Money and the Federal Reserve System:

Myth and Reality

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SUMMARY

The United States, like virtually all advanced nations, has a banking system in which the use of fractional reserves means that most money is generated by banks and not the government. Presiding over this system is a central bank. The central bank for the United States, the Federal Reserve, has considerable independence in its operations, which include monetary policy.

This independence -- and the enormous influence that the Federal Reserve has over economic conditions -- have given rise to a great deal of conjecture concerning its nature and operations. The theories and suspicions about the system underlie monetary reform proposals frequently advanced by citizens, as well as various complaints and petitions sent to the Members of Congress because of congressional responsibility for the country's money.

The Federal Reserve is *not* a private corporation. It is part private and part public, with the Board of Governors an agency of the United States government. The regional Federal Reserve Banks are private corporations acting as agents of the government, owned by their member banks. No individuals hold stock in the Fed. Corporate control of the regional Federal Reserve Banks is limited and based on one vote per stockholding bank (so that big banks cannot control the system).

The Fed buys and owns some of the government's debt. But it does not determine how much debt is issued (that is determined by the government's budget). The Fed owns less than 10% of the government's total debt. The interest earned on the debt created by the Fed is turned over to the Treasury (except for an amount to cover the Fed's operating costs), so that the revenue consequences of having the Fed issue Federal Reserve notes is essentially the same as having its own currency directly.

Having a banking system that allows transactions to occur by check reduces the seigniorage revenue to the government, which could otherwise issue at a profit money needed for transactions. But bank depositors are the principal beneficiaries of the system, because they are able to earn interest on their accounts and minimize the amount of non-interest bearing cash they must hold for transaction purposes.

The existence of the Federal Reserve is separate from the choice of monetary standard. It is *not* an alternative to a gold standard. Similarly, the existence of the Federal Reserve and the choice of a monetary standard is unrelated to the existence of fractional reserve banking, or to who regulates the operations of banks. The primary issue about the Federal Reserve is about who controls monetary policy.

MONEY AND THE FEDERAL RESERVE SYSTEM: MYTH AND REALITY

For a long time, few people were aware of the Federal Reserve (Fed). This is no longer true. Over the last two decades, awareness of the institution has increased considerably. Most people know that it has something to do with interest rates. A fair number can identify it with monetary policy.

But a great deal of mystery still surrounds the organization. In part, this is due to its unique structure. The blending of private and public institutional arrangements, and the independence it has in making policy, make it an anomalous structure in government. The mystery is compounded by secrecy. The deliberations of the organization's policy-making body are revealed only after a time lag. And independent audits of the organization are somewhat circumscribed.

These characteristics -- and the enormous influence that the Fed has over economic conditions -- have given rise to a great deal of conjecture concerning its nature and operations. The theories and suspicions about the system underlie monetary reform proposals frequently advanced by citizens, as well as various complaints and petitions sent to the Members of Congress.

Many of these claims asserted about the Fed are untrue. Others are only partially true. This report addresses various claims about the Federal Reserve System -- specifically those that are a matter of fact and can be either verified or refuted.

STRUCTURE, AUTHORITY, AND POWERS

-- CREATION OF THE FED --

The Federal Reserve System was created by the Federal Reserve Act of 1913. Some literature on the Fed implies that the Act was passed surreptitiously, hastily, or even illegally.

Although the Act was passed in the final days of the legislative session, it had been debated for some time in earlier versions. A bill to create the Federal Reserve System was introduced in the House of Representatives in late summer, 1913. The House passed, 299 to 68, its version in September 1913. The Senate passed, 54 to 34, a somewhat different version in December 1913. The compromise version was hammered out in a House-Senate conference and reported out on December 22, 1913. It was voted on in short order. *The Act was passed by the House of Representatives by a vote of 298 to 60, and by the Senate in a vote of 43 to 25.* It was signed into law by President Woodrow Wilson on December 23, 1913.

It is often claimed that the Federal Reserve Act originated in a secret meeting of bankers on Jekyl Island, Georgia in 1910, who then managed a conspiracy to guide their plan to enactment. Reliable evidence exists that such a secret conference took place. The conference appears to have played an important part in shaping what became known as the "Aldrich Plan." The secrecy was most likely an effort to publicly distance the plan from the "Wall Street bankers" that had a role in developing it.

The Aldrich plan, however, did not become law. **By the time Republican legislators introduced the proposal for a "National Reserve Association" (NRA), the mid-term elections of 1910 changed control of the Congress from the Republicans to the Democrats.**

Thus, despite (or because of) President Taft's interest in the legislation, it did not even come before the House for a vote. By the time the Federal Reserve Act was introduced, Senator Aldrich had left the Senate, and the Democratic party controlled both the Congress and the White House.

The proposal for an NRA was different from the Federal Reserve System in a couple of important ways. First, it was like a central bank in that it was private. Although its 46 directors included the Secretaries of Agriculture, Commerce, Labor, and the Treasury, Comptroller of the Currency, and a Governor appointed by the President, the Association would have clearly been in control of people elected by the banks. Second, even though it had 15 administrative districts, the NRA was centralized into a single entity.

In contrast, the Federal Reserve System was created as a hybrid private-public operation in which the Federal Reserve Board was a federal agency appointed by the President. Moreover, in the system as it was created in 1913, the 12 regional Federal Reserve Banks were regarded as relatively autonomous, such that total monopolization of reserves was believed to be avoided.

The proposed NRA and the Federal Reserve were both viewed as systems for stabilizing credit flows and servicing the payments system, and not as agencies for making explicit monetary policy.

PUBLIC OR PRIVATE?

The public/private nature of the institution has given rise to the claim that the Fed is a "private corporation." *This claim is not correct.* Part of the system consists of private corporations. Part is a federal agency.

The Board of Governors of the Federal Reserve System is a government agency. **Its employees are employees of the federal government, paid in accordance with federal government pay scales, and part of the federal employee retirement system. The premises are federal government property. The seven Board members are appointed by the President with advice and consent of the Senate in the same fashion as other government appointees.**

Under the supervision of the Board of Governors are 12 regional Federal Reserve Banks. These *are* private institutions with certain privileges granted to them, restricted to conducting business specified by the Federal Reserve Act. As private institutions, they are "owned" by their "stockholders," they make their own pay and hiring policies, and pay local property taxes.

For some purposes, however, they are treated as instrumentalities of the federal government. They examine, regulate, and supervise some operations of their member banks: a public sector function. Hence, they are exempt from state and local income taxes. They are also treated as government agencies with respect to certain statutes. But for most other purposes, the 12 regional banks are legally regarded as private.

The system as a whole is subject to congressional oversight. As required by law, twice a year the Chairman of the Board of Governors must consult with the House and Senate Banking Committees concerning the conduct of monetary policy. Other Federal Reserve actions and policies are also subject to the scrutiny of the Congress.

CONTROL OF THE FED

Each regional Federal Reserve Bank has nine directors. Six of these directors are selected by the member banks that own it ("class A" and "class B" directors). The other three ("class C") are appointed by the Board of Governors. The Chairman and Deputy Chairman of each regional Federal Reserve Bank are appointed by the Board of Governors from among the class C directors. The directors oversee operations of their Bank, select the President and first Vice President of their Bank (and determine their salaries) ***all subject to overall supervision and approval by the*** **Board of Governors.**

Because the regional Federal Reserve Banks are privately owned, and most of their directors are chosen by their stockholders, it is common to hear assertions that control of the Fed is in the hands of an elite. In particular, it has been rumored that control is in the hands of a very few people holding "class A stock" in the Fed.

As explained, there is no stock in the ***system,*** **only in each regional Bank. More important,** ***individuals do not own stock*** **in Federal Reserve Banks. The stock is held only by banks who are members of the system. Each bank holds stock proportionate to its capital. Ownership and membership are synonymous. Moreover,** ***there is no such thing as "class A" stock.*** **All stock is the same.**

This stock, furthermore, does not carry with it the normal rights and privileges of ownership. Most significantly, member banks, in voting for the directors of the Federal Reserve Banks of which they are a member, do not get voting rights in proportion to the stock they hold. Instead, each member bank regardless of size gets one vote. ***Concentration of ownership of Federal Reserve Bank stock, therefore, is irrelevant to the issue of control of the system.***

BANKS AND CONTROL OF MONETARY POLICY

While the Board of Governors exercises overall supervision, and exclusively controls some aspects of the system, such as discount rates and banking regulation, monetary policy is mostly determined by the Federal Open Market Committee (FOMC). This committee consists of the seven members of the Board of Governors, the president of the New York Federal Reserve Bank, and four of the remaining 11 regional Federal Reserve Bank presidents (the latter on a rotating basis). Majority control, thus, still rests with the presidentially appointed Board members.

The presence of the regional Federal Reserve Bank presidents on the Committee causes some concern about the influence of bankers in the making of monetary policy. They are chosen by directors who are largely chosen by the members banks themselves. (However, they are chosen only with the approval of the Board of Governors.) Further concern arises from the "Federal Advisory Council," dating from the system's creation, which provides bankers confidential and direct input into the consideration of Federal Reserve policies.

