LECTURE FOUR - PART FIVE

The Goldsmiths Create The First Form of Paper Money

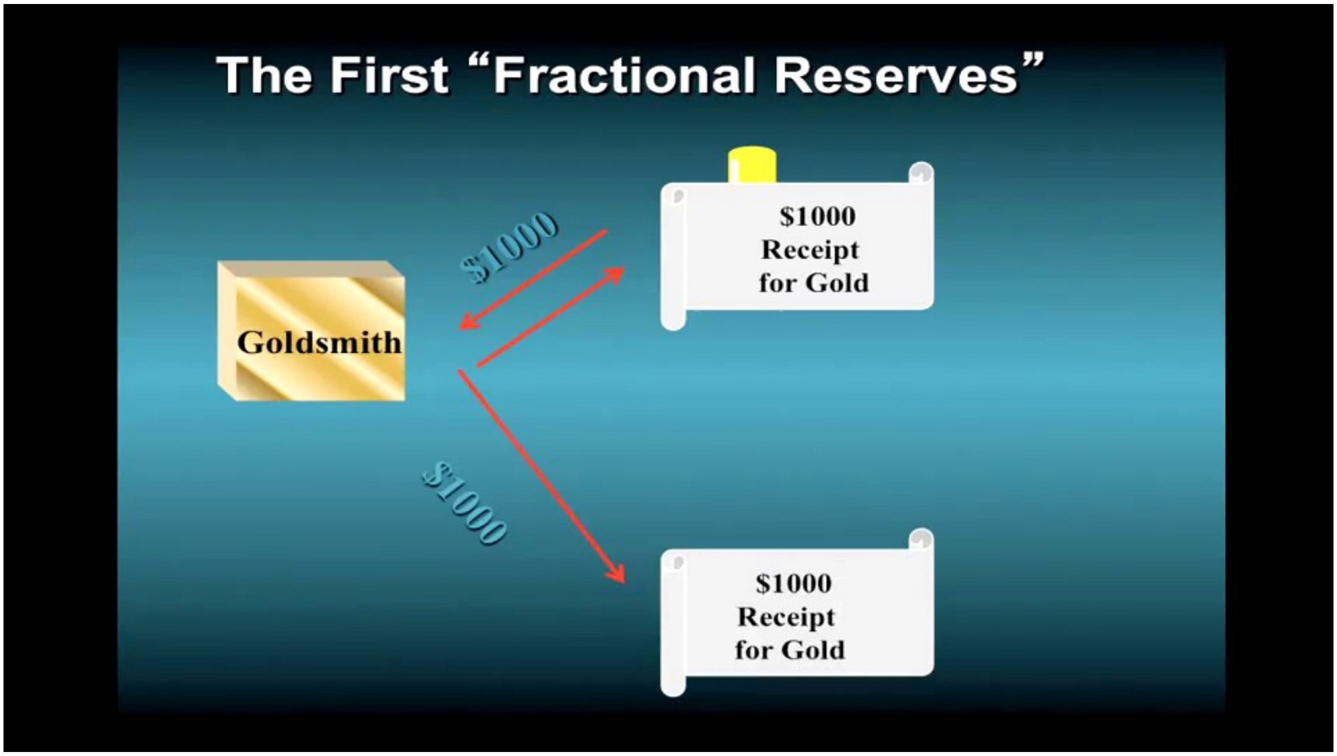
- Let's get in a time machine and go back several hundred years to England.
- Gold is the prevailing medium of exchange.
- The stuff's heavy and can be stolen so people start storing their gold with the goldsmiths.
- The goldsmiths issued paper receipts.
- People would use the receipts to redeem their gold when they needed to make a purchase.
- Over time, three things happened!!!!

