Stockholm University

Department of Economics

Course name:	**Intermediate Macroeconomics**
Course code:	**EC2201**
Examiner:	**Lars Calmfors**
Type of exam:	**Retake**
Semester:	**Autumn 2015**
Number of credits:	**7,5 credits (hp)**
Date of exam:	**Sunday, December 13, 2015**
Examination time:	**5 hours (09-14)**

Write your identification number on each paper and cover sheet (the number stated in the upper right hand corner on your exam cover).

Use one cover sheet per question. Explain notions/concepts and symbols. If you think that a question is vaguely formulated, specify the conditions used for solving it. Only legible exams will be marked. **No aids are allowed.**

The exam consists of 5 tasks. Tasks 1 and 4 are worth 20 points each, tasks 2 and 3 are worth 25 points each and task 5 is worth 10 points – 100 points in total. For the grade E 45 points are required, for D 50 points, C 60 points, B 75 points and A 90 points.

Only students who have NOT received a course credit from the seminar exercises should do task 5. Students who have received a course credit should not do task 5 (and cannot get any extra points from doing it).

Your results will be made available on your "My Studies" account (www.mitt.su.se) on Tuesday 22 December the latest.

Good luck!

Question 1 (Maximum 20 points)

Give short answers (maximum two pages per question).

(a) Derive the equation for the aggregate supply curve from the sticky-price model. Draw the curve. (Maximum 5 points)

(b) Explain what is meant by the Fisher effect. Show how the Fisher effect is derived from purchasing power parity and interest rate parity. (Maximum 5 points)

(c) Start from the interest rate parity condition. Assume that the expected future exchange rate is equal to the current exchange rate initially. This means that the domestic interest rate equals the foreign interest rate. How will the current exchange rate change if the expected future exchange rate appreciates, but the domestic and foreign interest rates remain unchanged? Analyse this diagrammatically, verbally and mathematically. By how much will the current exchange rate change if the expected future exchange rate appreciates by 10,32 per cent? (Maximum 5 points)

(d) Derive the equation for the intertemporal budget constraint in Fisher's two-period model. (Maximum 5 points)

Question 2 (Maximum 25 points)

Use the AA-DD-model in Krugman-Obstfeld-Melitz to answer the following questions. Make sure that you explain the economic mechanisms in addition to using diagrams and mathematics.

(a) Assume that there is a *temporary* increase in government expenditure. How are the nominal and real exchange rates, output, the price level and the interest rate affected in the *short run* under a *flexible* exchange rate? (Maximum 5 points)

(b) How are the nominal and real exchange rates, output, the price level and the interest rate affected in the *short run* by a *temporary* increase in government expenditure under a *fixed* exchange rate? Is the output effect smaller or larger than under a flexible exchange rate? What does the assumption of a fixed exchange rate imply for monetary policy in this case? (Maximum 5 points)

(c) Assume now instead that the increase in government expenditure is *permanent*. How are the nominal and real exchange rates, output, the price level and the interest rate affected in this case in the *short run* under a flexible exchange rate? (Maximum 9 points)

(d) How are the nominal and real exchange rates, output, the price level and the interest rate affected in the *long run* by a *permanent* increase under a *flexible* exchange rate? How do the long-run effects differ from the short-run ones? (Maximum 6 points)

Question 3 (Maximum 25 points)

   (a) Show both mathematically and diagrammatically how the steady-state levels of capital and output (per capita) are derived in the simplest version of the Solow model with no population growth and no technological progress. How are the steady-state levels of capital and output affected by a fall in the savings rate? (Maximum 5 points)

   (b) What is meant by the golden-rule level of capital in (a)? Show how the golden-rule level is determined? (Maximum 5 points)

   (c) Assume that the level of capital is initially below the golden-rule level? Describe how output, investment and consumption will develop during an adjustment to the golden-rule level. Will current and future generations agree on such a movement to the golden-rule level? (Maximum 5 points)

   (d) Show both mathematically and diagrammatically how the steady-state levels of capital and output (per efficiency unit of labour) are derived in the version of the Solow model with both population growth and labour-augmenting technological progress. (Maximum 5 points)

   (e) Assume that population growth in (b) is n per cent per year and that the growth rate of labour efficiency is g per cent per year. Derive the steady-state growth rates for capital, output, capital per capita, output per capita, capital per efficiency unit of labour and and output per efficiency unit of labour. (Maximum 5 points)

Question 4 (Maximum 20 points)

Since the end of the World War II the dominating views on stabilisation policy have undergone several changes. Describe how these views have changed over time and why. Describe in particular the views dominating before the outbreak of the financial crisis in 2007-2008 and the subsequent Great Recession and how these events changed the views. What policy changes were triggered?

Task 5 (Maximum 10 points)
THIS TASK SHOULD BE SOLVED ONLY BY THOSE WHO DO NOT HAVE A COURSE CREDIT FROM THE SEMINAR EXERCISES. THOSE WHO HAVE A CREDIT DO NOT OBTAIN ANY POINTS FROM THIS TASK.

Assume that production in the economy is determined by a Cobb-Douglas production function with total factor productivity, labour and capital as arguments. Derive the profit-maximising levels of employment and capital. Show how the income shares of labour and capital are related to parameters in the Cobb-Douglas function.