

SUPERVISOR'S USE ONLY

3

91399



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Mana Tohu Mātauranga o Aotearoa  
New Zealand Qualifications Authority

## Level 3 Economics 2023

### 91399 Demonstrate understanding of the efficiency of market equilibrium

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.

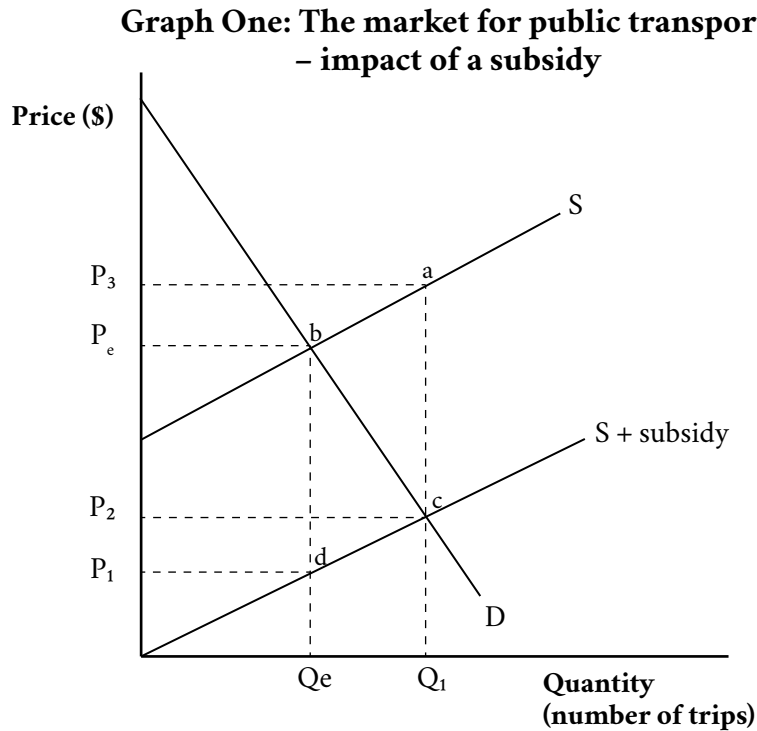
Check that this booklet has pages 2–16 in the correct order and that none of these pages is blank.

Do not write in any cross-hatched area (✗). This area will be cut off when the booklet is marked.

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

## QUESTION ONE: Impact of a subsidy

Source: Green, K. (2022, December 15). *Ending half-price fares risks gains in changing transport behaviour - advocates*. Radio New Zealand. <https://www.rnz.co.nz/news/national/480778/ending-half-price-fares-risks-gains-in-changing-transport-behaviour-advocates>



(a) Use the labels from Graph One to identify the:

- change in consumer surplus: \_\_\_\_\_
- change in producer surplus: \_\_\_\_\_
- total cost of subsidy: \_\_\_\_\_
- deadweight loss: \_\_\_\_\_





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The assessment continues on the following page.**

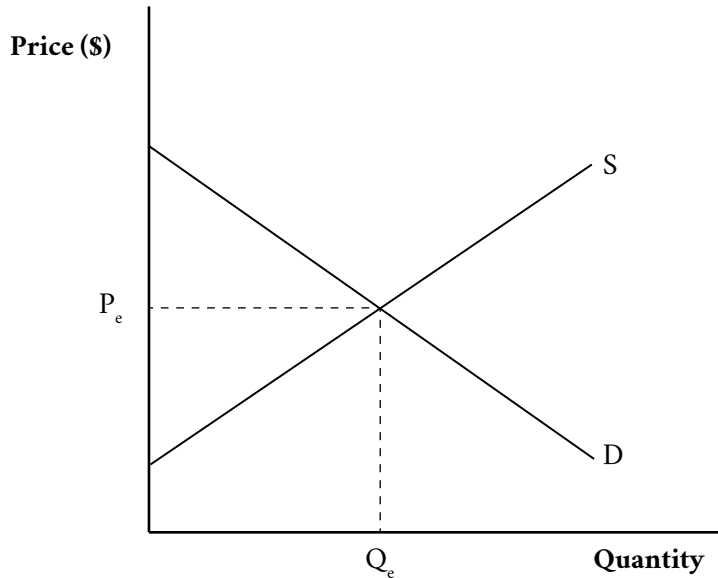
## QUESTION TWO: Restricting the number of retailers, and an indirect tax

Source: Checkpoint. (2022, April 14). *New research reveals dangers of vapes, e-cigarettes*. Radio New Zealand. <https://www.rnz.co.nz/national/programmes/checkpoint/audio/2018838310/new-research-reveals-dangers-of-vapes-e-cigarettes>

To minimise the number of people taking up vaping, particularly young people, the Government could restrict the number of retailers selling vaping products.

