**Essay Question 1**

**Economists like to think at the margin: they consider the incremental benefits versus the incremental cost in every decision they make.**

**(a) Explain how “thinking at the margin” aids decision-making for consumers and producers. [8]**

Structure

* Explanation on the meaning of ‘thinking at the margin’ – implying the use of marginal principle in conducting decision-making for production and consumption
* State how the marginal principle is conducted in the consumption decision while marginal principle of profit maximisation is adopted in the decision-making on production (MR =MC)

Introduction

The notion of ‘thinking at the margin’ in aiding decision-making for consumption and production refers to the use of the marginal principle based on cost and benefit analysis for consumption and the principle of profit maximisation for production. These two concepts based the marginal principle will maximise the welfare of the consumers and profit for the producers.

Main Body

1. **Explain how the concept of the cost and benefit analysis based in marginal principle to maximize the welfare for consumption**

Based on cost and benefit analysis, which adopts the marginal principle, the consumers will maximize their consumption with the use of price mechanism, where the market forces of demand and supply will determine the production and consumption at the price and output level that will determine the maximum level of net social benefit gain.

The consumers’ wants and ability to consume is based on the marginal principle, represented by the demand curve, which represents the private marginal benefit (PMB), will have diminishing marginal benefit as consumption increases. As for the producers’ desire for profits and capacity for production will be represented by the supply curve, which represents the private marginal cost (PMC). As long as the marginal private benefit exceed the marginal private cost, the consumption will continue until the marginal private benefit and marginal private cost and unequal private cost equals where the demand curve will intersect the supply, which would determine the price and output level. Above this level, marginal private cost is greater than the marginal private benefit, and there will be additional net loss. Thus, consumption based on the marginal principle will be set at the level where there is maximisation of net social benefit gain.

S0 (PMC)

P

P0

D0 (PMB)

Qty

Q0

**Diagram 1**

As seen from Diagram 1, the consumption and production level will be set at the level where the quantity is at Q0 and price level is at P0­.

1. **Explain how the notion of profit maximisation was based on the marginal principle is conducted to attain maximisation of profit for the firm, arising to an imperfect market condition**

As for the producers, they will base their production on the notion of profit maximisation, which is based on the marginal principle. Firms will set their production level at the quantity where the marginal revenue (additional revenue attained from additional product) is equal to the marginal cost (additional cost incurred from additional product). Therefore, the firms will then be able to gain from the maximum profit but the profit level will also depend on the value of the total cost.

Conclusion

In sum, the notion of marginal principle is able to help the consumers and producers gain from the maximisation of welfare and profit respectively.

**Essay Question 2**

**Economists like to think at the margin: they consider the incremental benefits versus the incremental cost in every decision they make.**

**(b) Discuss the extent to which “thinking at the margin” would lead to the efficient allocation of resources. [17]**

Is price mechanism able to conduct efficient resource allocation

Structure

* Explain the notion of efficient allocation of resources
* Explain why the mechanism of cost and benefit analysis based on marginal principle will lead to inefficient allocation of resources
* Explain why the market mechanism may be effective with partial degree of adjustment through taxation which will lead to efficient allocation of resources

Introduction

The notion of efficient resource allocation refers to the market equilibrium, when there is maximization of net social benefit gain by the industry. As stated in part (a), this can be attained when the consumers and producers adjust their respective consumption and production decisions based on the marginal principle. However, there are certain economic condition whereby maximisation of the welfare by consumers and producers will not occur and this is may lead to the condition of market failure.

Main Body

Market failure occurs when the market mechanism based on “thinking at the margin” fails to maximize the net social benefit gain for the society, implying that the industry is unable to conduct efficient resource allocation. This will occur when there is an absence of public goods, presence of externalities (either positive or negative), imperfect market condition and unequal distribution of income.

**1. Explain the four different scenarios on how market failure occurs**

Given the nature of **public goods**, private producers are unwilling to produce them as private firms cannot charge the consumers due to the problem of free-ridership, since public goods are non-excludable and non-rival in production and consumption. Consequently, in the absence of the provision of public goods, there will be complete market failure as consumers are unable to attain any welfare without the consumption of public goods.

