EVALUATION GUIDELINES - Written examination

# EXC 35251
# Macroeconomics

Department of Economics

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| **Start date:** | 13.12.2017 | Time 14:00 |
| **Finish date:** | 13.12.2017 | Time 17:00 |

For more information about formalities, see examination paper.

**The exam consists of 10 multiple choice questions where right answer = 3 points while wrong answers = -1 points. The option not to answer = 0 points. In each multiple choice question the answers are shuffled. The multiple choice questions make up 50 % of the total. The rest consists of two essay questions. Each of them makes up 25 % of the total.**

**Exercise 1 (weight 50 %) Multiple choice:**

**(i)**
Which ONE of the following variables is a stock variable?

**a.** GDP.

**b.** Net external debt.

**c.** The price level.

**d.** Interest rate.

**e.** I choose not to answer this question.

**Correct: Net external debt.**

**(ii)**
Consider an economy where GDP is equal to 1600, private consumption (C) is 850, gross investments in real capital (I) is 350, exports (X) is 400 and imports (Z) is 300.

Public consumption (G) is then given by

**a.** 200

**b.** 300

**c.** 400

**d.** 500

**e**. I choose not to answer this question.

**Correct: G is 300.**

**(iii)**

Suppose during a year that nominal wages have increased by 3.5 %, that nominal interest rate has been stable at 5 % and that inflation has been 2 %.

Then

a) the real wage has increased by 1.75 % and real interest rate has been 2.5 %.
b) the real wage has increased by 5.5 % and real interest rate has been 7 %.
c) the real wage has increased by 1.5 % and real interest rate has been 3 %.
d) the real wage has increased by 3 % and real interest rate has been 2.5 %.
e) I choose not to answer this question.

**Correct: the real wage has increased by 1.5 % and real interest rate has been 3 %.**

**(iv)**

If the public wants to hold more money, the derived demand schedule shifts to the [(A)_____]. If the central bank keeps the initial interest rate unchanged, the monetary base [(B)_____].

**a.** (A) right; (B) will increase

**b.** (A) right; (B) will decrease

**c.** (A) left; (B) will increase

**d.** (A) left; (B) will decrease

**e**. I choose not to answer this question.

**Correct: (A) right; (B) will increase**

**(v)**

The Taylor rule states that the central bank increases the interest rate relative to the "neutral level" if [(A)_____] rises relative to its target rate, or if [(B)_____] increases.

**a.** (A) the inflation rate; (B) the output gap

**b.** (A) the output gap; (B) inflation

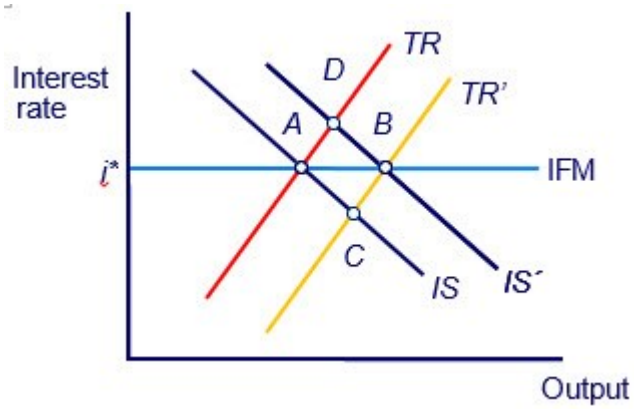
**c.** (A) the inflation gap; (B) the monetary base

**d.** (A) the monetary base; (B) the output gap

**e**. I choose not to answer this question.

**Correct: (A) the inflation rate; (B) the output gap**

**(vi)**




Assume a small, open home country under a flexible exchange rate regime with full capital mobility. The economy is initially in a general equilibrium at point A. If the central bank pursues an expansionary monetary policy which shifts the TR curve to TR', a new equilibrium is reached at which ONE of the following?

**a.** At point *C,* since the expansionary monetary policy lowers the domestic interest rate below the level of the international rate of return.

