Universität Siegen

Fakultät III

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Exam “International Economics“
Winter Semester 2018-19
(1st Exam Period)

Solution

Available time: 60 minutes

For your attention:

1. The exam is made up of 9 pages (including this cover page). Please check and see if the exam you are holding is **complete**.

2. For your answers, use the designated spaces. Should these not suffice, use the backside of the pages. Please do not write and draw with a **pencil.**

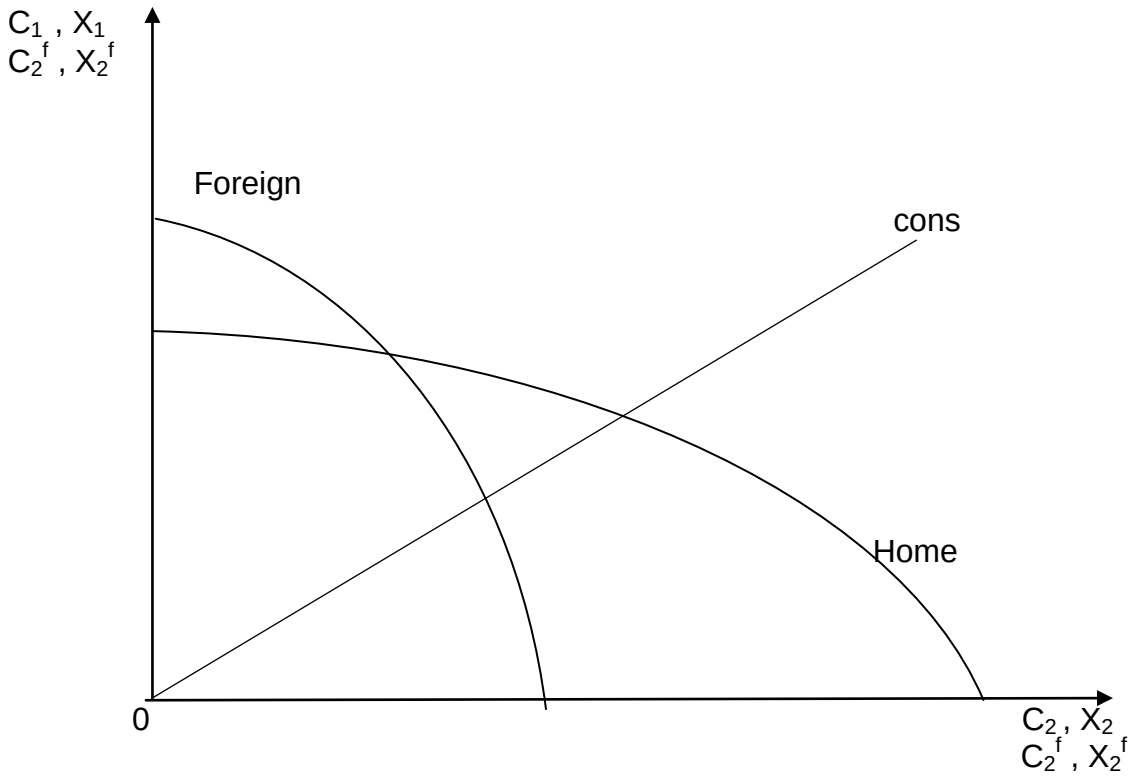
3. Additional materials you may use for the exam: a non-programmable calculator. (Smart phones and mobile **phones** are **not** allowed!)

4. ATTENTION: The names for variables have the same meaning as in the lecture. Insofar as you also use the same symbols for the variables as we did in the lecture you will not have to define these any further.

Question	**1**	**2**	**3**	**4**	**5**	**Sum**	**Mark**
Points achievable	16.5	11	8	11.5	13	60	
Points achieved							

Problem 1: Causes and Consequences of International Trade

The following graph illustrates the supplies and demands of two countries, Home and Foreign. While the supply side differs between countries, the demand side is identical for both countries, being represented by the straight line "cons": that line represents the so-called welfare ray and shows that consumers always chose consumption points on that ray.



a) Please give the name of the curve "Home" and interpret its economic content. [5 points]

Solution:

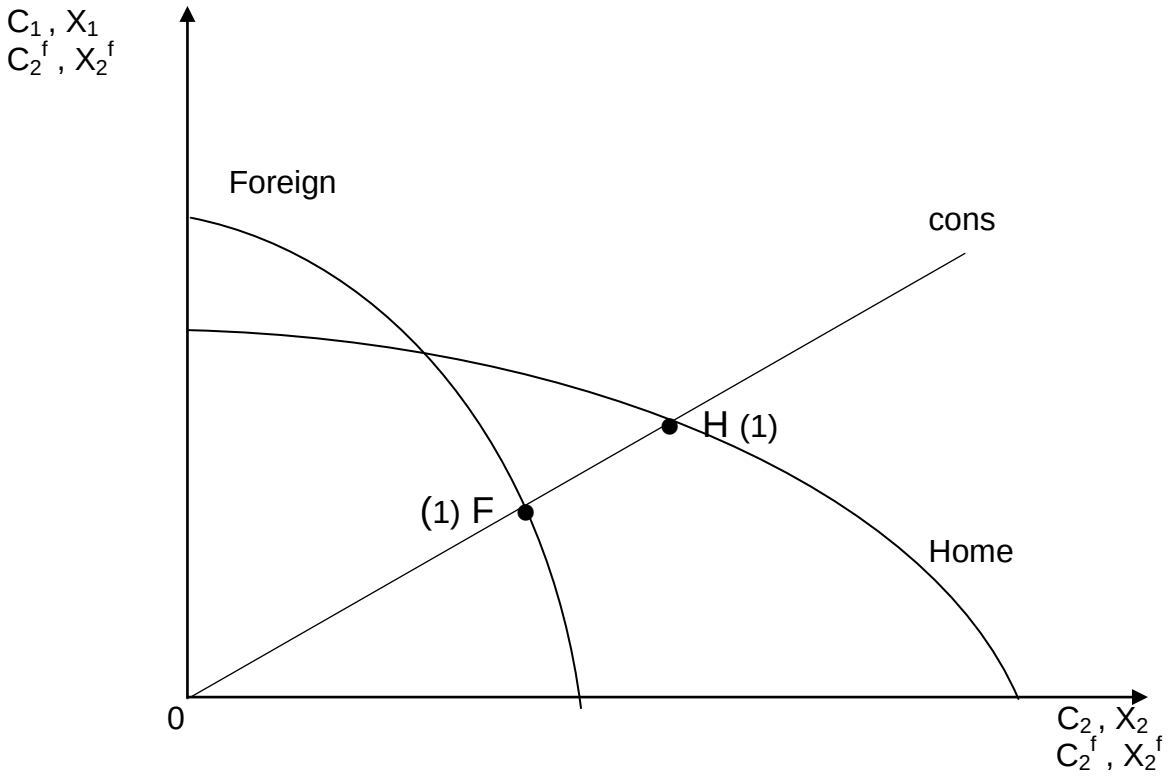
Production possibility curve (or: transformation curve)
(1) (1) (0.5)

Maximum production of good 1 for given production of good 2
(1) (0.5) (1)
or: maximal achievable production combination of good 1 and good 2

b) We look at the two countries in autarky:

b_1 In the above graph, please indicate the production points of Home by H and of Foreign by F. [2 points]

Solution:



b_2 How does Home’s consumption point of Home differ from Home’s production point? [2 points]

Solution: Not at all (2)

b_3 Which country has a comparative cost advantage for good 2 ? Please explain your answer by referring to the opportunity cost in production of good 2 in autarky? [5 points]

Solution:

- Home (1)
- slope of the transformation curve (in absolute terms) in H is smaller than in F (1) (1) (0.5) (1) (0.5)

or: $\left|\frac{d\,X_1}{d\,X_2}(H)\right| < \left|\frac{d\,X_1^f}{d\,X_2^f}(F)\right|$

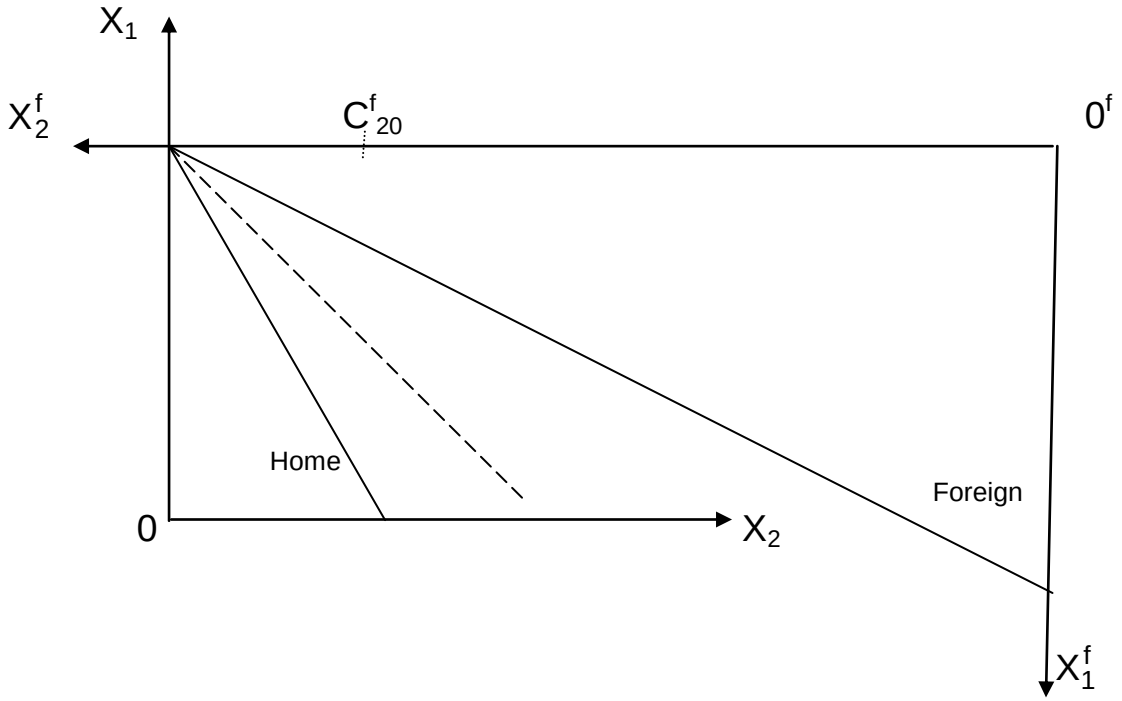
c) Now, both countries start to trade with each other. A common price ratio $(p_2/p_1)^W$ establishes. Please give <u>one</u> equilibrium condition for the common price ratio of the two countries when they trade with each other $(p_2/p_1)^W$. [2.5 points]

