



National Certificate of Educational Achievement  
TAUMATA MĀTAURANGA Ā-MOTU KUA TĀEA

## **Exemplar for Internal Achievement Standard**

### **Economics Level 3**

This exemplar supports assessment against:

**Achievement Standard 91402**

**Demonstrate understanding of government interventions where the market fails to deliver efficient or equitable outcomes**

An annotated exemplar is an extract of student evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualifications Authority

To support internal assessment

	Grade Boundary: Low Excellence
1.	<p>For Excellence, the student needs to demonstrate comprehensive understanding of government interventions where the market fails to deliver efficient or equitable outcomes.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• using a detailed explanation to make a justified recommendation on which government intervention is better in terms of efficiency and equity</li> <li>• integrating an economic model(s) into the justified recommendation.</li> </ul> <p>The student provided evidence that met the Merit requirements of the standard.</p> <p>This excerpt shows the recommendation and justification of using incremental tax increases to address the negative externalities associated with the consumption of cigarettes, for Excellence.</p> <p>The student has justified how incremental tax increases would affect price for consumers and producers, integrating the language of the SMC/SMB model. The recommended tax is clearly explained in terms of the efficiency and equity implications for society and government (1).</p> <p>The student has explained in detail how a ban would affect consumers and producers, P and MU and therefore their decisions, and the allocative inefficiency and inequity of this intervention was explained (2).</p> <p>The student has compared the two policies in terms of their efficiency and equity and made a justified recommendation as to which policy would better internalise the negative externalities (3).</p> <p>For a more secure Excellence, the student should also integrate the language of the SMC/SMB model in the explanation of a ban's inefficiency. For example, the student could state that if a ban was imposed and <math>Q_{fm}</math> decreased to <math>Q=0</math>, then this would result in a DWL (efficiency loss), the triangle areas of CS and PS where <math>MSC=MSB</math>.</p>

Tax is the current policy used in New Zealand, with the first substantial tax put into place in 1985, with a 54% increase in price. The primary objectives of the tax are to lower quantity demanded for cigarettes, and raise tax revenue for the government. The New Zealand cigarette tax uses these two objectives in combination to effectively lower the quantity consumed and hence the cost of the externalities. This is shown on the graph by the shaded area illustrating the gains to society of less being consumed.

*[Model showing a tax was used, student explained how the tax affects price for consumers and producers and therefore their decisions, moving the market closer towards MSB=MSC and allocative efficiency].*

Tax is seen as only an intermediate stage to the over-all goal of zero consumption and zero externalities. This is done because of the special nature of cigarettes that the effects can last a person's life, and will mostly be seen in later life, i.e. a life-long smoker may not cost the government much until they die early in later life, even after 20 or so years of smoking.

The government accounts for this by lowering quantity over time, with increasing tax revenue-tax in New Zealand is planned to increase by 10% every year. By doing this, tax revenue can be maximised and costs should mostly be covered for by the time that the last person dies from smoking. This idea is why young people are so strongly identified in anti-smoking programs - one new smoker means 75 years of costs to society. The price where MSB intersects with MC+Tax is the socially optimal price (Ps) and consumers are consuming a socially optimal quantity (Qs). Therefore, social DWL is eradicated by an increasing tax policy as the long-term health effects incurred from the consumption of cigarettes is covered by the incremental tax increases. *(Equity and the regressive effect of a tax, on households with lower incomes being affected more than those on higher incomes, was also discussed).*

Banning is an extreme policy and the banning of a widely used product, such as cigarettes usually has many unforeseen consequences for society. A ban's purpose is to reduce the quantity produced and demanded to zero, effectively eliminating the market. This is done simply by making the consumption and/or production of cigarettes illegal. This does two things; 1-Makes cigarettes less accessible; 2-The consumer now have to consider the consequences of smoking verses the benefit of smoking. Because there would be fines, or even imprisonment for smoking, this affects the marginal utility (MB), by either making it so low that it is not possible to purchase it at an equal price, or it is negative, where the over-all utility (MB) of smoking is less than the consequences of doing it. ( $P > MU$  for most, if not all prices). Although, a ban will eliminate most consumers and producers due to the new added consequences of smoking, a minority will still, taking into account the consequences, demand and be willing to produce the illegal substance. This creates a new, Black-Market. A ban is a much more drastic policy than the current one, a tax. In terms of reducing or eliminating the market, a ban is much more effective than a tax; it raises the costs drastically for the consumer and therefore quantity demanded will drastically reduce in a short period.

