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TOP SCHOLAR



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

Scholarship 2009 Economics

9.30 am Wednesday 2 December 2009

Time allowed: Three hours

Total marks: 24

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

Pull out the Resource Booklet 93402R from the centre of this booklet.

Answer ALL the questions in this booklet.

Show ALL working.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly

Answer ALL the questions in this booklet.

Show ALL working.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–24 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.

You have three hours to complete this examination.

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QUESTION ONE: Competition In The New Zealand Mobile Telecommunications Market

The 2008 Telecommunications Market Monitoring Report suggests that Vodafone and Telecom are engaged in oligopolistic behaviour.

(a) Refer to Resources A and B when answering this section.

- (i) Apart from high termination rates and on-net calling offers, identify one other way that Vodafone and Telecom have engaged in oligopolistic behaviour.

Heavy non-price ~~at~~ competitions such as
sponsoring and new mobile network technology
such as 3G.

- (ii) Explain how high termination rates and on-net calling offers represent significant barriers to entry into the New Zealand mobile telecommunications market, and describe how this affects allocative efficiency.

The high termination rates increases costs for
new comers into the telecommunications market.

New establishing firms would have to pay these
high rates ^{if people want to call their network from another network.} which has a relatively larger impact on
new firms as ~~the~~ Vodafone and Telecom ~~are~~ already
dominate the market and most of the calls from the
newcomer will be head out to other networks, which means

a disorg. On net calling offers encourages use of Telecom and
Vodafone networks due to already large customer base as discounts
only applies to some network calls.

- (iii) Briefly describe how the pricing and output decisions of firms in an oligopolistic market would compare with those in a perfectly competitive market.

Firms in a perfectly competitive market are price takers,
as they are insignificant and supplies only a small
portion of market, so cannot affect market price. ^{ie horizontal}
in an oligopolistic market, firms such as Telecom ^{demand curve}
have strong control over price due to
differentiated product and market dominance.
Therefore free downward sloping demand curve
continued

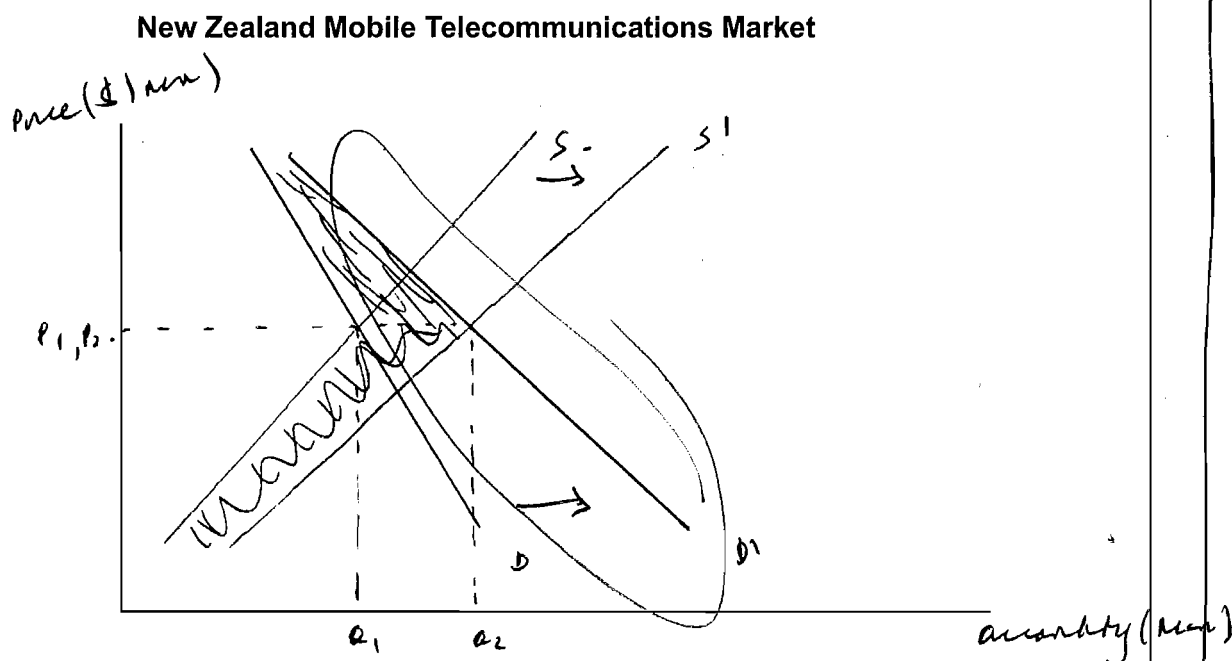
Affects allocative efficiency due to lack of competition
as higher prices for calls are over priced and
so consumer net producer surplus maximised
all phones re videocomm
not maximised

In 2009, there was an increase in the level of competition in the New Zealand mobile telecommunications market.

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(b) Refer to Resources C to E when answering this section.

- (i) Draw a supply and demand diagram and use lettering or shading to show the change in allocative efficiency that would result from 2degrees (previously known as NZ Communications) entering the New Zealand mobile telecommunications market.



