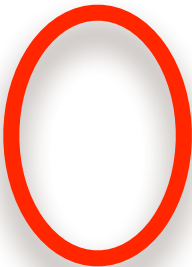


Banks then **create** additional money by **lending** these new
reserves several times





When the Fed **buys** bonds (**QE**) it **creates** money by **adding** bank reserves

When the Fed buys 10b in bonds, it injects 10b
of new money: $\Delta R = 10b$

$r = 10\%$

When the Fed buys 10b in bonds, Banks create 90b in new loans

ALL

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ADD

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

$$\Delta D = 10 \times \frac{1}{0.1}$$

$$\Delta D = 10 \times 10 = 100$$


△L = 100 - 10 = 90

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


$$\Delta M^s \equiv 0 + \textcolor{red}{100} \equiv 100$$

When the Fed buys bonds, the Money Supply increase by 100b

When the Fed buys 10b in bonds, **Deposits** increase
by **100b**



The Fed
created
10b



Banks create
an additional
90b

Purchasing bonds from the public or from banks has the same effect except **banks are paid more** for the bonds than what they would get if they sold their bonds in the Open Market

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

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When the Fed buys 10b in bonds, Banks create **90b** in new **loans**

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

$$\Delta M^s = 0 + 100 = 100$$
 When the Fed buys bonds, the Money Supply increase by 100b

Assets



Assume the Fed is
presently holding
100b in Bonds

Liabilities

Bank Reserves

$$R_A = 0.1 \times 250 = 25b$$

$$R_B = 0.1 \times 100 = 10b$$

$$R_C = 0.1 \times 150 = 15b$$

$$R_D = 0.1 \times 300 = 30b$$

$$R_E = 0.1 \times 200 = 20b$$

$$\text{Total Reserves} = 100b$$