EVALUATION GUIDELINES - Written examination

EXC 35251
Macroeconomics

Department of Economics

Start date:	27.05.2015	Time 09:00
Finish date:	27.05.2015	Time 12:00

For more information about formalities, see examination paper.

Exercise 1 (weight 25 %)

a) Explain how nominal GDP (Gross Domestic Product) can change for two reasons.
b) How can you use GDP to compare the living standard across countries?
c) Explain the principle of money neutrality.
d) Define the household's intertemporal budget constraint between consumption today and tomorrow, and explain how it will change if the interest rate increase.

Answer:

a) B & W 6th edition chapter 2. Nominal GDP can change for two reasons. If a change in volume or in price. To see the volume change (real GDP) we use fixed prices.
b) B & W 6th edition chapter 2. We compare by converting GDP per Capita into a common currency and by using the purchasing power parity to adjust for differences in the cost of living.
c) B & W 6th edition chapter 6. The principle that the money supply does not affect real variables such as real output or unemployment, but rather the price level, in the long run.
d) B & W 6th edition chapter 7 and 8, fig 7.1 and 8.6. Resources available today and tomorrow determine wealth and available consumption choices along the budget line. Along a budget line, the total level of wealth is constant. If the interest rate increase, the budget line will rotate about the endowment point and become steeper (fig 8.6). This point also called the autarky point (no trade).

Exercise 2 (weight 25 %)

a) In the Solow model, what are the assumptions of the production function on intensive form?
b) Use the Solow model to discuss if capital accumulation can proceed without bounds.
c) What are the main conclusions about long run growth in the Solow model, if we take population growth and technological progress into account?

Answer:

a) B & W 6th edition chapter 3. A production function is a theoretical relationship linking aggregate output to inputs of factors of production. The intensive form is obtained by dividing by labour. Fig 3.3 shows that the output – labour ration grows with the capital – labour ratio (k). The principle of declining marginal productivity implies that the curve becomes flatter as k increases.
b) B & W 6th edition chapter 3.3, fig 3.5. The captal labour ratio stops changing when investment is equal to depreciation (Steady State). When using a fig like this it is important to define the curves and to explain the movement towards the equilibrium.
c) B & W 6th edition chapter 3.5, fig 3.15. In equilibrium (Steady State) we have both growth in GDP and in GDP per labour (living standard). GDP per labour grows at the same rate as technological progress (A).

Exercise 3 (weight 25 %)

a) Explain the desired demand function used in the Keynesian Cross Model.
b) Explain the slope of the DD curve in the Keynesian Cross model.
c) Use the Keynesian Cross model to explain the equilibrium in the goods market.

d) Give examples of exogenous shifts and use the Keynesian Cross model to explain how they will affect the economy.
e) How can increasing inequalities and aging populations be discussed by using the Keynesian Cross Model?

Answer
B & W 6th edition chapter 10

a) Four factors affects desired demand (DD): the consumption function (how consumption depends on wealth (+) and disposable income (+)), the investments function (how investments depends on Tobins q (+) and the real interest rate (-), public consumption (+) and the primary current account function (how it depends on GDP home (-) and foreign (+) and the real exchange rate (-).
b) Box 10.1. The slope is less than 45 degrees because you get leakages. One is because some is saved (the marginal propensity to consume is less than one) and some because of imports (the marginal propensity to import is more than zero).
c) Fig 10.3. Desired demand increases with income but less than proportionately because part is saved and parts fall on imported goods. Equilibrium occurs when demand equals supply where the 45-degree line intersect the DD line.
d) Fig 10.4. Two kinds of exogenous variables: exogenous shocks (positive or negative) and government policy tools (In this model, first of all fiscal policy). When explaining shifts it is important to explain the Keynesian Multiplier. A ratio indicating the effect of increases in exogenous components of aggregate demand on total aggregate demand.
e) Increasing inequalities and aging populations can be discussed by assuming that it will decrease the marginal propensity to consume and therefor decrease the multiplier effect. In a figure, it will decrease the slope of the DD curve.

Exercise 4 (weight 25 %)

a) Define the curves in a Mundell-Fleming model (the IS-TR-IFM model).
b) Explain why it is important to distinguish between the types of exchange rate regime when discussing the effect of a fiscal policy.
c) Define the AS curve and explain why the slope is different when moving from the short to the long run.
d) Explain by using the AS-AD framework the long run effect of a monetary expansionary policy if flexible exchange rates.

Answer: B & W chapter 11 and 13.

a) IS curve: for given values of exogenous variables, the combinations of nominal interest rate (i) and real output (GDP) that are consistent with goods market equilibrium. TR curve: a graphical representation of the Taylor rule, which states that central banks adjust the interest rate to reduce fluctuations in output and inflation. IFM line: International financial markets line is the line in the open economy IS-TR diagram describing the interest rate at which net capital inflows are zero.
b) Fig 11.5. If fixed exchange rates, fiscal policy is very effective because the central bank must see to that domestic interest rate equals international interest rate. If flexible exchange rates (fig 11.9) an expansionary fiscal policy (an example of a demand

shock) will lead to a total crowding out effect because external competitiveness declines.

c) B & W 6th edition chapter 12, fig 12.13. AS: Total volume of goods and services brought to market by producers at a given price level. In the short run, an economy can sustain lower unemployment and higher output, but at the cost of higher inflation. This trade off is not permanent. When underlying inflation rises to track higher actual inflation, the short run AS curve shifts up.

d) B & W 6th edition chapter 13.3.6. As explained in fig 13.13. A permanently higher target rate of inflation implies as explained by the dichotomy principle that real side of the economy is left unaffected. No increase in GDP, only higher inflation.