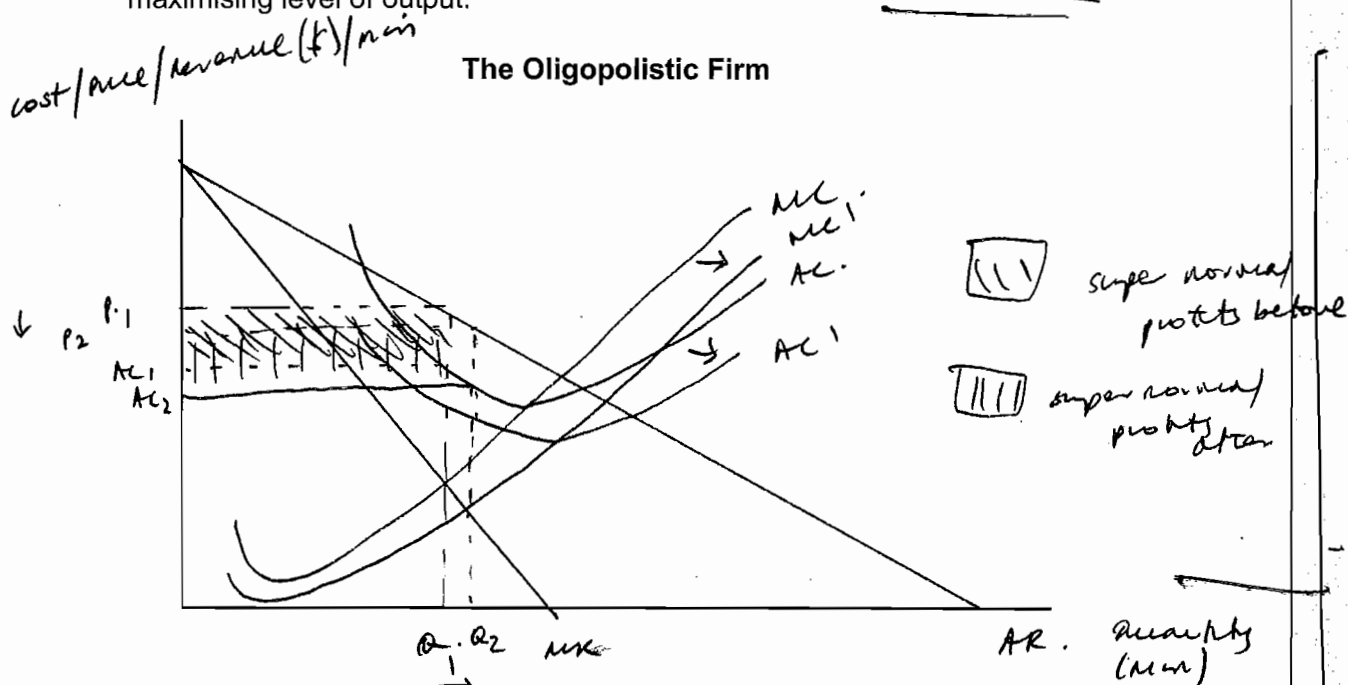
- (ii) Explain your answer to (i) above.

Increase in competition will result in better quality service. This would increase demand as consumers are attracted by the new pricing plans and service. Demand also becomes more price elastic due to the availability of more substitutes (another network (degrees)). Supply also increases due to the increase in "output" from 2 degrees. Supply also becomes more price elastic due to increased coverage in NZ, as the 3 networks can be shared. Overall demand and supply shifts right and both CS and PS increases. The overall increase in allocative efficiency is shaded. Price would change depending on the relative size of the curve shifts. Most likely it would decrease, resulting in a larger consumer surplus.

The new market outcome gives consumers a better value for money and better service.

- (iii) Draw a fully labelled diagram to show the cost and revenue curves for an oligopolist (you could base this on the monopoly curves) earning supernormal profits at the profit-maximising level of output.

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- (iv) On your diagram above, **illustrate** the effect of a reduction in the termination rates resulting from Commerce Commission regulation, and then in the space provided below **explain** the changes you have made.

Termination rates are variable costs to a firm as it varies with output. i.e. eg if call time increases, termination rates also increase. Therefore a reduction in termination rates will decrease average cost and marginal cost, as each additional minute costs less compared with the old rates. Therefore a new equilibrium is set. This is because at the old equilibrium (P_1, Q_1) MR is greater than MC, so output is increased to increase profit until $MR=MC$ at new equilibrium (P_2, Q_2) . In this case supernormal profits have remained relatively the same. However new equilibrium is *relatively* closer to the socially desirable equilibrium, ~~than~~ $(MR=AR=MC')$ ~~reducing~~ increasing allocative efficiency.

- (c) **Evaluate** the extent to which the Commerce Commission is needed to achieve allocative efficiency in the market for a **private good**.

Refer to Resources **A** to **E**, and use your own knowledge of micro-economic theory, as well as your analysis in sections (a) and (b), when answering this question. Use appropriate diagrams and/or models in your answer.

Use this space for planning your essay. Start your essay on page 6.

Adv.

Monopoly. Allocatively inefficient. strong barriers to entry.
costs of substitutes

Case with telephone + Vodafone.

introductions of 2 degrees. increase competition.
more elastic demand. Prices review pricing plan

Decrease prices. supply to
increase. CS. overall π allocative.
more comp. π innovation, re RTS.

→ currently, consumers forced to carry two phones.
removed income to spend on other GTS.

Dis.

could argue. duplication of resources. diseconomies
of scale. inefficient.

Begin your essay here.

