No part of the candidate evidence in this exemplar material may be presented in an external assessment for the purpose of gaining credits towards an NCEA qualification.

91399

3

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Level 3 Economics, 2016

91399 Demonstrate understanding of the efficiency of market equilibrium

2.00 p.m. Friday 25 November 2016
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of the efficiency of market equilibrium.	Demonstrate in-depth understanding of the efficiency of market equilibrium.	Demonstrate comprehensive understanding of the efficiency of market equilibrium.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–10 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Achievement

TOTAL 9

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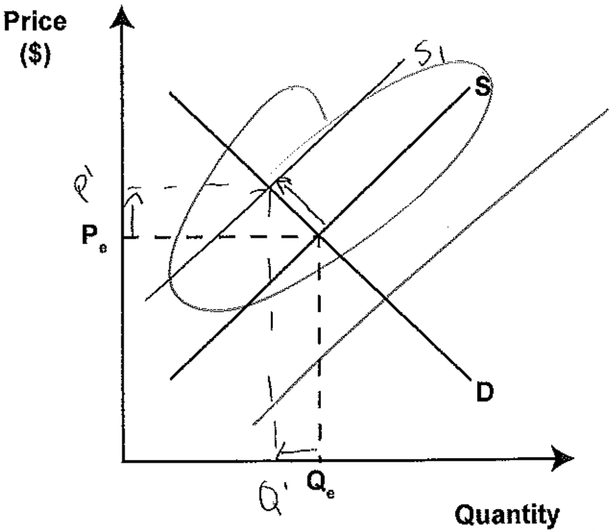
QUESTION ONE: CHANGES IN THE TAXI MARKET

New Zealand has some of the most expensive taxis in the world. Uber is a mobile app allowing consumers with smartphones to submit trip requests to Uber drivers who are using their own cars as taxis. With the arrival of Uber in New Zealand late last year, the future of the taxi industry is set to be changing ...

Sources (adapted): http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11255026, https://en.wikipedia.org/wiki/Uber_(company)

Graph One: New Zealand taxi market



(a) (i) On Graph One, show the impact on the market for taxi rides in New Zealand of the increased number of suppliers brought about by the arrival of Uber. Clearly label the new equilibrium price (P_1) and the new equilibrium quantity (Q_1).

(ii) Using Graph One and the concept of market forces, fully explain how equilibrium in the New Zealand taxi market would be restored.

Because of a result from Uber arriving in NZ, the market demand for taxi's has decreased. ~~Bec~~ in result of the less demand for taxi's ~~they~~ the price has ~~have~~ increased ~~than~~ their price now being relatively less affordable. In order for equilibrium to be restored taxi~~s~~ company would have to lower their costs so that the demand could increase.

A possible intervention by the government that would also result in lower taxi fares is a maximum price control. Graph Two below shows a maximum price (P_{max}) set below the equilibrium price, P_e.

(b) (i) Use Graph Two to complete Table One in order to show the changes as a result of a maximum price control.

Graph Two: New Zealand taxi market – maximum price control

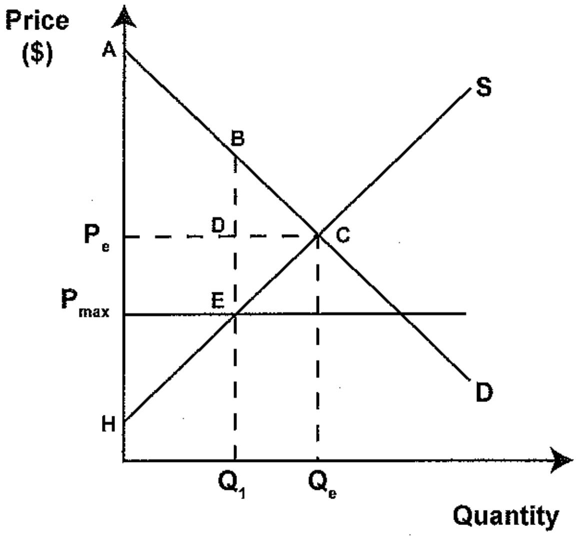


Table One

	Labels from Graph Two
Consumer surplus **before** maximum price	A C P_e
Consumer surplus **after** maximum price	A B E P_{max}
Producer surplus **before** maximum price	P_e C H
Producer surplus **after** maximum price	P_{max} E H
Deadweight loss	B E C

(ii) Using both Graph Two and Table One, compare and contrast the impact on consumers, producers, and allocative efficiency in the New Zealand taxi market as a result of a maximum price.

