Universität ⬆ Siegen

Fakultät III
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Exam "International Economics"
Winter Semester 2013-14
(2nd 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. Answers written in **pencil** will **not** be scored.

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	Sum	Mark
Points achievable	14.5	20.5	18.5	6.5	60	
Points achieved						

Problem 1: International Economic Relations: Stocks and Flows

a) 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	

Please make the book-entries for the following transactions 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   [8 points]

   (1) A German company imports intermediate goods from the USA in the amount of 100 euros. The company pays from its bank account at a New York bank so that the positive balance of the account is reduced.

   (2) A professor of economics from the University of Siegen gives a course in Romania. He gets a wage income in the amount of 20 euros. He immediately spends this money for a holiday in Romania.

   (3) The German government waives debt to Greece in the amount of 50 euros (i. e. Greece does not have to pay back this money).

(4) A French investor buys a company in China at a price of 40 euros. In order to finance the purchase, he takes a credit from a Chinese bank.

Solution:

Account	€ bn, 2020
1. Balance of Foreign Trade	(1) -100 (1)
2. Balance of Trade in Services	(2) -20 (1)
3. Balance of income payments (primary income)	(2) 20 (1)
4. Balance of Current Unilateral Transfers (Secondary Income)	
5. Capital Account	(3) – 50 (1)
6. Commercial Financial Account	(1) 100 (1) (3) 50 (1) (4) 40 (1) (4) 40 (1)
7. Official Settlements Balance	

b) Please give the values of the following balances.   [4 points]

   b$_1$ Trade balance (TB)

   b$_2$ Balance on current account (CA)

   b$_3$ Net lending (NL)

   b$_4$ Official settlement balance (OSB)

Solution:

|			
b$_1$	Trade balance (TB)	- 120	(1)
b$_2$	Balance on current account (CA)	- 100	(1)
b$_3$	Net lending (NL)	-150	(1)
b$_4$	Official settlement balance (OSB)	0	(1)

c) Please interpret net lending (NL) in general terms.   [2.5 points]

Solution:

Transactions-induced change of net claims against foreigners
      (0.5)   (0.5)   (0.5) (0.5)   (0.5)

Problem 2: Causes and Consequences of International Trade

We consider a small country. Point A of the following graph shows its situation in autarky.

$$\tan \alpha = (p_2/p_1)^a$$
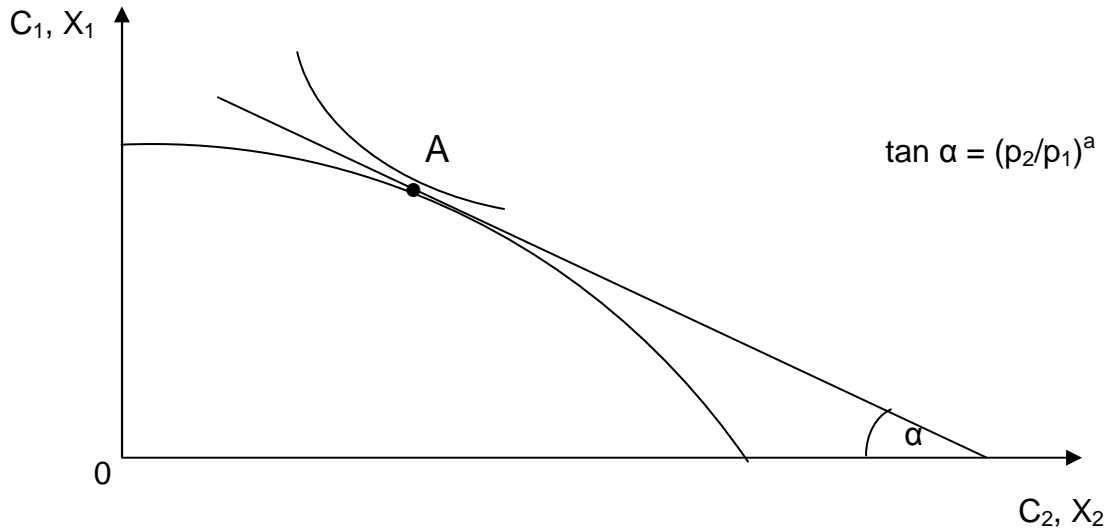
a) The autarky situation can be described in mathematical terms by <u>four</u> equilibrium conditions. <u>Two</u> of these are the following ones:

(I) $$\left(\frac{dX_1}{dX_2}\right)^{MRT} \quad = \quad \frac{p_2}{p_1}$$

(II) $$X_1 \quad = \quad C_1$$

a₁ Please briefly interpret these two equations.   [6.5 points]

(I) :

(II) :

Solution:
(I): cost in production equal to cost in the market
      (0.5)   (1)   (0.5)   (0.5)   (1)

   Or: opportunity cost of an additional unit of good 2 in production
          equals its price in the market

(II): supply of good 1 equal to demand
          (1)   (0.5)   (0.5)   (1)

a$_2$ Please write down in mathematical terms the missing two equilibrium conditions. [3 points]