Graph Two shows the market for vaping products at equilibrium, with equilibrium price ( $P_e$ ) and equilibrium quantity ( $Q_e$ ).

**Graph Two: The market for vaping products  
– impact of restricting the number of retailers**



- (a) (i) Complete Graph Two above by:
- adding and labelling a new curve showing the decrease in the number of retailers
  - identifying and labelling the new equilibrium price ( $P_1$ ) and quantity ( $Q_1$ )
  - identifying and labelling the resulting shortage or surplus at the original price ( $P_e$ ).
- (ii) How would equilibrium be restored in the market for vaping products following a decrease in retailer numbers? Refer to the relevant labels from Graph Two and the concept of market forces in your detailed explanation.

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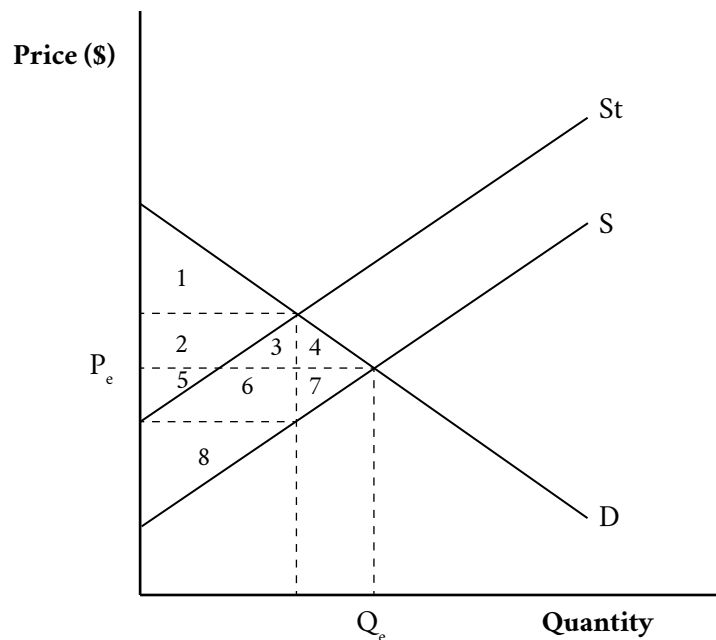


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Another possible intervention is for the Government to impose an indirect tax on vaping products.

Graph Three shows the market for vaping products at equilibrium, with equilibrium price ( $P_e$ ) and equilibrium quantity ( $Q_e$ ).

**Graph Three: The market for vaping products  
– impact of an indirect tax**



- (b) (i) Complete Graph Three above by identifying and labelling the new equilibrium price ( $P_2$ ) and quantity ( $Q_2$ ) as a result of an indirect tax.







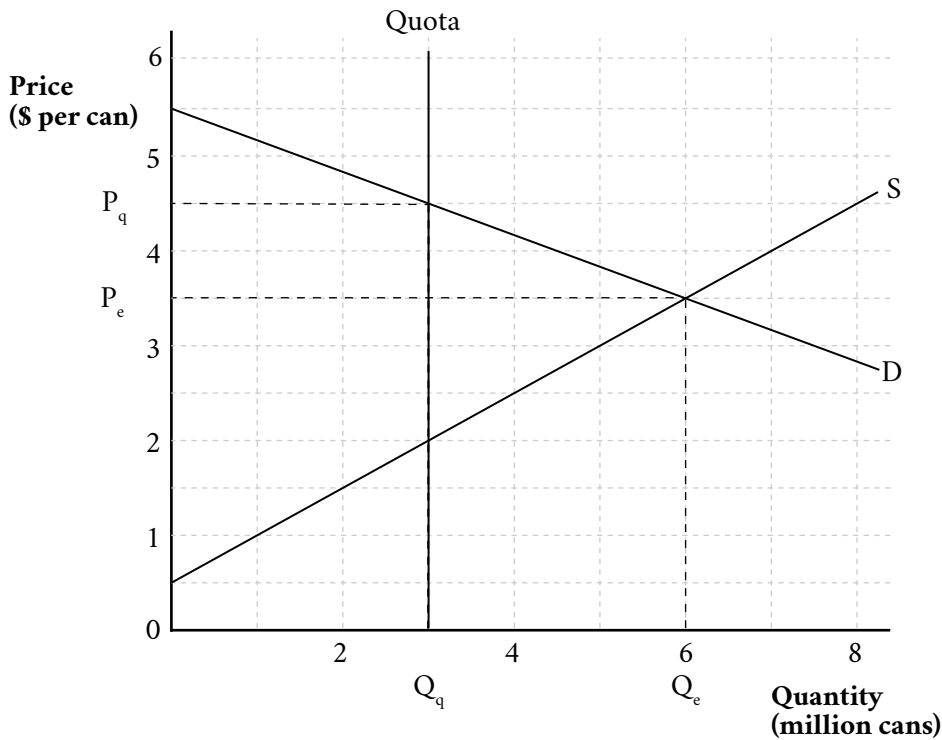
**QUESTION THREE: Impact of a quota and minimum price control**

