

## The Real Bills Doctrine

2/5/1996

### ABSTRACT

The Real Bills Doctrine holds that money will maintain its value as long as it is only issued in exchange for sufficient security. The Quantity Theory, in contrast, holds that the value of money is maintained by a limitation of its quantity. The Real Bills Doctrine has been rejected on the grounds that it places no adequate limits on money creation and therefore gives no safeguard against inflation. This paper points out several major flaws in the criticisms of the Real Bills Doctrine and argues that it is the Quantity Theory which is unacceptable. The Real Bills Doctrine, although it has been mis-stated and misinterpreted, is a completely satisfactory theory of money.

### I. INTRODUCTION

When the Directors of the old Bank of England were accused of having allowed the pound to depreciate between 1797 and 1810, their defense was based on the Real Bills Doctrine. They stated that they had only issued money to those customers who offered good security in exchange for the money. Therefore, they claimed, the bank was only issuing as much money as the legitimate needs of business

required. The Bullion Committee appointed by the House of Commons in 1810 denounced this defense as "wholly erroneous in principle" (Gilbart, 1882, p. 53). Sixty-three years later, the bankers' answers were still derided as "almost classical by their nonsense." (Bagehot, 1873, p. 86) It would be difficult to count the number of times that similar debates over the Real Bills Doctrine have flared over the centuries. A few episodes are summarized by Mints (1945, p. 9.):

The real-bills doctrine has been a most persistent one. Given its most elegant statement in all its history by Adam Smith in the Wealth of Nations, it has since served as the defense for the directors of the Bank of England during the period of the Restriction. With some changes it re-appeared as the banking principle; it was the main reliance of the agitators for banking reform in the United States before 1913; it was as comforting to the Federal Reserve Board following the depression of 1921 as it had been a century earlier to the directors of the Bank of England; more recently it has re-emerged as the doctrine of "qualitative" control of bank credit; and, quite aside from these special uses to which it has been put, it has been consistently defended throughout all these years by a large proportion of bankers and economists.

Since Mints' time, isolated elements of the Real Bills Doctrine have appeared in the writings of Tobin (1963), Samuelson (1971), Pesek (1977), and several more recent papers mentioned below. Nevertheless, the Real Bills Doctrine remains discredited, and its critics are numerous (e.g., Brunner (1968), Mayer (1977), Dean (1977), Laidler

(1984), and McCallum (1992)). Their attitudes toward the Real Bills Doctrine are far from charitable. G. A. Selgin (1989, p. 489.), for example, comments that

The dead horses of economic theory have a habit of suddenly springing back to life again, which is why it is necessary to beat them even when they appear lifeless.

In what follows I hope to revive this dead horse.

## II. BACKED MONEY

Empirical studies by Sargent (1982), Smith (1985), Calomiris (1988), Siklos (1990), Bomberger and Makinen (91), and Cunningham (1992) have all found that the value of money is more accurately predicted by a Real-Bills type "Backing Theory" than by the Quantity Theory. Cunningham (1992) in particular, notes that his study of Taiwan provides "clear support for the Real Bills doctrine over the Quantity Theory." On the other side of the debate, evidence rehabilitating the Quantity Theory has been presented by Michener (1987) and Bordo and Marcotte (1987). This debate notwithstanding, the Real Bills Doctrine is still regarded as "thoroughly discredited" (Mishkin, 1994, p. 503).

In this paper I will examine the workings of backed money. I find that the Real Bills Doctrine, or something very much like it, is a perfectly logical model of this

case. I contend that economists have been too quick to accept the idea that what we call fiat money is actually unbacked, and I present an alternative view of money that is backed but inconvertible.

#### A. THE REAL BILLS VIEW OF BACKED MONEY

The version of the Real Bills Doctrine with which most economists are familiar is summarized by Selgin (1989, p. 489.):

The major policy prescription of the real-bills doctrine is that commercial (and also central) banks should limit credit extension to loans backed by short-term commercial bills. Such paper is supposed to represent actual transfers of existing goods. Therefore (defenders of the doctrine argue) loans made on the basis of it will be liquid and non-inflationary.

We can elaborate on the workings of this doctrine with a simple example. Figure 1 represents a bank which has taken in 100 ounces of gold on deposit and issued 100 receipts, each of which represents a claim to one ounce of gold. If the receipts were printed pieces of paper they would be called bank notes. If the receipts existed only as bookkeeping entries they would be called deposits. It is clear that notes and deposits are both usable as money.

100 credits	<--Bank Liabilities
<hr/>	
100 oz. of gold	<--Bank Assets
<hr/>	

Figure 1

For simplicity I will call the bank's receipts 'credits', and I will assume that people find them useful as money. It should be obvious that the value of these credits depends on only one thing: the bank's ratio of assets to liabilities. In this respect backed money is no different from any other financial security.

The interesting thing about this money is that its value does not depend on any of the following factors:

- (1) the quantity of money,
- (2) the convertibility of the money,
- (3) the liquidity services of the money
- (4) the physical form of the money,
- (5) the quantity of derivative moneys,
- (6) the economy's output of goods and services,
- (7) the government's fiscal policies,
- (8) the productivity of the bank's loans,
- (9) the term of the bank's loans,
- (10) the velocity of the money.

I will discuss each of these in turn.

1. THE QUANTITY OF MONEY

Suppose that the public wants 100 additional credits, but instead of offering gold in exchange they offer IOU's with a current market value of 100 ounces of gold. Assuming that the IOU's represent a claim to something of value, the banker would have no reason to refuse this offer, and so he would issue 100 more credits, thus doubling the money supply.

100 credits	+100 credits
100 oz. of gold	+IOU's worth 100 oz. of gold

Figure 2

What effect does this doubling of the money supply have on the value of money? A Quantity Theorist might answer that the value of the money will be cut in half, but this cannot be correct. There are 200 credits laying claim to assets worth 200 ounces of gold, so each credit must still be worth one ounce. The case would be no different if the bank issued credits in the billions, except that the public would eventually want no more of them. But of course when this point was reached the public would stop bringing in valuable assets to trade for the credits, and the issue of credits would stop. The banker must follow just one simple rule: He

should only issue credits to those customers who offer 'sufficient security' (i.e., resources worth one ounce of gold). This rule, with some minor qualifications, is nothing but the Real Bills Doctrine. As long as the banker follows this rule his credits will be worth one ounce of gold no matter how many are issued. Of course, the issue of credits might reduce the monetary demand for gold and thus reduce its value, but the value of credits relative to gold will not be affected. Furthermore, if the issue of credits is small, or if monetary demand for gold is small in relation to total demand, then the issue of credits will not affect the value of gold, just as the Real Bills Doctrine implies.

