

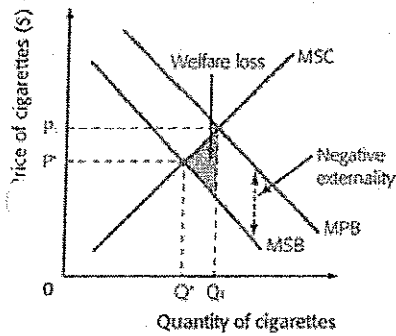


Course: Principles of Economics  
Course No. ECON C212/ECON F 211  
Max marks: 30  
Date: 26-12-2013  
Year: II, III & IV

Weightage: 30%  
Time: 2 Hours

**1. EXTERNALITIES OF SMOKING**

This article talks about how the “number of children admitted to hospital with severe asthma” has decreased by 12% in the first year after the ban on smoking in public places. It is also thought that people are opting for smoke – free homes as well, further reducing the negative externalities of consumption that are generated by smoking.

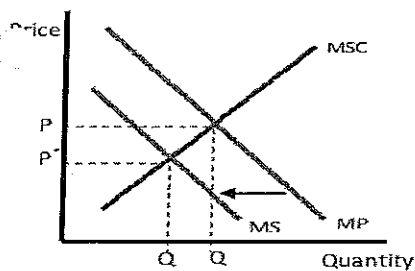


An externality occurs when the production or consumption of a product has an effect on a third party. Although the externality that is generated can be positive, the externalities of consumption generated by smoking are all negative, and this is one of the biggest examples of a negative externality of consumption.

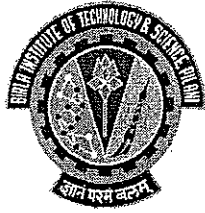
When consuming a product, if negative externalities are produced, it will mean that the marginal social benefits are less than the marginal private benefits. The consumers will not think about the negative effects that the consumption will have on third parties, they will only think about the benefits/costs to them. In the case of smoking, the smokers will not think about the effect of passive smoking on children which can cause asthma, but of the benefits to themselves.

The article outlines how after the government intervened, the effect of the negative externality of smoking decreased by 12% in the first year. Government intervention is defined as actions on the part of the government that affect activity. The government can intervene in many ways, all of which have advantages and disadvantages.

The government could ban smoking altogether. The effects of this can be shown on a diagram.



In the diagram, the ban on smoking has shifted the Marginal Private Benefit Curve to the left, meaning it is closer to, or meets, the socially desirable level of  $Q^*$ . This would obviously reduce the negative externalities generated by smoking, and the effects of those negative externalities, including the reduction of cases of serious asthma in children.



**BITS Pilani**  
Dubai Campus

1/1/14

**First Semester 2013-2014**  
**TEST -II (OB)**

**Course: Principles of Economics**  
**Course No. ECON C212/ECON F 211**  
**Max marks: 15**  
**Date: 18-11-2013**  
**Year: II, III & IV**

**Weightage: 15%**  
**Time: 50 Minutes**

1. General Motors (GM) always found a place for itself amongst the most successful corporations, except during 1990s when it ran into rough sea. This was attributed to a whole gamut of factors- a bloated management and workforce, too 'large' with too many divisions and as many models, low capacity utilization, and high cost suppliers. The sales per employee in GM as compared to those in Ford and Chrysler, was very low, pointing to the fact that GM was operating at a scale where decreasing returns to scale was the feature. In its effort to recover, GM closed 21 plants and shed 74,000 workers. Closure of the plants reduced GM's capacity by 2 million cars and trucks. GM also went through some restructuring during the mid 90s. While all these measures increased GM's efficiency, its relative position was still as bad as before, lagging behind both Chrysler and Ford. In 1998, Ford required 20 worker-days to produce average car, Chrysler required 32 worker days, while GM required 34 worker-days.

**Total Sales, Employees and Sales per Employee (1991)**

	Sales (in billion \$s)	Employees (in thousands)	Sales per employee (in thousand \$s)
GM	123.1	756	162.7
Ford	88.3	333	265.4
Chrysler	29.4	123	238.8

Source: The Economist, 2 May 1992.

In 1998-99, GM, in a desperate move, launched its consolidation program (borrowing a lot from Ford's consolidation program of 1994). GM stripped off the excess fat all over-it reduced the number of models from 89 to 75, centralized its marketing system, sales, and service, increased efficiency further by reducing manufacturing time from 34 to 30 worker days per average car, and spun off its component manufacturing division to facilitate outsourcing.

