

**Economics Internal Assessment**  
**Tax on Cigarettes and Sugar**  
**Candidate number:**

## Topic: **Increasing Tax on Sugar and Cigarettes helps in Reducing Cancer**

### Introduction

In recent years, the picture of global healthcare has been overshadowed by a growing worry: the alarming increase in cancer incidence and its significant effects on both individual well-being and stressed public health systems. This growing concern has cast a shadow over the landscape of global healthcare. Because of this, experts in the health care industry and legislators have been compelled to investigate novel pathways for preventative measures that might successfully reduce the growing cancer issue. The proposal of higher taxes on sugary beverages and cigarettes is one noteworthy technique that is garnering a growing amount of attention.

This research provides a full investigation of the logic that behind this strategy. It delves into the possible benefits and repercussions connected with increased taxes on these two prominent commodities, with the major emphasis being on the influence that it is anticipated to have in lowering the cancer burden. The major emphasis will not be just to determine the relation between the variables including taxes and cancer reduction. Instead, the report is intended to explain the economic theory of negativity externality in the context of cancer caused due to excess sugar and cigarette consumptions. The report will cover the tax implications on negative externalities for both said commodities from the perspective of all stake holders including the consumers, suppliers, and the policy makers.

### Hypothesis

According to the analysis presented above, an increase in taxes on beverages with a high concentration of sugar and cigarettes with a high concentration of nicotine that have a high level of negative externalities will likely result in a decline in consumer demand for beverages with a high sugar concentration. Therefore, it is presumed that in order to mitigate the adverse effects of the externalities, steps such as increased taxes or other obligatory actions, such as reformulation, were done. It is possible to postulate that the general market's demand for soft drinks and cigarette usage would be significantly impacted negatively as a result of these policy measures' inverted and considerable interaction with one another.

The study will involve methodology of first providing literature review on the negative externality theory and then using graphical representation to confirm the tax implications for all stakeholders.

## Economic Theory Related to Negative Externality

A negative externality is an economic action that harms a third party. Sugar or Nicotine intake via consumption of soft drinks or cigarettes is a negative externality since its high sugar content is unhealthy and may cause various health issues. Obesity is a major issue since it might cause further issues (Economics Online).

To improve public health, individuals should reduce the sugar and nicotine intake. The major reason soft drinks are regarded a good with a negative externality is because excessive consumption may cause serious health problems. When individuals in a nation have poor health, it may strain its healthcare services. This is why the government has taken on the role of reducing consumption. However, more individuals are becoming aware of sugar's / cigarette's health risks and are working to reduce their use.

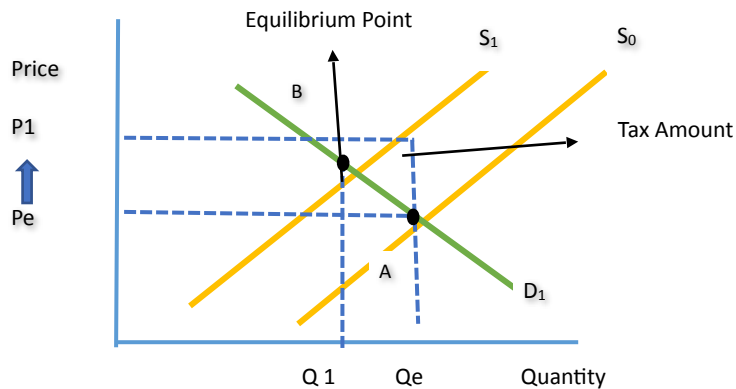
Excessive consumption of these commodities increases public health expenses, which harms society. Obesity, diabetes, cardiovascular disorders, and lung related diseases become frequent, causing severe problems for most civilizations. Behavioral economics discusses welfare-enhancing options. This has the opposite effect, preventing individuals from working healthily.

A common criticism of soft drink negative externalities is that the poor bear the brunt since they can't afford them. Given this, it's also necessary to evaluate how decreased consumption impacts people's health. A recent National Bureau of Economic Research working paper found that lower-income individuals "have systematically less nutrition knowledge and likely to self-report they consume more sugary beverages than they think they should... Low-income households reduce consumption much more than high-income households when prices rise."

The income rise from soft drink and cigarette sales after the tax is a tiny part of the total revenue, yet it is necessary to collect additional cash to spend on the people's welfare. Despite their health risks, smoke and sugary drinks are addressed differently from alcohol owing to important distinctions. Alcohol and cigarette usage doesn't reduce as much when taxed. Most of this is due to addiction (Ozger). So it occurs. Since sugary beverages are not addictive, consumption drops dramatically.

