Fractional Reserve Banking Example

In this Example we will use 2 banks;-

Bank 1 = Minton State Bank

Bank 2 = Imperial Commercial Bank

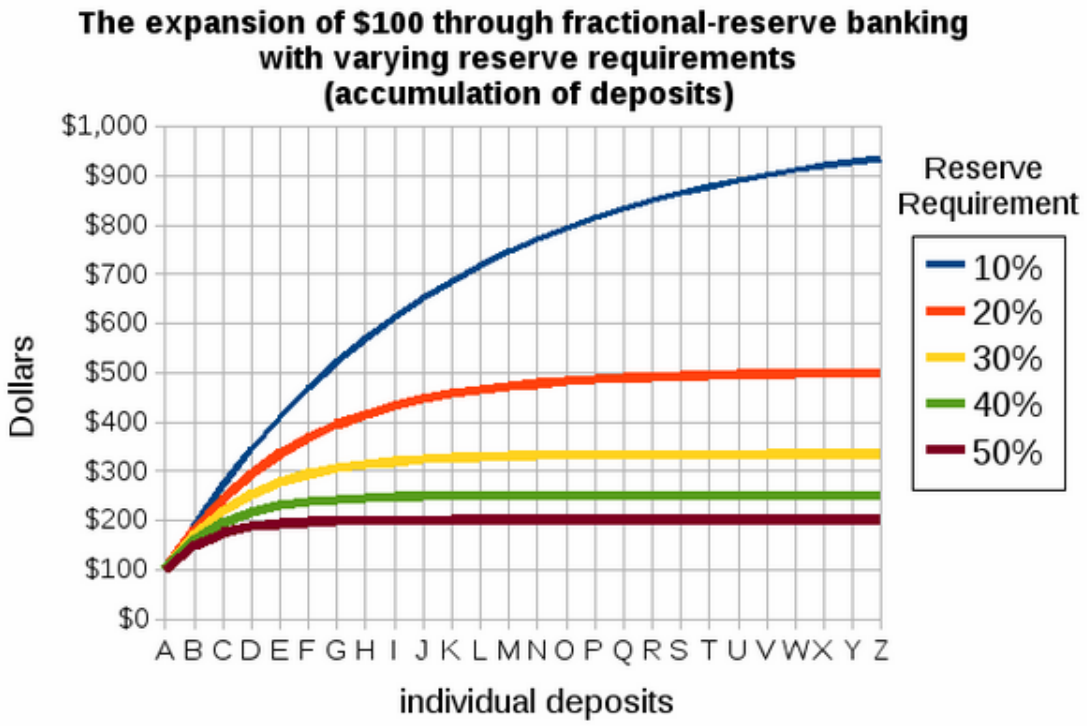
In this Economy the Central Bank has stipulated that the "Reserve Requirement Ratio" that Banks must implement is 10% i.e. all Banks are required to hold reserves equal to 10% of their customer deposits. When a Banks "Excess Reserves" are at zero the bank is at full loan capacity.

Minton State Bank and Imperial Commercial Bank both have $10,000 in deposits with no Excess Reserves. So each bank right at this moment in time has $9,000 in loans outstanding and $10,000 in deposit balances held by customers.

A new customer now deposits $1,000 in Minton Bank. Minton will now loan the maximum amount that they can loan out i.e. 90% of the $1,000 or $900 and hold the required 10% in Reserve. There are now $11,000 in Deposits in Minton State Bank ($10,000+$900+$100) = $11,000 – The $900 loan is placed into a Minton State Bank Account to debtor and $100 is held in reserve.

However the Debtor decides to take his $900 loan and deposit it in Imperial Commercial Bank. Imperial Commercial Banks deposits now equal ($10,000 + $900) = $10,900

At the beginning of this paper trail, Total Deposits were equal to $20,000. $1,000 was added to the system and now Total Deposits are $21,900. Even though the addition to the system was $1,000 Total Deposits have increased by $1,900. The $900 is new money. Minton created it when they issued the $900 loan from thin air.



The chart shows the total amount of $ that can be created with the addition of $100 in reserves, using different reserve requirements.

Mathematically the relationship between the Reserve Requirement Ratio (RR) and money creation is given by the Deposit Multiplier (M) which is the ratio which is the maximum possible change in deposits to the change in reserves. When Banks in the Economy have made the maximum legal amount of loans (zero Excess Reserves), the Deposit Multiplier is equal to the reciprocal to the Reserve Requirement Ratio i.e.

$M = 1/RR$

In the above example the Deposit Multiplier (M) is $1/0.1 = 10$ – So with a Reserve Requirement Ratio (RR) of 0.1 an increase in Reserves of $1 can increase the Money Supply by up to $10.