Source: Life Education Trust.(n.d.) *What am I drinking?* Life Education Trust. <https://www.lifeeducation.org.nz/in-schools/resources/599?page=1&search>

To limit the consumption of energy drinks, the Government could impose a quota limiting the quantity bought and sold to 3 million cans a year.

Graph Four shows the market for energy drinks at the original equilibrium with equilibrium price ( $P_e$ ) and equilibrium quantity ( $Q_e$ ), and the new equilibrium price ( $P_q$ ) and quantity ( $Q_q$ ) as a result of the quota.

**Graph Four: The market for energy drinks per year – impact of a quota**

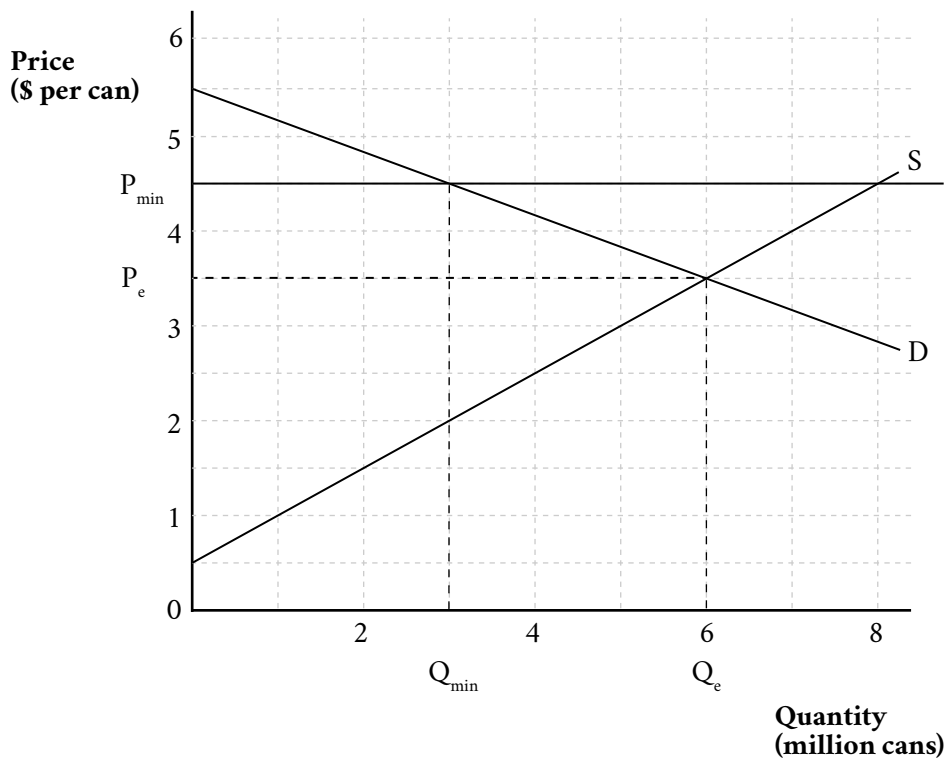


- (a) (i) On Graph Four above, show the impact of the quota by shading in the:
- new consumer surplus (▨)
  - new producer surplus (▧)
  - deadweight loss (▩)

The Government could also discourage consumption of energy drinks by implementing a minimum price control.

Graph Five shows the market for energy drinks at the original equilibrium with equilibrium price ( $P_e$ ) and equilibrium quantity ( $Q_e$ ), and the new equilibrium price ( $P_{min}$ ) and quantity ( $Q_{min}$ ) as a result of a minimum price control set at \$4.50 per can.

**Graph Five: The market for energy drinks per year – impact of a minimum price control**



- (ii) On Graph Five above, show the impact of the minimum price by shading the:
  - new consumer surplus (■)
  - new producer surplus (▨)
  - deadweight loss (▩)
- (iii) Complete Table Two below by calculating the values from Graph Four and Graph Five.

**Table Two**

	Quota – Graph Four (\$ million)	Minimum price – Graph Five (\$ million)
<b>Original consumer surplus</b>		
<b>New consumer surplus</b>		
<b>Original producer surplus</b>		
<b>New producer surplus</b>		
<b>Deadweight loss</b>		