Consequently, monetary policy is partly under the influence of persons not appointed by the President or approved by the Senate. The arrangement raises the possibility that some conflict of interest exists, since these members of the FOMC might be inclined to pursue monetary policies that increase bank profits instead of promoting the general economic well-being of the country.

HOW THE FEDERAL RESERVE SYSTEM WORKS

-- CREATING MONEY --

The economy principally employs two methods of engaging in transactions. One is cash. The other consists of debiting accounts. Banks are central to both methods.

In the case of cash, banks stand as a source of cash for customers. The Federal Reserve, in turn, is the source of cash for banks. Paper currency is printed in the Treasury Department's Bureau of Printing and Engraving. It is then "sold" to the Federal Reserve Banks at the printing cost, roughly 3 to 4 cents per note, regardless of denomination. Banks keep accounts with the Fed, and when they require cash for their customers, they buy it at face value, having their accounts debited. In the process. In the process, the Federal Reserve profits by the difference between the printing cost and the face value (less the costs of the operation).

But most transactions are not conducted with cash. In most cases, members of the public maintain accounts at depository institutions and pay by authorizing a transfer from their account to the account of whomever they are paying. Many of these authorizations occur by means of check. Many others are effected by means of various electronic transfers. In every case, one account is debited, and another credited, completing the transaction.

Since many institutions are involved, a clearing mechanism must exist to make these transfers across the different banks. In addition -- because for any bank on any day, debits and credits do not equal each other -- it is necessary to maintain balances to handle the net difference. The Federal Reserve acts as the clearinghouse of most of these transfers. It, therefore, is the bankers' bank, and holds balances of its members. These clearing balances are supplemented by required balances ("required reserves') mandated by law. Banks do not earn interest on the balances at the Fed, so that the Fed makes a profit from them in the same way it makes a profit from issuing currency.

The balances available to serve as reserve money place a limit on the amount of money that can be generated by the banks. To ensure sufficient reserves on hand for clearing debits and to serve the daily cash needs of their customers, banks must be careful not to lend out all of the funds deposited with them, and always keep some on hand (see below).

More balances can be created by the Fed as it chooses. It does this by entering the open market and buying securities (i.e., interest-earning debt of the government). To purchase securities, essentially writes a check on itself. The bank that ultimately receives this payment as a deposit gets its accounts with Fed credited by the amount, allowing it to make additional loans. The Fed can achieve the opposite by selling a security that it bought sometime in the past. In selling the security, it receives a payment on an account at a bank, which gets its account debited (and which will find it must cut back on its planned lending activity).

As a result, the buying and selling of securities on the open market is the principal means by which the Fed influences the money supply. Buying securities, it injects money into the system. Selling them, it removes money from the system. Between augmenting these accounts (creating reserves) and selling currency, the Fed acquires a large portfolio of interest-earning securities which provide it a profit.

One method of creating money does not earn profits for the Fed: coins. The system of metal coins is somewhat different. Coins, too, cost only a fraction of their face value to create

(being mostly "clad" coins made of nickel, zinc, and copper). But in the case of coins, the Fed pays face value to the mint, with the profits being placed in a revolving coinage fund. The effect on the economy is the same, and it has the same implications for real government outlays and income. Only the accounting differs.

COMMERCIAL BANKS AND FRACTIONAL RESERVES

At the base of the s stem, of course, are banks (and credit unions and savings and loans). These institutions are intimately involved in the creation process. This involvement is criticized by some commentators who regard the creation of money as a strictly government privilege which they feel should not be permitted of private firms. However, bank involvement in money creation is almost impossible to avoid. Moreover, the benefits of banks' role in money creation go largely to the public not the banks themselves.

Banks lend out other people's money. Bank customers who borrow the money pay interest for the privilege. The interest pays for the banks' expenses of carrying on business, interest to those who have placed their funds with the banks, and profits to the owners of the banks. Hence, the bank intermediates between people who have spare resources and those who want to use those resources.

Banks (and credit unions and savings and loans) are "depository" institution. In contrast to their intermediaries such as brokerage firms (which invest their customers' money such that the customer accepts the risk of loss), a depository institution accepts funds "on deposit," i.e., on the condition that the bank will return the principal to the depositor regardless of how well or badly the institution invests the funds. Hence, a depository institution absorbs much of the risk of loss in lending out its depositors' money.

Because banks are intermediaries, only a fraction of the money that people deposit with them is kept on hand. Most is lent out. ***The fact that banks keep on hand only a fraction of the funds deposited with them is no secret,*** **and is apparent to anyone who thinks about it: the lending out of money on deposit is how a bank is able to pay interest to its depositors for their funds. Otherwise, depositors would have to pay fees to the bank for safekeeping their money.**

The practice of keeping only a fraction of deposits on hand has a cumulative effect for the banking system as whole. Effectively, it permits the banking system to "create" money. If a given sum of cash is deposited in bank A, and half of it is lent out, whoever borrows it spends it, and the money becomes the deposit in bank B of someone else. Half of that sum is then lent out, spent, and deposited. The process continues until the total amount of deposits is a multiple of the initial amount of cash. In this example, the cumulative total is ultimately twice the initial amount. In practice, the multiple depends on what fraction is kept in hand as reserves by the bank and what fraction is kept as "pocket cash" outside the banking system.

Thus, ***"fractional reserve banking" effectively permits the creation of money*** **by the banking system to a multiple of the "base" money (typically created by the government).** ***But while the system as a whole creates money, individual banks generally do not.*** **Even though each bank may have in checking accounts a sum that is equal to the money that was deposited with it, as a group, total deposits in all banks are a multiple of the initial amount.**

This means, of course, that for a given supply of money in the economy, the existence of money generated by banks through fractional reserve banking reduces the amount of money that the government creates. When governments create money, they profit by the

difference between the cost of printing it and its face value. Hence fractional reserve banking reduces the potential income to the government from money creation (called "seignorage).

Fractional reserve banking is a natural, common, and indeed unavoidable process. **It is not an artificial construct of law or of central bank-policy. Whenever and wherever bankers, goldsmiths, and traders have accepted funds deposited with them, fractional reserve banking has emerged. It quickly becomes obvious to any businessman who accepts deposits that while some customers come to withdraw money, others come to deposit it. Only a fraction of the total deposits at a bank needs to be kept on hand for normal day-to-day banking. Even an unexpected shortfall one day at a bank can be remedied by briefly borrowing from another bank. The consequence is that a portion (usually the majority) of a country's money supply is generated by the banking system.**

This process of lending out deposits can come in a number of forms. Banks years past issued currency (bank notes). Now they mostly use checking accounts. Receipts for deposits have served the same role. Despite any laws that might be enacted to prevent fractional reserve banking, *there is a strong incentive for the "banking" system to come up with something of its own that will serve as money because it is in virtually everyone's interest to do so.* Depositors come out ahead because their deposits earn, rather than cost, money. Borrowers have access to funds at an interest rate they might not have otherwise obtained. Bankers make profits. Society is better able to channel idle resources into economically productive activity.

Fractional reserve banking in some form or other is virtually impossible to prevent. But this difficulty in preventing the creation of fractional reserves also helps ensure that institutions do not profit excessively from it. Although, in essence, fractional reserve banking confers money creation powers on the private banking sector, *the loss to the government primarily goes to the benefit of the public,* not the banks. The potential profits from money creation through account expansion gives banks an incentive to expand their activities. This expansion can only come from attracting more deposits. The primary means of attracting deposits is by offering higher interest rates or more services. As a consequence, the banks tend to bid away the excess profits, and the benefits go to customers. Fractional reserve banking is therefore a means of reducing the public's sacrifice of interest earnings to the government. *The public, not the banking system, is the ultimate beneficiary of fractional reserve banking.*

FEDERAL RESERVE FINANCING

-- CAPITAL EARNINGS --

As an operating bank, each Federal Reserve bank must have capital (i.e., funds "staked" by the owners). The initial capital came from the member banks. Every member bank subscribes an amount equal to 6% of the member bank's capital. This constitutes the member bank's stock in the system. One half of this must be paid in, the other half is on call. New banks that join are required to pay in on the same terms. As banks increase their own capitalization, they must increase their holdings of Federal Reserve stock. As member banks shrink or liquidate, they must surrender their stock in the Reserve Bank. Because of the requirement to increase or decrease the stock in the system, bank ownership of Federal Reserve Bank stock is always proportional to member bank capital.

Because the member banks have invested funds in the Reserve Banks, and their funds are in turn invested, they are paid a dividend. This dividend is fixed by law. It is 6% of the

paid-in capital. Often, observers are confused about this. The dividend *is not* 6% of the Fed's profits, but of the stock. Indeed, over the Fed's history, the dividend has averaged less than 1% of the Fed's gross earnings. Nor is the dividend based on the member bank's total stock subscription, but of the *paid-in stock*. Thus each bank gets a 6% *return on the funds it has actually invested in the Reserve Bank.*

It has been further asserted by some observers that this dividend is tax free. *It is not.* Although the Federal Reserve Banks pay no income tax on their earnings, *the dividends earned by the member banks are fully taxable to the member banks by both the state and the federal government.*

WHERE DO THE PROFITS GO?

