PRACTICE CLASS Nr3

- Consumer and Producer surpluses (chap. 4)
- Price controls and quotas: meddling with markets (chap. 5)

Classroom exercises (chap. 4)

AP3-1 to AP3-6

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Consumer and Producer surpluses

Classroom exercises (chap. 4)

AP3-1-

CYU 4-1, 1 (pg. 111; 4th ed)

Consider the market for cheese-stuffed *jalapeno peppers*. There are two consumers, Casey and Josey, and their willingness to pay for each pepper is given in the accompanying table. (Neither is willing to consume more than 4 peppers at any price.) Use the table (i) to construct the demand schedule for peppers for prices of $0,00, $0,10 and so on, up to $0,90, and (ii) to calculate the total consumer surplus when the price of a pepper is $0,40.

Quantity of peppers	Casey's willingness to pay	Josey´s willingness to pay
1st pepper	$0,90	$0,80
2nd pepper	$0,70	$0,60
3rd pepper	$0,50	$0,40
4th pepper	$0,30	$0,30

AP3-2-

CYU 4-2, 1 (pg. 116; 4th ed.)

Consider the market for cheese-stuffed *jalapeno peppers*. There are two producers, Cara and Jamie, and their costs of producing for each pepper are given in the accompanying table. (Neither is willing to produce more than 4 peppers at any price.) Use the table (i) to construct the supply schedule for peppers for prices of $0,00, $0,10 and so on, up to $0,90, and (ii) to calculate the total consumer surplus when the price of a pepper is $0,70.

Quantity of peppers	Cara's cost	Jamie's cost
1st pepper	$0,10	$0,30
2nd pepper	$0,10	$0,50
3rd pepper	$0,40	$0,70
4th pepper	$0,60	$0,90

AP3-3-

CYU 4-3, 1 (pg. 122; 4th ed.)

Using the tables in CYU 4-1 and 4-2, find the equilibrium price and quantity in the market for cheese-stuffed *jalapeno peppers*. What is the total surplus in the equilibrium in this market, and who receives it?

AP3-4-

The inverse demand curve for a particular good is **p = 9 – Q.**

a) How much are the total consumer surplus and expenditure for a price of 5. Draw a diagram showing these variables.
b) What are the effects on total consumer surplus and expenditure when the price falls from 5 to 4?

c) (EXERC 2008-9 nº9)

AP3-5

A market is in equilibrium. The demand curve is $Q^D = 45 - 5p$, and the supply curve is $Q^S = 10p$. The producer surplus is

a) 90.
b) 45.
c) 30.
d) 135.

(Prova Intercalar13/11/2013 versão B / Q7)

AP3-6.

The demand curve for good X is given by **Q=20-2p,** where Q is the quantity demanded, and p is the price. What is the change in total consumer surplus when the price of X falls from 6 to 5?

a) The consumer surplus falls by 8
b) The consumer surplus increases by 8.
c) The consumer surplus increases by 2.
d) None of the other options is correct.

(Final Exam EE - 10/09/2015 EM.5)

Price controls and quotas: meddling with markets (chap. 5)

Classroom exercises (chap. 5)

AP3-7.

The supply and demand curves for potatoes are respectively $Q^S = 10p - 20$ and $Q^D = 400 - 20p$. Now the government restrict quantity traded to 100 units. Then:

a) Equilibrium price will be 14, and the deadweight loss 20.
b) Equilibrium price will be 12, and the deadweight loss 30.
c) Equilibrium price will be 15, and the deadweight loss 20.
d) Equilibrium price will be 15, and the deadweight loss 30.

(Final Exam - 25/06/2015 EM.5)

AP3-8-

If a price ceiling below the equilibrium price is imposed:

a) There will be excess supply;
b) The quantity traded of the good will fall;
c) The quantity demanded of the good will fall;
d) None of the above is correct.

(IT 27-28/11/2008 version A / E.M.11)

AP3-9-

Price controls encourage the development of black markets because

a) They restrict activity in legal markets;
b) They give rise to inefficiency;
c) Some individuals will be able to benefit from illegal trade;
d) All of the above.

(IT 27-28/11/2008 version B / E.M.11)

AP3-10-

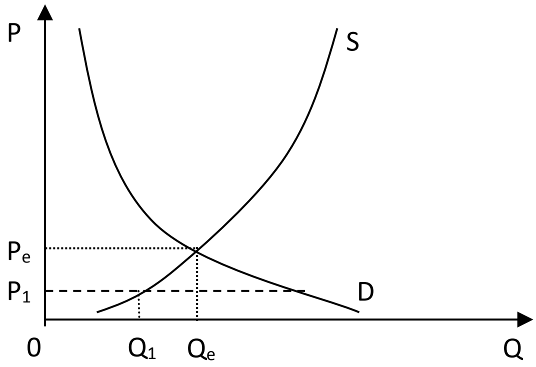
A country manufactures no cars and imposed car import quotas. Before the quotas 1 million cars were traded a year, but now quotas allow only 750,000 cars to be imported every year. What are the consequences of the quotas?

a) The market price will go up;
b) Consumer surplus will fall;
c) Prices of second-hand cars will go up;
d) All of the above.

