Midterm Solutions - Economics 160B - Spring 2011

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 (5/24/11).

Multiple Choice:
Version A&B 1) c 2) a 3) c 4) b 5) d 6) a 7) e 8) b
Version C&D 1) a 2) b 3) e 4) c 5) a 6) b 7) e 8) d

Problem 1:

a) Using relative PPP:
   Versions A&B: \( \frac{(E^{e}_{S/P} - E_{S/P})}{E_{S/P}} = \Pi^{e}_{US} - \Pi^{e}_{Mex} = -3\% \) Peso expected to fall in value.
   Versions C&D: \( \frac{(E^{e}_{S/P} - E_{S/P})}{E_{S/P}} = \Pi^{e}_{US} - \Pi^{e}_{Mex} = -5\% \) Peso expected to fall in value.

b) Using UIP:
   Versions A&B: \( i_{Mex} = i_{US} - \frac{(E^{e}_{S/P} - E_{S/P})}{E_{S/P}} = 2\% - (-3\%) = 5\% \)
   Versions C&D: \( i_{Mex} = i_{US} - \frac{(E^{e}_{S/P} - E_{S/P})}{E_{S/P}} = 3\% - (-5\%) = 8\% \)

c) According to real interest rate parity, the real interest rate in Mexico must equal that in the US,
   Versions A&B: which is 1\%.
   Versions C&D: which is 2\%.

Problem 2:

a) The FR curve shifts left in the short run and long run because of the expected future higher value of the dollar compared to the case before the money demand change. The domestic returns line shifts up only in the short run because the rise in money demand raises the interest rate on dollar assets. In the long run the fall in price shifts the real money supply line right.

![Diagram of FR curve shifts](image-url)
The overshooting theory helps explain the high degree of volatility of the exchange rate in data.

c) The forward rate equals the expected future spot rate, which adjusts immediately and fully.

Question 3:
The national income accounting identity can be rewritten:
CA = (Y-C-T) + (T-G) – I = private saving + government saving – investment.
a) Yes, a fall in I would raise the CA.
b) No, a fall in T would not affect the CA under these assumptions, as it cancels out from the equation above.
c) No, a rise in G would lower the CA.
d) Yes, a rise in saving would raise the CA.
e) Use CA = TB + NFIA + NUT. It is possible for the trade balance to be falling while the CA was rising, if net factor income from abroad was high (or if net unilateral transfers were positive, so that the US was receiving international gifts). It might be that the returns on assets in the U.S. were lower than abroad (such as low interest rates on the U.S. treasury bills that foreigners seemed eager to purchase for security), so the U.S. earned more on its holdings of foreign assets than it had to pay to

Question 4:
The monetary approach (in percent change form): (note this includes inflation rates)

\[
\text{% dollar depreciation} = \text{U.S. inflation rate} - \text{foreign inflation rate} \\
= (\text{U.S. money supply growth rate} - \text{foreign money supply growth rate}) \\
- (\text{U.S. money demand growth rate} - \text{foreign money demand growth rate})
\]

If a country fixes its exchange rate to the dollar, then it must increase its money supply along with the U.S. and have the same inflation rate in the long run. This inflation can be stopped if the country holds its money supply constant, but this then requires that the exchange rate adjust. So both statements are correct. (As for who is the cause of the problem, U.S. inflation or Chinese exchange rates, this is debatable.)