EC 201: Principles of Macroeconomics

Worksheet 7

Q1. If policymakers want to decrease real GDP by \$100 billion and the marginal propensity to consume is 0.6, they should .... government purchases of goods and services (G) by ....

Answer :

$MPC = 0.6 \Rightarrow$ government spending multiplier $= \frac{1}{1-MPC} = 2.5.$

Let's work this out using this formula:

Δ real GDP$=$ ΔGovernment spending $\times$ Government spending multiplier $\Rightarrow -\$100 = \Delta G \times 2.5$

$\Rightarrow \Delta G = \frac{-\$100}{2.5} = -\$40b.$

Government spending should decrease by 40 billion.

Q2. Real GDP equals \$100 billion, potential output (Y_p) equals \$160 billion, and the marginal propensity to consume is 0.75. Select the best option.

- There is an inflationary gap; to close it requires a decrease in government purchases of \$15 billion or an increase in transfers by \$20 billion.
- There is a recessionary gap; to close it requires an increase in government purchases of \$15 billion or a decrease in transfers by \$20 billion.
- There is a recessionary gap; to close it requires an increase in government purchases of \$15 billion or an increase in transfers by \$20 billion.
- There is a recessionary gap; to close it requires an increase in government purchases of \$20 billion or a decrease in transfers by \$15 billion.

Answer : Third option. The amount of transfers increased is higher than the amount of G increased. Why? Because changes in transfers have a smaller multiplier effect on real GDP than an equal increase in G.

- Total impact of changes in government spending $= \Delta G \times \frac{1}{1-MPC} = 15 \times \frac{1}{1-0.75} = 60$
- Total impact of changes in transfers $= \Delta TR \times MPC \times \frac{1}{1-MPC} = 20 \times 0.75 \times \frac{1}{1-0.75} = 60$

Q3. The Italian government decides to stimulate the economy by sending checks worth \$70 billion to Italian consumers. If the government spending multiplier is 1.5, calculate the MPC to determine the final change in Italy's real GDP due to the transfer. Please give your answer as a whole number in billions of dollars.

Hint: Solve for MPC using Government spending multiplier$= \frac{1}{1-MPC}$. Then solve for change in GDP using the following formula: $\Delta Y = MPC \times \Delta TR \times \left(\frac{1}{1-MPC}\right)$

Q4. Determine whether the followings are *automatic stabilizers* or *discretionary spending.*

- Unemployment benefits increase during a recession. *Automatic Stabilizers*
- Personal and corporate income taxes increase when economic growth is high. *Automatic Stabilizers*
- Congress decides to increase the generosity of unemployment benefits. *Discretionary spending*
- New law increases healthcare spending. *Discretionary spending*
- Government decides to increase taxes to fight the recessionary gap. *Discretionary spending*

Q5. Assume MPC is 0.6. If the government reduces spending by $10 billion, by how much will real GDP change?

Hint: Note that here G decreases. Does real GDP increase or decrease?