

MACROECONOMICS
LADE 3, Course 2006/2007
Homework 3, 2nd term

1. Read the following text and answer the questions.

“Concerns about the risk of deflation has increased considerable in the last few months, both among developed and emerging countries. The backdrop for this fear is a mixture of severe falls in the world stock markets, increases in the Output Gaps and deterioration in the confidence of consumers and producers. Japan is already in deflation and China and some other Asian economies are struggling with deflationary pressures. This has raised the fear that deflation may intensify and spread more broadly...”

from an economic newspaper in 2001

- a) If your country finally experiences deflation, why should you be worried? What are (according to the text) some possible causes of deflation? (Use the AD-AS model of a closed economy for your answers)
- b) How can a country emerge from deflation? Is monetary policy useful in that situation? What other policy instruments may be useful?
2. Assume that the demand for real money balances take the form:

$$\frac{M}{P} = Y[1 - (r + \pi^e)]$$

Consider, in particular, an economy with $Y=1000$; $r=0.1$

- a) How much seignorage (as a proportion of the GDP) produces a 25 % increase in money supply ($\Delta M/M$)? And a 50 % increase? Assume a constant π^e of 10 % in both cases.
- b) Imagine that the year after implementing the jumps in money growth described above the inflation rate hikes to 20 and 40 % respectively. Assume the new π is automatically adopted as the new inflation expectation. How much should $\Delta M/M$ increase in each case to generate the same amount of seignorage?
- c) In the medium term $\pi^e = \pi = \Delta M/M$. Compute the seignorage generated in the medium term if the growth rates of money of part (a) are sustained in time.
3. Discuss the following statements:
- a) In the short run, governments can finance a deficit of any size through money growth.
- b) Well designed stabilization plans are always effective in controlling hyperinflation, even if economic agents do not trust their efficacy.

- c) Wage and price freezes are instrumental in any successful stabilization plan.
- d) Social cost of stabilization plans are always huge.
- e) In general, hyperinflation means not just high inflation, but an accelerating one. This is largely due to the tendency of individuals to reduce their holdings of money balances (which forces the government to increase money growth).

4. Read the following text and answer the questions.

“As expected by the financial markets, the European Central Bank (ECB) increased the interest rate in a quarter of a point (0.25 %) till 2.5 %. It is the second consecutive increase in three months, after the ECB had kept rates constant at 2 % for five years. Market consensus point to further increases until reaching 3 % by the end of the year... ”

“ ... according to analysts, the ECB decided to increase rates after the arrival of new economic data confirmed a strong pace of economic growth and the persistence of significant pressures on prices. Annual inflation went down a little in February till 2.3 %, but is still above a comfortable level for the ECB... ”

“... the Euro remained stable above 1.19 Dollars after the ECB made the rate hike public.”

from an economic newspaper, 2nd March 2006

- a) What is the market consensus mentioned in the first paragraph?
 - b) To make sense of the decision by the ECB, in which stage of the business cycle do you think the European Economy must be?
 - c) How could you explain the fact that the exchange rate did not change after the increase in the interest rate? Can you guess what may have happened, had the ECB decided not to increase the rates?
 - d) Imagine you try to explain the ECB behavior using Taylor’s Rule. Assume the unemployment rate is equal to the natural rate and that the medium term equilibrium interest rate, r^* is 0.5 %. Using the market consensus about the full increase in rates for the entire year, compute the sensitivity of the ECB monetary policy to deviations from its desired (2 %) target inflation rate .
5. Consider an economy where public debt is 60 % of the GDP
- a) Assume the real interest rate is 3.5 % and the GDP growth rate is 3 %. If these magnitudes remain constant and the annual primary deficit is 1 % of GDP, which will be the size of the public debt after 1 year? And after 5 years? What would be your answer if the GDP growth rate were 4 %?
 - b) Assume the government is forced to reach a target of 60 % debt to GDP ratio in 5 years time. Which policies would you recommend to achieve this target?

6. Discuss the following statement

“Assume the government wants to reduce the size of public debt (as a share of GDP). To succeed it will necessarily have to generate a primary surplus”.

7. Read the following text and answer the questions.

“ ... The extraordinary increase in revenues (14.1 % more than in 2005) has made possible a budget surplus of 1.1 % of the GDP this year. The spectacular increase in fiscal income is partly due to the increase in inflation experienced by the Spanish economy... The growth rate of the Nominal GDP was 8 %, well above the growth rate of the real GDP (3.4 %). The difference is the effective inflation suffered by the economy. We should go back to 1989 to find such a positive figure in terms of revenues. But we also have to go back to that same year to find a inflation figure as big as the current one (excluding 1999).”

“ the successful management of the public deficit has made possible to keep the volume of public debt issued by the State constant around 392.000 millions (Euros). But due to the last year remarkable growth in the nominal GDP, the debt ratio has been reduced to 43.3 %, three percentage points less than last year. ”

Press Note of *Ministerio de Economía*, 1st March 2006

- a) Discuss if, according to the available data, there has been an increase in the *real* fiscal revenue. Explain why a large inflation figure can increase the total fiscal revenue.
- b) In 2005, total interest payments on the Spanish public debt amounted to 16000 mill. Euros. Could you compute the nominal and real interest rates paid by the Spanish public debt?
- c) Compute the primary deficit to GDP ratio in 2005.
- d) Imagine that the government target for next year is to stabilize the debt. Compute the size of the primary surplus that, *Ceteris Paribus*, would achieve that goal. What if the real interest rate figure were 1 % larger than that observed in 2005?