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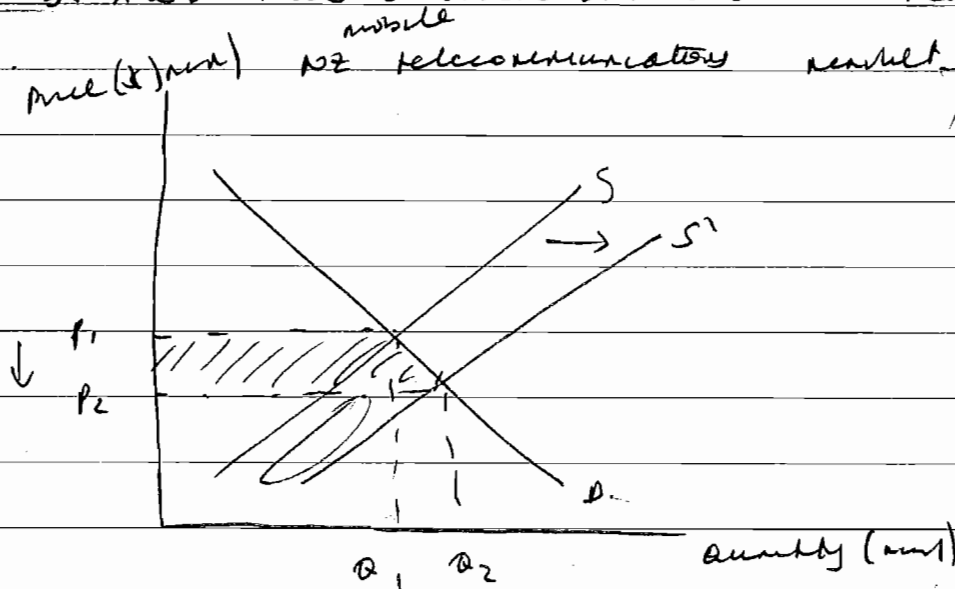
Generally the market outcome is low and is allocatively efficient. However in some cases it clearly isn't ~~at it~~ and therefore the Commerce Commission should intervene.

In this case, the telecommunications market, mobile phones in particular, has clearly resulted in an inefficient and inequitable outcome. The ~~despite~~ duopoly market consisted of Telecom and Vodafone ~~or~~ has hindered competition which has resulted in exceedingly high prices and an underconsumption of mobile phones compared with the rest of the world, as mentioned in Resource B. Also the very high barriers of entry means that such as high termination rates means that new firms cannot enter the market without significant funding, therefore discouraging competition. ^{* eg currently consumers forced to carry 2 phones to have best overall service... less income to spend on other goods.}

One of the proposed methods to introduce competition in the market is by cutting termination rates from 15 cents/min to 10 cents/min. This would ease the barriers of entry and hopefully ~~thus~~ encourage new businesses to enter the market. ~~for~~ This will reduce average costs and marginal costs for the new firm and Telecom & Vodafone, which would result in a decrease in price and an increase in output, as shown in Q1biii. ~~Allocative~~ - The market would become more efficient as the price has decreased.

and output increased to socially desirable equilibrium?

The intervention of the commerce commission in ~~a~~ a failing private good market, such as the mobile phone market will increase competition. In this case, the introduction of 2 degrees will change the market structure from a monopoly to an oligopoly. The increased competition will benefit customers as the operators will have more incentive to innovate new products and improve existing ~~features~~ quality of service, or they risk losing customers. Also this should increase the market supply.



This would ~~take~~ [→] the price down and increase the quantity consumed. Also the shaded area is the increase in consumer surplus. Overall CS will increase more than PS decreases and the market would become more allocatively efficient. Also consumers would face a more elastic demand curve as there are more choices. If consumers can easily switch to 2 degrees simply by buying a

7

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Overall the Commerce Commission should only intervene as a last resort. By definition, a free market outcome should be more efficient than a regulated one. However in special cases

QUESTION TWO: THE SOCIAL COSTS OF THE MISUSE OF ALCOHOL

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Consumers often ignore the social costs when making their drinking decisions.

(a) Refer to Resources F to H when answering this section.

- (i) Define the term 'social cost' and describe how social costs result from the misuse of alcohol.

Social costs are the costs involved with the consumption or production of a good that society must bear.

Misuse of alcohol generates additional spillover costs to society beyond the private cost of the drink. Consequences such as damaged health, loss of productivity due to a hangover or property damage due to drink driving accidents cost \$1-4 billion dollars of social costs last year.

- (ii) Explain why alcohol (when misused) is classified as a demerit good.

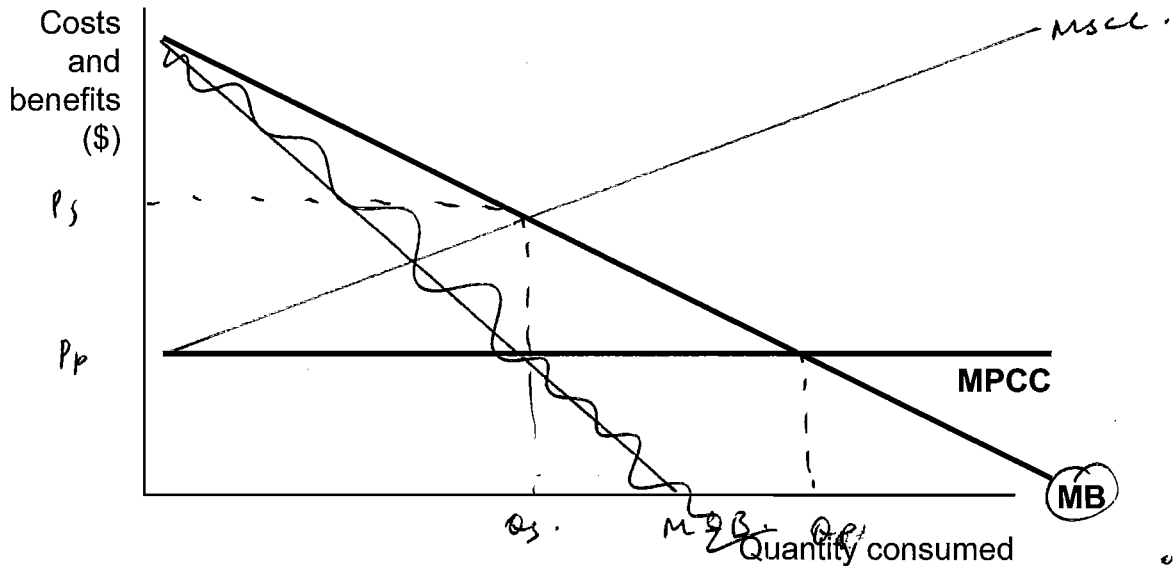
~~When misused~~ Demerit goods are goods that society considers bad or damaging for us to consume. When alcohol is consumed in excess, it will ~~cost~~ cause damage to the user in terms of permanent liver damage or death due to drink driving accidents. The large number of negative consequences that arise from the misuse of alcohol means that it is considered to be a ~~demerit~~ demerit good.

