

Task 1.

We have the following consumption function: $C=400+0.8YD$, where $YD=Y-0.25Y+TR$. Moreover, we know that $TR=50$, $G=260$, $I=200$, and the potential production level is $Y^*=3000$. Calculate:

- what is the GDP gap;
- size of the multiplier;
- by how much investment expenditure would have to increase for the product to equal potential production and how this would affect the state budget balance;
- what are the interest rate and equilibrium income if investments are given by the function $I=200-4r$, and $M=700$, $P=2$, $L=100+0.25Y-10r$?

Task 2.

The economy is described by the following relationships. The consumption function has the form: $C=100+0.9YD$, investment function: $I=200-500r$, money demand: $L=0.8Y-2000$. Moreover, we know that $G=200$, $t=0.2$ and $M=800$, $P=2$.

Determine/count:

- equation of the IS and LM curve;
- the amount of income and interest rates for which the goods and services market and the money market are in equilibrium;
- the amount of consumption and investment at the equilibrium point;
- budget balance;
- the size of the fiscal and monetary policy multiplier;
- what will the equilibrium income and interest rate be if the government increases spending by 20%;
- what will be the equilibrium income and interest rate if the Central Bank increases the money supply by 480.

Task 3.

The economy is described by the following relationships. The consumption function has the form: $C=0.8YD$, where $YD=Y-T$, investment function: $I=800-20r$, demand for money: $L=0.4Y-40r$. Moreover, we know that $G=1000$, $T=1000$ and $M=1200$.

Determine/count:

- equation of the IS and LM curve;
- the amount of income and interest rates for which the goods and services market and the money market are in equilibrium;
- what impact would an increase in taxes by 250 have on GDP and its structure (consumption, investment, government spending);
- assuming $G=T=1000$, what must the central bank do to increase income by 400?

Task 4.

Let's assume that the parameter $k = 0.5$ and $\alpha = 2$. How must the money supply change for the interest rate to remain unchanged if the government increases spending by PLN 1 million?

Task 5.

Suppose that the economy is in a state of equilibrium corresponding to full employment and the government wishes to change the structure of aggregate spending by reducing the share of consumption and increasing the share of investment, but without moving away from the state of full employment. What combination of fiscal and monetary policies should be used to achieve this goal? The answer should be carefully justified using the ISLM model and its graphical interpretation.

Task 6.

The marginal propensity to save increases in the economy. If the central bank's goal is to prevent fluctuations in national income, what policies must it adopt to restore national income to its previous level? Explain your answer using a graphical representation of the ISLM model and discuss the combined impact of the above changes, i.e. the increase in the marginal propensity to save and central bank intervention, on the structure of GDP (consumption, investment, government spending) and the interest rate.

Task 7.

Draw and discuss in detail the adjustment process and economic consequences of the following actions based on the ISLM model:

- a) a) increase in the reserve requirement rate;
- b) b) reducing state government spending;
- c) c) increasing the tax rate;
- d) d) increasing the sensitivity of investments to interest rates;
- e) e) subsidizing investments;
- f) f) reducing the elasticity of demand for money with respect to income;
- g) g) increasing the amount of transfers.

Task 8.

Is it true that:

- a) a decrease in the money supply leads to an increase in the budget deficit;
- b) lowering income taxation will reduce the demand for money;
- c) increasing the money supply leads to an increase in consumption and investment, and therefore also income, which results in an increase in the interest rate;
- d) the expected high economic growth in the coming years has no impact on the current economic situation of the country (investments, income and interest rate in equilibrium)?