

Equations to calculate the effect of an injection of **new money**:

$$\Delta D = \Delta R \times \frac{1}{r}$$

$\Delta R =$ New money

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ADD

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$$\Delta D = 3,000 \times \frac{1}{0.1}$$

$\Delta R = 3,000$

$$= 3,000 \times 10$$

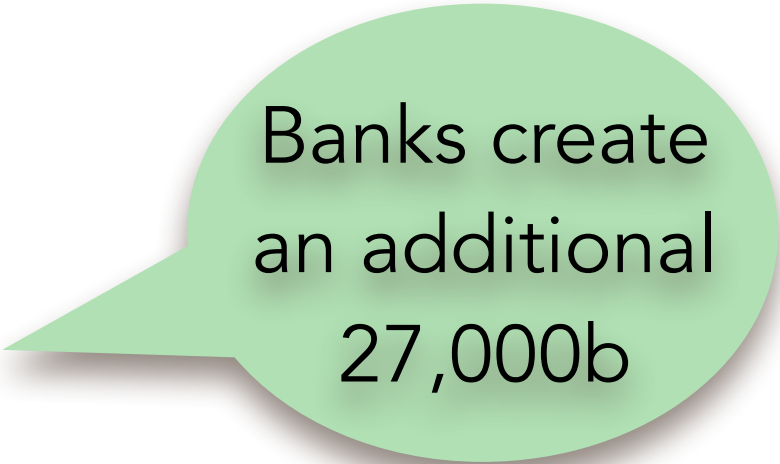
$$\Delta L = 30,000 - 3,000$$

= 30,000

= 27,000



The Fed
created
3,000b



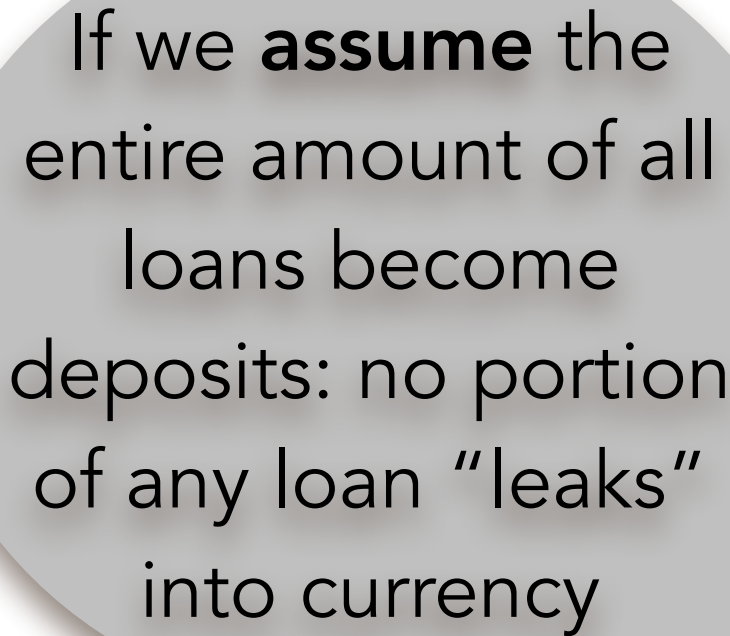
Banks create
an additional
27,000b

Money Supply (M^s) = Currency outside banks + Deposits

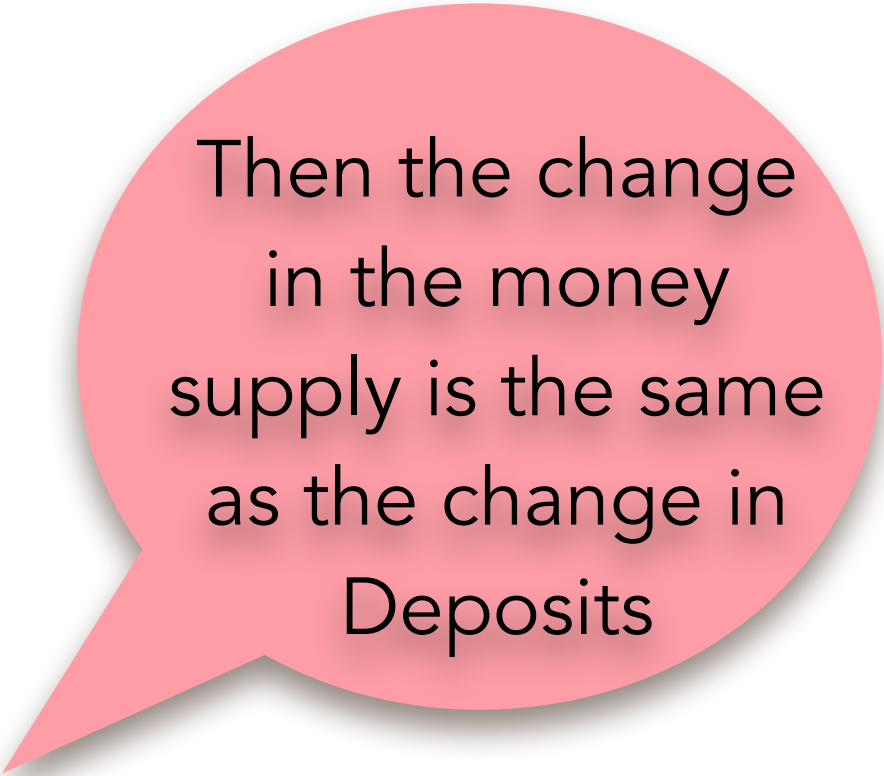
$$\text{Change in the Money Supply } (\Delta M^s) = \Delta \text{Currency} + \Delta \text{Deposits}$$

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

$$\Delta M^s = \text{zero} + 30,000$$



If we **assume** the
entire amount of all
loans become
deposits: no portion
of any loan "leaks"
into currency

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Then the change
in the money
supply is the same
as the change in
Deposits

$r=10\%$

Equations to calculate the effect of an injection of **new money**:

$$\Delta R = \text{New money}$$

$$\Delta R = 3,000$$

The Fed
created
3,000b

$$\Delta D = \Delta R \times \frac{1}{r} \quad r=10\%$$

$$\Delta D = 3,000 \times \frac{1}{0.1} = 3,000 \times 10 = 30,000$$

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

$$\Delta L = 30,000 - 3,000 = 27,000$$

Banks create
an additional
27,000b

Money Supply (M^S) = Currency outside banks + **Deposits**

Change in the Money Supply = Δ Currency + Δ Deposits

$$\Delta M^S = \Delta \text{Currency} + \Delta \text{Deposits}$$

If we **assume** the
entire amount of all
loans become
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Then the change
in the money
supply is the same
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Deposits

$$\Delta M^S = \text{zero} + 30,000$$