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Level 3 Economics, 2015

91399 Demonstrate understanding of the efficiency of market equilibrium

2.00 p.m. Wednesday 18 November 2015
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 2–11 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.

Not Achieved

TOTAL 5

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Not Achieved = 05

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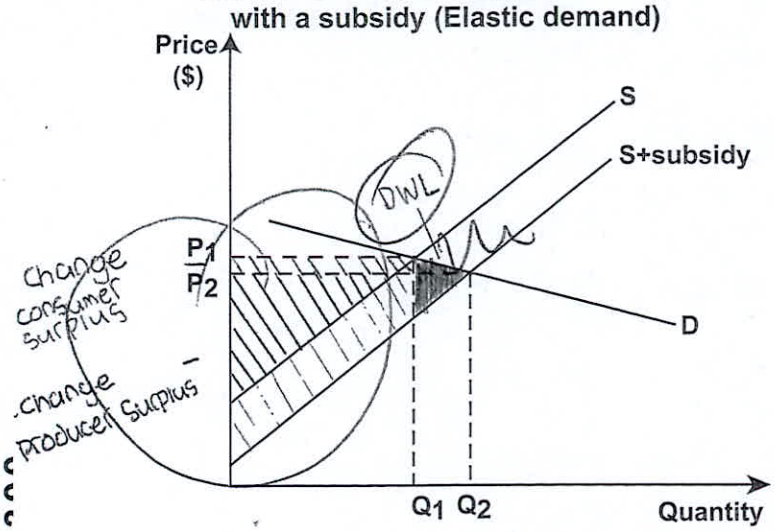
QUESTION ONE: IMPACT OF A SUBSIDY

"Increasing congestion on urban roads presents a serious threat to the economic growth and liveability of our city regions."

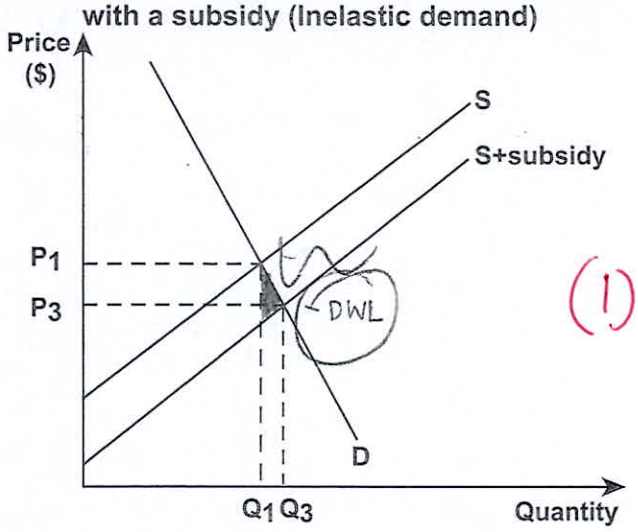
Source: http://www.transportworks.org/about-transport-works/reducing-congestion

One possible policy to reduce traffic congestion is to increase subsidies on public transport. The effectiveness of this policy is determined by the price elasticity of demand for public transport.

Graph One: Market for public transport with a subsidy (Elastic demand)



Graph Two: Market for public transport with a subsidy (Inelastic demand)



(1)

(a) (i) On Graph One, clearly shade and label the following:

- the change in consumer surplus as a result of the subsidy
- the change in producer surplus as a result of the subsidy.

(ii) Explain in detail the change in consumer surplus and the change in producer surplus. In your answer, refer to Graph One.

Due to the possible policy that might be implemented to reduce traffic congestion, the price has decreased from p1 to p2 which reflects in the change of consumer surplus inside the small rectangle between p1 and p2 while the change in producer surplus is from p2 across to Q1 down then shifts left diagonally. The subsidy seems to have a greater effect on producer surplus then consumer surplus.

(2)

(b) Compare and contrast the impact of subsidies on public transport when demand is elastic with when demand is inelastic.
In your answer:

- on BOTH graphs show the loss of allocative efficiency (deadweight loss) as a result of the subsidy
- explain in detail, for Graph One, why there is a loss of allocative efficiency
- explain in detail whether subsidies on public transport will be more effective in reducing traffic congestion if demand is elastic or inelastic
- refer to Graph One and Graph Two.

