

STOCKHOLM UNIVERSITY  
Department of Economics

**Course name:** Monetary Policy  
**Course code:** EC2205  
**Examiner:** Annika Alexius  
**Number of credits:** 7,5 credits  
**Date of exam:** Saturday, January 14th, 2012  
**Examination time:** 3 hours

**Write your name, your number of identification and the number of the question on every cover sheet. No aids are allowed.**

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**The exam consists of 6 questions.** The math problem, question 1, is worth 30 points, the essay, question 2, is worth 25 points, question 3 is worth 15 points and question 4 to 6 are worth 10 points each, 100 points in total. Answers to questions 3 to 6 should not exceed 1/3 page per question.

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For the grade E 40 points are required, for D 50 points, C 60 points, B 75 points and A 90 points. Credits from the assignments are added to the exam score.

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If you think that a question is vaguely formulated: specify the conditions used for solving it.

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**Results will be posted on the notice board, House A, floor 3, 31<sup>st</sup> of January at the latest**

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**Good luck!**

### Question 1: Math problem (30 points)

Consider the following model (by Lohmann's (1992)):

Social loss:

$$L = \pi^2 + \chi(y - y^*)^2$$

$\pi$  is the inflation rate (the monetary policy instrument)

$y$  is output

$y^*$  is the output target

$\chi$  is the relative disutility of output deviations from its target

The supply curve:

$E\pi$  is the expected inflation rate

$$y = \pi - E\pi + z$$

$z$  is a supply shock

Solve the model to find

- the inflation rate chosen by the central bank, given expected inflation
- the expected inflation rate as function of the exogenous variables ( $\chi$ ,  $y^*$ ,  $z$ ). Interpret!

Please show your calculations and explain briefly what you are doing and why!

### Question 2: Essay (25 points, maximum 1 page)

Your first assignment at your new job at the Riksbank is to investigate whether monetary policy *should* react to the consumer confidence index, CCI (in addition to the standard reactions to inflation and the output gap). **Describe (in some detail) the different steps involved in investigating this question, using the method for normative analysis of monetary policy studied during this course.** (We have applied this method to investigate whether monetary policy should react to exchange rates and credit expansions).

### Short question 3 (15 points)

Describe three different solutions to the time inconsistency problem in monetary policy that are used in Sweden.

Only very brief answers are required!

#### **Short question 4 (10 points)**

Since 2009, several central banks (in the UK, the US, and Japan) engage in a monetary policy called quantitative easing (QE).

- a) Describe this policy - what are these central banks doing? (2 points)
- b) Why did they start quantitative easing? (4 points)
- c) Which are the two main drawbacks of quantitative easing? (These are also the main reasons why the ECB and the Riksbank have chosen not to use quantitative easing). (4 points)

Only very brief answers are required!

#### **Short question 5 (10 points)**

The Taylor rule can be used to calculate which interest rate an EMU country would have if it had not participated in the monetary union.

- a) What is the typical formula for the Taylor rule? (1 point)
- b) How is this formula modified when interest rate smoothing is incorporated? (3 points)
- c) Describe two problems that have to be handled when calculating a Taylor interest rate from data! (6 points)

Only very brief answers are required!

#### **Short question 6 (10 points)**

Haldane and Reed show how forward interest rates can be used to measure central bank transparency and allow us to compare the degree of transparency, either between countries or over time.

- a) What is central bank transparency? (2 point)
- b) What are forward interest rates? (2 points)
- c) How can forward interest rates be used to measure central bank transparency? (6 points)

Only very brief answers are required!