(PS 4)

Question 1:

a) $CA = \Delta A^* - \Delta L^*$ initially $\Delta L^* > 0$, $CA < 0$

↳ sudden stop → $\Delta L = 0 \downarrow$ → $CA \uparrow \geq 0$

b) $CA = NX + NI + NT$

$\Delta A^* = 0$, $\Delta L^* = 0 \Rightarrow CA = 0$ $NI < 0$: the country has to pay interest

$\Rightarrow NX = -NI \Rightarrow NX > 0$ → has to generate trade surplus

c)

Capital flight → $\Delta A^* > 0$, $\Delta L^* = 0$, $CA = \Delta A^* - \Delta L^*$

$\Rightarrow CA > 0 \Rightarrow NX + \underbrace{NI + NT}_{0} > 0 \Rightarrow NX > 0$ } has to generate trade surplus

d)

1) lack of foreign credit → credit crunch → higher interest rate → contraction of investment and consumption

2) capital outflow → exchange rate depreciation

3) credit crunch, or depreciation → firms' and banks' failure

Question 2:

a) $A = A^P + R$ → foreign reserves , L^* → foreign liabilities

$CA = \Delta A^{P*} + \Delta R - \Delta L^*$, or $CA\ deficit = \Delta L^* - \Delta A^{P*} - \Delta R$

b)

$R_0 = 300$ bilion , $CA\ deficit_0 = 180$ bilion , $\Delta A^{P*}_0 = 60$ bilion

$180 = \Delta L^*_0 - 60 \Longrightarrow \Delta L^*_0 = 240$ — before sudden stop

CA deficit remains constant 180 if : $CA_1 = 180$ deficits

$180 = \underbrace{\Delta L^*_1}_{0} - \underbrace{\Delta A^{P*}}_{60} - \Delta R \Longrightarrow \Delta R_1 = -240 \Longrightarrow R_1 = 300 - 240 = 60$ ✓

Reserves left to the CB

c) Capital reversal : 80 bilion $\Longrightarrow \Delta L^*_1 = -80$

$CA = \Delta A^{P*} + \Delta R - \underbrace{\Delta L^*}_{-80}$ CA ↑ for 80 bilion

if we want to maintain $CA = -180$

$-180 = 60 + \Delta R - \underbrace{(-80)}_{+80} \Longrightarrow \Delta R = -320$ → which is more than the total reserves of the CB

$\Longrightarrow$ need a correction of 20 bilion of the CA deficit

Question 3:

a) Z_T must fall as much as the NX deficit so as to match Q_T $\Longrightarrow$ $Z'_T - Z_T = NX = Q_T - Z_T$

b) Z_N is proportional to Z_T by a factor γ

$\Longrightarrow Z'_N = \gamma Z'_T \Longrightarrow Z'_N = \gamma (NX + Z_T)$

We know: $Z_N = \gamma Z_T \Longrightarrow Z'_N = \gamma \left(NX + \frac{Z_N}{\gamma} \right) \Longrightarrow$

$Z'_N - Z_N = \gamma NX$: the market for non-tradable shows an excess supply and the relative price of non tradable must fall.

c)

In the previous part we found: $Z'_N - Z_N = \gamma NX$

we know $Q_N = Z_N \Longrightarrow Z'_N - Q_N = \gamma NX \Longrightarrow$

$Q_N - Z'_N = -\gamma NX = \gamma CAD \Longrightarrow \frac{(Q_N - Z'_N)}{Z_N} = \frac{\gamma CAD}{Z_N}$ $\underline{Z_N = \gamma Z_T}$

$\frac{Q_N - Z'_N}{Z_N} = \frac{CAD}{Z_T} \Longrightarrow \underbrace{\frac{Q_N - Z'_N}{Q_N}}_{\text{percentage deviation from equilibrium in non tradable market}} = \frac{CAD}{Z_T}$

Question 4

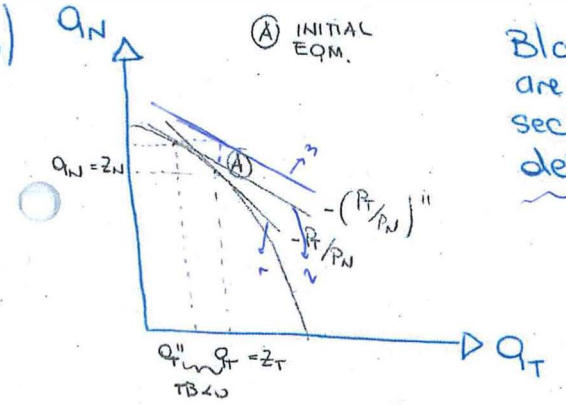
$Q_N = Z_N$, $Q_T = Z_T$, $B_0 = 0$

a) consumption of NT ↑ : Z_{NT} ↑

↓ $NX = Q_T - Z_T + \frac{P_{NT}}{P_T} \cdot Q_{NT} - \frac{P_{NT}}{P_T} \cdot Z_{NT}$ ↑ (adding and subtracting the same)

which implies $\frac{P_N}{P_T}$ ↑ bc the demand has increased. This means that the real exchange rate appreciated.

b)



Bc of appreciation, resources are allocated to the non-tradable sector ⇒ q_T falls creating trade deficit.

$\hat{e} = \alpha(\hat{P_N^*/P_T^*}) - \alpha(\hat{P_N/P_T}) = 0 - \alpha(\hat{\frac{P_N}{P_T}})$

$\Rightarrow (\hat{\frac{P_N}{P_T}}) \uparrow \rightarrow \hat{e} \downarrow$ } appreciation

c) when CA < 0, NIIP deteriorates. If foreign investors stop buying any new debt, the current account has to be reversed and NIIP stabilized.

There is an initial fall in demand in both sectors but at the existing level of relative price the mkt for non-tradables is in excess supply. So the relative price of NT must fall, i.e. real depreciation.

The initial eqm is not restored (restored) bc now we need a trade surplus in eqm in order to pay for the return of the accumulated liabilities.