(IT 29/10/2009 version B / E.M.11)

AP3-11-

The figure below shows a good's demand and supply, where P denotes the price, and Q denotes the quantity.



For the sake of simplicity suppose that each consumer buys at most one unit of the good, and that each producer sells at most one unit of the good as well. Carefully discuss the following statement: "If the government sets a price ceiling at P_1 every consumer will be better off but every producer will obviously be worse off." In your analysis of the implications of the price ceiling for the agents' welfare (surpluses) mention what may happen to different consumers, and what may happen to different producers.

(IT 12/11/2011 perg. teórica)

Home exercises (Chap. 4):

AP3-12-

The sum of the consumer surplus and producer surplus

a) Measures market efficiency;
b) Measures welfare;
c) Is maximised if the market reaches equilibrium free from outside interference.
d) All of the above are correct.

(IT 24-25/11/2008 version B / E.M.6)

AP3-13-

Market research revealed the following data on the maximum price consumers are willing to pay (willingness to pay) for a monthly pack of fitness classes.

Consumer	willingness to pay (€)
Rosalinda	100
Jesualdo	95
Marcolina	90
Pancrácio	85
Felismina	80

The price of monthly fitness class is actually €90. Therefore, according to the table:

a) Marcolina will not consume the service;
b) At this price Pancrácio is interested in the service, and his consumer surplus is €5.
c) At this price Rosalinda is interested in the service, and her consumer surplus is €10.
d) All of the above are correct.

(IT 24-25/11/2008 version C / E.M.5)

AP3-14-

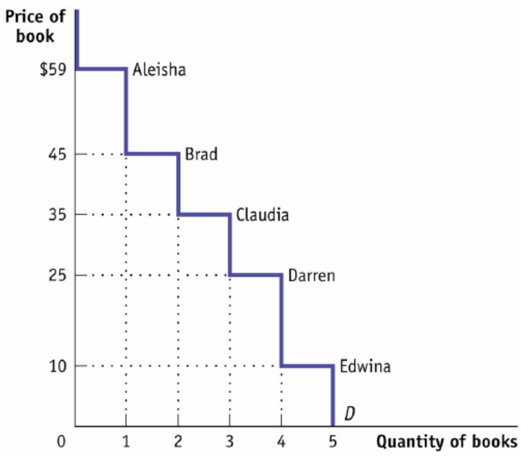
Bread and butter are complementary goods. If the price of bread falls the producer surplus of butter sellers:

a) Falls;
b) Remains unchanged;
c) May increase or fall;
d) Increases.

(Final Exam - 25/01/2010 EM.4)

AP3-15-

Considere a figura seguinte, que representa uma curva de procura de mercado a qual é formada apenas por 5 consumidores de livros (*books*), em que cada consumidor só está interessado em adquirir, no máximo, um livro cada um:



The accompanying picture shows the demand curve for books. Each consumer is willing to buy one book at most. What is the consumer surplus when the market price is $30 per book?

a) $69.
b) $54.
c) $49.
d) The information is not enough to calculate the consumer surplus

(Final Exam - 03/06/2015 EM.3)

AP3-16-

There are five consumers in a market, and the table below shows their willingness to pay for a unit of the good. Each consumers buys one unit at most. The market price used to be 60, but then the government levies a tax so that the market price rises to 75. The change in consumer surplus is:

a) -45.
b) +45.
c) +200.
d) -155.

Consumer	willingness to pay
Ana	150
Beatriz	125
Cristina	105
Daniel	60
Emílio	25

(Final Exam - 03/07/2013 EM.3)

Home Exercises (Chap. 5)

AP3-17-

CYU 5-3, 1 (pg. 153; 4th ed.)

Suppose that the supply and demand for taxi rides is given by Figure 5-8 (see page 149) but the quota is set at 6 million rides instead of 8 million. Find the following and indicate them on Figure 5-8.

a) The price of a ride
b) The quota rent
c) The deadweight loss
d) Suppose the quota limit on taxi rides is increased to 9 million. What happens to the quota rent? To the deadweight loss?

AP3-18-

The number of taxis allowed to operate in Portuguese towns and cities is determined by law. According to economic theory this arrangement, compared to a market without any such restrictions,

a) Will reduce consumer surplus;
b) All other statements are correct;
c) Will cause taxi fares to be higher than they would be in an efficient situation;
d) Will give rise to a deadweight loss (reduction in consumer and producer surplus);

(IT 26/10/2009 version A / E.M.10)

AP3-19-

If the government imposes a production quota below the equilibrium quantity they may charge producers for a licence to produce. The price of that licence can be at most equal to:

a) The deadweight loss.
b) The difference between the consumer surplus and the producer surplus.
c) The new equilibrium price.
d) The difference between the demand price and the supply price.

