J1 June Intensive Revision 2014

**Essays – Market Failures**

**Essay Question 1**

*Resources are used to produce bottles for the water industry. Around the world, campaigns to ban bottled water are under way as consumers become aware of the environmental and economic costs involved.*

*The Straits Times, Tuesday, July 14 2009*

Discuss if a ban on bottled water is the best way to reduce the environmental and economic costs involved. [25]

**Essay Question 2**

Explain how smoking may be viewed as a source of market failure, and evaluate the policy measures that the Singapore government currently adopts to correct market failure caused by smoking. [25]

**Essay Question 3**

China's rapid market reforms since 1978 had created a strong middle class and a burgeoning industrial sector. However, many lower income earners, mired in a polluted environment especially in the mining and industrial areas, are left behind economically.

a) Explain how income inequality and pollution are causes of market failure. [10]

b) Discuss appropriate measures, if any, that the Chinese government could adopt to solve these problems. [15]

**Essay Question 4**

Why are some goods in Singapore, for example National Defense and Healthcare, provided by the state and others, for example food, are not? [25]

**Essay Question 5**

Singapore prides itself in having affordable basic healthcare available to all Singaporeans. The centrepiece of Singapore’s healthcare financing system is Medisave, Medishield and Medifund schemes where its citizens co-pay their medical expenses.

With reference to examples, evaluate the policies that the Singapore government currently adopts to achieve an optimal allocation of resources in the healthcare market. (25)

**Essay Question 6**

Since the introduction of the Integrated Resorts (IRs), concerns were raised about the IRs’ impact on families of gamblers and society as a whole.

(a) Explain why the Integrated Resorts gaming services market is an example of market failure. [10] (RJC Q2)

(b) How far have the measures adopted by the Singapore government been effective in addressing the above market failure? [15] (RJC Q2)

**Essay Question 1**

***Resources are used to produce bottles for the water industry. Around the world, campaigns to ban bottled water are under way as consumers become aware of the environmental and economic costs involved.***

 ***The Straits Times, Tuesday, July 14 2009***

**Discuss if a ban on bottled water is the best way to reduce the environmental and economic costs involved. [25]**

Introduction

* State how the bottled water is seen as a demerit good with negative externalities that will contribute to a rise in external cost, resulting in market failure

Main Body

1. **Explain how bottled water is a source of negative externalities that will lead to market failure**

Negative Externalities: Dumping 🡪spread of diseases, contamination

External Cost: Cost of environmental treatment, hospital expenditures

DWL: Less funding available for other aspects of growth

(Economic Causation, Diagram and description of diagram)

1. **Explain how banning of bottle water will solve the effect of negative externalities**

Eradicate usage, reduce the contamination 🡪absence of negative externalities 🡪 Absence of negative externalities 🡪 No DWL/external cost

1. **Evaluate whether banning is justifiable**

Zero production 🡪 zero level of net social benefit gain 🡪 benefits seen in term of convenience, hygiene, development of water industry > cost of dumping and misuse of bottled water

1. **Explain how other solutions can be introduced and why it is justifiable**

-Use infrastructure/facilities to supply water by govt – too costly

-Use bottled water – must encourage recycling and proper storage 🡪 maximise the use of bottled water without creating negative externalities

1. **Evaluation of the issue**

- the use of bottled water is inevitable – complementary solutions to eliminate the negative externalities and maximise the net social benefit gain – public education and supporting facilities to ensure that there is no dumping

**Essay Question 2**

**Explain how smoking may be viewed as a source of market failure, and evaluate the policy measures that the Singapore government currently adopts to correct market failure caused by smoking. [25]**

**Introduction**

* **Definition: Market failure refers to the circumstances in which distortions prevent the price mechanism from allocating resources efficiently.**
* Brief explanation: Various degrees/forms of market failure
* Complete: Price mechanism does not allocate any resources at all to provide any quantity of the good e.g.- national defence
* Partial: some resources are allocated to the production of the good, but not of the correct quantity E.g. Consumption or production activity that generates externalities (positive and negative), consumption of merit or demerit goods and production of goods by a firm with monopoly power.

**Main body**

* **Classification: Cigarettes is a type of demerit good as it exhibits negative externalities from consumption. They are deemed to be socially undesirable.**
* **Definition: Negative externalities refer to incidental costs to third parties that are not taken into account by those who are involved in the activity.**
* Justification why smoking exhibits negative externalities: A smoker will only take into account his private costs (price of the packet of cigarettes and own smoking-related health problems) and private benefits (satisfaction derived from smoking).
* However, he does not consider the negative externalities that would be generated by his smoking (smoking-related health problems on passive smokers, costs incurred to society for having to provide healthcare for smoking-related health problems as well as clearing and maintenance costs for the litter).
* The social cost from undertaking the activity is the private cost faced by the smoker as well as external costs accruing to third parties. Negative externalities will lead to divergence of private cost and social cost With the presence of negative externalities, social cost will be greater than private cost.



