held at the Bank of England three pounds of Bank of England paper money were created. If now, for every one pound of Bank of England paper money held in a country bank, three pounds of country bank notes were issued, then for every one pound of gold at the Bank of England nine pounds of bank money would come into circulation.

The 1825 crisis exemplifies the type of problem that can be encountered when there is a shortage of reserves in the banking system. Many customers of country banks were demanding redemption of their country bank promissory notes, and would accept only gold coins or Bank of England notes. Representatives of the country banks were in turn approaching the Bank of England in order to acquire (by withdrawal of deposited money or by outright borrowing) gold coins or Bank of England notes. With these amounts, the country banks hoped to satisfy their own depositors' demands for withdrawal. The double pyramid was now working in reverse.

The Bank of England duly obliged, lending freely so as to provide the necessary cash to the country banks and others. However, the demand was so great that the mint had to work flat out in order to turn gold bullion into coinage. Meanwhile, the printers printed Bank of England notes as fast as they could. In December 1825, six London banks and sixty-one country banks ceased payment in gold. Chown quotes Clapham's account of the period:

> The public was clamouring ... for money, Bank [of England] notes or gold. Neither notes nor sovereigns could be made fast enough ... By the evening of Saturday the seventeenth, the Bank [of England] had run out of £5 and £10 notes. However a supply came from the printers on the Sunday morning.

Chown, J. F., *A History of Money* (1994) p. 153

So the system wavered between banking crisis and reserve shortages on the one hand, and the profitable operation of fractional reserve banking on the other.

From Receipts to Cheques

The authorities eventually acted to counter the dangers posed to the health of an economy in which numerous private issuers of paper money were active. Under Peel's 1844 Bank Charter Act, the right to issue most encouraged Parliament to insist that the Bank of England maintained a full reserve of gold against its paper note issues.

The Bank meanwhile feigned ignorance of the problem. It promoted the 'real bills' doctrine which held that the manufacture of money out of nothing was not harmful to the economy so long as that money was used to finance real trade. Industrialists would issue bills of exchange in the normal course of their trade, and the Bank would purchase those bills with newly created money.

The Bullion Committee rejected the Bank's argument for it knew very well that the creation of money was the issue, not the use to which newly created money was put. Industrialists' need for cash was limitless. To use their need as a limiting factor in money creation was therefore a wholly erroneous policy. In due course, Parliament made the decision to require the Bank to resume redemption of its note issue in gold and this occurred gradually in the years following 1816. Cobbett argued that this remedy did not address the dangers of a 'paper money' system at all. In *Paper Against Gold* he rages against the moneyed interests in the City. He talks of national debt and inflation as children of the paper money system, and introduces us to the monetary conditions of his time :

We see the country abounding with paper money; we see every man's hand full of it; we frequently talk of it as a strange thing, and a great evil; but never do we inquire into the cause of it. There are few of you who cannot remember the time when there was scarcely ever seen a bank note among Tradesmen and Farmers ... If you look back, and take a little time to think, you will trace the gradual increase of paper money and the like decrease of gold and silver money...

Cobbett, W., *Paper Against Gold* (1828) p. 5

Though Britain's dominant position in international trade and increases in global gold production may have supported the gold coin circulation, the banking system continued to encounter crises even after the period of the Suspension had ended.

There was a great diversity of practice and many banks crashed - eighty-nine between 1814 and 1817 alone, though many such were small indeed, with under fifteen shareholders.

Thomas, H., *An Unfinished History of the World* (1981) p. 467

Due to its perceived soundness, the Bank of England's notes were often used by the so-called country banks (those operating outside London) as part of their reserves. A double pyramid of money supply expansion thus came to operate. For example, imagine that for every one pound of gold aggregate of the outstanding bonds and other borrowings, the 'National Debt' as it became known, grew from £16,394,702 in 1701, to £52,092,235 in 1727 and £257,213,043 in 1784. By 1810, it had reached £811,898,082. The state's outstanding debts were beginning to spiral out of control.

