

3 (a) Explain the demand and supply factors that affect the price of alcohol. [10]

(b) Discuss the view that governments should ban the consumption of alcohol. [15]

**a) Explain the demand and supply factors that affect the price of alcohol. [10]**

**Suggested Approach**

**Introduction**

- Acknowledge that prices are determined by forces of demand and supply
- Identify the possible demand and supply factors that could affect the price of alcohol
- Different types of alcohol i.e wine, beer, hard liquor

**Body**

(STUDENTS SHOULD SELECT THE MORE APPROPRIATE FACTORS WHICH ARE APPLICABLE TO ALCOHOL)

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**Demand factors**

a) Taste & preferences

- Due to strong marketing efforts and innovative marketing campaigns to promote the consumption of various alcoholic drinks, this has resulted in an increase in demand for alcohol.
- For e.g in 2016, leading players such as Asia Pacific Breweries Ltd launched innovative marketing campaigns to create excitement amongst consumers, tapping into the use of culture and food pairing. For instance, Tiger beer conducted a marketing campaign entitled uncagestreetfood to celebrate the local street food culture. Through a series of hawker dining events, consumers were able to pair their local food with the brand. This has resulted in an increase in demand for alcohol.

b) Household income

- Due to growing affluence, more people are willing and able to spend more on luxury items such as wine, thus resulting in an increase in demand for alcohol. However, for alcoholic drinks such as beer could be seen as an inferior good. Hence when there is an increase in income, there will be a fall in demand for beer.
- Likewise, when there is poor economic outlook, consumers show more discretion in their spending and cut down on their demand for alcohol such as wine.
- For e.g there is a slowdown in growth in total volume of alcoholic drinks sold in Singapore 2016 due to pessimistic consumer sentiments.

**Supply factors**

a) Government policy

- Due to government policy such as taxes on alcohol producers, this has increased their cost of production thus causing supply to decrease. This is seen in Singapore where it raised excise duties on alcohol by 25%.

b) Increase in number of producers

- Due to lower barriers to entry into the market for alcohol due to new distribution channels such as online shopping, this has led to an increase in supply of alcohol as these products are becoming more readily accessible to consumers. For instance, the number of internet wine retailers such as Vinomofu is increasing due to the lower set-up and operating cost. Moreover, internet retailers are importing a wider range of wine brands, thus increasing supply of alcohol.

**Putting supply and demand factors together**

- In terms of supply, the implementation of a large amount of taxes is likely to outweigh the entry of new producers, causing supply for alcohol to decrease.
- Hence the increase in demand and decrease in supply is likely to lead to an increase in prices. This will lead to a shortage of alcohol. This shortage will put an upward pressure on the price of alcohol, causing price of alcohol to increase.

Level Descriptors for Essay Question 3(a)		Marks
L3	<ul style="list-style-type: none"><li>• Well-developed explanation of both demand <b>and</b> supply factors affecting price of alcohol</li><li>• Use of adjustment process to explain the change in price.</li><li>• Answer supported by examples and well-contextualised to market for alcohol</li></ul>	8-10
L2	<ul style="list-style-type: none"><li>• Undeveloped explanation of demand <b>and</b> supply factors that affected price of alcohol</li><li>• <u>OR</u></li><li>• Developed explanation of demand <b>or</b> supply factors affecting price of alcohol</li><li>• Limited use of examples.</li></ul>	5-7
L1	<ul style="list-style-type: none"><li>• Mostly irrelevant</li><li>• Theoretical answer without contextualising to market for alcohol</li><li>• Conceptual inaccuracies.</li><li>• Mere listing of factors</li></ul>	1-4