## 2. THE CONVERTIBILITY OF THE MONEY

It is tempting to think that the banker's credits are worth one ounce of gold because they are convertible into one ounce of gold on demand. But bankers are normally closed nights and weekends, and during these times their credits are still worth one ounce of gold even though they are temporarily inconvertible. The thing that seems to give the credits value during these times is the expectation of a resumption of convertibility. But it is more to the point to say that the credits have value because they are backed. For example, suppose that the banker in Figure 1 has 200 credits outstanding, backed by 100 ounces of gold plus IOU's worth

100 ounces. Then, over the weekend, while the bank is closed, the value of the IOU's drops to 50 ounces of gold. The credits would then trade for  $150/200=.75$  ounces for the rest of the weekend. If the banker restored convertibility at one ounce per credit on Monday morning, he would face a run. The first 150 depositors would get their gold (or something of equivalent value) and the last 50 would get nothing. As the run progressed the expected value EV of the credits would fall according to the formula

$$EV=(150-\text{number redeemed})/(200-\text{number redeemed})$$

Thus, after 80 credits have been redeemed at one ounce each the value of each remaining credit would be  $70/120=.58$  ounces. If the bank continued to offer one ounce per note, customers would see it as an empty promise, and they would value the notes at .58 ounces in spite of the bank's offer. Clearly, it is backing that matters, not convertibility. Put another way, convertibility requires backing, but backing does not require convertibility.

In a world of convertibility, the banker must at all times have sufficient assets to redeem all his credits. His assets do not have to be in gold, and they need not be instantly obtainable. What is necessary is that they have sufficient value. If a banker has issued 100 credits, then



the moment his assets become worth less than 100 ounces of gold, it would pay each depositor to redeem his credits for one full ounce. Note that a banker who follows the real-bills prescription of only issuing credits on sufficient security (i.e., for assets worth one ounce of gold) will be able to command one ounce of gold for every credit issued, provided only that his assets hold their value.

If banks can suspend convertibility for a weekend, they can suspend it for a hundred years. For example, a banker might make this offer to his depositors: "Give me resources worth one ounce of gold today, and in 100 years I will return your deposit plus a competitive interest yield." Each credit issued on these terms would initially be worth one ounce of gold, and its value would grow at the rate of interest. If customers preferred the credits to have roughly constant value, then the banker could make periodic interest payments, say by adding .05 credits per year to the account of each credit-holder. Note that the banker need not specify the exact date of redemption, or even that he will pay in gold. All that matters to the customers is that the credits are a claim to something of value.

The suspension of convertibility has important advantages: The first is that it allows the banker to lend all of his assets at interest. The second is that the bank is immune to runs. Suppose that the banker issues 100

credits for resources worth 100 ounces of gold. After one year, he pays interest of 5 credits, for a total of 105 credits outstanding. But perhaps his assets have only grown in value to 104 ounces. If his credits were convertible at one ounce each he would face a run, but if they were inconvertible they would simply fall in value to 104/105 ounces each.

We are now in a position to make an important observation: It is possible that what we think of as unbacked fiat money is in fact money that is backed but inconvertible. Consider the usual justification for asserting that the dollar is fiat money:

You cannot convert a Federal Reserve Note into gold, silver, or anything else. The truth is that a Federal Reserve Note has no inherent value other than its value as money, as a medium of exchange. (Tresch, 1994, p. 996.)

Observing that the dollar is inconvertible, economists conclude that it is unbacked. The most remarkable thing about this simple non-sequitur is that it has survived virtually unquestioned for centuries. If we wanted to demonstrate that the dollar is not just inconvertible, but unbacked, it is not enough to observe that the Federal Reserve does not pay out gold on demand. Yet economists' belief in fiat money, and in fact the better part of monetary theory, is founded on nothing but this obviously

flawed premise. Add to this the facts that the Federal Reserve (like all central banks) does in fact hold assets against the money it issues, that no dollar is ever issued except in exchange for valuable assets, and that the Federal Reserve's own balance sheet plainly identifies those assets as "Collateral Held Against Federal Reserve Notes", and we have good reason to wonder if monetary theory is based on a simple but colossal mistake.

### 3. THE LIQUIDITY SERVICES OF THE MONEY

The Cambridge view of money demand is that people hold money for the liquidity services it provides (Pigou, 1917, p. 164). On this view, the value of money is largely determined by its usefulness in providing liquidity services. It is easily shown that this is not true of backed money.

If our banker has resources worth 100 ounces of gold backing 100 credits, then those credits will be worth one ounce each regardless of the services they provide as a medium of exchange. If their value exceeded one ounce by (say) 2 percent, then rival bankers could earn easy profits by issuing credits for 1.02 ounces of gold, keeping 1 ounce as backing, and spending the seignorage of .02 ounces on their own consumption. This profit opportunity will exist as long as there is any seignorage, so the only stable solution

is for the seignorage to be driven to zero. The same reasoning implies that there can be no such thing as fiat money, since fiat money is money whose whole value is seignorage.

It would be no small feat to persuade economists that fiat money does not exist, but the history of science is filled with imaginary concepts that were ultimately abandoned. When physicists observed that matter expanded when heated, they hypothesized the existence of a substance called 'caloric', which was invisible and had no mass, but which expanded when heated. Strange properties have also been attributed to fiat money. Depending on who is talking, we hear that fiat money has value because other people value it (Samuelson, 1980, p. 261), because the government accepts it for taxes (Wicksteed, 1910, p. 619), because it is useful for making exchanges and limited in supply (Marshall, 1922, p. 49), because the government requires banks to hold it (Fama, 1980, p. 56), or because it allows us to transfer wealth to our children (Wallace, 1980, p. 50).

The trouble with these theories is that they fail to consider rival monies. Each theory begins by asserting that there is some force (e.g., liquidity services) that creates a demand for intrinsically worthless pieces of paper. They then assert that it would only be necessary to limit the supply of these pieces of paper in order to give them value.

Of course, no one believes that such a thing would be possible for private, competitive bankers. Furthermore, if a private bank could issue notes on which it paid no interest, while investing the proceeds at 5%, then competitors would issue rival notes until the interest spread just covered costs of printing, periodic redemption, controlling counterfeiting, etc. Given this, it is strange to see how easily economists accept the proposition that central banks earn seignorage on their note issue, and that note issue therefore gives a kind of free lunch to the Federal Reserve, especially if the dollars go to foreign countries. Since most of us are trained to be suspicious of free lunches, this idea deserves some skepticism.

The only reason for believing that the Federal Reserve earns seignorage is that it has the power to prohibit note issue by rival banks. But how strong is this power? Central banks have no power to suppress commodity money, credit, foreign bank notes, or barter. There are also traveller's checks, gift certificates, and scrip, all of which are bank notes issued by non-bank institutions. (In point of fact the only entities barred from issuing bank notes are banks themselves.) Given this rivalry, it is hard to believe that note issue could yield abnormal profits, even to government banks. Where countries are small, weak, and close together, it seems an impossibility. In 19th century America, for

example, "...the quantity of foreign gold in circulation was supposed to be as nine to one in proportion to their own eagles." (Fullarton, 1845, p. 185.)

But assume for the sake of argument that a country is large enough and strong enough to erect significant barriers to rival bank notes. The government notes will still face rivalry from derivative monies. (By 'derivative money', I mean money that is a claim to some other money, in the sense that a dollar in a checking account is a claim to a Federal Reserve note.) For example, a farmer might pledge \$10,000 of wheat to a banker, and the banker in turn will lend the farmer \$10,000 by crediting that amount to his checking account. By this exchange the banker will have effectively coined wheat into dollars. If we accept the assertion that the dollar has value because of the liquidity services it provides, then the creation of the new wheat-backed derivative dollars would reduce the demand for Federal Reserve dollars, and thus would reduce their value. If there were no constraint on the private issue of derivative dollars, the value of Federal Reserve dollars would be driven to zero.