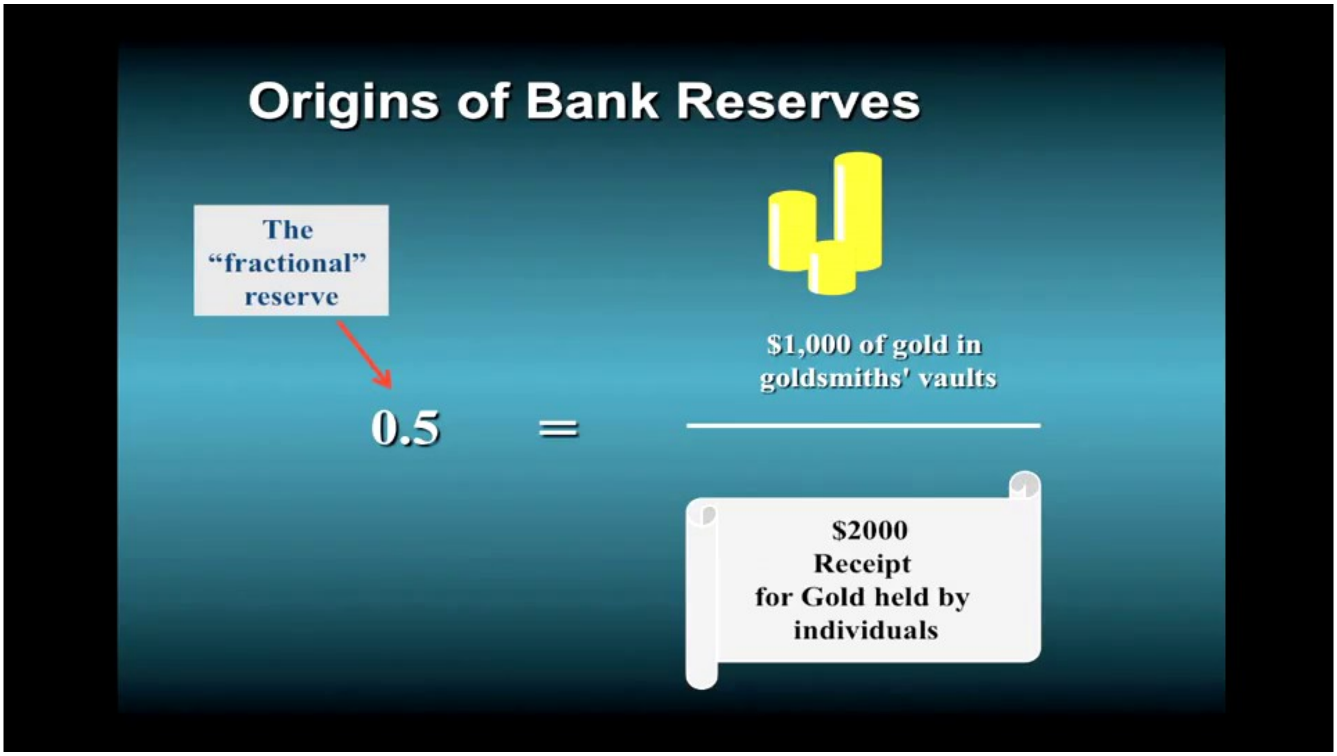
The First Paper Money

- Depositors started trading their gold receipts for goods rather than going back to the goldsmith to redeem the paper every time they needed to make a transaction.
- These receipts functioned as the first paper money!!!!

The First Bank Interest

- Depositors also figured out they didn’t have to leave their gold with the goldsmith for free.
- After a time, the goldsmiths started competing for gold accounts.
- While the goldsmiths didn’t offer free toasters or rebates like some banks today, they did offer <u>interest on their gold deposits</u>!


The First "Fractional Reserves"
Goldsmith
$1000
$1000
Receipt
for Gold
$1000
$1000
Receipt
for Gold


Origins of Bank Reserves
The
"fractional"
reserve
0.5
=
$1,000 of gold in
goldsmiths' vaults
$2000
Receipt
for Gold held by
individuals

The Modern Banking System

- Today's modern banks function much like the goldsmiths of old.
- Let's see how such banks can create money.

How Banks Create Money

Bank 1.

Assets		Liabilities	
Reserves	+$1000	Deposits	+$1000
Total	+$1000	Total	+$1000

How Banks Create Money

Bank 1.

Assets		Liabilities	
Reserves	+$ 100	Deposits	+$1000
Loans and investments	+ 900		
Total	+$1000	Total	+$1000

Bank managers are assuming no more than 10% of their customers will come in for their cash.

They believe they can safely loan the other 90% out!

How Banks Create Money

Bank 1.

Assets		Liabilities	
Reserves	+$ 100	Deposits	+$1000
Loans and investments	+ 900		
Total	+$1000	Total	+$1000

Bank 2.