Solution: $EX_2 = IM_2^f$
(1) (0.5) (1)

(or: $EX_1^f = IM_1$ or: $X_1 + X_1^f = C_1 + C_1^f$ or: $X_2 + X_2^f = C_2 + C_2^f$)

Problem 2: Trade in the Two-Country Ricardo Model

The following graph shows the production possibility curves of two countries: Home and Foreign. Foreign consumers consume the quantity C^f_{20} of good 2 which they never change!

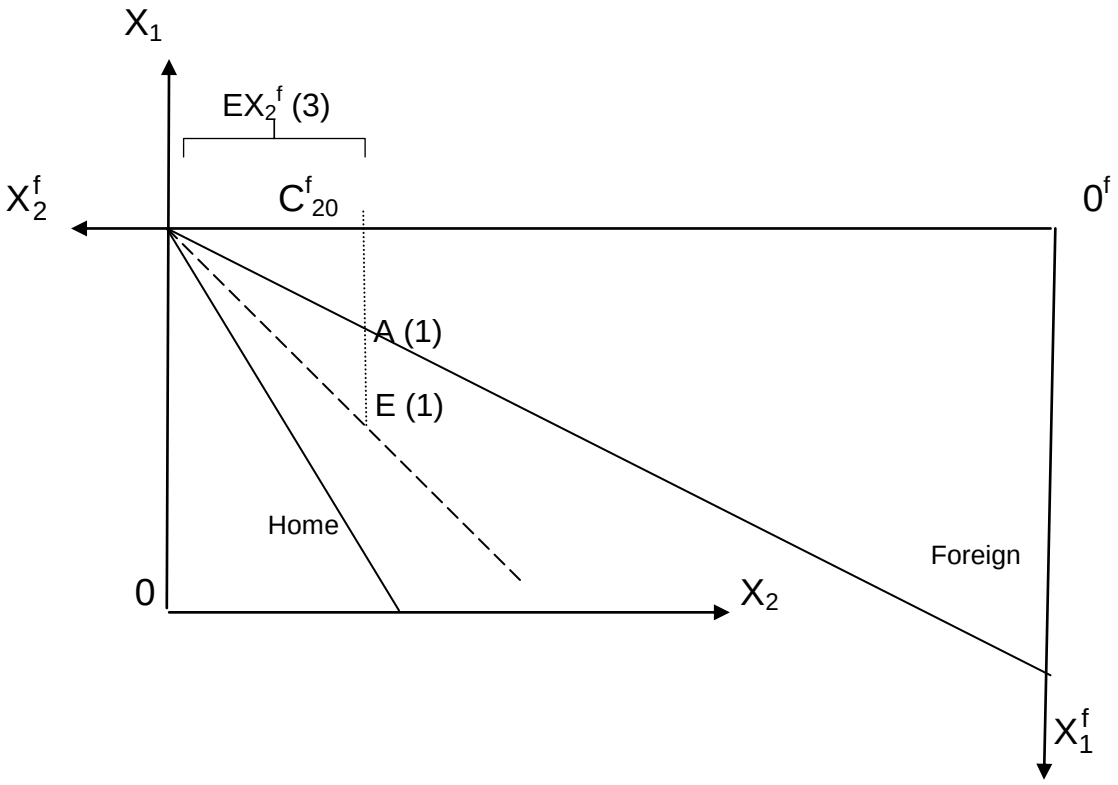


a) In the graph, please indicate the foreign production point in autarky as point A. [2 points]

b) Now, the country enters into international trade. It specializes in the production of good 2. In the graph, please indicate Foreign’s export as a line EX_2^f . [3 points]

c) Choosing appropriate points in the graph, please explain Foreign’s benefit from trade. [6 points]

Solution: Consumption of good 1 is higher with trade than in autarky
(1) (1) (1) (1)
(see points A and E in the graph below).