One might argue that banks are constrained by reserve requirements, but these only apply to conventional bank accounts, not to credit cards, eurodollars, scrip, and so on. In light of this limitless potential for the issue of

rival monies, and considering the profit motive for doing so, fiat money seems implausible. In contrast, the view that the dollar is backed but inconvertible only requires us to believe that money is valued for the same reason that any other financial security is valued.

Why does the Federal Reserve (and every other central bank) bother to hold gold and financial securities if the dollar does not get its value from backing? How could fiat money ever come into circulation in the first place? Why issue dollars through an expensive central bank instead of just printing them and spending them? Why do even the smallest and weakest countries seem to be able to maintain "fiat" money in circulation? These questions and many more have inspired a mountain of convoluted monetary theories from believers in fiat money. But if fiat money is in fact an illusion--if it is actually backed but inconvertible, then these questions do not even arise.

#### 4. THE PHYSICAL FORM OF THE MONEY

As mentioned above, the banker could issue receipts (credits) in the form of printed pieces of paper (bank notes), or in the form of bookkeeping entries (bank deposits). In Figure 3, for example, our banker has taken in 100 oz. of gold and issued 100 receipts: 60 in the form of bookkeeping entries and 40 in the form of notes. If the 40

notes were returned to the bank and re-issued as deposits, then there would still be a total of 100 credits laying claim to 100 ounces of gold, and their value would remain at one ounce each. The physical form of the credits does not matter to their value.

60 credits (deposits)	40 notes
100 oz. of gold	

Figure 3

This proposition seems so plain as to be hardly worth mentioning, were it not contradictory to some widely-held monetary theories. Fama(1980, p. 39.), for example, claims that the difference between notes and bookkeeping entries is critical:

one of our main points is that currency and an accounting system are entirely different methods for exchanging wealth. Currency is a physical medium which can be characterized as money. An accounting system works through bookkeeping entries, debits and credits, which do not require any physical medium or the concept of money.

At the risk of presuming too much, I doubt that Fama or any other serious economist would claim that physical form matters for backed money. Fama's claim that it does matter is based on his belief that the dollar is fiat money. This



leads him to conclude that since currency and deposits have separate demand functions, the value of money can be maintained simply by limiting the quantity of currency and leaving deposits unregulated. On this point he is open to two criticisms: (1) The fact that the dollar is inconvertible does not imply that it is fiat money. And (2) Rival monies will reduce the demand for whatever type of money one chooses to regulate, and the issuers of rival monies will earn easy profits as long as the value of the 'fiat' money exceeds zero.

#### 5. THE QUANTITY OF DERIVATIVE MONIES

Suppose that the bank in Figure 1 (call it The Bank of England) has issued all its credits in the form of bank notes called pounds. Then other banks, which I will call country banks, begin accepting pound notes on deposit and issuing receipts (credits) either in the form of their own notes or in the form of checkable deposits. Each credit allows its holder to claim a genuine pound note on demand. Thus we could call them 'derivative money' (a term I prefer to 'inside money') since they are claims to genuine pounds. The pound, in turn, is an inconvertible claim to the assets of the Bank of England, and is itself a derivative money, even though we commonly think of it as base money. By analogy, there are derivative financial securities (options,

warrants, etc.) that are claims to GM stock. The GM shares, in turn, are a claim against GM's assets. Thus the base stock is itself a derivative security.

400 credits (deposits)	100 notes
50 pound notes	IOU's worth 450 pounds

Figure 4

In Figure 4, we suppose that the country banks have collectively issued 400 credits in the form of deposits and 100 in the form of notes, against which they hold 50 Bank of England pound notes plus IOU's worth 450 pounds. The first thing to notice is that this activity does absolutely nothing to the assets and liabilities of the Bank of England. That bank still has 100 ounces of gold (or something of equivalent value) backing 100 notes, so the pound will be worth one ounce of gold no matter what the country banks do. However, this does not work both ways. If something caused the genuine pounds to drop to 1/2 ounce each (e.g., if 100 counterfeit Bank of England notes were produced.) then the derivative pounds, being claims to Bank of England pounds, would also fall to 1/2 ounce each.

As long as the country banks follow the real-bills rule of only issuing credits in exchange for sufficient security they can issue as much money as the public desires without affecting the value of their own money or that of the Bank of England. Even if the country banks failed to take sufficient security for their loans, it would only be their own money that would drop in value. For example, suppose that the IOU's held by the banks in Figure 4 dropped in value to 200 pounds. The value of each derivative pound would then be  $(50+200)/500=1/2$  ounce, but the Bank of England's pounds would still be worth 1 ounce.

Derivative monies raise the question of where to draw the line between what is 'money' and what is not. On this point, Quantity Theorists become entangled in endless discussions over what should be counted as money: Should we include only gold? Gold plus notes issued by the central bank? Private bank notes? What about checking accounts, credit cards, traveller's checks, eurodollars, overdrafts, and gift certificates?

These questions could only matter to someone who believes that the value of money depends on its quantity. No one bothers to wonder whether derivative shares of stock (options, hypothecated shares, etc.) should be counted along with genuine shares. We simply recognize that derivative shares can take many forms, and that each share will be

valued in accordance with the resources backing it. If economists understood money as well as they understand stock, they would recognize that derivative monies also take many forms, but that their quantity is irrelevant to the value of the dollar. Misunderstandings of this point are widespread. For example, Salin (1984, p. 13.) claims that an undesirable effect of eurodollars is that the Federal Reserve loses some control over the world supply of dollars. On this view, the issuer of a eurodollar is violating the 'brand name' of the dollar. The Real Bills view, however, is that a foreign bank which issues a eurodollar is analogous to a foreign brokerage house which issues a derivative share of GM stock. Viewed in this way, we see that eurodollars are no cause for concern to Americans, and in fact are likely to improve the efficiency of the market for dollars.

Debates over 'What is money?' have a remarkable way of repeating themselves. In 1845, for example, members of the Currency School held that checkable deposits were not money, but merely "expedients for economizing the use of money", or "money substitutes" (Fullarton, 1845, p. 32.). Nowadays, we do not count credit cards as part of the money supply, but refer to them as "money substitutes" or "economizing expedients" (e.g., Tresch, 1994, pp. 985, 1044.). If a consumer charges \$500 on a credit card, and writes a \$500 check to the credit card company at the end of the month,

then including both the credit card charges and the check would be double-counting. This is true enough, but the credit card debt is continually renewed, and at any given moment there is always a certain amount of credit card debt outstanding. This perpetual debt does, in fact, constitute a permanent addition to the money supply. In fact, it was exactly this argument that led economists to count checking accounts as money (Wicksell, 1935, p. 173-174.). Going back even earlier, we find the very same issues being raised in the debate over whether bank notes should be counted as money along with gold, or whether they should be considered as economizing expedients for gold. (e.g., Harley [or rather, Simon Clement], 1710, p. 42.)

#### 6. THE ECONOMY'S OUTPUT OF GOODS AND SERVICES

When money is backed, real output is irrelevant to its value. Each unit of money issued by the banker in figure 1 is a claim to one ounce of gold. They will therefore be worth one ounce each regardless of real output. Quantity Theorists make an important mistake on this point. The equation of exchange,  $MV=PQ$ , leads them to think that output  $Q$  is a factor determining the value of money. But on real-bills principles the only thing affecting the value of money is the issuing bank's ratio of assets to liabilities.