Of course, the Bank could not simply print paper notes without maintaining a sufficient level of gold coin reserves. Over time, it therefore sought to attract greater amounts of gold coin as deposits for its vaults. Though no notes under £20 were issued until 1755, the outbreak of the Seven Years War in 1756 gave rise to a substantial borrowing requirement on the part of state. The Bank of England now issued notes in the denomination of £10. By the time France had declared war upon England in 1793, notes in denominations as small as £5 were being issued in ever more strained attempts to obtain gold from depositors. In this manner the Bank maintained what it saw as a prudent reserve ratio whilst the lending of paper money to both the state and private borrowers expanded.

The insufficiency of reserves to meet large scale simultaneous demands for redemption of its promissory notes was one consequence of the Bank of England's money manufacturing activities. Thus it was in February 1797, that the Bank was permitted by an Act of Parliament to cease the redemption of promissory notes in gold. Following this 'Suspension of Payments', paper money issue increased with the production of £2 and £1 notes. In a letter to the King in 1805, the Earl of Liverpool commented:

> When the situation of the Bank of England was under the consideration of the two Houses of Parliament in the year 1797, it was my opinion, and that of many others, that the extent to which the paper currency [system] had been carried was the first and principal, though not the sole cause, of the many difficulties to which that corporate body was then, and had of late years, from time to time been exposed in supplying the cash necessary for the commerce of the Kingdom.

The Bullion Committee of 1810 reported to Parliament that the Bank of England had taken the opportunity of the Suspension to print large amounts of paper money that had no gold backing, and had thereby profited itself substantially. The Committee was concerned that the scale of profits available to the creators of money was so great that the State should share these profits on behalf of the people. More specifically it war against France. Interest at 8% would be paid on the borrowings, financed through a variety of taxes, predominantly upon beer and ale. Repayment of the principal amount would also be made from the revenues thereby generated. On condition of £1,200,000 being advanced within a certain period of time, a charter was to be given under the Tonnage Act of May 1694 to establish *The Governor and the Company of the Bank of England.*

The new Bank would be allowed to take deposits of coinage and issue paper money. Several kinds of paper were issued, in an effort to remain within the rather unclear requirements of the Act regarding the Bank's issuing activities. The various papers included 'sealed bank bills', 'cash notes', and in due course 'bearer banknotes'. The bank's shareholders included many entrepreneurs who were keen to obtain a foothold in the new and seemingly highly profitable business of banking, but it was the bank itself that lent the King the required amount of money. £720,000 was paid in cash and the remaining £480,000 in sealed bank bills created by the Bank for the very purpose (for a fuller description see: Feaveryear, A. E., *The Pound Sterling,* Clarendon Press Oxford, 1931).

In evidence of amounts lent to the State by the Bank, the former would issue the latter with government debt obligations, these known at first as 'tallies', and later as 'stocks' or 'funds'. (In this context, a stock is synonymous with a bond, that is a tradable document displaying the terms of a loan between the borrower of money, the *issuer* of the bond, and the one who has purchased that bond, the *bondholder*). Often the Bank would sell these bonds on to smaller investors, more or less immediately, at a profit margin. By avoiding ownership of the bonds for anything but a short period of time, the Bank would minimise the risk of incurring a loss should their market price unexpectedly fall.

The government increasingly came to fund part of its expenditure by borrowing money from the Bank of England. Fortunately, the Bank was in a position to aid the government in its times of need. It was privileged by an Act of Parliament with the right to manufacture promissory notes which were increasingly being used as money. The Bank was therefore able to meet the government's borrowing requirement by printing more promissory notes. Thus money supply and government debt grew together. According to William Cobbett in *Paper Against Gold, 1812* the

We are faced with a choice, in effect, between continued expansion of debt on the one hand and widespread business and personal bankruptcy on the other. The increase in money supply that results from the creation of new debt can and often does encourage general price inflation, but, since almost every developed economy nowadays suffers from such inflation, this is regarded as an acceptable part of modern life.