The externalities continue to cost the government for up to 75 years after the longest living consumer of cigarettes dies, due to decreased productivity due to lower life expectancy and healthcare costs of the smoker being especially prevalent in later life. A ban will therefore not account for this prolonged cost to the government due to the loss of revenue from the absence of the currently used tax policy. A ban however will mostly reduce the instant effects of smoking, due to most of the more severe effects of smoking happening much later in life,

and with costs to the government up until this point a ban will result in a large dead-weight loss. This deadweight loss will occur, as not all of the losses of surpluses will be transferred to society when the ban is first implemented, this will mean that the banned market will not be allocatively efficient. It will take up to 75 years for the externalities of cigarettes to stop costing the government with the dead-weight loss being eliminated. A serious negative effect, which may be seen, would be the increase in gang activity due to a black market of tobacco, policing nationwide increased gang activity would come at a relatively large cost, especially since there is a large market for cigarettes. Overall, costs of the ban would be great initially, with decreased costs over time. Some costs may linger and would have to be taken into account when considering the costs/benefits of the policy. (*Equity issues around a ban were also discussed*).

2

2

Both policies work very differently in ways of reducing and covering the externalities caused by the consumption of cigarettes. The tax works by reducing the costs of cigarettes over a long period, while using tax revenue to cover the current costs of cigarette consumption. Some of this tax revenue was used to subsidise programs to reduce smoking as well as using the remaining tax revenue to benefit society. Due to the inelasticity of cigarettes, consumption of cigarettes falls very slowly relative to the price. These consumers represent the problem area in the efficiency of the tax, tax does not reduce quantity demanded as well as a ban would, this is because it still allows for the choice of consumption, instead of eliminating that choice. It makes up for most of this inefficiency with the tax revenue gained though.

3

In some ways, a ban is far more efficient than a tax; it instantly removes most of the consumption and the instant externalities of cigarette consumption. However the primary costs to the government of cigarette consumption are not short-term, they are long term. These costs include reduced productivity due to early loss of life, including long-term health care. The ban creates its own spillover effects, mostly including increased crime rates and gang, or illegal activity. These spill-over effects add extra cost to society with increased police costs as well as family support services and addiction services, for people going through withdrawal. Although the ban reduces consumption consumed, it does not cover the externalities, this means that a large deadweight loss will occur, even if a social quantity has been reached, social equilibrium has not due to costs to society being very similar to what they were before the ban.

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Tax does not reduce quantity demanded by as much as the ban and over a longer period as well. However, tax accounts for the externalities using tax revenue, and it does not create extra substantial externalities as well as the current ones that the ban could possibly create. Due to the inefficiencies of the two policies, neither of them will fully reach social equilibrium and both will result in some dead-weight loss. DWL represents a lack of allocative efficiency and wasted resources, and overall the ban is less efficient as it will produce more deadweight loss. This is because the tax revenue gained covers at least 70% of the externalities.

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Taking into account efficiency, and the relative fairness, equity, of the two policies, tax is clearly the best policy option. Not only is it fairer, affecting only the smokers, with the possible moral issues being minor compared to the spillover effects of the ban. It is also clearly the most efficient policy covering a lot more of the losses from the externalities than the ban. Even though the ban reduces quantity consumed, it is not practical and does not cover costs in a reasonable period, and the tax revenue from cigarettes is lost.

	Grade Boundary: High Merit
2.	<p>For Merit, the student needs to demonstrate in-depth understanding of government interventions where the market fails to deliver efficient or equitable outcomes.</p> <p>This involves providing a detailed explanation of:</p> <ul style="list-style-type: none"> <li>• why the market may not be delivering efficient or equitable outcomes</li> <li>• government interventions</li> <li>• the implications of the government interventions for equity and efficiency</li> <li>• using an economic model(s) to support a detailed explanation(s).</li> </ul> <p>The student provided evidence that met the Merit requirements of the standard.</p> <p>This excerpt shows a recommendation to implement both policies of a subsidy on healthy foods and an education program to address the negative externalities associated with the consumption of unhealthy foods, approaching Excellence (1).</p> <p>The student has explained how the combined policies would better address the market failure than either one alone, in terms of efficiency and equity (2).</p> <p>To reach Excellence, the student could provide more detail around the efficiency and equity of these policies by integrating the language of the models used earlier in the report. For example, the model illustrating a subsidy on healthier foods (e.g. milk and fruit; encouraging consumers to switch from soda and potato crisps) should be integrated. The change to MB and quantity demanded of unhealthy food (<math>Q_m</math> towards <math>Q_s</math>) on the SMC/SMB model from the education program should also be integrated.</p> <p>Additionally, the student could explain how the combined interventions move the market closer to allocative efficiency and remove social DWL, therefore justifying the recommendation, which is needed for Excellence.</p>

