

money multiplier

used in monetary policy

calculated by

$1/\text{reserve ratio}$

Currently, our reserve ratio is .10

What is the money multiplier?

10!

This means that for every dollar the Fed adds to the economy, \$10 of real GDP will be created.



If the Fed wanted to add 10B in real GDP into the economy,
what dollar amount of bonds should they buy?

$$X * 10 = 10B$$

$$X = 10B / 10$$

$$X = 1B$$

Ben should buy 1B worth of bonds.

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$$MM = 1 / .20 = 5$$

$$100M / 5 = 20M$$

increase the money supply by 20M

If the reserve requirement is 25% and there is an inflationary gap of 100M, by how much should the Fed decrease the money supply?

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$$1/.25=4$$

$$100M/4=25M$$

decrease the money supply by 25M

Suppose the Fed buys 50B in bonds and the reserve requirement is 10%. What is the total effect to the economy?

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$$50B * 10 = 500B$$

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Excess reserves of 12.5M

$MM=6.67$

$6.67 * 12.5 M = 83.375M$

Keynes also believed that people did two things with their income (Y):

Consume

Save

Another of Keynes formulas is:

$$Y = C + S$$

Income = Consumption + Savings

What is Marginal Propensity to Consume?

Marginal -- means additional

Propensity -- means tendency

Consume -- means to satisfy wants

MPC -- means the additional tendency to satisfy wants.

$$\text{MPC} = \frac{\text{change in C}}{\text{change in Y}}$$

$$\text{MPC} = \frac{\text{change in consumption}}{\text{change in income}}$$

If you receive an additional \$1 and you spend 80 cents and save 20 cents, the change in income is \$1.00

$$\text{MPC} = \frac{\text{change in C}}{\text{change in Y}} \quad 1.00$$

$$\text{MPC} = \frac{\text{change in consumption}}{\text{change in income}}$$

If you receive an additional \$1 and you spend 80 cents and save 20 cents, the change in income is \$1.00 and the change in consumption is 80 cents.

$$\text{MPC} = \frac{\text{change in C}}{\text{change in Y}} = \frac{.80}{1.00}$$

This means that the **Marginal Propensity to Consume** is **.80**

$$\text{MPC} = \frac{\text{change in C}}{\text{change in Y}} = \frac{\$ 670}{\$ 1,000}$$

If people's incomes go up by \$1,000 and their consumption increases by \$670, what is the MPC?

$$\text{MPC} = .67$$

If people's incomes go up by \$500 and their consumption increases by \$400, what is the MPC?

If people's incomes go up by \$500 and their consumption increases by \$400, what is the MPC?

$$400/500 = .80$$

for future use

MPS -- means the additional
tendency to reserve
for future use.

If the MPC is .80, what do you
think the MPS is?

$$\text{MPS} = .20$$

If the MPC is .75, what do you think the MPS is?

$$\text{MPS} = .25$$

If the MPC is .80, what do you think the MPS is?

$$\text{MPS} = .20$$

If the MPC is .75, what do you think the MPS is?

$$\text{MPS} = .25$$

So is this a true statement?

$$\text{MPC} + \text{MPS} = 1$$

Government Spending Multiplier:

$$1/MPS$$

If a recessionary gap of 100M exists and the government wants to increase spending to close it, how much will they have to spend if the MPC is .8?

$$MPC = .20$$

$$1/.20 = 5$$

$$100M/5 = 20M$$

Suppose an increase of G of 1B.
The MPS=.10.
What is the total effect on RGDP?

Suppose an increase of G of 1B. The MPS=.10. What is the total effect on RGDP?

$$1/.10=10$$

$$10*1B=10B$$

An inflationary gap exists of 20B.
The government wants to reduce spending to close it.
MPC=.95

By how much should the govt reduce spending?

An inflationary gap exists of 20B. The government wants to reduce spending to close it. MPC=.95

By how much should the govt reduce spending?

$$1/.05=20$$

$$20B/20=1B$$

Reduce Spending by 1B.

The KEYNESIAN TAX CUT MULTIPLIER = **-MPC/MPS**

Why is the tax cut multiplier negative?

Suppose there is a recessionary gap of 100M and the government wants to cut taxes to close it. The MPS is .20.

By how much the taxes need to be lowered?

Suppose there is a recessionary gap of 100M and the government wants to cut taxes to close it. The MPS is .20. By how much the taxes need to be lowered?

$$-mpc/mps = .80/.20 = -4$$

$$100M/4 = 25M$$

A tax cut of 25M would close the gap.

Policy	multiplier
Monetary	$1/\text{reserve ratio}$
Fiscal-G spending	$1/\text{mps}$
Fiscal-taxes	$-\text{mpc}/\text{mps}$

$\text{MPC} + \text{MPS} = 1$

Monday: Quiz on multipliers.

Practice questions online.

Balanced Budget Multiplier=1

If the government increases government spending by 50M,
increases taxes by
50M, and the $\text{MPC} = .80$,
what is the net effect?

Balanced Budget Multiplier=1

If the government increases government spending by 50M, increases taxes by 50M, and the MPC=.80, what is the net effect?

G multiplier=5

$$5 * 50M = 250M$$

tax mult= -4

Net effect? Increase of 50M!!

$$-4 * 50M = -200M$$