NCERT Solutions for Class-XII Economics (Macro)

Chapter-5

Macroeconomics Solutions Class 12 Chapter 5

Q1. Explain why public goods should be provided by the government.

Sol. Public assets are those assets where there is no competition and good use is not limited to one person. These goods are used by all people in the community. Such assets are used for public good. Therefore, the government should provide public goods for the following reasons:

1. For the benefit of public property to be enjoyed by all members of the community.

2. So that the use of these items does not affect the use of any other person.

Q2. Distinguish between revenue expenditure and capital expenditure.

Sol.

Basis for Comparing	Capital Expenditure	Revenue Expenditure
Definition	Expenditure for the acquisition of assets, in order to develop the strength of existing assets resulting in an extension of its lifespan	Expenses incurred to care for the day-to-day operations of the business
Term	Long Term	Short Term
Value addition	Improves the value of existing assets	Does not improve the value of existing assets
Physical presence	Existing physical presence without intangible assets	You do not have a physical presence
Unexplained occurrences	Non-recurring in nature	Recurring in nature
Capital	Yes	No
Impact on Revenue	Do Not Reduce Business Revenue	Reduce business revenue
Benefits	Long-term business benefits	Short-term business benefits
Examples	Highway, Tunnel, Municipal Projects	Pension, Salary etc.

Q3. 'The fiscal deficit gives the borrowing requirement of the government'. Elucidate.

Sol. A deficit is called a shortfall in government revenue compared to its spending. High inflation means the government borrows more money than it earns. The high deficit creates the burden of borrowing and interest on future generations.
The budget deficit is determined by
Total Cost - Total Receipts Without Borrowing

Q4. Give the relationship between the revenue deficit and the fiscal deficit.

Sol. Income shortages are referred to as higher than the cost of revenue compared to the benefits of government receipts. The shortage of funds is a major surprise when the difference between the total cost and the amount of receipts received by the government. When the deficit increases equally the deficit also increases.

Q5. Suppose in a particular economy, investment is equal to 200, government purchases are 150, residual tax (i.e. total tax deducted transfer) is 100 and consumption is given by C = 100 + 0.75Y (a) What is the level of equity income? (b) Calculate the amount of government spending with tax multiplication. (c) If government spending increases by 200, find the change in equilibrium income.

By question

Investment (I) = 200

Government Purchase (G) = 150

Residual Taxes (T) = 100

Consumption (C) = 100 + 0.75 Y

Now, C (Default Use) = 100

Also, MPC (c) = 0.75

(a) Equal rate of income

$$Y = \frac{1}{1-c}\left(\overline{C} - cT + I + G\right)$$

$$= \frac{1}{1-0.75}(100 - 0.75 \times 100 + 200 + 150)$$

$$= \frac{1}{0.25} \times 375$$

$$= \frac{375}{0.25} \times 100 = \text{Rs } 1500$$

So the income level is 1500.

(b) Multiplication of government expenditure

$$\frac{\Delta Y}{\Delta G} = \frac{1}{1-c} = \frac{1}{1-0.75} = \frac{1}{0.25}$$

$$= \frac{1}{25} \times 100$$

= 4

Government expenditure multiplier is 4

Tax multiplier = $\frac{\Delta Y}{\Delta T} = \frac{-c}{1-c}$

$$= \frac{-0.75}{1-0.75} = \frac{-0.75}{0.25}$$

= -3

Tax multiplier is 3

(c) $\Delta G = 200$

New equity income

$$= \frac{1}{1-c}\left[\bar{C} - cT + I + G + \Delta G\right]$$

$$= \frac{1}{1-0.75}[100 - 0.75 \times 100 + 200 + 150 + 200]$$

$$= \frac{1}{0.25} \times 575$$

$$= \frac{100 \times 575}{25} = \text{Rs } 2300$$

Therefore, the change in earnings of the valuation is = 2300 - 1500 = Rs 800

Q6. Consider the economics defined by the following functions: C = 20 + 0.80Y, I = 30, G = 50, TR = 100 (a) Find the estimated income level and the frequency of independent costs in the model. (b) If government spending increases by 30, what is the impact on revenue? (c) If a tax of 30 cents is added to pay for the increase in government purchases, how will it change the equivalent income?