- a) What is meant by decreasing returns to scale?
- b) Briefly explain the main reason for GM's consolidation program in 1998-99? [4]

2. LP Corp. has estimated that it has the following production function:  
 $Q = 1.5LK - 0.3L^2 - 0.15K^2$   
Labor costs \$60 and capital costs \$70. LM wants to maximize output subject to the cost constraint of \$1500.
- a) What amounts of labor and capital should be used?
  - b) What is the total output from the above combination? [4]
3. A monopolist's demand function is given by  $P = 480 - 8Q$  and Total Cost function is  $TC = 400 + 8Q^2$ .
- a) Calculate the profit maximizing output, price and profit.
  - b) How would the profit maximizing output, price and profit be different from a situation where the monopolist would be operating as a competitive firm? [5]
4. A firm sells each unit of its output for \$20. It has an Average variable cost of \$15, and Fixed cost of \$10,000. Determine the breakeven level of the firm. [2]

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# BITS Pilani

Dubai Campus

First Semester 2013-2014  
TEST -I (CB)

Course: Principles of Economics  
Course No. ECON C212/ECON F 211  
Max marks: 20  
Date: 23-09-2013  
Year: II, III & IV

Weightage: 20%  
Time: 50 Minutes

## 1. Demand For Gasoline

As shown in the following table, gasoline prices increased dramatically from 1973 to 1981. At first, consumers had little choice but to use about the same amount of gasoline and pay the higher prices. Some vacation trips were canceled and many commuters started going to work in buses or car pools, but the options for relief were limited. From 1973 to 1975, an average fuel consumption per vehicle declined from 736 to 685 gallons per year, a decrease of 7%. However, given more time to adjust, consumers were able to reduce the impact of higher gas prices. Smaller, fuel efficient cars became popular, and the average miles per gallon of gasoline for passenger cars increased from 13.3 in 1973 to 15.7 in 1981. People also changed jobs or moved closer to their places of work. These and other changes in driving habits reduced the average number of miles driven per car from 9800 to 8700 over the same period. The net effect of these changes was that fuel consumption per vehicle in the US declined from 736 to 555 gallons per year between 1973 and 1981, a reduction of nearly 25%.

Gasoline prices & consumer resources

Year	Average price of gasoline (\$)	Average miles per gallon	Average miles driven per vehicle per year	Average fuel consumption(gallons)
1973	0.40	13.3	9800	736
1975	0.57	13.7	9400	685
1977	0.62	14.1	9600	680
1979	0.86	14.5	9300	638
1981	1.31	15.7	8700	555

- Explain the concept of price elasticity of demand.
- What is the main determinant in the elasticity of demand in the above mentioned case?
- What is the nature of elasticity in the years 1973-75 and 1979-81? Interpret the result.
- What measures led to the change in elasticity?

[7]

2. a) Graphically show the effect of the decrease in the price of the substitute for X on the demand of X.  
b) Graphically show the impact on the supply curve if the price of the good is increased.

[4]

3. Differentiate between :

- a) Economic Profit versus Accounting Profit.  
b) Normal Good and Inferior Good

[2]

4. Suppose that the generalized demand function for good X is

$$Q_D = 60 - 2P_X + 0.01M + 7P_R$$

where  $Q_D$  = quantity of X demanded

$P_X$  = price of X

M = (average) consumer income

$P_R$  = price of a related good R

Suppose that M = \$40,000 and  $P_R$  = \$20

- a) Is good X normal or inferior? Give reason.  
b) Are goods X and R substitutes or complements? Give reason  
c) Suppose the supply function is  $Q_S = -600 + 10P_X$ , determine equilibrium price and quantity.  
d) What happens to equilibrium price and quantity if other things remaining the same, income increases to \$ 52,000?

[7]



# BITS Pilani

Dubai Campus

First Semester 2013-2014

QUIZ (CB)

Course: Principles of Economics

Course No. ECON C212/ECON F 211

Max marks: 10

Weightage: 20%

Date: 09-10-2013

Time: 15 Minutes

Year: II, III & IV

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NAME \_\_\_\_\_

ID NO. \_\_\_\_\_

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1. The marginal rate of substitution
  - a) may rise or fall, depending on the slope of the budget line
  - b) rises as you move downward along an indifference curve
  - c) falls as you move downward along an indifference curve
  - d) remains the same along a budget line
  
2. Indifference curve is convex to the origin. The reason is \_\_\_\_\_
  
3. To derive the demand curve of a product, the price of the product is varied. For the indifference curve analysis, the
  - a) budget line is held constant
  - b) money income of the consumer changes
  - c) tastes and preferences of the consumer are held constant
  - d) prices of other products the consumer might purchase change
  
4. A production function measures the relation between
  - a) input prices and output prices
  - b) input prices and the quantity of output.
  - c) the quantity of inputs and the quantity of output.
  - d) the quantity of inputs and input prices.
  
5. If average product is decreasing, then marginal product is
  - a) must be greater than average product.
  - b) must be less than average product.
  - c) must be increasing.
  - d) cannot be decreasing.
  - e) both a and c

6. Suppose you operate a sandwich shop and currently have two employees. If you hire a third employee, your output of sandwiches per day rises from 75 to 90. If you hire a fourth employee, output rises to 110 per day. A fifth and sixth employee would cause output to rise to 120 and 105 per day, respectively. Diminishing returns set in with the hiring of the \_\_\_\_\_ worker.
7. If a firm is producing a given level of output in a technically-efficient manner, then it must be the case that
- a) it is choosing the lowest-cost method of producing that output.
  - b) this output level is the most that can be produced with the given levels of inputs.
  - c) each input is producing its maximum marginal product
  - d) both *a* and *b*
  - e) both *a* and *c*
8. \_\_\_\_\_ defines the different combinations of capital and labour that yield the producer the same level of output.
9. The assumption of \_\_\_\_\_ assures that the Indifference curve will have a \_\_\_\_\_ slope.