

Universitat de Barcelona  
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Macroeconomics - Group A8  
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**Basic models of the determination of national income.  
Short and long run.**

**List 3 - The Keynesian cross model II.**

1. In an economy with public sector, a reduction in public spending causes
  - (a) a decrease in the equilibrium level of income, consumption, and savings.
  - (b) no effect on the equilibrium level of income but a decrease in consumption, savings, and investment.
  - (c) a decrease in the equilibrium level of income, consumption, savings, and investment. Moreover, savings and investment decrease by the same magnitude.
2. In an economy with public sector, a drop in public spending determines
  - (a) a decrease in income, consumption, and public deficit. Nevertheless, savings do not change.
  - (b) a decrease in income and consumption and an increase in savings
  - (c) a decrease in income, consumption, savings, and public deficit.
3. In an economy with public sector, if the government decides to increase public spending and decrease the direct transfers by the same amount,
  - (a) the income increases and the public deficit does not change.
  - (b) the income increases and the public deficit decreases.
  - (c) the income decreases and the public deficit increases.
4. An economy is characterized as follows. Consumption is  $C = 30 + 0.75Y_d$ , government spending is  $G = 20$ , investment is  $I = 20$ , transfers are  $TR = 12$ , taxes are  $T = 0.2Y$ , exports are  $X = 30$ , and imports are  $M = 10 + 0.1Y$ .

- (a) Find the equilibrium level of income, the multiplier, the net exports at equilibrium, and the situation of public finances.
- (b) Determine the effect on all the aforementioned variables of an increase of exports by 10 units.
- (c) If the level of production for which we have full employment is 450, which fiscal policy should the government adopt in order to reach full employment?
5. Suppose that in an economy with public sector  $C = 50 + 0.8Y_d$ ,  $I = 50$ ,  $G = 200$ ,  $TR = 100$ , and  $t = 0.2$ .
- (a) Compute the equilibrium level of income and the multiplier.
- (b) Determine the public deficit/surplus.
- (c) Suppose that  $t$  increases up to 0.25. What is the new equilibrium level of income? What about the new multiplier?
- (d) Compute the change in the situation of the public finances. Do you expect a higher change if  $c$  is 0.9 instead of 0.8?
- (e) Explain why the multiplier is 1 when  $t = 1$ .
6. Suppose that the government decides to reduce the direct transfers and at the same time to increase government purchases by the same magnitude, that is,  $\Delta G = -\Delta TR$ .
- (a) Would you expect the equilibrium level of income to increase? Why?
- (b) Suppose the following specifics of the economy:  $c = 0.8$ ,  $t = 0.25$ ,  $Y_0 = 600$ ,  $\Delta G = 10$ , and  $\Delta TR = -10$ . Find the change in equilibrium income.
- (c) What is the change in the public budget? Why does it change?
7. Suppose we have an open economy with public sector such that  $C = 10 + 0.8Y_d$ ,  $I = 60$ ,  $G = 100$ ,  $TR = 25$ ,  $T = 0.3Y$ ,  $X = 70$ ,  $M = 0.2Y$ .
- (a) Compute the equilibrium level of income and the multiplier.
- (b) Compute the private savings at equilibrium and the gap between savings and investment.
- (c) Compute the public savings and the net exports at equilibrium.
- (d) Determine the effects on equilibrium income, multiplier, private savings, savings-investment gap, public savings, and net exports of each of the following:

- i. an increase in the marginal propensity to consume to  $c = 0.9$ ,
- ii. an increase in the public spending by 30 units,
- iii. an increase in the tax rate up to  $t = 0.4$ ,
- iv. an increase in the transfers by 30 units,
- v. an increase in the exports by 30 units,
- vi. an increase in the marginal propensity to import to  $m = 0.3$ .