The commission should intervene ~~there~~ in the interests of the consumers, as price fixing or collusion will severely disadvantage customers.

(b) Refer to Resource H when answering this section.

- (i) Complete the diagram to show how the private and social costs differ as an individual consumer of alcohol consumes more alcohol in a session. Indicate the private (P_p , Q_p) and social (P_s , Q_s) equilibrium prices and quantities consumed using these labels. (MPCC shows the marginal private cost of consumption.)

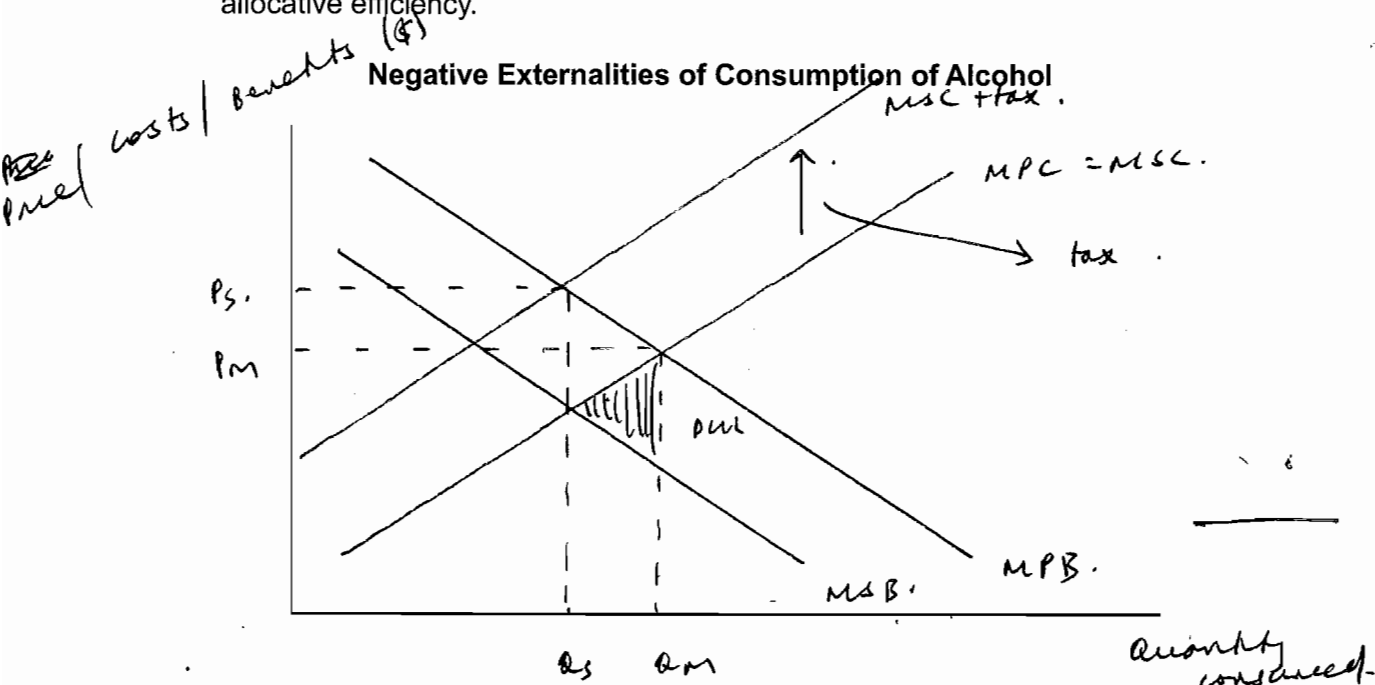
The Individual Consumer of Alcohol



- (ii) Explain your answer to (i) above.

As mentioned in resource H, the social cost of the first drink reflects the private cost, but later drinks will generate additional social costs due to excessive consumption and all the negative consequences associated with it. Therefore as quantity consumed increases, the gap between the marginal social cost of consumption and the MPCC increases due to the increasing social costs of excessive consumption of alcohol. The private market equilibrium does not take into account the social costs and therefore the price (P_p) is underpriced compared with P_s and the quantity (Q_p) is overconsumed compared with Q_s .

- (iii) Draw a fully labelled diagram to show the private market equilibrium and the social equilibrium in the market for alcohol. Then shade the area that represents the loss of allocative efficiency.



- (iv) With reference to your diagram above, briefly explain how the negative externalities can be internalised.

The free market equilibrium (P_m, Q_m) is underpriced and overconsumed compared with the social equilibrium (P_s, Q_s) as the free market does not take into account the social costs. A tax can be levied on alcohol. This would increase the costs faced by producers and decrease profitability, therefore decreasing supply as producers are prepared to supply less alcohol at each price. This would increase the price of alcohol and decrease the quantity consumed, moving the free market equilibrium towards the social equilibrium. The shaded deadweight loss would fall as consumption moves towards the socially desirable consumption, resulting in an increase in allocative efficiency.

Also, ~~levying~~ heavy fines could be implemented on consumers if they are caught with excess alcohol. This would decrease demand and shift MPB towards the socially desirable consumption, as consumers are discouraged from drinking. This would also

Tax.

- (c) **Evaluate** the extent to which the government should rely on controlling the price or use other policy measures, to achieve a more socially desirable outcome in the market for alcohol.

Refer to Resources **F** to **K**, and use your own knowledge of economic theory related to market failure, as well as your analysis in sections (a) and (b), when answering this question. Use appropriate diagrams and/or models in your answer.

Use this space for planning your essay. Start your essay on page 13.

Tax. - inequitable. (Resource 2)
age, sex. different alcohol types
Fines.