Solution:

(1)   (0.5)   (0.5)

$$\left(\frac{dC_1}{dC_2}\right)^{MRS} = \frac{p_2}{p_1}$$

$$X_2 = C_2$$
(0.5)   (0.5)

b) Now, the economy opens for trade.

b$_1$ How must we change the above set of four equilibrium conditions?
[3 points]

Solution:

Market clearing conditions replaced by the balanced-trade condition.
(1)   (1)   (1)

b$_2$ In the world market, the price ratio $(p_2/p_1)^W$ is higher than the domestic price ratio in autarky $(p_2/p_1)^a$. Please visualize the open-economy equilibrium of the domestic economy in the graph above:
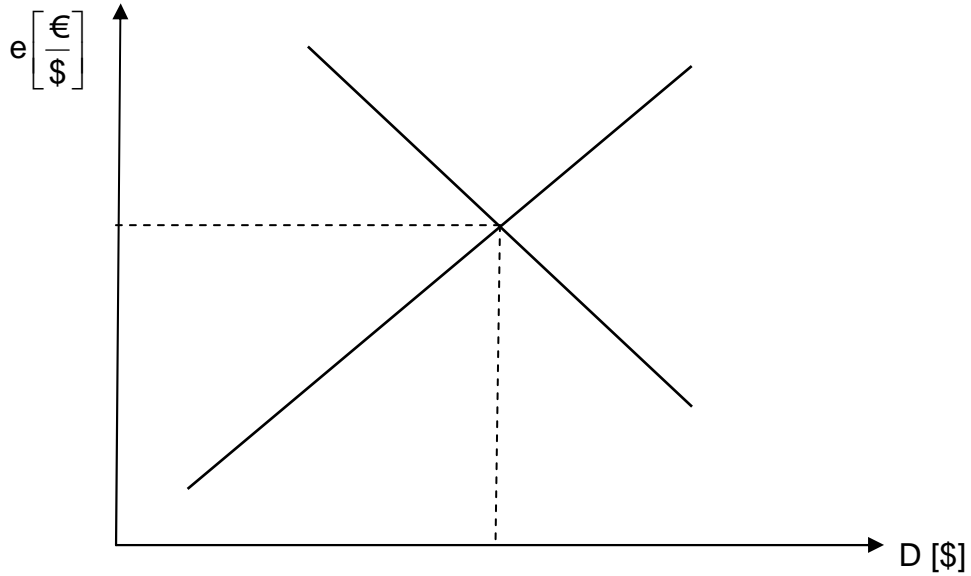
-   draw the new price line
-   indicate the new production by point X
-   draw an indifference curve and indicate the new consumption by point D.
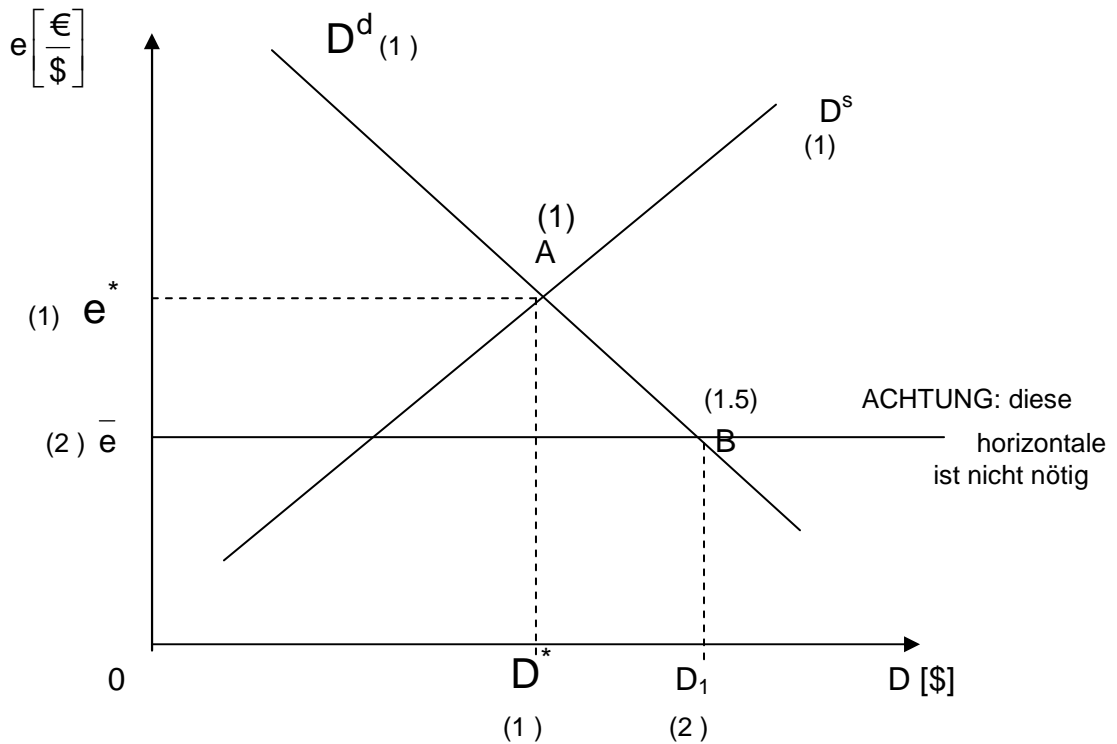[8 points]

