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NZQA

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Level 3 Economics, 2017

91399 Demonstrate understanding of the efficiency of market equilibrium

2.00 p.m. Wednesday 29 November 2017
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.

Excellence

TOTAL 21

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QUESTION ONE: IMPACT OF A SUBSIDY

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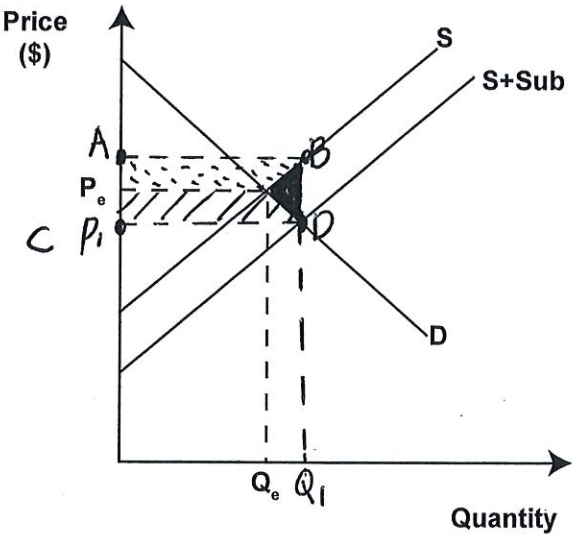
An expert in population nutrition at Auckland University, Boyd Swinburn, says that poor diet is now a bigger cause of ill health than smoking in countries like New Zealand. Subsidising fruit and vegetables could improve the country's health.

Source: http://www.radionz.co.nz/news/national/123254/food-taxes-and-subsidies-'could-improve-health'

To encourage healthier eating, the government could look to subsidise fruit and vegetables.

Graph One: Market for fruit and vegetables – impact of a subsidy



(a) (i) On Graph One, the original equilibrium price is P_e and the original equilibrium quantity is Q_e. Show the impact of a subsidy on the market for fruit and vegetables by clearly labelling the new equilibrium price P_1 and the new equilibrium quantity Q_1.

(ii) Explain in detail, using market forces, how equilibrium in the market for fruit and vegetables would be restored. In your answer, refer to Graph One.

As a result of subsidise by government for fruit and vegetables, supply curve will move to right from S to S+Sub. At the original price at Pe, there will be a surplus as quantity supply is greater than quantity demand. therefore fruit and vegetables producers will decrease price from Pe to P_1 and quantity supply will decrease to Q_1 as at lower price it is less profitable. By the way, quantity demand is increased from Qe to Q_1 as the price is decreased from Pe to P_1 so it is more affordable. New equilibrium is restored at lower price at P_1 and higher quantity at Q_1.

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(b) (i) On Graph One, complete the following to show the impact of a subsidy on the fruit and vegetables market:

- Shade in the increase in consumer surplus
- Shade in the increase in producer surplus
- Shade in the deadweight loss
- Label the area of total cost to the government using the letters A, B, C, and E.

(ii) Refer to Graph One to compare and contrast the impact of a subsidy on the New Zealand fruit and vegetables market. In your answer, include the impact on:

- consumer and producer surplus
- government
- allocative efficiency.

Consumer surplus will increase as a result of subsidise.
This is because the price for fruit and vegetable that consumer pay is lower at P_1 (decreased from Pe to P_1). And quantity demand is increased from Qe to Q_1 as it is more affordable for customer at lower price. there are more units on which to gain a surplus.
Producer surplus will increase as a result of subsidies.
This is because the price that producers received is higher (increased) at A (from Pe to A). therefore they will be willing to sell more fruits and vegetables as it is more profitable. so there are more units on which to gain a surplus.
Government has spent money as a subsidy for fruit and vegetables to improve the county's health. It means there is a less money to spend elsewhere in economy. But in long run, In the future, there will be less spending money for those who ill.
There is a loss in allocative efficiency. This is because cost of subsidy by the government is not enough to fully offset by the gain in consumer surplus + producer surplus. so there is a net welfare loss represented by the DWL (B, D) which means Sum of consumer surplus plus producer suplus are not maximized.

