foremost, as trading counterparties of the Federal Reserve Bank of New York (The New York Fed) in its implementation of monetary policy. This role includes the obligations to: (i) participate consistently as counterparty to the New York Fed in its execution of open market operations to carry out U.S. monetary policy pursuant to the direction of the Federal Open Market Committee (FOMC); and (ii) provide the New York Fed’s trading desk with market information and analysis helpful in the formulation and implementation of monetary policy. **Primary dealers are also required to participate in all auctions of U.S. government debt and to make reasonable markets for the New York Fed when it transacts on behalf of its foreign official account-holders.**”¹¹

Therefore it is misleading to imply that the auctions might fail due to a lack of demand or some sort of funding failure. The Primary Dealers are required to make a market in government bonds. None of this means auctions can’t fail or that the US government couldn’t choose to default. It could. But that would be political folly and misunderstanding. Not due to a lack of funding.

This “symbiotic relationship” can be best seen in a recent US government 10-year bond auction. This auction occurred just weeks after QE2 ended and just before the debt-ceiling debacle occurred in July 2011 so one would have expected this to be a *very* unstable auction. Many prominent market pundits said the government might not be able to find buyers of the bonds. In fact, it was business as usual. As you can see below, the US government was able to auction off \$21B in 10-year notes with the Primary Dealers tendering more than 2X the entire auction. Indirect bidders tendered almost half the auction, but were not needed at all to accomplish the total sales. The bid to cover at 3.1 was extremely strong.

PUBLIC DEBT NEWS		
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For Immediate Release July 13, 2011	CONTACT: Office of Financing 202-504-3550	
TREASURY AUCTION RESULTS		
Term and Type of Security	9-Year 10-Month Note	
CUSIP Number	912828QN3	
Series	C-2021	
Interest Rate	3-1/8%	
High Yield ¹	2.918%	
Allotted at High	65.17%	
Price	101.753719	
Accrued Interest per \$1,000	\$5.18003	
Median Yield ²	2.891%	
Low Yield ³	2.808%	
Issue Date	July 15, 2011	
Maturity Date	May 15, 2021	
Original Issue Date	May 16, 2011	
Dated Date	May 15, 2011	
	Tendered	Accepted
Competitive	\$66,594,600,000	\$20,969,246,000
Noncompetitive	\$30,771,100	\$30,771,100
FIMA (Noncompetitive)	\$0	\$0
Subtotal ⁴	\$66,625,371,100	\$21,000,017,100⁵
SOMA	\$0	\$0
Total	\$66,625,371,100	\$21,000,017,100
	Tendered	Accepted
Primary Dealer ⁶	\$44,057,000,000	\$9,249,646,000
Direct Bidder ⁷	\$10,003,000,000	\$2,914,000,000
Indirect Bidder ⁸	\$12,534,600,000	\$8,805,600,000
Total Competitive	\$66,594,600,000	\$20,969,246,000

(Figure 3 - 10 Year Note Auction)

For emphasis, it’s important to understand how deficit spending occurs in this regard. Remember, government bond sales do not create the final means of payment or result in “money printing”. Bond sales procure funds in the form of existing inside money and redistribute it to other economic agents. For simplicity, let’s take a simple example where Peter buys a bond via Treasury Direct. Peter will send the government his inside money (which was created by a private sector loan) and the government will issue Peter a government bond in exchange. The government will then redistribute Peter’s inside money to Paul who will then deposit it at a private bank. As you can see, the government simply redistributes money when it spends. Taxation is obviously even simpler as taxation is a pure redistribution of money without the bond sale. As previously mentioned, the Treasury technically settles funds in its reserve account at the Fed, but this should not confuse us on the actual flow of funds that occurs within the system.

The key distinction here is that deficit spending results in the creation of a net financial asset. That is, unlike private loan issuance, which creates both a private sector liability AND asset, government deficit spending results in no corresponding private sector liability and only a private sector asset (the government bond).

Lastly, this understanding of “inside” and “outside” monies exposes an important difference between the government’s balance sheet and that of private sector entities. There is no operational funding constraint for the issuer of the currency. There is a constraint to the extent that private sector entities can borrow and spend, however. So the key takeaway here is that the government balance sheet is not like a household’s or a state’s balance sheet. The US government, as an issuer of currency can never be said to be "running out of money".

The constraint for a currency issuer in a fiat system like the USA is never solvency, but rather inflation or real constraints (such as real resources or the output of the economy). One role of the government is to help influence the money supply and supply of financial assets so that it does not impose hardship on the private sector. The goal is always to maximize living standards of the monetary system’s users in accordance with public purpose. While growth and living standards are ultimately a byproduct of the private sector's ability to produce and innovate, the people can utilize government and its many tools to influence the composition and quantity of the currency and financial assets. It does so via managing monetary and fiscal policy in an effort to maintain a balance between the public's desire for net financial assets and private credit.

