Stockholm University

Department of Economics

Course name:	**Intermediate Macroeconomics**
Course code:	**EC2201**
Examiner:	**Lars Calmfors**
Number of credits:	**7,5 credits**
Date of exam:	**28 October 2013**
Examination time:	**5 hours [15-20]**

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 3 are worth 20 points each, tasks 2 and 4 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 Thursday 14 November at the latest. The exam review will take place on Friday 15 November, 15.00 in lecture theatre 4 (hörsal), house B.

Good luck!

Task 1 (Maximum 20 points)

Give short answers (maximum two pages per question).

(a) Derive an expression for the rate of unemployment by analysing a steady state in which the flows into and out of unemployment are equally large, so that both unemployment and employment remain constant from period to period. How is the unemployment rate affected by a fall in the job-finding rate? (Maximum 5 points)

(b) Characterise the steady state in the Solow model with both population growth and labour-augmenting technological progress. Explain why the economy converges to such a steady state. (Maximum 5 points)

(c) Derive a formula for how the money supply in an economy depends on the monetary base, the banks' reserve-deposit ratio and the public's currency-deposit ratio. (Maximum 5 points)

(d) Explain what is meant by a liquidity trap. Use the interest rate parity condition to show how the exchange rate is determined in such a situation. (Maximum 5 points)

Task 2 (Maximum 25 points).

(a) Write out the equation for the Taylor rule and explain it. (Maximum 5 points)

(b) What does the Taylor rule imply for the relationship between the real interest rate and inflation? Explain why this relationship is crucial for the stability of the economy. (Maximum 5 points)

(c) What role does the money supply play in the Taylor rule? (Maximum 5 points)

(d) What interest rate will the central bank set if the natural real rate of interest is 2 per cent, the inflation target is 2 percent, inflation is 4 per cent, the output gap is 2 per cent, the weight for deviations of inflation from its target is 0.5 and the weight for the output gap is 0.5? (Maximum 5 points)

(e) What interest rate will the central bank like to set and what interest rate will it set if instead inflation is zero and there is a negative output gap of 6 per cent? Discuss the options for the central bank in such a situation. (Maximum 5 points)

Task 3 (Maximum 20 points)

Use the AA-DD-model in Krugman-Obstfeld-Melitz to answer the following questions.

(a) Assume first that there is a *temporary* increase in the money supply. How is the exchange rate, output, the price level and the interest rate affected in the short run? (Maximum 6 points)

(b) How is the exchange rate, output, the price level and the interest rate affected in the long run by a temporary increase in the money supply? (Maximum 4 points)

(c) Assume now that there is a *permanent* increase in the money supply? How are the exchange rate, output, the price level and the interest rate affected in the short run? How does the short-run equilibrium in this case differ from the one in (a)? (Maximum 5 points)

(d) How are the exchange rate, output, the price level and the interest rate affected in the long run by a permanent increase in the money supply? (Maximum 5 points)

Task 4 (Maximum 25 points)

Explain how economists and policy makers viewed the role of economic policy before the financial crisis that started in 2008. Discuss the rethinking that has been induced by the financial crisis and then in particular the roles of credit markets, house prices, financial supervision and monetary policy.

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.

The Balassa-Samuelson effect explains the differences in price levels between rich and poor countries. Explain mathematically why the relative price of non-tradables is higher in a rich country than in a poor country. What does this imply for differences in the consumer price levels between a rich country and a poor country sharing the same currency (such as Germany and Estonia in the euro zone)?