E7

QUESTION TWO: IMPACT OF A QUOTA

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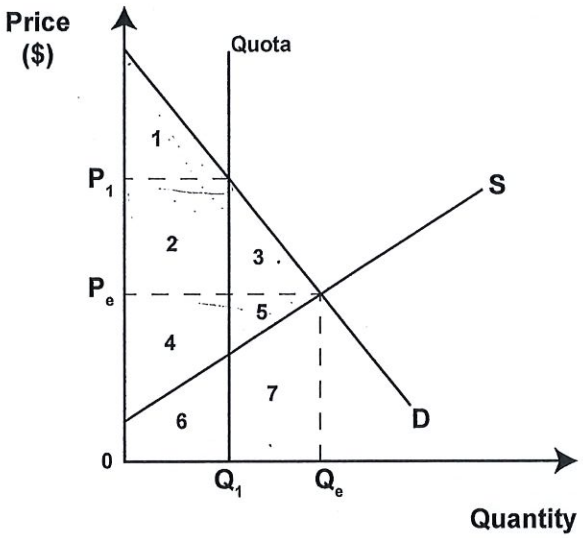
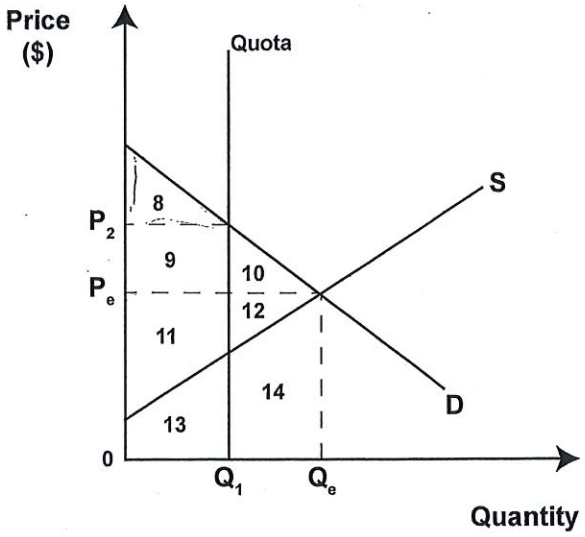
A quota on production limits the amount produced, forcing the price up.

A quota imposed on products with different elasticities can have varying impacts. Graphs Two and Three show a quota that halves the original production of an inelastic good and an elastic good, respectively.

Graph Two: A good with inelastic demand



Graph Three: A good with elastic demand



(a) Use Graph Two above to complete Table One, to show the impact of a quota. Use the numbers in the graph to represent the respective areas:

Table One

	Numbers from Graph Two – Inelastic Demand
Change in consumer surplus	decreased 2 and 3
New producer surplus	2, 4
Deadweight loss	3, 5

(b) (i) Refer to Graph Two and Table One to fully explain the impact of a quota on:

- consumer surplus
- producer surplus
- allocative efficiency.

Consumer surplus is decreased as a result of quota. This is because the price that they paid is increased from P_e to P_1 and therefore it is more expensive to pay so quantity demand is decreased from Q_e to Q_1. Because of less consumption. there are less units on which to gain a surplus.

Producer surplus is increased as a result of quota.

This is because gain in Producer surplus due to increased price that producers received is greater than loss in producer surplus due to lower quantity supply, there are more units (from Pe to P1) on which to gain a surplus. (from Qe to Q1)
there is a loss in allocative efficiency. Allocative efficiency occurs when the sum of consumer surplus + producer surplus are maximised. Gain in producer surplus due to higher money producer received is not enough to fully offset combined loss in consumer surplus plus loss in producer surplus due to lower quantity sold.
there is a net welfare loss represented by DWL (N3+N5). Sum of Consumer Surplus + Producer surplus is not maximised.

(ii) Use Graphs Two and Three to compare and contrast the impact on consumer surplus and allocative efficiency when goods have different elasticities of demand.

there is a greater loss in Consumer surplus when the demand is inelastic compared to when the demand is elastic.
This is because, Price that customer paid is more increased in graph 2 compared to graph 3. Even though the quantity demand decreased are same, Because of higher price, there will be more loss in Consumer surplus in graph 2.
This is because people will continue to buy relatively same amount of quantity at higher price when demand is inelastic as it is nessecary. And there is a product limits on inelastic products producers know that consumer will continue to buy even though increasing price so they will increase the price highly compared to elastic demand producers, to take advantage.
Therefore producer who relative to inelastic demand is more profitable as a result of quota, which means they will get more income than elastic demand producers. So there are more gain in producer surplus in graph 2 compared to graph 3. Because of larger loss in consumer surplus in graph 2 when the demand is inelastic, there will be more loss in allocative efficeny compared to graph 3, elastic demand. DWL with

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QUESTION THREE: RISING RENTS

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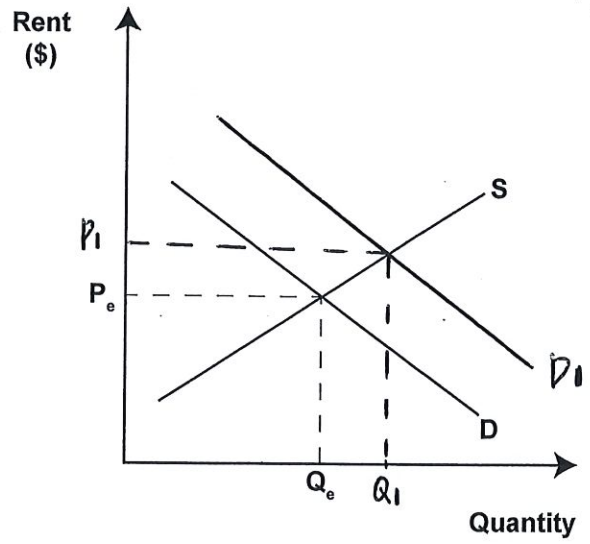
Rents, particularly in Auckland, are set to increase, with landlords blaming housing shortages and an unprecedented interest in their properties.