Part IV – The Lead Role of the Private Sector & “Inside Money”

Understanding the Economic “Machine”

The economic system is similar to a machine. The metaphor of a car is useful to understand how all the pieces fit together. Monetary policy is akin to the brake and accelerator pads. When the central bank raises the Federal Funds Rate it does so typically to suppress inflationary pressures by making it less enticing for banks to issue loans (create money). When the Fed increases the Federal Funds Rate (i.e. the short-term interest rate on which monetary policy pivots) this raises borrowing costs across the spectrum of credit products thus putting a brake on economic activity. Vice versa when the Fed lowers the Federal Funds Rate, typically to counteract a swelling in the number of underemployed, this decreases borrowing costs across the spectrum of credit products (especially loans made on a shorter-term basis) thus accelerating economic activity. Monetary policy is mainly about manipulating short-term interest rates though there are other factors.

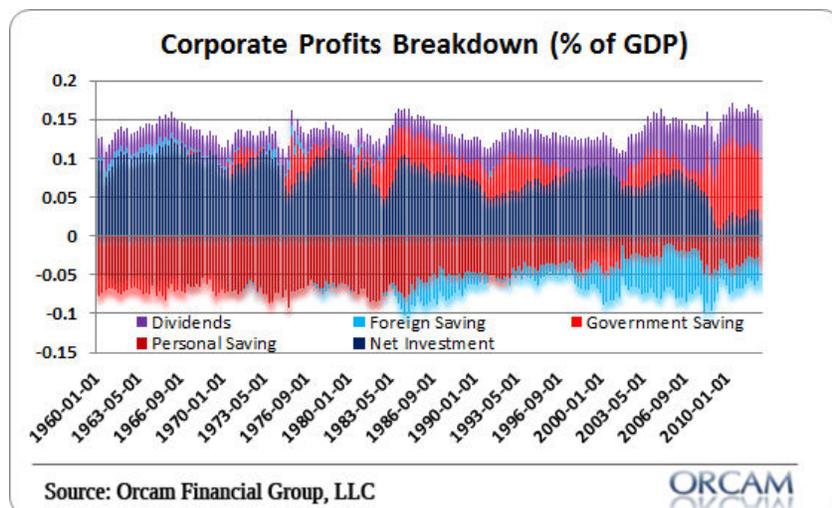
Fiscal policy is the gear stick. Economists often talk about aggregate supply and aggregate demand. The former is the total amount of final goods and services produced by an economy over a given time period. The latter is the total amount of final goods and services *purchased* by agents over a given time period. What we produce as a nation and the market prices at which goods and services are sold can be different; hence, the labels of aggregate supply and aggregate demand. When the economy is booming during an upswing aggregate demand can exceed aggregate supply leading to inflationary pressures. When the economy is depressed during a downturn aggregate supply can exceed aggregate demand leading to disinflationary or even deflationary pressures. If the economy is suffering from a lack of aggregate demand the government sector can, through larger deficits (i.e. spending in excess of revenues), shift the economy up a gear (please note this can be achieved through lower taxes OR higher spending). In fact, as tax receipts and certain government outlays (e.g. unemployment benefits) both rise and fall in a countercyclical fashion, much of the federal government’s budget stance is beyond the control of policymakers and instead determined by the endogenous performance of the economy. This is known as automatic stabilizers. Things like unemployment benefits and other “automatic” forms of spending can rise without any new government action during a downturn.

Increases in government spending increase the flow of funds in the economy and help to improve private balance sheets. This occurs through two primary functions. The first being the fact that the government can always procure funds and increase the flow of spending in the economy. That is, when the private sector stops spending and investing (for whatever reason) the government can always turn on the “flow” and increase incomes, revenues, etc. The second impact occurs in the form of increases in net financial assets which can help improve the stability of private balance sheets. Remember, when the government deficit spends it sells a bond to Peter and redistributes Peter’s bank deposits to Paul. The bond sale to Peter results in a net financial asset for the private sector because there is no private sector liability attached to it. Of course, if government spending is poorly allocated or malinvested there can be negative long-term consequences through various channels. This should not be overlooked or underemphasized.

As Michael Kalecki has famously noted, Government deficits (whether it be via lower taxes or increased spending) can also help sustain the revenues and profits of businesses enabling them to employ more people.¹² You may have noticed the sharp rebound in corporate profits over the course of the post-financial crisis period. This was due, in large part, to government deficit spending; though as of 2012 it has failed to translate into a strong and sustainable recovery. I won’t dive into this in great detail, but the reason for this is rather simple as seen in the following equation derived from Kalecki’s work:

$$\text{Profits} = \text{Investment} - \text{Household Savings} - \text{Government Savings} - \text{Foreign Savings} + \text{Dividends}$$

This equation can be seen in visual form below. This shows the breakdown of corporate profits as a percentage of GDP since 1960. As you can see, the primary driver of corporate profits is almost always net investment. So the private sector is the primary driver of profit growth most of the time. The crisis of 2008 was unusual in that the de-leveraging led to a sharp decline in net investment. The bright red bars, or the government’s spending, led to a substantially larger role in driving corporate profits during this period as a result of this private investment collapse.



