Midterm Solutions - Economics 160B - Spring 2010

Regrade policy: If you would like your test regraded, please submit a written statement to explain why. Your entire test will be regraded, so there is a possibility that points could be lost not gained. All regrade requests must be submitted within one week of exams first being returned (which was 5/18/10).

Multiple Choice:

Version A (5/5/2010)	1) a	2) d	3) b	4) c	5) c	6) a	7) b	8) c
Version B (5/6/2010)	1) d	2) e	3) c	4) a	5) b	6) b	7) c	8) d
Version C (5/7/2010)	1) b	2) e	3) d	4) b	5) a	6) c	7) d	8) b

Problem 1:

a) By Uncovered interest rate parity
$i_{dinar} = i_{won} + (E^e_{dinar/won} - E_{dinar/won})/ E_{dinar/won.}$
Version A: $0.30 = 0.05 + (E^e_{dinar/won} - 1)/1$; $0.25 = (E^e_{dinar/won} - 1)$; $E^e_{dinar/won} = 1+0.25 = 1.25$
Version B: $0.20 = 0.05 + (E^e_{dinar/won} - 1)/1$; $0.15 = (E^e_{dinar/won} - 1)$; $E^e_{dinar/won} = 1+0.15 = 1.15$
Version C: $0.30 = 0.10 + (E^e_{dinar/won} - 1)/1$; $0.20 = (E^e_{dinar/won} - 1)$; $E^e_{dinar/won} = 1+0.25 = 1.20$

b) By covered interest rate parity:
$i_{dinar} = i_{won} + (F_{dinar/won} - E_{dinar/won})/ E_{dinar/won}$, just like above, so
Version A: $F_{dinar/won} = E^e_{dinar/won} = 1.25$
Version B: $F_{dinar/won} = E^e_{dinar/won} = 1.15$
Version C: $F_{dinar/won} = E^e_{dinar/won} = 1.20$

c) By relative PPP holds, we know that
$(\Pi^e_{Iraq} - \Pi^e_{Korea}) = (E^e_{dinar/won} - E_{dinar/won})/ E_{dinar/won}$
Version A: = (1.25-1)/1 = 0.25(inflation expected to be 25% higher in Iraq)
Version B: = (1.15-1)/1 = 0.15(inflation expected to be 15% higher in Iraq)
Version C: = (1.20-1)/1 = 0.20(inflation expected to be 20% higher in Iraq)

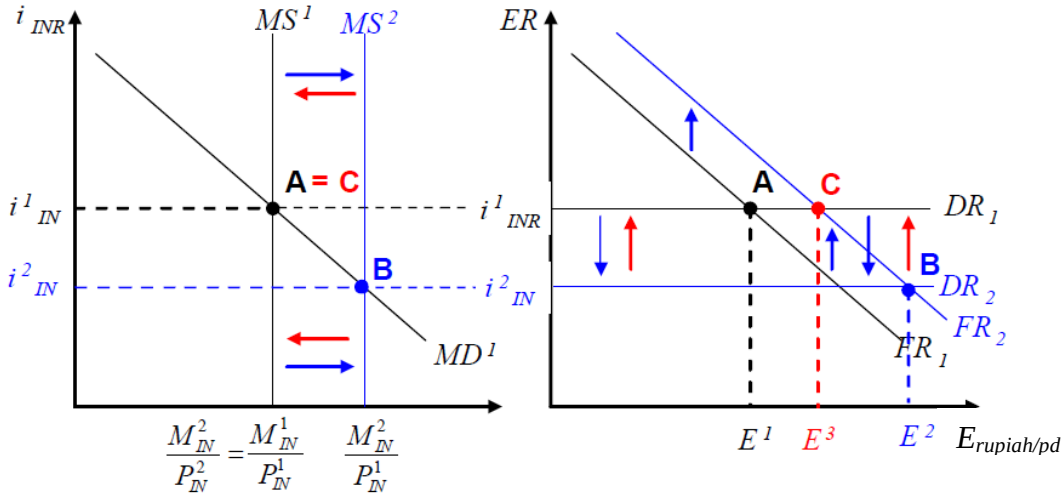
d) This requires using both relative PPP and UIP (the instructions say you cannot simply assume real interest rate parity), which combine to say
$i_{dinar} - i_{won} = (E^e_{dinar/won} - E_{dinar/won})/ E_{dinar/won} = (\Pi^e_{Iraq} - \Pi^e_{Korea})$.
Or $i_{dinar} - \Pi^e_{Iraq} = i_{won} - \Pi^e_{Korea}$.
Then use the definition of the real interest rate: $r = i - \Pi^e$
which indicates that the real interest rates are the same. That is, the real interest rate differential is zero.
(note: it is not sufficient to simply appeal to real interest rate parity without proving that real interest rate parity holds here. Your reasoning must explain how you know real interest rate parity holds, that is, because relative PPP and UIP together imply it.)