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- There is a loss of allocative efficiency on graph 1 due to the fact that both consumer and producer surplus have not been maximised hence creating the DWL because the producers are benefiting more from the subsidy on public transport then the consumers are, because by making public transport cheaper there will be less people using there cars favouring the many different options of public transport. (3)
- The subsidies on both Elastic and Inelastic Demand for public transport will have a far greater effect on elastic demand because elastic goods and services have far more options avaliable or substitutes compared to inelastic where there are few or no subs at all hence why I favour it on graph 1 it shows producers benefiting from people using public transport hence change in producer surplus reducing congestion on the road, compared to graph two where the producers gain is less. (4)

N1

QUESTION TWO: GOVERNMENT INTERVENTION AND EFFICIENCY OF THE MARKET

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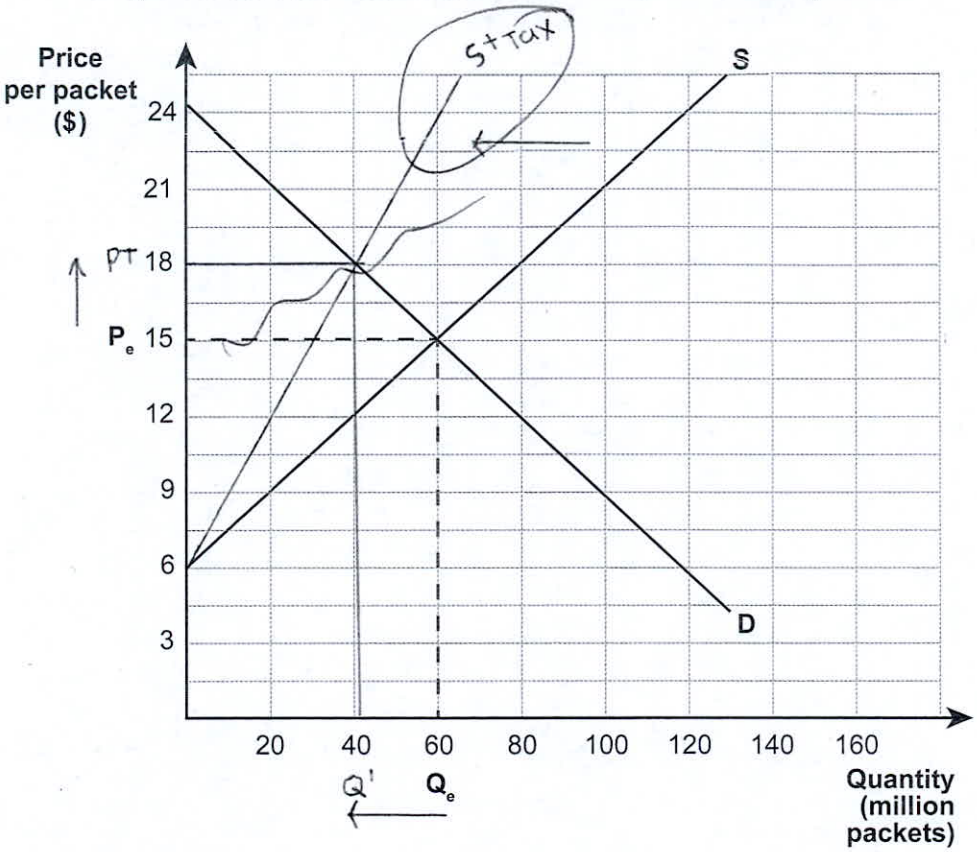
Smokers thinking about making a new year resolution to quit smoking have been given some extra motivation with a tax increase that will significantly increase the average price of a pack of cigarettes.

Source (adapted): http://www.stuff.co.nz/national/politics/9569478/Cigarette-taxes-jump-10-per-cent

Graph Three: New Zealand market for a packet of cigarettes



(a) (i) On Graph Three, show an indirect tax which results in a price of $18 for a packet of cigarettes.

