ECON 222

Macroeconomic Theory I

Fall Term 2009

Assignment 4

Due: Drop Box 2nd Floor Dunning Hall by ***noon December 4th*** *2009*

No late submissions will be accepted
(One assignment per person)

Remarks: Write clearly and concisely. Devote some time to give the graphs, plots and tables a format easy to understand. Also the way you present your answers matter for the final grade. Even if a question is mainly analytical, ***briefly*** *explain what you are doing, stressing the economic meaning of the various steps. Being able to convey your thoughts effectively is an asset also in real life.*

Question 1: IS-LM/AD-AS in an Closed Economy (10 Marks)

(a) Using the IS-LM and AD-AS models discuss what would happen in a closed economy starting from full-employment if there is an increase in the expected future MPK (without any change in the actual current or future productivity of capital, or future wealth of workers over the time period considered by the model). Use all relevant graphs. (6)

(b) Using the IS-LM and AD-AS models discuss what would happen in a closed economy starting below full-employment if the central bank increases the supply of money. Use all relevant graphs. (4)

Question 2: IS-LM in an Open Economy (15 Marks)

This question is exactly number 5 of chapter 10, please make sure that you add **graphs** to support your answers. Consider the following Keynesian small open economy:

$$
\begin{aligned}
C^d &= 200 + 0.69Y \\
I^d &= 80 - 1000r \\
G &= 20 \\
NX &= 85 - 0.09Y - e \\
e &= 90 \\
M &= 115 \\
L &= 0.5Y - 200r \\
\bar{Y} &= 300
\end{aligned}
$$

In this economy, the real interest rate does not deviate from the foreign interest rate.

(a) Assuming this economy is in general equilibrium, what is the value of the interest rate r. (4)

(b) Assuming fixed nominal exchange rates and a fixed domestic price level, what is the effect on domestic output if the foreign interest rate increases by 0.05? What is the size of the nominal money supply in the new short-run equilibrium? (4)

(c) Assuming flexible exchange rates and a fixed domestic price level, what is the effect on domestic output if the foreign interest rate increases by 0.05? What is the value of the real exchange rate in the new short-run equilibrium? (4)

(d) In the long run, how does the domestic price level respond to an increase in the foreign interest rate? (3)

Question 3: Foreign Investment (15 Marks)

As a Canadian saver, you have \$100 to invest in either of the following two investments (both have the same risk & liquidity):

i) A Canadian bond which pays i=5% each period

ii) A US bond which pays i=10% each period

The current nominal Can-US exchange rate is $e_{nom} = 0.85$. Before the pay-out next period, you expect the US dollar (USD) to depreciate ($\rightarrow$ CAD will appreciate) to $e^f_{nom} = 0.925$.

(a) Based on your forecast, which is the better investment? Work through each option fully; don't simply use the approximation formulas. (5)

(b) Your Grandma thinks the USD will not depreciate (the CAD will not appreciate) by as much and expects $e^f_{nom} = 0.87$. Of these two, which investment would she make? (5)

c) Solve for the e^f_{nom} which is consistent with this current interest rate differential in equilibrium. i.e. what is the market's expectation of the Canada-US exchange rate next period? (5)