ECON 101 CCC
MIDTERM 2 FALL 2017   **Instructor: K.L. Wiseman**

Allotted Time: 85 minutes   25 **QUESTIONS AT 4 MARKS EACH = 100 MARKS**

NAME: Last Name, First Name   _____

UBC Student #:   _____

EXAM PROTOCOL

- DO NOT OPEN THE EXAM, TURN IT OVER OR LOOK INSIDE UNTIL YOU ARE TOLD TO BEGIN.
- Students can have a BASIC calculator (NO STORAGE) & writing instruments only.
- Students are required to leave all personal belongings -- including pencil cases, jackets, purses, backpacks, notes and cell phones on the floor by their desk OR at the front of the room.
- Once the exam starts, students should not leave the exam room until they have completed and handed in the exam. No leaving the classroom for bathroom breaks.
- Raise your hand if you have a question during the exam.
- If you are done early, call one of the TA's or the instructor and he/she will pick your exam up.
- No leaving the exam room in the last fifteen minutes of the exam.
- When the exam time has finished, stop writing and pass your exam to the aisle. During this time, you are still under exam conditions so please remain silent and seated at your desks.

WRITING THE EXAM INFORMATION

- Please write neatly.
- Business exams are quick exams so use **time management** to complete all pages.
- Keep your answers brief and to the point – use lists, outlines and point form where appropriate.
- Read questions carefully and answer the questions in the space provided.
- Explicitly state any assumptions you have made.

TERMS: Definitions of some common instruction words.

Describe   Give details of processes, objectives, items included, properties, or connection to a concept.
Illustrate   Give concrete examples – including graphs, formulas or diagrams to explain.
Explain   Give detailed reasons for an idea, principle or result, situation or view. You may need to give some analysis.
Discuss   Explain, give examples, points for and against, then analyze and evaluate the results.
Evaluate   Similar to discuss, but with more emphasis on a judgement in the conclusion.
Outline   Provide the main points plus a few details &/or examples to make the point clear and demonstrate your knowledge of the point. Not just a list!
**Contrast**   Emphasize the differences between two terms, elements or concepts.

QUESTION 1

a. Research has just revealed that pickles are highly beneficial to human intelligence. Prior to today's news release, the benefit of pickles was unknown. Briefly explain the effects of this news on the market including effects - where applicable - on marginal cost, marginal benefit, **externalities**, socially optimal quantity and deadweight loss. Use a well-labeled graph as part of the explanation.

MC
MB
PRIVATE C+B
EXTERNALITIES

Define Relating to Ex.

DWL = Loss of potential gain. + ↓ efficiency

PRIOR TO NEWS - UNDER CONSUMED PICKLES BY CONSUMERS DUE TO EXTERNALITIES (BENEFITS SO POSITIVE) + < SOCIALLY OPT Q WITH DWL RESULTS. ($Q - Q_1$ UNDER CONSUMED)

MC of Pickles.

DWL

D = MB WITH EXTERN

D = MB w private prior to news.
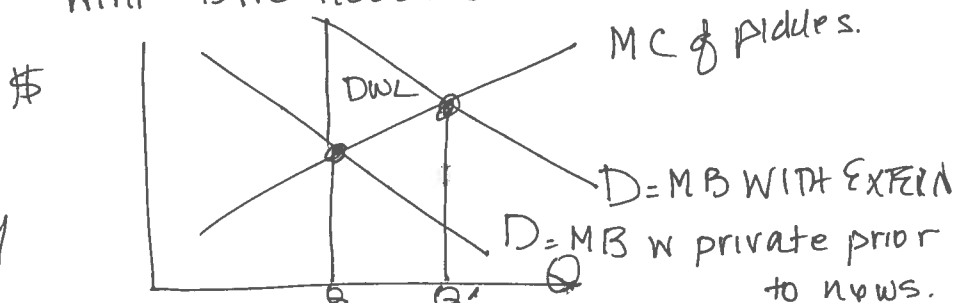
b. What is economic efficiency and how is it related to socially optimal quantity and externalities?

Ec. Eff is CS + PS + provides allocative efficiency of resources. In other words, resources that are scarce are used efficiently. Consuming < socially optimal Q is not efficient.

QUESTION 2

Describe the tragedy of the commons and explain why it occurs. Please be sure you use the terms marginal benefit and marginal cost in your explanation. In addition, include one real world solution in your explanation. No graph required.

