

**LISBOA  
SCHOOL OF  
ECONOMICS &  
MANAGEMENT**



**U LISBOA**

UNIVERSIDADE  
DE LISBOA

**INSTITUTO SUPERIOR DE ECONOMIA E GESTÃO**

**ECONOMICS I**

**2017/2018**

**Exercices Booklet**

**Practice classes**

## **PRACTICE CLASS Nr1**

- **Presentation**
- **FPPs and opportunity costs (ch. 2)**
- **Comparative advantages (ch. 2)**

**Classroom exercises: 1.1, 1.2 and 1.3**

**Home exercises: 1.4 to 1.16**

## Classroom Exercises (CHAP.2):

### AP1.1

At Tiponovo Printers, in a typical 40-hour week, one can print two types of publications, which require different amounts of work. Type A publications require eight hours per thousand copies, whereas type B publications require one hour of work per thousand copies. Therefore in a week one can produce the following amounts of publications (number of publications are in thousands throughout):

Type A	0	1	2	3	4	5
Type B	40	32	24	16	8	0

- Draw the production possibility frontier (PPF).
- Suppose Tiponovo Printers are printing 3 (thousands) type A publications and 16 type B publications a week. They now receive an additional order for 8 type B publications. Will they be able to accept this order while keeping production of type A publications unchanged? Represent the situation on the diagram you drew in part a).
- Would the firm be able to accept the new order if they had been producing at point (3,8)? Represent the situation on the diagram.
- What is the opportunity cost of producing an additional thousand type A publications when the firm are efficiently producing 8 type B publications? And if they were efficiently producing 24 type B publications?
- Write down the equation of the PPF. Check that the opportunity cost of an additional type A publication equals  $-dB/dA$ , which is the slope of the line.
- Suppose that after installing a new machine it became possible to reduce by half the time required to print type B publications. Draw the new PPF and find its equation.

Now suppose the production possibility frontier is as shown in the table below

Type A	0	1	2	3	4	5	6
Type B	36	35	32	27	20	11	0

- Draw the new production possibility frontier.
- Find the opportunity cost of producing another thousand type A publications at points (0,36) and (3,27). How do you interpret the fact that the opportunity cost changes?
- The figures in the table can be generated by the function  $B = 36 - A^2$ . Check that the slope, which is  $-dB/dA$ , at (3,27) is different from the opportunity cost you found in part h). How do you explain the difference? (Hint: see how you compute the slope at different points).

(EXERC 2008-09, n°1)

### AP1.2

**CYU 2-1, 2. (manual K&W, 4<sup>th</sup> ed., pg. 39-40)**

In **Italy**, an automobile can be produced by 8 workers in one day and a washing machine by 3 workers in one day. In the **United States**, an automobile can be produced by 6 workers in one day, and a washing machine by 2 workers in one day. [suggestion: organize these data on a table]

- a) Which country has an **absolute advantage** in the production of automobiles? In washing machines?
- b) Which country has a **comparative advantage** in the production of washing machines? In automobiles?
- c) What pattern of specialization results in the greatest gains from trade between the two countries?

### AP1.3

Countries *A* and *B* produce goods *X* and *Y* only. Fully using their only resource, country *A* can produce, each month, 30 tons of *Y* and no *X*, or 50 tons of *X* and no *Y*, or any combination in between. Whereas country *B*, each month, can produce 40 tons of *Y* and no *X*, or 30 tons of *X* and no *Y*, or any combination in between.

- a) Assume that all production possibility frontiers (PPF) are straight lines. Draw one diagram showing the monthly production possibility frontier for country *A* and another for country *B*. What do the PPFs mean?
- b) Which pattern of comparative advantages is there between the two countries? Explain.
- c) In the meantime country *B* discover a new technique for making good *X* that doubles the quantity of *X* they can produce each month. Draw the new monthly production possibility frontier for country *B* together with the old one. Has the pattern of comparative advantage changed? Explain.

*(Exam Appeal Period - 2007-08, n°1)*

## Home Exercises:

### AP1.4

**Which of the following well illustrates the concept of opportunity cost?**

- a) John misses the opportunity to visit his friend Gabriel in Sintra in order to go to the beach;
- b) Joana revises for her Molecular Biology exam, and forgoes a day's wage at a firm she works for;
- c) Mr Silvestre repairs the roof of his house in his day off rather than going fishing with his friends as he uses to;
- d) All of the above.

*(Intermediate Test 31/3/2008, Q.2)*

### AP1.5

**Microeconomics is essentially the study of:**

- a) Economic growth.
- b) Economic agents' behaviour.
- c) Gross domestic product.
- d) The entire economy and its main industries.

*(Intermediate Test 11/11/2013, A; Q.1)*

### AP1.6

**Which of the following is a *normative* statement?**

- a) Given recent economic trends exports are forecasted to grow 4%.
- b) Inflation rate in the Euro Area has been stable over the last five years.
- c) Portuguese public debt is now at 130% of GDP.
- d) Women should earn the same as men doing the same work

*(Intermediate Test 17/11/2014, A; Q.1)*

### AP1.7

Which of the following is a *positive* statement?