Student 2: High Merit

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### Recommendation

Overall, in terms of efficiency both policies are not perfectly efficient; however, both would still have an impact on the consumption of fat and sugary foods. This means that the spillover cost on society from demanding unhealthy foods would reduce. Both increasing education and introducing subsidies on healthy foods would cost the government a tremendous amount but the best outcome for the future I believe is implementing a subsidy on healthy foods and an education program. ①

This is because increasing New Zealand's (NZ) knowledge on what the effects of junk food are will not necessarily by itself mean people will reduce their consumption if it is also a matter of cost and the price, so applying subsidies on healthy foods will actually make a change on the price of these goods. Families with less income and salary would not be able to make severe changes to their grocery items as money is an issue, but applying a subsidy on healthy foods will benefit them and they will be encouraged to switch to healthier foods. Although it will raise the government expenses for cash grants there is a possibility that this change will positively affect other sectors like reduced healthcare costs and an increase in productivity of labour. ②

The NZ government could get the money to fund this change from increased productivity when the obesity rate falls or from the decrease in health costs from obesity related sicknesses. The expenses for sickness benefits per week should also fall slightly as people with better health can be re-employed and then they earn more from full-time wages/salaries.

A food subsidy might sufficiently decrease consumption making obesity rates fall and cut the costs imposed on society. Such changes in other countries have been shown to affect food choices. A series of experiments confirmed that even schoolchildren's purchases are sensitive to changes in the relative price of foods. However, there is an issue around what foods should be subsidised and which ones contribute to obesity, because all foods consumed in sufficient quantities can contribute to calorie surplus and weight gain. Additionally, it is not sustainable in the long term because the expense of food grants may only be partially offset by the savings in reduced health costs, and so the decreased healthcare costs may not be enough to cover the subsidy for the rest of the impending years. ②

A subsidy is equitable because it benefits everyone in NZ and is accessible to every race and gender. Everyone will have the option to change their diet with a subsidy; this will help families with less income who researchers say are the ones with the highest rates of obesity. A subsidy will also achieve a more efficient allocation of resources as it will be faster than implementing and seeing the benefit to society from the education program. This is because an increase in education by itself will only make people aware of the issue; it cannot automatically change people's diet, whereas a change in price can. ②

A decrease in price will encourage families to eat healthy foods instead of junk food, and labelling and advertising increases their knowledge of the issue. The subsidy policy would have to be implemented for quite a long time, possibly several years to resolve the issue of obesity because it will take time to get people to adjust their diets and to allow families to

continue making better food choices in the future from increased education. If the government just applied this change for a few months it would only help families for the time being and once the subsidy is taken off again lower income families will be forced back into their old habits – consuming junk food as it is the cheaper option and can often feed a larger group of people.

Overall, the best policy is combining a shorter-term subsidy on healthy foods with education, which will help more in the long term and the combined policies are equitable, effective and more efficient than either one by itself, which is bound to help reduce the obesity rate in NZ and therefore address this market failure. 2

	Grade Boundary: Low Merit
3.	<p>For Merit, the student needs to demonstrate in-depth understanding of government interventions where the market fails to deliver efficient or equitable outcomes.</p> <p>This involves providing a detailed explanation of:</p> <ul style="list-style-type: none"> <li>• why the market may not be delivering efficient or equitable outcomes</li> <li>• government interventions</li> <li>• the implications of the government interventions for equity and efficiency</li> <li>• using an economic model(s) to support a detailed explanation(s).</li> </ul> <p>The student explained why the alcohol market may not be delivering efficient or equitable outcomes, in detail. Additionally, the policy of implementing a sales tax on alcohol was explained in detail, in terms of efficiency and equity, using the SMC/SMB model to support the explanation (1).</p> <p>This snippet shows the second policy of imposing a minimum price on alcohol, explained in terms of the efficiency implications for society and government, using changes shown on the SMC/SMB model to support the explanation (2).</p> <p>The student has also explained the policy in terms of the equity implications for society, incorporating the language of the SMC/SMB model (3).</p> <p>For a more secure Merit, the student could add more detail to the explanations of efficiency and equity. For example, the student could state that the minimum price creates an efficiency gain in the market, because at the socially desirable equilibrium of <math>P_s</math> and <math>Q_s</math> the private loss of CS and PS shown by the area ABD is smaller than the benefits of reduced spillover costs (area ABCD). Therefore, an efficiency gain of area BCD, the social DWL at the private market price and quantity.</p>