GIVEN A SHARED RESOURCE THAT IS FREELY ACCESSIBLE (ie MC low or = 0), individuals act on their own self - interest + consume until MB = MC or MB = 0. This action will effectively deplete or spoil resource of the common good. + harms others as others can no longer use the resource.

Ex PARK, BEACH, WATERWAY, HIKING PATHS AIR,

2

QUESTION 3

Consider the market for noodles that is initially in equilibrium with a market price of P1 and a market quantity of Q1. Noodles are an inferior good. Suppose that people's incomes fall due to the financial crisis. Provide a description of the outcome in this market due to these changes and draw a graph illustrating the initial equilibrium and the new equilibrium after the described changes.

- INFERIOR GOOD IMPLIES

↑ INCOME   ↓ QD of NOODLES
↓   ✓   ↑ QD ✓

↑ INCOME = $D' \to D''$ (↓QD)
  ↳ $Q_2 \to Q_1$ △ QD Q

because people buy ↑
normal good.

✳ ↓ INCOME = opposite effect
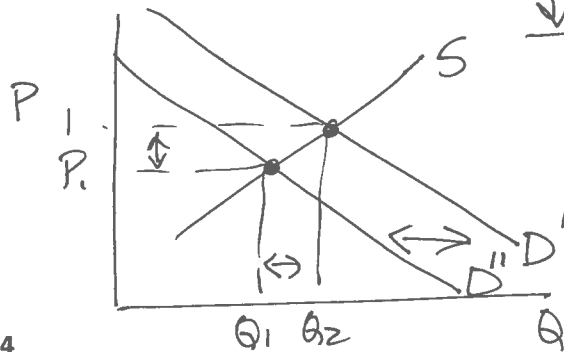
QUESTION 4

Consider the market for soybeans in CCCland. The market demand is given as P = 1000 − 2Q while the market supply is given as P = 200 + 6Q. For each of the following questions please show your work and not just your final answer.

a. Given the above information, what is the equilibrium price and equilibrium quantity, consumer surplus and producer surplus in this market?

equilibrium price and equilibrium quantity	$Q = 100$ $P = 800$
consumer surplus	$\frac{1}{2} bh = \frac{1}{2} * 100 * 200$ $= 10,000$
producer surplus	$\frac{1}{2} bh = \frac{1}{2} * 100 * 600$ $= 30,000$

b. Now suppose that the government of CCCland implements a price floor in the market for soybeans and this price floor is set at $500 per unit of soybeans. Describe (no numbers required) the term price floor, impact of this price floor on the market for soybeans and in your answer, explain why this is the impact.

Price Floor -

- lowest legal Price regulated by government
- protect producers

Not effective (BINDING) because

$< P^* $ of 800 equl Price.
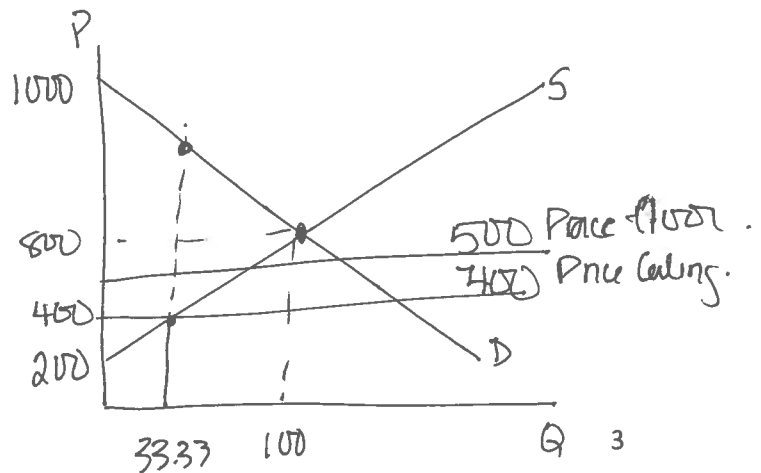
- NO IMPACT

c. The government decides to institute a price ceiling in this market for soybeans instead of the price floor. The government sets this price ceiling at $400. Describe (no numbers required) the term price ceiling, impact of this price ceiling on the market for soybeans and in your answer, explain why this is the impact.

Price Ceiling - Price control set by gov't on max price.