A great deal of concern is often expressed with respect to the profits earned by the Federal Reserve System. These profits are a direct result of its power to create money -- and the power to create money is derived from the government. Many people argue that the earnings, then, should belong to the government rather than go to the Fed. The system is off-budget and a self-financing entity not subject to congressional appropriations. But in fact, the Federal Reserve's earnings from money creation do enter into the government's receipts.

The gross earnings from the system's operations first are dedicated to its operating costs. In addition, the regional Federal Reserve Banks maintain capital; they retain enough earnings to have on hand a "surplus" equal to the paid-in subscriptions of their member-owners. As explained above, the Federal Reserve Banks also pay the dividend to their member banks.

What remains is all paid over into the Treasury. Over its history, the Fed has paid to the Treasury approximately 95% of its earnings. These payments to the treasury are currently running about $25 billion a year. Given the fact that the Treasury, if it created money directly, would incur costs in its administration, *the revenue and cost effects of having the Federal Reserve issue are about the same as having the Treasury do so.*

In addition, the price of Federal Reserve Bank stock is fixed at $100 per share. It neither appreciates nor depreciates in value. That means that any growth in the capital of the Federal Reserve Banks does not belong to the Banks "owners," but to the Government which would get the accumulated value of retained earnings if the system were ever dissolved.

To the extent that Fed retains earnings for the purpose of maintaining its capital at a specifies proportion of its liabilities, there is no adverse effect on the governments receipts and outlays. Holding earnings means they are invested in Treasury securities, with the interest on the securities remitted to the Treasury. If the Fed did not retain the earnings, the funds would have passed to the Treasury, which would not issue that amount of securities, and thereby save an identical amount of interest. The formal procedure makes no difference to reality, just to which ledger-book column the numbers are placed in.

AUDITS

It has been commonly reported that the Federal Reserve is exempt from audits, or that it has never been audited, or that the General Accounting Office (GAO) cannot audit the Fed. *This is not true*. The Federal Reserve *has always had an audit program* for the Board of Governors and the regional Federal Reserve Banks, with the arrangements varying, including internal and external examinations. But these have always been *independent*

audits or complete audits. GAO can and indeed does audit many aspects of the Fed's operations; but some of the Fed's activities are off-limits to GAO inspection.

The Board of Governors is required by the Federal Reserve Act to examine the accounts, books, and affairs of the regional Federal Reserve Banks. This is in addition to the Board's oversight and supervision of regional Federal Reserve Bank activities. The operation reviews include open market and international transactions. The Board also examines compliance with approved procedures, policies, and regulations.

From 1914 to 1921, the Board of Governors was audited by the Treasury. From the creation of the GAO in 1921 until 1933, the Board of Governors (but not the regional Federal Reserve Banks and branches) was under the GAO's jurisdiction. In 1933, the Board of Governors was removed from the GAO's jurisdiction. From 1933 to 1952, audit teams from the regional Federal Reserve Banks performed the examination of the Board of Governors' books. A private accounting firm has audited the Board of Governors' balance sheet from 1952 to the present.

In 1978, the Federal Reserve's Office of Inspector General was given authority to conduct audits, operations reviews, and investigations of Board of Governors' programs and operations. In addition, GAO was given authority to audit the Board of Governors and the regional Federal Reserve Banks, branches, and facilities, *subject to the limitation that it could not examine the Fed's foreign exchange and open market monetary policy actions.*

One of the difficulties in understanding the audit issue is in the different types of audits. Most people think of audits as financial audits. These are principally concerned with whether an institution has spent the money and maintains the funds as it has claimed in its financial statements, and whether it is complying with procedures designed to safeguard it from misappropriation of funds. This is no doubt the kind of audit most people have in mind when expressing their concern over whether the Fed gets audited.

But audits are also designed to review management efficiency and to evaluate the policy of an institution. It is the latter kind of audits that are the reason for the restrictions on GAO's audit authority over the Fed. The concern is that more extensive audits will become policy evaluations second-guessing the Fed's monetary policy, and not examinations of Federal Reserve financial safeguards and procedures. Under current law, policy is reviewed twice annually by the Congress.

THE NATURE OF MONEY

-- WHAT BACKS A FEDERAL RESERVE NOTE? --

The principal form of currency in the United Stated consists of Federal Reserve Notes. These notes are by law "legal tender," which is to say they may be used to satisfy obligations denominated in dollars. Should a suit arise over a commercial or public transaction, the law holds that a monetary obligation is satisfied if these notes have been "tendered" in the correct amount. Payment cannot be refused on the grounds that these are not money. This is the same thing as saying that they are "lawful money."

A great deal of concern is often expressed about what "backs" Federal Reserve Notes. Technically, the notes are collateralized by holdings of securities -- mostly those of the United States government. Many people, however, feel that this begs the question. What then "backs" the securities that back the Notes?

The short answer is nothing. *There are no real assets, public or private, that are specifically pledged to collateralize the debt of the government.* The government borrows on its "full faith and credit," which is to say that it borrows as long as everyone thinks it is able to service the debt. This means that ultimately nothing backs the money (except the full faith and credit of the government).

***The lack of backing, however has no bearing on the suitability of Federal Reserve Notes as currency*. Money exists to facilitate exchange, functioning as a "medium" or middle part of a transaction. In a modern economy, every time someone purchases something, he engages in half of an exchange: one thing of inherent value has changed hands, with the buyer getting what he wants, but the seller still looking to get something of value in return. Money is a token given the seller signifying that he is still owed something of value. A transferable IOU is ideal for this purpose.**

The government creates money out of nothing in order to purchase goods and services of value. The note that it pays with is basically an IOU. Anyone who owes the government taxes, dues, or fees can return the note and have his obligation canceled.

Such money is said to be "fiat" money. It does not have any intrinsic value as a commodity itself, and is said to be produced and introduced by fiat of the government. Fiat money, therefore, is a *debt* of the government. Like any other debt from a creditworthy borrower, these IOUs are *assets* to those who hold them. Thus, these evidences of debt are usually well-suited and widely used to settle accounts. The fact that the note can be transferred to others who might use it in their transactions with the government makes it perfect for effecting private exchanges.

Debt makes good money because the debt of one person or institution is an asset to whomever it is owed. Consequently, the debt can be used for exchange by the creditor (the individual who holds the debt), and then in turn by the person who receives it, and so on. When finally the chain of transactions comes round to the original issuer (the debtor), the debt can be canceled against whatever obligation one has toward the issuer, and the series of exchanges becomes complete.

Consequently, Federal Reserve Notes and other paper money are indeed "unbacked" IOUs. The fact that they are IOUs is the very thing that makes them suitable to be money.

OTHER FORMS OF CURRENCY

As explained above, the United States has some other forms of currency besides Federal Reserve Notes. Aside from coins, these currencies are mostly obsolete -- still legal tender, but not printed any longer.

In particular, a number of observers are especially interested in "United States Notes" (also called "United States Currency Notes"). It has been argued by some that these are an especially desirable form of currency because they are issued directly by the Treasury, and not through the Federal Reserve System.

United States Notes are the "greenbacks" that were first issued by the Treasury during the civil war. They were the first paper currency declared by the government to be legal tender; and they too, were backed only by the full faith and credit of the United States. They were issued in amounts large enough to cause a significant inflation at the time. Efforts were made after the war to withdraw them. Their number was frozen by statute in the amount of $347 million outstanding in 1878. The sum outstanding remained constant

until 1982, when the law was changed to a ceiling amount of $300 million (with no floor). They have since largely been withdrawn as they have been paid in to banks by customers.

As explained below, *there is no meaningful economic difference between Federal Reserve Notes and United States Notes.* They are both unbacked paper money declared to be legal tender by the U.S. government. They cost the same to produce. They have identical propensity to generate inflation if issued in excessive amounts. To the extent that they are issued, they generate savings to the government in the same amount: in the case of U.S. Notes, the Treasury is able to borrow less because it can spend the notes instead, thereby saving interest expense; in the case of Federal Reserve Notes, the Fed is able to buy back from the public more of the Treasury's outstanding debt, and then turn the interest from the securities back to the Treasury's general fund.

Another archaic form of currency is Silver Certificates. These used to be dollars redeemable in silver. This meant they were "backed" by precious metal. However, for much of the time they were used, the value of the silver that backed them was less than the purchasing power of a dollar. Consequently, for most of their existence, they were partly "fiat" or token in nature as well. From the 1930s to the early 1960s, they were the principal form of small denomination bills in use. But as the value of silver that backed them exceeded the purchasing power of a dollar, the backing was removed, and they too were largely removed from circulation.

Some commentators try to distinguish between U.S. Notes and Silver Certificates on one hand and Federal Reserve Notes on the other, based on the proposition that the former are "spent into existence" while the latter are "lent into existence." Specifically, it is claimed that the former do not create debt. However, all U.S. currency is debt, including U.S. Notes and Silver Certificates. They are debt in principle because they represent an obligation of the government and can be canceled against one's own obligations to the government, just like an IOU. They are debt in law because they are declared such in statute. They have always been regarded as debt, even in the time of Lincoln when they were first issued.