As for the presence of **market imperfection and market power**, firms will produce at an allocative inefficient level and the underproduction will give rise to welfare loss. Under the notion of profit maximisation, firms will produce at the production level where the marginal cost of equal to the marginal revenue, thus production level is below the social optimum level. Furthermore, the market power firms possess under imperfect market condition where the downward-sloping demand curve will contribute to the difference of the production level. Consequently, there will be allocative inefficiency causing the industry to incur deadweight loss.

The presence of **externalities,** seen in term of merit and demerit goods, will give rise to deadweight loss and result in market failure when there is no government intervention. For **merit goods**, the presence of positive externalities will create positive benefit that lead to the divergence of the private marginal benefit and social marginal benefit. This will lead to the condition of under-production which will incur deadweight loss. As for **demerit goods**, the presence of negative externalities will create external cost that lead to the divergence of the private marginal cost and social marginal cost. This will lead to the condition of over-production and thus, causes deadweight loss.

The presence of **inequality of distribution of income** will mean that the net social benefit gain will be unevenly distributed. This will undermine the interest of the poor as they will receive lesser benefit than the rich from the production of the good despite the presence of maximization of net social benefit gain. Therefore, the uneven distribution of net social benefit gain will result in market failure.

However, the concept of marginal principle will still be able to work with some alternation through the implementation of taxation and subsidies where marginal principle can still be applied.

**2. Explain how taxation will reduce over-production and consumption to social optimal level**

The use of taxation will internalize the external cost as part of the cost of production by raising the price of the goods and thus reduce the market equilibrium to the socially efficient level. In the course, the deadweight loss is eradicated and maximization of net social benefit gain is attained.

**3. Explain how subsidies can raise production and consumption to social optimal level**

Subsidies are given to consumers which will increase their disposable income and purchasing power of the consumers. Consequently, the industries can reap the external benefit and prevent the occurrence of deadweight loss, enabling the economy to attain social efficient level of production.

Subsidies given to producers will decrease the cost of production and increase the supply of the goods. Consequently, this will increase the quantity demanded and the industry can attain social efficient level of production and consumption and thus, eradicates the deadweight loss.

**4. Explain why marginal principle can never lead to efficient allocation of resources even with market-based regulation**

1. The consumption of goods is price-inelastic and the imposition of taxation will not deter consumption to social optimal level. Furthermore, it is difficult for the economy to estimate the external marginal cost to derive the optimal tax.
2. The absence of public good can be based on the provision of market principle and thus, the marginal principle cannot be applied.
3. Imperfect market condition such as market dominance and immobility of resources need non-market intervention to correct as this regulation involves the adjustment of economic and production structures and market mechanism based on the marginal principle is not effective in solving the complexity
4. The problem of market failures due to unequal distribution of income cannot be resolved by the market mechanism based as marginal principle as the market mechanism is the cause of the market failure that will contribute to unequal distribution of net social benefit gain.

Conclusion

In sum, the market mechanism based on the marginal principle is effective in attaining efficient allocation of resources as it is based on the maximisation of net social benefit. However, there are certain non-market conditions which will prevent the marginal principle from working towards the maximisation of net social benefit gain.

Essay Question 3

**With policymakers around the world grappling with the forces of globalisation, Singapore as one of the most open economies, has been feeling the brunt, including the growing income disparity."**

**TodayOnline 2 Jul 2012**

**Explain, with examples, the main sources of market failure in Singapore in recent years and evaluate the effectiveness of government responses in correcting them. [25]**

* causes of market failures due to globalization
* policies to regulate it

Introduction

Market failure refers to the failure of the price mechanism in conducting efficient resource allocation, where there will be the failure to attain maximisation of net social benefit gain for the society or industry as a whole. This is likely to occur in Singapore in this era of globalisation as the country experiences greater mobility of resources, flow of fund and investment and higher level of trading activities. Consequently, these developments will contribute to the absence of public goods, presence of externalities, the imperfect market condition and unequal distribution of income which are the causes of market failure

Main Body

**1. Explain how the process of globalisation leads to market failure**

As globalisation surfaces, there will be higher level of inflow of foreign workers and visitors into Singapore, which will increase demand for resources like land. There is higher level of inflow of fund and foreign direct investment, which will increase production in the country. As a nation which has high reliance on import demand and export market, there will be high degree of trading activities that will affect the production and consumption activities. As a result of these changes, market failure will occur.

