

# Automatic vs Discretionary Fiscal Policy

# Introduction

- The fiscal policy is synonym of budget (balance, deficit or surplus).
- The budget contains three variables that affect macroeconomic outcomes:
  1. government expenditure (purchases of goods and services),
  2. government transfer payments (including grants to state and local governments), and
  3. government tax receipts.

Tax receipts are generally taken net of transfer payments. So,  
$$\text{net tax receipts} = \text{gross tax receipts} - \text{government transfer payments}.$$

- The taxation system may also be of two types:
  - Lump sum (An exogenously determined level  $T$ )
  - Proportional taxation system - it is a function of income and it takes the following form

$$T = t_0 + t_1 Y \quad (t_0 < 0 \text{ and } t_1 > 0)$$

- The parameter  $t_1$  is the marginal net tax rate, giving the increase in taxes (net of transfers) per unit increase in income ( $t_1 = \Delta T / \Delta Y$ ).
- From the above equation, it is clear that as income rises, net tax collections increase, and the government budget surplus increases or the deficit declines; at higher levels of economic activity, more tax revenue is collected at any given set of tax rates.
- One important assumption of the whole analysis is that government spending is also exogenous.

- The net effect of a rise in income will be an increase in the budget balance. Means either surplus will happen (which is rather a weak possibility) or deficit will decline (which is the probable case).
- “An expansion in economic activity therefore causes fiscal policy, as measured by the budget surplus (or decline in deficit), to become more restrictive. This more restrictive policy dampens the expansion.
- Similarly, in the case of recessionary conditions or a decline in economic activity automatically results in an increase in the budget deficit, which cushions the fall in income.
- This is the essence of the concept of *automatic fiscal stabilizers* .

# Automatic stabilisers

- J V Vaishmapayan (2016) – “Automatic stabilisers are those measures, which come into action when any destabilizing phenomenon like inflation or unemployment, come into play. This either corrects the imbalance or moderates its impacts.”
- For instance, in the case of expansionary economic conditions, the government expenditures tend to rise but there is also automatic rise in the tax revenues.
- This is because there is an increase in incomes of people and consequently the tax on these incomes also increases.
- As a result, people move to higher tax slabs, the tax collections grow faster.

- Indirect tax also goes up as when prices increase, there is an automatic increase in tax receipts.
- So, additional requirement of rising government expenditure automatically met through increased tax collections.
- Another example is of unemployment allowances.
- In the case of recession, unemployment increases and aggregate demand in the economy comes down.
- If the economy has the provision of unemployment allowance, then people who have become unemployed will get unemployment allowance (**transfer payments**).
- **The** transfer payments i.e. unemployment allowance will now allow to consumption levels fall and therefore the demand rises and economic activities are not that much affected.

# Automatic Stabilisers and Multipliers

(Next slides are taken from Froyen, 2013; pp. 370-375)

$$Y = C + I + G$$

$$C = a + bY_D$$

$$Y_D = Y - T$$

$$\bar{Y} = \frac{1}{1 - b}(a - bT + I + G)$$

$$\frac{\Delta \bar{Y}}{\Delta I} = \frac{1}{1 - b}, \quad \frac{\Delta \bar{Y}}{\Delta G} = \frac{1}{1 - b}, \quad \frac{\Delta \bar{Y}}{\Delta T} = \frac{-b}{1 - b}$$

$$Y = C + I + G$$

$$C = a + bY_d$$

$$Y_d = Y - T$$

$Y_d$  = Disposable  
income

$T$  = Taxes (Net)

$Y$  = National  
income

$$Y = a + b(Y - T) + I + G$$

$$Y = a + bY - bT + I + G$$

$$Y - bY = a - bT + I + G$$

$$Y(1 - b) = a - bT + I + G$$

$$\textcircled{1} \leftarrow Y = \frac{1}{1 - b} (a - bT + I + G)$$



$$\textcircled{1} \quad Y = \frac{1}{1-b} (a - bT + I + G)$$

$$\textcircled{2} \quad Y + \Delta Y = \frac{1}{1-b} (a - bT + I + \Delta I + G)$$



$$\textcircled{2} - \textcircled{1} \Rightarrow \Delta Y = \frac{1}{1-b} \cdot \Delta I$$

$$\therefore \frac{\Delta Y}{\Delta I} = \frac{1}{1-b}$$

$$\text{If } T = t_0 + t_1 Y$$

$$\begin{aligned} C &= a + b(Y - T) \\ &= a + bY - bt_0 - bt_1 Y \\ &= a - bt_0 + (b - bt_1)Y \\ &= a - bt_0 + b(1 - t_1)Y \end{aligned}$$

$$\begin{aligned} Y &= \overbrace{a - bt_0 + b(1 - t_1)Y}^C + I + G \\ Y[1 - b(1 - t_1)] &= a - bt_0 + I + G \\ \bar{Y} &= \frac{1}{1 - b(1 - t_1)}(a - bt_0 + I + G) \end{aligned}$$