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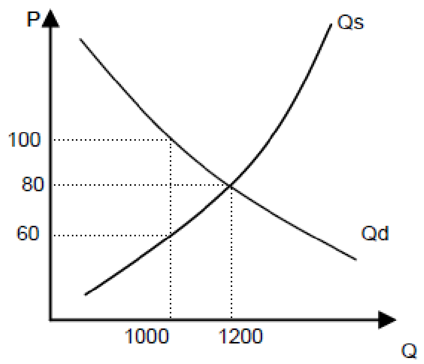
(IT 11/11/2013 version A / EM.9)

AP3-20-

Consider the following diagram, representing a situation where the government has imposed a quota (maximum quantity allowed for sales) of 1000:



Knowing that initially this market was in equilibrium, the quota setting will lead to a *quota rent* included in the price consumers pay of:

a) 20.
b) 40.
c) 60.
d) There is not enough information to calculate the value.

(IT 08/11/2010 version A / E.M.13)

AP3-21-

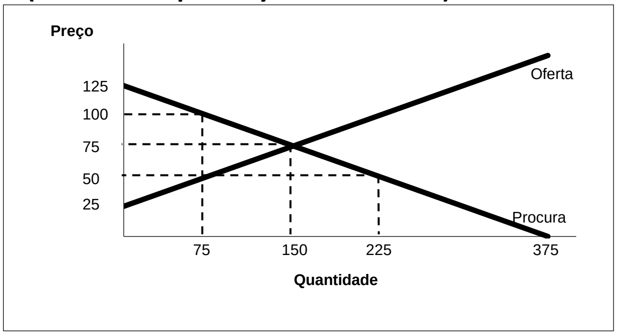
A market used to operate with a price floor. Now, under more liberal policies, the price floor is abolished, and the market price falls. Which of the following will happen?

a) The quantity demand falls and the quantity supplied increases;
b) There will be excess demand
c) The quantity supplied will tend to fall.
d) The quantity supplied will tend to increase.

(IT 26/10/2009 version A / E.M.16)

AP3-22-

In the accompanying diagram how much is the consumer surplus if the government sets a price ceiling of 50? (Notice the quantity that is traded).



a) 16.875
b) 11.250
c) 8.437,5
d) 4.687,5

(IT 12/12/2007 EM.3)

AP3-23-

In a market the equilibrium price and quantity are €50 and 100 thousand. In the usual graph the demand curve intersects the vertical (price) axis at €75 and the supply curve starts at point (0,0). The demand and supply curves are linear. A quota decreases quantity traded by 10 thousand units. Then the deadweight loss will be, in thousands of euros:

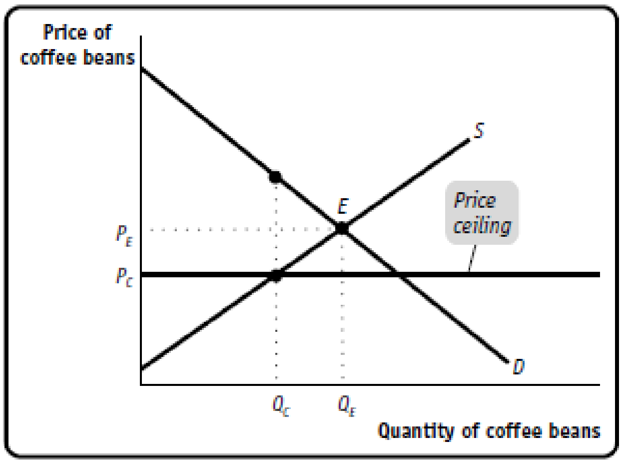
a) 100
b) 122,5
c) 85
d) 37,5

(Final Exam - 09/01/2012 EM.2)

AP3-24-

Problem 10 (pg. 158, textbook Krugman & Wells (2015), 4th ed.)

11. The Venezuelan government has imposed a price ceiling on the retail price of roasted coffee beans. The accompanying diagram shows the market for coffee beans. In the absence of price controls, the equilibrium is at point *E*, with an equilibrium price of P_E and an equilibrium quantity bought and sold of Q_E.



a. Show the consumer and producer surplus before the introduction of the price ceiling.

After the introduction of the price ceiling, the price falls to P_C and the quantity bought and sold falls to Q_C.

b. Show the consumer surplus after the introduction of the price ceiling (assuming that the consumers with the highest willingness to pay get to buy the available coffee beans; that is, assuming that there is no inefficient allocation to consumers).

c. Show the producer surplus after the introduction of the price ceiling (assuming that the producers with the lowest cost get to sell their coffee beans; that is, assuming that there is no inefficient allocation of sales among producers).

d. Using the diagram, show how much of what was producer surplus before the introduction of the price ceiling has been transferred to consumers as a result of the price ceiling.

e. Using the diagram, show how much of what was total surplus before the introduction of the price ceiling has been lost. That is, how great is the deadweight loss?