Advertisement (Resource 5). ALAC.

Resource K.

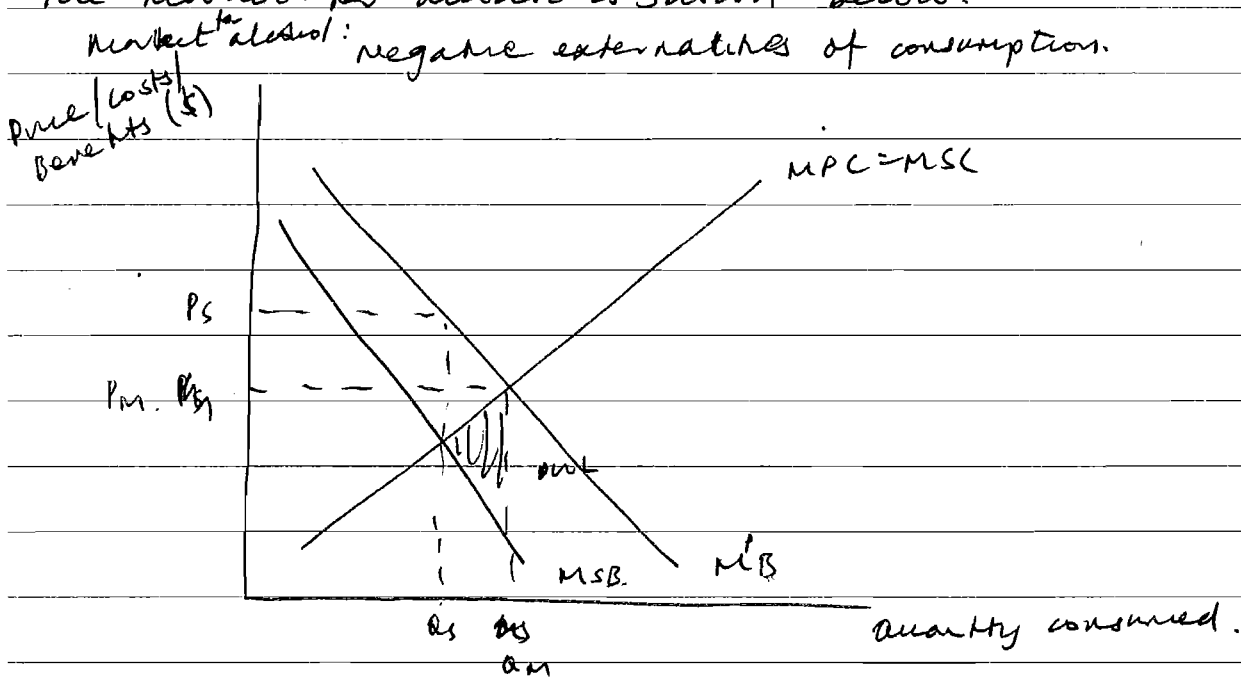
Regulate bars leading promotion of alcohol.
change behaviour of consumers

2 DTS.

Begin your essay here.

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Alcohol has negative externalities of consumption, therefore the free market outcome is allocatively inefficient. The free market outcome does not take into account the ^{excess} spillover costs of alcohol or consumption of alcohol to society ~~as~~ such as drink driving accidents causing injury to both the user and a ~~third~~ third party. The market for alcohol is shown below.



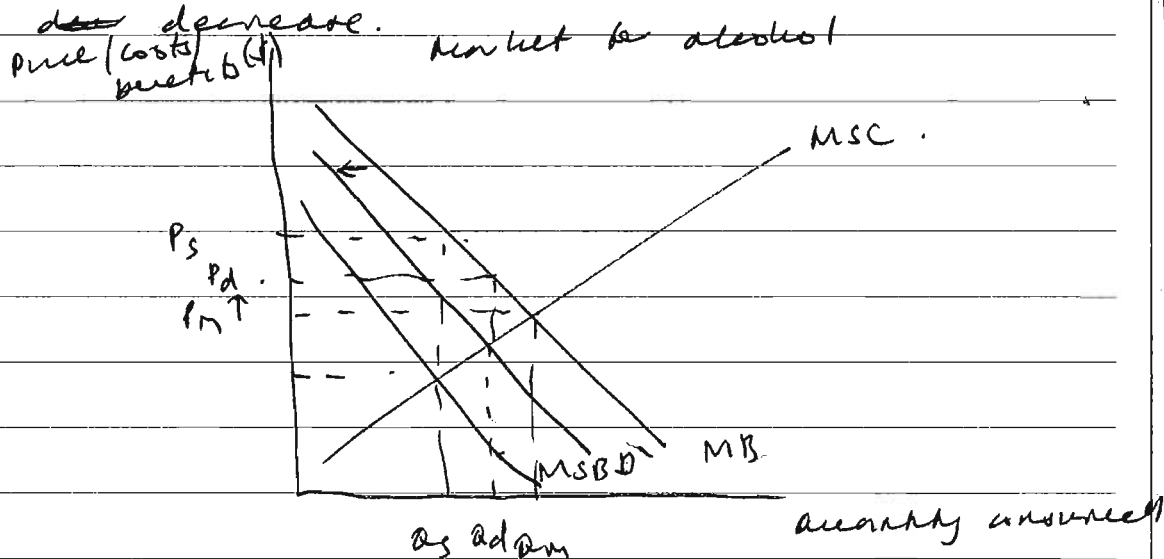
As mentioned in 2Biv, the ~~price~~ free market equilibrium is underpriced and overconsumed compared with the social equilibrium. Policies that ~~shift~~ increase MSC or decrease MB towards MSB can both be used to achieve a more socially desirable outcome and also remove the deadweight loss.

