

Exam in macroeconomics

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5 (five) questions

1. Consider, quite generally, the three-equation model in a closed economy. [22 points]
 - (a) When we talk about a three-equation model for the macro-economy, which three equations do we mean?
 - (b) Let us focus on one of the three equations, the Phillips curve, usually drawn in a (y, π) diagram. If the economy suffers an inflationary shock, this curve is known to *shift*. Actual inflation, however, would not shift the curve in a (y, π) world, but rather imply a movement along the curve, so what makes it shift?

2. Consider an aggregate demand model of a closed economy with investment dependent on pre-tax income as well as on a real interest rate r

$$I = a_0 - a_1 r + a_2 y,$$

with $a_0, a_1, a_2 > 0$ and $a_2 + c_1 < 1$, whereas consumption is described by the simple reaction function (there is no explicit tax rate, as taxes T are simple lump-sum taxes)

$$C = c_0 + c_1(y - T),$$

and, of course, $y^D = C + I + G$. [21 points]

- (a) Explain in few words the concept of the fiscal multiplier;
- (b) Determine the fiscal multiplier in the above model (in symbols, possibly depends on the parameters c_0, c_1, a_0, a_1, a_2).
- (c) What happens to the multiplier (in this example) if investment depends more strongly on the interest rate, i.e. a_1 increases?

3. Consider the wage-setting and the price-setting curves in an (N, w) -diagram. [21 points]
- (a) Suppose the negotiating power of wage earners increases due to stronger trade unions. Which of the two curves will shift, if any, and in what direction? Will real wages w increase or decrease? Will employment N increase or decrease?
 - (b) Suppose the mark-up μ decreases due to stricter regulations against trusts and cartels. Which of the two curves will shift, if any, and in what direction? Will real wages w increase or decrease? Will employment N decrease or increase?
 - (c) The point at the intersection of the WS and PS curves indicates a medium-run equilibrium output y_e and a corresponding employment level. Can the central bank change it by monetary policy?

4. Banks in the macro-economy [18 points]

- (a) Suppose banks increase their banking mark-up. How should the central bank react if it does not wish to change its inflation target π^T ?
- (b) What could be the reason for a higher banking mark-up?

5. Consider an open economy. [18 points]

- (a) What does the ERU curve represent? Which variable is on the x -axis, which is on the y -axis?
- (b) What does the AD curve represent? Which variable is on the x -axis, which is on the y -axis? What is the relation of the AD curve to the IS curve? [Note that we do not talk about the traditional Keynesian AD curve from the IS-LM scheme, but about the AD curve for our open-economy extended 3-equation model. Answers related to the other, historical version are invalid.]
- (c) What does the Marshall-Lerner condition say?