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UNIVERSITY OF LONDON 279 0115 ZB

BSc degrees and Diplomas for Graduates in Economics, Management, Finance and the Social Sciences, the Diploma in Economics and Access Route for Students in the External Programme

Monetary Economics

Wednesday, 17 May 2006 : 10.00am to 1.00pm

Candidates should answer **TWELVE** of the following **EIGHTEEN** questions: **EIGHT** from Section A (5 marks each), **THREE** from Section B (10 marks each) and **ONE** from Section C (30 marks). **Candidates are strongly advised to divide their time accordingly.**

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SECTION A

Answer **eight** questions from this section (5 marks each).

Specify whether the statements below are true, false or uncertain. Explain your answer in a short paragraph.

1. In the Baumol-Tobin inventory theoretic model of the demand for money, the interest elasticity of demand for money is -0.5 and the income elasticity of demand for money is +0.5.

2. If all other things are equal, an increase in the expected rate of inflation tends to increase long-term rates of interest relative to short-term rates of interest.

3. Depending on how the monetary authorities conduct policy, the supply of high-powered money (the monetary base) might be either endogenously determined or exogenously determined.

4. If all other exogenous variables are constant, an increase in the real rate of interest implies a reduction in the demand for money.

5. The Lucas critique implies that, because of rational expectations, econometric models are of little use in predicting the effect of macroeconomic policies.

6. The quantity theory of money and Say's Law are inconsistent elements of the Classical Theory.

7. Broad definitions of the money supply, which include deposits held in interest-bearing bank accounts, tend to reflect the demand for money as a means of payment.

8. The real exchange rate of a country is equal to the price it pays for imports relative to the price it receives for its exports.

9. Under the Gold Standard, a country with a balance of payments surplus automatically enjoyed a growing money supply.

10. In most developed economies, almost the entire money supply is 'inside money', that is, money created by banks; 'outside money', liabilities of the central bank, makes up a very small part of the total.

11. According to real business cycle theory, the main causes of fluctuations in economic activity are shocks to government spending and the quantity of money.

12. A 'conservative' central bank is predicted by economic theory to stabilise national income less than a neutral central bank, in addition to producing a lower rate of inflation.

SECTION B

Answer **three** questions from this section (10 marks each).

13. A simplified version of the monetary model of the exchange rate can be written as:

$s = (m - m^*) - (y - y^*) + (r - r^*)$

All variables are in logs and

S = nominal exchange rate
M = domestic money supply
m^* = foreign money supply
Y = domestic real income
y^* = foreign real income
R = domestic interest rate
r^* = foreign interest rate

(a) Explain this model of the exchange rate and the assumptions on which it is based.

(b) Explain and illustrate diagrammatically, how an increase in the domestic money supply impacts on the exchange rate.

14. Figure 1 below shows the annual percentage change in GDP in several euro-zone countries.

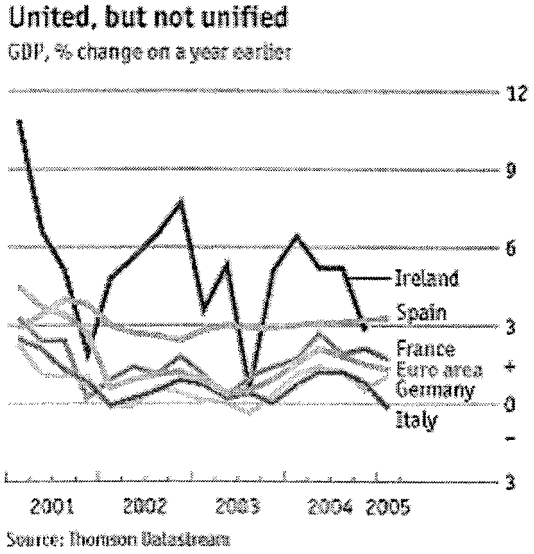

Figure 1

(a) Using this data in Figure 1, explain the problems that the common currency poses for monetary policy among the member countries illustrated.

(b) How might wage and price flexibility among the member countries illustrated in Figure 1 help alleviate the problems posed for monetary policy?

15. Figure 2 below shows data for the current account of the balance of payments and the fiscal surplus as a percentage of Gross Domestic Product (GDP) for the United States from 1980 to 2004.