The Price maximum has increased the Consumer surplus, at the lower price more is demanded by consumer ~~but~~ because it is relatively more affordable. ~~less is supplied to the market~~.

The price maximum has decreased the producer surplus as now with a lower price producers are not willing to supply as much because it is relatively less profitable.

With the lower price of Pmax allocative efficiency has ~~been~~ lost. This could ~~be~~ only be restored at equilibrium.

A3

QUESTION TWO: IMPACT OF TARIFF REMOVAL ON IMPORTED GOODS

New Zealand imports a wide range of goods from all over the world, including electronic equipment, pharmaceuticals, vehicles, toys, clothing, and footwear. The demand for some of New Zealand's imports is elastic; demand for others is inelastic.

The removal of tariffs has varying impacts if applied to imports with different elasticities of demand.

(a) (i) Use Graph Three and the values provided to complete Table Two. The first two calculations have been done for you.

Graph Three: Imported Goods with Elastic Demand

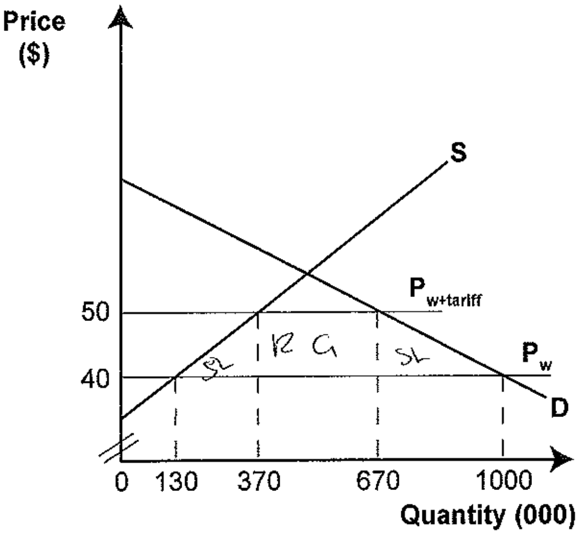


Table Two

Removal of tariff	Values from Graph Three (Elastic)	Circle One
Change in consumer surplus	$8.35 m	[✓ Increase] Decrease No change
Change in producer surplus	$2.5 m	Increase [✓ Decrease] No change
Tariff revenue for the government	$3 m	~~Increase~~ [✓ Decrease] ~~No change~~
Change in allocative efficiency	$1.2m 7 16.5m = 17.7m	Gain [✓ Loss]

(ii) Referring to Graph Three and Table Two, fully explain the impact on consumers, producers, the government, and allocative efficiency of the tariff removal from imported goods that are **elastic** in demand.

The ~~ta~~ The tax on the imported goods being removed it has a positive impact on consumers as now more can be demanded ~~at~~ the lower price, because they no longer have to pay as much tax to the government

producer surplus will decrease as now the cost of the good is lower

Allocative efficiency ~~has~~ ~~lost~~ has a loss as the cost is dropping and therefore moving futher away from equilibrium.

(b) Use Graph Four and the values provided to complete Table Three.