## 7. THE GOVERNMENT'S FISCAL POLICIES

The banker in Figure 2 has issued 200 credits, backed by 100 ounces of gold plus bonds worth 100 ounces of gold. Assume for the moment that these are government bonds. There is only one way that the government's fiscal policy can affect the value of these credits, and that is by affecting the value of the government bonds held by the bank. If the government is reckless, and the value of the bank's bonds therefore falls to (say) 50 ounces of gold, then the bank's credits will fall to  $150/200 = .75$  ounces. Conversely, if the government behaves well, and the bonds rise to 110 ounces, the bank's credits will be worth  $210/200 = 1.05$  ounces.

The traditional view of fiscal policy gives very different results. Sargent and Wallace (1981, p. 176) observe that a government deficit can be financed either by borrowing or by printing money. They conclude that

...once the limit on the federal debt per capita that can be marketed with the public has been reached, the Fed has no choice: It must increase base money. That is, it must "monetize" all of the additional government borrowing by purchasing all real additions to the stock of interest-bearing debt that the treasury issues. More generally, given the time path of fiscal policy and given that government interest-bearing debt can only be sold at a real interest rate exceeding the growth rate  $n$ , the tighter is current monetary policy, the higher must the inflation rate be eventually.

That "the Fed has no choice" is incorrect. The Federal Reserve, like most central banks, has the right to buy as

much or as little government debt as it chooses. Furthermore, the competitive auction process assures that it pays market value for that debt. So suppose that the Treasury, having spent itself into bankruptcy, tries to raise some cash by offering a bond that promises to pay one million ounces of gold next year. Since nobody trusts that promise, that bond will sell today for (say) 100 ounces. If the Federal Reserve buys that bond with cash worth 100 ounces, then its assets will rise as much as its liabilities, and the value of the dollar will not change.

If the central bank is not independent, fiscal policy would affect the value of the dollar, but not for the reasons given by Sargent and Wallace. Return to the case of the bank that has issued 200 credits backed by 100 ounces of gold plus government bonds worth 100 ounces. If the government orders the bank to hand over 100 credits in exchange for bonds that are really worth only 40 ounces, then the value of the credits will drop to  $240/300 = .8$  ounces. The inflation is not caused by the increase in the supply of money, but by the reduction in the bank's ratio of assets to liabilities. This, in turn, can only happen when the bank is subservient to the Treasury. Sargent (1981) has observed that inflation abates when a subservient central bank becomes independent, but his interpretation is that independence allows the central bank to restrain the growth

of the money supply. The other interpretation, which I find more sensible, is that independence frees the central bank from government policies that would reduce the bank's ratio of assets to liabilities.

A money-issuing bank located in Mexico might own nothing but U.S. government bonds, even though its money circulates in Mexico. Thus, no matter what happens in Mexican fiscal affairs, the bank's money will be stable. Conversely, if U.S. bonds drop in value, the Mexican bank's money will depreciate even when Mexican finances are in order. Note, however, that the U.S. Treasury cannot force a Mexican bank to buy U.S. bonds, and therefore the Mexican bank will never monetize U.S. debt. If it should happen that the Mexican bank's money becomes widely-used in the U.S., then the U.S. would have, in effect, a completely independent central bank which would never monetize a penny of U.S. debt, no matter what happened to U.S. fiscal policy.

#### 8. THE PRODUCTIVITY OF THE BANK'S LOANS

The banker shown in Figure 2 issued his credits in exchange for IOU's with a fair market value equal to 100 ounces of gold. It does not matter if the credits were loaned to a carpenter buying lumber (a 'productive' loan) or to a football fan buying tickets (an 'unproductive' loan). The important thing is that the IOU's have value at least



equal to the credits being loaned. As long as this is so, the banker's assets will always be sufficient to make each of his credits worth one ounce of gold. It should not escape the reader's notice that this holds whether or not the supply of money rises and falls with the aggregate output of goods.

From its founding in 1913 to the present day, the Federal Reserve has admonished private banks to avoid unproductive loans and concentrate on productive loans. This policy is based on the belief, popularized by Adam Smith (1776, p. 323), that when banks make only productive loans, the supply of money will automatically move in step with the output of real goods and services, thus leading to a stable price level. Unproductive loans, in contrast, would only fuel speculative manias and the depressions which follow them. (This theory, of course, derived from Smith's fallacious distinction between productive and unproductive goods.)

The trouble with this argument is that it implicitly assumes that the value of money is determined by the amount of money per unit of output. On real-bills principles, only the bank's ratio of assets to liabilities matters, and market output of goods and services is irrelevant. Readers familiar with the history of the Real Bills doctrine will know that a good deal of time and temper were wasted in

debating the question of whether a Real-Bills rule would, in fact, cause the money supply to move in step with real output (e.g., Mints, 1945, p. 9). Once we recognize that the value of backed money depends only on the bank's ratio of assets to liabilities, we see that participants in this debate were asking the wrong questions.

#### 9. THE TERM OF THE BANK'S LOANS

The 100 IOU's accepted by our banker might have been payable in 30 days or 30 years. All that matters to the banker, or to the value of his credits, is that they have a current market value of 100 ounces of gold. Real Bills adherents have almost always held that money should only be issued on short-term securities, but this is really just a matter of convenience. It would only be useful to the extent that the public's demand for money fluctuates. For example, the demand for money will fall after Christmas, and people will want to return bank credits to their issuer. If those credits had been issued in exchange for bonds of sufficiently short terms, then the bonds would mature just as the public returned credits to the bank, and the credits created just before Christmas would be extinguished just after. (With no effect on prices, I might add.)

## 10. THE VELOCITY OF MONEY

The value of backed money does not depend on its velocity of circulation. Nassau Senior (1826, p. 214.) observed that

Mr. Mill...does not mention rapidity of circulation...or alteration of actual quantity, except for short periods, as among the actual elements of value. And if they are not the principles which regulate the value of other things, what reason is there for supposing that they regulate the value of money?

Suppose, for example, that we applied the equation of exchange to GM stock. Let  $M$  represent the number of shares of GM stock in existence;  $V$  is their velocity of circulation,  $P$  is the price, in GM stock, of a selected bundle of goods, and  $Q$  is the number of units of this bundle bought with GM stock. If  $M$  were to double, then a Quantity Theorist might expect  $P$  to double as well. But if GM's assets doubled at the same time (the normal case for a new issue of stock),  $P$  would not change. The Quantity Theorist might then content himself by saying that  $V$  must have fallen or  $Q$  must have risen, but all this would be beside the point. The stock price,  $(1/P)$  is determined by the profitability of GM and thus is literally fixed with respect to the other variables. A change in  $M$ , for instance, can only change  $V$  or  $Q$ . The equation  $MV=PQ$  must, by its nature, be 'correct' for GM stock, but in no sense does it explain

the value of GM stock. For this reason, no economist would think of applying the equation to problems of stock valuation, but those same economists routinely use it to 'explain' the value of money. Milton Friedman, for example, in his famous rescue of the Quantity Theory, asserted that even if velocity is not stable, it at least follows predictable laws and is therefore a meaningful concept (Friedman, 1956, pp. 3-21.). But unless one can explain why velocity should have any more relevance to money than it does to GM stock, the basic absurdity remains.