**2. Explain how the effects of globalisation would contribute to market failure**

One of the detrimental effects of globalization would be the problem of unequal distribution of income which will create the effect of unequal distribution of net benefit gain, which is the cause of market failure. As Singapore embraces globalization, there will be higher degree of structural unemployment due to the need to adjust to changes in comparative advantages and imported inflation and asset-based inflation, which will undermine the purchasing power of the poor. Consequently, the lower income group of consumers will not benefit from the market mechanism which will allocate goods and services based on the price signal which determines purchasing power and thus determines the share of welfare for the lower income group. As such, there will be unequal distribution of welfare, undermining the interest of certain groups of consumers, a source of market failures.

Besides this, there will be higher degree of market imperfection as Singapore experiences greater inflow of foreign direct investment and higher degree of trade, which will increase the market power of some of the international firms. With more trade and inflow of foreign direct investment (FDI), there will be the presence of international firms like Apple, Nike and Samsung, which have strong market power to conduct price discrimination and consumer exploitation. These firms will be able to set price at higher level as the firms will face a more price-inelastic marginal revenue (MR) and average revenue (AR) and the production level at profit maximization level (MC=MR) which will be below the production level at social equilibrium (P=MC). Consequently, there will be underproduction that will give rise to welfare loss (deadweight loss), resulting in partial market failures. This is seen from the price-setting behavior set by EPL (English Premier League) and FIFA for the live football broadcasting and the high price set by Apple for iPhone (3rd highest in the world) for Singapore.

There is also the rise of market failure due to presence of externalities, contributed by the rise in population in the country which will lead to overconsumption on goods with externalities like road usage. This will give rise to negative externalities like pollution and road congestion which is the result of rise in tourism and migration, contributed by the rise of globalization.

Qty of Road Usage

Cost/Benefit

QS

QM

SMC

PMC

SMB

DWL

As seen from the diagram, the market equilibrium is at Qm where MPC is equal to MPB with the presence of welfare loss. The **presence of negative externalities** will lead to the **rise of external marginal cost** which will lead to the **pivotal rise of PMC to SMC, (PMC + EMC = SMC),** implying that the social equilibrium of production of cars at QS  is now lower than the market equilibrium of car at QM. Without government intervention, the economy will experience DWL (shaded area) in the diagram. Therefore, this will lead to the rise of welfare loss which will lead to market failures as there is no maximization of net social benefit gain.

Lastly, the rise of globalization will lead to the demand for resources like land, making it difficult for Singapore to spare resources for the provision of public goods. As a result, there will be reduction in the supply of public good which will mean the loss of welfare due o the absence of provision of public goods. As there is the problem of free-rider in the provision of public goods due to its characteristics of non-rivalry and non-excludability, it can be produced by the government and the absence of resources due to rising residences in the country, contributed by globalization, there will be lesser amount of public good. Consequently, there will be market failure. Posed with these problems, the government will need to introduce policies to eradicate these impacts of market failures due to globalization.

In fighting the impact of uneven distribution of benefit, Singapore government alleviates this problem by increasing the purchasing power of the lower income group with subsidies like Edusave, subsidies on public housing and welfare vouchers to ensure that the welfare of the lower income group is not compromised by the price mechanism under a globalized era. Provision of essential services is also directly provided by the government such as public library and swimming pools are built to enhance the welfare of the lower income group. The public infrastructure will enhance the convenience and comfortable life of the lower income group. The government will also provide providing training and development to raise their skills to sustain employment and raise productivity so as to enable them to raise their wage rate to improve their purchasing power.

However, the excessive distribution of subsidies will incur high cost of financing which will worsen the budget strain. This will lead to higher public debt which will undermine the financial condition of the economy and higher opportunity cost in term of other uses. This will also mean more tax imposition on the future which acts as a disincentive to work. Excessive distribution of subsidies will also promote a welfare state that will undermine productivity and growth of the economy. As for manpower development, it is a long term solution that is difficult to achieve as the implementation is impeded by the unwillingness of the workers and employers to conduct training programmes as workers are not receptive to new skills while employers may find it difficult to retain training benefits due to the problem of job-hopping.

