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 [Архив экзаменов прошлых лет](#)

Макроэкономика 1 — МИЭФ, 2023 final

МИЭФ

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SECTION 1

A. Multiple-choice questions — 30 marks

Choose **one** correct answer. Each question is worth **6 marks**.

1

A closed economy described by the Solow model with a constant level of technology is on its balanced growth path. Population is shrinking, so $n < 0$. What is the growth rate of GDP per capita?

- (a) $-n$
- (b) 0
- (c) n
- (d) $2n$

2

Consider a closed economy in the medium run, when the central bank strictly targets inflation. The upward-sloping aggregate-supply function is

$$\pi = \pi^e + \lambda(Y - Y_n),$$

where inflation expectations π^e are static. What will be the effect of a balanced-budget fiscal expansion $\Delta G = \Delta NT$ on equilibrium output ΔY if only consumption depends on current income?

- (a) $\Delta Y = 0$
- (b) $0 < \Delta Y < \Delta G$
- (c) $\Delta Y = \Delta G$
- (d) $\Delta Y > \Delta G$

3

Under flexible inflation targeting, the central bank follows

$$i = i^* + 1.5(\pi - \pi^*).$$

Last year inflation rose from 2% to 3% and the interest rate was raised from 2% to 3.5%. This year inflation rose from 4% to 5%, above the target $\pi^* = 4\%$, and the interest rate was raised from 4% to 5.5%. What type of policy was implemented this year?

- (a) Tight monetary policy
- (b) Easy monetary policy
- (c) Neutral monetary policy
- (d) More aggressive monetary policy

4

Suppose Russia and Brazil are the main trading partners and fix their bilateral nominal exchange rate. Their long-run inflation targets are 4% and 3%, respectively. Assuming the Marshall-Lerner conditions hold, how will the relative competitiveness of Russian goods be affected in the long run?

- (a) It will decrease
- (b) It will not change
- (c) It will increase
- (d) The change is ambiguous

5

A small open economy has imperfect capital mobility and a flexible exchange rate. What will be the effect of permanently loose monetary policy on the trade balance?

- (a) Negative
- (b) No effect
- (c) Positive
- (d) Ambiguous

SECTION 2

C. Problem — 70 marks

Consider a recession in an offshore small open economy with full capital controls and fixed prices and wages. Labour income is taxed at a flat rate t and is partially saved. The government balances the budget and adjusts purchases to tax receipts. Profits constitute a share ϑ of national income and are fully distributed to shareholders as dividends. There is no corporate or dividend tax, so all non-labour income is consumed. The central bank knows the interest-rate sensitivity of investment demand, b , and targets the nominal interest rate:

$$i = i^*.$$

(a) (10 marks) Assume a linear consumption function with autonomous and induced components. Denote the autonomous part by $c_0(\cdot)$ and list **two** factors that may affect it. Derive the explicit consumption function and explain the structure and economic meaning of the overall marginal propensity to consume.

(b) (10 marks) Assume the linear net-exports function

$$NX = NX_0(\cdot) - zY - dE.$$

List **two** factors that may affect $NX_0(\cdot)$. Derive the *IS* and *BPIS* schedules in (Y, i) space.

(c) (10 marks) Illustrate the initial internal and external equilibria in (Y, i) space using the *IS – MP – BP* model. Plot the *BPIS* locus in the same diagram. Explain in two or three sentences how exchange-rate changes affect the position of *BPIS* and why.

Assume a flexible exchange-rate regime in (d)-(f).

(d) (10 marks) Consider the abolition of a minimum-wage law, which increases the profit share. Illustrate in the *IS – MP – BP* diagram the effects of a permanent increase in ϑ . Explain the adjustment process in three or four sentences.

(e) (10 marks) How should the government change the tax rate t to offset the effects of higher profits found in (d)? Illustrate the policy response in the same diagram. Find the optimal response Δt to a profit-share shock $\Delta\vartheta$, assuming output returns to its initial level. Will the composition of output change after the fiscal response? Explain in two or three sentences.

(f) (10 marks) Consider monetary tightening. Illustrate its effects on output and the interest rate in the *IS – MP – BP* diagram. Give at least one economic reason for such a policy

and explain your answer in two sentences.

Finally, consider a switch from full capital controls to perfect capital mobility.

(g) (10 marks) Assume that previous monetary tightening has made the domestic interest rate exceed the foreign rate, so immediately before the financial account is opened,

$$i^{**} > i^f.$$

Can the central bank ensure a fixed exchange-rate regime after opening the financial account? Illustrate the regime switch in a separate $IS - MP - BP$ diagram. What happens to net exports in the new equilibrium? Explain intuitively in three or four sentences.