

3	(a)	Explain why merit goods and immobility of factors of production may lead to market failure.	[10]
	(b)	Evaluate policies that can be used by the Singapore government to correct these market failures.	[15]

### Question Approach:

The first part of this question requires students to explain the inefficient allocation of resources in the market for merit goods as well as in the case of immobility of factors of production. Students are encouraged to clearly explain the causal links with suitable economic tool of analysis and whenever possible, support their explanations with examples.

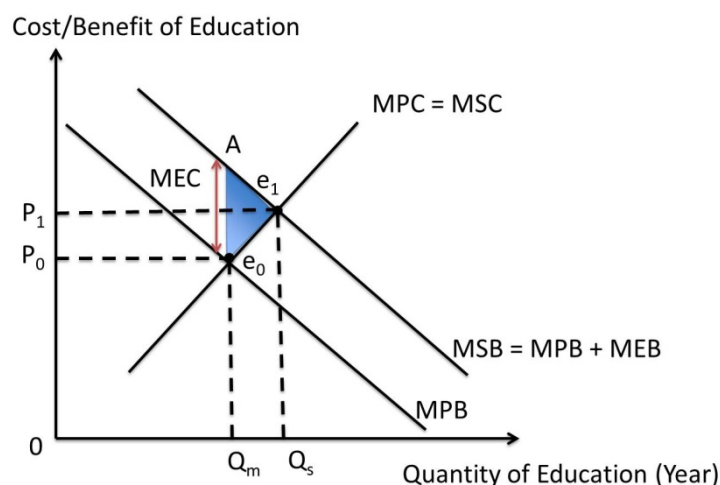
### Introduction:

- Define market failure
  - Refers to a situation where the free market (without government intervention) fails to allocate resources efficiently to produce goods and services which maximises the welfare of the society.

### Body:

#### Define merit goods and explain how market fails in the market for merit goods

- Define Merit good
  - Merit good is a good which is deemed to be socially desirable by the society/government, and usually generates positive externality.
- Positive externalities in consumption are external benefits generated through the consumption process received by others in society who are not directly involved in the production or consumption of good/service.
  - In the case of education, consumption of education results in a more educated workforce that enhances the productivity of the labour force and support faster economic growth of a country.
- The free market fails to allocate resources efficiently in the market for merit goods such as education and healthcare vaccination, due to the positive externality generated in the consumption process as well as imperfect information.
- As a result, the marginal private benefit (MPB) such as knowledge and skills acquired from education which enhance their own employability is lower than the marginal social benefit (MSB) by the marginal external benefit (MEB). This is depicted in figure 1 where there is a divergent between the MSB and MPB curves at every quantity of education in the market.



**Figure 1: Positive Externality in Consumption**

- Since there is no positive externality in production, marginal social cost is the same as marginal private cost, which is the supply curve. In the free market, self-interested consumers and producers only consider their private costs and benefits. So the free market equilibrium is at  $e_0$  where MPC intersects with MPB ( $DD = SS$ ). The socially optimal equilibrium ( $Q_s$ ) is however at  $e_1$  where MSC intersects with MS. This is where the benefit derived from the consumption of an additional quantity of education is equals to the additional cost incurred by the society. Since  $Q_m < Q_s$  where MSB is greater than MSC, there is an under consumption which results in deadweight loss to the society as indicated by the triangle  $Ae_0e_1$ .
- In addition, consumers also under-value their private benefits from the consumption of merit goods due to imperfect information. Consumers may lack information about the costs and benefits relating to the consumption of a good.
- In the case of merit good such as education, they might have a lower perceived benefit about the consumption education which leads to under-consumption.

Explain how immobility of factors of production leads to market failure

- Define Factor immobility
  - Factors of Production (FOP) such as labour and capital cannot move freely from one market to another.
- Briefly explain the implication
  - Immobility of FOP → Firms cannot respond to incentives to produce goods & services or disincentives to cut production → Resources are not optimally employed/utilised.
- For example,
  - In the case of **occupational immobility** of FOP, workers may not have the necessary skills or education qualifications required to be employed in certain industries → Mismatch of skills → idle labour resources are not able to switch between different industries even though there are vacancies.
  - As a result, the inefficient allocation of resources results in a sub-optimal social outcome.