In the 17th Century when modern banking was just beginning, the long term consequences of the industry's standard practices were perhaps unforeseeable. Yet some individuals saw beneath the veneer presented by the bankers and their lobbyists in public life. They petitioned the state to legislate against the bankers, arguing that whilst most people had to work to earn money, the bankers could simply print it. But the state had other ideas.

The Bank of England

Naturally, the bankers would not wish to suffer loan losses. This kind of event would have the same ultimate effect as an expenditure of bank money by the banker himself, in other words a loss of control of the manufactured money. It therefore became common for bankers to avoid profit-sharing investments and to focus instead on interest-based loans supported by collateral. The collateral would act as a cushion to protect the loan in the event of failure of the borrower's business. In this case, the banker would be able to seize and sell the collateral in order to reclaim full or part repayment of the loan amount.

These criteria for extending loans naturally biased the lending of manufactured money towards the rich. After all, the rich were the ones with the most wealth to offer as collateral. Those without collateral, the poor, though possessing potentially profitable business ideas, might not so easily attract the required funding. Thus it was that the government itself, having the right to raise tax and therefore being the most secure of all borrowers, would become the prime focus for the lending activities of the bankers.

In 1694, King William III of England was persuaded to invite loan offers from private individuals as a means of raising funds with which to wage music stops. The policies of government, the actions of businessmen and the daily life of ordinary people are all affected by this ongoing struggle in a deep and disturbing way.

In an effort to rescue the worst of the financial problems comes the State. In those periods of recession that occur when the quantity of new loans is insufficient to allow repayment of old debts, the state finds itself obliged to pay welfare benefits to the unemployed, to cut tax rates and so on. The money that the State requires to undertake this expenditure can be manufactured by the State itself or it can be borrowed from the banks in the form of bank money. Quite why the State would want to borrow money manufactured by the banks at interest when it could manufacture state money interest-free is one of the unanswered mysteries of our time. Yet this is what happens most of the time in most of the countries of the world.

Since the greatest proportion of new money is nowadays created through loans made by the banking system, money supply expansion is accompanied by a more or less continuous increase in the amount of debt in the economy as a whole. Combined private and public debt as a proportion of gross domestic product has therefore grown substantially in the each of the seven largest economies of the world over the last thirty years. Every developed country runs a national debt. And every one of these countries has a private sector that is heavily in debt. As Michael Rowbotham comments in *The Grip of Death* (1998), despite decades of hard work using ever more productive technology, society in the developed world finds itself more in debt than it ever has been.

Year	UK	USA	Japan	Malaysia
1970	81	136	113	60
1983	85	151	198	144
1993	149	187	250	169

source: IMF International Financial Statistics Yearbook 2000

TOTAL DOMESTIC DEBT (PRIVATE PLUS PUBLIC)
as a % of Gross Domestic Product

The bankers faced many practical hurdles in attempting to grow their business as we shall see. Not least was the fact that the banks charged interest on money that only they could create. How then could borrowers hope to repay loans of this manufactured money *plus* the interest charges? Imagine that, initially, the total amount of state money in existence is £100. If the banks now create £400 of bank money there will be a total money supply of £500. Let us further imagine that the £400 of bank money is loaned for three years at 10% interest per year, and that an amount of £532.40 will therefore be due for repayment. Now, if the total money supply at the beginning of the loan period is only £500, where will the extra £32.40 come from? Since the £32.40 does not exist initially, it is impossible to repay this part of the loan unless new money is created from somewhere.

The required new amount of money could only come from two sources. Either the bankers would have to expand the supply of bank money, in other words lend yet more, or the state would have to increase the supply of state money. This simple fact would have enormous repercussions for the economy as the practice of fractional reserve banking spread.