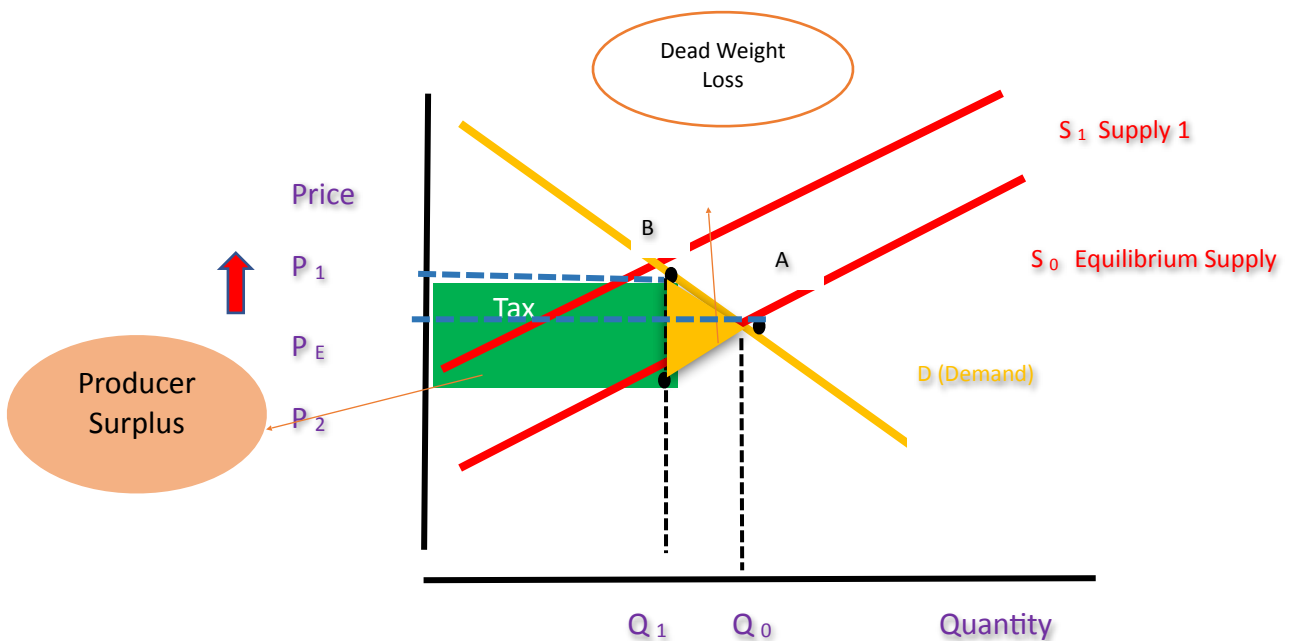
Use graphs to analyse this. Product demand declines as excise taxes rise. The graph below demonstrates how taxes impact economy's Sugar / Cigarettes demand-quantity:

Figure 1: Effect of increase in Excise taxes on Sugar / Cigarette Intake demand



Point A is the market equilibrium stage, when both the supplier and the client are content with the commodity price ( $P_e$ ), in this instance soft drinks. In point B, the market is out of balance. After the government imposes a soft drink excise tax to raise money, the supply curve swings left from  $S_0$  to  $S_1$ , moving the demand curve right. Tax hikes raised prices from  $P_e$  to  $P_1$ . This moves quantity demand to the right side of the demand curve. Thus,  $Q_1$  is the new equilibrium quantity on the left side of the axis. The equilibrium point has shifted to point B because suppliers and buyers are pleased with the new equilibrium price. As said, excise tax increases tax revenue. The graph below shows how taxes affect the economy, consumers, and manufacturers:

Figure 2: Economic Surplus



When taxes are imposed, the price of goods and services rises from  $P_E$  to  $P_1$ . Rather than increasing demand, however, when the curve moves upward from  $Q_0$  to  $Q_1$ , it decreases it. Because of the adoption of the excise tax, the supply curve has shifted higher from  $S_0$  to  $S_1$ , from  $S_0$  to  $S_1$ . Consumer surplus is reduced as a result of this, which should have included a percentage of tax income (in the green box) as well as deadweight loss (orange triangle). This diminishes the consumer surplus, which should have included a portion of tax revenue (in the green box) as well as the deadweight loss (in the red box) (orange colour box). However, as a result of the increase in price, the new consumer surplus is now restricted to the triangular area alone. As a result of the tax increase, the region corresponding to producer surplus has also diminished in size. Using the green shaded region, you can see how much money the government has collected in taxes. The deadweight loss caused by a drop in both consumer and producer excess is represented by the orange colour triangle on the graph.