**Note:** Students can also choose to explain the market failure with geographical immobility or other forms of immobility of FOP.

**Conclusion:**

In both cases, the market when left on its own, fails to allocate resources efficiently to achieve an optimum social outcome that maximises the welfare of the society. There is hence a need for government to intervene and correct the market failure.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	<p>For a well-developed answer which clearly explains how both merit goods and immobility of factors of production causes market failure.</p> <p>If only merit good is well-explained - Max 7m</p>	7 - 10
L2	<p>For an undeveloped answer which attempts to explain how market failure arises in the market for merit good and from immobility of factors of production.</p> <p>If only immobility of FOP is well-explained – Max 6m</p>	5 - 6
L1	<p>For a largely descriptive and irrelevant answer about the causes of market failure for merit goods and from immobility of FOP.</p> <p>Answer may consist of conceptual errors.</p>	1 - 4

Examiner Comments:

	<b>(b)</b> Evaluate policies that can be used by the Singapore government to correct these market failures.	[15]
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### **Question Approach:**

The second part of the question is much broader and requires students to have good understanding of the causes of market failures in Singapore, specifically in the cases of merit goods and immobility of factors of production. Students are then required to critically examine the strength and limitations of the policies to address the market failures highlighted in the context of Singapore.

### **Introduction:**

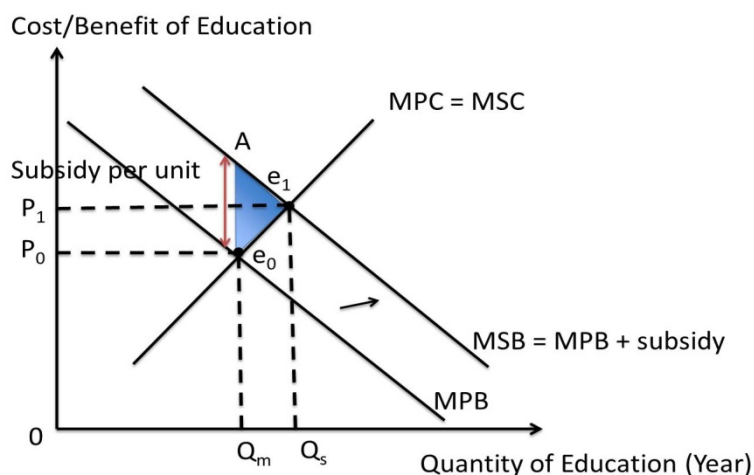
The market failures as highlighted in part (a) results in inefficient outcomes which fail to maximize society's welfare. There is hence a need for the government to intervene and correct for the market failure. Singapore government can use a mixture of policies to address the market failure in the market for merit goods as well as in the case of factor immobility. Government has relied on policy measures such as subsidies and skills upgrading schemes among others, to encourage the consumption and production of merit goods while improving the mobility of factors of production such as labour.

### **Body 1:**

Explain how subsidies by government can correct for the market failure in the case of merit goods.

Following the market failure problem presented in (a), a per unit subsidy of the same size as the MEC can be given to consumers to increase their demand (MPB) for education. Primary education in Singapore is fully subsidised while secondary education and pre-university education are heavily subsidised. Students are only required to pay a nominal sum of money as miscellaneous fees. The Singapore government allocates about 20% to education spending in their budget every year because of the significant positive externality that the government deem as beneficial to the society.

The increase in their MPB shifts the MPB curve to coincide with the MSB as depicted in figure 2. As a result, the equilibrium quantity of education increases to the socially optimum quantity, eliminating the deadweight loss to the society and hence maximising the society's welfare.



**Figure 1: Positive Externality in Consumption**

Evaluate on the use of subsidy

However, providing subsidies has its limitations.

