

We shall discuss in the present chapter the impact of government expenditure, taxation, the policy of balanced budget and monetary variations upon income through the working of fiscal and monetary multipliers.

1. GOVERNMENT EXPENDITURE MULTIPLIER

In the classical economic model, a closed economic system with the government as a non-intervening passive factor in economic activity had been assumed. Keynes stressed that *laissez-faire* capitalism had become obsolete and the government must function as a balancing factor in the determination and distribution of national income. The British White Paper on Employment of 1944, American Employment Act of 1946, regional economic groupings and the increased commitments of the governments to the rapid development in poor countries are the clear evidences of the increasing role of State in economic activities. During the recent decades, the emphasis has been laid upon the policy of compensatory public expenditure which aims at the maintenance of aggregate demand at a level which ensures full employment without inflation. It has been recognised that the government expenditure has a multiple effect on income. *The government expenditure multiplier shows the multiple effect of a small*

increase in government expenditure upon income level in the economy. The analysis of government expenditure multiplier in different situations is attempted below.

I. Government Expenditure Multiplier with Autonomous Investment

The increase in income many times more than a small increase in government spending occurs on account of the government expenditure multiplier. It is determined on the basis of the following *assumptions* :

- (i) The economy consists of three sectors—household sector, business sector and government sector.
- (ii) The government expenditure is incurred on current purchases of goods and services.
- (iii) The government expenditure autonomously given.
- (iv) Investment is also autonomous.
- (v) The additional government spending financed by public borrowing or the issue of notes.
- (vi) Price level remains stable.
- (vii) The economic system is closed.

Given the above assumptions, the equilibrium level of income in a three-sector closed system

$$\delta Y = \frac{1}{1-b-a} \delta \bar{G} = K'_g \delta G \quad \dots (xiv)$$

If $b=0.6$ and a (marginal-average propensity to invest) = 0.2 , K'_g (government expenditure multiplier with induced investment) will be

$$K'_g = \frac{1}{1-b-a} = \frac{1}{1-0.6-0.2} = \frac{1}{0.2} = 5$$

In this case, the government expenditure multiplier is much larger than its magnitude when investment was autonomous. The income propagation through government expenditure multiplier is explained through Fig. 2

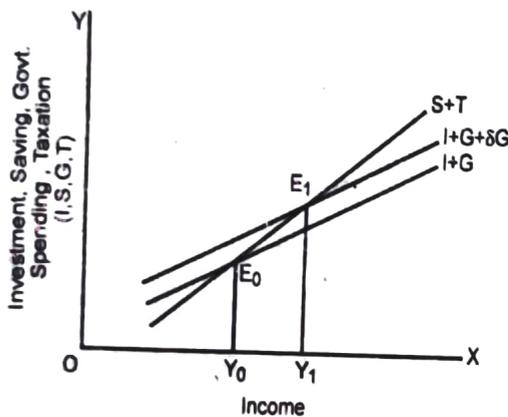


Fig. 2

In Fig. 2, $(I + G)$ curve slopes upwards from left to right because investment is induced. Initially the intersection between $(I + G)$ and $(S + T)$ curves determines equilibrium at E_0 and the initial equilibrium income is Y_0 . An increase in government expenditure by δG causes a shift in $(I+G)$ function to $(I+G+\delta G)$. It cuts $(S+T)$ function at E_1 . It is the final equilibrium position and final equilibrium income is Y_1 . Thus a small increase in government spending by δG results in a multiple increase in income $Y_0 Y_1$ due to the working of the government expenditure multiplier.

Given the above illustration, a deflationary gap of Rs. 40 crore can be wiped out only by Rs. 8 crore of public spending as against Rs. 16 crore in the earlier case. Similarly it is possible to explain through the government

expenditure multiplier by how much amount the public expenditure should be reduced in order to wipe out a specific inflationary gap (the excess of actual money income over the desired full employment real income).

