Universität ⬆ Siegen

Fakultät III
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Exam "International Economics"
Winter Semester 2017-18
(1ˢᵗExam Period)

Solution

Available time: 60 minutes

For your attention:

1. The exam is made up of 9pages (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	12.5	17.5	7.5	16.5	6	60	
Points achieved							

Problem 1: Causes and Consequences of International Trade

The following graph illustrates the formation of the equilibriumprice ratio in the common market ("world market") of two countries, Home and Foreign. (a = autarky, w = world)

p_2/p_1
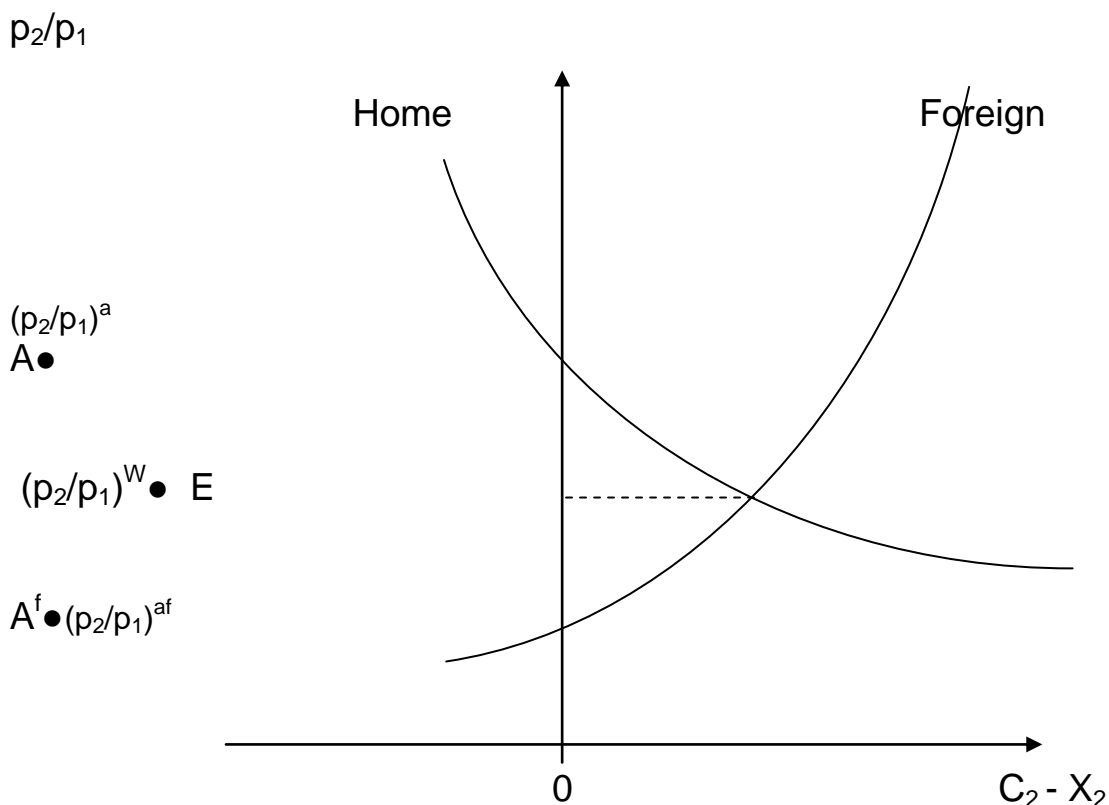
a) What does the curve "home" show? Please give a very brief interpretation.

[2.5 points]

Solution:

Excess demand for good 2
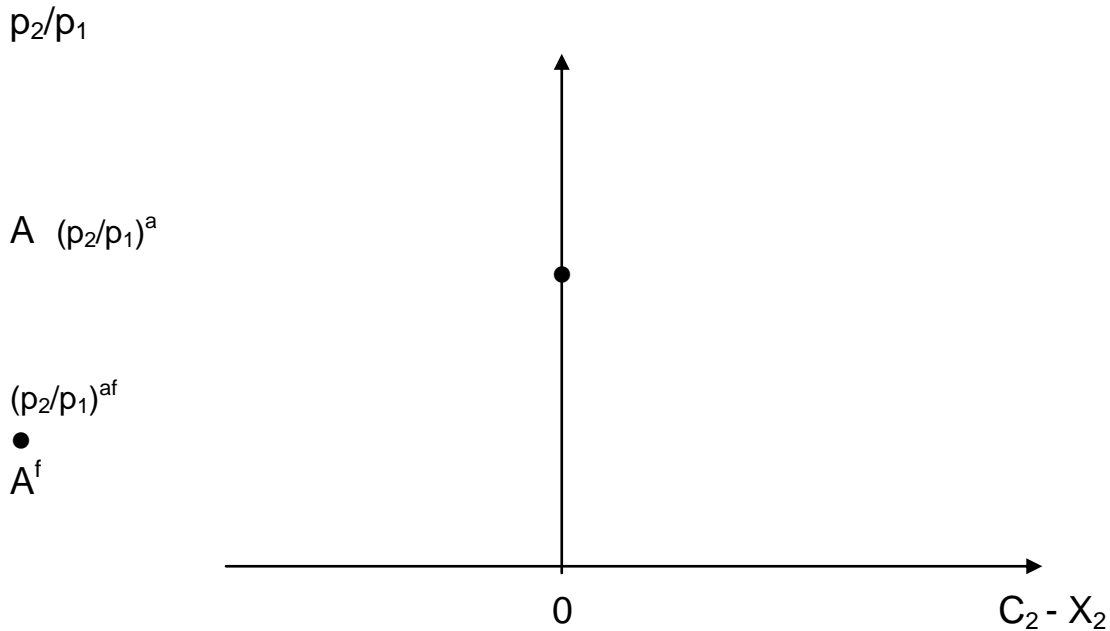(1)   (1)   (0.5)

b) Suppose that Home is very small compared to Foreign.

b$_1$What does this imply for the formation of the international price ratio $(p_2/p_1)^W$?
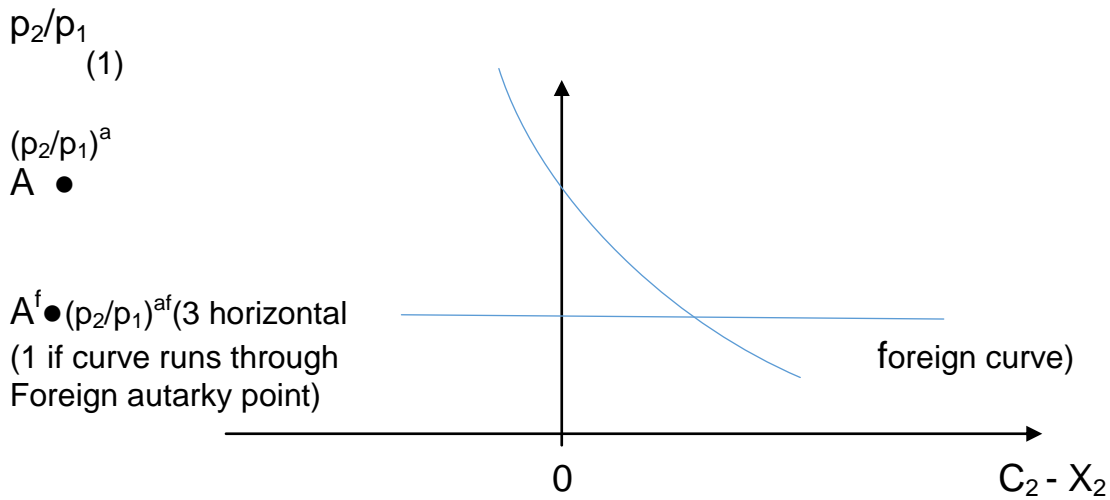
[3 points]

Solution:

Price ratio is exogenous for the domestic country(3)
(or: Home cannot influence $(p_2/p_1)^W$

b$_2$ In the following graph, please visualise the price formation for this case.

[5 points]

p_2/p_1

A $(p_2/p_1)^a$

$(p_2/p_1)^{af}$
●
A^f

0                                    $C_2 - X_2$

Solution:

p_2/p_1
        (1)

$(p_2/p_1)^a$
A ●

A^f●$(p_2/p_1)^{af}$(3 horizontal
(1 if curve runs through   foreign curve)
Foreign autarky point)

0                                    $C_2 - X_2$

c) What does the small size of Home imply for the gains from trade? [2 points]

Solution:

Gains for Home only (or: no gains for Foreign)   (2)

Problem 2: Trade in the Two-Country Ricardo Model

a) We want to analyse trade when both countries have a homothetic utility function.

a_1 What does a homothetic utility function imply for the marginal rate of substitution in consumption?   [2.5 points]

Solution:

Depends on the ratio of the consumption quantities
         (0.5)   (1)   (0.5)   (0.5)