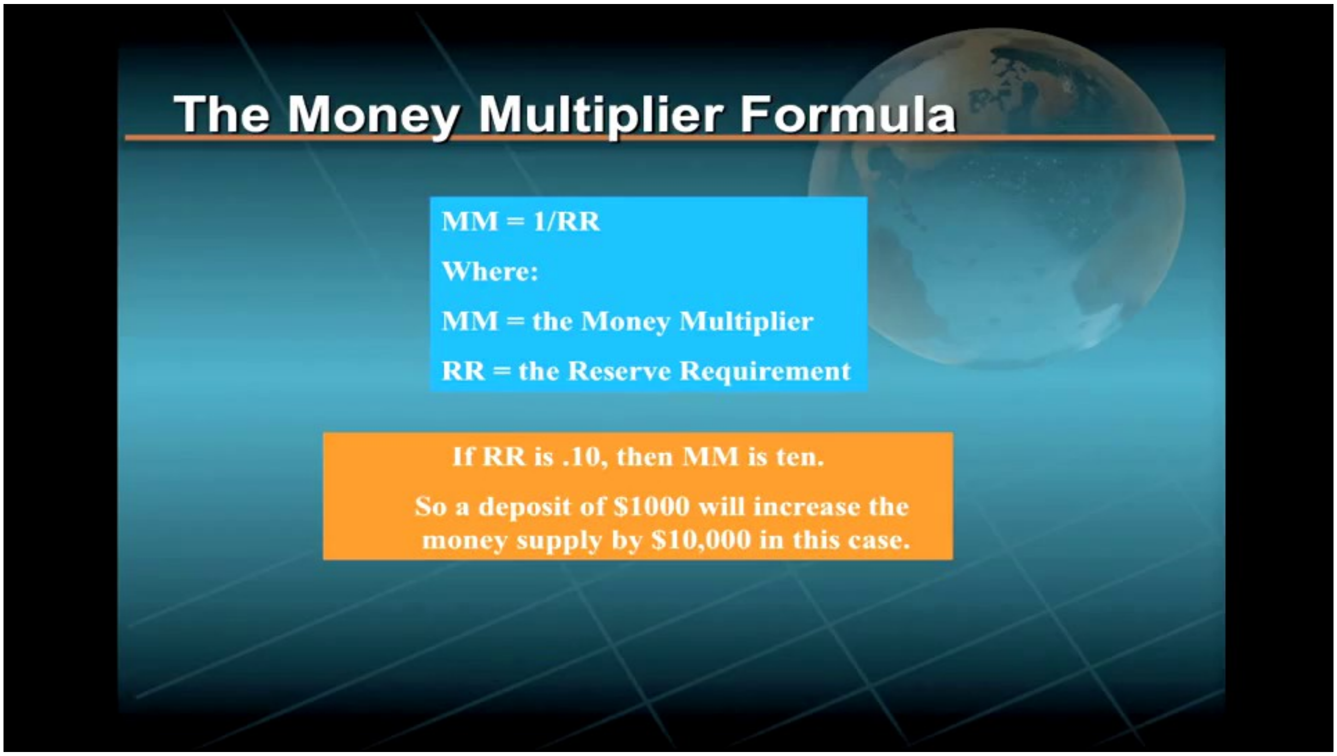
Assets		Liabilities	
Reserves	+$ 90	Deposits	+$ 900
Loans and investments	+ 810		
Total	+$ 900	Total	+$ 900