- protects consumers
- < P* to be effective.
- DWL↑ < Q. IMPACT
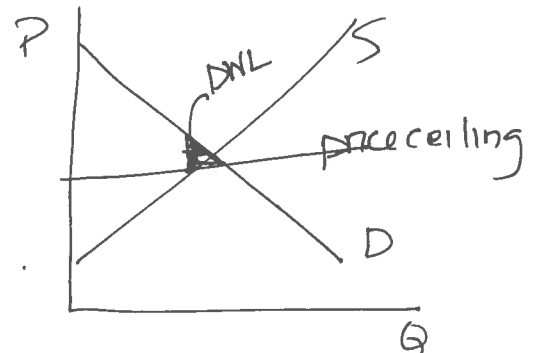
d. Now determine how many units of soybeans are traded, value of consumer surplus, and the value of producer surplus in this market given this price ceiling.

P = 400

Units of soybeans	
Qs = 400 = 200 + 6Q	33.3
consumer surplus $\frac{1}{2}(33.33)(1000 - 933.33) + (33.33)(933.33 - 400)$	= 1111.06 * 17,775.89 = 18,886.95
producer surplus $\frac{1}{2}(33.33)(400 - 200)$	= 3,333
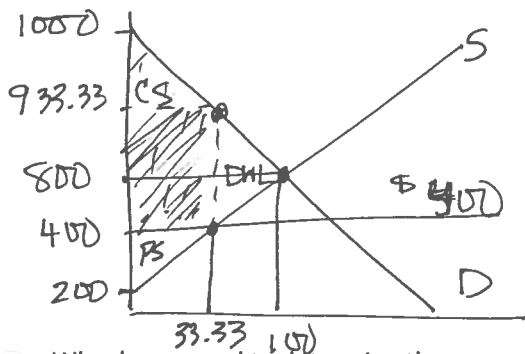
PUT 33.33 INTO DEMAND EQU TO GET
P = 1000 - 2(33.33) = 933.33

e. Why do we need to determine the economic surplus in the scenarios such as the values calculated in question? Explain your reasons please.

To determine effect of policy on -consumers + producers

- * allocative efficiency & DWL
- cost & benefit overall of policy

(SHOULD HAVE 2 * ITEMS IN ANSWER.)

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QUESTION 5

Compute the value of price elasticity of demand using the arc method if price decreases from $0.95 to $0.85, and quantity demand change from 350,000 unit to 450,000 per month. Also, explain the meaning and use of the value.

$P\Delta$ $.95 \Rightarrow .85$ $\Delta = .10 \downarrow$ $AVG = .90$

$Q\Delta$ $350th \Rightarrow 450th \Delta$ $100 \uparrow$ $AVG = 400,000$

$$\xi = \frac{\%\Delta Q}{\%\Delta P} = \frac{\frac{100}{400}}{\frac{.10}{.90}} = \frac{.25}{.111} = 2.25$$

- MEANS: ELASTIC OR STRONG RESPONSE TO $P\Delta$
  $\uparrow P \ 1\% \quad \downarrow Q_D \ 2.25\%$

- USE: PRODUCERS / RETAILERS TO DEVELOP PRICING STRATEGY.

QUESTION 6

Market equilibrium is

   a.   Inefficient only if we have negative externalities present

   b.   Inefficient only if we have positive externalities present

   c.   Inefficient if we have either negative or positive externalities present

   d.   Always efficient, regardless of the nature of externalities

Select your answer and then using a well labelled graph, explain your reasons to support your answer.

C

ANY EXTERNALITIES WILL MAKE THE MB + MC (S+D) function deviate from the socially optimal level + thus over or under consumption / production results + DWL + ↓ allocative efficiency.

