







D = 1,200

Currency = 1,000b

$r \equiv 20\%$

$R=0.2*1,200$

**L = 960**



Calculate the amount of **new** money the Fed needs to inject in order to cause an 800b **increase** in the Money Supply.

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

$$M^s = 1,000 + 1,200$$

$$M^s = 2,200$$

$R = r \times D$

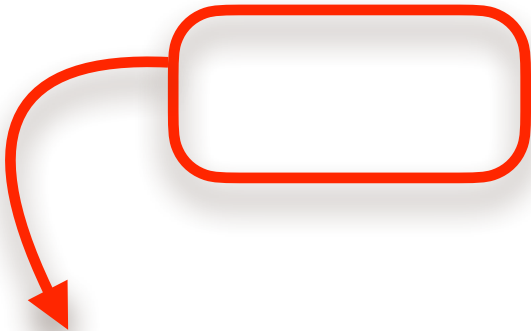
**L = D - R**

Calculate: Required reserves,  
Loans and the Money Supply

$R \equiv 240$

$L = 1,200 - 240$







The Fed needs to **inject**  
160b in new money in  
order to cause an \$800b  
**increase** in Deposits and in  
the Money Supply

$$8000 = \Delta R \times (1/0.2)$$

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

$$8000b = \Delta \text{Currency} + \Delta D$$

Assume: No change in currency

800b = ΔD



$$8000 = \Delta R \times (5)$$

$$8000/5 \equiv \Delta R$$

$$160b \equiv \Delta R$$

The Fed needs to **purchase**  
160b in **bonds** in order to cause  
an \$800b **increase** in Deposits  
and in the Money Supply

Calculate: Required reserves,  
Loans and the Money Supply

$$\text{Currency} = 1,000b$$

$$r=20\%$$

$$R = r \times D$$

$$R = 0.2 \times 1,200$$

$$R = 240$$

$$L = D - R$$

$$L = 1,200 - 240$$

$$L = 960$$

$$M^s = 1,000 + 1,200$$

$$M^s = 2,200$$

Calculate the amount of **new** money the  
Fed needs to inject in order to cause an  
**800b increase** in the Money Supply.

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

$$800b = \Delta \text{Currency} + \Delta D$$

Assume: No change in currency

$$800b = \Delta D$$

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

$$800 = \Delta R \times (1/0.2)$$

$$800 = \Delta R \times (5)$$

$$800 / 5 = \Delta R$$

$$160b = \Delta R$$

The Fed needs to **purchase**  
160b in **bonds** in order to cause  
an \$800b **increase** in Deposits  
and in the Money Supply

Currency = 1,000b

$r=20\%$

$$R = r \times D$$

$$R = 0.2 \times 1,200$$

$$R = 240$$

$$L = D - R$$

$$L = 1,200 - 240$$

$$L = 960$$

$$D = 1,200$$

$$M^s = 1,000 + 1,200$$

$$M^s = 2,200$$