Without the creation of new money, many borrowers would eventually default on their loans. With the creation of new money, default could be avoided. The economic survival of both businessmen and private individuals therefore came to depend in large part on the bankers' willingness to extend loans of newly manufactured money.

The unrepayability of old loans places society in a game of economic 'musical chairs'. For those unfamiliar with musical chairs, it is a game often played in England in which, say, eleven children run around a group of ten chairs whilst music is playing. When the music stops, all the children must find a chair to sit down on but because there is one more child than there are chairs, one child will always remain standing when the music stops. This is the child who has 'lost', and he is removed from the game. So it is with the unrepayable loans. When new loans are not forthcoming, old loans become unrepayable. Under these circumstances, everyone is trying to repay their debts, but a sufficient quantity of money with which to do so simply does not exist. At least one person must go bankrupt and be 'removed from the game'. Life becomes an aggressive competitive struggle to avoid being the one who is left standing when the

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substitute for gold coins. Such a policy had a great advantage since paper receipts could be manufactured at very little cost, whereas gold itself could not be. For a truly imprudent banker it would be possible to use the entirety of the bank's gold reserves as a ratio for receipts issued. With £100 of gold coins in his vault and a 20% reserve ratio, such a banker could take the risk if he so dared of issuing £500 of receipts in total. Here, the depositors of the coins would receive receipts to the value of £100, and a further £400 of receipts could then be manufactured to lend at interest. In the meantime the banker would attempt to make agreements, primarily with other bankers, to borrow extra reserves of gold should there be heavy withdrawals from his own bank.

The 'fractional reserve' banking system described above relied crucially upon the use of interest in its operation. Why, it might be asked, did the banker not print receipts and spend them on his own consumption if it is in fact true that he had the power to manufacture money? The answer is that the act of spending his own receipts would eventually lead to bankruptcy. If such a course were followed, it would be almost certain that at some future time the spent receipts would return for redemption in gold - gold which never existed in the first instance. By lending the receipts instead, the banker could charge interest on the amount lent. Upon repayment of the loan, the receipts could be destroyed as easily as they had been manufactured. But the interest charge would remain as revenue. And if a loan was repaid using gold coins, then these could be kept in reserve to redeem the still outstanding paper notes at a later date.

Gradually, word spread among the wealthier classes that the provision of banking 'services' was nothing other than the most profitable business idea of all time. An increasing number of entrepreneurs therefore established their own banks in order to cash in on the new game. Thus the banking sector would grow to be one of the largest sectors of the economy. Though competition today ensures that the *rate* of profit made by any one banking company is more modest than it once was, the *amount* of profit made by the banking sector as a whole is huge by virtue of its size within the overall economy. In 1999, the banking sector was the most valuable on the London Stock Exchange measured by market capitalisation.

Of course, if it did happen that heavy withdrawals occurred at short notice, then the bank would have to close its doors. The crisis of confidence caused by the failure of one bank to meet its redemption obligations would naturally lead to a crisis of confidence in other banking institutions. In this manner there occurred numerous 'bank runs', in which customers would run to their bank to withdraw their deposits of state money before everyone else tried to do the same. In England, these events were to be witnessed many times, in particular during the early nineteenth century. In some developing countries, they are still happening today.

Confidence in the value of receipts would continue so long as the public believed that the goldsmith would exchange them for gold whenever the bearer requested him to do so. Aware that confidence was the key to their success, many goldsmiths devoted their efforts to persuading the public that the new banking institutions were 'prudent' and 'safe'. These soon became catchwords among the banking profession.

In time, the subject of how large or small a reserve was required for safe operation became one of fierce debate. Some argued in favour of a 100% reserve on the basis that if bankers had issued £100 of receipts promising redemption on demand, then they should keep £100 of gold in the vault to honour this promise should they be required to. Others foresaw the hugely lucrative possibilities of holding a lower reserve ratio, perhaps as little as 20% or 30% as a proportion of receipts issued. They cited the tendency of most depositors to leave most of their gold on deposit most of the time as a justification of the safety of their approach.