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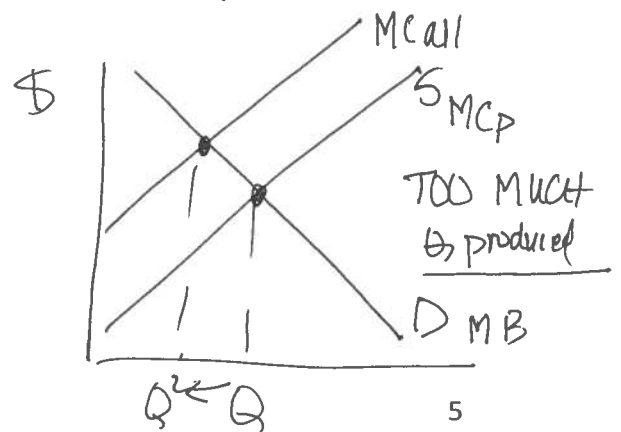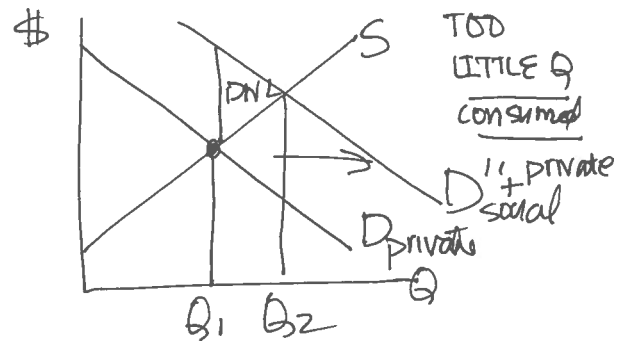
QUESTION 7

In CCCland, government officials are considering implementing an excise tax on the producers of textbooks. They have called you in to analyze the impact of this proposed tax. Currently (before the excise tax) market demand and market supply of textbooks is given in CCCland are given by the following equations where P is the price per case of textbooks and Q is the quantity of cases of textbooks:

Market Demand: P = 90 − (3/2)Q   **Market Supply: P = 20 + (1/4)Q**

The government officials propose implementing an excise tax of $7 per case of textbooks on producers. Use this information to answer the following set of questions. Be sure to show how you got your answers.

a. With the imposition of this excise tax, how much tax revenue will be collected by the government in Boomtown?

$$\text{NEW SC} \quad P = 27 + \tfrac{1}{4}Q$$

$$\text{SET } P_D = P_S$$

$$\text{SOLVE}$$
$$P = \$36/\text{CASE}$$
$$Q \stackrel{\$}{=} 36/\text{CASE}$$

$$\text{TAX REVENUE}$$
$$= 7 * 36 = 252$$

b. With the imposition of this excise tax, what will be the change in consumer surplus relative to the initial level of consumer surplus?
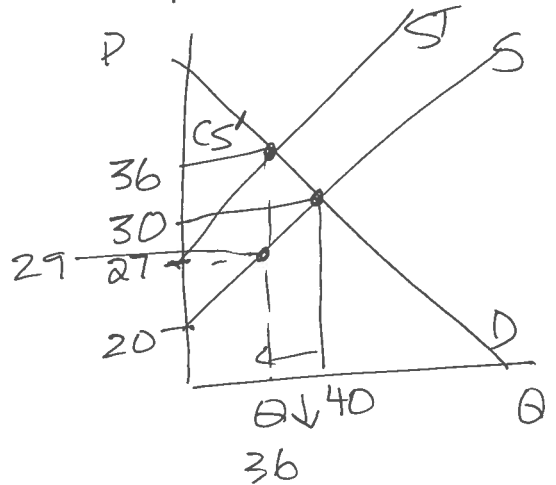
$$\text{BEFORE TX}$$
$$P^* = 30 \quad Q^* = 40$$
$$CS = 1200$$

$$\text{AFTER TX}$$
$$P^* = 36 \quad Q^* = 36$$
$$CS' = 972$$

$$\Delta CS = 228 \downarrow$$

c. What is the deadweight loss due to this excise tax?

$$\text{METHOD 1}$$
$$ES_{Before} - ES_{after} =$$

	TAX REV	DWL
$1400 - 1134 = 266$	$- 252$	$= 14$

$$\text{METHOD 2}$$
$$\tfrac{1}{2}bh = \tfrac{1}{2}(40-36)(36*29) \qquad = 14$$

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d. Calculate the consumer tax incidence and the producer tax incidence of this excise tax. Who bears the greater economic burden of this excise tax? Explain your answer using a well labelled graph