#### B. INFLATION

Return to the case of a bank that holds miscellaneous goods worth 100 ounces of gold as backing for 100 outstanding credits. Now suppose that the bank miscalculates and begins issuing credits in exchange for securities worth only .95 ounces of gold. In modern language we would say that the bank follows an 'easy money' policy. If the banker issues 50 new credits on these terms, then the value of each credit will drop to  $(100 + (50 \times .95)) / 150 = .983$  ounces. We get the familiar result that easy money leads to inflation. Note that the inflation results from a drop in the bank's ratio of assets to liabilities, not from an increase in the quantity of money relative to aggregate output of goods.

Easy money would have another very important effect. When depositors see that the bank is handing out credits worth one ounce of gold in exchange for securities worth only .95 ounces, they will rush to buy these credits. Thus the quantity of bank money will expand as long as the bank follows its easy money policy. At the same time, the value of the bank money will fall because of the drop in the ratio of assets to liabilities. This point has confused economists for centuries. The true cause of inflation is that the bank issues money for insufficient security. The apparent cause of inflation--the increase in the quantity of money--is really just a side effect of the bank's easy money policy. Quantity Theorists have observed that the value of paper money drops when its quantity increases, and they have failed to see that the root of the matter was that money was being issued for insufficient security. Real Bills adherents, on the other hand, have insisted that money issued on sufficient security can never depreciate from excessive quantity, and they failed to ask what happens when the security is insufficient.

This analysis provides an interesting view of credit rationing. In discussing an English credit rationing episode, Friedrich Hayek commented that:

This recourse to a rationing of credit caused renewed stringency in the money market in the

spring of 1796 and evoked loud protests from the City (London).

It is not easy to reconcile these complaints about the continued scarcity of money during this period with the no less insistent complaints about high prices, and with the continued unfavorable course of the exchanges." (Hayek, 1933, p. 40)

From a Real Bills perspective, it is easy to reconcile the two sets of complaints. If the Bank of England were issuing notes on insufficient security, then each issue would cause the Bank's ratio of assets to liabilities to fall and thereby reduce the value of the pound. Meanwhile, since the Bank was issuing pounds in exchange for security worth (say) .98 pounds, customers would eagerly buy any pounds the Bank offered. Assuming the Bank dealt with the resulting surge in demand by rationing credit, we would naturally expect people to complain of a shortage of credit.

A problem arises when the bank's assets are denominated in the bank's own credits. (e.g., The Federal Reserve's bondholdings are denominated in dollars.) If the bank's credits were to depreciate for any reason, then the bank's assets would also depreciate. This would lead to further depreciation of the bank's credits, and a self-perpetuating cycle of depreciation would result. Let  $P$  represent the price, in gold, of a bank's credits. Assume that the bank initially has 100 outstanding credits, each worth one ounce of gold, and that its assets consist of 30 ounces of gold plus bonds, denominated in the bank's own credits, which

have a market value of 70 credits. Now suppose that the bank follows an easy money policy and issues 10 new credits in exchange for bonds with a true value of only 6 credits. If assets (30 ounces of gold plus bonds worth 76 credits) are to equal liabilities (110 credits), the following must hold:

$$30+76P=110P$$

Solving, we find that  $P=.888$  ounces of gold. If the bank had instead started with 20 ounces of gold and bonds worth 80 credits, the same easy money policy would have reduced the value of the bank's credits to  $P=.833$  ounces. Thus, the bank's holdings of gold or other 'real' assets will limit the force of inflationary feedback. The smaller are real reserves, the more volatile the bank's money. In the limit, where real reserves are infinitesimally small, the slightest inflation would set off a hyperinflation and the value of the bank's credits would drop to zero.

#### C. THE FAULTS ON BOTH SIDES

Debates between Quantity Theorists and Real Bills adherents have flared repeatedly over the last three centuries. As a rule the Quantity Theory has come out on top, but often the controversies "have slumbered, rather from the exhaustion of the combatants than from the

acknowledged defeat of either party." (Farrer, 1898, p. 78.) When a debate becomes as protracted as this, there is good reason to think that both sides are asking the wrong questions. I contend that two key errors lie at the root of the problem. First, both sides accepted the existence of fiat money, without exploring the possibility that paper money could be backed but inconvertible. Second, both sides believed that stable prices would be achieved if the money supply rose and fell with the "needs of business" (i.e., real output). They ignored the role of the issuing bank's ratio of assets to liabilities. In what follows I will trace the history of the Real Bills Doctrine in order to show the effects of these and other errors.

#### 1. SIMON CLEMENT

The earliest reasonably complete statement of Real Bills principles that I have found is a 1710 tract entitled "A Vindication of the Faults on Both Sides". Walter Scott (Harley, 1805-15, p. 5) attributes the piece to Richard Harley, as does Lloyd Mints (1945, p. 15). According to L. W. Hanson (1963, p. 125) the tract was actually written by Simon Clement, under the patronage of English Prime Minister Robert (not Richard) Harley.

I have asserted, that banks and paper credit add nothing to the increase or diminishing of trade... Now against this I have heard it said that daily



experience seems to evince the contrary; "for," said they, "if four men lodge each a thousand pounds in a banker's hand, he is thereby enabled to supply a merchant that has an immediate occasion for a thousand pounds, and hopes to have it repaid him again before the four should draw out three thousand pounds of their money, and for this very loan he gives out a note of his hand, so that by this means the merchant is enabled to carry on his trade to the value of one thousand pounds more than his own stock, and the banker's bill, without the payment of one penny, does, in all respects, answer the end of so much money, and consequently this sort of paper-money must conduce much to the increase of trade."... I believe the argument will appear very slight and superficial when it comes to be considered,--

1. That if the banker has no proper stock of his own in the world to make good the thousand pounds to his principals in the case of loss, he is a knave to adventure on the lending of other men's money.

2. If he takes not what he believes to be valuable and sufficient security from the borrower, he is a fool.

3. I never said that it was not very helpful to trade to borrow money at interest, and this is in reality the same thing, with this difference (if it may be so called) that the persons who lodge the money lose, and the banker gets the interest; and if there were no bankers, this occasion in trade would be supplied as well, for all people who can give undoubted security will find men enough to lend them money for a gainful premium. (Harley (or rather, Clement) 1710, pp. 7-8)

Clement thus held that what we would nowadays call 'loan expansion' has no effect on trade beyond a certain improvement in the efficiency of credit markets. (Readers familiar with this period will note the contrast to the recklessly optimistic views of John Law. (1705)) Clement does not specifically mention the effect of loan expansion on the value of bank notes, but the most reasonable

interpretation of his position is that there would be no effect on note value, since the notes would only be issued on "valuable and sufficient security". This is perfectly consistent with a Real Bills position, since the money created by loan expansion is derivative money, and would not affect the value of base money as long as the base money itself had backing.

Clement does not mention such a thing as fiat money. However, the concept of seignorage had been accepted for centuries before his time, (Schumpeter 1954, p. 298) and Clement's silence on the subject implies that he accepted the idea that money could have value in excess of its backing. Clement's omission left a crucial weakness in the Real Bills Doctrine: Once one admits the existence of fiat money, it cannot be denied that privately-issued derivative monies will reduce the demand for the fiat money and thus reduce its value. This argument clearly contradicts the Real Bills proposition that derivative money issued on sufficient security will not cause inflation. This weakness was later to form the basis for Ricardo's (1811) attack on the Real Bills Doctrine.