- The last derived equation specifies equilibrium income as determined by an autonomous expenditure multiplier, in this case

$$= 1/[1 - b(1 - t_1)],$$

- the autonomous influences on income given by  $a - bt_0 + I + G$ .

$$\frac{\Delta \bar{Y}}{\Delta I} = \frac{\Delta \bar{Y}}{\Delta G} = \frac{1}{1 - b(1 - t_1)}$$

- “the autonomous expenditure multiplier and hence the effect on income from a change in autonomous expenditures (changes in  $I$  or  $G$ , for example) is smaller when tax collections depend on income than when the level of tax collections is exogenous”

$$\frac{1}{1 - b(1 - t_1)} < \frac{1}{1 - b}$$

For example, if  $b$ , the marginal propensity to consume, were equal to 0.8, and  $t_1$ , the marginal tax rate, were 0.25, we would have

$$\frac{1}{1 - b} = \frac{1}{1 - 0.8} = 5$$

$$\frac{1}{1 - b(1 - t_1)} = \frac{1}{1 - 0.8(1 - 0.25)} = \frac{1}{1 - 0.6} = 2.5$$

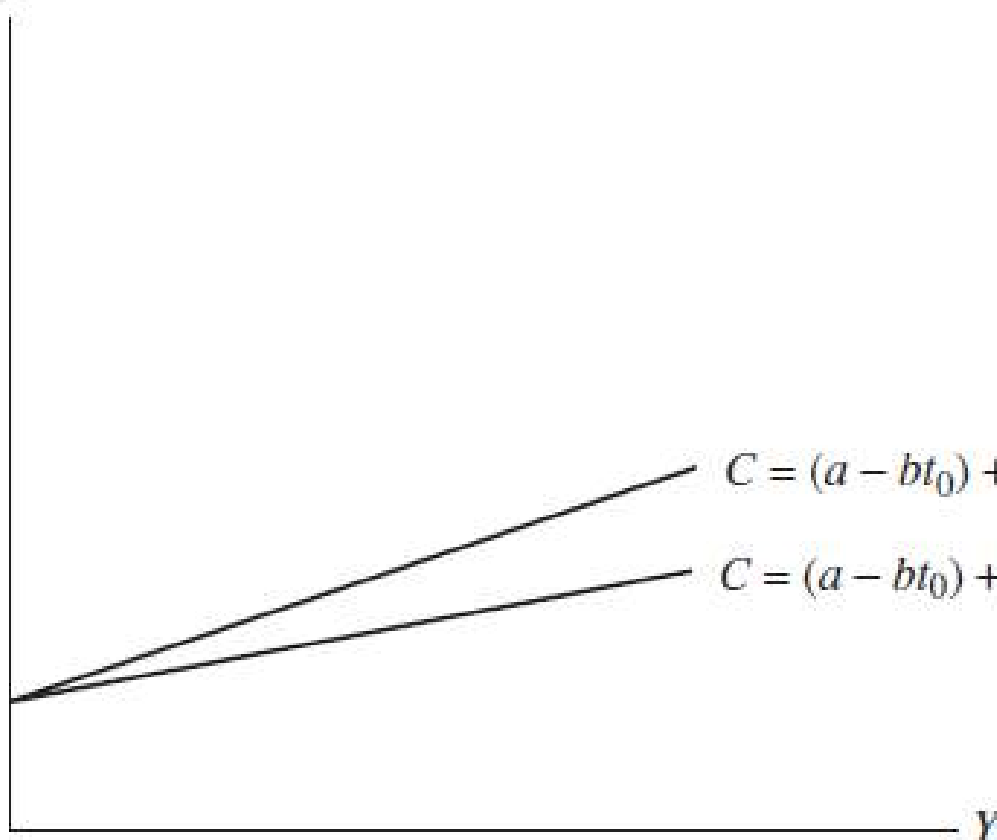
# Discretionary fiscal policy

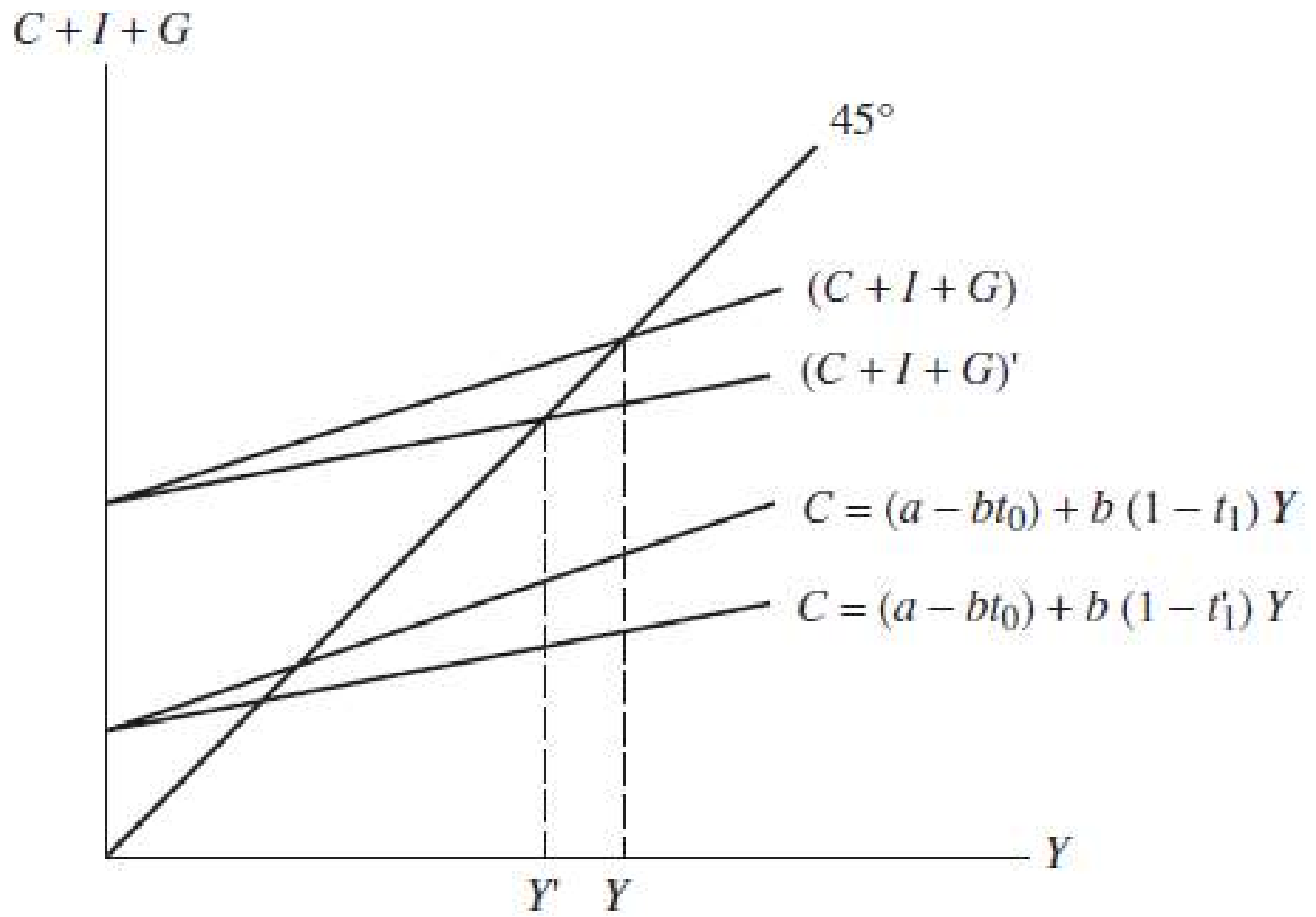
- Discretionary fiscal policy measures are the counter cyclical measures are taken by the government.
- It may expansionary measures – increase in government expenditure, reduction in marginal tax rate or increase in transfer payments.
- It may be contractionary as well.
- The basic difference between automatic and discretionary changes is that under automatic government does not take any additional measure to change fiscal policy it just relies automatic multipliers to get desired changes.
- But under, discretionary it changes the fiscal policy instruments according the requirement.

# Working of Discretionary fiscal changes (Sources of graph – Froyen 2013)

Consumption

$C$





If you have any query

[nagendrainsearch@gmail.com](mailto:nagendrainsearch@gmail.com)