14.02 Principles of Macroeconomics

Problem Set # 4, Questions

Posted on Thursday, October 17, 2002, due on Thurdasy, October 24, 2002 by 4:30 PM in the 14-02 box at E52-391.

Name: ____

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Please mark one of the following options.

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☐ 2PM Samer Haj-Yehia

☐ 9AM Indradeep Ghosh
☐ 11AM Oscar Landerretche
☐ 1PM Indradeep Ghosh
☐ 1PM Veronica Rappoport
☐ 2PM Veronica Rappoport
☐ 3PM Veronica Rappoport

Table, only for correctors

	1	2	3	4	5	Total
Part I						
Part II						
Part III						
Total						

1 PART I. TRUE/FALSE/UNCERTAIN (7 points each, 35 points total)

1. As in microeconomics, the AD-curve is downward sloping since consumers buy less goods when they are expensive.

2. Even with the unemployment rate in its natural level, inflation rate can increase due to higher expected inflation.

3. Wage indexation decreases the impact of changes in unemployment rate on the inflation rate.

4. Expansionary fiscal policy has a positive effect on output, consumption and investment in the short run. However, it has no effect in the medium run since all the components of aggregate demand go back to its previous level.

5. Expansionary monetary policy has a positive effect on output, consumption and investment in the short run. However, it has no effect in the medium run since all the components of the aggregate demand go back to its previous level.

2 PART II: THE AS-AD MODEL (7 points each, 35 points total)

The labor market is characterized by the following equations:

$W/P^e = 10 - Z - 10u$
$Y = N$
$Z = 9$
$L = 600$
$\mu = 1$

where Z stands for unemployment benefits, μ for the mark-up margin, P^e for the expected price level, L for the total labor force, N for employment level and u for unemployment rate.

The money market is characterized by the following equations:

$\frac{M^d}{P} = 5Y - 1200i$
$M^s = 10000$

And the goods market is characterized by the following equations:

$I = 100 - 200i + 0.1Y$
$C = 120 + 0.4(Y - T)$
$G = 400$
$T = 400$

1. Derive the AD-curve. Explain its meaning and give the intuition for the sign of its slope.

2. Derive the AS-curve. Explain its meaning and give the intuition for the sign of its slope.

3. What is the natural level of output in this economy? Explain the concept.

4. What is the equilibrium output in the short run, if the expected price level is equal to 4? Show qualitatively with a graph. Explain why having an equilibrium output higher than its natural level implies a price level higher than it was expected.

5. What is the price level in the medium run equilibrium? Explain how the economy evolves from the short run equilibrium to a medium run equilibrium. Illustrate the intuition with both a IS-LM graph and a AS-AD graph.

3 PART III: SHORT QUESTIONS (10 points each, 30 points total)

In the late 90s, the unemployment rate was below its historical natural level.

1. Some economists, worried about an increase in prices, recommended the Fed to increase the interest rate.

   In terms of the AS-AS, the IS-LM and the WS-PS models, explain the argument above and the consequences of the recommended policy in the short run and in the medium run. Why is that policy appropriate?

2. Some other economists argued that the low unemployment rate in the late 90s could not be taken as a sign of future inflation. The evolution of the unemployment rate was due to an increase in the labor productivity.

   In terms of the AS-AS, the IS-LM and the WS-PS models, explain the argument above.

3. What are the short run and long run consequences of implementing the policy recommended in 1 when the right diagnosis is the one given in 2?