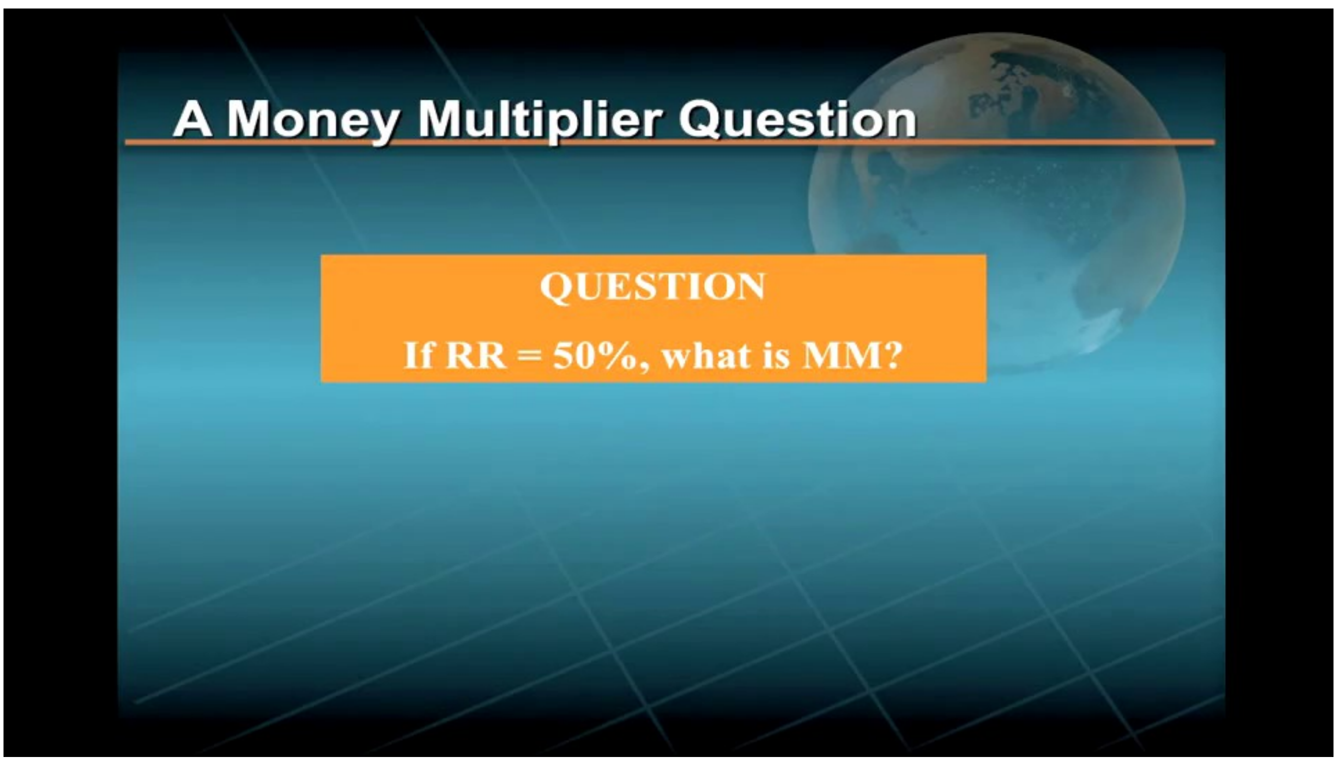
Position of Bank	New deposits ($)	New loans and investments ($)	New reserves ($)
Original banks	1,000.00	900.00	100.00
2d-generation banks	900.00	810.00	90.00
3d-generation banks	810.00	729.00	81.00
4th-generation banks	729.00	656.10	72.90
5th-generation banks	656.10	590.49	65.61
6th-generation banks	590.49	531.44	59.05
7th-generation banks	531.44	478.30	53.14
8th-generation banks	478.30	430.47	47.83
9th-generation banks	430.47	387.42	43.05
10th-generation banks	387.42	348.68	38.74
Sum of first 10 generation of banks	6,513.22	5,861.90	651.32
Sum of remaining generations of banks	3,486.78	3,138.10	348.68
Total of banking system as a whole	10,000.00	9,000.00	1,000.00

The Money-Supply Multiplier

- From this example, we see a new kind of multiplier operating on bank reserves.
- This is the "money supply multiplier" or "money multiplier."

The money multiplier is very different from the Keynesian expenditure multiplier!


The Money Multiplier Formula
MM = 1/RR
Where:
MM = the Money Multiplier
RR = the Reserve Requirement
If RR is .10, then MM is ten.
So a deposit of $1000 will increase the money supply by $10,000 in this case.


A Money Multiplier Question
QUESTION
If RR = 50%, what is MM?

The Money Multiplier in Action

ANSWER

$MM = 1/RR = 1/.50 = 2$

- If Bank 1 receives a new demand deposit of $1,000, it lends out $500.
- Bank 2 then lends out $250, and so on until a total of $2,000 of new money is in circulation.

The Money Multiplier Point

- MM and RR are inversely related.
- The bigger the RR, the smaller the MM and the less money created by a new dollar of demand deposits!

A Lingering Question

- Where did the original $1,000 deposited in Bank 1 come from?
- The Federal Reserve or "Fed" is the nation's <u>central bank</u>.
- By controlling bank reserves, the Fed sets the level of interest rates.
- By conducting monetary policy, the Fed has a major impact on output and employment.

The Federal Reserve

- The "Fed" was created in 1913 following the Financial Panic of 1907.
- During this panic, numerous banks collapsed because of so-called "runs on the banks."

What's a Bank Run?

- If too many of a bank's depositors demand their money at the same time, the bank doesn't have enough cash on hand to pay!
- What would have happened to our goldsmith if everybody had showed up demanding their $2,000 in gold and the goldsmith had only a $1,000 of gold in the vault.

When Fear Leads to Bank Failures

- Bank runs usually happen when people suddenly believe they may not be able to get their money out of their bank.
- The irony: When everybody tries to get their money at once, the bank fails!!!!
- In such cases, fear becomes reality and a self-fulfilling prophecy.

A Banker's Bank

- A nation's central bank serves as the "*lender of last resort*" for all the other banks.
- If a bank needs money to pay off its depositors, it can always borrow it from the Federal Reserve.
- The Fed is, in essence, a "banker' s bank."