[Student explained the negative externalities associated with the over-consumption of alcohol in detail and explained in detail the policy of implementing a sales tax on alcohol in terms of efficiency and equity, using the SMC/SMB model to support the explanations.]

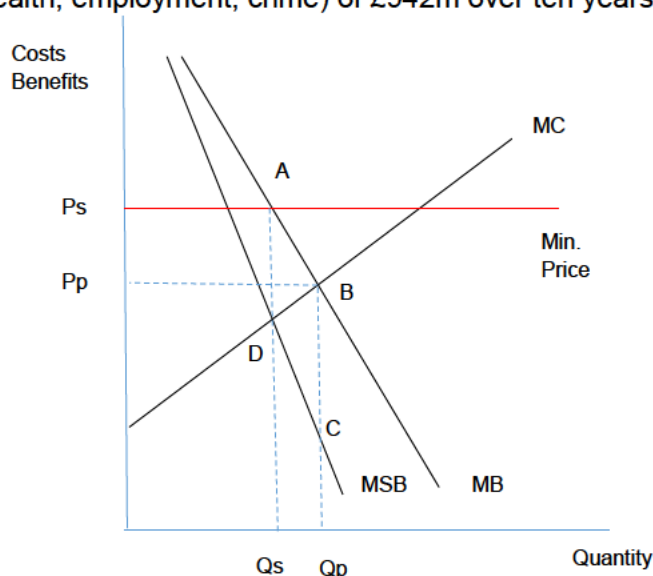
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## Policy 2: Imposing a minimum price

Another policy used to reduce the consumption of alcohol is a minimum price. A minimum price is a floor price that a good cannot be sold for less than. The government sets the minimum price at a price that will cover the externalities of consuming alcohol.

2

Scotland introduced a minimum price of 50p per unit in 2012, which means that a bottle of wine containing 10 units of alcohol will cost at least £5. The minimum pricing in Scotland is expected to reduce alcohol related deaths by 60 in the first year, reduce the hospital admissions by 1,600 in year one, reduce the crime from alcohol related incidences by around 3,500 offences per year, and cause a large financial saving from harm reduction (health, employment, crime) of £942m over ten years<sup>1</sup>.



This will make the market for alcohol more efficient as it helps to reduce the negative externalities of consumption. The minimum price causes the price to increase from  $P_p$  to  $P_s$ , which causes the quantity demanded to decrease from  $Q_p$  to  $Q_s$ . This means alcohol is no longer under-priced and over consumed.

2

However, due to alcohol's inelastic nature the increase in price may cause a less than proportionate decrease in the quantity demanded and therefore the socially desirable quantity and price may not be reached. The minimum price

2

causes the PS to increase as some of the CS has been transferred to the producers, and some has been lost to the market, so the difference between what producers are willing to sell alcohol for and what they actually sell alcohol for has increased. This means the producer's revenue will increase because even though the quantity has decreased the price has increased by a more than proportionate amount.

The government is not receiving any revenue from the sale of alcohol whereas the producers are. This will encourage the production of alcohol as they are receiving a higher price, but the government is not receiving any revenue, which could be used to pay for health treatment and education about alcohol. The minimum price internalises the spillover costs because the price has increased to  $P_s$  for consumers.

2

The minimum price has a regressive effect because households on lower incomes will be affected by the minimum pricing more than those on higher incomes are. This is because the minimum pricing will cause the price of the cheaper types of alcohol to increase from  $P_p$  to  $P_s$ , whereas the higher priced types of alcohol will already be more expensive than the minimum price of  $P_s$  so will not cause a change in the price of these types of alcohol.

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<sup>1</sup> <http://www.alcohol-focus-scotland.org.uk/campaigns/minimum-pricing/>

This means that the households who earn higher incomes will be able to afford the higher priced alcohol so will not notice a change in the price of their alcohol purchases, but the lower income households that bought cheap alcohol will now have to pay more.