As for imperfect market condition, the government can set rules and regulation like non-exclusive content for media content and the Free Competition Act to prevent firms from attaining market power that will allow them to set price to conduct consumer exploitation. However, such regulation is difficult to introduce as most of the firms are international firms and their market power cannot be regulated directly. The regulation of market power is also not feasible as the market is often manipulated with extensive product differentiation. Besides that, the regulation of the large firms would mean that the advantages of the large firm may be compromised such as the benefits of research and development (R&D) as the patent rights has to be shortened or reserved.

In the occurrence of negative externalities, the government can introduce taxation to reduce the consumption and production by raising the price of goods so as to internalize the external cost to reduce consumption and production level to the social optimal level. As seen from the same diagram, the government will impose the tax which will raise the cost of production, contributing the shift of the PMC to SMC’ (EMC+Tax) which will lower the quantity demanded from Qm to Qs when price rises from P0 to P1.

The imposition of tax will internalize the external cost into the consumption of goods with externality to make consumers more aware and consider the cost of externality. This will also raise revenue for the government to use these funds to finance public expenditure such as the improvement of public transport to help alleviate road congestion. However, taxation is an unfavorable policy which will raise cost of living and cost of production. It is also difficult for the government to estimate the external cost to impose the optimal tax to adjust production and consumption to social optimal level.

The government can also make direct provision of public and merit good to prevent the absence of public goods and merit goods which are significant in helping the lower income group and to prevent complete market failure. However, such direct provision requires huge funds to finance it and this will be a concern on public budget and budget strain. It is also a difficult for Singapore as there is limited resource for production of public good. Finally, there is also the issue of pricing, as setting price to a low or free level may encourage excessive consumption which will lead to market failures of over-consumption.

Conclusion

In conclusion, it can be observed that the effect of globalization has severe impact on the market mechanism in conducting efficient allocation of resources. It is imperative for the government to introduce policies to regulate the impact but these policies have their limitations in achieving their aims. The policies must be introduced with consideration of the limitations

Essay Question 3

(a) Explain why government intervention is advocated in the market for alcoholic drinks. [10]

**Analysis of the Question**

Students are required to understand alcoholic drinks are a form of demerit good which results in negative externalities that requires government intervention. Students are also required to explain why the government should be intervening in the market for alcoholic drinks besides explaining the effect of market failure.

**Source of information (part of knowledge needed for the question):**

* Concept of negative externalities contributing to market failure, with the analysis of deadweight loss
* Reasons for government to intervene in the market due to the presence of market failure

Introduction

* State that alcoholic drinks are a form of demerit good, which will contribute to market failure in the absence of government intervention

Main Body

**1. Explain, with aid of a diagram, how the over-consumption of alcoholic drinks, as a demerit good, will lead to market failure**

* In the consumption of demerit good, such as alcoholic drinks, there will be negative externalities seen in terms of the social problems associated with this good
* This will raise the external cost, whereby there is higher cost of administration of the social problems
* Without any government intervention, there will be a rise in deadweight loss, which is the cost of loss of investment, production and national income as a result of social instability
* Consumers will consume alcoholic drinks at a level beyond the social equilibrium as their level of demand represented by PMB (Private Marginal Benefit) is higher than the level of demand deemed socially beneficial to the society represented by the SMB (Social Marginal Benefits)
* This is because the value of benefit of demerit good is deemed higher than the value deemed by the society

Qty of Alcoholic Drinks

SMC

PMC

QS

QM

SMB

DWL

Cost/Benefit

P0

Diagram 1 – Market Failure due to over-consumption of alcoholic drinks

As seen from Diagram 1:

* The value of external cost is represented by the SMC, which will include the PMC (Private Marginal Cost) and EMC (External Marginal Cost) while the PMB represented the demand of the individuals
* The consumption at Qm will experience overconsumption as the quantity at market equilibrium at Qm is higher than the social equilibrium at Qs, given the fact that PMB’ is higher than SMB as there is a higher level of taste and preference that shape the consumers to assume that their level of satisfaction is higher than SMB and thus, there will be occurrence of DWL represented by the shaded portion, as SMC is higher than SMB at production level at Qm

