Midterm Solution Key
Economics 160B   (fall 2006)

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.

Multiple Choices:

      1) a   2) c   3) b   4) a   5) b   6) a   7) c   8) b   9) c   10) d

Problem 1:

a) Using covered interest rate parity:

$i_{NZ} = i_M + (F_{NZD/MR} - E_{NZD/MR})/ E_{NZD/MR}$

$0.02 = 0.12 + (F - 0.2)/0.2$

So $F = (0.02 - 0.12)0.2 + 0.2 = 0.18$

b) Using uncovered interest Rate parity

$i_{NZ} = i_M + (E^e_{NZD/MR} - E_{NZD/MR})/ E_{NZD/MR}$

$0.02 = 0.12 + (E^e_{NZD/MR} - 0.2)/0.2$

$E^e_{NZD/MR} = F_{NZD/MR} = 0 18$ (an expected depreciation in the value of the ringgit)

c) Using relative PPP and the result above:

$\Pi^e_{NZ} - \Pi^e_M = (E^e_{NZD/MR} - E_{NZD/MR})/ E_{NZD/MR} = (0.18 - 0.20)/ 0.20 = -0.10$

Since New Zealand is expected to have zero inflation:

$0 - \Pi^e_{M-} = -0.10$

So $\Pi^e_M = 0.10$

(you could also use real interest rate parity for this, along with the Fisher relation)

d) Using real interest rate parity:

$r_M = r_{NZ}$

and the definition of the real interest rate

$r_{NZ} = i_{NZ} - \Pi^e_{NZ} = 0.02 - 0 = 0.02$

so $r_M = 0.02$ (2%)

Or you could just use the definition of the real interest rate:

$R_M = i_M - \Pi^e_M = 0.12 - 0.10 = 0.02$

Problem 2:

The Mexican money demand shock shifts the money demand curve right, raising the equilibrium nominal interest rate in the Mexican domestic money market. This shifts the domestic returns curve up in the foreign exchange market, making the domestic currency (peso) assets more attractive and bidding up the value of the peso relative to the dollar (fall in peso/dollar).
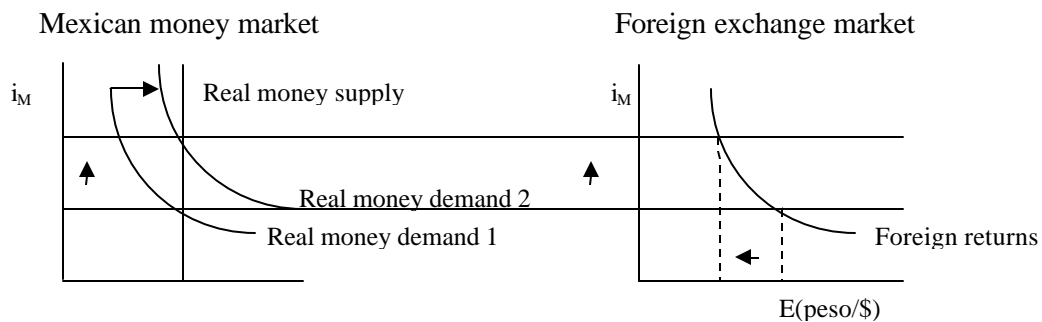
Under a fixed exchange rate regime, the central bank would need to keep the interest rate constant. This would require a rise in the money supply to accommodate the rise in money demand. This would take the form of traders from the private market demanding to buy cheap pesos in exchange for foreign currency.