**b.** At point *A*, because due to the interest rate parity condition, the TR' curve must shift back to TR.

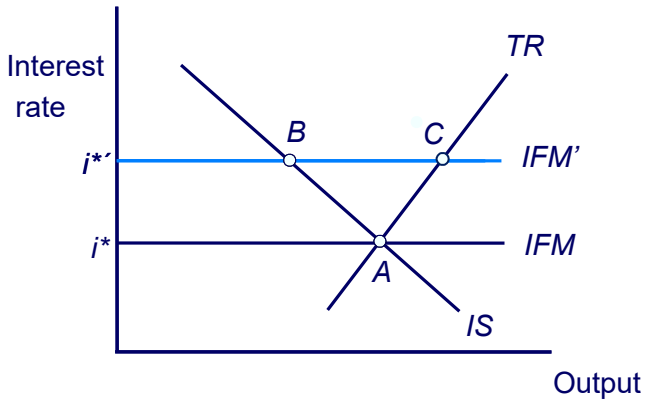
**c.** At point D, because the expansionary monetary policy induces an exchange rate depreciation which shifts the IS curve to IS', but due to the interest rate parity condition, the TR' curve must shift back to TR.

**d.** At point B, because the expansionary monetary policy induces an exchange rate depreciation which shifts the IS curve to IS'.

**e**. I choose not to answer this question.

**Correct: At point B, because the expansionary monetary policy induces an exchange rate depreciation which shifts the IS curve to IS'.**

**(vii)**




Assume that the small, open home country is initially in a general equilibrium at point A and that capital is fully mobile. An increase in the rate of return on foreign assets shifts the IFM schedule upwards to IFM'. Which ONE of the following assertions is TRUE?

**a.** Under flexible exchange rates, the new equilibrium occurs at point C.

**b.** Under flexible exchange rates, the new equilibrium occurs at point B.

**c.** Under fixed exchange rates, the new equilibrium occurs at point C.

**d.** Due to the interest rate parity condition, the IFM schedule must shift back and the economy remains in equilibrium at point A.

**e**. I choose not to answer this question.

**Correct: Under flexible exchange rates, the new equilibrium occurs at point C.**

**(viii)**

The (modern) augmented Phillips curve is augmented by which ONE of the following?

**a.** Money illusion.

**b.** Underlying inflation and supply shocks.

**c.** Cyclical demand pressure.

**d.** Output gaps.

**e**. I choose not to answer this question.

**Correct: Underlying inflation and supply shocks.**

**(ix)**

According to the principle of relative Purchasing Power Parity (PPP), for a regime of FIXED exchange rates, there can be [(A)_____] deviations between domestic and foreign inflation rates. If not, the real exchange rate would [(B)_____] in the long run.

**a.** (A) no; (B) appreciate or depreciate without end

**b.** (A) no; (B) equal the nominal exchange rate

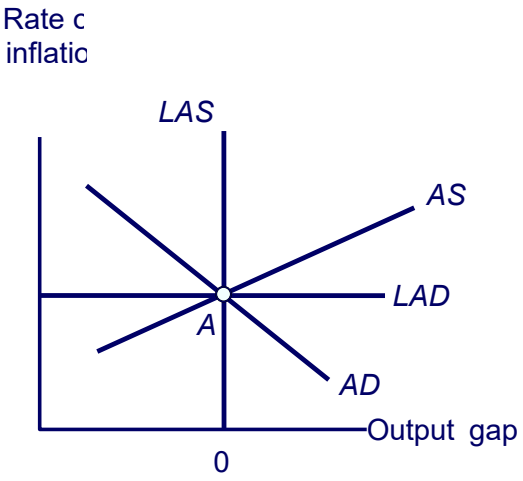
**c.** (A) constant; (B) appreciate or depreciate without end

**d.** (A) constant; (B) equal the nominal exchange rate

**e**. I choose not to answer this question.

**Correct: (A) no; (B) appreciate or depreciate without end**

**(x)**




Assume a small, open economy under a flexible exchange rate regime which is initially in a long-run equilibrium at point A. Assume further that the central bank permanently increases its target inflation rate. Which ONE of the following scenarios is TRUE?

**a.** In the long run, domestic inflation must equal foreign inflation which has not changed. Hence, even despite a higher target inflation rate, the economy returns to point A.

**b.** A permanent increase in the central bank's target inflation rate leads to higher output as well as inflation: therefore, the LAS curve shifts to the right and the LAD curve shifts up in the long run.

**c.** In the long run, only inflation will change: it will rise to the level of the target rate.

**d.** A rise in the target inflation rate leads to an increase in the nominal interest rate via the Taylor rule. Investment will be permanently lower, hence the LAD curve shifts down in the long run.

**e**. I choose not to answer this question.

**Correct: In the long run, only inflation will change: it will rise to the level of the target rate.**

**Exercise 2 (weight 25 %)**

In this exercise you are going to discuss different topics using a model for the household's trade-off between consumption and leisure. You are not expected to use diagrams when answering these questions.