Source (adapted): http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11779030

The rising rents have largely been driven by increasing demand.

Graph Four: Auckland rental housing market – increasing demand



(a) (i) On Graph Four, show the impact on the market for rental housing in Auckland as a result of increasing demand. Clearly label the new equilibrium price P_1 and the new equilibrium quantity Q_1.

(ii) Explain in detail, using market forces, how equilibrium in the Auckland rental housing market would be restored. In your answer, refer to the changes you made to Graph Four.

As a result of increasing amount of rental housing, Demand is increased so demand curve move from D to D1 (move to right). At original price there will be a shortage, as a result of quantity demand is greater than quantity supply. Producers are increasing price to take advantage from Pe to P1 and quantity supply will increase as it is more profitable at higher price. quantity demand will decrease at higher price because it is less affordable. Those will be until QS = QD. The new equilibrium is restored at higher price and higher quantity.

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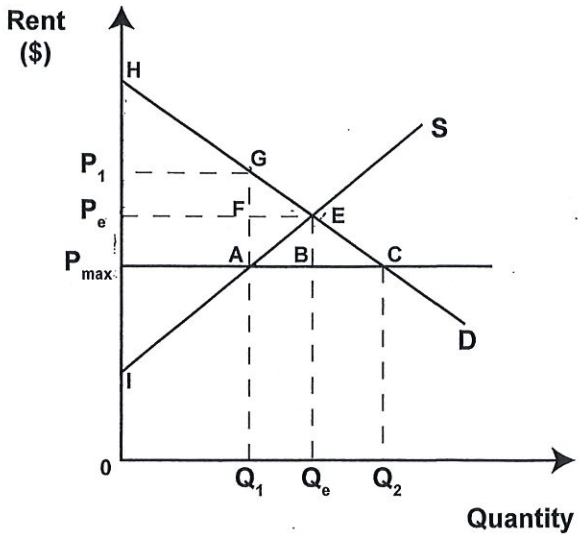
A possible intervention to keep rents from rising is a maximum rent control. Graph Five below shows a maximum rent (P_{max}) set below the equilibrium rent of P_e.

Graph Five: Auckland rental housing market – maximum rent control



(b) (i) Complete Table Two below by identifying the relevant labels from Graph Five showing the changes as a result of a maximum rent control.

Table Two

	Labels from Graph Five
Consumer surplus before maximum rent control	H, Pe, E
Consumer surplus after maximum rent control	H, Pmax, A, G
Producer surplus before maximum rent control	Pe, E, I
Producer surplus after maximum rent control	Pmax, A, I
Deadweight loss	G, E, A

(ii) Referring to both Graph Five and Table Two, compare and contrast the impact on tenants, landlords, and allocative efficiency in the Auckland rental housing market as a result of a maximum rent control. In your answer, explain the change in:

- consumer and producer surplus for tenants and landlords
- allocative efficiency.

As a result of maximum policy, there will be increasing consumer surplus. This is because gain in consumer surplus due to lower price that they paid from Pe to Pmax for rent is greater than loss in consumer surplus due to lower quantity demand from Qe to Q1. there are more units on which to gain a surplus. Producer surplus will decrease as a result of maximum policy.

More answer space is available on the next page.

This is because the landlord will get less money as the price that they received is decreased from Pe to P max at P max, lower price it is less profitable so they are ~~selling~~ borrowing fewer house to tenants. therefore quantity (sold) decreased from Qe to Q1. ~~there is a loss~~ there are less units on which to gain a surplus.

There is a loss of Allocative Efficiency. This is because gain in consumer surplus due to lower price that they paid for renting / is not enough to fully offset combined loss in producer surplus / and loss in consumer surplus due to less quantity demand. / Loss in CS + PS are not transfered to any other party. / there is a net welfare loss represented by DWL (GEA) / Sum of consumer surplus + producer surplus are not maximised.

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E7

Excellence exemplar 2017

Subject:	Economics	Standard:	91399	Total score:	21

Q	Grade score	Annotation
1	E7	The candidate explains market forces in detail, shades and labels the graph correctly and accurately compares and contrasts the impact on consumers, producers and the government. More than one reason is given for each impact, which reveals a comprehensive understanding. An E8 was not awarded as the candidate did not elaborate on the opportunity cost of the government spending on a subsidy on fruit and vegetables with an example, such as less spending on healthcare or smokefree campaigns.
2	E7	The candidate has completed Table One accurately, fully explained the impact on consumers, producers and allocative efficiency, using multiple reasons with price and quantity changes. The tricky producer surplus changes have been well explained, as one change outweighs the other. The candidate also contrasts the impact on consumer surplus when goods have different price elasticities of demand. E8 was not awarded as the candidate did not explain the proportional nature of impacts of the quota.
3	E7	The candidate labels both graphs accurately and explains market forces in detail. The tricky consumer surplus changes are explained well as they offset each other. The impact on tenants, landlords and allocative efficiency is compared and contrasted well, although there is a slightly weak understanding of the context when the candidates refers to quantity ‘sold’ in a rental market. An E8 would require much better integration of the context of rental properties and the economics.