Microeconomics commentary

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The South African government will propose a new tax on vaping products to take effect in 2023, according toVaping360.

The move follows the government'sannouncementlastyear that it intended to tax e-liquids.

South African Finance Minister Enoch Godongwanaoutlinedthe new tax proposal as part of a package of new and increased excise taxes on tobacco, alcohol and high-sugar products. The vaping tax will appear in the 2022 Taxation Laws Amendment Bill, though it could be changed by Parliament before the bill is finalized. It is expected to be in place by Jan. 1, 2023, according to Godongwana.

The new tax would apply to all e-liquid products, regardless of whether they include nicotine, and it would be "at least" ZAR2.90 ($0.19) per mL, essentially doubling the price of retail e-liquid. The taxation rate is supposed to be equivalent to 40 percent of the most popular brand's retail price.

South Africa currently has no specific governance on vaping products but is working to regulate the products under its tobacco laws.

Commentary
South Africa Proposes New Vaping Tax

The South African government announced last year they intended to tax e-liquids. The proposed tax is a Pigouvian tax and is placed at a fixed amount per unit of e-liquid sold. It currently stands at $0.19 per mL. In doing so, the South African government aims to achieve allocative**efficiency**where the market's resourcesare used to produce goods and services that best satisfy society's wants and needs.
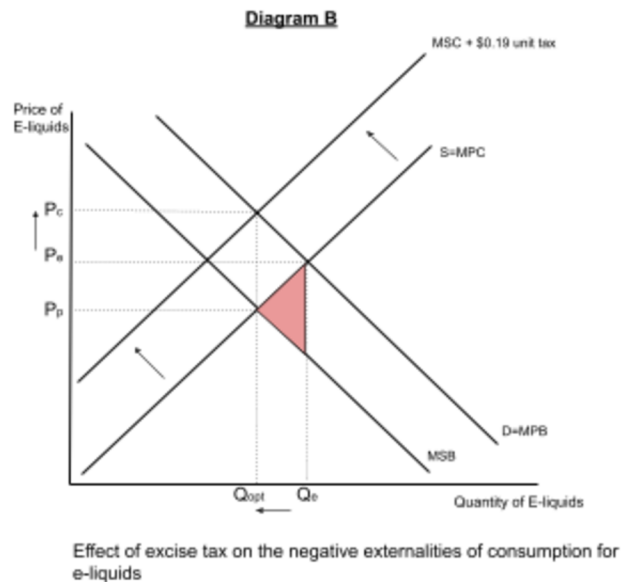
E-liquids are considered demerit goods as vaping has a negative impact on the consumer. In addition, consuming the good also creates negative spillover effects on society which mainly come from the increased healthcare costs for smokers and the effects of secondhand smoking. This results in market failure,where the price mechanismfails to allocate resources efficiently, as the free market is essentially unable to allocate the socially optimal amount of resources towards e-liquids. This means there is an overallocation of resources that consequently creates a welfare loss to society.

Diagram A

Negative externalities of consumption for e-liquids
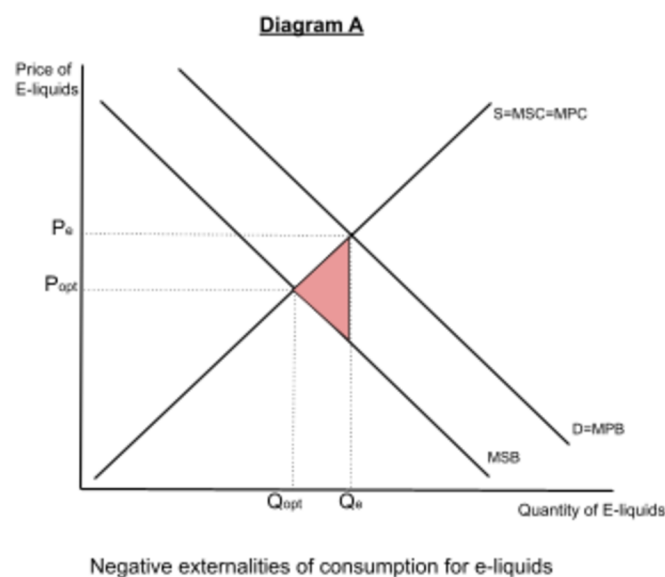
As shown in diagram A, the market equilibrium occurs where the Marginal private benefit(MPB) of consuming e-liquids intersects with the supply curve, creating afree market equilibrium where there is an overconsumption of the good as too many resources are allocated to producing the good. This results in aquantity of Q_e at a priceof P_e. However, society would be better off if less of the good was consumed, thus the socially optimal quantity of e-liquids is determined by the intersection of the MSB=MSC at $Q_{opt}$with a pricelevel of P_{opt}. The welfare loss,

represented by the red triangle, results from the reduction of benefits to society as a result of the overallocation of resources towards e-liquids.

