Exam 1 Group Presentation

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Our Topic

Suppose the own-price elasticity of demand for tobacco is -0.35. It is -1.5 for marijuana. Suppose the government tax both goods using a per-unit tax.

- Discuss why taxing marijuana could be more effective than taxing tobacco in reducing the consumption of these goods. For example, you can examine what would happen if the prices of both goods increase by 10%.

- Suppose the local government is considering taxing either product by a certain percentage of the price. Explain why taxing tobacco might raise more revenue by a higher percentage than taxing marijuana. Again, you can examine what would happen if the prices of both goods increase by 10%.

- Would we prefer per-unit or lump-sum tax? Why?

Discuss why taxing marijuana could be more effective than taxing tobacco in reducing the consumption of these goods.

$$e^d = \frac{\textbf{percentage change in } Q}{\textbf{percentage change in } P} = \frac{\Delta Q\%}{\Delta P\%} \qquad \Delta Q\% = e^d \times \Delta P\%$$

For Marijuana: The own price elasticity of demand is -1.5. If prices increased by 10%, consumption would drop by 15% (-1.5 x 10%).

For Tobacco: The own price elasticity of demand is -0.35. If prices increased by 10%, consumption would drop by 3.5% (-0.35 x 10%).

Taxing Marijuana could be more effective for reducing consumption because as shown by the calculations above, since the own price elasticity of demand is higher for Marijuana than tobacco, Marijuana is more elastic and more sensitive to price changes as a result. The consumption would drop by 15%.

Suppose the local government is considering taxing either product by a certain percentage of the price. Explain why taxing tobacco might raise more revenue by a higher percentage than taxing marijuana.

For Marijuana: The own price elasticity of demand is -1.5. If prices increased by 10%, consumption would drop by 15% (-1.5 x 10%).

For Tobacco: The own price elasticity of demand is -0.35. If prices increased by 10%, consumption would drop by 3.5% (-0.35 x 10%).

Taxing tobacco could be more effective for raising revenue because as shown by the calculations above, since the own price elasticity of demand is lower for tobacco than marijuana, tobacco is less elastic and less sensitive to price changes as a result. Inelastic demand means that when the price goes up, consumers' buying habits stay about the same/change very little (3.5%).

Would we recommend a per-unit or lump-sum tax? Why?

In the condition of curving marijuana consumption:

We would recommend imposing a per unit tax on marijuana as this would decrease the consumption.

- Demand for marijuana is elastic, which means it will fluctuate with changes in price
- Imposing a tax would increase the price of marijuana.
- This would result in less consumption as consumers are less likely to buy with the increase in price.

Would we prefer per-unit or lump-sum tax? Why?

If a municipality is trying to generate as much money as possible, they should use a per-unit tax on tobacco.

- Because tobacco is more inelastic in comparison to marijuana, meaning even with the tax increase, consumption would not fall as much for tobacco
- The government would be able to maintain steady consumption of tobacco, even with the tax applied
- Strictly referencing the elasticity of the two goods at the same price, the less elastic good's consumption, tobacco, will fall less than the more elastic good, and generate higher tax revenue.

If consumers equally like tobacco and marijuana, and the government wants to generate as much tax revenue as possible they should use a lump sum tax.