The government could control the price of alcohol by levying a ~~sub~~ excise tax on alcohol, equal to the amount of the spillover cost per unit. As mentioned in 1A previously (2Biv), supply would fall due to a decrease in profitability. MSC will shift left and the free market equilibrium

moves towards the social equilibrium, making the outcome more socially desirable. However the large problem with this policy is equity. As shown in Resource 2, not all age group or sex ~~do~~ ^{consume} the same amount of alcohol. A sales tax on ~~all~~ all alcohol sold would force ~~every~~ everyone who consumes alcohol to pay a higher price, even those who do not cause any negative externalities. This ~~can~~ ^{can} be seen as unfair. Likewise a sales tax is a regressive tax. Those on lower incomes have to pay proportionately ^(in terms of income) more tax to consume alcohol. If alcohol is considered a necessity then the ~~income~~ income gap in NZ would widen, which is undesirable. Another problem with a sales tax is determining the amount of ~~externalities~~ spill over costs that can be attributed to each type of alcohol (eg Beer, wine). Different types of alcohol may cause different externalities. eg RTD are often consumed by teenagers who are seen to contribute ^{more} to drink driving accidents. Should RTD then be charged with a higher tax than wine? ~~alcohol~~ ^{wine} are consumed by the more "responsible" > 45 year old age group.

Instead of controlling the price, the government could also affect consumer behaviour instead. The government could regulate supermarket retailers and ban loss leading that promotes alcohol consumption. Or the government could invest more in the ALAC to

"encourage the moderation in the use of liquor":
in ~~add to~~ a more extreme way, the ~~governance~~
government could significantly increase the
penalties for alcohol abuse such as longer fines
^{increased} and jail sentences for drunk driving. All of these
policies ~~would tend to affect~~ would ~~disincent~~ discourage
the consumption of alcohol. Advertising would
give consumers more information to make more informed
decisions regarding alcohol and the fines would decrease
the spill over costs as less consumers would be prepared
to drink drive. In all cases, demand would
~~decrease~~ decrease.



The free market equilibrium would move to (P_d, Q_d) from (P_m, Q_m) .

The free market equilibrium would move to (P_d, Q_d) from (P_m, Q_m) which is closer to the social equilibrium. This increases allocative efficiency in the market and decreases deadweight loss. However the main negative of these policies are the costs. It would cost the govt. to regulate the fines and supermarkets and cost the govt. for increased advertising. Less money spent on public goods.

Overall a combination of policies should be used.

QUESTION THREE: RISK, DEBT AND THE GREAT RECESSION

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High levels of debt and less willingness to tolerate risk have led to more saving by households and firms at a time when the economy is adversely affected by the global recession.

(a) Refer to Resources L to O when answering this section.

↓ borrowing. less outflow of interest
less imports.

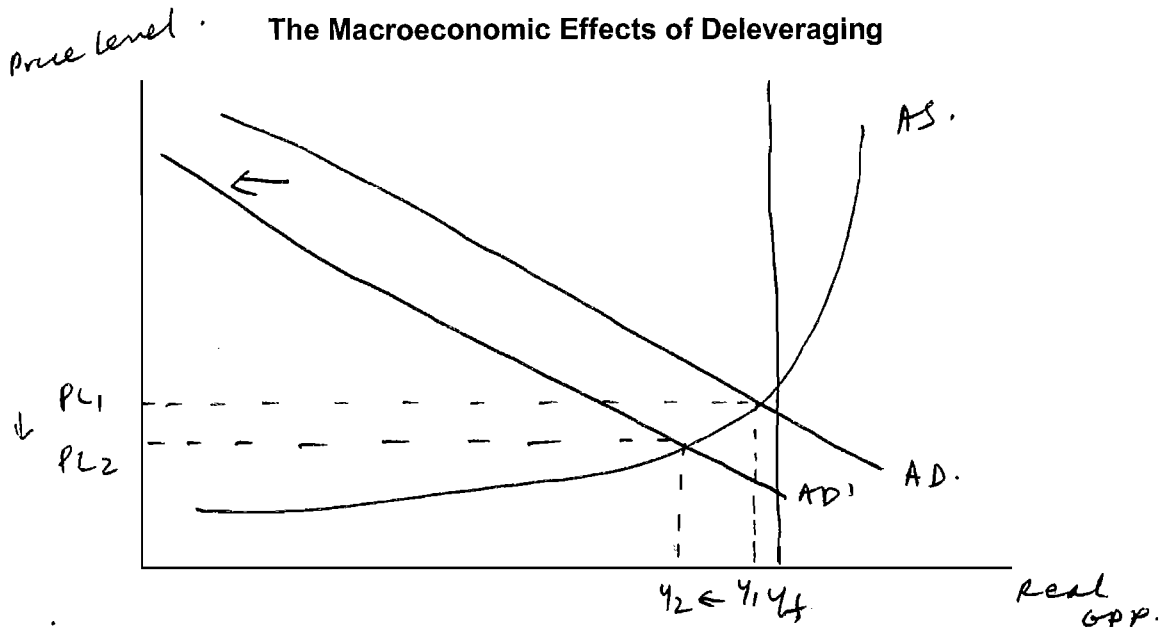
- (i) Explain how a fall in the housing market, and the negative wealth effect that this creates, could be partly responsible for the improvement seen in the net investment income and trade balances in New Zealand's current account.

A fall in the housing market and a subsequent downturn in household wealth decreases confidence in the economy. People will no longer get "richer on paper" as house prices tumble. As a result the previously insatiable consumer demand, which resulted in heavy borrowing has eased. Less borrowing by consumers and investment into less investment in overseas bonds from overseas funds has resulted in a sharp decline in interest repayments to overseas, thus decreasing the balance on income in the current account. Likewise a sharp fall in consumer spending on imports, such as Sony televisions, has decreased import payments. This has increased our balance on goods i.e. improved trade balance.

