Seminar 6. Problems with multipliers

Go first to https://openbudget.ro/buget/2020/ and analyze the allocation of Romania's state budget for 2020. Identify the value of the budget deficit and the share of the net salary from the gross salary (practically the percentage from gross salary that remains after payment of contributions, taxes and taxes).

Problem 1

In an open economy, the following are known: the propensity of consumption *c* is 0.9 and the tax rate is 1/3. If the budget deficit increased by 15 mil. € determine:

a) What should have been the change in the level of investments that could have led to this increase in the budget deficit?

b) But if the change in the budget deficit was generated by the increase of government spending, determine ΔG that could have led to the same increase in the deficit.

Problem 2

In the case of an open economy, where the propensity of consumption is 0.9 and the tax rate is 1/3 (33,3%), the government decides to increase its spending in order to achieve a GDP growth of 750 mil lei.
How much should government spending (ΔG) increase in this situation? What happens to the budget deficit?

Problem 3

Suppose the following equations describe the economy of a country:

NX = Exports – Imports = 20 – 0,1 Y
C = 20 + 0,75 (1-t) Y
I= 25 bil. lei
G= 15 bil. lei

a) The Government intends to maintain a balanced trade balance (NX=0). What tax rate should be set for this purpose?

b) Ignoring payments for transfers to individuals and autonomous taxes, determine whether this commercial policy results in a deficit or a surplus of the state budget.

Problem 4

Determine the effect of a 3% (3 percentage points) tax rate increase on GDP, budget deficit, taxes and consumption in a closed economy, in which the following initial data are known: c=0.8, t=0.25; the initial level of GDP is 2100 m.u., private consumption is 1500 m.u. and autonomous taxes, transfers and subsidies are 0.

Problem 5 - Homework

Let's consider the case of a closed economy, for which the following initial data are known: c = 0.7, t = 0.15; the initial level of GDP is 3400 bil. lei, the private consumption is 2000 bil. lei, G= 500 bil. lei, I= 900 bil. lei and autonomous taxes, transfers and subsidies are 0.

a) Determine the effect of an increase of the level of investments by 10 bil. lei on GDP (ΔY), budget deficit (ΔBD), taxes (ΔT) and private consumption (ΔC).

b) Determine the effect of an increase of the tax rate by 5% (5 percentage points) on the GDP and the budget deficit.