(a,b,c,a)
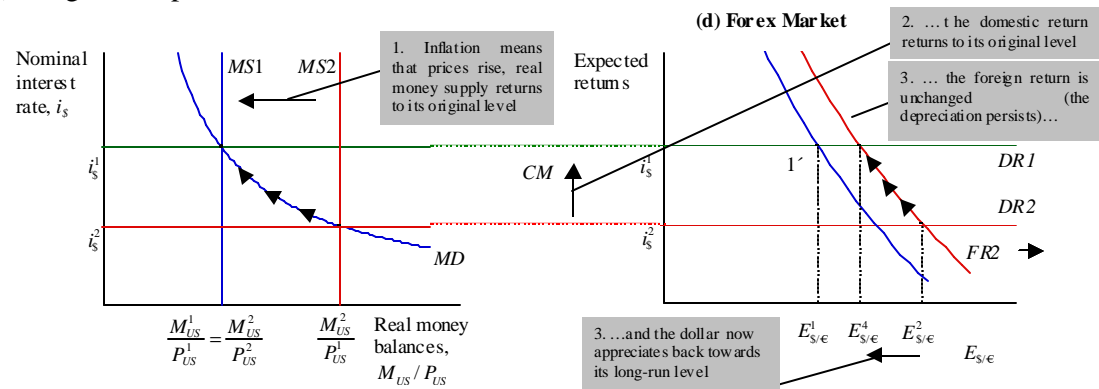

Problem 3: Exchange Rate Overshooting

The question deals with the same case presented in class lecture: see graphs below. Just substitute yen in place of euro.

a) Short-run response
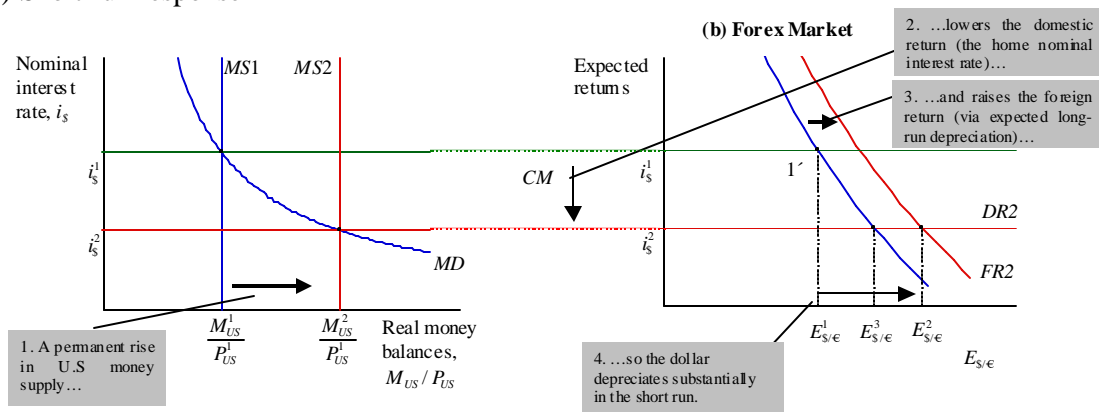
Note that not only does the money supply curve shift right in the money market, but also the foreign returns curve shifts right in the foreign exchange market. This is because the permanent shock affects expectations for the future value of the exchange rate, and hence expected foreign returns. We see here that the interest rate falls and the exchange rate rises (dollar depreciation) in the short run.

b) Long-run response

We see here that the interest rate returns to its original value, and the exchange rate ends up 4% higher than initially.

c)

E$/€
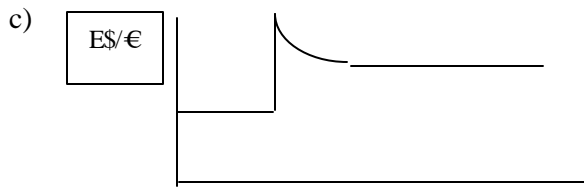
Yes there is overshooting, since the short run exchange rate moves more than in the long run.

Problem 4: Intertemporal current account theory

Consumption is smoothed over time by reducing it a small amount each year, rather than by the full $110 mil in just the first year alone. To be specific, the change in the present value of consumption plus government expenditure must equal the present value of the change in income (which is zero).

PV(C) + PV(G) = PV(Q)
((1+r*)/r*) C + 110 = 0
11 C = -110
C = -10

So consumption drops by $10mil each year.

Since CA = Y – C – G here, G rises by 110 and C falls by 10, then CA falls by 100.

In the subsequent year, the country must pay interest on its debt, so there is a fall in net factor income from abroad (by $10 mil). Note that since the exam used an alternative terminology for this variable (net interest income) instead of the term used in the text (net factor income from abroad, NFIA), we did not count this problem (MC#17) against anyone.

(a,a)

The twin deficits hypothesis states that a government budget deficit tends to create a current account deficit. Whether that happens here depends on what the government of Nigeria does about taxes. If it does not raise taxes to finance the war, then there will a budget deficit corresponding to the CA deficit, and we have twin deficit. But if it does raise taxes, this will lower disposable income of the households. Since consumption remains high, the current account deficit will correspond to a fall in private saving, not a government budget deficit.