## 2. ADAM SMITH

What a bank can with propriety advance to a merchant or undertaker of any kind, is not either the whole capital with which he trades, or even

any considerable part of that capital; but that part of it only, which he would otherwise be obliged to keep by him unemployed, and in ready money for answering occasional demands. If the paper money which the bank advances never exceeds this value, it can never exceed the value of the gold and silver, which would necessarily circulate in the country if there was no paper money; it can never exceed the quantity which the circulation of the country can easily absorb and employ.

When a bank discounts to a merchant a real bill of exchange drawn by a real creditor on a real debtor, and which, as soon as it becomes due, is really paid by that debtor; it only advances to him a part of the value which he would otherwise be obliged to keep by him unemployed and in ready money for answering occasional demands. (Smith, 1776, p. 322)

The idea that a banker should only lend as much money as his customers would otherwise have kept in their tills is completely at odds with experience. We all know that bankers do not operate that way, and we know that a banker can, with propriety, lend to a merchant any amount short of the merchant's net worth, less a reasonable allowance for collection costs. A bank that follows this rule will always have assets sufficient for its liabilities, and thus its money will maintain its value. Smith's proposition that the amount of bank money should correspond to the amount of gold and silver it replaces implicitly assumes that money's value will be maintained by a limitation of its quantity, and not by a matching of bank assets to liabilities. Having no clear idea of this distinction, Smith made a dangerous misinterpretation of central bank policies:

By issuing too great a quantity of paper, of which the excess was continually returning, in order to be exchanged for gold and silver, the bank of England was for many years together obliged to coin gold...at an average (of) about eight hundred and fifty thousand pounds. For this great coinage the bank (in consequence of the worn and degraded state into which the coin had fallen a few years ago) was frequently obliged to purchase gold bullion at the high price of four pounds an ounce, which it soon after issued in coin at 3 l. 17 s. 10 1/2 d. an ounce, losing in this manner between two and a half and three per cent. on the coinage of so very large a sum. (Smith, 1776, p. 286.)

By attributing the bank's loss upon the coinage to excessive note issue, Smith got the chain of causation precisely backwards. Note issue expanded because the bank issued money on insufficient security. But on Smith's interpretation, it was excessive note issue that forced the bank to accept insufficient security for its notes. When the bank pays out four one-pound notes for an ounce of gold that it reissues as coins worth 3 l. 17 s. 10 1/2 d., (approximately 3.9 pounds) then customers will eagerly bring one ounce of gold to the bank to exchange for 4 pound notes. They will then take 3.9 of those notes to a different window of the bank to exchange for a coin containing one full ounce. With the bank losing 2.5% on each exchange, the bank would exhaust its treasure in short order. The only thing that would have prevented collapse would have been some sort of ration limit on the issue of notes and coins.

What would get the bank started on such a ruinous course? Smith himself gave the answer: "the worn and degraded state

into which the coin had fallen". When a new one pound coin was issued, it would have contained gold worth one pound. Because of wear and clipping, that same coin might soon contain gold worth 0.975 pounds. The heavy coins would disappear from the circulation and the value of the pound would drop by 2.5%. Thus, as Smith states, it would require four one-pound notes to buy the same amount of gold that it previously bought for 3.9 notes. But the effort to restore the pound to its old value will be hopeless. If the bank recoined the newly-purchased gold and sold it for 3.9 pounds per ounce, it would effectively be buying its own notes on the market for 2.5% more gold than the notes were worth. The bank's ratio of assets to outstanding notes would fall, and the value of the pound would drop. Even if the bank rationed its issue of new coins, the value of its notes could only be maintained by infusions of wealth, either from the bank's shareholders or from taxpayers. (Note that when a bank fails to follow the Real Bills rule of only issuing money on sufficient security, a 'second-best' rule is to follow Quantity Theorists' advice and limit the quantity of money issued.)

Modern central banks make the same mistake when they attempt to support their currency in foreign exchange markets. Suppose, for example, that the pound trades for \$1.60, but that the Bank of England wants the pound to trade

for \$1.80. The Quantity Theory prescription would be for the Bank of England to use its dollar reserves to buy pounds in the open market for \$1.80 (Grabbe 1986, p. 7). But by paying \$1.80 for a British pound that is only worth \$1.60, the Bank would lose \$.20 on each purchase. Its ratio of assets to currency would drop, and the value of the pound would fall. Small wonder then, that efforts to support various currencies are so often followed by devaluation (Taylor, 1982, pp.356-68). This empirical result is exactly what the Real Bills Doctrine implies, and exactly opposite to the implications of the Quantity Theory.

By a curious combination of misunderstandings, modern central banks often try to support the currencies of other countries. This means, for example, that the Federal Reserve might pay \$1.80 for a pound that is only worth \$1.60. In this case the Federal Reserve loses wealth and the dollar drops against the pound. The policy would 'succeed' at raising the pound relative to the dollar, but only because the Federal Reserve would be throwing away resources, most of which would end up in British hands.

### 3. HENRY THORNTON

Henry Thornton (1802) is largely responsible for a popular misconception that bank credit will not be

adequately limited by the requirement that loans only be granted on the basis of sufficient security:

"Real notes," it is sometimes said, "represent actual property. There are actual goods in existence, which are the counterpart to every real note. Notes which are not drawn, in consequence of a sale of goods, are a species of false wealth, by which a nation is deceived. These supply only an imaginary capital; the others indicate one that is real."

In answer to this statement it may be observed, first, that the notes given in consequence of a real sale of goods cannot be considered as, on that account, certainly representing any actual property. Suppose that A sells one hundred pounds worth of goods to B at six months credit, and takes a bill at six months for it; and that B, within a month after, sells the same goods, at a like credit, to C, taking a bill; and again, that C, after another month, sells them to D, taking a like bill, and so on. There may then, at the end of six months, be six bills of 100 pounds each existing at the same time; and every one of these may possibly have been discounted. Of all these bills, then, only one represents any actual property. (Thornton, 1802, p. 86.)

Thornton's mistake was in failing to realize that no matter how we look at it, 600 pounds of debt will not be created unless security worth 600 pounds is offered in exchange. Suppose A sells wheat worth 100 pounds to B, and receives B's IOU in exchange. B then sells the wheat to C, in exchange for C's IOU. It is important to realize that A would only accept B's IOU if it were backed by something worth 100 pounds. For example, B might own property that A could take from him in court. Thus B's IOU is backed by B's property (not necessarily by the wheat). Every additional

sale of the wheat would create new IOU's backed by new goods, and no matter how far the process were carried, the self interest of the parties involved would assure that every new IOU would be backed by goods of commensurate value.

Modern discussions of the 'money multiplier' commit exactly the same error as Thornton. It is incorrect to say that one ounce of gold 'supports' 10 circulating credits, as if the bank had built some sort of inverted pyramid. Ten credits can only be 'supported' by assets worth 10 ounces of gold. A bank might support 10 credits with one ounce of gold plus miscellaneous assets worth 9 ounces, but in no sense does the value of those credits rest entirely on the single ounce of gold.

