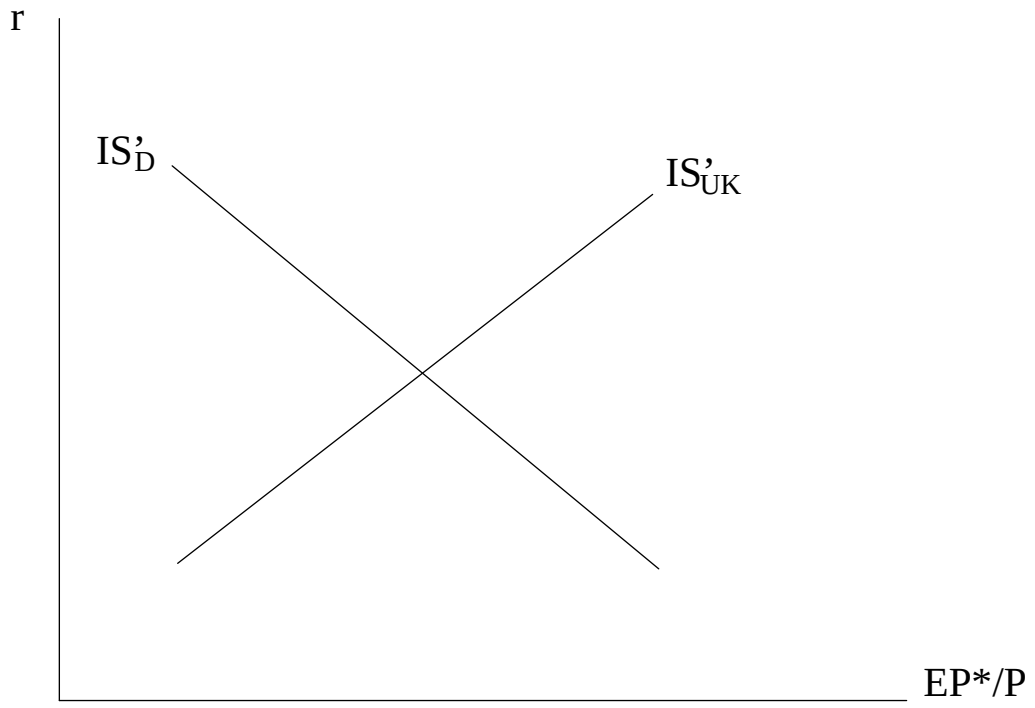
International finance
Solution to problem set 10

1. Derive the model in lecture 10. Show how the two IS equations can be drawn in the (r_w, EP^*/P) space and their intersection determines the medium run equilibrium. Discuss how the two curves move. Explain that the world economy is closed. So the world interest rate must equate aggregate world demand and supply. Also show using the LM curves that in the medium run prices need to adjust only if the equilibrium world interest rate changes. The DIS and SIS relationship help you determine what happens to the interest rate and the real exchange rate when the graph below does not provide an unambiguous answer.



   (a) Asymmetric shock. It is a reallocation of expenditure across countries. At any level of output and EP^*/P the UK (German)current account worsens (improves). IS'$_{UK}$ shifts down and IS'$_D$ shifts up. Explain why. r is unchanged since total world demand is unchanged. So, prices do not need to adjust but the EP^*/P needs to depreciate. E is clearly useful since it allows the adjustment to take place without a change in prices. With E fixed P^*/P and M/M^* would need to adjust.

   (b) This is just a reallocation of total expenditure across goods. No effect unless the composition of production differs across the two countries.

   (c) If the increase is the same in the two countries the shock is symmetric. Hence, no effect on CA (equation 5) and EP^*/P. The two curves above shift down by the same amount (explain why) and the world interest rate falls. Prices need to fall in both countries, but E has no role to play.

(d) The shock is now asymmetric. Only IS'$_{UK}$ shifts down. Both r and EP^*/P fall. So prices have to fall in both countries but a nominal depreciation is still useful.

(e) This was German reunification. Asymmetric shock. IS'$_D$ shifts up. Both r and EP^*/P have to increase. Prices have to increase in both countries but nominal depreciation is still useful.

2. Then Germany would always be at full employment and if E were fixed the different speed of price adjustment would imply a temporary change in EP^*/P also in the face of a symmetric shock (e.g. case 1.c). So if different speed of adjustment nominal exchange rate flexibility is a useful instrument even in the face of asymmetric shocks.