 Market failure is likely to exist because the negative externality is underpriced by the price mechanism. If cigarettes were provided through the free market, social costs of smoking exceed the private costs. Private optimum occurs at Qe where PMB (the benefit to the individuals of smoking the last unit of cigarette) equals PMC (the cost to the individual of smoking the last unit of cigarette).

 The socially efficient level is where SM=SMB i.e. at output Qs. Therefore, there are too many scare resources devoted to the consumption of cigarettes. There will be over-consumption of cigarettes because society values an extra unit of cigarette less than what it would cost society to produce it Shaded area represents the welfare loss to society as a result of this over-allocation of resources. Society as a whole could be made better off if the current level of cigarettes were reduced to socially efficient level. (Qs)

As seen from the diagram, the market equilibrium is set at Qm where PMC is equal to PMB=SMB, without the influence of externalities. Due to the presence of negative externalities, there will be the presence of external cost that creates the divergence of the PMC to SMC and this will give rise to the condition of over-production and over-consumption as Qm is now above Qs (SMC=PMC=EMC= PMB. There will be welfare loss represented by the shaded portion for output level between Qm and Qs, implying that there is market failure in this industry.

Explain and evaluate the various policies that the government can use to solve market failures due to the negative externalities of smoking

1. Legislation to prohibit – the introduction of rules and regulation to restrict the effects of negative externality so as to reduce the production to the social optimal level of production. In doing so, the external cost is either reduced or internalized.

* Ban (Control of advertisements and sale of cigarettes)
* Prohibition of tobacco advertisements and promotion in the media and in public in any form
* Prohibition of the sale or supply of tobacco products to persons below 18 years of age
* Prohibition of use possession or purchase of tobacco products by persons below 18 years of age
* Prohibition on Smoking in Certain Places Act
* All air-conditioned workplaces
* All schools, junior colleges, polytechnics, training institutes, air-conditioned and enclosed areas in Universities
* All bus shelters and interchanges, public pools and toilets, community clubs and open-air stadiums
* Latest -> public places i.e. entertainment outlets
* Benefits] Simple to stipulate, relatively easy to administer and those who do not obey will be severely punished — fined; a form of direct control
* [Limitation] The concerns of operators who fear that a ban on smoking could affect patronage of their business and hence result in a fall in income.
* [Limitation] Regulations coerce smokers to follow the laws strictly; there is no incentive to reduce smoking e.g. at non-restricted areas.

2. Taxes

* Government can impose a tax on the packet of cigarettes sold to consumers to correct the negative externality, increase the price of cigarettes to make it more expensive to smoke.
* As seen from diagram 1, Imposition of tax will lead to the rise in the cost of goods sold which will lead to the fall in the supply of the good from AS0 to AS1 and thus induce an increase in the price of the good from P0 to P1. Consequently, the level of quantity will fall from the market equilibrium level from Q0 to the social equilibrium level at Q1.

* [Benefits] Creates incentives to decrease consumption as smoking is now more expensive. Extra tax revenue can fund improved health care, etc.
* To achieve the socially efficient level of consumption of cigarettes at Qs, the tax has to be equal to the external marginal cost in order to effectively internalize the negative externality (use of diagram to help explain).
* [Limitation] Difficult to assess the monetary value of the external costs, hence only moving the equilibrium nearer to the socially optimum level, not fully eliminate the negative externality.
* [Limitation] Demand for cigarettes are price inelastic - since they are habit forming.
* Thus, people may not be responsive to the increase in price of cigarettes.
* [Limitation] Increased smuggling (government failure)

3. Increasing awareness to discourage consumption - using multi-pronged strategy to promote non-smoking in Singapore

* Market failure can be caused by imperfect information — smokers may be unaware of the short and long term of health risks associated with smoking
* Public education - campaigns about harmful effects of smoking, passive smoking and addictive nature of smoking to correct information failure, reduce negative externalities
* Promote the benefits of a healthier smoke-free lifestyle
* [Limitation] Failure of information campaigns - difficult to change mindset since smoking is addictive
* [Limitation] Drain on government resources - money could have been spent on other areas of development of the economy.
* [Limitation] Long term solution as compared to other forms of intervention, hard to change mindset of people, esp smoking is habit-forming
* Evaluation
* Is the issue of smoking severe in Singapore? In terms of health-related illnesses.
* Targeted group who smokes: teenagers or adults? Low income or high income people?
* Compare the relative effectiveness, i.e. Majority of the smokers" are teenagers; campaigns to promote healthy lifestyle
* Need to implement appropriate measures as resources are limited and hence the need to streamline.
* Combination of policies - both short run measures (regulations and taxes) and long term strategies (educating the public)
* Suggest possible alternative policies