Sol. By question

(a) **C = 20 + 0.80 Y** $\left[\bar{C} = 20\right]$

I = 30

C = 0.80

G = 50

T = 100

Equilibrium level of income

Y = $Y = \frac{1}{1-C}\left[\bar{C} + cT + I + G\right]$

$$= \frac{1}{1-0.80}[20 + 0.80 \times 100 + 30 + 50]$$

$$= \frac{1}{0.20} \times 180 = \frac{180}{20} \times 100 = 900$$

Therefore the equilibrium level of income is 900

Expenditure multiplier = $\frac{1}{1-c}$

$$= \frac{1}{1-0.80} = \frac{1}{0.20} = \frac{100}{20} = 5$$

Expenditure multiplier is 5

(b) Increased government spending

$\Delta G = 30$

New measurement costs

$$= \frac{1}{1-c}\left[\bar{C} + cT + I + G + \Delta G\right]$$

$$= \frac{1}{1-0.80}[20 + 0.80 \times 100 + 30 + 50 + 30]$$

$$= \frac{1}{1-0.80}[20 + 80 + 30 + 50 + 30]$$

$= \dfrac{1}{0.20} \times 210$

$= \dfrac{210}{20} \times 100 = 1050$

We see that the average income level increases by 150 (150-900)

(c) Tax multiplier $= \dfrac{-c}{1-c}$

$\dfrac{\Delta Y}{\Delta T} = \dfrac{-c}{1-c}$

So, $\Delta Y = \dfrac{-c}{1-c} \times \Delta T$

$= \dfrac{-0.80}{1-0.8} \times 30$

$= \dfrac{-0.80}{0.20} \times 30$

= -120

New Income Equity Rate = $Y + \Delta Y$

= 900 + (-120)

= Rs 780

Therefore, the estimated income varies by 120.

Q7. In the above question, calculate the effect on output of a 10 per cent increase in transfers, and a 10 percent increase in lump-sum taxes. Compare the effects of the two.

Sol. By question

MPC = 0.8

$\overline{C} = 20$

I = 30

G = 50

TR = 100

$\Delta TR = 10$

Equal rate of income = $\dfrac{1}{1-c}\left[\overline{C} + cTR + I + G + \Delta TR\right]$

$-\dfrac{1}{1-0.80}[20 + 0.80 \times 100 + 30 + 50 + 0.80 \times 10]$

$= \dfrac{188}{0.20} \times 10$

= R940

Therefore, the equivalent level of income is Rs 940

Income exchange = 940 - 900 = Rs 40

Increased tax rate $\Delta T = 10$

Income exchange == $\Delta T \dfrac{-c}{1-c}$

$= -10 \times \dfrac{0.80}{0.20}$

= -10 × 4

= - 40

From the above number it can be concluded that a 10% increase in transfers will increase revenue by 40%. Also, a 10% tax increase will lead to a 40% pay rise.

Q8. We suppose that *C* = 70 + 0.70*Y D, I* = 90, *G* = 100, *T* = 0.10*Y* (a) Find the equilibrium income. (b) Whatare tax revenues at equilibrium Income? Does the government have a balanced budget?

By question

Sol. (a) C = 70 + 0.70 YD

I = 90

G = 100

T = 0.10Y

We know

Y = C + I + G (eq. 1)

Now, set the values in equation 1

Y = 70 + 0.70Y + 90 + 100

Y = 70 + 0.70YD + 190

Y = 70 + 0.70 (Y-T) + 190

Y = 70 + 0.70Y - 0.70 × 0.10 Y +190

Y = 70 + 0.70 Y - 0.07Y + 190

Y = 90 + 0.63Y + 190

Y = 260 + 0.63Y

Y - 0.634 = 260

0.37Y = 260

$\mathbf{Y} = \dfrac{260}{0.37}$

Y = 702.7

(b) T = 0.10Y

= 0.10 × 702.7

= 70.27

In terms of government spending (G) = 100

Tax revenue = 70.27

As, G> T, Government has a limited budget, not a limited budget.