Problem 2:

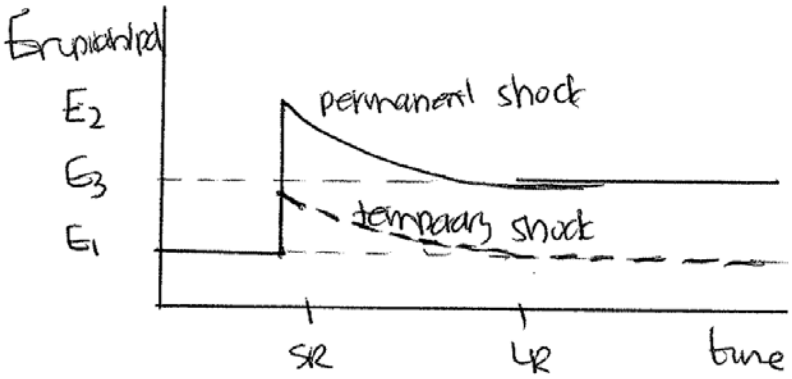
a) This is the same problem as homework #2 problem #3.

The Indonesian interest rate falls to raise the value of real money demand to equal money supply. This lowers the domestic returns curve in the foreign exchange market because the domestic interest rate is the domestic return. The foreign returns curve shifts right because the

shock is permanent and leads to a higher value of E in the long run (a higher value of the pound), which raises the expected foreign returns for any given current spot exchange rate.



b)



(for the permanent shock, note that the short run level jumps up suddenly, and ends up at a level higher than the initial level. For the temporary shock, not that it is below the permanent shock case both in the short run and long run; in particular, in the long run it returns to the initial level.)

c) The graph would differ from part (a) above in that the foreign returns curve would not shift right at all. So the short run exchange rate would rise less. In the long run, the equilibrium exchange rate returns to the original level E1.

Problem 3

a) Equilibrium approach says:

$$E_{peso/\$}=P_{Arg}/P_{US} = (M^s_{Arg}/ M^s_{US}) \ / \ (L(i_{Arg})Y_{Arg}) \ / \ L(i_{US})Y_{US})$$

Where *M* indicates money supplies, *L* money demands. (This can also be written in terms of growth rates. The first equality, involving relative prices, is not strictly necessary for part (a), but part (b) must discuss it.)

b) Keeping E pegged requires that the price level in Argentina stay constant relative to the price level in the US: $E_{peso/\$}=P_{Arg}/P_{US}$ in the equation above. (The answer must prove some explicit linkage to the price level or inflation rate.)

c) if Y_{Arg} is growing faster than Y_{US}, this means in order to keep E pegged at a constant level, M_{Arg} must also be growing faster than M_{US}. Because output growth drives growth in real money demand, money supply must accommodate this by growing at a faster rate as well.

Problem 4:

a) financial account surplus (positive sign); change in external wealth is negative.

b) The key points are as follows. A current account deficit today requires trade balance surpluses in the future, in order to pay interest on the debt accumulated. A potential benefit is the ability to smooth consumption over time; currently output is low due to the recession, but borrowing abroad would allow us to buffer the impact on consumption.

5/18/10