Conclusion

**Essay Question 3**

**China's rapid market reforms since 1978 had created a strong middle class and a burgeoning industrial sector. However, many lower income earners, mired in a polluted environment especially in the mining and industrial areas, are left behind economically.**

**(a) Explain how income inequality and pollution are causes of market failure. [10]**

Introduction

•Definition of market failures

Application: Identify the sources of market failure base on the above statement: the presence of income inequality and negative externalities (due to pollution generated from industrial production).

Main Body

**Explain why pollution (negative externality) will give rise to market failure**

* Define negative externalities
* Costs borne by third parties who are not directly involved in the production or consumption of a good.

Such costs are not taken into account in the price mechanism.

* In this case, external costs are generated as a result of pollution from industrial production
* In a free market producers pursuing their self interest of profit maximisation take into account only their own private costs and benefit. **Assume that the production concerned is of steel.** The private cost (PMC) will then comprise the cost of labour, raw material and capital equipment for producing steel. On the other hand, PMB to the firms is the revenue they receive from the sale of each unit of steel. In aim of profit maximization, the firms will produce at the level Qe where PMB = PMC.
* However, in the course of steel manufacturing, it pollutes the environment -> a third party or external cost has occurred. The deterioration of the environment and the negative health effects on people (e.g. respiratory problems, asthma attacks) not directly involved in the production of the steel is not taken into account by the price mechanism. It is in this sense that these spill over effects are external to the price mechanism.
* The total or true cost of production will thus be underestimated. It explains why SMC > PMC by the\* amount EMC (denoted by vertical distance FG> at every level of steel produced.
* As a result, steel is deemed to be over-produced from society's point of view. The level of steel produced that maximizes social welfare is Qse, where SMB .= SMC. It is here that what society values of the last unit of steel produced = what it costs to produce that unit of steel.
* Due to over-production of steel (and hence over-allocation of resources) – deadweight loss will occur as the society will pay for the cost of higher level of contamination of resources which will undermine the growth in the future.

 As seen from the diagram, the presence of negative externality will give rise to external cost that contributes to the divergence of PMC and SMC as the SMC constituted by EMC and PMC. As a result, the market equilibrium level of production at QM will experience DWL (represented by the shaded portion) and there is over production since the production level at QM is above the social equilibrium level at Qs where SMC=PMC+EMC =SMB.

**Explain why income inequality is an example of market failure**

 Market failure is not just caused by economic inefficiency. It can also be caused by income inequality. In a market / capitalist economy, the ability of individuals to consumer goods depends upon the income and wealth of the household.

 Hence, a key problem with markets in the context of inequality is that the willingness and ability to pay differs from need. The market system will not respond to the needs and wants of those with insufficient economic votes to have any impact on market demand because what matters in a market based system is effective demand for goods and services. Price mechanism helps to distribute the limited amount of goods produced to those who want them most which is reflected by their willingness to pay and backed by purchasing power.

 Consequently, goods and services do not necessarily flow to those who need them the most, resulting in unsatisfactory (note! Not inefficient) allocation of resources. Need is defined as the minimum which is necessary for a person to survive as a human being, but of course what is minimum is debatable, one that requires value judgment.

 Referring to the stimulus provided, the low income earners are unable to afford basic necessities such as food, shelter or clothing. If healthcare is only provided by the private sector, the poor may not be able to afford medical care / treatment. Thus, it is a form of market failure as the maximized net social benefit gin is unevenly distributed where the lower income earners will not receive their fair shares of the distribution and thus, this is the absence of welfare maximization, a form of marker failures.

**Essay Question 3**

**China's rapid market reforms since 1978 had created a strong middle class and a burgeoning industrial sector. However, many lower income earners, mired in a polluted environment especially in the mining and industrial areas, are left behind economically.**

**(b) Discuss appropriate measures, if any, that the Chinese government could adopt to solve these problems. [15]**

Introduction

State and explain possible policies that the Chinese government can use to eliminate pollution

(negative externality):

Main Body

**Short term policies**

Taxes:

Explain how taxes address the market failure (with the use of diagram).

