EC202C1 – Intermediate Macroeconomic Analysis
Spring 2012, Boston University

Instructor: Jeremy Smith

First Mid-term Exam (Practice #1)

Thursday, February 23, 2012

This is a 50-minute exam. There is a total of 50 points allocated across two questions. Use the number of points allocated to each part as a suggestion for how long to spend on that part. I recommend that you attempt all parts before using more time than is suggested for any one part. If you complete some parts in less than the suggested time, use your extra time to revisit parts you may have had trouble with the first time through and to check your work.

Please read the questions carefully and write your answers in the space provided. You can use the backs of the sheets for scrap paper, but to get full credit you must show all relevant work in the space provided.

Please follow my instructions at all times.

Concentrate and think carefully, but try to relax too!

Student Number:

(Please do not include your name.)

1. [32 points total, 4 parts] Consider the following behavioral equations and exogenous variables describing the economy:

$C = 200 + 0.3Y_D$
$I = 300 + 0.2Y - 3000i$
$(M/P)^d = 2Y - 8000i$

$G = 360$
$T = 200$
$(M/P)^s = 2000.$

a) [11 points] Derive the *IS* relation. Derive the *LM* relation. Find the short-run equilibrium output level and interest rate.

b) [7 points] Now suppose that the government decides to reduce the budget deficit. Specifically, government spending decreases to $G = 340$ and taxes increase to $T = 300$. Calculate the new short-run equilibrium output level and interest rate.

c) [5 points] Consider a hypothetical alternative policy in which the government had kept spending constant relative to part a) at 360 and raised taxes to 320. As with the actual policy of part b), the budget deficit would be 40 with this hypothetical alternative policy. Would equilibrium output also be the same under this hypothetical alternative policy compared to the actual policy in part b)? Explain your answer briefly and without doing further calculations.

d) [9 points] Now suppose that, with the actual policy of part b) in place ($G = 340$ and $T = 300$), the central bank decides that it would like the interest rate to be 8%.

i. Find the level at which the central bank will have to set the real money supply in order to meet this interest rate target.

ii. With both this monetary policy and the fiscal policy of part b) in place, how would you expect the level of consumption to compare to that in the original short-run equilibrium of part a)? Explain why in words, without calculating the consumption levels.

2. [18 points total, 2 parts] Assume that the economy begins in recession, at a short run equilibrium output level below the natural level of output. The government responds with expansionary fiscal policy, but the resulting output level is still below the natural level of output. The central bank responds immediately thereafter with expansionary monetary policy, which results in an equilibrium output level above the natural level of output.

a) [10 points] Illustrate this situation in the *AS-AD* framework. On your graph, make sure to identify:

i. the economy's starting point;

ii. the natural level of output;

iii. the short run equilibrium (including labor market adjustment) that would arise if only the fiscal policy were put in place; and

iv. the short run equilibrium (including labor market adjustment) following the fiscal policy and the subsequent monetary policy.

b) [8 points] Now suppose that there are no further policy interventions or shocks, and that the economy converges to medium run equilibrium. State the direction in which each of the following variables changes, comparing their values in this medium run equilibrium to their values when the economy started in recession.

Output _____

Actual Price Level _____

Unemployment Rate _____

Actual Real Wage _____

Nominal Wage _____

Investment _____

Consumer Confidence _____

Employment _____