Graph Four: Imported Goods with Inelastic Demand

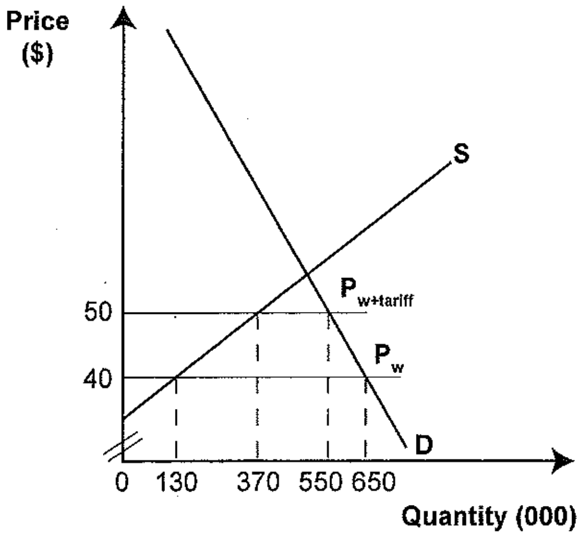


Table Three

Removal of tariff	Values from Graph Four (Inelastic)	Circle One
Change in consumer surplus	$6m	[✓ Increase] ~~Decrease~~ No change
Change in producer surplus	$2.5	Increase [✓ Decrease] No change

(c) Compare and contrast the impact of the removal of tariffs on consumer surplus and producer surplus when goods have different elasticity of demand. In your answer, refer to Table Two and Table Three and both graphs. Fully explain any difference in the impact on consumer and producer surplus.

With the tariff removal consumer surplus increases by $6m and producer surplus decreases by $.2.5m.

More answer space is available on the next page.

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N2

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The examination continues on the following page.

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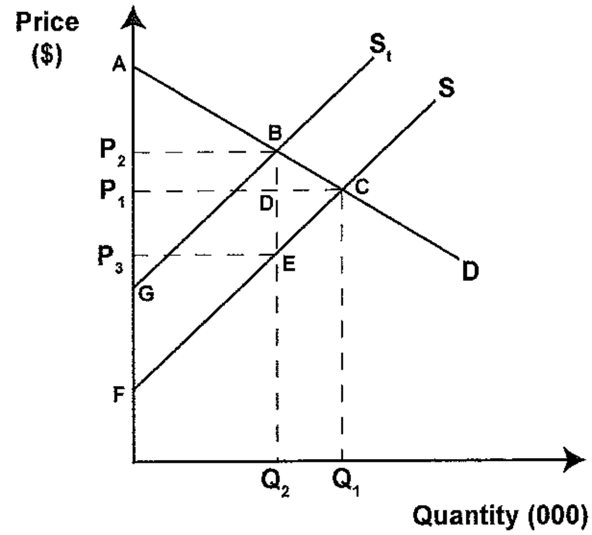
QUESTION THREE: IMPACT OF INDIRECT TAX AND QUOTA

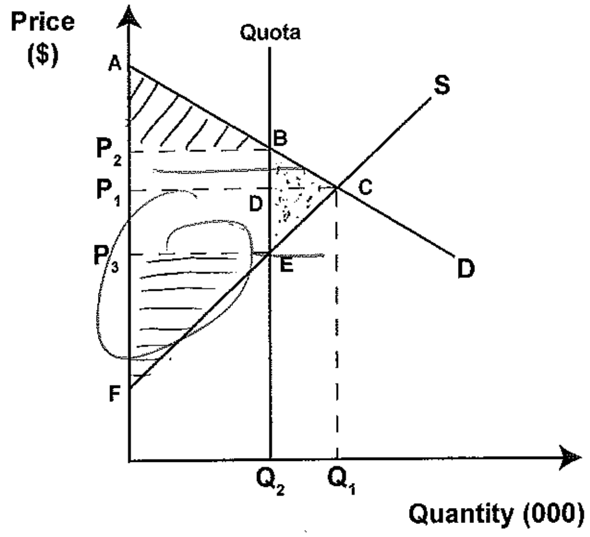
> A tax on fizzy drinks could save lives and generate millions in revenue for health programmes in New Zealand. High sugar intakes are linked to obesity, type 2 diabetes, and cardiovascular disease; a strong case can, therefore, be made for efforts to reduce consumption.
>
> Source (adapted): http://www.otago.ac.nz/wellington/otago066842.pdf

Graphs Five and Six show the effects of two possible government interventions to reduce consumption of sugary foods by the same amount. P_1Q_1 is the equilibrium before government intervention.