Imposition of taxes will lead to the rise in cost of production which will lead to the reduction in supply from SMC to SMC’ (PMC+tax) that will raise the price of goods from P0 to P1. This will reduce the quantity demanded from QM to QS where social optimization of resource allocation is attained as there is DWL and maximization of net social benefit gain is attained as seen from the diagram.

Benefits:

* Many economists favour the tax solution to correct externalities because it still allows the market to operate. It also forces firms to take on board the full social costs of their actions.
* It is adjustable, depending on the magnitude of the EMC.
* By taxing firms for polluting, producers may be encouraged to find cleaner ways of producing output.
* The tax thus acts as an incentive over the long run to reduce pollution: the more a firm can reduce pollution, the more costs it can save.

Limitations / disadvantages:

* The main problem of using this method is that there is imperfect knowledge. The damage from pollution is extremely difficult to assess. It is also difficult to apportion blame. For example, the damage to lakes in China has been a major concern. However, just how serious that damage is and what are its monetary costs, are difficult to assess.
* An overestimation or underestimation of the size of the external cost would mean either a less than or more than social optimum level of output respectively.
* Other problems include the need for manpower to assess the tax. This imposes an additional burden on the government.

**Licensing**

To control the total amount of pollutant emissions, authorities will devise a license system for emitters of waste water containing toxic or radioactive materials. Without the license, enterprises will be banned from discharging pollutants into water.

Evaluation:

* For smaller firms which are not able to afford the license, they will have to stop production completely. This may lead to retrenchment of the workers in that factory which may lead to additional burden for the government to provide financial aid to these workers. With the firm being out of production, it may also deprive the people in the area of the supply of the good.

**Rules and regulation: Penalty/Fines**

The government can impose severe penalty such as fines on factories which release toxic chemical wastes into river system. In a way, this will act as deterrence to the producers in contributing to water pollution in China.

Evaluation:

* Effective because it is a blunt weapon to discourage water pollution. However, there is no incentive to look for more environmentally-friendly ways to produce the goods. - -
* The government has to employ supervisors to monitor or closely watch pollution emissions from industrial, farming and other sectors.
* This entails administrative costs. The government has to weigh the costs and benefits to assess the effectiveness and desirability of this measure. If the benefits derived from successful implementation of measure i.e. cleaner rivers are greater than the costs incurred in channeling resources towards employing supervisors and conducting monitoring checks, then this measure should be adopted by the government.

Long term policies

* Using tax revenue earned from green taxes to subsidies / spur research in green tech (e.g. cleaner methods of production, using the same sort of fuel; or usage of dean energy such as bio fuels).

**State and explain possible policies that the Chinese government can use to reduce (not close) income inequality**

**Short term policies**

**Taxes:**

Describe and explain what is the tax structure or system China could use (assuming there wasn't one already in place)°-> progressive income tax (increase or put in place such a tax system).

Evaluation:

* May create disincentives to work with excessive progressivity.

**Income transfers:**

Income transfers are used by governments as a means of redistributing income or transferring income form one group in society to another group, for example from people in work to those who are retired or from relatively rich people to those who are in poverty. The justification for these transfers is to achieve fairness or equity in an economy. These transfers of income may also be fn the form of a cash benefit paid by the government to someone with a low income. Income transfers may also be used -to cover the unexpected loss of income when a person is not working due to illness or unemployment. These cash transfers include social security benefits, such as income support, a job seeker's allowance or a state pension.

**Subsidies:**

Describe and explain what subsidies China could use: health and education subsidies, or subsidies on daily necessities such as food grains, fuel and utilities.

Evaluation:

* Not always claimed by those for whom they are designed (possible solution: means-tested, similar to the case in Singapore -> the proportion of fees subsidies depends on income levels)
* Expensive to administer
* Low take up rates due to bureaucracy and social stigma

**Job/Labour schemes and assistance:**

Minimum Wage Scheme: Describe and explain how such a scheme might help, with the use of appropriate DD-SS analysis.

Evaluation:

* Increase in unemployment due to higher cost of labour. Those who benefit are those who/are successfully retained employment.
* Black market -> retrenched workers willing to work for even lower wages, worse off than before the wage floor was implemented.

**Long term policies**

Free / heavily subsidised compulsory education (from pri to perhaps sec)

Undergrad Scholarships

Job training / skills upgrade

Conclusion

Where market failure exists, a government may choose to intervene from a variety of methods, each relevant for specific purposes and with different advantages, so as to ensure that resources are optimally allocated and society welfare is maximised.