Problem 3: Foreign Exchange Markets: Currencies and Exchange Rates

When choosing between a fixed-exchange rate system and a flexible-rate system, economic policy faces a dilemma. Please briefly describe that dilemma. [8 points]

Solution:

- Flexible: control of money supply, but no control of exchange rate
  (1) (1) (1) (1)

- Fixed: control of exchange rate, but no control of money supply
  (1) (1) (1) (1)

Problem 4: Exchange Rates and Interest Rates

We look at the following relation:

$e^F = e \cdot \frac{1 + i}{1 + i^f}$, where e denotes the spot exchange rate of the dollar in terms of the euro, i. e. the direct rate of the dollar [€/$]; e^F denotes the forward rate.

a) How is this relation called? [1.5 points]

Solution: covered interest parity
(0.5) (0.5) (0.5)

b) The following equation is an approximation of the above relation:

$$\left(\frac{e^F - e}{e}\right)_{approx} = i - i^f .$$

Please re-arrange this equation such that the rate of return of a domestic financial asset appears one side of the equation while the rate of a foreign asset appears on the other side. [3 points]

Solution: $\left(\frac{e^F - e}{e}\right)_{approx} + i^f = i$.
(1) (1) (1)

c) The spot rate of the dollar in terms of the euro is e = 0.800 [€/$]. The one-year interest rates are i^f = 5% for the dollar and i = 15 % for the euro.

c_1 Assuming that market participants are risk-neutral, what is the implied market prediction of the spot rate one year ahead (e^e) ? Please do the necessary calculations in a precise way, not by using an approximation. [4 points]

Solution: (1)

$$e^e = e \cdot \frac{1 + i}{1 + i^f} = 0.800 \frac{1 + 0.15}{1 + 0.05} = 0.876$$

(1) (1) (1)

c_2 In this constellation, is the euro the “strong” currency or the “weak” one? Please briefly explain your answer. [3points]

Solution:

- Euro is “weak” (1)

- Its interest rate is higher than interest rate of dollar
  (1) (1)

Problem 5: International Economic Relations: Stocks and Flows

a) Please name <u>two</u> principles of Balance-of-Payments accounting. Then, please briefly explain <u>one</u> of them. [5.5 points]

Solution:

(1) Distinction between credits and debits (1)

- Transactions leading to an inflow of payments are registered as a credit
  (0.5) (1) (0.5) (1)

- Transactions leading to an outflow of payments are registered as a debit
  (0.5) (1)

(2) Double-entry bookkeeping (1)

Every transaction is registered twice: once as a credit, once as a debit
(0.5) (1) (1) (1)

(3) Classification in accounts (1)

- Transactions in goods and services are registered in the current account
  (0.5) (0.5) (1)

- Transactions in assets are registered in the capital and financial account
  (0.5) (1)

b) We look at the presentation of the BoP for the euro area as a table:

Account	**€ bn, 2020**
1. Balance of Foreign Trade	
2. Balance of Trade in Services	
3. Balance of Income Payments (Primary Income)	
4. Balance of Current Unilateral Transfers (Secondary Income)	
5. Capital Account	
6. Commercial Financial Account	
7. Official Settlements Balance	

b_1 Please make the book-entries for the following transactions (1) – (3) in the table above. For each transaction, please …

- … enter the number of the transaction (e. g. (2) for transaction (2) below)
- … denote a debit entry by a minus (-); denote a credit entry by a plus (+) or leave out the sign
- … enter the numerical value of the entries [6 points]

(1) A company in the euro area sells a car in the amount of €30 to the USA. The American client remits the payment to the company's bank account in New York.
(2) A resident in the euro area inherits Microsoft shares in the amount of €100 from his uncle in the USA.
(3) During his holidays, a student from Siegen works in a wine company in California. He receives a labor income of 15 euros; he spends this income directly for red wine that he then takes home to Germany.

Solution:

Account	**€ bn, 2020**
1. Balance of Foreign Trade	(1) 30 (1) (3) - 15 (1)
2. Balance of Trade in Services	
3. Balance of income payments (primary income)	(3) 15 (1)
4. Balance of Current Unilateral Transfers (Secondary Income)	
5. Capital Account	(2) 100 (1)
6. Commercial Financial Account	(1) - 30 (1) (2) -100 (1)
7. Official Settlements Balance	

b_2 Please calculate the balance on current account (CA). Please show your calculation, do not just give the result. [1.5 points]

Solution: CA = 30 – 15 + 15 = 30
(0.5) (0.5) (0.5)