Solution:
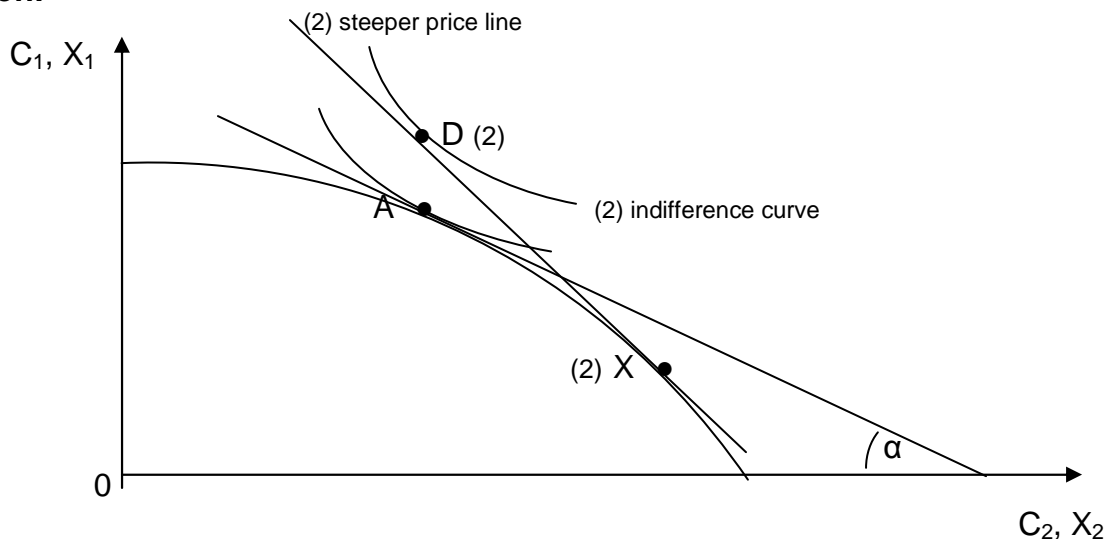
Problem 3: Forex Market

The following diagram depicts the market for foreign exchange. The foreign currency that is traded on the market is the United States dollar.

a) In the diagram, designate the foreign currency demand schedule with D^d and the foreign currency supply curve with D^s.   [2 points]

Solution:

b) Assume we have a system of flexible exchange rates.

  b$_1$ Designate the point of equilibrium in the two-dimensional space as point A.
  [1 point]

  b$_2$ On the axes of the diagram, depict the equilibrating exchange rate as e* and
  the amount of traded foreign currency as D*.   [2 points]

c) Let us now assume a system with a fixed exchange rate.

  c$_1$ Please name the two constituting elements of this sort of system very briefly.
  [3 points]

  Solution:

  Target value (or: government-mandated official exchange rate)   (1.5)

  Interventions (1.5)

  c$_2$ Suppose that at the given fixed exchange rate there is an excess demand for
  foreign currency. Depict this situation in the diagram above by drawing on the
  vertical axis a corresponding exchange rate $\bar{e}$. Mark as B the point in the two-
  dimensional space that represents the amount of traded foreign currency at
  the given exchange rate. Also mark the amount of traded foreign currency on
  the horizontal axis as D$_1$.   [5.5 points]

d) Name <u>two</u> sources of demand for foreign exchange.   [2 points]

  Solution:

  Import of goods and services (1)

  Outflow of capital (1)

e) Name <u>two</u> functions of the foreign exchange market.   [3 points]

  Solution:

  - exchange function (1.5)

  - pricing function (1.5)

  - Matching supply and demand (1.5)

  Maximum 3 points!

Problem 4: International Parity Relations

We are given the following approximate versions of international parity relations:

(I) $i - i^f = \left(\dfrac{de}{e}\right)^e$

(II) $\left(\dfrac{de}{e}\right)^e = \left(\dfrac{dP}{P}\right)^e - \left(\dfrac{dP^f}{P^f}\right)^e$

  Please give the name and a careful interpretation of <u>one</u> of these relations.

[6.5 points]

Solution:

(I) name: uncovered interest rate parity
              (0.5)   (1)

      interpretation:

   interest rate differential equal to expected percentage change of spot exchange rate
      (0.5)   (1)   (0.5)   (0.5)   (0.5)   (1)   (0.5) (0.5)

        (II) name: expected PPP
              (0.5)   (1)

        interpretation:

   inflation differential equal to expected percentage change of spot exchange rate
      (0.5)   (1)   (0.5)   (0.5)   (0.5)   (1)   (0.5) (0.5)

      Maximum 6.5 points!