(ii) Complete Table One by calculating the relevant values from Graph Three.

Table One

	Value from Graph Three ($)
Change in consumer surplus	$18 × ~~60~~ 40 ÷ 2 = ~~$540000000~~ $360000000
Change in producer surplus	$15 × 60 ÷ 2 = ~~$450000000~~ $60000000
Tax revenue for the Government	~~$900000000~~ $240000000

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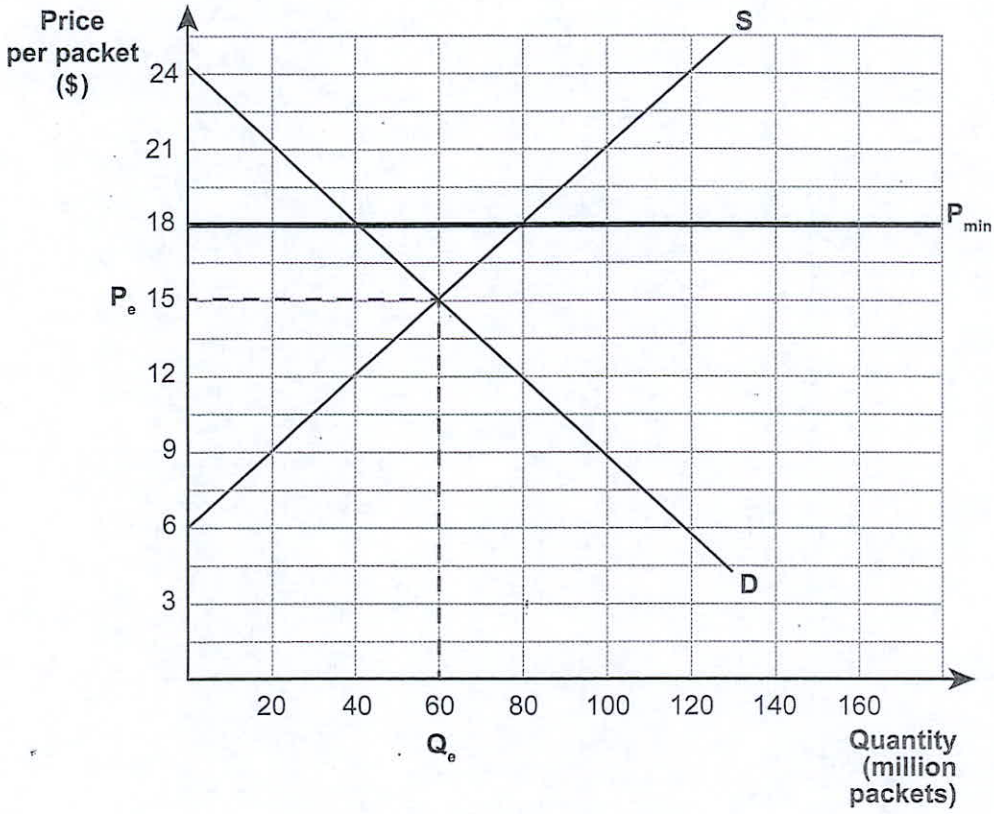
Another policy which would increase the price of cigarettes to $18 is imposing a minimum price of $18.

Graph Four: New Zealand market for a packet of cigarettes with a minimum price of $18



(b) Complete Table Two by calculating the relevant values from Graph Four.

Table Two

	Value from Graph Four ($)
Change in consumer surplus	$18×40÷2=$360000000
Change in producer surplus	$18×60÷2= ~~$450000000~~ $540000000
Change in consumer spending	~~$2000000000~~ ~~$1080000000~~ $180000000

(c) Compare and contrast the two policies – an indirect tax and a minimum price.
In your answer:

- explain in detail the impact on consumer surplus of each of the two policies
- explain in detail the impact on producer surplus of each of the two policies
- explain in detail the impact on the Government of each of the two policies
- use relevant calculations from Table One and Table Two and refer to Graph Three and Graph Four.