E.O. 11110

The notion that Federal Reserve Notes are especially harmful has given rise to one particular conspiracy theory relating to an executive order in 1963. According to author Jim Mars, Executive Order 11110 issued by President Kennedy on June 4, 1963 authorized the issuance of $4,292,893,815 in United States Notes. Mars further asserts that after President Kennedy's assassination, the order was never carried out.

The claim is not borne out by the facts. First, E.O. 11110 had nothing to do with United States Notes, and did not affect any section of law referring to them. Second, E.O. 11110 did not anywhere mention any quantity of money; wherever the $4 billion-plus figure came from, it was not E.O. 11110. Third, The President had no authority to issue such an edict. Even utilizing the provisions of the Agricultural Adjustment Act of 1933, the most the President could issue without statutory authorization was $3 billion.

What E.O. 11110 did was to modify previous Executive Order 10289, delegating to the Secretary of the Treasury various powers of the President. To these delegated powers, E.O. 11110 added the power to alter the supply of *Silver Certificates* in circulation. Executive Order 11110, therefore, *did not create any new authority for the Treasury to issue notes;* it only affected who could give the order, the Secretary or the President.

The reason for the move was that the President had just signed legislation repealing the

Silver Purchase Act. With this repeal, the Treasury Secretary could no longer control the issue of Silver Certificates on his own authority. However, the issuance of certificates could be controlled under the President's authority. Hence, for administrative convenience, President Kennedy issued Executive Order 11110.

Ironically, the purpose of the order and the legislation was to *decrease the* circulation of Silver Certificates, *with Federal Reserve Notes taking their place.* As economic activity grew and prices rose in the 1950s and early 1960s, the need for small-denomination currency grew at the same time that the price of silver increased. The Treasury required silver for the increasing number of Silver Certificates and coins needed for transactions. But the price of silver was rapidly approaching the point that the silver in the coins and in reserve for the certificates was worth more than the face value of the money.

To conserve on the silver needs of the Treasury, *President Kennedy requested legislation needed to bring the issuance of Silver Certificates to an end and to authorize the Fed to issue small denomination notes* (which it could not at that time). The Fed began issuing small denomination notes almost immediately after the legislation was passed. And in October 1964, the Treasury ceased issuing Silver Certificates altogether. If anything, E.O. *11110 enhanced Federal Reserve power* and did not in any way reduce it.

OWNING GOVERNMENT DEBT

It is frequently argued that the Fed is the reason for the government's debt. The argument usually is that, if it were not for the Fed, the government could have issued money itself directly from the Treasury, and would not have had to borrow; it then would not have had to pay interest. Sometimes it is implied that the only reason the Treasury issues securities is so that the Fed and its member banks can earn interest. Some commentators appear to believe that all Treasury debt is owned by the Fed.

The Fed's holdings of securities and its transactions are almost always conducted in the securities of the U.S. government. But *the Fed never buys or sells directly to or from the Treasury;* it is prohibited from doing so. It always conducts its business with the public in the open market. When the government needs to borrow to finance its operations, the Treasury sells its bonds and bills either directly to the public or through so-called "primary dealers." The Federal Reserve typically buys these already-sold securities from the dealers.

Government debt is generated by government borrowing. Whenever, receipts to the Treasury are less than outlays, the government must borrow to cover the difference. The amount of borrowing, measured by the deficit, is not decided by the Fed. *The government's debt and deficit are the result of the budgetary decisions of the Congress and President.*

A choice that the government has -- a choice that is largely made by the Fed -- is how much of that borrowing is going to be in the form of interest-bearing securities and how much is in the form of non-interest-bearing money. The decision is greatly influenced by the fact that excessive amounts of money creation are inflationary. Consequently, the amount of money used to finance the deficit is limited if inflation is to be avoided. All the rest must be financed by selling interest-bearing securities.

As to the argument that the Fed gets the interest under the current system, and that the Treasury could avoid the interest payments if it issued the money itself, one must keep in mind that the Fed turns its profits over to the Treasury. Consequently, it makes no difference whether the Fed or the Treasury issues the money. In one case, the Treasury issues money, and saves the interest expense of issuing securities. In the other case, the

Treasury issues securities, the Fed buys them, the Treasury pays interest, and the Fed gives the interest back. There is no difference in cost.

In any case, the amount involved is small relative to the government's total debt. *Of the outstanding U.S. debt, the Fed holds less than* 10%. The Fed can hardly be considered responsible for the fact that the government owes $4 trillion when it only holds $400 billion of it.

GOVERNMENT REVENUES AND 100% RESERVES

The notion that the government has a debt because of the Fed is sometimes argued from the idea that if it were not for the system of fractional reserves in which banks create much of the money stock, the government could create all the money, and thereby not have to borrow so much at interest. This argument actually has little to do with the Fed, since fractional reserve banking can and did exist without a Federal Reserve System or central bank of any kind. But the basic principle is correct.

The income earned by the government from seignorage -- whether notes are issued by the Fed or by the Treasury -- is limited to the base money created by the government. If the government created all money instead of letting the banking system create checking account (or other substitute) money, it could earn much more.

In theory, it could do this by outlawing fractional reserve banking (i.e., requiring banks to keep 100% reserves). It is probably not possible to make such a restriction effective; but as a general proposition, it is roughly true: the larger percentage of reserves that the government forces the banking system to hold, the more seignorage the government earns, because a larger percentage of the money supply must be government-provided. This is a legitimate source of revenue.

However, this source of revenue derives principally from depositors. The higher the reserve requirement, the less of a depositor's money the bank can lend out, and the less interest can be earned and in turn paid on deposits. In the extreme 100% reserve case, no interest can be earned on a bank account. Instead of banks paying depositors interest for their funds, depositors would have to pay the banks for the safekeeping of their money and for check processing.

Consequently, raising reserves as a means of earning revenue is like any other means of raising revenue. It is in essence a tax. It is a tax on bank deposits. *Higher reserve requirements are the equivalent of having the government impose an excise tax on deposits.* It can be done, and nothing is inherently wrong with doing so. But it is important to know exactly what it amounts to.

BASIC ECONOMIC ISSUES

-- WHY IS THERE A FED? --

Earlier discussion laid out the basics of the system. Some "base" money is issued by the government or its agent. This is currency and bank reserves that the government will accept in payments for taxes and dues, and which the banks will use to settle accounts with each other. Leveraged on this sum are checking account money and any other deposits that function as money. This latter sum is typically greater than the former. It is created by the multiple expansion of banking credit through the process of fractional reserve banking.

But just as one dollar of base money injected into the system generates several dollars of deposits through the fractional reserve system, a dollar removed from the banking system will generally result in a reduction of several dollars in deposits. These increases and decreases can be handled well enough in small amounts, but larger changes create more difficulty.

Since a bank only keeps a fraction of its deposits as reserves, a big demand for withdrawals by its customers creates a problem. The assets are there in the form of loans. They may be of high quality and value. But they are not always easily converted back into cash. Hence, a perfectly sound, solvent bank can find itself illiquid and unable to meet the demands placed on it by sudden large unexpected withdrawals.

Banks can borrow from each other. They can also sell their assets to others. Consequently, through history, even banks encountering liquidity problems can borrow or liquidate assets in order to handle runs by depositors seeking to withdraw their funds. The difficulty comes when runs occur on a number of banks simultaneously.

If many banks are experiencing runs (a "panic") they cannot borrow from one another because they are all in need of funds. Moreover, there would not be enough cash in existence to satisfy their customers if all their depositors sought to withdraw their deposits (because deposits are a multiple of currency).

This illiquidity problem arises even if the banks are solvent and profitable. If depositors come to doubt the soundness of banks, they will run on them. The banks must start unloading their assets to get the cash to satisfy depositors. If many banks do this, the simultaneous dumping of assets into the market depresses asset prices with the ironic result that banks can become insolvent as a result of the run -- thereby justifying the public's decision to run in the first place.

Through history, the remedy for this has been a "lender of last resort," an institution from which banks could borrow in a pinch. Where a "central" or "government" bank existed, it often came to serve this role because it had the largest reserves of cash. But other institutions have also played this role. For example, clearinghouses did so to large extent in the late 19th century.

One of the purposes of the Federal Reserve System is to be the lender of last resort in the event of bank runs. Nonetheless, bank runs and panics continued after the Fed was created. Since then, deposit insurance has largely eliminated the bank run and banking panics. The Fed's function now is more to be the institutional mechanism by which monetary policy is conducted.

MONETARY POLICY

The trick to using flat paper money as base currency for the system is in limiting its supply. Under a gold standard (or other commodity-based systems), the purchasing power of money is anchored by the availability of the precious metal. Money may lose or gain purchasing power in terms of other goods, but the process is generally held within bounds by the limited supply of gold available and the technological constraints on mining and refining additional supplies.