(Figure 4 – Corporate Profits as % of GDP)

Continuing on with the metaphor, government regulation can be a nuisance (bureaucratic red tape) but when not overdone it is like the safety features built into modern cars (e.g. seatbelts, airbags, etc.) with the purpose to keep economic activities within acceptable boundaries, but without constraining the vehicle from moving. In some respects the government sector is like a “safety net” there to correct and curb market failures (though admittedly, it can also exacerbate problems if misunderstood). In a similar fashion to the role of outside money as a facilitating feature of the money system, government regulation can facilitate stable growth when not overdone.

Hyman Minsky has noted that capitalist economies are periodically prone to what he called “endogenous” financial instability by which he meant that the “normal” workings of the market system can generate financial excess. He advised on the need to update regulation in view of new developments and for policymakers and theorists alike to humbly acknowledge the possibility that what worked in the past may no longer do so. Minsky was overlooked. I believe that humans are inherently fallible and inherently irrational. Since economies are the summation of the decisions of these irrational actors it is not surprising that the economy has a tendency to veer in the direction of extremes at times. As Minsky famously noted, “stability breeds instability” as economic agents become increasingly comfortable and complacent during the boom phase of the business cycle which can lead to excess and bust.

Everything else in the car is the private sector. The nonfinancial business sector is the engine, the chassis, the wheels and the seats (what we might think of as the “core” pieces of the car). Nonfinancial businesses are the biggest employers and make most of the products and services essential to increasing living standards. The household sector is the driver and any passengers in the car. As employers, employees, investors and consumers we determine the overall direction of the economic system. The financial sector provides the lubricants in the car (e.g. the oil, coolant, etc). The main role of finance is to facilitate the development of the productive capital assets of the economy and to provide the monetary and financial resources that allow us to undertake activities of our own liking (e.g. buy or build homes). The fuel in the car that motors the economic system is the drive to earn a living, make a profit and save for the future.

The Myth of the Money Multiplier & Banking Basics

The US monetary system is designed to cater for the creation of the public’s money supply primarily by private banks. Most modern money takes the form of bank deposits and most market exchanges involving private agents are transacted in private bank money: it is “inside money” which rules the roost so to speak in the day-to-day functioning of modern fiat monetary systems. The role of the public sector “outside money” creation is comparatively minor and plays a mostly facilitating role.

Like the government, banks are also money issuers, but not issuers of net financial assets. That is, banking transactions always involve the creation of an asset and a liability. Banks create loans independent of government constraint (aside from the regulatory framework). As we will explain below, banks make loans independent of their reserve position with the government rendering the traditional money multiplier deeply flawed.

The monetary system in the USA is designed specifically around a competitive private banking system. The banking system is not a public/private partnership serving public purpose as the Federal Reserve essentially is. The banking system in the USA is a privately owned component of the system run for private profit. This was designed in order to disperse the power of money

creation away from a centralized government and into the hands of non-government entities.

Because the Fed finds itself as an agent of the US government working its policies primarily through these private entities it is often the center of much controversy. This will at times appear like a conflict of interest as the Federal Reserve, an agent of the government, is often seen as being in collusion with the banks and at odds with the achievement of public purpose. The government's relationship with the private banking system is more a support mechanism than anything else. In this regard, I like to think of the government as being a facilitator in helping sustain a viable credit based money system although the banks as private profit seeking entities sometimes find their motives at odds with the overall goal of public purpose.

It's important to understand that banks are unconstrained by the government (outside of the regulatory framework) in terms of how they create money. When we go through business school we are taught that banks obtain deposits and then leverage those deposits up by 10X or so. This is why we call the modern banking system a “Fractional Reserve Banking” system. Banks supposedly lend a portion of their “reserves”. There’s just one problem here. **Banks are never reserve constrained!** Banks are always *capital* constrained. This can best be seen in countries such as Canada where there are no reserve requirements.¹³ Reserves are used for only two purposes – to settle payments in the interbank market and to meet the Fed’s reserve requirements. Aside from this, reserves have very little impact on the day-to-day lending operations of banks in the USA. This was recently confirmed in a Fed paper:

“Changes in reserves are unrelated to changes in lending, and open market operations do not have a direct impact on lending. We conclude that the textbook treatment of money in the transmission mechanism can be rejected.”¹⁴

This is very important to understand because many have assumed that various Fed policies in recent years (such as Quantitative Easing) would be inflationary or even hyperinflationary. But all the Fed has been doing is adding reserves to the banking system in exchange for (mostly) government bonds. Because banks are not reserve constrained, i.e, they don’t lend their reserves or multiply their reserves, this doesn’t necessarily lead to more lending and will not result in the private sector being able to access more capital.