III. Government Expenditure Multiplier with Transfer Payments

A welfare government has to undertake expenditure to finance the social security programme. The point is to maintain a minimum level of consumption even when the income of the individual or group is zero. The multiplier effect of social security programme or transfer payments can be studied by assuming that the government expenditure on the purchases of goods and services remains unchanged and that the investment is autonomous. For the time being, we ignore the off-setting effect that the tax policies of the government will have on the level of income.

$$Y = C + I + G \quad \dots (i)$$

$$C = C_0 + bY + T_R \quad \dots (ii)$$

where T_R is the transfer payments

$$I = \bar{I} \quad \dots (iii)$$

$$G = \bar{G} \quad \dots (iv)$$

By substituting (ii), (iii) and (iv) in (i), we have

$$Y = C_0 + bY + T_R + \bar{I} + \bar{G} \quad \dots (v)$$

$$\text{or } Y - bY = C_0 + T_R + \bar{I} + \bar{G} \quad \dots (vi)$$

$$Y(1 - b) = C_0 + T_R + \bar{I} + \bar{G} \quad \dots (vii)$$

$$Y = \frac{C_0 + T_R + \bar{I} + \bar{G}}{1 - b} \quad \dots (viii)$$

If there is an expansion of social security programme and the government has to incur larger expenditure by way of transfer payments, the final level of income will include the additional amount of transfer payments (δT_R).

$$Y_n = \frac{C_0 + T_R + \bar{I} + \bar{G} + \delta T_R}{1-b} \quad \dots (ix)$$

Subtracting (viii) from (ix), we get

$$Y_n - Y = \frac{\delta T_R}{1-b}$$

$$\delta Y = \frac{1}{1-b} \cdot \delta T_R$$

or
$$\frac{\delta Y}{\delta T_R} = \frac{1}{1-b} = K_{TR}$$

Here K_{TR} is the income transfer multiplier which is a ratio of a change in income to a change in transfer payments.

Thus a change in transfer payments by the government will have a multiple effect upon the level of income. The strength of the multiple income expansion through transfer payments will be quite significant because the transfer payments have a tendency to promote consumption and reduce the propensity to save. Therefore, as the magnitude of b increases, the magnitude of income transfer multiplier also increases. In the words of Klien, "A high level consumption economy is really the long run hope for capitalism... The greatest possibility for reaching high level consumption appears now to lie in the plans for social security."¹

2. TAX MULTIPLIERS

The revenues of a government are derived mainly from taxation including both direct and indirect taxes. We now proceed to analyse the effects of a tax change upon the level of income in a country, through direct and indirect tax multipliers.

1. Direct Tax Multiplier

The direct taxes are such taxes in case of which the impact and incidence of tax is upon the same person. They include income tax,

wealth tax, business profits tax, capital gains tax etc. An increase in direct taxes lowers the disposable income and vice-versa. A small increase in direct taxes results in a multiple contraction in income due to the direct tax multiplier.

The analysis of direct tax multiplier rests upon the following assumptions.

- (i) The government increases the personal income tax.
- (ii) The economy consists of three sectors—the household sector, business sector and government sector.
- (iii) The government spending is incurred only on the current purchases of goods and services.
- (iv) The economic system is closed.
- (v) The government expenditure is autonomously given.
- (vi) The private investment is autonomously given.
- (vii) The consumptions expenditure is the function of disposable income (Y_d).

The system is originally in the position of equilibrium. The condition for equilibrium is stated below :

$$Y = C + I + G \quad \dots (i)$$

$$C = C_0 + bY_d$$

or
$$C = C_0 + b(Y - T_D) \quad \dots (ii)$$

where T_D denotes direct taxes.

and
$$I = \bar{I} \quad \dots (iii)$$

$$G = \bar{G} \quad \dots (iv)$$

Substituting the relations (ii), (iii) and (iv) into equation (i)

$$Y = C_0 + b(Y - T_D) + \bar{I} + \bar{G} \quad \dots (v)$$

1. L.R. Klien : *The Keynesian Revolution* (1947), P.177.