**2. Explain why the government should intervene in the market for alcoholic drinks**

* The government has the moral obligation to intervene to act in the interest of public
* The government has the resources to intervene
* The market mechanism fails to conduct resource allocation
* The deadweight loss incurred will be borne by the society, thus affecting the government expenditure

Conclusion

* Conclude that given the understanding of how the over-consumption of demerit goods, such as alcoholic drinks, will lead to market failure, it is imperative for the government to implement appropriate measures, so as to eradicate the deadweight loss and achieve optimization of net social benefits

(b) In many countries, consumption of alcohol in public is banned at all times. Discuss whether the banning of public consumption of alcohol is the most appropriate policy to correct the causes of market failure in the market of alcoholic drinks. [15]

**Analysis of the Question**

Students are required to understand how banning will correct the market failure due to over-consumption of alcoholic drinks, following which evaluate the effectiveness of a ban in correcting such market failure. Students should then compare it against alternative measures.

**Source of information (part of knowledge needed for the question):**

* Analysis and evaluation of the following policies in correcting market failure due to negative externalities
  + ban
  + taxation
  + public education
  + permits

**Structure of Essay**

Introduction

* State that there are several measures that the government can undertake to correct market failure due to over-consumption of alcoholic drinks, such as banning
* State that it is important to consider alternative measures to correct this form of market failure

Main Body

**1. Explain how banning will correct market failure due to over-consumption of alcoholic drinks**

* The use of rules and regulations to ban the consumption of alcoholic drinks
* For example, the banning of consumption of alcoholic drinks on the national level
* Zero consumption of alcoholic drinks will imply that the deadweight loss is eradicated, thus correcting market failure
* Ban on alcoholic drinks is justified if the deadweight loss incurred exceeds net private benefit gain in the consumption of alcoholic drinks

**2. Evaluate the effectiveness of ban on correcting this form of market failure**

Evaluation (Advantages)

* Forceful and direct – can ensure the result is attained
* Easy to administer – as the regulation is forceful and based on the quantity

Evaluation (Disadvantages)

* High cost of administration in term of higher wage rate will lead to inefficient administration
* The effectiveness of the regulation greatly depends on the efficiency of the administrative bodies
* Excessive regulation may undermine the functioning of the economy
* The imposition of a ban can ensure that the effect of deadweight loss is eliminated but the society may lose out as it has to forgo the net social benefit gain as there is no production and consumption at all
* This form of banning is only introduced when the net social benefit social is less than the dead weight loss the society will incur

**3. Explain how alternative measures, such as taxation, can correct this form of market failure**

Mechanism of tax

* internalize the external cost as part of the cost of production by raising the price of the alcoholic drinks and thus reduce the market equilibrium to the socially efficient level
* eradicate deadweight loss and achieve social optimal level
* E.g. sin tax
  + a charge to internalise the external cost as part of the cost of production of alcoholic drinks

P1

P0

PMC (S0)

Qty of Alcoholic Drinks

Cost/Benefit

QS

QM

SMC

SMC’ = PMC + Tax (S1)

SMB

DWL

Diagram 2 – Taxation to correct market failure

As seen from Diagram 2

* The imposition of taxation, such sin tax
  + raise the PMC to SMC’ (PMC+Tax)
  + supply curve shift from S0 to S1
  + increase in price of quantity from P0 to P1
  + decrease in quantity demanded from QM to QS
  + DWL (shaded area) incurred will be eradicated as the production level is at QS instead of QM.

**4. Evaluate the appropriateness in using taxation to solve market failures due to alcoholic drinks**

Evaluation (Advantages of Taxation)

* Provides government revenue
* reduce external cost due to lower quantity of production by forcing the consumers to internalise the external costs

In comparison between taxation and ban of alcoholic drinks:

* Taxation will simply adjust the production level to the social equilibrium level of production where the SMC=SMB and there is no deadweight loss but the maximization of net social benefit gain, implying that there is social optimization of allocation of resources
* The government can enforce the producers and consumers to internalize the external cost as part of the cost of consumption and production of alcoholic drinks which will influence to reduce external cost by using other methods of consumption and production of alcoholic drinks that will not produce negative externalities
* The use of taxation will also provide the government the tax revenue to nullify the effect of externalities imposed on the society