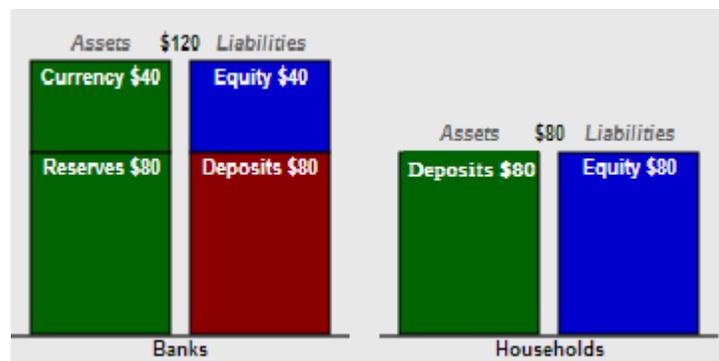
Because banks are not reserve constrained it can only mean one thing – banks lend when creditworthy customers have demand for loans (assuming the banking system is healthy and banks are engaging in the business they are designed to transact). Loans create deposits, not vice versa. Banks create new loans independent of their reserve position and the Federal Reserve is in the business of altering the composition of outstanding financial assets in an effort to maintain a target interest rate and maintaining the smoothly operating payments system that it oversees (this is part of monetary policy which only loosely impacts the direct issuance of inside money). In the loan creation process, banks will make loans first (resulting in new deposits) and will find necessary reserves *after* the fact (either in the overnight market or via the Fed).

Understanding the business of banking is rather simple. It’s best to think of banks as running a payments system that helps us all to transact within the economy. In addition to helping manage this payments system they issue money in the form of loans. Banks earn a profit in the means of transacting business when their assets are less expensive than their liabilities. In other words, banks need to source their ability to run this payments system smoothly, but will seek to do so in a manner that doesn’t reduce their profitability.

Banks don't use their deposits or reserves to create loans, however. Banks make loans and find reserves after the fact if needed. But since banking is a spread business (having assets that are less expensive than liabilities) the banks will always seek the cheapest source of funds for managing their payment system. That just so happens to generally be bank deposits. This gives the appearance that banks "fund" their loan book by obtaining deposits, but this is not necessarily the case. It is better to think of banking as a spread business where the bank simply acquires the cheapest liabilities to sustain its payment system and maximize profits.

To illustrate this point let's briefly review the change in balance sheet composition between banks and households before and after a loan is made. Since banks are not constrained by their reserves the banks do not need to have X amount of reserves on hand to create new loans. But banks must have ample capital in order to be able to operate and meet regulatory requirements. Reserves make up one component of the bank balance sheet so it's better to think of banks as being capital constrained and not reserve constrained.

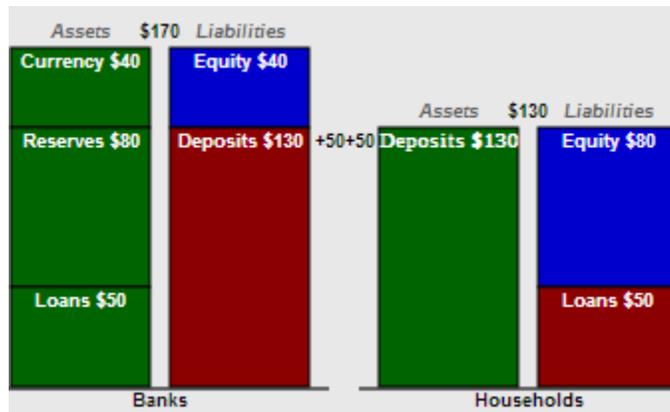
Let's start with a simple money system as displayed below. In this example banks begin with \$120 in assets and liabilities comprised of currency, reserves, equity and deposits. Of this, households hold \$80 in deposits which are assets for the households and liabilities for the banking system. That is, the bank owes you your deposit on demand.



(Figure 5 – Before Loan is Made)

Our banking system has reserves already, but this is not necessary for the bank to issue a loan. It must simply remain solvent within its regulatory requirements. But if our households want to take out a new loan to purchase a new home for \$50 the bank simply credits the household's account as seen in Figure 6. When the new loan is made household deposits increase to \$130. Household loans increase by \$50. Bank assets increase by \$50 (the loan) and bank liabilities increase by \$50 (the deposit).

If the bank needs reserves to help settle payments or meet reserve requirements it can always borrow from another bank in the interbank market or if it must, it can borrow from the Federal Reserve Discount Window.



(Figure 6 – After Loan is Made)

Part V - A Fiat System Where Everyone Still Thinks Government Has a Solvency Constraint

The idea that the government does not have a true solvency constraint is shocking to many people. But it's becoming increasingly well known as the Euro crisis exposes deep flaws for nations that do not issue their own currencies. As I've mentioned several times before, there is no such thing as the USA not being able to pay off the liabilities that are denominated in a currency that it can essentially force the banking system (or its central bank) to produce. Warren Buffett recently made this point at an investor conference:

“The United States is not going to have a debt crisis as long as we keep issuing our debts in our own currency. The only thing we have to worry about is the printing press and inflation.”¹⁵

How Could It Be Possible That This Myth Persists?

You might ask: "How could it be that this myth of government solvency is so widely misunderstood? How can the brightest minds and the leaders of our country not understand all of this?"