- a) The weight of the State in the economy has been increasing in the last two decades and should be reduced..
- b) In the last five years inflation has been stable in the Euro zone.
- c) Public workers should have the same fiscal rules as the workers in the private sector.
- d) Women should earn the same wage as men, for the same work.

*(Intermediate Test 18/11/2014, B; Q.1)*

### AP1.8

The table below shows six points of the production possibility frontier:

Point	Wheat (tons)	Cars (units)
A	0	30
B	2	28
C	4	24
D	6	18
E	8	10
F	10	0

What is the average opportunity cost of cars in terms of wheat when the number of cars produced changes from 18 to 24?

- a) 1/3.
- b) 6.
- c) 2.
- d) 4.

*(Intermediate Test, 11/11/2013-A; Q.2)*

### AP1.9

The PPF is given by  $y = 37 - 2x^2$ . Point (2, 25) represents:

- a) A production combination that is possible and efficient.
- b) A production combination that is possible but not efficient.
- c) An impossible production combination.
- d) We do not have enough information to answer the question.

*(Intermediate Test 12/11/2011, Q.2)*

### AP1.10

Suppose a country has a linear production possibility frontier (PPF) and can produce at most 60 units of Y and zero of X or 30 units of X and zero of Y. The PPF equation and the opportunity cost of X in terms of Y (COX,Y) are:

- a) The PPF:  $Y = 60 - 2X$ ;  $CO_{X,Y} = 0.5$ .
- b)  $CO_{X,Y} = 0.5$  but the information given is insufficient to determine the PPF equation.
- c) A FPP:  $Y = 60 - 2X$ ;  $CO_{X,Y} = 2$ .
- d) FPP:  $Y = 30 - 0.5X$ ;  $CO_{X,Y} = 2$ .

*(Intermediate Test 29/10/2012, A; Q.1)*

### AP1.11

Suppose that two countries, A and B, with similar amounts of factors of production and with 500 hours per month of labor, can produce 260 kg of coffee or 80 kg of tea, at most, in country A, and 150 kgs of coffee or 60 kg of tea, at most, in country B. Therefore:

- a) Country A has comparative advantage in the production of coffee and of tea.
- b) Country A should become specialized in the production of coffee.
- c) Country B has absolute advantage in the production of tea.
- d) Country B has comparative advantage in the production of coffee

*(Intermediate Test 13/11/2013, B; Q.3)*

### AP1.12

The table below shows the maximum quantities of beans and fish that countries A and B can produce if they fully specialise in one good:

	Beans	Fish
Ruritânia	40	20
Florilândia	10	10

So the figures above show that Ruritânia has a comparative advantage in the production of:

- a) beans.
- b) fish.
- c) both goods.
- d) none of the goods.

*(Intermediate Test, B; Q.1)*

### **AP1.13**

Ana wants to earn money, and she is pondering how to use one hour of her time this evening. She could earn €7 babysitting or €6 working at the library. If she decides to revise for her Economics I test instead, her opportunity cost of doing so will be:

- a) 6 euros.
- b) 13 euros.
- c) 7 euros.
- d) 0 euros.

*(Intermediate Test 03/11/2015, Q.1)*

### **AP1.14**

In an economy with only two individuals (J and I) and two goods (X and Y), we know that J has absolute advantage in the production of X. Therefore:

- a) J has no incentive to trade X with individual I.
- b) J has necessarily a comparative advantage in the production of X.
- c) I has absolute advantage in the production of Y.
- d) None of above is correct.

*(Intermediate Test 12/11/2011, Q.3)*

### **AP1.15**

A firm can produce copy paper ( $c$ ) and brown paper ( $b$ ). The production possibility frontier is given by the equation below, where  $c$  and  $b$  are the quantities produced in tons:

$$c = 10 - 0.04b^2$$

- a) Draw the production possibility frontier.
- b) Find the general expression of the opportunity cost of brown paper in terms of copy paper, and calculate its value at both ends of the production possibility frontier. What can you conclude?
- c) What would happen to the production possibility frontier (PPF) if the firm hired more staff and installed more machinery and these were equally suitable for the production of both types of paper? How would the PPF equation change?
- d) Explain the relevant economic changes when the PPF equation changes to  $c = 10 - 0.05b^2$ .

*(Exerc. 2005-2006. 2B)*



**AP1.16**

Two countries, *A* and *B*, use labour only to produce goods *X* and *Y*. The table below shows the number of hours of labour each country requires to produce one unit of each of the goods.

	A	B
1 unit of X	5	4
1 unit of Y	7	5

The table shows that:

- a) Country *B* has absolute and comparative advantage in the production of good *X*.
- b) Country *B* has absolute advantage in the production of both goods.
- c) Country *A* has an absolute advantage in the production of good *X* and a comparative advantage in the production of good *Y*.
- d) None of the countries has absolute advantage in the production on either good, but country *B* has a comparative advantage in the production of good *X*.

*(A1/ Final Exam 14.01.2013)*

Note: There are more home exercises on chapter 2 on Week 2 booklet