To correct the market failure and achieve allocative efficiency the South African government plans to implement an excise tax per mL of e-liquid. This effectively raises production costs for producers by $0.19 per unit, and as a result the firms will supply less than before at the given price. In addition, the tax is passed onto consumers in the form of higher prices which further decreases demand for e-liquids.

Diagram B

MSC + $0.19 unit tax

Price of E-liquids

S=MPC

P_c

P_e

P_p

D=MPB

MSB

Q_{opt} Q_e

Quantity of E-liquids

Effect of excise tax on the negative externalities of consumption for e-liquids

As seen in the diagram B, the tax raises production costs, thus shifting the Marginal social cost(MSC) curve upwards as supply is reduced. This shift decreases the quantity of e-liquids to the socially optimal output at Qopt, as producerssupply less at their given lower price of Pp, and increases the price for consumers to Pcdue to thetax being passed on to consumers. Since the market is now consuming at the socially optimal quantity there is no longer an overallocation of resources towards e-liquids, and the welfare gap is closed as the market achieves allocative **efficiency.**

However, it's important to consider that the e-liquids have a relatively inelastic price elasticity of demand(PED) due to its addictive attributes. This means the percentage change in quantity demanded will be smaller than the percentage change in price. Therefore, reducing supply and increasing the price of e-liquids through taxation might not be as effective in reducing consumption, as a very high tax might be necessary in order to have a significant effect on the demand.
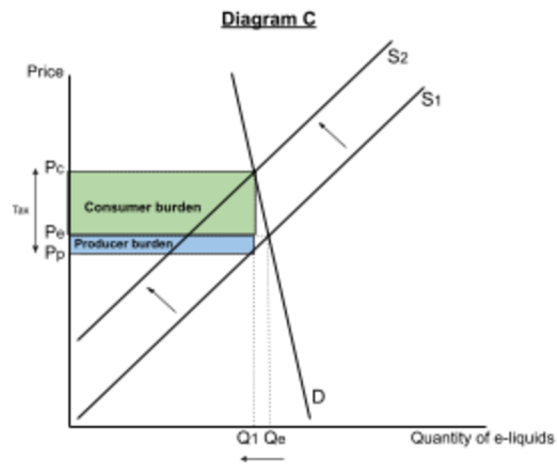
Diagram C

Effect of indirect tax on inelastic demand for e-liquids

As seen in diagram C, the supply curve shifts from S1 → S2 as a result of the imposed tax reducing supply, which creates a new market equilibrium at quantity Q1and price Pc. Producers now only receive Ppas they have to pay the tax tothe government. However, due to the inelastic PED of e-liquids, the percentage increase in price is greater than the percentage change in quantity demanded. Thus, the tax has a relatively minimal impact on the consumption of the good. Most of the tax burden therefore lands on the consumers shown by the area (Pc-Pe)*Q1, which is the extra cost they face. Thetax burden for producers, which represents producers revenue loss, is smaller, shown by the area (Pe-Pp)*Q1. The government on the other hand earns revenue equal to the tax(Pc-Pp) times thequantity supplied(Q1).

The indirect tax therefore has to be very high in order for allocative**efficiency**to be achieved, which can be very politically undesirable. In addition, the Pugovian tax is regressive, which will worsen income inequality as lower income households spend more of their total income.

In my opinion, despite its limitations this solution is the most feasible due to the inelastic PED of e-liquids, as more government revenue will be raised because demand is less affected by the price increase from the tax. The raised government revenue can then maybe be used to fund advertising campaigns against e-liquid consumption to eliminate asymmetric information. By doing so, the marginal private benefit of consuming e-liquids will decrease, as consuming e-liquids becomes less attractive. Thus, eliminating the welfare loss to society and achieving allocative **efficiency**.

Work cited

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