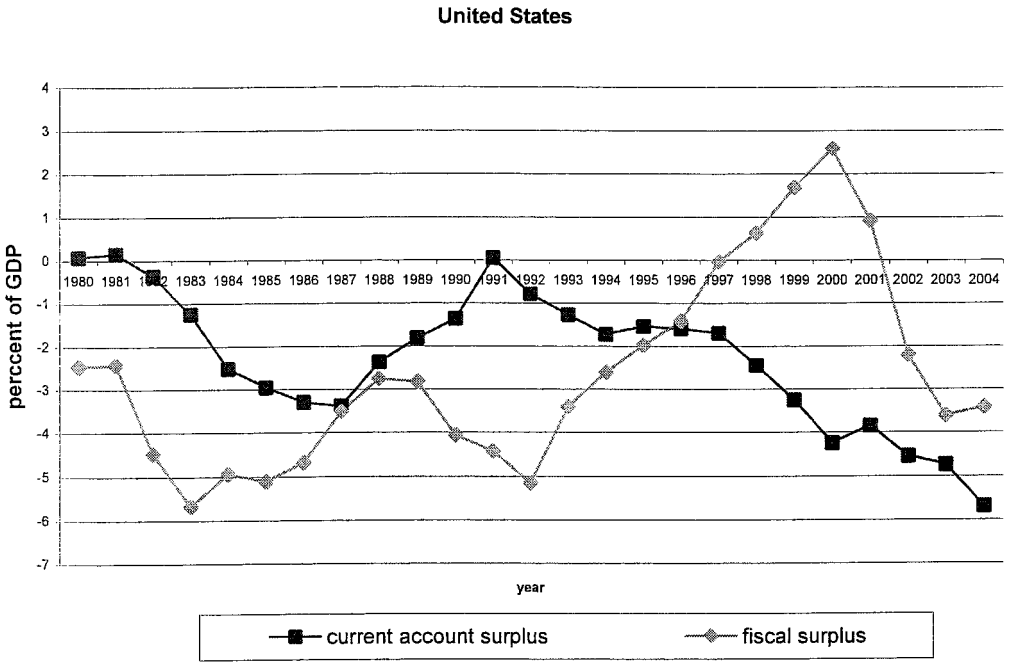

Figure 2

(a) Why might there be a relationship between the size of the fiscal surplus and the size of the current account surplus in an open economy such as the United States?

(b) Why might the relationship between these two surpluses be imperfect? What other factors might influence their relative sizes?