3

However, the minimum price is fair because the people that are more likely to cause the negative externalities of consumption are students. The students who bought cheaper alcohol as they are unable to buy more expensive types of alcohol will now pay more, as  $P_p$  moves to  $P_s$  and this will cause the amount they consume to decrease from  $Q_p$  to  $Q_s$ , because...

	Grade Boundary: High Achieved
4.	<p>For Achieved, the student needs to demonstrate understanding of government interventions where the market fails to deliver efficient or equitable outcomes.</p> <p>This involves providing an explanation of:</p> <ul style="list-style-type: none"> <li>• why the market may not be delivering efficient or equitable outcomes</li> <li>• government interventions</li> <li>• the implications of the government interventions for equity and efficiency</li> <li>• using an economic model(s) to support an explanation(s).</li> </ul> <p>The student explained why the alcohol market may not be delivering efficient or equitable outcomes, in detail (1).</p> <p>The policy of imposing a ban on alcohol was explained in detail, in terms of efficiency and equity, using the SMC/SMB model to support the explanation (2).</p> <p>This excerpt shows the second policy of implementing a sales tax on alcohol in terms of efficiency, using changes shown on the SMC/SMB model to support the explanation (3).</p> <p>The student has started to explain the policy of implementing a sales tax on alcohol in terms of the equity implications for society (4).</p> <p>To reach Merit, the student needs to provide more explanation of the tax policy in terms of the equity implications for society, incorporating the language of the SMC/SMB model.</p> <p>Additionally, the student could explain why <i>“the tax reduces the spillover costs and is much more beneficial due to the amount of externalities being reduced than the costs of the loss of consumer and producer surplus”</i> (5), using the language of the SMC/SMB model.</p>

Student 4: High Achieved
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[Student used the SMC/SMB model to illustrate the negative externalities associated with over-consumption of alcohol, and included economic information from secondary sources in an explanation of the spillover costs and third parties affected by the over-consumption of alcohol]

1

In the private market for alcohol, alcohol is under-priced and over-consumed. The private consumer does not take into account all the costs of consuming alcohol, which results in spillover costs. These are shown on the graph by the gap between the MB and MSB curve. The MB curve shows the extra benefit gained by the consumer from the consumption of extra units of goods and the MSB curve represents the Marginal Benefit plus the spillover costs to society of consuming the good.

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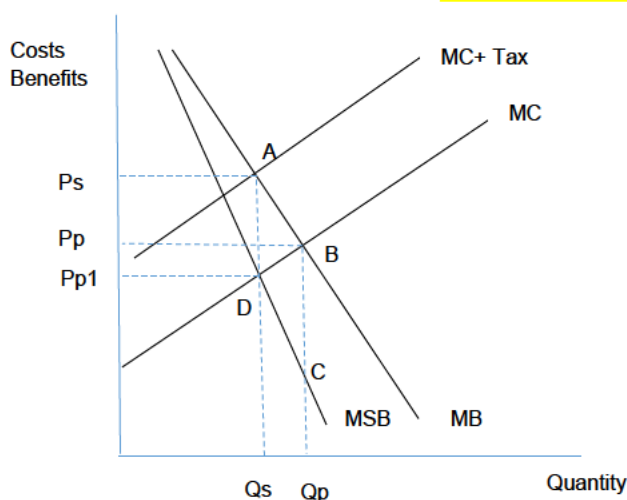
In the private market, MB is greater than MSB, which results in an area of deadweight loss as consumption occurs where the costs are greater than the benefits to society, area BCD. With no government intervention, society would continue to operate at the private market of  $P_p$  and  $Q_p$ , which is not socially desirable or allocatively efficient because...

[Student provided a detailed explanation of the policy of imposing a ban on alcohol in terms of efficiency and equity, using the SMC/SMB model.]

2

### Policy 2: Implementing a Sales Tax

One way to reduce the amount of alcohol consumed to the socially desirable amount  $Q_s$  is to implement a sales tax on alcohol. The correct amount of tax placed on alcohol would be



the area of  $P_s$ ,  $P_p$ , A, D, and increasing price should encourage consumers that are only willing to pay below  $P_s$  to stop consuming, moving the quantity of alcohol consumed to  $Q_s$ . This will internalise the market failure, by letting the tax pay for most of the damage that the government would otherwise have to pay for from other taxes. After the tax is added there is a loss of both consumer and producer surplus, area ABD, that is not reallocated into government revenue.