with a tax on cigarettes in place consumer surplus in graph 3 at $18 the quantity sold would be 40 million packets as a result on graph 4 with a price min put in place at $18 (5)

the lowest price they can sell cigaretes at selling 40 million packets as well because of the tax. Because of the tax the average amount of packets brought has dropped from the ~~40~~ 60 million to 40 million a 20 million decrease in the number of packets ~~brought~~ smoked come about from the tax. with both the tax and price min different policies the consumers are more affected by ~~the~~ both as the change in consumer surplus is the same at $360000000. (6)

- As a result of the tax the producers are more affected by the Tax rather then price min as the change in producer surplus for the tax is $60 million while the price min is only $54 million which would be better for producers as they are charged at the lowest price it allows at $18
- The government after imposing a tax recieve $24 million in tax revenue because of the sucess of the $18 tax if they choose this policy or if they decide to go with the price min the consumer spending has dropped by $18 million as a result of the changes in both consumer and producer surplus. (7)

N2

N2

QUESTION THREE: GOVERNMENT INTERVENTION IN THE HOUSING MARKET

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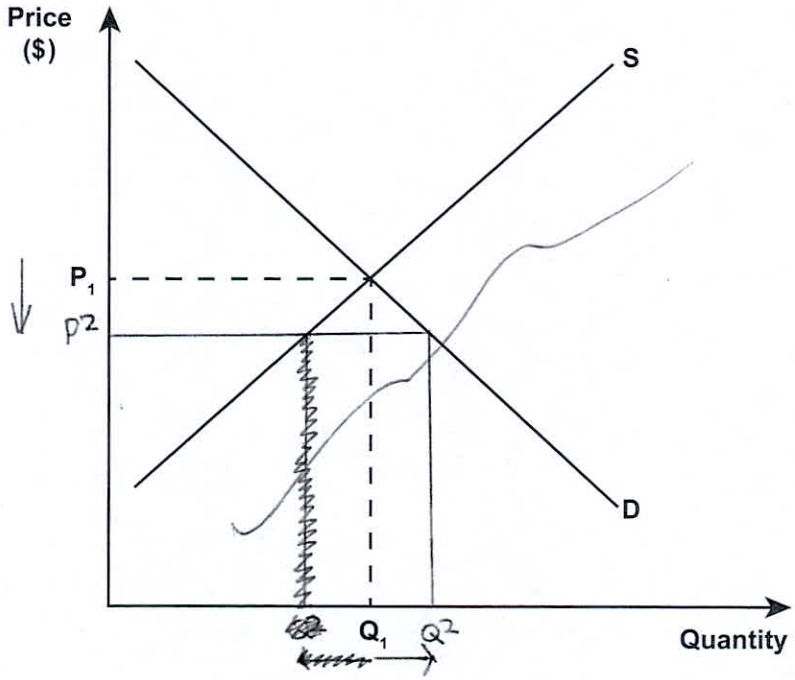
Tariffs on most building materials will be suspended in a move the Government says will bring the average cost of building a house down by about $3 500.

Source (adapted): http://www.stuff.co.nz/business/budget-2014/10048621/Building-material-import-tax-held

Graph Five: The New Zealand housing market



(a) (i) On Graph Five, show the impact on the New Zealand housing market if there is a reduction in the cost of building houses. Clearly label the new equilibrium price ($\mathbf{P_2}$) and quantity ($\mathbf{Q_2}$).

(ii) Explain in detail, using market forces, the change in the market equilibrium. In your answer, refer to Graph Five.