The debate mattered vitally. If it was safe to keep, say, a 20% reserve ratio, then the remaining 80% of gold could be lent out at interest. £100 of gold could be divided into £20 for reserves and £80 for loans. The lower the reserve ratio, the greater the risk of a bank collapse but also the more that could be lent out. And the more that could be lent out, the greater the interest revenue.

As the process of lending was contemplated, it became apparent to the bankers that there was in fact no need to lend the physical gold in their vaults. Since their own receipts were equally well regarded as money by the general public, it would suffice for these receipts to be lent out as a

☆بالملح يصلح ما يخشي تغيره فكيف بالملح ان حلت به الغير ☆

than safe-keeping houses that had secure vaults in which to keep their own valuables and, for a fee, the gold coins of depositors. Upon taking a deposit, the goldsmith would issue a 'bearer receipt' to the depositor confirming the amount of the deposit. The depositor, or any individual 'bearing' the receipt, could then present it to the goldsmith at a later date and claim back the sum deposited.

As time passed, the goldsmith bankers realised that their customers preferred to leave most of their state money on deposit most of the time. State money in the bank was regarded as being safer from theft than state money under one's bed and, in aggregate, the small amount of state money that was withdrawn from a bank by customers on any one day was generally replenished by fresh deposits of state money from other customers on that same day.

For their part, the goldsmiths' customers found that the receipts issued to them would be accepted by merchants as payment for goods and services. The goldsmiths' receipts had become bank money. Hence, instead of going to withdraw their gold coins from the goldsmith, depositors would simply pass over the required amount of bearer receipts to a merchant in payment. The merchant in turn would be able to claim back the underlying gold coins from the goldsmith but more usually would choose to use those same receipts in payment for his own purchases. In this manner, receipts would stay in circulation for some time.

The goldsmiths knew that if their receipts stayed in circulation for long periods of time then the gold in their vaults would remain largely idle. The most obvious use for these idle reserves of gold was to lend them to those of good standing who wished to borrow. However, great care would have to be taken by the goldsmiths not to lend too much of their gold coin reserves. They would need to keep sufficient quantities in reserve so as to meet requests for redemption of their receipts by customers. The proportion of coins thus kept in reserve against receipts issued came to be known as the 'cash reserve ratio', and because the net amount of receipts redeemed on any one day was usually small, only a small cash reserve ratio was required for a bank to operate safely under most circumstances.

از پدرش چه خیری دیدی......☆...... که از پسرش ببینی؟

THE PRODUCTION OF MONEY

By: Tarek El Diwany

In this chapter, two forms of money are identified. One is the money produced by the modern state in the form of notes and coins, the other is the money that is produced by commercial banks. The technique of fractional reserve banking, whereby banks create money, is examined and the history of its development described. Banking is seen as an industry and money as its product. The consequences of allowing private firms the authority to manufacture money and lend it at interest are analysed.

From Gold to Receipts

Money can take more than one form. At various times and in various places, the function of money has been fulfilled by items such as salt, printed paper and gold, to name a few. Although money defies any specific definition, it can generally be regarded as that which is readily accepted in exchange for goods and services. On this basis, both a five pound note and a guaranteed cheque written in the amount of five pounds can be exchanged for five pounds worth of goods or services, and both are therefore forms of money. One difference between these two forms of money is that it is the state that produces the banknotes whilst it is a commercial bank that provides us with a cheque-book and guarantee card. The distinction between 'state money' and 'bank money' will be of vital importance to the following discussion.

The roots of modern banking in England can be traced back at least as far as the mid-seventeenth century, in particular to the activities of the goldsmith. The goldsmith would take deposits from customers in the form of precious metal coins, predominantly gold coins, since these constituted state money at that time. These early banks were little more