3

The loss coming from consumers who were willing to pay  $P_s$  or more at market equilibrium anyway, but were only paying  $P_p$ , similar with producers that could afford to supply the private market at  $P_{p1}$ , but who were achieving higher profits at the market price of  $P_p$ .

3

The tax reduces the spillover costs and is much more beneficial due to the amount of externalities being reduced than the costs of the loss of consumer and producer surplus. The sale tax covers approximately half of alcohol externalities in New Zealand, so is considered an effective policy. It may not be considered equitable to society because although alcohol is a luxury good, many in society may have a reliance on the product, and adding too much tax may cause civil unrest for consumers who would be forced to buy cheaper types of alcohol, and lower income households may not be able to afford it at all.

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4

Although the health hazards are greater than the benefits, because of consumer sovereignty many people still believe it is a necessity.

	Grade Boundary: Low Achieved
5.	<p>For Achieved, the student needs to demonstrate understanding of government interventions where the market fails to deliver efficient or equitable outcomes.</p> <p>This involves providing an explanation of:</p> <ul style="list-style-type: none"> <li>• why the market may not be delivering efficient or equitable outcomes</li> <li>• government interventions</li> <li>• the implications of the government interventions for equity and efficiency</li> <li>• using an economic model(s) to support an explanation(s).</li> </ul> <p>The student explained why the fisheries market may not be delivering efficient or equitable outcomes. The policy of implementing an indirect tax on the fisheries market was explained in terms of efficiency and equity, using the SMC/SMB model (1).</p> <p>This snippet shows the second policy of implementing regulations in terms of efficiency implications for government and society, using changes shown on the SMC/SMB model to support the explanation (2).</p> <p>The student has started to explain the policy of implementing regulations on producers in the fisheries market in terms of equity implications (3).</p> <p>For a more secure Achieved, the student needs to provide more explanation of the regulation policy in terms of the equity implications for society and government, incorporating the language of the SMC/SMB model.</p> <p>Additionally, the student could use the SMC/SMB model more to support the explanation of efficiency implications. For example, the student could explain that the social DWL at the private market price and quantity is area ABD, and the regulatory policy will internalise some of the spillover costs by area E, reducing the social DWL to area C, moving the market closer to where <math>MSC=MSB</math>, the socially desirable level of production.</p>

Student 5: Low Achieved  
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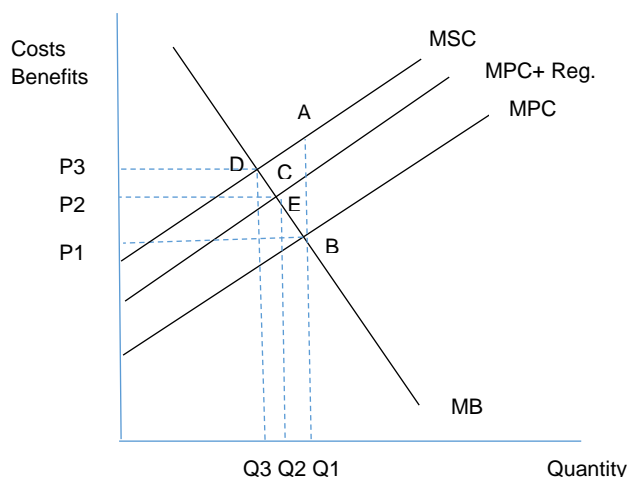
[Student included an explanation of the negative externalities associated with over-fishing and explained the policy of implementing an indirect tax on the fisheries market in terms of efficiency and equity, illustrating the market failure and the intervention on the SMC/SMB model.]

1

**Policy 2: Direct Control**

Regulation Efficiency: This social policy is already in use by the New Zealand government, and most fisheries around the world. This social policy would be implemented to control the amount of fish being harvested in certain at-risk areas (a ban on catching young or undersized fish) and/or to limit the areas where you can legally catch fish (to reduce the number of non-target fish kills) by controlling the industry with law. While implementing certain regulations, a complete ban on fishing would not be economically or socially desirable in an economy that earns more GDP from fish exports than ecotourism in the affected areas. Producers now have to consider whether it is worth saving operating costs or

2



save facing the consequences of huge fines, the closing of their business or potential jail time if they break these laws.

