Backed Money, Fiat Money, and the Real Bills Doctrine

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ABSTRACT

In this paper I argue that the real bills doctrine has been wrongly discredited, and that it ought to displace the quantity theory as the dominant theory of money. The discussion begins with the observation that the issue of backed money will not be inflationary as long as central banks follow the real-bills rule of only issuing money to those customers who offer good security in exchange. I then contend that modern paper currencies, which we normally think of as unbacked fiat money, may in fact be (and probably are) backed. If correct, this would imply that the real bills doctrine, and not the quantity theory, is a correct model of the value of modern money. The paper concludes by discussing a few controversies in the history of the real bills doctrine, and shows that the major arguments responsible for the defeat of the real bills doctrine contain obvious and serious errors.

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 had only issued 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, a dissident tradition opposed to the quantity theory (and sometimes favorable to real-bills principles) has been evident in the writings of Tobin (1963), Black (1970), Samuelson (1971), Wallace (1982), and Sargent and Wallace (1982). Still, most

economists' attitudes toward the real bills doctrine have remained 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 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." These results deserve serious attention, but the real bills doctrine is still widely regarded as "thoroughly discredited" (Mishkin, 1994, p. 503). One reason for this inattention is that most economists' understanding of the real bills doctrine does not go beyond the simple (and inadequate) statement that "Money issued in exchange for real bills will not be inflationary." This paper attempts to fill a clear need for an explanation of the elements of the real bills doctrine, while correcting errors that have crippled past discussions. I contend that economists have been too quick to accept the idea that what we call fiat money is actually unbacked, since it is possible for money to be inconvertible but still backed.

A. The Real Bills View of Backed Money

The real bills doctrine holds that money issued in exchange for sufficient security (usually short-term commercial bills) will not cause inflation. For example, Figure 1 represents a bank which has taken in 100 ounces of gold on deposit and issued 100 'credits' (either bank notes or deposits), each of which is a claim to one ounce of gold.

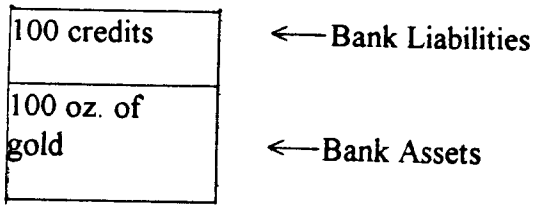

Figure 1

The value of these credits depends only upon the bank's ratio of assets to liabilities, just like 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) money demand,

(4) the quantity of derivative moneys,

(5) fiscal policy.

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 100 ounces of gold. 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

There are now 200 credits laying claim to assets worth 200 ounces of gold, so each credit must still be worth one ounce. The banker can safely issue any amount of money the public desires, provided that he only issues credits to those customers who offer 'sufficient security' (i.e., resources worth one ounce of gold). This rule is nothing but the real bills doctrine, except that the security need not be "short-term commercial bills". Anything worth 100 ounces of gold would serve equally well.

While it is true that money-creation will not affect the credits' value relative to gold, it is still possible that the issue of credits might reduce the monetary demand for gold and thus reduce its value. This may seem to support the quantity theory proposition that money-creation, even on sufficient security, will cause inflation. However, if gold's value drops because of competition from the bank's credits, the drop would reflect increased economic efficiency, as monetary gold is released for other uses. But this is the effect of an improvement in monetary technology--not of an increase in the quantity of money.

2. **Convertibility**

Suppose that the bank in Figure 2 closes over the weekend, thus making its notes temporarily inconvertible. Then, 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 bank restored convertibility at one ounce per credit on Monday morning, it 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 of the credits would fall, so that, for example, after 80 credits had 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 only .58 ounces. Clearly, it is backing that matters, not convertibility. Put another way, convertibility requires backing, but backing does not require convertibility.

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.

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 want to show that the dollar is not just inconvertible, but unbacked, it is not enough to say 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 balance sheet plainly identifies those assets as "Collateral Held Against Federal Reserve Notes", and we have good reason to wonder if fiat money is no more real than the phlogiston, ether, and caloric of early physical sciences.

3. **Money Demand**

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 public's demand for them. 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.

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 banks. 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 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 to believe that the Federal Reserve earns seignorage is that it has the power to suppress rival bank notes. But governments cannot 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 impossible.

But assume for the sake of argument that a country is 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 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, 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.

A stock market analogy may help explain the role of reserve requirements. Just as bankers issue checking accounts that are claims to Federal Reserve dollars, stock market traders routinely issue derivative securities which are claims to GM stock. Suppose that those traders were required to hold "reserves" of genuine GM stock against the derivative shares that they issue. Would this requirement increase the value of GM stock? The answer is no, since this requirement does not affect GM's ratio of assets to liabilities. If one accepts the idea that the dollar is backed, then the same reasoning implies that reserve requirements are irrelevant to the value of the dollar.

