

**UNIVERSITY OF OSLO**  
**DEPARTMENT OF ECONOMICS**

Exam: **ECON4325 – Monetary policy and business fluctuations**

Date of exam: Tuesday, May 29, 2007      **Grades are given: Thursday, June 14**

Time for exam: 02:30 p.m. – 05:30 p.m.

The problem set covers 2 pages

**NOTE: You may give your answer in English or in Norwegian**

Resources allowed:

- No resources allowed

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

**The exam consists of two parts: A and B. Both parts carry equal weight. You should answer both parts.**

**Part A consists of five questions, of which you shall answer four. You can choose yourself which question you will leave out. Answer briefly, intuitively and precisely.**

**Part B consists of one question. Answer in depth and in detail.**

## **PART A**

### **Question 1**

Explain the concept “the inefficiency gap” used by Gali, Gertler and Lopez-Salido. Explain how the welfare costs of a recession depend on to what extent the steady state of the economy is distorted. Discuss also briefly other costs of business fluctuations not considered in Gali, Gertler and Lopez-Salido’s formal analysis.

### **Question 2**

Consider a standard RBC model extended to include government consumption. Compare the effects of a temporary productivity shock with the effects of a temporary shock to government

consumption. What are the effects of a temporary preference shock, in the form of higher disutility of labour? (In the latter question, you can neglect government consumption.)

### **Question 3**

Discuss to what extent a standard RBC model can explain the business cycle properties of the key labour market variables.

### **Question 4**

Describe in what way monetary policy affects output and prices in Lucas' imperfect information model. Discuss to what extent this model can explain the findings of Ball regarding unemployment in the countries in G7 and the OECD.

### **Question 5**

Discuss the phrase "Monetary policy is management of expectations".

## **PART B**

1. Consider the following "New Keynesian" Phillips curve:

$$\pi_t = \beta E_t \pi_{t+1} + \kappa y_t + e_t$$

- i Explain why inflation expectations,  $E_t \pi_{t+1}$ , matter for current inflation.
- ii What does the size of the coefficient  $\kappa$  depend on?
- iii Suppose that aggregate demand is represented by

$$y_t = E_t y_{t+1} - \alpha(i_t - E_t \pi_{t+1}) + u_t$$

and that the central bank's loss function is given by

$$L_t = \frac{1}{2}[\pi_t^2 + \lambda y_t^2]$$

Derive optimal monetary policy under discretion.

- iv Suppose that  $\kappa$  is stochastic and given by  $\kappa_t = \bar{\kappa} + \varepsilon_t$ , where  $\varepsilon_t$  is a white noise shock. Assume that the central bank must set monetary policy before the shock is realised. Derive optimal monetary policy (discretion) under such uncertainty. Compare the results with optimal policy under full certainty.