

ECON4330

Exam questions

Spring 2022

1 Economic Sanctions [40 Points]

Suppose the Home country is an energy resource exporter. It has been doing this for many years and has a large positive NFA (net foreign asset) position. Explain why (and under which conditions) the home country has a large NFA.

Now suppose that the rest of the world (ROW) imposes sanctions on country A.

- Sanction scenario 1: The NFA are confiscated. The home country has no access anymore. But it can still export.
- Sanction scenario 2: The home country cannot export anymore. But no confiscation of NFA.

Discuss the economic consequences for the home country of sanction 1 and 2. Hint: Follow the concepts of autarky, current accounts and NFA in the lecture.

Then discuss what the current account used in the lecture does not capture. Hint: Does a current account of zero mean that exports and imports are both zero? If not, what are the consequences of forbidding exports.

Explain your results. Keep your answer concise. There is no benefit from long but imprecise answers.

2 Equilibrium in the Foreign Exchange Market [30 Points]

A. Suppose the world consists of two countries, home and foreign, with two respective currencies, NOK and USD. Uncovered interest rate parity (UIP) is given $i = i^* + e_e$ where i (i^*) is the domestic (foreign) nominal interest rate and e_e is the expected rate of depreciation of NOK.

- Explain uncovered interest rate parity and why the condition must hold to obtain equilibrium in the foreign exchange market with perfect capital mobility.
- What could be reasons for imperfect capital mobility?

B. Assume UIP is violated. Since UIP is violated, there exists well-defined demand functions for the two currencies. The domestic private real demand for dollars is given $\frac{EF_p}{P} = f(r, W_p)$ where wealth $W_p = \frac{B_{p0} + EF_{p0}}{P}$. The foreign real demand for dollars is given $\frac{F^*}{P^*} = W^* - b(r, W^*)$ where wealth $W^* = \frac{B_0^*/E + F_0^*}{P^*}$. Here, E is the nominal exchange rate, F_p (F^*) is the domestic (foreign) private USD holding, B_p (B^*) is the domestic (foreign) private NOK holding, P (P^*) is the domestic (foreign) price level, W_p (W^*) is the domestic (foreign) private wealth, and $r = i - i^* - e_e$ is the expected return differential. The supply is given $S = -F_p - F^*$ (assumed to be well-behaved).

- Show that the supply function can be rewritten as

$$S = -\frac{P}{E}f\left(i - i^* - e_e, \frac{B_{p0} + EF_{p0}}{P}\right) - P^*\left[\frac{B_0^*/E + F_0^*}{P^*} - b\left(i - i^* - e_e, \frac{B_0^*/E + F_0^*}{P^*}\right)\right]$$

It is not expected by the candidate to explain the function in B. i.

- Assume regressive expectations, $e'_e < 0$, positive initial currency holdings and $0 < f_{W_p}, b_{W^*} < 1$. Explain first what regressive expectations imply. Then explain the portfolio composition effect and the expectations effect of an increase in the exchange rate.

[Hint: You may, for example, use the equation given in B. i. It is not expected to calculate the partial derivative.]

- C. Consider a domestic floating exchange rate regime where the Central Bank's demand for dollars is fixed, $F_g = \bar{F}_g$.
- i. Show graphically the effect of an increase in the domestic Central Bank's dollar demand. Explain! [**Hint:** You do not have to consider the foreign Central Bank.]
 - ii. Due to past history, the expected rate of depreciation, e_e , has an even stronger regressive characteristic, \hat{e}'_e , where $\hat{e}'_e < e'_e < 0$ and assume again an increase in the domestic Central Bank's dollar demand. Compare with C.i. Show graphically and explain your answer.

3 Sovereign Default [30 Points]

- A.** Assume an ADS market with $n = 1, 2, \dots, N$ countries and two states, good or bad (high or low consumption) with no risk-free bond trade. Assume that the ADS contracts are written such that the countries diversify the risk of uncertain output.
- i.** Why can hidden information lead to a break down of the asset market?
 - ii.** How does the break down of the asset market impact the countries?
- B.** Assume creditors can punish defaulting countries by seizing an η share of production $A_2 F(K_2)$ where the productivity A_2 is stochastic, $A_2 \in [A_L, A_U]$.
- i.** Why do creditors always prefer that the borrower invests more of the borrowed fund?
 - ii.** Explain the debt overhang problem.
 - iii.** Let's look at the value of the debt from a creditors point of view
 - iv.** Show graphically the Laffer curve and explain it.
 - v.** What is meant by a haircut of the sovereign debt? Can a haircut of the sovereign debt improve the value of the debt?