16. Figure 3 below shows data on the annual inflation rate and the Treasury bill rate in the United States.

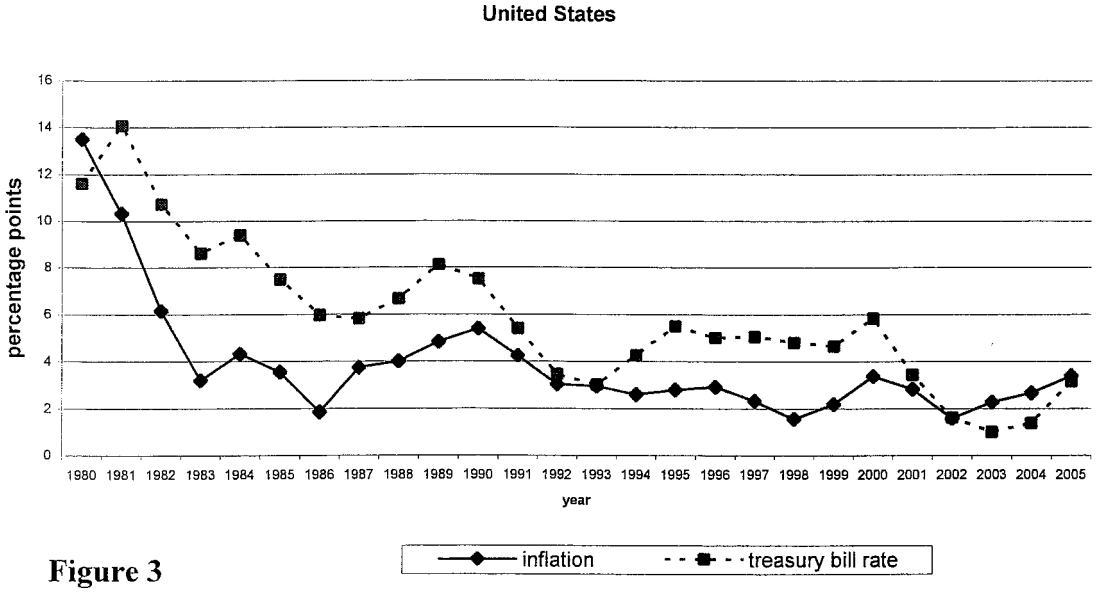

Figure 3

(a) How has inflation evolved over the period shown in the diagram?

(b) How have the nominal interest rate and the real interest rate evolved over this period?

(c) What does the data shown in the diagram indicate about the conduct of monetary policy?

SECTION C

Answer **one** question from this section (30 marks).

17. Table 1 below shows the evolution of average foreign currency deposits to total deposits (per cent) between 1996-2001.

Region	**Number of countries**	**1996**	**2001**
South America	8	45.8	55.9
Transition Economies	26	37.3	47.7
Middle East	7	36.5	41.9
Africa	14	27.9	33.2
Asia	13	24.9	28.2
Central America and Mexico	7	20.6	24.7
Caribbean	10	6.3	6.2
Developed Countries	14	7.4	6.6

Table 1 Source: IMF

(a) Comment on the data in Table 1 and discuss the factors that have given rise to the changes in the ratio of average foreign currency deposits to total deposits over the period illustrated.

(b) What advantages might countries derive from increasing the ratio of foreign currency deposits to total deposits?

(c) What disadvantages might countries experience as a result of increasing the ratio of foreign currency deposits to total deposits?

18. Consider a competitive market economy populated by households whose utility each period is derived from consumption and holdings of real money balances. Suppose the household arrives in period 1 with nominal money holdings m_0 carried over from period 0, and has real labour income y_1. These are allocated to consumption (c_1) and to holdings of real bonds (b_1) and nominal money balances (m_1). The price level in the economy is p_1. In period 2 the household has real labour income y_2, and allocates resources to consumption and holding of nominal money balances m_2. The price level in period 2 is p_2. The rate of return on real bonds is r, and future utility is discounted at a rate β Thus the household chooses consumption, money, and bond holdings in order to maximise the utility function

$$U = u(c_1) + v(\frac{m_1}{p_1}) + \beta\left(u(c_2) + v(\frac{m_2}{p_2})\right)$$

subject to the budget constraints

$$\frac{m_0}{p_1} + y_1 = c_1 + \frac{m_1}{p_1} + b_1 \quad \text{and} \quad \frac{m_1}{p_2} + b_1(1+r) + y_2 = c_2 + \frac{m_2}{p_2}$$

(question continues on next page)

(a) Show that when consumption, money, and bond holdings are at an (interior) optimum, by adjusting bond holdings, the consumer will choose consumption in each period so that
$u'(c_1) = (1+r)\beta u'(c_2)$
where $u'(c_1)$ denotes $\partial u(c_1)/\partial c_1$.

(b) Assuming that the utility of consumption is logarithmic, $u(c_t) = \log(c_t)$, for $t = 1,2$, how may one interpret this condition for optimal consumption?

(c) Show that by adjusting money holdings at the end of period 1, the consumer will choose to hold money so that
$v'(m_1 / p_1) = \beta \frac{i}{1+i} u'(c_1)$
where i is the nominal interest rate, defined as $1+i \equiv (1+r)(1+\pi)$ with $\pi \equiv (p_2 / p_1) - 1$.

(d) Assuming that the utility of money holdings is also logarithmic, $v(m_t) = \log(m_t)$, for $t = 1,2$, how would an increase in the nominal interest rate affect the consumer's demand for money?

(e) How does an increase in the household's wealth affect its demand for money at the end of period 1?

(f) How does the money demand function derived in this model compare with macroeconomic theories of the demand for money, such as the quantity theory, or Baumol and Tobin's theories of the transactions demand, in terms of the income and interest elasticities of demand?

END OF PAPER