	BEFORE Tx	AFTER Tx	Δ
Price CONSUMER	30	36	6
∨ PRODUCER	30	29	1

＊Q.
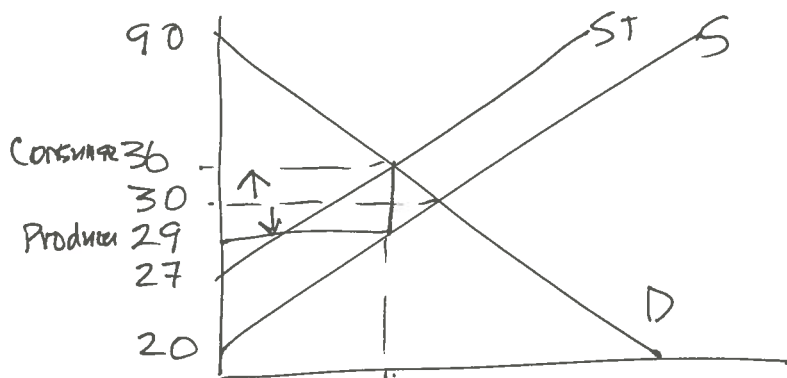
CONSUMER PAY
> AMT

QUESTION 8

Why and how do accountants and economists calculate a firm's cost and profit in different ways? Explain.

HOW: ACCT DO NOT INCLUDE IMPLCIT OR OPPORTUNITY COST
SO TOTAL COST ECONOMIST > TOTAL COST ACC

WHY: ECONOMISTS CONSIDER OPP. COST / NEXT BEST
ALTERNATIVE IN ASSESSMENTS. + EFFICIENCY

QUESTION 9

Describe the free-rider problem in provision of goods in the market and explain why this problem makes the private provision of a public good inefficient? Explain.

PUBLIC GOODS MAY BE DIFFICULT TO EXCLUDE + PROPERTY
RIGHTS NOT CLEARLY DEFINED

THIS MAKE IT POSSIBLE FOR INDIVIDUALS TO BENEFIT/USE
THESE GOODS W/O PAYING FOR THEM & THUS, PRIVATE
FIRMS WOULD ↓ PRO'D IN + UNDER PROVIDE DUE
TO THESE FREE RIDERS.

QUESTION 10

Describe the principal–agent using a real-world example and list one method that can be used to reduce this type of problem.

- AGENT MAKES DECISION THAT IMPACTS ANOTHER IND/FIRM (PRINCIPAL)

- PROBLEM - GET INCENTIVES IN PLACE TO ENCOURAGE AGENT TO ACT IN BEST INTEREST OF PRIN

- METHODS · OWNERSHIP/INCENTIVE PAY/ LT CONTRACTS

QUESTION 11

List the four conditions of perfectly competition market and explain what conditions would need to change to allow the industry to become a monopolistic competition market.

4 CONDITIONS
- STANDARD PRODUCT
- LOTS OF BUYERS/SELLERS (NO POWER)
- EXIT/ENTRY OF MKT WITH EASE
- WELL INFORMED RE P+Q

CHANGE
- PRODUCT DIFFERENTIATION
- ↑ MKT POWER

QUESTION 12

Illustrate the relationship between the concepts of externalities, property rights and Coase theorem.

- COASE : IF PROPERTY RIGHTS EXIST, SMALL # OF ENTITIES + TRANSACTION COST LOW

- PRIVATE TRANSACTIONS CAN BE EFFICIENT

- SIDE PMT CONDUCTED TO NEGOTIATE AWAY EXTERNALITIES

EX/ PAY TO STOP POLLUTION - CONSUMER
OR
PAY TO ALLOW POLLUTION - FIRM

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QUESTION 13

Contrast the following terms, Negative production externality and Negative consumption externality. Be sure your answer includes a definition of the terms, examples, and impact on the market. Yes, a well labelled graph should be part of your explanation.
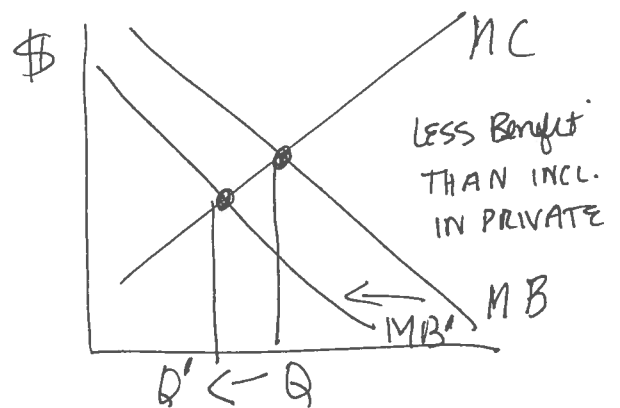
NEGATIVE EXTERNALITY PROD