The conversation that has taken place so far has provided some insight into the impact of excise taxes on soft drinks. The government is the most important stakeholder in this project, and its participation is mandatory. A government's primary purpose is to increase income, which is particularly important at a time when the epidemic has increased government spending and tax collection has slowed substantially as a result of the weakening economy. To counteract these negative externalities, it is vital that governments boost taxes on soft drinks in the form of excise taxes in order to collect more revenue while also minimising the negative externalities caused by excessive soft drink consumption. In this study, the second group of participants that took part was those who were consumers. It goes without saying that increased tariffs would encourage customers to reduce their consumption of soft drinks. The benefits of this decision will be enjoyed by all members of society as a whole. It is well-known that smoking has negative implications, as inhaling the smoke can result in lung problems and other health problems. This could lead to a reduction in the negative social cost of tobacco smoking, which is defined as the expense borne by society as a result of excessive tobacco consumption. The final stakeholder is made up of the makers or companies that sell soft drinks or other related products. Tariffs would result in an increase in the price of commodities. Obviously, this would have a negative influence on the company's bottom line profits. It is vital that the government ensures that, in the case of soft drinks, the producers only pass on cost increases to the customers and that profit margins are safeguarded in order to avoid a deadweight loss in the marketplace.

The above phenomenon is something that can better be explained in terms of price elasticity and inelasticity as well. When we look at soft drinks, we can see that the nature of the good is as such that it is price elastic. But when we look at alcohol and tobacco, we can see that they are goods where people want to consume them even at a higher price. The proportionate decrease in demand is much lesser than the increase in price. This explains why increasing the tax on soft drinks is a very good way to reduce consumption. This way, the government can also get the extra revenue that it needs to spend on the welfare of the

people. In the same way, they can also succeed in their agenda of reducing the consumption for the betterment of the people.

Taxes raise prices from  $PE$  to  $P1$ . The curve rises from  $Q0$  to  $Q1$ , decreasing demand. The excise tax raised the supply curve from  $S0$  to  $S1$ . This reduces consumer surplus, which should have included a proportion of tax revenue (green box) and deadweight loss (orange triangle).

This reduces consumer surplus, which should have included tax income (green box) and deadweight loss (red box) (orange box). Due to the price rise, the new consumer surplus is limited to the triangle region. Due to the tax hike, the producer surplus area has shrunk. The green shading shows how much the government has collected in taxes. The orange triangle on the graph represents deadweight loss from consumer and production surplus reduction.

The discussion has shed light on how excise taxes affect soft drinks. The government is the project's most significant stakeholder and must participate. A government's main goal is to boost money, which is crucial because the pandemic has increased government expenditure and tax collection has slowed due to the faltering economy. To reduce these negative externalities, governments must increase soft drink and cigarettes excise rates to raise income and reduce the negative externalities of excessive consumption.

Consumers were the second category in this investigation. Increased tariffs would naturally lower soft drink consumption. The whole society will profit from this choice. Smoking is known to cause lung and other health issues. This might reduce the negative social cost of tobacco smoking, which is the cost to society from excessive tobacco use.

The last stakeholder is soft drink and associated product manufacturers. Tariffs would raise commodity prices. Obviously, this would hurt the company's profitability. The government must guarantee that soft drink companies exclusively pass on cost increases to consumers and protect profit margins to minimise market deadweight loss.

Price elasticity and inelasticity help explain the aforesaid situation. The excellent soft drinks are price elastic. However, alcohol and cigarettes are items that consumers desire to buy even at greater prices. The price rise outweighs the demand drop. Thus, raising soft drink taxes is an effective approach to cut consumption. This gives the government greater income to spend on public welfare. Additionally, they may achieve their goal of lowering consumption for the public good.

## Conclusion

The study used demand and supply to examine how excise taxes affect sugar / cigarette intake that eventually affect the cancer prevalence. The government is the project's most significant stakeholder and must participate. A government's main goal is to boost money, which is crucial because the pandemic has increased government expenditure and tax collection has slowed due to the faltering economy. To reduce these negative externalities,

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The government aimed to combat childhood obesity with this fee. Child obesity is a major issue in the UK and other Western Countries like US. Young children love sugary beverages, therefore they drink plenty of them. This is unhealthy and might worsen their health over time. The government decided that taxing soft drink producers is the best option. This was done to cut consumption.

The government chose to create better sports facilities for young children using the additional income they produce to help the broader healthcare system. Deeper analysis shows that this tariff has reduced UK soft drink consumption. This has helped the government achieve its goals, benefiting everyone. The goal is to minimise strain on the national healthcare system. A heavy healthcare system would put more pressure on the government to provide healthcare for everyone who gets ill regularly.

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