Q9. Suppose marginal propensity to consume is 0.75 and there is a 20 per cent proportional income tax. Find the change in equilibrium income for the following (a) Government purchases increase by 20 (b) Transfers decrease by 20.

Sol. According to question

(a) In case of proportional taxes

$$\Delta Y = \frac{1}{1 - c(1 - t)} \times \Delta G$$

MPC = 0.75 and $\Delta G = 20$

$$\frac{1}{1 - 0.75(1 - 0.2)} \times 20$$

$$= \frac{1}{1 - 0.75 \times 0.8} \times 20$$

$$= \frac{20}{1 - 0.60}$$

$$= \frac{20}{0.4}$$

= 50

Therefore change in equilibrium income is 50.

(b) When Transfer decrease by 20.

$$\Delta Y = \frac{c}{1 - c} \times \Delta T$$

$$= \frac{0.75}{1 - 0.75} \times 20$$

$$= \frac{0.75}{0.25} \times 20$$

= 60

Therefore the change in equilibrium income is 20.

Q10. Explain why the tax multiplier is smaller in absolute value than the government expenditure multiplier.

Sol. The tax multiplier is always having negative value and therefore is smaller in absolute value than the government expenditure multiplier. The government expenditure creates an impact on the total expenditure and the taxes through the multiplier. It also influences disposable income which impacts overall consumption level.

The following example will help in understanding

Assume MPC be to 0.50.

Now, the government expenditure multiplier = 1 / 1 - c

= 1 / 1 - 0.50

= 1 / 0.50

= 2

Tax multiplier = - c / 1- c

= -0.50 / 1 - 0.50

= −1

This shows that government expenditure multiplier is always more than the tax multiplier.

Q11. **Explain the relation between government deficit and government debt.**

Sol. A government in order to adjust the government deficit which is created due to borrowings by the government seeks more borrowings, these borrowings create further debt for the government in the form of interest payment.Therefore increase in deficit will lead to increase in debt.

Q12. **Does public debt impose a burden? Explain.**

Sol. Public debt is referred to the amount of money that a government owes to banks, financial institutions and othersources of finance. It is known to impose a burden on the economy in the following ways:

1. Government may impose taxes or print new money to repay the existing debts. Such a situation will hamper theproductivity of the nation.
2. A high level of debt creates burden on future generations in form of interests and taxes being levied on the younger generation, it will result in lower consumption and savings.
3. More investments are attracted by the government by raising the interest rates on bonds and securities,therefore citizens money is utilized by the government and hence less private investment.
4. Wealth of the nation is depleted when loans are repaid to foreign institutions and countries.

Q13. **Are fiscal deficits inflationary?**

Sol. Fiscal deficit will not always result in inflation. If a situation arises when the government expenditure increases and tax reduction is seen, it will cause deficit in the government which leads to increase in aggregate demand. Firms will not be able to meet the demand thus generated which will result in price increase. Therefore fiscal deficits can become inflationary, but it will not be inflationary in the case when resources are less utilized due toinsufficient demand and less output, then if the government is spending more also, more resources will be employed in order to meet the growing demand and there will be no pressure on price rise. In such a situation ahigh fiscal deficit along with high demand and greater output will not create an inflationary situation.

Q14. **Discuss the issue of deficit reduction.**

Sol. **Government can reduce budget deficit by the following methods**

1. **Decreasing expenditure**

   Decreasing Expenditure can be achieved by:

   (a) **More planned activities should be undertaken by government to reduce expenditure.**

   (b) **Encouraging private sector to contribute to some major capital projects will help reduce expenditure.**

2. **Increasing Revenue**

   Increase in revenue can be obtained by:

   (a) **Raising taxes or introducing new taxes can contribute to increase in revenue.**

   (b) **By selling stakes in PSU by a process called divestment can bring in more revenue.**