#### 4. THE BULLIONIST DEBATES

##### a. The Quantity Theory Position

The most extensively debated inflationary episode in history occurred during the suspension of convertibility by the Bank of England from 1797-1819. (For a history of the period, see Viner (1937) and Ashton & Sayers (1953)). The controversy centered on the question of why the British pound had depreciated during the suspension period. The 'Bullionist' (Quantity Theory) explanation for the depreciation of the pound was most forcefully expressed by



Ricardo, who held that money-issuing banks could, and in fact had increased the quantity of money:

Let us suppose all the countries of Europe to carry on their circulation by means of the precious metals, and that each were at the same moment to establish a Bank on the same principles as the Bank of England--Could they, or could they not, each add to the metallic circulation a certain portion of paper? and could they not permanently maintain that paper in circulation? If they could, the question is at an end, an addition might then be made to a circulation already sufficient, without occasioning the notes to return to the Bank in payment of bills due. If it is said they could not, then I appeal to experience, and ask for some explanation of the manner in which bank notes were originally called into existence, and how they are permanently kept in circulation. (Ricardo, 1811, p. 117.)

In this statement, Ricardo convincingly shows that banks are able to increase the quantity of money. Being imbued with the Quantity Theory, he considered this as satisfactory proof that banks cause inflation. But the connection between money and inflation should have been the very point in dispute. On Real Bills principles, an increase in the money supply, accompanied by an equal increase in bank assets, will have no effect on prices. But Ricardo, like Quantity Theorists ever since, ignored bank assets, and did not consider the perfectly reasonable proposition that the pound had fallen because the Bank of England's assets (mainly British government bonds) had fallen in value relative to its liabilities.

Ricardo was discussing the fall of the pound relative to gold. The Real Bills view is that the derivative pounds (i.e., notes and checkable deposits) issued by private banks would not have depreciated Bank of England pounds for the same reason that derivative shares of GM stock issued by stockbrokers would not depreciate genuine GM stock. In Quantity Theory language, we could say that the derivative pounds (or GM shares) would not have been issued if they had not been wanted.

A related issue is whether the increase in the supply of pounds might depreciate the gold on which the pound was based. The answer to this is yes. Gold is demanded both as a commodity and as money. If some other commodity is introduced as money, then there will be less monetary demand for gold and its value will fall. Every time a private banker issues a derivative pound in exchange for something other than gold, that banker is effectively coining that commodity or security into money. This, in turn, reduces the monetary demand for gold, thus lowering its price and freeing monetary gold for other uses.

If a single country replaced its gold coins with notes, then the gold would be exported and the effect on the price of gold would be small. If every country did the same thing, the price of gold would fall to its 'use value'--the price at which ornamental and industrial demand for gold equals

the supply. On this point the Real Bills Doctrine seems to give the wrong answer, since it clearly states that bank money will not depreciate as long as it is only issued on sufficient security. While it will not depreciate relative to gold, the gold itself will depreciate, thus causing the money to drop relative to goods in general. This, of course, is just what the Quantity Theory implies.

Before giving the Quantity Theory too much credit, I should make two points: First, if the amount of monetary gold is negligible to begin with then money-issue cannot push gold's price any lower, so the Real Bills Doctrine will be completely correct. Money creation will not reduce the value of money relative to gold; nor will it reduce the value of gold itself. Second: If monetary use of gold is initially significant, and a superior money becomes available in the form of notes and deposits, then the resulting drop in the value of gold would reflect increased economic efficiency, as monetary gold is freed for other uses. But this is the effect of an improvement in monetary technology, not of an increase in the quantity of money.

#### b. The Real Bills Position

The Anti-Bullionist position, as stated by Charles Bosanquet, relied on Real Bills principles:

...(Inflation will result whether) the issue be gold from a mine or paper from a government bank. All this I distinctly admit, but in all this statement, there is not one point of analogy to the issues of the Bank of England.

The principle on which the Bank issues its notes is that of loan. Every note is issued at the requisition of some party, who becomes indebted to the bank for its amount, and gives security to return this note, or another of equal value... (Bosanquet, 1810, pp. 52-53.)

First, note that Bosanquet admitted the existence of fiat money ("paper from a government bank"), and that an increase in the quantity of fiat money will cause inflation. He then denied that the creation of derivative money will cause inflation, since every issue of derivative money is matched by an equal increase in bank assets. But once the existence of fiat money is admitted, it cannot be denied that the issue of derivative money will reduce the demand for the fiat money and thus reduce its value. This was a weakness that Ricardo was quick to exploit, though neither man considered that fiat money might not exist at all.

When faced with the fact that the pound had in fact depreciated, Bosanquet could offer no better explanation than high taxes and poor harvests. He failed to make the crucial observation that the Bank of England had lent its money on insufficient security. Under heavy pressure to finance a government at war, the Bank had issued large sums to the government in exchange for government bonds. If, for example, the Bank had issued 1 million pounds to the

government in exchange for bonds with a true market value of only 900,000 pounds, then inflation would result from the simple fact that the Bank's ratio of assets to outstanding credits had fallen. Note that since the pound was inconvertible, there could be no run on the Bank. People would simply value the pound in accordance with their diminished estimate of the Bank's assets.

Ricardo's errors in this case were more serious than Bosanquet's. (Nevertheless, his "Reply to Mr. Bosanquet" is described in The Dictionary of National Biography (1917, p. 874.) as "perhaps the best controversial essay that has ever appeared on any disputed question of political economy.") Ricardo held to the strict Quantity Theory view that the pound had depreciated from an increase in its quantity, and not from a loss of backing.

...depreciation may arise from the abundance of the notes alone, however great might be the funds of those who were the issuers of them. (Ricardo, 1811, p. 114.)

Ricardo thus held that during the Restriction period the pound was a true fiat money, whose value was completely determined by its quantity. His mistake was in confusing backing with convertibility. On February 27, the day after suspension of convertibility, the Bank of England's ratio of outstanding notes to assets cannot have been very much different from the day before. Thus the Real Bills Doctrine

would lead us to expect that the pound would be stable, as for a time it was. Ricardo, however, asserted that all that was necessary for an inconvertible currency to have value was a limitation of its quantity. This leads to the doubtful proposition that the forces determining the value of the pound changed completely on February 26. Before that date, convertibility would have forced the pound to be worth its backing. Afterwards, the value of the pound was supposedly determined by the number in circulation. Ricardo made this assertion in spite of the fact that the suspension of convertibility was temporary, and in spite of the fact that the Bank of England continued to hold backing for the pound throughout the Restriction period (just as the Federal Reserve does with dollars). On these grounds it is easy to sympathize with Nassau Senior, who called Ricardo "the most incorrect writer who ever attained philosophical eminence". (Bell, 1953, p. 205.)

## 5. TWENTIETH CENTURY DEBATES

In the few textbooks that still discuss the Real Bills Doctrine, Lloyd Mints' criticism is still standard:

The fundamental error of all three men (Law, Steuart, and Smith)... lay in the fact that they failed to see that, whereas convertibility into a given physical amount of specie (or any other economic good) will limit the amount of notes that can be issued, although not to any precise and foreseeable extent (and therefore not acceptably),

the basing of notes on a given money's worth of any form of wealth--be it land or merchants' stocks--presents the possibility of unlimited expansion of loans, provided only that the eligible goods are not unduly limited in aggregate value. (Mints, 1945, p. 30.)