**Essay Question 5**

**Singapore prides itself in having affordable basic healthcare available to all Singaporeans. The centrepiece of Singapore’s healthcare financing system is Medisave, Medishield and Medifund schemes where its citizens co-pay their medical expenses.**

**With reference to examples, evaluate the policies that the Singapore government currently adopts to achieve an optimal allocation of resources in the healthcare market. (25)**

Introduction

* Definition and Characteristics of social optimization of resource allocation
* State that the understanding of the causes of market failures in the health care industry would help to evaluate whether the current policies adopted by the government would help to ensure that there is social optimization of resource allocation in this industry.

Main body

**1) Explain how market failures would occur in the health care industry**

 Presence of positive externalities can be reaped in term of a healthy productive labour force as the health care service is a merit good which will contribute to the rise of external benefit seen in term of the cost saving as a result of higher productivity and this will cause the rise of deadweight loss at the market level of production seen in term of the loss production, employment and economic growth if the economy fails to reap the benefit of positive externalities.

 Market failures in this industry will occur when there is imperfect market information in the industry which undermines the consumers’ ability to consume at higher level output that will optimise the social net benefit gain. Imperfect market condition in this industry occurs when the firms in the industry assume market power excessively to enable them to set price and thus conduct consumer exploitation. Consumer fails to have good understanding of the services provided in the industry as they lack information which will lead to under-consumption which will lead to lower consumer welfare.

 Market failure in this industry can also occur when there is unequal distribution of income and wealth as this will contribute to unequal distribution of the net social benefit gain where the lower income group is unable to attain the services of the health care services as a result of higher price of services distributed under market determination.

**2) Explain how the nature of current policies (classify them as the policies that are given in your notes)**

* Medi-save – the saving attained by the contribution from the CPF scheme which will enable the workers to accumulate saving to pay for their healthcare services when they need it. This scheme ensures the consumers have the purchasing power to pay for the services and will deny them to consume at the optimal level.
* Medi-shield – the insurance scheme is to create the ‘co-broke’ payment scheme to help individuals to pay for the medical cost through insurance payment. This will relieve the high cost of payment of medical services.
* Medi-fund – the scheme is the creation of a medical fund that will generate earning that will be used to fund the medical payment of the lower income group who cannot pay for the medical services.

**3) Explain and evaluate how these stated policies can be used to solve the occurrence of market failures so that the industry can attain social optimization of resource allocation.**

* The current system of the three types of medical scheme is developed to address the condition of market failures in the industry by ensuring the consumers will be able to consume at the optimal level.
* The medi-save scheme will ensure that the consumers possess the purchasing power to consume the services but this greatly determines the income of the consumers. For most lower income earners, their low income will mean that they may not be able to create enough saving to pay for the rising medical cost. If the saving rate is raised excessively, it will lower the current purchasing power of the consumers which means a reduction in the level of standard of living.
* The insurance co-payment scheme will raise the capacity of the consumer in paying the medical services as there is greater common pool of fund for the consumers. However, the consumers are constrained by the types of medical services they can use and it may also encourage excessive or unnecessary consumption as payment is partially covered by the insurance payment.
* As for the medi-fund, it can alleviate the problem of unequal distribution of resources that deprive the lower income group. However, this funding is difficult to introduce as the qualification of the fund is difficult to define and thus, not all consumers can enjoy the subsidy. Furthermore, the cost of financing will mean a strain on government expenditure which will undermine the government to increase fund during economic downturn.

**4) Explain and evaluate the other policies that the government has used in solving the occurrence of market failures**

* + Direct Provision of hospital services – It will enable the government to adjust the production level to the social optimal level as the production level is determined by the government. Such a measure can ensure that the consumers will receive medical services. Nonetheless, the standard of medical services may be lowered as the services are usually offered free to the consumers. Furthermore, such a measure will lead to excessive government spending which will raise government expenditure and thus, create budget strain which may lead to higher taxes and more government debt.
	+ Direct Regulation – Free Competition Act – to prevent the private firms in the industry from creating market power to set higher price and lower output. However, in reality, such a measure is difficult to introduce as the nature of consumer exploitation is difficult to define and the need of having large firms in the industry to reap the benefits of economies of scale will deny the government the willingness to curb market power.
	+ Provision of information – public education can be introduced to provide more information to ensure that consumer welfare can be enhanced with better information on the types of services and price level. However, if the public education campaigns fail to reach the targeted audience in an effective approach, the high cost of financing will render this approach inept.

Conclusion