





D = 700

Currency = 8000

$r = 10\%$

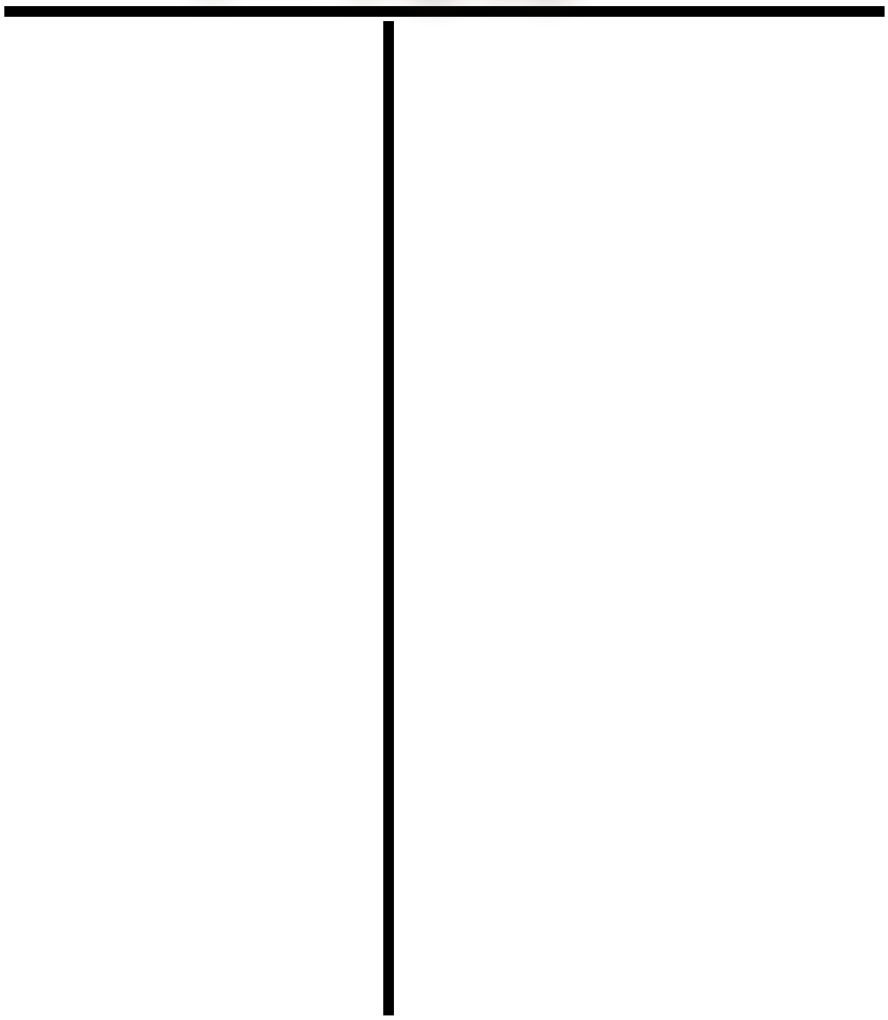
$RR = 0.1 * 700$

L = 620

Suppose banks decide to hold only the amount of
Required Reserves (No excess Reserves)

$$\Delta D = ER \times (1/r)$$

$r=10\%$



$$\Delta R = 0$$

$$\Delta L = \Delta D - \Delta R$$

$$M^s = 800 + 700$$

$$M^s = 1,500$$

NewR = 80

NewD = 7000 + 1000

NewL = 620 + 100

New Ms = 1,500 + 100

$$\Delta M^s = \Delta \text{Currency} + \Delta D$$

+100

$RR = r \times D$

L = D - R

$$M^s = \text{Currency} + \text{Deposits}$$

+0

+100

Example: The following values are
given

Calculate: Loans and the Money Supply

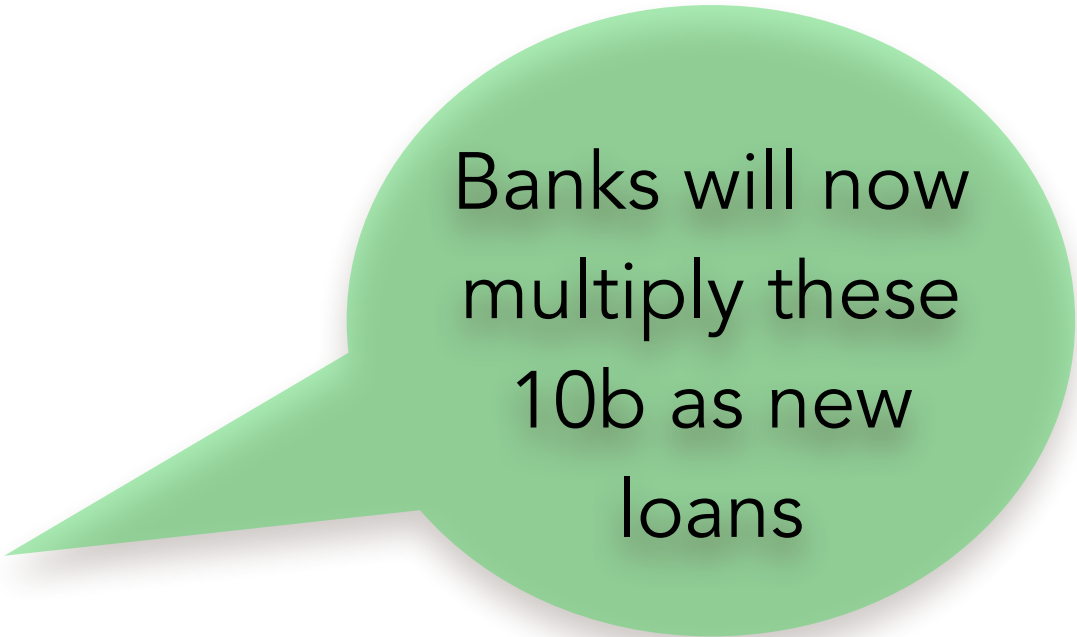
RR=70

L = 700 - 80

Calculate: Required Reserves, Excess
Reserves, New Loans, new Deposits and the
New Money Supply

