Money Creation
Byron A. Ellis – April 06, 2009

In 1913, Congress passed and President Wilson signed the Federal Reserve Act, creating the U.S. central bank, the Federal Reserve Bank, in the face of strong banker opposition. The Federal Reserve (Fed) influences the money market through, reserve requirements, open market operations and the discount windows of the Federal Reserve Banks.

Banks are required by law to keep certain level of reserve requirements. The Fed increases commercial banks reserves by purchasing bonds from the banks through open market operations and by making discount loans to commercial banks. The Fed manipulates the level of bank reserves to achieve the desired growth rate of the money supply.

Money is a medium of exchange; it originated from the goldsmiths who found it profitable to loan out the gold that they stored but did not own. During the middle ages, people (depositors) stored their excess gold and silver with the local goldsmiths for safekeeping and was given a receipt. With that receipt, after paying a fee, they could retrieve their gold or silver. The paper receipt was easy to transport and began to be a substitute for the gold and silver.

The goldsmiths recognized that they could loan out the gold and silver that they held for customers to others by issuing additional receipts in lieu of precious metals. They could print receipts against the precious metal that they did not own. Thus, the banking system and modern money (receipts) developed from the goldsmiths.

Money is currency in circulation and demand deposits, M1. Accordingly, when the Fed (government) increases the money supply, it moves the economy towards higher income and lower rates of interests. When the Fed (government) increases the money stock faster than real output, inflation occurs. Conversely, when the government decreases the money supply and real output increases, deflation occurs. Figure 1 shows the growth of M1 and M2 from 2001 through 2008. M1 was virtually flat from 2002 through the third quarter of 2008. According to the Fed, M2 consists of M1 plus: (1) savings deposits (which include money market deposit accounts, or MMDAs); (2) small-denomination time deposits (time deposits in amounts of less than $100,000); and (3) balances in retail money market mutual funds (MMMFs) and it has been increasing since 1980.

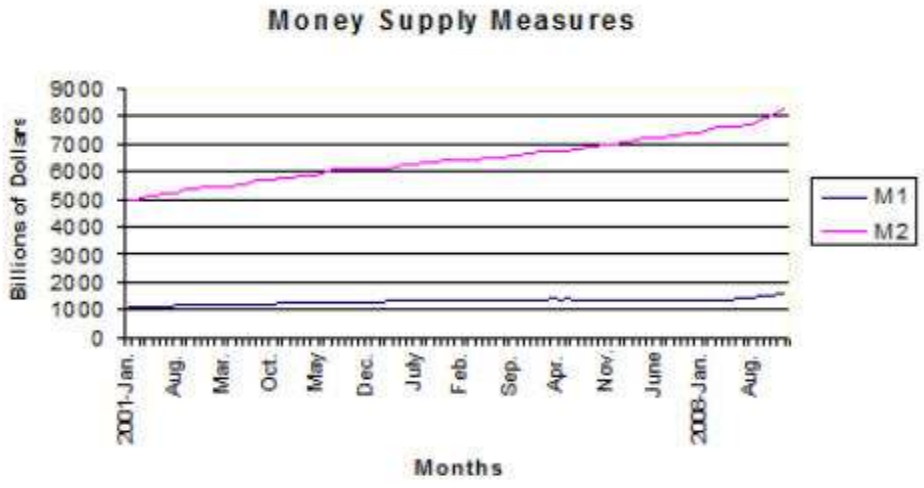

Figure 1 – Growth of M1 and M2

Money is created in two ways from borrowing and spending and from printing by a central bank. In the past decade, the private sector created most of the money through borrowing and spending. As a result, some have argued {Benson (2004), Money created "Out of thin air"} that private sector new borrowing will not be able to create enough new money to service the already massive level of old debt. Nonetheless, the banking system can expand its loans and investments as the Fed creates new reserve of cash.

Let' look at a closed economy, with one bank and $1,000 of high-powered (reserves) money deposited in the bank. With multiple banks, it is the banking system that creates the monetary expansion, because only a fraction withdrawn from an individual bank will return to that bank. Suppose that the bank must keep 10 per cent in legal reserves. And, assume that there is no leakage. That is, when the bank makes a loan, it is paid out to the borrower and put back in the bank. So, if the bank keeps $100 in reserve and loans the remaining $900, which is deposited back in the bank; it then keeps 10 percent of the new deposit as reserve and loans the remaining $810, which is put back in the bank; it keeps 10 percent of the $810 as reserve and loans the remaining $729; the process continues until the amount money put back in the bank is zero, see Table 1.

Table 1 - Money Creation

	Deposit (D)	**Reserve (10% of D)**	**Loan (L)**	**Interest (6% of L)**
	$1,000	$100	$900	$54
	$900	$90	$810	$49
	$810	$81	$729	$44
	$729	$73	$656	$39
	$656	$66	$590	$35
	$590	$59	$531	$32
	$531	$53	$478	$29
	$478	$48	$430	$26
	$430	$43	$387	$23
	$387	$39	$349	$21
	$349	$35	$314	$19
	$314	$31	$282	$17
	$282	$28	$254	$15
	$254	$25	$229	$14
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Total	**$10,000**	**$1,000**	**$9,000**	**$540**

Table 2 shows the bank's initial position and Table 3 the bank's final position. The final position reflects a $9,000 increase in loans, created from the initial deposit of $1,000. Thus, the interaction of the public and the bank expanded the money supply by $9,000. However, if the bank kept the initial deposit in reserve, the growth of the money supply would be equal to the initial deposit of $1,000 by the Fed.

When banks keep all or most of the money in reserve, income growth and demand for goods and services are adversely affected. The bank bailouts were not effective because banks failed to interact with the public by loaning the money out. Rather, they used the bailout funds to interact with other financial institutions and for self-remuneration.

Table 2 – Bank Initial Position

The bank's initial position			
Assets		*Liabilities*	
Reserves	$1,000	Deposits	$10,000
Total	$1,000	Total	$10,000

Table 3 – Bank Final Position

The bank's final position			
Assets		*Liabilities*	
Reserves	$1,000	Deposits	$10,000
Loans	$9,000		
Total	$10,000	Total	$10,000

Effective management of the banking system and the money supply by the Fed is crucial for preventing a reoccurrence of shortage of M1. Shortage of M1, currency in circulation and demand deposits, adversely affects consumer demand and hence income. M1 should not remain virtually flat for successive years. On the other hand, M1 should not increase exponentially as it is increasing since the fourth quarter of 2008, see M1 money stock graph from the Fed. Such swings tend to cause booms and busts.