The trouble with Mints' analysis is that he assumed the correctness of the Quantity Theory without giving the logic of the Real Bills Doctrine a chance to work. He supposed that a bank issued new credits based on security that was initially sufficient, but which was denominated in the bank's own credits. He then asserted that the increase in the quantity of credits would cause inflation, thus reducing the real value of borrowers' debts and allowing them to borrow still more. This in turn would lead to a vicious circle of more inflation and more borrowing. He implicitly assumed, however, that the initial issue of credits on sufficient security would cause an initial round of inflation. But on Real Bills principles this initial inflation would not occur. The value of the bank's credits would be determined by their backing, and an issue of new credits in exchange for sufficient security would automatically increase backing in step with the new credits. Thus the 'unlimited expansion of loans' would be cut off before it started. In effect, Mint's refutation of the Real Bills Doctrine implicitly assumed the correctness of the Quantity Theory--the very point in dispute!

A related criticism of the Real Bills Doctrine is that it would lead to a perverse elasticity of the money supply.

Loans are made on the value of the goods involved; so during expansions the size of the loans--and hence the money supply--would increase, and during contractions the size of the loans--and hence the money supply--would decrease. Thus, operating according to this theory would cause banks to be a destabilizing influence in the economy, increasing the money supply in expansions and decreasing the money supply during contractions. (Johnson and Roberts, 1988, p. 207.)

From a Real Bills viewpoint, this is like saying that a hot dog vendor who sells more hot dogs during lunch than at other times will destabilize the market for hot dogs. A bank following a Real Bills rule will provide currency to all who offer sufficient security. When the demand for cash is high (e.g., during Christmas) the bank will issue a large amount of money. When demand for cash falls, the cash will return to the bank. In neither case will the value of the bank's money be affected by the change in quantity, since the bank's assets will always change in step with its outstanding cash.

#### 6. 100% Reserve Proposals

Fractional reserve banking has often been blamed for inflation, as well as for many other evils. These misguided beliefs have led to misguided proposals. One of the most common is that banks should maintain 100% reserves (either



in gold or government currency) against deposits. "The private creation of money can perhaps best be eliminated by adopting the 100 per cent reserve proposal (of Henry Simons), thereby separating the depositary from the lending function of the banking system." (Friedman, 1948, p. 372.)

Let us suppose that bankers were required to hold one ounce of gold for every note they issued. On this principle, it should be illegal for a banker to issue a note to someone who offers an equivalent value of silver, wheat, or anything else. By the same logic, it should also be illegal for A to lend a dollar to B and then use B's IOU to purchase goods, since this transaction would create new money and thus, according to the Quantity Theory, would depreciate money just as if new notes had been counterfeited.

A system which restrains bankers from issuing credits to willing depositors is "a violation of that natural liberty which it is the proper business of law, not to infringe, but to support." (Smith, 1776, p. 308.) But these restraints are defended on the grounds that the freedom to issue bank credits infringes on the rights of others: "The obligation to build party walls, in order to preserve the communication of fire, is a violation of natural liberty, exactly of the same kind with the regulations of the banking trade which are here proposed." (Smith, 1776, p. 308.) This idea would be sensible enough if the issue of bank notes on sufficient

(non-gold) security was equivalent to counterfeiting, but the two things are completely different.

When a counterfeiter prints a dollar bill, there is no rise in the assets of the Federal Reserve. Thus the creation of that dollar reduces the value of all dollars and robs the holders of dollars in proportion to the issue of counterfeit notes. Counterfeiting thus has 'third party' effects which make it a proper area for legal restriction.

When a private banker issues a bank note or credit that can be exchanged for a Federal Reserve note, that note or credit is the liability of the issuing bank. The assets and liabilities of the Federal Reserve are unaffected by the transaction, so the value of the dollar will be unchanged. Furthermore, a private banker would not issue a credit unless he received sufficient security in exchange. Money issued in this way will not reduce the value of the dollar, and thus is not tantamount to counterfeiting.

This confusion between counterfeiting and legitimate note issue has tricked virtually every libertarian economist in history into advocating some very non-libertarian restrictions on banking. Adam Smith, Alfred Marshall, Friedrich Hayek, and Milton Friedman, to name only a few, have all advocated restrictions on the freedom of bankers, public and private, to issue bank credits to willing and intelligent customers with good security to offer. But once

we recognize that bank-issued money is different from counterfeit money, the rationale for banking restrictions disappears, and libertarian economists can drop their paradoxical opposition to free banking.

## VII. CONCLUSION

The Real Bills Doctrine holds that money issued on sufficient security will not cause inflation. In the 19th century this view was rejected on the grounds that private banks following a Real Bills rule would in fact increase the supply of money, thus reducing the demand for base money and thereby causing inflation. This argument cannot be true when the base money is backed, since money backed by resources worth an ounce of gold will be worth an ounce of gold no matter what happens to money demand. Furthermore, we have no reason to believe that the dollar (or any other currency) is unbacked, since it is possible that all so-called fiat money is actually backed but inconvertible. On these grounds, we cannot reject the Real Bills proposition that private money creation does not affect the value of base money.

In the 20th century, the Real bills Doctrine has been rejected largely on the grounds of the "money's worth" theory. This theory holds that even if a bank issues money on security that is initially sufficient, the creation of the new money would increase all prices, including the price

of the asset that secured the loan. The real value of the borrower's debt would fall, and he would be free to borrow more--thus creating a self-perpetuating cycle of more money and more inflation. The trouble with this theory is that it assumes that the initial issue of money on sufficient security would cause inflation, even though this contradicts the Real Bills Doctrine. In effect, the money's worth theory assumes the correctness of the Quantity Theory and thereby concludes that the Real Bills Doctrine must be false. The conclusion is that our usual reasons for rejecting the Real Bills Doctrine must themselves be rejected.

The Quantity Theory asserts, without justification, that base money is unbacked. It concludes that money must derive its value from its scarcity combined with its usefulness for making trades, paying taxes, etc. At least two things make this view implausible: (1) Rival monies would act to reduce the demand for unbacked money, with no stable solution short of zero value, and (2) All central banks do in fact hold assets against their money--something that would be unnecessary and costly if their money were a true fiat money.

The Real Bills Doctrine implies that money gets its value from its backing, just like any other financial security. It follows that the value of money will be unaffected by changes in the quantity of either base money or privately-

issued money--provided only that the base money is issued on sufficient security.

When the central bank fails to take sufficient security for its money, inflation will follow from the resulting drop in its ratio of assets to units of money. At the same time, the easy money policy will lead to an increase in the quantity of money, and observers will wrongly conclude that the increase in the quantity of money caused the drop in its value. This faulty perception has allowed the Quantity Theory to become the dominant theory of money, while the Real Bills Doctrine has been wrongly discredited.

And, much as I fear I am disgracing myself by the avowal, I have no hesitation in professing my own adherence to the decried doctrine of the old Bank Directors of 1810, "that so long as a bank issues its notes only in the discount of good bills, at not more than sixty days' date, it cannot go wrong in issuing as many as the public will receive from it." In that maxim, simple as it is, I verily believe, there is a nearer approach to truth, and a more profound view of the principles which govern circulation, than in any rule on the subject which has since been promulgated. (Fullarton, 1845, p. 207.)

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