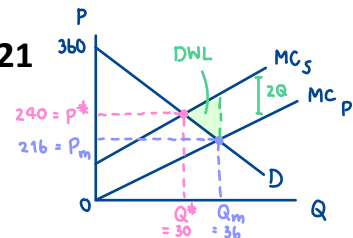


Group 4

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EE375: Applied Economics for Natural Resources and Environment Assignment 2 (Group)

Due on Friday August 27, 2021



Question 1:

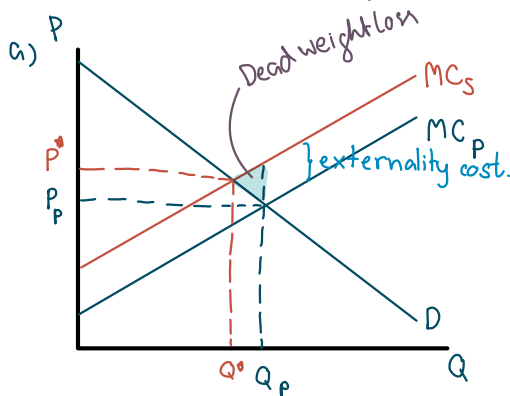
Suppose that the demand curve derived from marginal benefit associated with a consumption of chocolate is $360 - 4Q$ and the marginal cost of chocolate production is $6Q$. The marginal damage from pollutions generated by chocolate production is $2Q$.

- Find the social optimum or efficient production level (P^* , Q^*)
- Find the private equilibrium price and quantity when external costs could be ignored by firms
- What tax level should be set to achieve the efficient/social optimal
- Calculate deadweight loss from externalities in this case
- Drawing a graph to illustrate the result from a) to d)

Question 2:

The production of cigarettes increases water pollutions while the consumption of cigarettes can put their neighbors at health risks (Hint: Impact on social marginal benefits as a whole)

- Explain how externalities in this case create inefficiencies in the cigarette market and draw a graph to illustrate your explanation, including the market equilibrium for cigarettes at i) socially optimal level, P^* and Q^* ; ii) private optimal level (P_p and Q_p) when externalities are not internalized by both firms and consumers and; iii) the deadweight loss area.
- What policies could be considered to reduce deadweight loss in this case and describe the effects of such policies in the cigarette market.



- They are plenty of solution through policy. In our opinion, the proper policy for cigarette industry are putting a cap, not only cigarette are causing pollution to the community but also causing Respiratory disease, lung cancer for example. So, to decrease production of cigarette would be benefit for both environment and public health issue. Second policy is establishing rules. Establishing rules could help the environment by zoning law which separate residential area from industrial area to prevent pollution from industry to effect public utility.