A fiat money system has no such anchor. Its supply must be regulated in order to maintain its purchasing power. Ideally, one wants just enough paper money to accommodate the transactions of a fully employed economy without prices tending to rise or fall. But as

explained, the government provides only the base money for the system; the amount of additional deposit money depends on bank reserves and the amounts of currency held outside the system. Hence control of supply is difficult.

Moreover, no one knows exactly how much money is needed for transactions. Money gets used over and over again, so the relation of money to transactions is not one-for-one. Transactions relative to production depend on things like how vertically integrated firms are (so that they make payments to themselves with bookkeeping entries instead of making them to other firms with money) and how much of already existing goods and properties are sold back and forth (so that money is used in transactions that have nothing to do with current production). In addition, no one really knows what the level of full employment output is.

On top of this, there exist incentives for the government to aim for a money supply that does not hold prices steady. If it issues more money than needed, it is able to purchase more goods and services. The result is inflation. Through fiat money inflation, the government imposes the equivalent of a tax on people's holdings of money because it increases its own buying power while the purchasing power of the public's money holdings decreases.

Regardless of how hard it is to manage fiat money, or what incentives exist to do the job right, someone must be responsible for regulating the quantity outstanding if fiat money is to be used. In the United States, that job has been given to the Federal Reserve System. But there is no economic reason why the job could not be given to the Treasury, for instance, or accomplished by some other institutional arrangement.

The Federal Reserve is designed to conduct monetary policy largely insulated from political pressures. The long terms of the Governors, the placement of Reserve Bank presidents on the FOMC, and the independent source of financing (which means the Fed requires no appropriations) all serve to increase the ability of the Fed to go its own way policy-wise.

Whether this is good or bad depends on one's outlook. On one hand, it makes the Fed anomalous among democratic institutions. It is clearly less responsive to public sentiment than most other agencies of the government. This seems antithetical to many people's notions of what self-governance is about.

On the other hand, it may be in a better position to tough out some policies that have desirable long-run consequences but undesirable short-term effects. It is argued by some analysts that monetary policy is best administered insulated from public pressure. Short-term and long-term consequences of monetary policy are often very different. Hence, independence may make for better policy. There exists some weak evidence for the contention that independence of central banks is correlated with successful anti-inflation policy. But the evidence is not compelling.

TOO MUCH MONEY AND INFLATION

It is generally accepted that too much money generates inflation. Indeed, one popular definition of inflation is "too much money chasing too few goods." It may not be readily apparent why such a relationship exists. Moreover, a serious student of history can probably find many episodes of rapid monetary expansion that did not result in inflation.

Money is principally a medium of exchange. Its purest form, currency, earns no interest. Most other forms of money earn a lower return than alternative investments that are not generally used in transactions. Consequently, if money is not needed for transactions

purposes, there is not much point in holding it: it makes more sense to exchange it for stocks, bonds, or other earning assets, or to spend it on useful goods.

The "need" for money in transactions will depend on the volume of exchange (which is generally related to the level of economic activity as measured by income or production), the prices at which exchanges occur, and the various factors that determine how often the same money can be reused in additional transactions elsewhere in the economy.

For a given level of economic activity and use of money, additional money winds up causing prices to rise. The reasoning behind this is straightforward. If more money is put into the hands of the public (for example, by paying off the national debt with newly printed currency) the public does not really have need of it for transactions purposes. Consequently, they react by trying to exchange it for something that earns more interest. This increase in the supply of funds to be invested at interest drives down the interest rate. Lower interest rates increase the demand for goods that are sensitive to interest rates, such as autos, homes, and business plant and equipment. The increased demand for these items tends to drive up prices. Basically, *the only way in which a large infusion of money can be put to use is through higher prices.*

This analysis depends on the notion that the level of economic activity is unchanged, or at least does not change as much as the money supply. On the whole, this is a realistic assumption. Output is limited by the resources available to produce. An economy has a certain quantity of labor (of given skills), machines, land, resources, livestock, etc. At any given time, some is not being used; but much of that is not used because it is not suitable to produce what is wanted, or is caught in the transition from one use to another. Capacity to produce can be increased by the accumulation of capital goods: but this is a slow process, such that for every dollar of new capital, capacity increases by only a fraction of a dollar. Essentially, there are physical limits on the potential to produce at any given time; and while over time these limits can be increased, they increase slowly.

The infusion of little pieces of paper, electronic impulses, or even chunks of precious metal will not increase the capacity to produce as much as they increase demand for output. Price increases are the result. Only when capacity is not being utilized, such as during economic contractions, will growth in output automatically match the growth in demand without noticeably raising prices.

Many examples can be found where this process does not seem to work. Obviously it depends on a lot of other factors. An economy that experiences an annual 8% increase in its capacity can absorb larger infusions of money (without inflation) than one that grows at 3%. Moreover, since economic growth and money growth are uneven, it is not unusual to find periods when money increases for a few years without inflation, or where inflation jumps without commensurate money growth. The linkage is even looser when one takes into account the intensity of money use: the ways in which society employs other means of completing transactions, or innovates in the use of money.

Nonetheless, large infusions of money sustained over long periods of time cause inflation. There is simply no other way for the additional money to be absorbed except through price increases.

THE FED AND THE GOLD STANDARD

Many people feel that the most appropriate monetary system is one in which money is backed by gold. A gold standard can mean a variety of different things. But principally, it is

an arrangement in which the monetary unit (in this case, a dollar) is defined in terms of a given quantity of gold of a specified fineness. In some systems, the money issued by the government consists only of precious money in the form of coins. In others, paper money is issued that can be redeemed for gold at the option of the holder. In the post-World War II period, a quasi-gold standard existed, in which gold could be used for "official" transactions between different governments, but in which paper money was otherwise not redeemable by the public.

An exclusive gold standard in which money consists of coin and in which no paper money is issued is virtually impossible to maintain. This is because eventually some institution will issue a receipt for coin which will itself circulate as money. If the government doesn't do it, a bank will. And if not a bank, some other financial agent will. It might be an actual receipt for gold on deposit, or what is functionally equivalent, a bank note (i.e., bank-issued currency). If these are somehow prohibited, checking accounts perform the same role.

Consequently, most gold standards are those in which some kind of paper money exists that represents gold being held somewhere. This raises the analytical question: which attribute really makes it a gold standard, that the money is backed by gold, or that it is redeemable for gold? These are different arrangements.

Many people seem to think that what makes a gold standard work is that there is backing in the form of gold. The most common argument along these lines is that gold has intrinsic value. Therefore, whenever it (or a representation of it) is used in a transaction, the receiver is getting something of genuine value, not a promise to pay.

In contrast -- this line of reasoning goes -- IOU money such as Federal Reserve Notes, is not in itself worth anything. Such notes can only be passed if others have faith in their worth. If everyone lost their faith in these notes, they would cease to have value in exchange.

This intrinsic value argument, however, does not generally hold. The truth is, gold mostly holds its value based on faith as well. Gold of course does have commercial value. It has always been used for jewelry, for a time in dentistry, and more recently has had industrial uses, such as for electronics. Certain of its chemical attributes (e.g., the fact that it does not oxidize) has made it attractive for such purposes. Hence, it was a convenient commodity to use as money in transactions.

However, once its use as money became widespread, the demand for gold for monetary purposes far outstripped its demand for non-monetary uses. As a result, much more of it was mined and refined than would have been the case just to satisfy the demand for it in jewelry and electronics. If there were no demand for gold as store of wealth (i.e., potential monetary use), its value would fall precipitously. Consequently, in terms of intrinsic value, gold is remarkably like paper money: its current value much exceeds its value for non-monetary purposes; it maintains this value only because people have faith that it will continue to be useful for transferring wealth; were this faith to collapse, its value would as well.

Actually, the strength of a gold standard largely derives from the feature of "redeemability". The commitment to redeem a note for gold at the option of the holder regulates the issuance of paper currency. If an issuer injects too much paper money into the economy, such that prices begin to rise relative to gold, holders will redeem it for gold, and slow down the expansion of the money supply. Similarly, too slow a growth in the money supply can reduce prices, making it worthwhile to turn gold in for money, and to mine and refine more gold because of its increased buying power.

The problem with gold (and other commodities) as a monetary standard is that there is no guarantee that gold stocks will grow at rates necessary to keep prices stable. Historically, new discoveries of gold have generated substantial inflation. At other times, failure of the stock to grow fast enough caused prices to fall. This is compounded by various innovations that may allow the economy to get by on less base money, such as the growth of crediting and debiting accounts.

While the dollar in 1929 was very close to the same purchasing power that existed in 1800, its value fluctuated much in between, rising to twice its 1800 buying power in 1850, depreciating 12% just a few years later, falling again around the turn of the century and rising to nearly 2 1/2times its 1900 value in 1920.

The biggest problem came when the public began to have doubts about the redeemability of the currency. In those periods there was a rush to convert to gold, and a shrinkage of the total money supply was the result. The effort to stay on the gold standard during the period 1931-1933 was a big reason for the severity of the great depression. Shrinkage of the money supply was only stopped after the United States abandoned its commitment to stay on a gold standard.