I believe these misconceptions persist due to three primary reasons:

- First of all, this is all **highly** complex, theoretical and rather undeveloped. Understanding the functions of a monetary system is high finance. We cannot expect everyone to understand it or agree on it and we should expect most theories and outlines of the modern monetary system to be somewhat incomplete due to the dynamic existence of modern economies. Monetary Realism is by no means immune to these flaws and theoretical disagreements, but does use an unusual approach in attempting to be purely descriptive.
- Second, politicians and ideologues have a vested interest in keeping the American public from understanding that the government is fundamentally different from a household, state or business.
- Lastly, most of modern macro is derived from theories that are largely government centric and policy centric. That is, the central power of the money system is always

described as resting with the Federal Reserve or the US Treasury and most of modern economics emphasizes policy options as opposed to operational realities. For instance, Keynesians generally believe the money supply can be increased via government spending while Monetarists believe the Federal Reserve can increase the money supply via increases in bank reserves. As MR shows, all of these government centric views of the world are inapplicable to the current design of the US monetary system where banks dominate the money system. A core understanding of operational realities is crucial to understanding how any policy can be implemented and influence the economy.

The True Constraint for a Currency Issuer

Now that we understand that a currency issuer cannot “run out of money” it’s important to also understand that there are real constraints on a government’s ability to influence money. Aside from the obvious constraint of real resources, **the currency issuing government’s true constraint is never solvency, but inflation.** Inflation becomes problematic when a nation’s spending outstrips productive capacity. This is a real reduction in our standard of living. But it’s important not to confuse some inflation with a reduction in living standards. You might have read that the US Dollar has fallen 90% since the inception of the Fed in 1913. This is true actually. The purchasing power of the dollar has fallen substantially. But this does not necessarily mean the standard of living of Americans has declined 90% since 1913. In fact, living standards have soared since then. How is this possible? Remember, the real benefit of our labor is the time it provides us. Adam Smith once said:

“The real price of everything, what everything really costs to the man who wants to acquire it, is the toil and trouble of acquiring it.”

There is a theoretical level of infinite demand in a capitalist economy. What I mean by this is that, in an extreme sense, we can consume all that time will allow. If you were unconstrained by time you could, in theory, consume all that the producer can produce. Theoretically, this chicken and egg story can go on forever. Of course, the greatest luxury of all is quite finite. *We are always constrained by time.* The entrepreneur offers us the opportunity to take advantage of the ultimate luxury by giving us more time. We live in extraordinary times with extraordinary technologies that afford us the ultimate form of wealth – time through greater efficiency.

Understanding potential declines in living standards via inflation is about understanding how aggregate supply relates to aggregate demand. Ultimately, inflation is caused by aggregate demand outstripping aggregate supply. And as we will describe later, it’s crucial to understand the balance sheet composition of the economic agents in order to decipher how problematic (or beneficial) this can be. After all, spending in the economy is a function of expected future income relative to desired saving.

There’s No Free Lunch

It’s very important to remember that just because the government does not have a solvency constraint, it does not mean it has **no** constraint. The bogey here is inflation that is constantly based on the tax rate, spending, borrowing, production, consumption, the money supply, etc. So spending and taxation must always be done in accordance with a nation's productive capacity so as to avoid imposing undue hardship on the private sector via a reduction in real living standards.

Thus, government cannot just spend and spend or the extra flow of funds and net financial assets in the system could cause inflation, drive up prices and reduce living standards. It's important to understand that government cannot just spend recklessly. This is important so I'll say it again. This does not give the government the ability to spend and spend. If they spend in excess of productive capacity and tax too little they can create mal-investment and inflation resulting in lower living standards.

Some people claim that Monetary Realism says budget deficits don't matter. That is a vast misrepresentation of the position. Deficits most certainly do matter. Maintaining the correct level of deficit spending is, in many ways, a balancing act performed by the government based on an understanding of the sectors of the economy. It is best to think of the government's maintenance of the deficit like a thermostat for the economy. When the economy is running cold the deficit can afford to be higher. When it is hot the deficit should be lower. Again, someone who understands MR would never describe themselves as a supply sider or a demand sider because the answer is always "it depends". There are many variables that play into the understanding of whether a government should run a budget deficit, a budget surplus or a balanced budget. MR does not seek to provide policy options, but monetary understandings that make it easier to assess proper policy options.

It's also important to note that spending by the government must be focused on its efficiency. If spending is misdirected or misguided there is a very real possibility that this spending will simply result in higher inflation that is not offset by increased production. If you pay people to sit on their couches all day long there is no reason to believe why this sort of government policy will not result in long-term economic decline in the citizenry's standard of living. Living standards, ultimately, come down to the private sector's ability to produce and innovate. The USA is extremely wealthy not because our government issues financial assets and currency or due to the fact that the banking system issues bank deposits, but because we are an extremely productive and innovative nation. In other words, we are extremely productive with the money that is issued.

