NCERT Solutions for Class 12 Macro Economics

Chapter 5 – Government Budget and the Economy

1.

Explain why public goods must be provided by the government.

Ans: Public commodities are those that are not subject to competition and are not restricted to a single individual. These items are intended for the use of all members of society. These items are employed to promote the well-being of society.

Consequently, the government is obligated to provide public products for the following reasons:

1. To ensure that all members of society can benefit from the public products.
2. To ensure that the consumption of these products does not affect the consumption of any other individual.

2.

Distinguish between revenue expenditure and capital expenditure.

Basis	Revenue expenditure	Capital expenditure
Definition	The cost incurred to keep a firm running on a daily basis.	Costs associated with obtaining assets aimed at improving the functionality of a current asset, leading to an extension of its useful life.
Asset Creation	The government doesn't gain anything from it.	Results in Asset Creation
Reduction of Liability	Liability is not decreased as a result of these expenses.	The government's responsibility is decreased as a result of these expenditures.
Term	Short Term	Long Term

Basis	Revenue expenditure	Capital expenditure
Occurrence	Recurring	Non-Recurring
Revenue Impact	Reduce Business Revenue	Do not reduce business revenue
Examples	Pension, salary, etc.	Highway, tunnel, metro-projects, etc.

3.

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

Ans: The fiscal deficit represents the surplus of total expenditures beyond total revenues. When overall government expenditure exceeds total government receipts, the government encounters a fiscal deficit.

The fiscal deficit is calculated as:

Total Expenditure (revenue + capital) – Total Receipts (excluding borrowings).

The fiscal deficit indicates the government's total borrowing needs from all sources. The fiscal imbalance may be financed via domestic borrowings and foreign borrowings. A larger fiscal deficit indicates increased government borrowing.

4.

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

Ans: A revenue deficit is defined as an excess of revenue expenditures in comparison to earnings by revenue receipts of the government. This means that the government is losing money. A larger occurrence known as a fiscal deficit arises when the difference between the total expenditures made by the government and the total receipts acquired by the government is greater than zero. When there is a comparable increase in the revenue shortfall, there is also an attendant increase in the budgetary deficit.

5.

Suppose that for a particular economy, investment is equal to 200, government purchases are 150, net taxes (that is lump-sum taxes minus transfers) is 100 and consumption is given by C = 100 + 0.75Y (a) What is the level of equilibrium income? (b) Calculate the value of the government expenditure multiplier and the tax multiplier. (c) If government expenditure increases by 200, find the change in equilibrium income.

Ans:

$I = 200$
$G = 150$
$T = 100$
$C = 100 + 0.75 \, Y$
So, C (Autonomous consumption) = 100
And, MPC (c) = 0.75
(a) Equilibrium level of income

$$Y = \frac{1}{1-c}(\bar{C} - CT + I + G)$$

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

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

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

(b) Government expenditure multiplier

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

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

$$= 4$$

Government expenditure multiplier is 4.

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

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

$$= -3$$

Tax multiplier is 3

(c) $\Delta G = 200$

New equilibrium income

$$= \frac{1}{1-c}(\bar{C} - CT + I + G + \Delta G)$$

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

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

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

6.

Consider an economy described by the following functions: $C = 20 + 0.80Y$, $I = 30$, $G = 50$, $TR = 100$ (a) Find the equilibrium level of income and the autonomous expenditure multiplier in the model. (b) If government expenditure increases by 30, what is the impact on equilibrium income? (c) If a lump-sum tax of 30 is added to pay for the increase in government purchases, how will equilibrium income change?

Ans: According to Question

(a)

$c = 20 + 0.80Y^{[\bar{C}=20]}$

$I = 30$

$C = 0.80$

$G = 50$

$T = 100$

Equilibrium level of Income

$$Y = \frac{1}{1-C}(\bar{C} - CT + I + G)$$

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

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

Therefore the equilibrium level of income is 900

Expenditure multiplier is $= \frac{1}{1-C}$

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

Expenditure multiplier is 5

(b) Increase in Government Expenditure

$\Delta G = 30$

New Equilibrium expenditure

$$= \frac{1}{1-c}(\bar{C} - CT + I + G + \Delta G)$$

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

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

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

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

We see that Equilibrium level of income increased by 150(1050-900).

(c) Tax multiplier

$$\frac{\Delta Y}{\Delta T} = \frac{-C}{1-C}$$

So, $\Delta Y = \frac{-C}{1-C} \times \Delta T$

$$= \frac{-0.80}{1-0.80} \times 30$$

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

$$=-120$$

New Equilibrium level of income $= Y + Delta*Y$

$$= 900 + (-120)$$

$$= Rs 780$$

Therefore, the equilibrium income changes by 120

7.

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

Ans:

MPC = 0.80

$\bar{C}$ = 20

I = 30

G = 50

TR = 100

ΔTR = 10

Equilibrium level of income = $\frac{1}{1-c}$ [$\bar{C}$ + cTR + I + G + ΔTR

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

$= \frac{188}{0.20}$ × 100

= R s 940

Therefore, equilibrium level of income is Rs 940

Change in income = 940 - 900 =Rs 40

Increase in lump-sum tax ΔT = 10

Change in Income = $\Delta T \frac{-C}{1-C}$

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

= - 10 × 4

= -40

The above mentioned figures indicate that a 10 percent rise in transfers will elevate income by 40%. And if taxes go up by 10%, income will go down by 10%.

8.