**b) Discuss the view that governments should ban the consumption of alcohol. [15]**

**Suggested Approach**

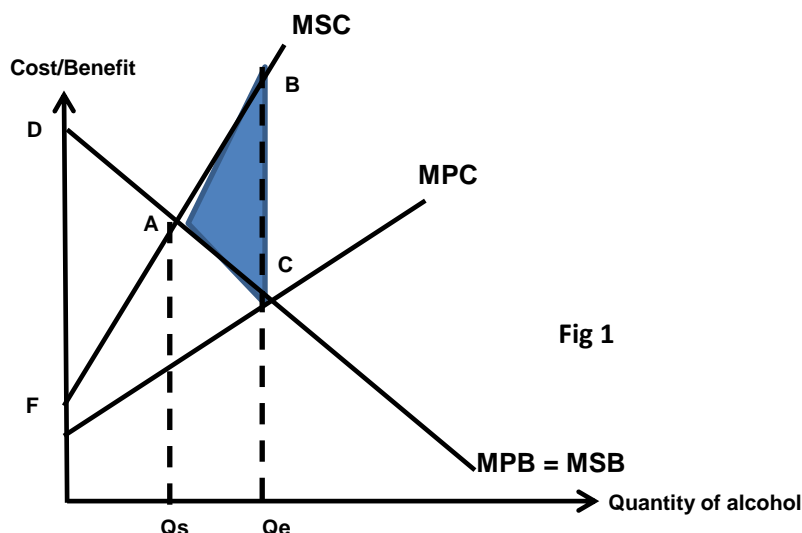
*Candidates are required to explain why there is a need for governments to intervene through the imposition of a ban by explaining the market failure due to presence of negative externalities in the market for alcohol. Candidates are then required to explain how the ban of consumption of alcohol can help to reduce the market failure and evaluate its effectiveness and if the government should implement other measures instead.*

**Development of ideas**

**Thesis: Governments should consider banning consumption of alcohol.**

- Explain reasons for government intervention in the market for alcohol

Consumers of alcohol will only consider their marginal private cost (MPC) and marginal private benefit (MPB) in consuming alcohol. The private cost of alcohol consumption includes the price of alcohol while the private benefit includes the satisfaction from consuming alcohol, such as being able to de- stress. If left to the free market, consumers would be consuming up to the quantity where their MPB equates MPC at  $Q_e$ , as shown in Fig 1 below.



In addition, there are also negative externalities associated with alcohol consumption. Examples of the external cost are the harm/violence towards the surrounding members of the public as the drinkers become easily aggravated and lost control of themselves. The surrounding members of the public may need to bear treatment cost as a result of the assault. In addition, when those who drink drive, their negligence may result in accidents; even fatal ones, as stated in the preamble. The cost inflicted on other road users or pedestrians are the treatment cost or even cost associated with loss of lives.

Due to the presence of external costs, there is a divergence between marginal social cost (MSC) and marginal private cost (MPC). At the level of consumption in the free market, the marginal social cost is greater than MSB. Society values an additional unit of alcohol less than what it costs society to consume it. The socially optimum level of consumption is at  $Q_s$ , where  $MSB=MSC$ . There's therefore a situation of over-consumption, resulting in a deadweight loss as shown by the shaded area. Society's welfare is not maximised at  $Q_e$ . There's a need to allocate less resource to the consumption of alcohol until the socially optimum level of consumption could be attained at  $Q_s$ . There's a need for the government to intervene to ensure this outcome.

*Transition:* One form of regulation is to ban alcohol consumption. This, however, should be considered for implementation only if it improves societal welfare.

- **Explain how a ban on consumption of alcohol will lead to an efficient allocation of resources**

A complete ban on consumption of alcohol will reduce consumption of alcohol to zero. This will lead to an efficient allocation of resources if the socially optimal quantity of consumption

is at zero as well. This will directly restrict the access of alcohol to consumers and reduces the external cost on members of the public. An example is seen in a prohibition law in Bihar, one of India's poorest, most agrarian states. The law imposes a maximum sentences of seven years for drinking alcohol and life in prison for making it. This has resulted in crime rates to have fallen sharply, reducing the negative externalities. In addition, if the extent of external cost is large, it is administratively easier to just ban the activity to reduce market failure.