Evaluation (Disadvantages of Taxation)

* Taxation is not politically favourable as it increases the cost of living and cost of production of alcoholic drinks

**5. Explain and evaluate how public education can be used to correct this form of market failure**

Public education

* change the mind-set of the general public in understanding the importance of reducing consumption of alcoholic drinks may be adopted

Evaluation (Advantages)

* solve the root causes of the problem
* ease the frictions and objections from using direct regulations as well as tax imposition
* cultivate awareness to derive a more permanent view about the negative externalities such as social problems and fall in productivity

Evaluation (Disadvantages)

* high cost of promotional campaigns may not lead to effective outcomes when there is no proper planning towards the target audiences, thus wasting public funds and undermining the aims of the policies

**6. Explain and evaluate how sales of permit can be used to correct this form of market failure**

Sell permits to producers

* ensure that the sale of alcoholic drinks is set at an appropriate level
* For example, the firms must obtain licenses from legal authorities to conduct the sale of alcoholic drinks

Evaluation (Advantages)

* Can directly set the supply of alcoholic drinks available in the market

Evaluation (Disadvantages)

* Unclear and improper administrative procedures will undermine the efficient functioning of the system to ensure that the regulated allocation will aid the efficient allocation of resources
* Regulated quantity of production of alcoholic drinks will undermine the functioning of the economy
* Control of the rights for production indirectly controls the market for alcoholic drinks, thus creating market power, which will lead to allocative inefficiency

Conclusion

* Conclude that banning of alcoholic drinks and alternative measures have their respective advantages and disadvantages
* Conclude that its adoption is dependent on the different types of demerit goods as different types of demerit goods, such as cigarette smoking, incurs different forms of negative externalities with different complexities in their production and consumption

**Essay Question 4**

**(a) Using appropriate examples, explain how a private good differs from a public good and why public goods are a source of market failure. [10]**

Explain private good

A private good is produced by a private producer whose objective is to maximize profits. A private good fulfils the characteristics of rivalry and excludability. Rivalry in consumption means that consumption of a good by an individual will reduce the availability and the amount for consumption by other individual. Excludability in consumption means that it is possible to exclude an individual from the consumption of a good if an individual does not pay.

An example of a private good is a movie ticket. If a seat in the movie theatre is taken up by a movie goer, someone else is deprived of the seat and will not be able to watch the movie at the desired date or time. Hence, it is rival. At the same time, a seat in the movie theatre is excludable. This means that consumers who do not pay for the movie will not be able to watch the movie.

Explain public good

In contrast, a public good is one that has the characteristics of non-rivalry and non-excludability in consumption. Non-rivalry in consumption means that even if the good is consumed by one person, it can still be consumed by other people at no extra cost. Non-excludability means that it is impossible or prohibitively costly to exclude anyone from consuming a good.

An example of public good is street lighting. It is non-rivalry in consumption as the amount of light enjoyed by a pedestrian does not diminish when an additional pedestrian makes use of it. In addition, it is non-excludable in consumption as it impossible to exclude any pedestrian from utilizing the light emitted by the street lighting even if he does not pay for it.

Why public good is a source of market failure?

Due to the two characteristics of public goods, there arise two important implications.

Due to non-excludability in consumption, even non-paying users (free riders) cannot be excluded from consuming the good. Hence no one will want to pay for the good and therefore demand is concealed and preferences are not revealed.

If the private sector cannot charge the consumers, the firms in the private sector will have no incentive to produce the public goods.

Non-rivalry in consumption means that the supply of the public good is not depleted by an additional user and hence the marginal cost of producing the public good is zero. Thus the price charged for the good must also be zero, based on the condition for allocative efficiency where price=marginal cost. The condition of non-rivalry made it possible for the consumer free-ride as there is denial of consumption for next consumption.

Thus the market fails as it is impossible to charge a market price for the public good. Thus the free market does not provide the public good even if there is demand in principle for these goods. Hence there is market failure as the private market fails to allocate resources to produce public goods, since there will be complete market failure as there is zero level of welfare gain when there is no production of public goods. These goods have to be provided by the government and financed by taxes.