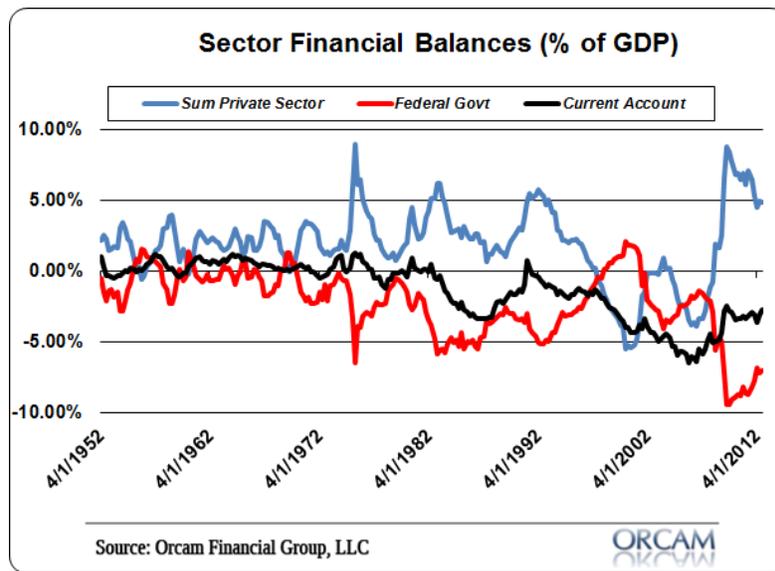
With regards to the money supply, it is important that the government maintain a check on private credit. As we have explained, inside money is the dominant form of money. So while government policy can influence the money supply the supply of money is primarily determined by private banks. The government should be a good steward over this extension of credit and attempt to enact policy that supports credit extension, but does not allow it to run wild thereby creating systemic instability or private sector malinvestment.

Part VI - Understanding Sectoral Balance Economics & $S = I + (S-I)$

It's very important to understand the sectoral relationship within an economy and the ways in which growth is produced by the various sectors and their interdependence. Contributors to Monetary Realism find much relevance in the Sectoral Financial Balance approach as developed by Wynne Godley. It is a useful lens to help conceptualize the macro economy and to understand how the government budget relates to the current account balance and private sector saving-investment decisions. The approach is an *ex-post* accounting identity derived by rearranging the components of aggregate demand and it is typically presented as a three-sector model comprising the private, public and foreign sectors. It is a fundamental identity that links aggregate demand (i.e. the total amount of final goods and services *purchased* by agents over a given time period) with changes in sectoral net financial asset positions.

The Sectoral Financial Balance approach measures the income of the three sectors net of spending over a given time period. When any sector spends more than its income it runs a deficit and, vice versa, when a sector spends less than its income it runs surplus. It is vital to recognize that amongst the three main sectors it is the public sector (and the federal government in particular) that is most able to run large deficits over a prolonged period. This is because the budget constraint of the US federal government is not similar to that of an individual, household, business or even a state or local government.

The deficit of the entire government (federal, state, and local) is always equal (by definition) to the current account deficit plus the private sector balance (excess of private saving over investment). To be more precise: net household financial income = current account surplus + government deficit + Δ business non-financial assets. The private sector surplus represents the net saving of the private sector (households and businesses) from income after spending, while the public sector deficit is the government's budget deficit. This is the essence of the sectoral balances approach made famous by the late great Wynne Godley. It can be visualized with the following diagram:



(Figure 7 – 3 Sector Financial Balances)

The sectoral balances can be broken down according to GDP:

$$\mathbf{GDP = C + I + G + (X - M)}$$

Where **C** = consumption, **I** = investment, **G** = government spending, **X** = exports & **M** = imports

Or stated differently;

$$\mathbf{GDP = C + S + T}$$

Where **C** = consumption, **S** = saving, **T** = taxes

From there we can conclude:

$$\mathbf{C + S + T = GDP = C + I + G + (X - M)}$$

If rearranged we can see that these sectors must net to zero:

$$\mathbf{(I - S) + (G - T) + (X - M) = 0}$$

Where **(I - S)** = private sector balance, **(G - T)** = public sector balance & **(X - M)** = foreign sector balance.

The three main sectoral balances *must* as an accounting identity add to zero. In Figure 7 what stands out is that the US government has run budget deficits for the majority of the last 60 years (in fact well over 200 years).

The SFB approach underlines that when the federal government spends more than it collects in revenues the deficit spending creates net financial assets for the private sector in the form of government bonds. Private agents benefit from these net financial assets in various ways. There are investors who get a 'safe' interest-bearing asset for their investment portfolios. There are also the thankful recipients of the Treasury's deficit spending who get paid for doing their business or receive a payment that enables them to meet their bills and survive. It's important to note that these saving bonds are an asset of the private sector and a liability of the government. So to "pay off the national debt" would, by accounting identity, involve the elimination of an important interest bearing private sector financial asset. This does not mean the government can make the private sector wealthy by providing us with government bonds, but as mentioned previously, the public sector's constraint is different than the private sector's constraint (solvency versus inflation) so the notion of paying off the national debt must be placed in the proper context.