As shown in resource M

- (ii) Use the AD/AS model to analyse how deleveraging by both households and firms could be blamed for the New Zealand recession since 2008. (Deleveraging refers to reducing debt levels.)

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- (iii) Explain your answer to (ii) above.

The deleveraging by households means more income is used in repaying debt, such as mortgages. Also less loans are taken out. As a result consumer discretionary income has fallen as there is less ~~and~~ income after repaying debts to buy goods & services, so consumption falls. Deleveraging by firms also results in less investment spending as less revenue after repaying investment loans to make new investments. Therefore investment spending falls. ~~the~~ AD falls. As a result Real GDP decreases from Y_1 to Y_2 and which indicates a decrease in economic growth as more resources are unemployed. (as new Y ~~is~~ further away from full employment)

is shown In response to the decreasing debt ratios from 2007 onwards has resulted in ~~a~~ a improvement in the CA fall in investment. in % of GDP from 2007 onwards

- (b) Refer to Resources **N** and **O** when answering this section.

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Suggest why the International Monetary Fund is concerned about each of the following:

- (i) a synchronised recession

A synchronised recession means a sharp fall in global economic activity. International trade would be adversely affected as less exports are purchased by consumers with less income. ie "nobody is buying". ^{like 102} Small countries therefore cannot ~~use exports~~ rely on ~~only one export~~ to pull out of recession.

- (ii) surging unemployment

Surging unemployment reduces household incomes and increases transfer spending by government. Less income results in reduced consumption which decreases aggregate demand and growth.

- (iii) deflation.

Caused by a fall in AD. This further dampens the global economy as consumers would be encouraged to spend at a later date in expectation of falling prices. This would further decrease AD and shrink the economy. Decreased spending by consumers would result in producers cutting back production, decreasing demand for ~~very~~ labour and forcing wages down. Less income means it will be harder for people to repay debts, such as mortgages.

- (c) In the context of a continuing worldwide recession, **evaluate** the extent to which policy makers in New Zealand should focus on fiscal stimulus, rather than other measures, in order to achieve a recovery in the New Zealand economy.

Refer to Resources **L** to **R**, and use your own knowledge of macro-economic theory, as well as your analysis in sections (a) and (b), when answering this question. Use appropriate diagrams and/or models in your answer.

Use this space for planning your essay. Start your essay on page 20.

Fiscal stimulus.

Expansionary fiscal policy - credit rating

Other measures

Monetary policy. OER.

Supply side

subsidies

Printing money. ~~low inflation~~

incentives - those on low incomes
punished

encourage producers develop new
technology. & Education

↑ productivity of labour & supply

equity - future generations

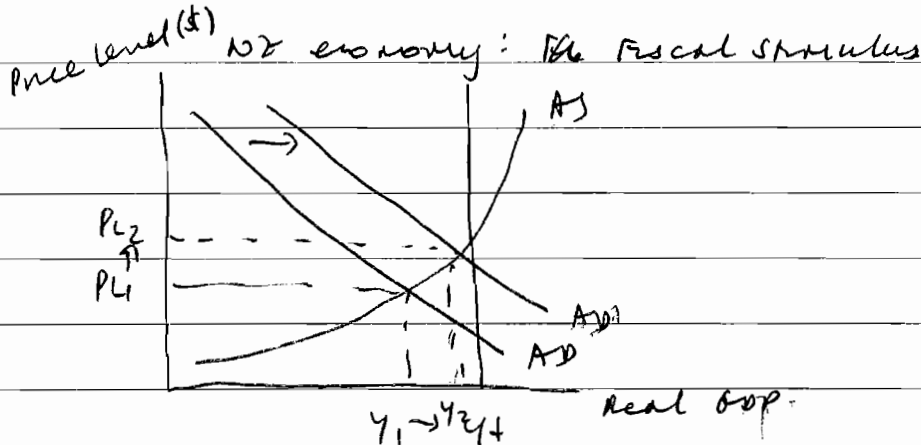
Begin your essay here.

Fiscal stimulus is one policy that the NZ government can use to achieve a recovery.

This would involve a net increase in government spending, and most likely result in a tax cut. ~~It~~ it would result in

an overall injection in the NZ economy, increasing economic activity and spending.

AD would increase as increased government spending ~~of~~ is a component of AD and higher consumer incomes would increase consumption.



Real GDP would increase from Y_1 to Y_2 resulting in an increase in economic growth and employment.

Also government spending on education and research and development into new technology would increase productivity in the long run. Therefore both AS and the LRAS would shift outwards in the long run, further increasing growth.

~~The~~ there are a few severe problems with a fiscal stimulus policy. ~~It~~ Firstly in the short run, it would result in an increase in

inflationary pressures as PL_1 ~~shift~~ increases to PL_2

Although it is likely the inflationary pressures would

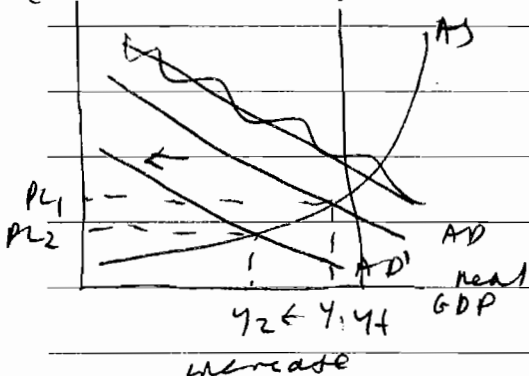
- The government spending would conflict with the Fiscal Responsibilities Act 2004 as the increased spending would result in un-precedent debt level. Assessor's use only

be relatively small, as initially NZ is operating on the flat AS curve due to recession, it would still negatively affect low income earners without the power to negotiate wage rises. This can be seen as a equity issue as effectively the burden of the govern.

The second major problem is the issue of debt.