**Essay Question 4**

**(b) Assess the economic case for varying degree of government intervention in the market for education in Singapore. [15]**

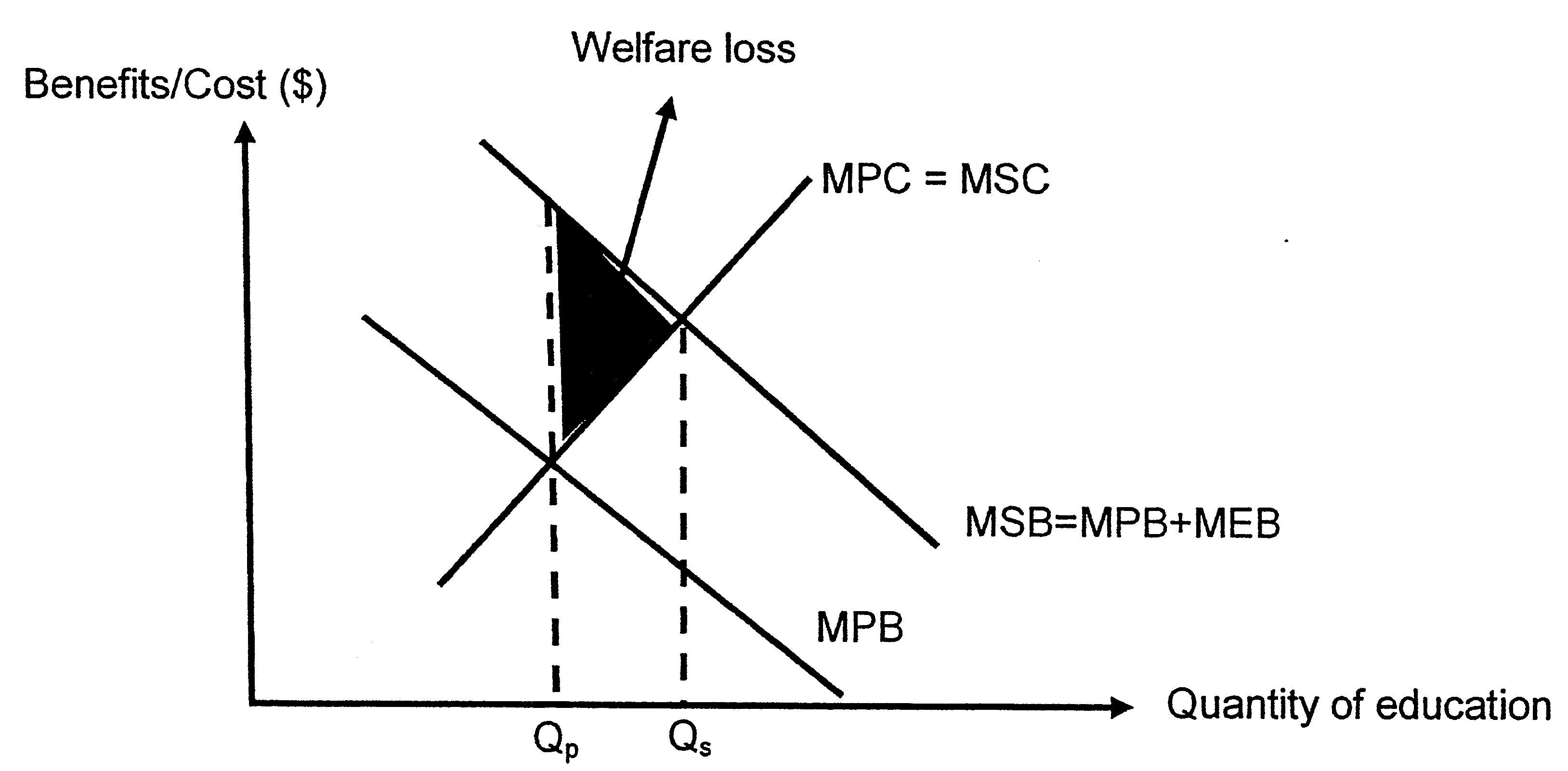
Introduction

* The market for education in Singapore is an example of a merit good. It has positive externalities and is deemed intrinsically desirable by the government.
* Due to the problem of imperfect information about the benefits of education, it tends to be under consumed when left to an individual. Thus, to correct market failure, varying degree of government intervention is required to achieve a more efficient allocation of resources so as to ensure that society's welfare is maximized.
* The marginal private benefit (MPB) to an individual receiving education refers to the improvement in knowledge and ability to secure a higher paying career.