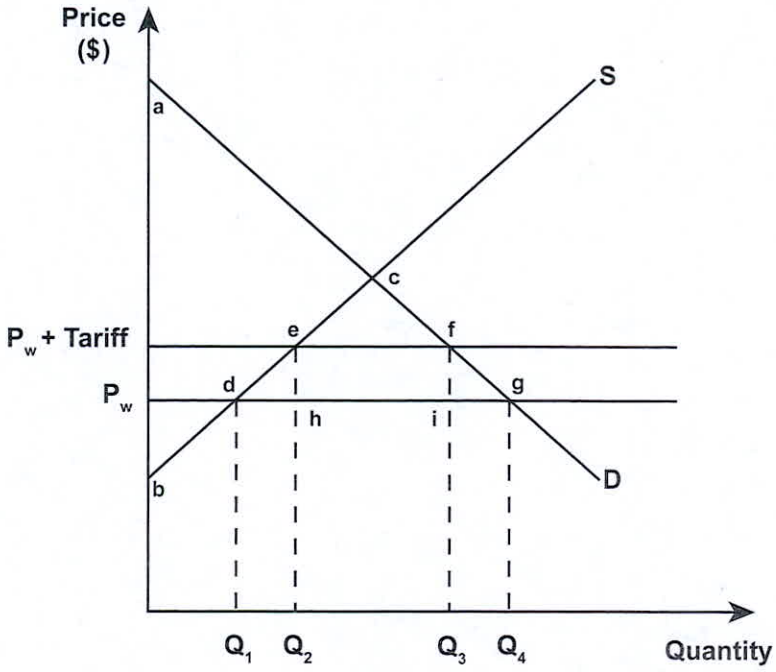
With the suspension of tariff's in an effort to reduce costs by $3500 the price of building a house decreases from p' to p2 and increase the quantity of house built from Q' to Q2.

This change makes building your own house more affordable now compared to when the tariff's were in place. The change is greater for consumers then producers.

However, Finance Minister Bill English said the cuts to tariffs on building materials were only temporary and would need to be reintroduced due to the technicalities in the legislation.

Source (adapted): http://www.stuff.co.nz/business/budget-2014/10048621/Building-material-import-tax-held

Graph Six: New Zealand market for building materials with a tariff



(b) Complete Table Three below.

Table Three

	Labels from Graph Six
Change in consumer surplus	~~Pw, Pw+ Tariff, e, d~~ Pw+ tariff, Pw, d, e
Change in producer surplus	Pw, b, d
Tariff revenue for the Government	e, f, i, h
Deadweight loss	d, e, h and f, g, i

(c) Compare and contrast the impact of the tariff on consumers and producers of building materials, the Government, and allocative efficiency.
In your answer:

- explain in detail the impact on consumer surplus and producer surplus
- explain in detail the impact on the Government
- explain in detail the impact on allocative efficiency
- refer to Graph Six and Table Three.

- with the temporary cuts of tariff's on building materials consumer surplus has decreased from Pw + Tariff to the //

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orginal world price pw across to d and diagonally up to e, and producer surplus has changed from pw to b then to d with consumers being the main beneficaries from the cuts to tariffs making it cheaper to build while the producers gain little from this. (8)

- with the temporary cuts in tariffs the government recieve area e,f,i,h because of this as more people continue to build because it's cheaper
- However due to the tariff cuts there is no allocative efficiency as DWL is present and also the fact that both the consumer and producer surpluses are not maximised DWL is the two half triangles to the left and right of the tariff revenue at ~~de~~ d,e,h and i,f,g. (9)

N2

Not Achieved exemplar for 91399 2015			Total score	05
Q	**Grade score**	**Annotation**		
1	N1	This response is awarded N1 because the candidate: (1) incorrectly shaded change in CS, change in PS and DWL (2) referred to price fall but did not link that to increase in CS (3) explained there is a loss of allocative efficiency (sum of CS and PS not maximised and DWL is created) (4) explained subsidy will have greater effect on elastic demand but without the correct reasoning (i.e. due to greater increase in QD) This response provides no other relevant evidence to demonstrate understanding of the efficiency of market equilibrium.		
2	N2	This response provides partial evidence with some correct calculations in Tables One and Two. Changes identified in (5) and (6) have not been linked to changes in CS and PS. Partial evidence has also been provided in (7). This response provides no other relevant evidence to demonstrate understanding of the efficiency of market equilibrium.		
3	N2	This response provides some partial evidence with 2 out of 4 correct labels in Table 3 and explanation of loss of allocative efficiency and tariff revenue (9). References to changes in CS and PS were incorrect (8), shift of Supply curve not done and there was no other relevant evidence. A better answer would have included sufficient detailed explanations that referred to correct labels in Table Three and in-depth explanation of how equilibrium is restored using market forces and referring to Graph Five.		