NZ ran a current account deficit of \$15.5 billion in the year ended September which meant a significant inflow in the Financial account in the form of borrowing from overseas to fund this deficit. Therefore if the large deficit continues, especially if the government uses revenue to fund expansionary fiscal policy instead of repaying debt, then it is likely NZ will face a credit downgrade.

(x) NZ economy.

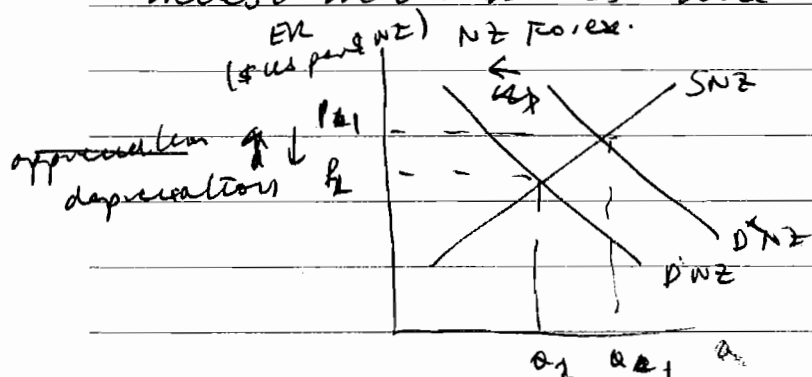


This would decrease growth as interest repayments by the government would increase, decreasing government spending.

Also overall interest rates likely to increase as the government spending crowds out private investment, decreasing available investment funds. Also it may result in deflation which would be disastrous as mentioned in a biii.

on the otherhand the RBNZ can loosen its monetary policy by decreasing the OCR. This would decrease bank interest rates in New Zealand. Savings would fall as reward for savings would

decrease. This would offset the previously high levels of savings as a result of decreased confidence & elevated risks. ~~Borrowing~~ Borrowing by household and firms would increase, due to a decrease in cost, which would offset the current deleveraging "frenzy". Overall the high low interest rates would increase consumption of borrowing as decreased cost of borrowing offsets more saving for firms. Spending and investment spending" likewise the NZ\$ would depreciate as less overseas investors invest in our banks due to decreased returns.

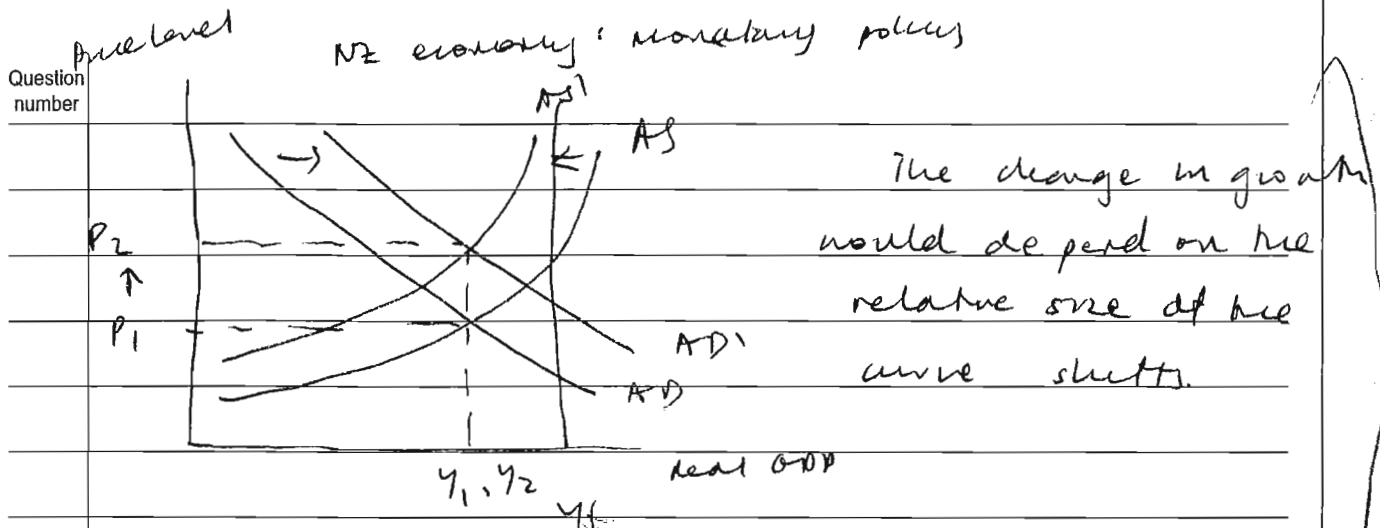


This would benefit exporters as they exports become more competitive and imports would fall, as they become more expensive compared to domestic substitutes. Net exports increase which increases both the AD and the Balance on goods.

The AD effect is similar to that of an expansionary fiscal policy and the increase in the balance on goods and services would be beneficial to our Current Account, decreasing the likelihood as a credit downgrade. However AS is likely to fall also due to the increased cost of imported raw materials decreasing firms profitability. This would significantly increase inflation as AD has increased and AS has fallen.

Extra paper for continuation of answers if required.
Clearly number the question.

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As mentioned before a high inflation would disadvantage low income earners and it will decrease the competitiveness of our exports, which has a negative impact on the AD and ~~Balance~~ current Account.

Another policy that ~~the~~ the RBNZ could implement is to print money. However ~~that~~ this would be very inflationary ^{money supply price level.}

$$M \times V = P \times Q$$

$$\uparrow = \uparrow =$$

Overall a combination of policies must be used. The monetary policy should ^{be mainly used} increase growth, ^{it will} overall a combination of policies must be used. The monetary policy should ^{be mainly used} increase growth, ^{it will} but result in high inflation. The fiscal policy such as spending on education and research and development in new technology would also be inflationary and increase growth in the short run, however in the long run, AS would rise due to increase in productivity which would increase growth and ease inflationary pressures. Fiscal policy must be used in moderation.