**Main Body**

1. Explain why the market for education in Singapore fails

External benefits (MEB) refer to benefits accrued to third party who are not directly involved in the consumption or production of the good. This refers to a better educated and skilled workforce that will bring about higher productivity. Coupled with a positive investment climate, this would attract foreign direct investments, create employment and further boost Singapore's economic growth. The development of knowledge and skills is also necessary to develop new areas of comparative advantage for Singapore such as the Pharmaceuticals and biomedical industries.



* Hence, the marginal social benefit (MSB) gained by the society is higher than the marginal private benefit causing a divergence as shown below. Therefore, MSB=MPB+MEB.
* In the diagram below, the individuals will consume at level QP, where MPB=MPC. However, since the consumption of education generates an external benefits to the society, the socially optimal level of output should be at Qs, where MSB=MSC. Thus, without government intervention, there is under-consumption of education resulting in welfare loss, as shown by the shaded triangle.
* Hence, government intervention is necessary to increase the consumption of education to the socially efficient level of OQs and to achieve an efficient allocation of resources.

Explain varying degree of government intervention in the market for education in Singapore

* + In the market for education, there are varying degrees of government intervention because at the different levels of education (primary, secondary and tertiary) and for different individuals, there are varying levels of MPB, MEB and MPC.

Legislation

In Singapore, the Compulsory Education Act was passed in year 2000. The legislation states that compulsory education is up to Primary 6 as this is considered the minimum level of basic education that is essential. Thus, this would ensure that MPB or demand for education for the country as a whole is met at a minimal desired Qp level. This is because if left to an individual without government intervention, education may be under-consumed. The level of government intervention in this case is extremely high as this policy is a legislation where consumption of education is determined by law and is not a market-based solution. According to the Act, if a child fails to attend school regularly, the parent may be found guilty of the offence and the penalties are a fine or an imprisonment.

Evaluation:

Cash Grant/Scholarships/Bursaries / Subsidies

* To attain the socially efficient level of consumption, the government can intervene to encourage consumption of education by offering cash grant per unit amounting to MEB. This cash grant must be spent on education only. This will shift the MPB curve rightwards to coincide with the MSB curve. Consumption is thus increased to OQs
* Draw diagram on how subsidies will raise MPB to MSB’ (Do to D1)
* The amount of cash grant given by the government for different levels of education will vary depending on the difference in MEB generated. For tertiary education, cash grant given for tuition fees are much higher than primary education due to a greater MEB generated by an additional tertiary graduate compared to one with only a primary school education. As such, this warrants a greater degree of government intervention due to that fact that highly educated, skilled workforce could contribute much more efficiently and effectively to the Singapore economy.

Evaluation:

Direct Provision of Public Education

There are over 350 public schools in Singapore offering primary, secondary and post-secondary education. The Ministry of Education takes ownership in providing quality education for its people, ensures that production is at the socially optimal level and caps it at an affordable level. This is because if left to private producers, education in Singapore may be grossly under-produced and cost of education especially higher education will be extremely high. The level of government intervention in this case is very high as the Singapore government directly provides for most public education.

Evaluation:

Conclusion

It is essential for the government to intervene in the provision of merit goods like education as it is of great importance that the economy can ensure both production and consumption are at the social optimal level where there is maximization of net social benefit gain so that the welfare of the society is maximized

**Essay Question 4**

The market forces of demand and supply may solve the problem of scarcity, but it may not be at the optimal level. On the other hand, government intervention has its own problems and it is not easy to intervene to adjust production or consumption level to social optimal level of output.

Discuss why market mechanism is preferred in the allocation of resources and the problems that the government may face in the intervention and regulation of market activities to attain efficient resource allocation of good and services to social optimal level of output. (25)

**Essay Question 5**

Economists generally agree that street lighting should be provided by the government but tend to disagree on the extent of provision of public parks such as Central Park in New York and the Gardens by the Bay in Singapore.

Discuss the factors that a government should consider in deciding to allocate resources to street lighting and public parks. (25)