The 1933 abandonment of gold marked the true end of the gold standard for the United States. What followed was only a shadow of a true gold standard. Lacking public redeemability, the biggest virtue of a gold standard -- discipline -- was lost. Redeemability in official transactions did not prove to be much a restraint on monetary policy. The United States expanded its money supply at a rate that eventually made it impossible to use gold even in international transactions. By 1968, the United States had *de facto* stopped using gold. Actions in 1971 and 1973 made the changeover official; all links to gold were cut.

Essentially, *abandonment of gold did not lead to expansionary monetary policy and inflation, rather, expansionary policy and inflation forced the abandonment of gold.* Gold convertibility does provide a discipline, at a cost. But it is a discipline that only works if a country has the will to submit to it, in which case, it may very well be able to discipline itself without gold.

MONETARY STANDARD/FRACTIONAL RESERVES/CENTRAL BANKING

There is no necessary link between the choice of a monetary standard and the existence of a central bank. The Federal Reserve has operated under the classical gold standard (1914-1933), a quasi-gold standard (1935-1971), and a pure flat standard (1973-present). Similarly, the United States has operated under a fiat money system without a central bank (1862-1879), and with one (1973-present). *Hence, the Federal Reserve and the gold standard are not alternatives to each other.* The Fed can exist and operate under both fiat and gold standards; a gold standard can function with or without a Federal Reserve System.

Fractional reserve banking, as well, is not connected to the choice of monetary standard or the existence of a central bank. Throughout U.S. history, there has been fractional reserve banking. It has been the norm during periods of the gold standard and of fiat money. It has operated with a central bank and without one. *The question of whether the Federal Reserve system is desirable or not is not a question of whether one prefers a gold standard or disapproves of fractional reserve banking.* One could restore the gold standard without eliminating the Fed. One could eliminate the Fed and retain fractional reserve banking. The latter could be done with or without a gold standard.

THE "MATHEMATICAL FLAW"

A popular theory about the Fed and money creation in the United States is built around the notion of a "mathematical flaw" inherent in introducing money by means of "lending" as opposed to "spending." This theory starts with the observation that money in the United States (and most other countries) is placed into circulation through the purchase of interest-bearing debt.

To inject money into the economy, the Fed buys federal securities, thereby acquiring an asset that pays interest. In the second round of money creation, banks, S&Ls, and credit unions, through the fractional reserve banking system, earn interest on the loans they hold as a consequence of creating checking account money.

This means that for every dollar of money, there is a corresponding dollar of interest-bearing debt. As a consequence of this arrangement, the argument goes, there is only enough money to pay off the principal of existing debt; there can never be enough to pay the interest that accrues on that principal. If there is to be enough money to handle interest payments in the economy, the theory continues, more borrowing must occur to generate the extra money. Of course, additional borrowing under this arrangement would mean even more interest that cannot be paid out of the existing money supply.

Just to keep the money supply constant under the system, according to this line of reasoning, debt must grow by the rate of interest. Since the economy grows over time, debt must grow at even a higher rate. As compounding occurs, the result is an explosive growth of debt. Thus, the argument is, policy must actually encourage households and businesses to take on new debt just to keep the money supply from shrinking.

Allowing debt to expand is a problem, these theorists argue, because interest costs are *a* -- if not *the* -- principal cause of inflation. When the banks make loans, they charge interest. Interest represents a cost of doing business for borrowers which they pass along to consumers in the prices they charge for goods and services. Hence, it is reasoned, the more interest paid, the higher prices must be.

If debt must mushroom over time in order to keep the money supply from shrinking, according to this line of thinking, then the cost of doing business must rise faster each year, and so must prices. In short, it is argued, the money supply process demands that debt grow exponentially. As debt grows as a proportion of total production, so do interest payments. And as interest payments grow relative to the rest of real income, it is claimed, prices must rise faster as well.

This dilemma, the proponents argue, is the inherent problem that causes instability in the current banking system -- an instability that the authors believe to be responsible for the business cycle.

Most of those who advance this view believe that to correct the inherent instability in the current monetary system and simultaneously reduce inflation, the system of "debt" money must end. They argue that money must be spent into existence, or at least issued without charging interest.

This analysis is deficient on four counts. First, the banking system does not behave as presented above. The payment of interest on debts that arise through the money creation process will neither contract the money supply nor result in the growth of debt relative to the money supply. Second, there is no reason for the money supply to equal the sum of debt

and interest. Third, debt is such a common and essential part of an economy, there is always plenty of it available for money creation without any need to encourage the creation of more. (The fourth reason, that interest costs are not the cause of inflation, is discussed in another section).

The crucial error made by the above arguments lies in the proposition that once interest is paid by the government to the Fed, money is "extinguished". If the interest earnings were simply put away into a vault until they were lent out again, the authors would be correct. But in fact, the money is spent back into existence.

The part of the Fed's income used for its own expenses and the dividend paid to member banks is, of course, spent back into existence. The rest the overwhelming majority of all of the income earned by the Federal Reserve -- that which is remitted back to the U.S. Treasury, is also spent. Thus, "lending money" into existence does not mean that debt has to constantly increase to make up for the money that is paid in interest and removed from circulation. It is not removed from circulation; interest payments to the Fed re-enter circulation as they are paid for expenses, as they are paid in dividends, and most significantly as they are paid over to and spent by the Treasury.

The argument has similar problems with its claim that money disappears from circulation as interest is paid back to commercial banks. Like the Fed, commercial banks have expenses. They must pay these out of their earnings -- spending them into existence. They also must pay dividends to their stockholders -- again spending them into existence. Most important among their expenses is interest on their deposits. Whether in the form of explicit interest paid to depositors or implicitly paid as free services (such as check-clearing, balance reporting, etc.), these funds are also spent into existence. Even those sums retained to increase the capital of the bank do not have to be lent, but can be used to purchase expansion of the facilities. There is no requirement in the system that interest earnings must be lent back into existence through new loans.

Since the amount of dollars represented by the interest payment is returned to the spending stream and the money supply, there is no need for banks to lend continuously a sum equal to the interest payment to keep the money supply constant. Hence, there is no force causing debt to grow continuously relative to the available money supply. The current system is not inherently unstable.

Nor is there any reason why there must be enough money outstanding to pay off all outstanding debt. The money needs of the economy are much smaller than an economy's total debt. Money circulates; it gets used repeatedly in the course of a year. Transactions take little time. As soon as money is used in one transaction, it is available for use in another. Consequently, the money stock need only be a fraction of the total transactions that take place in a year.

An economy only needs enough money to complete the *transactions* that occur in the course of normal business -- not a sum related to total debt. And the total amount of money needed is *less* than the total value of the transactions because the money is used more than once.

Finally, debt is not created because of a need for money. Every economy - even those without money -- has debt. Debt is a necessity in any modern economy. Indeed, debt pre-dates money in that it exists even in barter economies. It comes in a variety of forms and does not consist exclusively of bank loans. It exists because some people do not consume all that they produce, and are in the position to place some of their goods temporarily in the hands of those who need more goods than they have. Resources are not always in the hands

of those who can best employ them. Hence, the lending of resources is common and even necessary for economic progress.

Consequently, debt is always present in private affairs. Healthy economies can always be expected to have private debt equal to many times the amount of money that they need. Even as some borrowers repay their loans, still others are ready to borrow. Money creation, therefore, does not drive the creation of debt; the debt is already there regardless of how money is created. It is always there. There is plenty of debt to be used by the banking system for the purpose of money creation with plenty more left over. This is true everywhere there are market systems. Debt does not exist because of a need to create money.

In short, there is no mathematical flaw. And paying money directly out of the Treasury would have exactly the same economic effect as having the Fed create it by "lending."

INTEREST AND INFLATION

A criticism occasionally leveled at the Federal Reserve is that in raising interest rates to fight inflation it actually makes inflation worse, and that, indeed, it is a fundamental part of the problem with the monetary system because of its role in a system of lending funds at interest. According to this view, interest is the primary cause of inflation. Adherents maintain that interest payments are a cost of production, so that interest costs enter into the prices of individual goods and services. When these individual prices are aggregated into a price index, the influence of the interest rate on the inflation rate is direct.

Interest-based cost theories of inflation are not uncommon. But they are not commonly embraced by economists. Their major shortcoming is that the effect of interest costs on the price of individual goods cannot be aggregated into an increase in the general price level. The assumption that such price increases result in inflation is considered an example of the fallacy of composition.

To say that the price of a good has increased is to say that it now costs more to buy the good in terms of whatever is used to pay for it. For an individual good or class of goods, an increase in price can mean an increase relative to other goods that are indirectly exchanged for it. Even though money must be used to purchase the higher-priced good, money was acquired through the sale of some other good or service. The rise in price of one good means the relative decline in the price of another. The total need for money in the economy does not necessarily increase when one price increases, because other prices can decline at the same time. Thus, the decreased need for money in transactions involving lower-priced goods can offset the additional need for money generated by goods that increase in costs.