Placing regulations should encourage businesses to work more efficiently and sustainably, but will increase running costs and therefore move the MPC curve higher up on the graph to MPC+Reg., increasing the price of producing fish and the price will increase from P1 to P2.

2

Because of the increased costs of producing, the company will choose to produce less, moving Q1 to Q2. This would accomplish the goal of reducing the quantity of fish produced therefore bringing the market closer to social equilibrium and internalising the market failure.

Placing regulations on certain sizes of fish or certain types of fishing (such as shallow drift netting) is an equitable way to combat the market failure, as only the producers involved with the negative externalities would be affected.

3

	Grade Boundary: High Not Achieved
6.	<p>For Achieved, the student needs to demonstrate understanding of government interventions where the market fails to deliver efficient or equitable outcomes.</p> <p>This involves providing an explanation of:</p> <ul style="list-style-type: none"> <li>• why the market may not be delivering efficient or equitable outcomes</li> <li>• government interventions</li> <li>• the implications of the government interventions for equity and efficiency</li> <li>• using an economic model(s) to support an explanation(s).</li> </ul> <p>The student explained why the alcohol market may not be delivering efficient or equitable outcomes, and the policy of implementing a sales tax on alcohol was explained, in terms of efficiency and equity, using the SMC/SMB model to support the explanation (1).</p> <p>This snippet shows the second policy of imposing a ban on alcohol being illustrated (2), and the student has started to explain the policy in terms of efficiency implications (3).</p> <p>The student has briefly described the policy of imposing a ban on alcohol in terms of the equity implications for society (4).</p> <p>To reach Achieved, the student needs to provide more explanation of the policy in terms of equity implications, incorporating the language of the SMC/SMB model.</p> <p>Additionally, the student needs to use the SMC/SMB model to support an explanation of the efficiency implications. For example, the student could explain that the area of EDF (consumer and producer surplus) would become the efficiency loss (DWL) if <math>Q_{pm}</math> is reduced to <math>Q_0</math>, rather than operating at the socially efficient point where <math>MSC=MSB</math>, <math>Q_s</math> and <math>P_s</math>.</p>

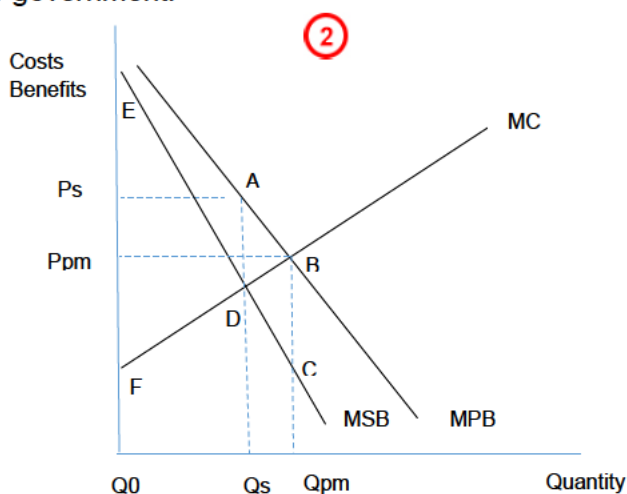
Student 6: High Not Achieved
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[Student explained the negative externalities associated with the over-consumption of alcohol and explained the policy of implementing a sales tax on alcohol in terms of efficiency and equity, using the SMC/SMB model to support the explanations.]

1

**Policy 2: Imposing a ban on alcohol**

A ban's goal would be to stop all consumption of the good by making the quantity consumed equal zero, and this would be achieved by making the good illegal. In a perfect world, this would eliminate all spillover costs, as the quantity would not include any of the spillover costs. Because this is not a perfect world, banning a good would just drive its sale underground, increasing crime rates, and making the product GST free, lowering revenue for the government.



2

If consumption is reduced to zero, none of the good is being legally sold or consumed. All consumer and producer surplus has been made forfeit.

3

Banning is an effective way to stop the lawful consumption of alcohol; however, it is inefficient because it makes the good completely unobtainable except from the black market, which would most likely increase the crime rate of other unlawful activities, from those who regularly used the good before it was banned.

3

A perfect example of this is the United States' prohibition on alcohol from 1920 to 1933. The major increase in gang activity and costs of maintenance upon the country was huge, and was actually a hindrance on the government revenue.

Equitably this is not the greatest policy as some groups (such as social drinkers) will miss out on a luxury good, and they are not the ones causing the majority of spillover costs, and this is an easy catalyst for civil unrest.

4