The Importance of Understanding $S = I + (S-I)$

It's important to take the private sector component in the sectoral balances one step further or the reader might confuse the true driver of economic growth as being the government and not the private sector. Although government can help to drive economic growth (if used properly) we should not forget that investment is the backbone of private sector equity. This simple rearrangement of the private sector component highlights this fact and helps to avoid thinking that $I > S$ might be a negative for the economy when the reality is that a high level of Investment is generally good for the economy (as seen in our corporate profits chart earlier).

If we rearrange the above sectoral balances equation we can arrive at a very important identity:

$$\mathbf{(S - I) = (G - T) + (X - M)}$$

$$\mathbf{S = I + (G - T) + (X - M)}$$

Which rearranges to:

$$\mathbf{S = I + (S - I)}$$

We can also think of this from the National Income Accounting equation:

$$C + I + G + (X - M) = C + S + T$$

Which rearranges to:

$$(S-I) + (T-G) + (M-X) = 0$$

Which rearranges to:

$$I = S + (T-G) + (M-X)$$

This helps to show the reader that wealth creation is not just achieved through government deficit spending, but largely occurs independent of government. On this point it's important to understand the difference between real wealth and financial wealth. A good way to think about all of this is to understand that the private sector can create real wealth entirely independent of the government. For instance, a farmer does not need the government to turn 2 cows into 10. The farmer has achieved real wealth creation regardless of the government's spending position. The government can increase spending when milk sales are low (which will increase the farmer's revenues) and increase the private net financial assets, but we should not assume that this is always the appropriate policy. It's best to think of government as being a *facilitator* of wealth creation and not the driver. Hence, our focus on $S=I+(S-I)$ with the emphasis on the idea that "the backbone of private sector equity is I, not Net Financial Assets."

Turning quickly to the data, the US general government deficit averaged around one-sixth of gross private domestic investment during the period 1960-2007, and fourth-fifths during 2008-2010. It should not be controversial at all that the main driver of private saving is usually private investment but that during economic downturns the role of government deficit-spending can become more important.

MR understands that consumption and production are two sides of the same coin and that both can help grow the coin. We highlight this point by expanding on the sectoral balances equation and showing that $S = I + (S-I)$ in order to emphasize that $I>S$ does not mean the private sector financial position is necessarily deteriorating. So while the sectoral balances equation is useful in understanding the dynamic of the system it should not be used to imply that the private sector's financial position is necessarily deteriorating because $I>S$. When one takes this perspective you bring a more balanced understanding of the way our monetary system actually works. Private sector saving can be decomposed into the amount of saving created by investment "I" and the amount of net financial assets transferred from other sectors ($S - I$). That is the focus of the equation $S = I + (S - I)$ as it highlights the fact that the private sector is the primary driver of economic prosperity while government is a powerful facilitator.

When one connects the dots between production and the MR Law you can begin to understand why private sector output matters so enormously to the living standards of the society. In this regard, I is the core of improved living standards, because it is through I that we create things that make us more productive and therefore give us more time. But we must maintain a balance here and never forget that government can be an important facilitator of the wealth accumulation process who wields powerful tools that can aid us in driving demand, stabilizing economic growth and helping to improve overall living standards.

Conclusion

In sum, much of modern macroeconomics is based on some form of a government centric view of the monetary system with a large emphasis on a prescriptive view of the world. Monetary Realism seeks to describe the operational realities of a modern fiat currency system. While its description of the modern monetary system is accurate, it is by no means a holy grail. And those who apply policy prescriptions are merely utilizing the understandings of the system to apply what they *believe* are sound uses of the system.

One of the key understandings here is that government can be used as a tool to help the private sector to achieve prosperity. I think it's important to understand that government is not always bad or that government spending is always evil. In fact, government serves a vital purpose within our society. How involved that government is in the day to day lives of its citizens is to be decided by the citizens themselves. Additionally, we should not lose sight of the fact that the government is primarily a facilitator in terms of private sector prosperity and that the private sector is the primary driver of economic growth and prosperity.

I believe Monetary Realism provides a more accurate portrayal of the monetary system in which we reside in the USA and in many other countries throughout the world. It is my hope that a greater understanding of our monetary system will result in a less dogmatic, more pragmatic and more rational perspective of our monetary system so as to help us all in achieving the prosperity we desire.

Glossary

Acceptance Value: Acceptance value represents the public's willingness to accept something as the nation's unit of account and medium of exchange. This is achieved mainly through the legal process and democratic vote. That is, the government and the people deem a specific thing (such as the US Dollar) as the accepted unit of account and medium of exchange. Acceptance value is only one facet of currency demand. See quantity value for more.

Currency: Currency in this paper refers to a specific form of money being "outside money" or money created outside the private sector by the government in the form of bank reserves, cash or coins.