**a)** Define indifference curves and the budget line in a model showing the household's trade-off between consumption and leisure.

b) What do the shape of a typically indifference curve tell about a household's trade-off between consumption and leisure?

c) In a diagram with leisure on the horizontal axis and consumption on the vertical axis. Suppose a household's marginal rate of substitution (MRS) = 2 while the real wage (w) = 1. In what way is it not optimal?

d) Using a diagram, how do you explain that the real wage (w) increase and how does such a change affect the trade off between consumption and leisure?

e) Explain the difference between the substitution effect and the income effect in this model.

f) According to Burda & Wyplosz the response to rising wages varies widely across individuals. Give examples of such factors and explain the typical case using the two effects from e).

g) According to Burda & Wyplosz what are the very long run results of increasing real wage on labour supply? Also, use the two effects from e) to explain this result.

**Answer:** B & W 6th edition chapter 5.

a) Indifference curves shows how readily a household is willing to substitute consumption for leisure. Along one curve the satisfaction is constant. The budget line states all possible combinations of consumption and leisure that can be afforded.

b) The shape is a convex curve. The less leisure you have, the less leisure you are willing to sacrifice for one more unit of consumption.

**c)** It is optimal if MRS=w. In this case it would be higher possible utility if more leisure, less consumption.

**d)** The budget line becomes steeper. It rotates from the horizontal axis (leisure). A steeper curve means that a unit of leisure is exchanges for more units of consumption.

**e)** How the household react to an increase in the real wage can be divided into the substitution effect (The relative attractiveness of leisure declines because its relative price has risen) and the income effect (both increase in consumption and leisure because income increase).

**f)** Examples are tastes, family circumstances and age. It also depends on the time horizon. More table 5.1. Fig 5.3 the typical case is an increasing labour supply curve when real wage increase. Then the substitution effect dominates.

**g)** Over the very long run, increasing real wage have led to decreasing labour supply as the income effect dominates B&W table 5.1.

**Exercise 3 (weight 25 %)**

In this exercise you are going to use the Keynesian Cross model. You are not expected to use diagrams when answering these questions.

a) What are the main assumptions when we study the short run behaviour of the economy?
b) What are the main factors and how do they drive private consumption?
c) What determines the slope of the desired demand curve (DD curve) in a Keynesian Cross model?
d) Use the model to explain how total effect of an expansionary fiscal policy is different from the initial effect.
e) How can you derive the IS curve from the Keynesian Cross model?
f) Explain the situation if we are off the IS curve.
g) Use the model to discuss reasons why consumption can decrease without a change in disposable income.

**Answer:**

B & W 6th edition chapter 10.

a) Assumptions in the short run: Most important: constant prices. Others are demand driven model and general equilibrium.
b) Equation 10.2. Private consumption is driven by wealth and disposable income. When either increase, private consumption increase.
c) The slope of the DD curve is determined by the marginal propensity to consume. It is a number between 0 and 1. If it is 0.75 then consumption will increase by 0.75 if disposable income increase by 1.
d) Fig. 10.4. The multiplier effect: The change in output exceeds the initial impulse. The higher the marginal propensity to consume to one the higher the multiplier and therefor the total effect.

e) Fig. 10.5. A reduction in the interest rate leads to an increase in investment spending, which in turn leads to an increase in equilibrium output. This relation is summarized by the IS curve sloping down in a diagram with output on the horizontal axis and nominal interest rate on the vertical axis. The IS curve represents the combinations of nominal interest rate and real GDP that are consistent with goods market equilibrium, for given values of exogenous variables.
f) Fig. 10.5 b. A diagram with output on the horizontal axis and nominal interest rate on the vertical axis the IS curve slops down. Off the IS curve to the right we have excess supply of goods and to the left we have excess demand.
g) The consumption function in chapter 8.2.4 and 10.2 consists of disposable income and wealth. In chapter 10.2 there is a discussion of reasons why wealth can change. In general, wealth changes very slowly in response to household savings, but wealth can also change very suddenly. One example is the collapse of housing prices in the United States, Spain and Ireland after the financial crises. In the model this can be shown by shifting the DD curve down. Another example would be if the marginal propensity to consume gets lower. This could be because of increasing income inequalities and the assumption that rich people have a lower marginal propensity to consume. In the model this can be shown by decreasing the slope of the DD curve.