But inflation is the continuous increase in the *general* level of prices. That means prices of all goods on average are going up -- not just some relative to the rest. And when all goods are rising in price, they cannot cost more in terms of other goods; they must cost more in terms of *money*. Hence, when inflation occurs, it takes more money on average to buy goods than before prices went up.

Consequently, for inflation to take place, there either must be more money to make the larger transactions, or money must be circulated more frequently to handle the extra need. But there are limits on just how much money can be recycled for more frequent use to accommodate the higher prices. Hence, if the additional supplies of money are not forthcoming, then the inflation cannot continue for very long.

This explains why money growth is necessary for inflation. Higher costs - regardless of source -- cannot generate inflation unless the money supply grows to permit the price increases. If enough additional money is not generated to handle the increase in the size of each transaction, then the number of transactions must shrink. That is, when costs drive up prices in the face of a money supply that does not grow commensurately, economic activity must decline. Purchases drop, workers are laid off, and output falls.

The decline in economic activity reduces the ability of firms to pass their higher costs on to consumers. Despite whatever pressures there may be on producers from the cost side, the reduction in demand holds back price increases. Whether the cost increase is from higher oil prices, interest costs, or increased wage demands, the increase in prices cannot be sustained without accommodation from the money supply. True inflation -- in the sense of *continuously* rising prices -- is never cost driven.

Moreover, the theory of interest-cost inflation has an additional shortcoming. Even if higher interest rates caused prices to increase, they could not explain inflation. Inflation is not high prices; it is not higher prices; it is *rising* prices; prices that go higher and higher continually. That means that interest costs would have to continually increase to produce inflation. Moreover, whenever interest costs fell, there would be deflation -- not slower inflation.

Of course, this is not what happens. Interest rates have fallen many times in the United States over the last 45 years. But not once did the U.S. price level fall. Inflation slows, but prices keep rising, even though -- according to the interest cost theory of inflation -- prices should fall because costs have fallen. If nothing else, this simple observation shows that the interest-cost theory of inflation is fallacious.

CONCLUSION

Briefly, the United States, like virtually all advanced nations, has a banking system in which the use of fractional reserves means that most money is generated by banks and not the government. This reduces seignorage revenue to the government, with bank depositors being the principal beneficiaries.

The Federal Reserve is *not* a private corporation. It is part private and part public, with the Board of Governors an agency of the United States government. The regional Federal Reserve Banks are private corporations acting as agents of the government, owned by their member banks. No individuals hold stock in the Fed. Corporate control of the regional Federal Reserve Banks is limited and based on one vote per stockholding bank (so that big banks cannot control the system).

The Fed buys and owns some of the government's debt. But it does not determine how much debt is issued (that is determined by the government's budget). The Fed owns less than 10% of the government's total debt. The interest earned on the debt held by the Fed is turned over to the Treasury (except for operating costs), so that the revenue consequences of having the Fed issue Federal Reserve notes is essentially the same as having the Treasury issue its own currency directly.

The existence of the Federal Reserve is separate from the choice of monetary standard. It is not an alternative to a gold standard. Similarly the existence of the Federal Reserve and the choice of a monetary standard is unrelated to the existence of fractional reserve banking, or to who regulates the operations of banks. The primary issue about the Federal Reserve is about who controls monetary policy.

APPENDICES

I. THE ECONOMICS OF THE "CONSTITUTIONAL" ISSUE

The constitutional question of whether the government can issue non-redeemable paper money and make it legal tender was settled in 1884. That Federal Reserve Notes are legally money has also been affirmed. But early in the 19th century, the authority of the Federal government to issue paper money was much disputed. In some circles today, a small minority still makes constitutional arguments against Federal Reserve Notes in particular, and paper money in general.

In general, the thrust of these arguments is that if the Constitution were interpreted narrowly enough, it would be impossible for the government to issue fiat money (i.e., money that has been declared by fiat to be worth more than its "intrinsic" value). The government has no power to declare legal tender, according to this notion. Further, the only money it can produce is coins.

The point of this appendix is not to discuss what the courts have and have not found constitutional, nor to discuss the relative merits of the constitutional issue. Such a discussion is best left to attorneys and legal scholars. Rather, this discussion is about the economics of issuing fiat money, and the many different ways in which it can be issued. It shows that even under the most narrow interpretation of federal power, the government could still issue non-redeemable f fiat money that circulates. *The point is not that given constitutional arguments are wrong, but that they are irrelevant to the economics of the issue.*

Legal Tender and Bills of Credit

As a general proposition, there are two issues: 1) the power to issue paper money, and 2) the power to make that money legal tender. They are separable issues. A government can issue paper money without making it legal tender. Under the right conditions, this money will circulate. Consequently, a number of situations are possible. A government might have no authority at all to issue paper money, or to declare anything legal tender. It might have the power to issue money but no power to declare it legal tender. Finally, it is possible that a government could lack power to issue money, yet still have the power to declare the notes of others to be legal tender.

Legal tender is something that by law must be accepted in satisfaction of obligations denominated in dollars. Should a suit arise over a commercial or public transaction, the law holds that a monetary obligation is satisfied if these notes have been "tendered" in the correct amount.

It is possible to make a contract in something other than dollars. It is also possible for two transactors by mutual agreement to complete their business in dollar-denominated terms with some other medium. But otherwise, if payment for an obligation is tendered in the legally designated medium, it must be accepted at face value. Payment cannot be refused on the grounds that the notes are not money.

Issuing paper money is something else. It is possible to issue paper currency without making it legal tender. The government can -- and has -- paid out various forms of paper notes that have circulated as currency, but have not been declared legal tender. At the time the Constitution was written, paper money was known as "bills of credit." A bill of credit is a form of debt, basically an IOU with the characteristic that it is intended to circulate as money.

This paper money may or may not have legal tender qualities. It is fairly easy for the government to issue a bill of credit without legal tender privileges. The easiest is to make it receivable for taxes. It that way, the note has value to anyone who might have to pay taxes, and hence is worth its face value. *Making a note receivable for taxes is not the same as making it legal tender.* But it typically has the effect of making the note circulate because, if nothing else, the note is worth its face value when it comes time to deal with the government.

Constitutional Powers and Limitations

The Constitution refers to both of these issues explicitly only with respect to limiting state power. Under Article I, Section 10, states are prohibited from making anything other than gold or silver legal tender. They are also prohibited from emitting bills of credit (or coining money). These prohibitions are clearly aimed at states, and not the federal government.

In Article I, Section 8, Congress is given powers related to money in two clauses: to "borrow on the credit of the United States", and "to coin money and regulate the value thereof." There are two other closely related clauses: "to lay and collect taxes," and "to regulate commerce ... among the several states.

In general, contemporary legal theory holds that the power to issue bills of credit and declare legal tender is incidental to the power to regulate the value of coin and to borrow money, and therefore in the federal government's power. In the early 19th century, this was generally held not to be true, or at least open to question.

The question of bills of credit is especially interesting because it was explicitly considered by the constitutional convention. A clause in the draft document explicitly enabling the Congress to issue bills of credit was removed, largely because many members felt the experience with inflation under the continental currency should not be repeated. Interestingly, the debate over including the power --and statements made at the time the clause was rejected - indicate that at least some of the delegates *did not* believe that in removing the clause they prohibited the Congress from issuing such bills. Many members felt that paper money was an expedient that might have to be resorted to in an emergency, and should not be foreclosed. Consequently, the convention decided both *not to authorize* such a power, but *did not clearly prohibit* it. Many delegates were apparently of the opinion that they had left the issue up to future generations to grapple with.

The tenth amendment of the Constitution, however, reserves powers not given the federal government for the states or the people. Consequently, it is occasionally argued by some observers that since the power to issue bills of credit is not specifically authorized, it is prohibited. However, the final clause of Article 1, section 8 gives Congress the power to make laws "necessary and proper for carrying into execution" those powers given explicitly. Based on this clause, the courts in particular have maintained that the Congress does indeed have the power to authorize the issuance of such bills.

The issue of legal tender -- at least in terms of the powers of the federal government -- was not addressed by the convention. Up to that time, the power of the government to declare something legal tender appears to have been regarded as inherent in the power to coin money. However, it is also clear that in writing the Constitution, the framers were reassessing what had previously been regarded as "sovereign" powers, and that they believed many of these powers belong to the people rather than the crown.

The United States exercised its right to declare certain coins to be legal tender as early as

1792. The tender quality was bestowed on certain foreign coins as early as 1793. In 1834, the government reduced the gold content of U.S. coins, with the newer coins being legal tender for debts contracted before that date. In 1853, limited legal tender was conferred on coins that had proportionately less silver than was otherwise called for by the legal mint ratio.

The government first issued notes that were used as currency during the War of 1812. At first, they were interest-bearing, but receivable for dues to the government. Later they were non-interest bearing, basically indistinguishable from paper money today. Similar notes were issued in 1837 and off-and-on through 1843. Notes again were issued in 1857 and 1861. None of these notes were legal tender. They all circulated as money to varying degrees. Significantly, they were not always redeemable on demand for gold or silver.