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

Ans:

(a) $C = 70 + 0.7YD$

$I = 90$

$G = 100$

$T = 0.10 \, Y$

We know

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

Now, putting the values in the equation 1

$Y = 70 + 0.70Y + 90 + 100$

$Y = 70 + 0.70YD + 190$

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

$Y = 70 + 0.70Y - 0.70 \times 0.10Y + 190$

$Y = 70 + 0.70Y - 0.07Y + 190$

$Y = 70 + 0.63Y + 190$

$Y = 260 + 0.63Y$

$Y - 0.634 = 260$

$0.37Y = 260$

$Y = \frac{260}{0.37}$

$Y = 702.7$

(b) $T = 0.10Y$

$= 0.10 \times 702.7$

$= 70.27$

Given the Government expenditure (G) = 100

Tax revenue = 70.27

As, G > T the Government has a deficit budget, and not a balanced budget.

9.

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.

Ans:

(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 decreases 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.

10.

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

Ans: The tax multiplier consistently possesses a negative value and is consequently lesser in absolute value than the government expenditure multiplier. Government expenditure influences overall expenditure and taxation via the multiplier effect. It also affects disposable income, which in turn determines the general amount of consumption.

The subsequent example will aid in comprehending the tax multiplier more effectively.

Assume the marginal propensity to consume (MPC) is 0.50.

The government expenditure multiplier is equal to

$1 / (1 - 0.50)$

$1/ 0.50$

$= 2$

Tax multiplier $= - c / (1 - c)$

$= -0.50 / 1 - 0.50$

$= -1$

This indicates that the government expenditure multiplier consistently exceeds the tax multiplier.

11.

Explain the relation between government deficit and government debt.

Ans: The following points can be used to explain the relationship between government debt and deficit.

1. The government deficit is the difference between the government's total outlays and receipts, whereas the government debt is the total amount of money that the government owes to the people, other institutions, and foreign countries.
2. The phrase "government deficit" suggests that the government's debt has increased. To put it another way, the government will accrue more debt if it keeps borrowing to cover its deficit.

12.

Does public debt impose a burden? Explain.

Ans: Government debt, or public debt, denotes the sum of money owed by a central government. This sum may represent the government's borrowings from banks, public financial

institutions, and various external and internal sources. Public debt unequivocally exerts a strain on the economy, as elucidated by the following points.

1. Detrimental impact on productivity and investment A government may levy taxes or issue currency to service its debt. This, however, diminishes the populace's capacity to labour, save, and invest, so obstructing national progress.
2. Obligation imposed on subsequent generations The government imposes the consequences of diminished consumption on subsequent generations. Increased government borrowing currently results in elevated future taxes to fulfill prior obligations. The government levies taxes on younger generations, diminishing their consumption, savings, and investments. Consequently, elevated public debt adversely impacts the wellbeing of younger generations.
3. Diminishes private investment The government stimulates more investment by elevating interest rates on bonds and securities. Consequently, a significant portion of citizens' savings is transferred to the government, so displacing private investments.
4. Results in the depletion of national wealth The nation's wealth is depleted during the repayment of debts acquired from other nations and institutions.

13.

Are fiscal deficits inflationary?

Ans: Despite the fact that they are typically considered to be inflationary, fiscal deficits do not necessarily cause inflation for the economy. There is a deficit in the government when there is a rise in the expenditures of the government and a reduction in the taxes, and there will be a matching increase in the aggregate demand. On the other hand, they could not be able to satisfy the ever-increasing demand, which would result in an increase in the price. Accordingly, deficits in the public sector are inflationary in this sense. Nevertheless, on the other hand, if the resources are underutilised (as a result of insufficient demand) and output is below the level of full employment, then with the increase in government expenditure, more factor resources will be employed to cater to the increasing demand without exerting a significant amount of pressure on prices to rise. This circumstance is characterized by a high budget deficit, which is accompanied by high demand, a higher level of output, and a condition with lower inflationary intensity. Therefore, the degree to which the initial output level is close to the level of full employment is a significant factor in determining whether or not the fiscal deficits are inflationary.

14.

Discuss the issue of deficit reduction.

Ans: The methods for reducing government budget deficits are as follows:

  i. Reducing expenses
  ii. Augmenting revenue

  i. **Reducing expense:**

a. The government's expenditure should be reduced by enhancing the planning and efficiency of governmental activities.
b. The government can incentivize the private sector to engage in capital projects.

  i. **Enhancing revenue**:

a. Increased taxes result in augmented revenue for the government. Additionally, additional levies may augment government revenues.
b. To make more money, the government can sell shares in Public Sector Undertakings (PSU disinvestment).

15.

What do you understand by G.S.T? How good is the system of G.S.T as compared to the old tax system? State its categories

Ans: When a manufacturer supplies products and services to clients, a destination-based consumption tax known as the products and Services Tax (GST) is applied. It is a consumption tax based on destination. It gives supply chain companies access to the Input Tax Credit facility.

The G.S.T. system is superior than the previous one in the following ways:

1. With the concept of one country, one tax, one market, almost all indirect taxes have been incorporated into the GST.
2. It gives supply chain companies access to the Input Tax Credit facility. With an input tax credit, firms can deduct the amount of GST they have already paid on inputs from the amount they must pay for output or sales tax, leaving only the remaining amount to be paid.
3. Every level of the supply chain is subject to GST discharge, and the tax credit from the prior stage can be applied to the subsequent stage of the supply of goods and/or services.
4. Given the expanding economy, it creates tax parity nationwide and applies the "value-added taxation" concept to all commodities and services.

The CGST (Central GST) Act, UTGST (Union Territory GST) Act, and SGST (State GST) Acts were passed in accordance with the 101th Constitution Amendment Act. Six standard GST rates—0%, 3%, 5%, 12%, 18%, and 28%—are applied to the delivery of all goods and/or services in India.