**Anti-thesis: Government should not completely ban the consumption of alcohol.**

- **Argument 1: Explain why a complete ban on consumption of alcohol may not lead to an efficient allocation of resources**

**(i) Underconsumption in the market for alcohol**

- With reference to Fig 1, the welfare loss as a result of the decision of consumer is given by area ABC. Banning alcohol consumption will reduce the level of consumption to zero. However, for units up to  $Q_s$ , the marginal social benefit is higher than the marginal social cost. Not allowing the consumption of these units implies a welfare loss given by the area FDA. Hence, banning alcohol consumption totally can lead to a bigger welfare loss.
- In fact, when the extent of the costs is not yet known like the case of production of toxic chemicals, banning the production or consumption is usually not rational from the perspective of the society and hence is usually not implemented.

EV: Having said that, it may still be recommended to ban alcohol consumption to some degree up to socially optimal quantity of consumption,  $Q_s$ . For instance, a ban can be implemented for those below a certain age. For example, in Singapore, the legal minimum age is 18. Another form of banning alcohol consumption could be in the form of restricting the hours for which alcohol can be purchased. For example, with effect from 1<sup>st</sup> April 2016, between 10.30pm to 7am, drinking is prohibited in public places and retailers are prohibited to sell alcohol in Singapore, since most of the external cost to third parties are inflicted during the stated hours, the external cost such as disturbances on members of the public is directly curbed with certainty; given proper enforcement of the law.

Other form of banning alcohol consumption can be in terms of designated areas in a country. In Singapore, Liquor Control Zones, places associated with excessive drinking and hence higher risk of having public disorder, have been drawn to ban alcohol consumption.

**(ii) Other reasons**

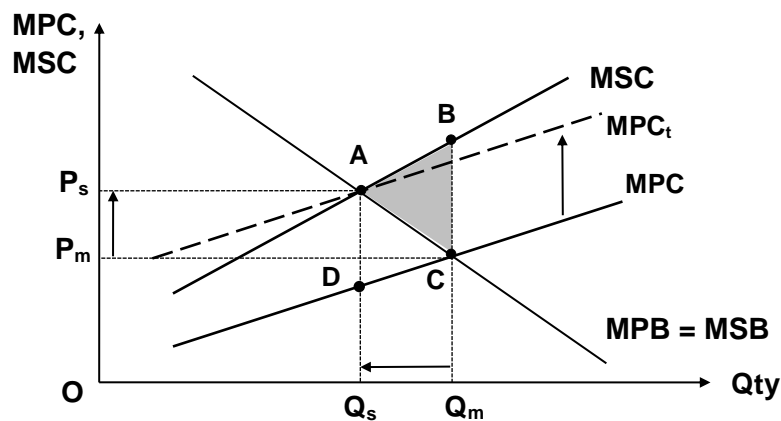
Besides the consideration of welfare loss, there are other reasons for regulator not to ban the product. Banning a product that is habitually consumed good may cause public outcry. It can also further tarnish the country's reputation to be a country with little rights. But more importantly, it can result in an important source of government revenue as high taxes tend to be associated with demerit goods. In addition, banning the consumption requires strict enforcement for it to be successful, which may require a lot of resources to be channeled into it.

*Transition:* A ban on alcohol consumption should only be considered for implementation only if it improves societal welfare. Otherwise, less drastic measures such as taxes and other forms of legislation should be recommended.

- **Argument 2: Explain alternative measures which governments can adopt in the market for alcohol and discuss why there might be no need for such a drastic measure such as a ban of consumption of alcohol.**

**(i) Taxes:** The government can also impose on producers a tax equal to level of MEC at the socially optimal level. Because of the imposition of this tax, producers will reduce supply and pass on part of this increase in costs to consumers, which will result in a higher price of alcohol. This will shift the MPC upwards, causing the external cost to be internalized as price of alcohol will increase from  $P_m$  to  $P_s$ . This would reduce the consumption of alcohol to the socially efficient level and remove the deadweight loss indicated in the figure below. If the taxes is able to correct the market failure, the government should not impose a total ban on alcohol consumption.