- IMPOSES A COST ON
  IND. OUTSIDE TRANSACTION.
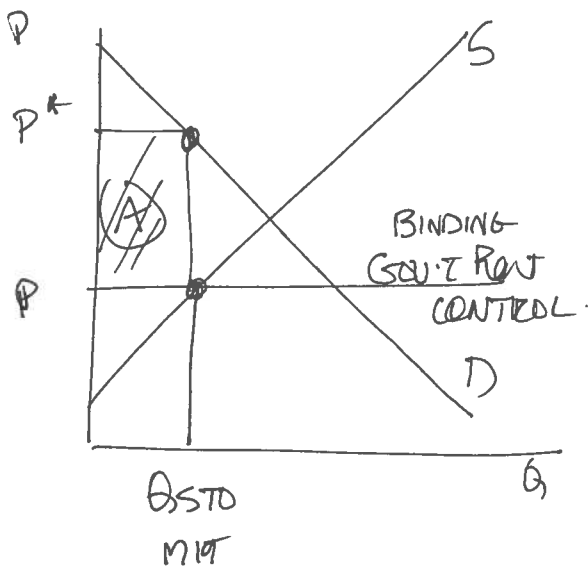- TOO MUCH PRODUCED - SHOULD
  PRODUCE Q' IF ALL COSTS INCL.
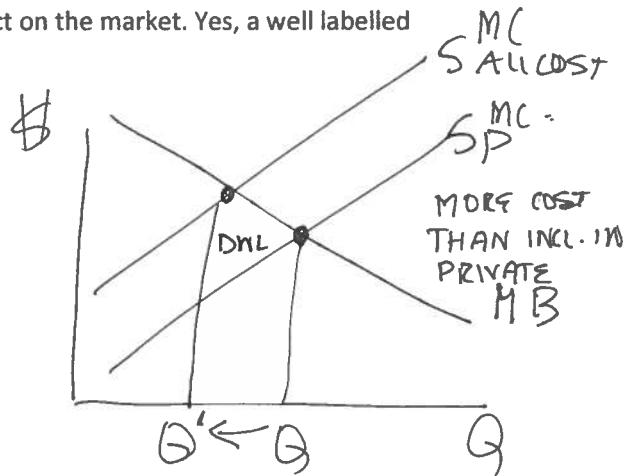
NEGATIVE CONSUMPTION EXT

- NOT ALL COSTS OF CONSUMING
  INCL. + THESE SPILLOVER TO PEOPLE
  OUTSIDE TRANSACTION
- TOO MUCH CONSUMED (AT Q')
  AS OPPOSED TO Q

QUESTION 14

A black market may result when governments intervene in the market with the intent of assisting consumers or producers. True, False or Uncertain. Explain. EITHER YOU N WITH A REASONING.

OR NO IF
MAKE SURE POLICING/
REGULATE IS VERY
STRONG THEN NO
BLACK MKT.

BINDING
GOV'T RENT
CONTROL.

Q$STO
MKT

P* WILLING TO PAY AN AMT
> P Rent control   YES
Result: (A) BLACK MKT

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QUESTION 15

Contrast the following terms – do not list everything just provide the main elements that show the contrast!
Be sure to use a well labelled graph (if applicable) and examples as part of your explanation.

a. Market coordination versus Firm Coordination

MKT: PROD'N CONTROLLED VIA
P ADJUSTMENT + SELF
INTERESTED DECISIONS
OF BUYER + SELLERS

FIRM: PROD'N CONTROLLED
VIA FIRM HIRE/OWN
CAPITAL, LABOUR, LAND
+ USE COMMAND +
INCENTIVE SYSTEMS

b. Private Good and Public Good

PRIVATE
RIVAL + EXCLUDABLE

PUBLIC
NON-RIVAL + NON
EXCLUDABLE

c. Marginal Social Benefit of a Public Good versus Marginal Social Benefit of a Private Goods

MSB PUBLIC GOOD
- NON RIVAL $0
BENEFIT OBTAINED
BY VERTICAL SUMMATION

1 UNIT   PROVIDES BENEFIT
OF   MMB TO LOTS
GOOD
PUBLIC   OF PEOPLE

$ [A][B][C] VERTICAL Σ
G

MSB   PRIVATE GOOD
- RIVAL.

1 UNIT   PROVIDES BENEFIT
OF   TO 1 PERSON
GOOD   + THEN USED
         UP

HORIZONTAL SUMMATION
$ Σ
Q

10