    (or: depends on C_1 / C_2)
(0.5)   (0.5) (1) (0.5)

a_2 What does a homothetic utility function imply for the income-consumption curve in C_1-C_2 space?   [1 point]

Solution: linear (1)

a) We assume that both countries use labour as the only input factor, have constant labour productivities in each sector and identical national labour supplies. Home has an absolute advantage in the production of good 1 while Foreign has an absolute advantage for good 2.

b_1 Please draw the national production possibility curves in the following exhibit. Assume that the maximum production of good 1 in Home is 200 while the maximum production of good 2 in Foreign is 300. Denote the curves by "Home" and "Foreign", respectively.   [6 points]

b_2 Please draw the world production possibility curve. Denote the world maximum production of good 1 as point A, the world maximum production of good 2 as point B and the production point of correct specialization as point E.[5 points]

c)   An international equilibrium obtains in which only Home benefits. Assuming identical homothetic national welfare functions, indicate in the graph the consumption points of the world (point W), Home (H) and Foreign (F).
                                    [3 points]
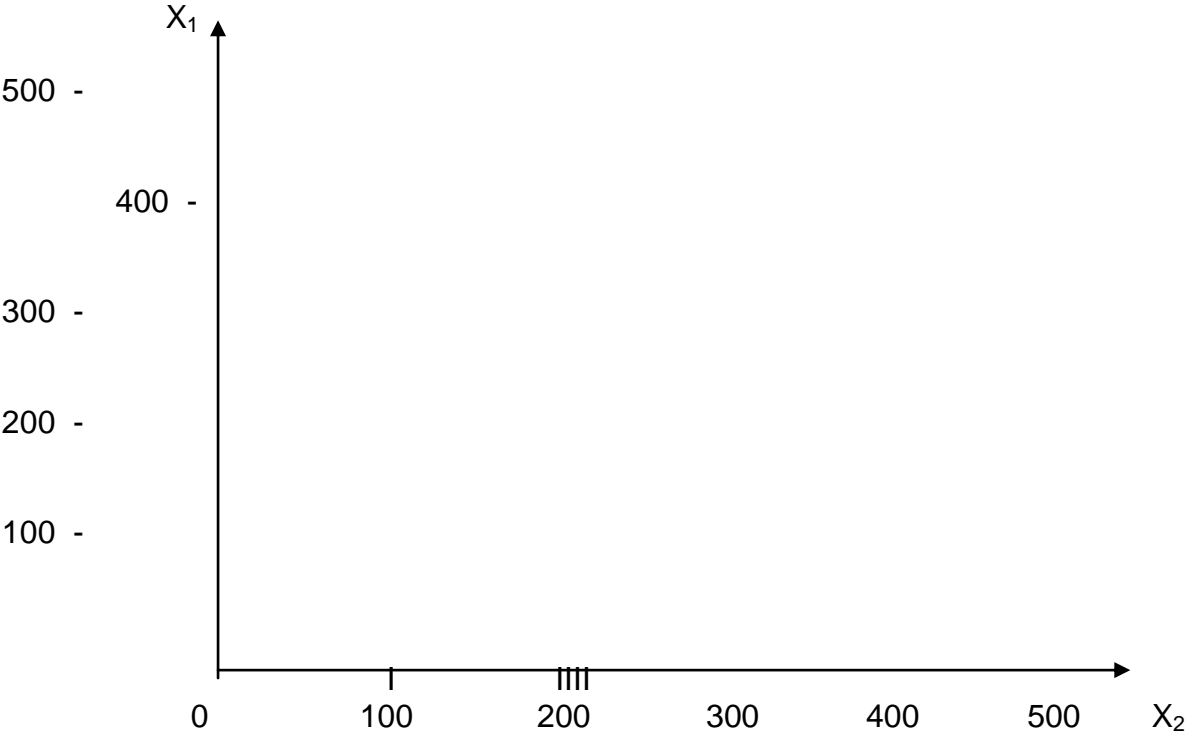
Solution:
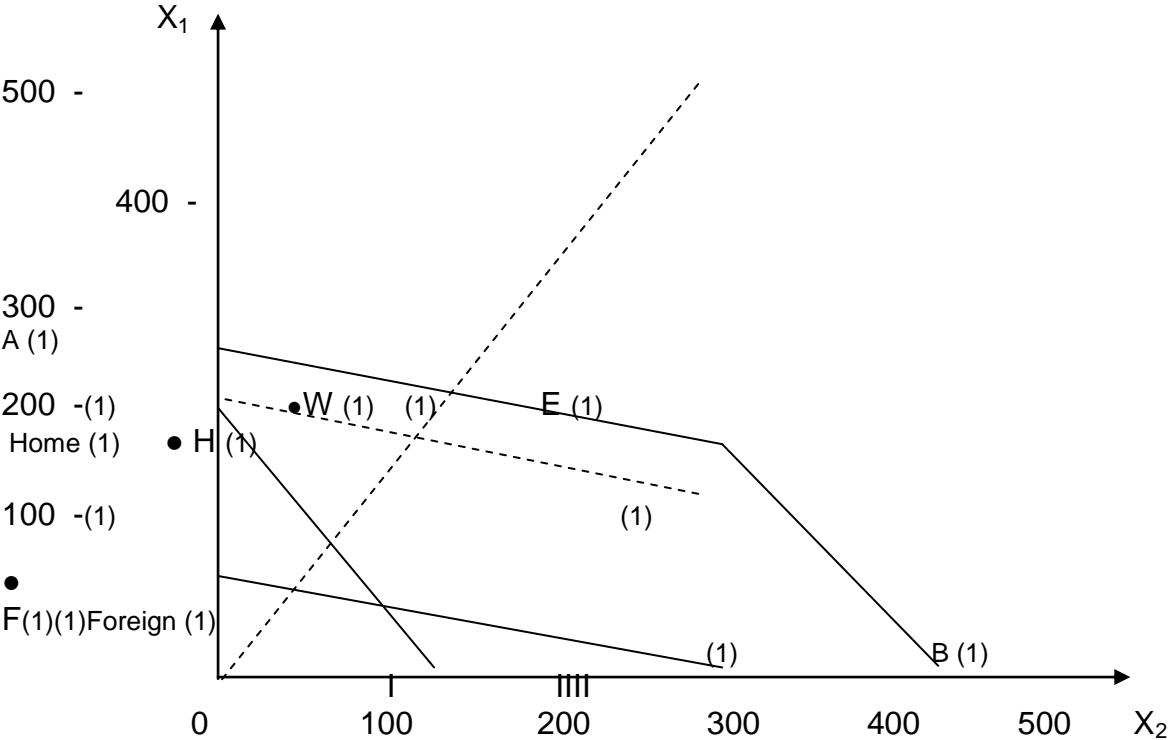
Problem 3:

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) Let us analyze the relation between the US dollar and the euro. Assume that the dollar is "weak" against the euro.

b$_1$ What does this mean for the exchange rates e and e^F ?   [2 points]

   Solution: $e^F < e$ (or: forward rate of dollar exceeds spot rate)
                     (2)

b$_2$ What does this mean for the interest rates of the two currencies? Please explain your answer by referring to the equation above.   [4 points]

Solution:

   -   interest rate of dollar (or: i^f) is higher than interest rate of euro (or: i)
                (1)   (1)

   -   $e^F < e$ implies that (e^F/e) < 1; then, 1 + i< 1 + i^F ; then i<i^F
                     (1)   (1)

Problem 4: Income and Trade Balance in the Short Run

We look at a small open economy:

$$Y = \frac{1}{1 - c + m}[\overline{C} + \overline{I} + \overline{EX} + \overline{G}]$$

$$TB = \overline{EX} - \overline{IM} - mY$$

We want to analyse an exogenous change in government expenditure (d $\overline{\overline{G}}$).

a) Please calculate the multiplier of income with respect to government expenditure.
    [2.5 points]

Solution: $\dfrac{dY}{d\overline{\overline{G}}} = \dfrac{1}{1 - c + m}$

(1)   (1.5)

b) Is the multiplier positive or negative? Please briefly explain.   [4 points]

Solution: positive, as 1 - c + m > 0

                    (2)   (2)

c) Please compare it with the corresponding multiplier of a closed economy and
    briefly explain the difference.   [4 points]
Solution:

smaller than in closed model as m > 0 (or: because of „leakage" through imports)
  (2)   (2)

d) Please calculate the multiplier of the trade balance with respect to government
expenditure and show its sign.   [6 points]
Solution:

$$\frac{dTB}{d\overline{\overline{G}}} = \frac{dTB}{dY} \cdot \frac{dY}{d\overline{\overline{G}}} \quad (\quad or: = \frac{-m}{1 - c + m} \quad) \quad < 0$$

(1)   (2)   (2)   (1)

Problem 5: International Economic Relations: Stocks and Flows

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

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

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 (3) - 15 (1)	(1) 30 (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 (2) -100 (1)	(1) - 30 (1)
7. Official Settlements Balance	