Consequently, by the time of the civil war, the federal government had many times assumed the power to declare money legal tender, and power to issue paper money. But not until the issuance of the civil war "greenbacks," did it declare paper money that it had issued to be legal tender.

The Economic Implications of the Narrow Interpretation

If the federal government could not declare anything legal tender, it would not necessarily be prevented from issuing paper money, or even be prevented from issuing paper money in excess amounts. Money circulates primarily because it has the characteristic that it is immediately worth its face value to someone else. As a general rule, receivability does this. Whenever notes of the government have been made receivable for taxes, they have tended to circulate. Consequently, if the legal tender privilege were removed from Federal Reserve Notes, but they were still made receivable for taxes and could be used as reserves by banks, there would likely be no effect on their circulation. *Withdrawing legal tender power would not prevent the issuance and circulation of fiat money*.

To prevent the issue of paper money, a narrow interpretation of constitutional powers would have to also prohibit the government from issuing bills of credit. And typically, these narrow interpretations of powers are based on a reading of "coin money and regulate value thereof' to mean metal coins only. Yet even so, bills of credit might be issued under the government's power to borrow, since such notes are little more than IOUs. To declare paper money unconstitutional, one would have to maintain that issuing bills of credit would not fall under the federal government's power to borrow.

But even this narrow of an interpretation would not shut the door on flat money. If the power of the government is limited to issuing coins, there is still nothing that requires the coins to be "full bodied" -- that is, to have precious metal content equal to their face value. The constitutional power to issue coins appears to be unlimited.

The government has long issued "token" coins to meet the circulation needs of the economy. These coins possess a metallic value less than the value on their face. Today, all U.S. coins are token coins, made usually of nickel, zinc, and copper. They are flat money in the same fashion as paper money, having been assigned their exchange value by simple declaration. Like paper money, such coins do not need to be declared legal tender to circulate, but can be given value simply by the receivability feature.

Interestingly, the United States has been considering replacing its $1 paper bill with a coin. It is theoretically possible to do the same with all denominations of bills, and to remove the legal tender privilege. This presumably would satisfy the narrowest interpretation of

federal power but without making any difference to the government's ability to issue (or over-issue) fiat money.

Consequently, the contention that the Constitution prohibits the issuance of anything but coins as money does not mean that the United States would have to be on a gold and/or silver standard, nor does it mean that the country could not have a fiat currency or issue it in excessive amounts. Even narrowly interpreting the federal powers granted in the Constitution could not prevent the issuance of fiat money or inflation.

II: THE FEDERAL RESERVE AND NATIONAL EMERGENCY

It is occasionally asserted that the fiat monetary system and the Federal Reserve System's power derive from a national emergency declared by President Roosevelt in 1933. This is sometimes combined with a claim that the United States is bankrupt.

As explained, the Fed's power comes from the Federal Reserve Act of 1913 (as amended). Congress delegated its constitutional power to create money by means of this legislation. No emergency decree was involved in vesting the Fed with its current powers.

The rationale for the emergency decrees in question lay policies undertaken to recover from of the Great Depression of 1929-33. By the winter of 1933, economic activity in the United States had declined for almost four years. The contraction was compounded and exacerbated by a series of banking panics. A banking panic was under way in March 1933 when President Roosevelt assumed office.

Shortly after taking office, Roosevelt closed the banks in order to stop the bank runs and the export of gold from the country. He did this based on the Trading With the Enemy Act of 1917, which gave him broad powers over banking and currency. There was nothing in the 1917 act that conferred such powers in peacetime. But Roosevelt acted on the basis of a "national emergency" and summoned Congress to a special session to prepare legislation to confer the powers he wanted to deal with the situation. Three days later, Congress passed the Emergency Banking Act, which amended the 1917 Act to include national emergencies, ex post approved the President's actions of the previous three days, and granted him power to regulate or prohibit the payment of deposits at financial institutions. The Act also set out the conditions under which the banks could reopen, procedures by which insolvent banks were to be liquidated, and mechanisms by which the Federal Reserve could provide more liquidity to the system. The President then used the Act to extend the actions.

When the President closed the banks, he also prohibited them from paying out gold or dealing in foreign exchange. The March 9, 1933 legislation granted him authority to do so in emergencies. He promptly used these powers to continue the prohibition on gold transactions, even for banks that reopened. By executive order, on April 5, 1933, the "hoarding' of gold was forbidden. Gold had to be turned in to the government at the official price of $20.67 per ounce. Essentially, the country's gold was nationalized.

The Thomas Amendment to the Agricultural Adjustment Act of 1933 granted authority to the President to alter the gold content of the dollar, with power to reduce it to 50% of its previous value. Under this authority, the market price of gold was allowed to increase to $35 by January 1934 when the Gold Reserve Act was passed and the President thereby empowered to fix the new value of the dollar at not less than 60% of its previous value. The Gold Reserve Act also gave legislative force to the nationalization of gold. Under its terms, title to all bullion and coin was vested in the U.S. government, gold coin was withdrawn from circulation, and the Treasury Secretary was given control of all trading in gold.

Private holdings of gold were outlawed (except for numismatic and various industrial/artistic uses).

Prior to the reorganization of the gold standard under the Gold Reserve Act, the Congress had by joint resolution suspended the gold standard and abrogated gold clauses. Gold clauses had appeared in a number of bonds issued by the government and the private sector for many years prior to the Joint Resolution. They gave the lender the option of being paid in gold (or its value) at the earlier conversion rate. These were designed to protect bond holders from this kind of depreciation.

This abrogation of gold contracts by the government was upheld by the Supreme Court in February 1935. Thus, the government could discharge all its interest and principal due in paper money. Since the dollar had depreciated due to official policy, it meant that the outlawing of gold holdings effectively reduced the amounts the government paid on its debts had it paid in gold. Reneging on this promise to pay in gold apparently is the source of claims that the United States went "bankrupt."

With respect to the claim the nation is still under a national emergency, most of the various emergency declarations were withdrawn. However, Roosevelt's March 9 decree was never formally revoked. Revocation has become unnecessary: the 1976 National Emergencies Act and the 1977 International Economic Powers Act rendered inactive the powers that these declarations invoked. Hence, the emergency declarations that have concerned some commentators -- long since ignored anyway -- ceased to have any legal force.

As should be apparent, none of these legislative or executive actions gave the Federal Reserve its legal authority. The various acts did serve to end the gold standard under which the United States had operated, and to move the country significantly to a fiat monetary system -- but one in which discretion and in which the Federal Reserve's power over monetary policy was circumscribed. As should also be clear, the use of emergency powers had little if any long-term effect in making these changes. The permanent changes were all achieved by legislation.

The United States did not go "bankrupt". It paid its bills and met its obligations. However, the abrogation of the gold clauses did amount to a reneging on its commitments. These were not abrogated by emergency decree, but by congressional and Court action.

There are currently no powers being exercised with regard to the emergency declared in 1933.

FOR FURTHER READING

In addition to the references in the footnotes, the following publications were used as sources of information and may be of interest to the reader:

- **Board of Governors of the Federal Reserve System, *The Federal ReserveSystem; Purposes and Functions.* Washington, 1994. 120 p.**
- **Board of Governors of the Federal Reserve System, *Federal Reserve Act,and Other Statutory Provisions Affecting the Federal Reserve System, (as* amended through 1990). Washington. 617 p.**

- **Friedman, Milton and Anna Schwartz, A *Monetary History of the UnitedStates.* National Bureau of Economic Research. Princeton, NJ, Princeton University Press, 1963. 860 p.**
- **Knox, John Jay, *United States Notes; A History of the Various Issues of Paper Money by the Government of the United States.* New York, Charles Scribner's Sons, 1899. 247 p.**
- **Mitchell, Wesley, *History of the Greenbacks.* Chicago, IL, University of Chicago Press, 1903. 577 p.**
- **Timberlake, Richard, *Monetary Policy in the United States; An Intellectualand Institutional History.* Chicago, University of Chicago Press, 1993. 502 p.**
- **General Accounting Office, *Federal Reserve System: Current and Future Challenges Require System-wide Attention.* Washington. June 1996 154 P. (GAO/GGD-96-128).**
- **Library of Congress, Congressional Research Service, *Board of Governors of the Federal Reserve System: History, Membership, and Current Issues,* by Pauline Smale, June 1996. Washington. 12 p. (95-292 E).**
- **----- *Federal Reserve: Development and Responsiveness to Government,* by William Jackson, November 1989. Washington. 22 p. (89-636 E).**
- **----- *Federal Reserve Independence: Financing and Tax Issues,* by William Jackson, December 1995. Washington. 6 p. (96-23 E).**
- **----- *Federal Reserve Interest Rate, Bank Interest Rate,* and Bank *Profitability Relationships in the Recent Financial Cycle,* by William Jackson, July 1994. Washington. 12 p. (94-587 E).**
- **----- *The Economics of Federal Reserve Independence,* by Thomas Woodward. March 1990. Washington. 18 p. (90-118 E).**
- **----- *Redelining the Federal Reserve's Monetary Policy Mandate,* by Thomas 0. Woodward. March 1995. Washington. 13 p. (95-394 E).**

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