A reasonably skeptical reader could still argue that a constraint on rival monies could cause the dollar to sell for a few points above its backing. However, one could also argue that GM stock could be raised a few points (or lowered!) by a constraint on the issue of rival stocks. But I doubt that this argument would persuade economists to abandon the theory that stocks are valued according to their backing. When applied to money, the

same argument is clearly an inadequate reason for believing that the dollar is a pure fiat money.

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 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. 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 Quantity of Derivative Monies

Checking accounts issued by private banks entitle depositors to claim Federal Reserve notes on demand. Thus we could call the accounts 'derivative money' (a term I prefer to 'inside money') since they are claims to genuine dollars. The dollar, in turn, is an inconvertible claim to the assets of the Federal Reserve, 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 (generally inconvertible) against GM's assets. Thus the base stock is itself a derivative security.

The issue of derivative shares of GM stock does not change GM's ratio of assets to liabilities, and therefore does not depreciate GM stock. Similarly, if the dollar has value because of its backing, then the issue of derivative dollars will not reduce the value of the dollar. The quantity theory, however, implies that derivative dollars reduce the demand for base dollars and thus cause inflation. On this view, a legitimate banker is no different from

a counterfeiter: Both increase the quantity of money, so both cause inflation! This belief has led to a number of proposals to require all banks, public and private, to maintain 100% reserves against the money they issue (e.g., Friedman, 1948, p. 372.). This idea, besides being out of character for libertarian economists, ignores the fact that banks recognize their money as their liability, while counterfeiters do not.

Derivative monies raise the question of what is 'money' and what is not. Should we include only gold? 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.) worries that eurodollars reduce the Federal Reserve's 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.

5. **Fiscal Policy**

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 could affect the value of the dollar, but not for the reasons given by Sargent and Wallace. If the government orders the bank in Figure 2 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 real bills interpretation 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 the Mexican bank's money becomes widely-used in the U.S., then the U.S. would have a completely independent central bank which would never monetize U.S. debt, regardless of U.S. fiscal policy.

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 follows an 'easy money' policy and begins issuing credits in exchange for securities worth only .95 ounces of gold. If the banker issues 50 new credits on these terms, then the value of each credit will drop to (100+(50x.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.

When depositors see the bank 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.

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. The credits would then fall still further, and so on. 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 would limit the force of inflationary feedback. The smaller are real reserves, the more volatile the bank's money.

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 held 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

discuss some key episodes in the history of the real bills doctrine in order to show the effects of these and other errors.

1. **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 bank should only lend as much money as its customers would otherwise have kept in their tills is nonsense. We all know that a bank can, with propriety, lend to a merchant any amount reasonably short of the merchant's net worth. Such a bank 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., (about 3.9 pounds) then customers will eagerly bring one ounce of gold to the bank to exchange for 4 pound notes. They will then return 3.9 of those notes to the bank in exchange for coins containing one full ounce. With the bank losing 2.5% on each exchange, the bank would soon exhaust its treasure.

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 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 liabilities would fall, and the value of the pound would drop.

Modern central banks make the same mistake when they attempt to support their currency in world 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. 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.

2. **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 went, the self interest of the parties involved would assure that every new IOU would be backed by goods of commensurate value. Thus Thornton's "false wealth" argument collapses, and with it goes his refutation of the real bills doctrine.

3. **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 Ashton & Sayers (1953)). The controversy centered on the question of why the pound had depreciated during the suspension period. The 'Bullionist' (quantity theory) explanation was championed by Ricardo, who held that money-issuing banks 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 under examination. 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 reasonable proposition that the pound had fallen because the Bank of England's assets (mainly British government bonds) had fallen in value.

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 a single 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.

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 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 held that during the Restriction period the pound was a true fiat money, whose value was 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 much different from the day before. Thus the real bills doctrine implies 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. **Lloyd Mints**

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.)

Mints supposed that a bank issued new money based on security that was initially sufficient, but which was denominated in the bank's own money. He then asserted that the increase in the quantity of money 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 money 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 money would be determined by its backing, and an issue of new money in exchange for sufficient security would automatically increase backing in step with the new money. Thus the 'unlimited expansion of loans' would be cut off before it started. Mint's refutation of the real bills doctrine implicitly assumed the correctness of the quantity theory--the very point in dispute!

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 monies are actually backed but inconvertible. Thus we cannot reject the real bills proposition that money creation does not cause inflation.

In the 20th century, the real bills doctrine has been rejected largely on the grounds of the "money's worth" theory, which states that loans secured by a given "money's worth" of assets will create 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. 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--an unnecessary and costly practice if their money were a true fiat money.

The real bills doctrine implies that money gets its value from its backing. 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.

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