Currency Issuer: A currency issuing nation that is politically and monetarily unified in a manner that affords it the ability to always procure funds. This is achieved in differing ways depending on the specific nation, but the general point is that the nation is not constrained by outside forces (such as foreign currency needs, foreign debt, etc) that threaten its ability to procure or produce the currency at will. These nations are generally developed economies. Not all nations have the ability to remain or sustain their status as an autonomous currency issuer and status as an autonomous currency issuer does not render the country immune to financial hardship.

Equity: Equity represents an ownership interest. When discussing equity we are generally referring to stocks.

Fiat Money: Fiat money is a widely accepted form of money organized under the rules and regulations of a government and sustained through the productive base of the private sector. Fiat money, in and of itself has no value, but affords its users a convenient and simple manner for exchange. When quantifying the value of fiat money it is best to study the living standards of the society as a whole rather than the more misleading and more commonly used rise in inflation over time. A rising inflation can be perfectly consistent with both the existence of fiat money and rising living standards as evidenced by the experience of the USA in the 1900s.

Fiscal Policy: Fiscal policy is government policy geared at changing the size of federal spending and taxation.

FFR: This is a commonly used abbreviation for Federal Funds Rate, the overnight lending rate in the interbank Fed Funds Market.

Hyperinflation: Hyperinflation is a very high level of inflation caused by unusual exogenous shocks to an economy. Contrary to popular opinion, hyperinflation is not caused by money printing, but generally occurs after an exogenous shock to an economy

which results in money printing or a collapse in the tax system. The primary historical causes of hyperinflation are: lack of monetary sovereignty, war, regime change, production collapse and government corruption.

Inflation: Inflation is a consistent rise in the general level of prices of goods and services in an economy. A low inflation is usually consistent with healthy economic growth in a fiat monetary system.

Medium of exchange: A widely accepted intermediary instrument that facilitates the sale, purchase or trade of goods/services.

MR: A common abbreviation for Monetary Realism. See below for more.

Monetary Policy: Monetary policy is policy conducted by the central bank of a country in an attempt to influence the money supply. Specifically, monetary policy is conducted by interacting in various ways with the private banking system in an attempt to influence the cost and use of inside money.

Money: Money is a social tool with which we primarily exchange goods and services. Technically, anything can serve as “money”, but in modern societies money is most commonly organized under the rules and regulations of government and can be considered to have the highest level of “moneyness” when it is widely accepted as a means of final payment.

Monetary Realism: Monetary Realism is a school of economic thought that seeks to describe the operational realities of the monetary system through understanding the specific institutional design and relationships that exist in a particular monetary system.

Moneyness: Refers to how pure a particular type of financial asset or real asset is in meeting the definition of “money” as a final means of payment. MR views money as existing on a scale of moneyness that measures how pure particular instruments are in meeting the needs of money as a final means of payment.

Outside Money: Outside money is government created money. This includes notes, coins and bank reserves. It is called outside money because it is created outside the private sector. Outside money exists to facilitate the use of inside money.

Primary Dealers: Primary Dealers are banks or broker-dealers who make markets for US government securities and help the Federal Reserve and Treasury enact policy.

Private Purpose: Actions taken by individuals or groups within the private sector with the express intent of benefitting a specific individual or group.

Private Sector: The part of the economy run by private citizens for profit or non-profit not for the benefit of the state or the populace as a whole.

Public Purpose: Government policy or action intended to benefit the majority of the populace or the populace as a whole.

Public Sector: The government sector or the part of the state that deals in enacting public purpose on behalf of the citizenry.

Quantity Value: Quantity value describes the medium of exchange's value in terms of purchasing power, inflation, exchange rates, production value, etc. This is the utility of the "money" as a store of value. While acceptance value is generally stable and enforceable by law, quantity value can be quite unstable and result in currency collapse in a worst case scenario.

Quantitative Easing: Quantitative easing is a form of monetary policy, implemented via open market operations, in which the central bank tries to influence the cost and use of inside money by altering bank reserves. Specifically, this is achieved by swapping reserves for treasury bonds (in most cases). It results in no change in private sector net financial assets and is often confused for "money printing" or "debt monetization". It's really just an unusual form of standard Fed policy or open market operations and its effectiveness is highly debatable.

Reserves: Bank reserves are a form of outside money used in the means of settling payments and meeting reserve requirements. The existence of reserves (and the Federal Reserve System) is to help streamline the banking system into one cohesive unit while maintaining the private competitive banking system.

S = I + (S-I): This is an important equation used by Monetary Realism to help emphasize the fact that an economy is based on private production. The equation emphasizes the role of private Investment in the economy and the idea that living standards are best maximized when a nation is highly productive and creating goods and services that increase overall living standards.

Sectoral Balances Approach: The sectoral balances approach was created by Wynne Godley to show the flows through an economy. It is a useful way of understanding the way that GDP is generated by the various economic agents. $(I-S) + (G-T) + (X-M) = \Delta \text{NGDP}$.

Social Construct: Social construct is another term for "money". See above.

Unit of account: A standard monetary unit for measurement of value of goods, services and financial assets. In the USA the unit of account is the US Dollar.

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