The revenue collected from taxes could also be used to fund public projects to create more awareness of the harm from excessive consumption of alcohol. This would be necessary to continue to curb the issue in the long run. On the other hand, legislations like a ban is costly in its enforcement. There's a need to mobilise resource such as police patrols to monitor and ensure that the legislation is adhered to. This would put a strain on the government budget instead, and perhaps the resource could have been better channelled elsewhere.



**(ii) Moral Suasion:** Government can take on the role of an information provider to persuade people to change their drinking habits. For example, posters and advertisements seek to inform and heighten consumers' awareness on the costs of drink-driving in Singapore and to advise the population to stay away from alcohol if they are driving.

Hence if current measures such as taxes and moral suasion are working, there is no need for government to implement such a drastic measure such as a ban on consumption of alcohol.

### **Conclusion**

- In conclusion, some degree of banning can be helpful in reducing external costs and removing consumers who would grossly underestimate their private costs from the market. These measures, however, should be supplemented with both moral suasion and indirect tax to better deal with market failure problem especially given that there is no one measure that is most superior.

**EV:** Taxation and legislation could be 'blunt' tools as they do not discriminate between

responsible and irresponsible drinkers (social & binge drinking). The ban or higher prices of alcohol applies to all drinkers whether they generate external costs or not.

*EV:* In the long run, the government may need to reduce its extent of regulation and taxation and rely on provision of information to change drinking habits of the population. Improvement in provision of information to the public through campaigns, enables drinkers to factor in the true costs of consumption to themselves, their family members and society and would hence be a more sustainable way to curb this problem in the long run, instead of continuing to drain the government resource on enforcement of legislation such as a ban.

Level Descriptors for Essay Question 3(b)		Marks
<b>L3</b>	<ul style="list-style-type: none"> <li>Well-developed and balanced analysis which covers the following: <ul style="list-style-type: none"> <li>Reason for government intervention: correct identification of source of market failure in the consumption of alcohol</li> <li>Intervention in consumption of alcohol is necessary but may not be necessary to ban it completely</li> <li>Evaluation of alternative methods of intervention</li> </ul> </li> <li>Well-supported with relevant examples which are contextualised to the market for alcohol</li> </ul>	<b>9-11</b>
<b>L2</b>	<ul style="list-style-type: none"> <li>Undeveloped OR one-sided analysis on: <ul style="list-style-type: none"> <li>Source of market failure in the consumption of alcohol</li> <li>How a ban in consumption of alcohol may lead to an efficient allocation of resources</li> </ul> </li> <li>Lack application to the context of market for alcohol</li> </ul>	<b>5-8</b>
<b>L1</b>	<ul style="list-style-type: none"> <li>Answer is mostly irrelevant and contains only a few valid points made incidentally to the ban of alcohol consumption</li> <li>Answer not supported by economic reasoning</li> <li>Conceptual inaccuracies</li> </ul>	<b>1-4</b>
Evaluation		
<b>E2</b>	<p>For an answer that arrives at an analytically well- reasoned summative conclusion assessing the effectiveness of a ban on consumption of alcohol</p> <p>Relevant criteria/conditions identified for evaluation. Students can consider:  <b>Feasibility</b> and <b>practicality</b> of banning consumption of alcohol  Sustainability of a ban on alcohol consumption</p> <ul style="list-style-type: none"> <li>Benefits and costs of imposing a ban on alcohol consumption</li> </ul>	<b>3-4</b>
<b>E1</b>	Some attempt at evaluation or making a summative conclusion but not consistently using economic analysis.	<b>1-2</b>