$$\Delta D = 10 \times (1/0.1) = 100$$

$$\Delta L = 100 - 0 = 100$$



Banks will now
multiply these
10b as new
loans

New L = 720

NewD == 8000

New Ms = 1,600

AR = 80

ER = 80 - 70

ER=10

Before

$r = 10\%$

$R = 80$

$D = 700$

$L = 620$

$M^s = 800 + 700$

$M^s = 1,500$


After
 $r=10\%$

| | |
|--------|---------|
| $R=80$ | $D=800$ |
|--------|---------|

| |
|---------|
| $L=720$ |
|---------|

$$M^s = 800 + 800$$

$$M^s = 1,600$$

A large, light pink speech bubble with a soft drop shadow, containing the text "No new money came into the banking system".

No new money
came into the
banking system

Example: The following values are given

Calculate: Loans and the Money Supply

Before
 $r=10\%$

| | |
|-------------------|-----------|
| $R=80$ | $D = 700$ |
| $L = 620$ | |
| $M^s = 800 + 700$ | |
| $M^s = 1,500$ | |

No new money came into the banking system

Suppose banks decide to hold only the amount of Required Reserves (**No excess Reserves**)

Calculate: **Required Reserves**, **Excess Reserves**, New Loans, new Deposits and the New Money Supply

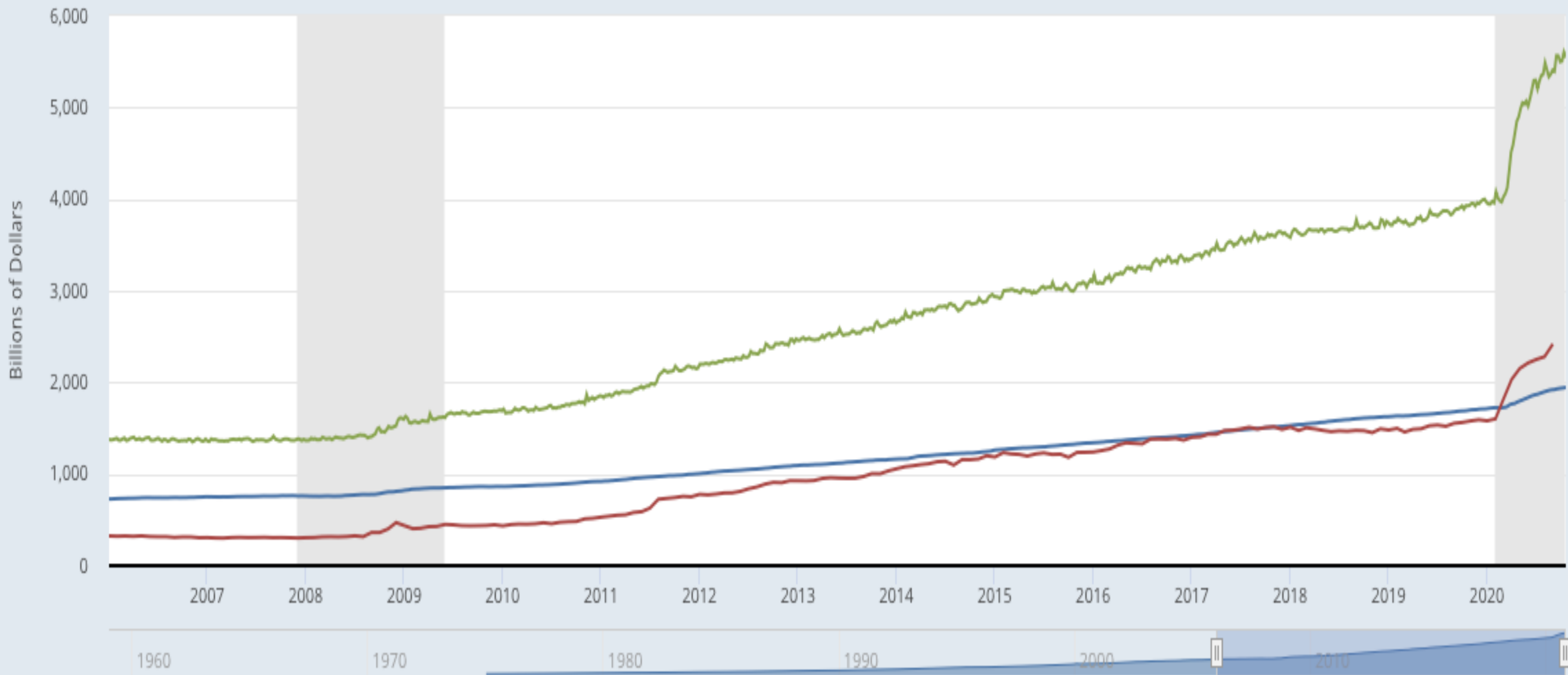
After
 $r=10\%$

| | |
|-------------------|-----------|
| $R=80$ | $D = 800$ |
| $L = 720$ | |
| $M^s = 800 + 800$ | |
| $M^s = 1,600$ | |



- Currency Component of M1
- Demand Deposits: Total
- M1 Money Stock

$$M^s = \text{Currency} + \text{Deposits}$$



Shading indicates U.S. recessions; the most recent one is ongoing.

Source: Board of Governors of the Federal Reserve System (US)

fred.stlouisfed.org