Graph Five: Market for sugary foods – indirect tax



Graph Six: Market for sugary foods – quota



(a) (i) The government may use an indirect tax to encourage a reduction in sugar consumption. Use Graph Five above to complete Table Four below by clearly identifying the relevant labels as a result of an indirect tax on sugary foods.

Table Four

	Labels from Graph Five
Change in consumer surplus	P_1 P_2 B C
Change in producer surplus	P_1 C, E, P_3
Tax revenue for the government	P_3 P_1 B E
Deadweight loss	B C F

(ii) Alternatively, the government could restrict the availability of sugary foods by imposing a quota on producers to limit their supply. On Graph Six above, show the impact of a quota on sugary foods by clearly shading in and labelling the area representing:

- new consumer surplus ▨
- new producer surplus ▤
- deadweight loss. ░

(b) Refer to both Graphs Five and Six, and Table Four, to compare and contrast the impact of an indirect tax and a quota on the market for sugary foods. In your answer, fully explain:

- the impact on consumers, producers, and the government of an indirect tax on sugary foods
- the impact on allocative efficiency of the indirect tax and the quota
- whether the indirect tax or the quota will be more effective in reducing the consumption of sugary foods.

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By putting an indirect tax on sugary foods it reduces that quantity that is demanded and also increases the price. ~~to~~ This will decrease the consumer surplus as people will not demand this good at the higher price. Producer surplus also decreases as not as much is being demanded so they do not supply as much. This indirect tax also means that production now cost more for produces. The government however will be making more revenue than before as they receive the tax from the consumers and producers. From ~~both~~ either an indirect tax and a quota being set in place allocative efficiency will be lost.

The quota may be more effective ~~the~~ for the market as only so much quantity can be ~~s~~ supplied at one time. However a indirect is on each item, ~~a~~ but ~~the~~ there is no limited on the quantity. Just a higher price of sale is now involved. Therefore a quota may be more benefical for the market.

A4

Comments for Exemplars 91399

Achievement Total Score: 09

Q	Grade Score	Annotation
1	**A3**	The response has been awarded A3 because: - at least 3 correct labels have been identified from Graph Two - lower price is referred to when explaining why the consumer surplus increases - lower price and reduced quantity are referred to when explaining why producer surplus declines There is no evidence from Q1(a) to support Achievement. To gain M5 or better requires reference to less quantity in the consumer surplus explanation and correct references to the graph or table for the consumer surplus and producer surplus explanations. Using the off-setting idea to explain the loss of allocative efficiency, with reference to the creation of a deadweight loss and a correct graph/table reference, would also provide evidence for Merit.
2	**N2**	The response provides partial evidence with one correct calculation from each table. To gain A3 or better requires correct referencing to changes in price and quantity when explaining changes in producer and consumer surpluses. For example, the word "surplus" is missing from the CS explanation and "cost" rather than "price" is used in the PS explanation. There is no explanation on the impact on the Government and the allocative efficiency explanation incorrectly refers to a loss of AE. There is no evidence from Q2(c) to support Achievement.
3	**A4**	The response has been awarded A4 because: - there are at least two correct labels in Table Four and - two correct shadings in Graph 6. - higher price is referred to when explaining why the consumer surplus decreases - reduced quantity is referred to when explaining why producer surplus declines ("do not supply as much") To gain a M5 grade or better requires a correct graph or table reference in the consumer surplus explanation and in the producer surplus explanation. The PS explanation should also state that the producer earns a lower price. The Government explanation needs a correct graph or table reference plus the idea that they have less revenue to spend elsewhere. Correct use of the off-setting idea, with a correct table or graph reference, for either allocative efficiency explanation would also provide evidence for Merit.