To ensure that the market output is efficient, government needs to know the exact amount of subsidy to provide which is equivalent to the amount of marginal external cost. This requires information to calculate the marginal external benefit, yet the marginal benefit is difficult to measure. Government may end up over-subsidising which leads to over consumption of education and hence deadweight loss to the society. The market failure will hence not be corrected. Besides, government faces opportunity cost as more funds channelled to education implies that there will be less funds available for other sectors of the economy, like defence and healthcare.

**Besides, market may still fail due to income inequity in the case of education.** Lower-income family may still not have the financial ability to cope with the rising cost of education. Government attempts to tackle this by giving additional financial aid to lower-income family financial aid under the Ministry of Education's Financial Assistance Scheme (FAS).

In addition, there is also a need to reduce the imperfect information on the part of the consumers. As mentioned, consumers may undervalue their marginal private benefits when it comes to the consumption of education which results in a lower equilibrium quantity of education consumed. For example, parents who undervalued the benefits of education may get their child to stay at home instead. Legislation can help to address this problem.

**Body 2:**

Explain how legislation can correct for the market failure in the case of merit goods

In Singapore, Compulsory Education (CE) was introduced in 2003 to give children a common core knowledge which will provide a strong foundation for further education and training. A child who is a citizen and residing in Singapore, of compulsory school age (above 6 years and below 15 years) has to attend national primary school regularly. Where a child fails to do so, the parent/guardian of the child may face penalties such as fines and jail term.

This effectively increases the consumption of basic education which shifts the MPB closer to the MSB, reducing the deadweight loss to the society.

**Body 3:**

Explain how skills upgrading schemes can correct for market failures arising from immobility of FOP

In the case for occupational immobility of labour, Government can provide subsidies and grants for employers and employees to acquire relevant industrial skills and knowledge so as to be able to be more employable across various industries.

- Education and Training schemes such as Skills Training for Excellence Programme (STEP) co-launched by Singapore Workforce Development Agency (WDA) targets the professionals, Managers, executives and technicians, and help ensure that their skills and expertise remain relevant and that these categories of workers remain competitive and employable.

- Workfare scheme such as Workfare Training Scheme (WTS) provides course fee funding for employers to send their workers for training courses. It also awards firms for having continuous training and structured programme to upgrade the skills of workers, particularly the old and low wage workers who are most susceptible to losing their jobs and not having the ability to switch to other industries because of the mismatch in skills.

These can help improve labour mobility allowing companies in growing industries to easily recruit workers with the necessary skills whilst improving opportunities for workers to enter these industries. As a result, market frictions are reduced and firms can respond more efficiently to changing market conditions.

Labour resources are more efficiently employed reducing the deadweight loss to the society.

Evaluate on the strength and limitations of retraining workers.

However, other than the fact that retraining requires time and hence renders the measure as long term in nature, the success of the policy is uncertain. Even if workers successfully completed relevant training courses, it does not imply that workers have acquired the necessary skills to be competent in their new jobs.

The effectiveness of the policy does depend on whether workers are receptive to the training (attitude gap), as well as their ability to pick up new skills (aptitude gap), especially workers who are lacking in basic education and literacy. Employers may also be reluctant to hire workers beyond certain age (age gap) as there is a general perception that these workers may have lower productivity.

As a result, firms still face the problem of not being able to hire workers with the required skills in order to cope with the changes in market conditions (for example, an increase in the demand for their goods and services, which requires the firm to step up their production and hence hire more factors of production like labour).

This underscores the importance of making sure courses are relevant to the industrial requirements. On this note, the Singapore Workforce Skills Qualifications (WSQ), a national credentialing system, was developed. It trains, develops, assesses and recognises individuals for the key competencies that companies look for in potential employees. WSQ is based on national standards developed by WDA in collaboration with various industries which serve to professionalise the industry.

**Conclusion:**

The above are not the only problems of market failure that Singapore government faces. But in general, the policies implemented by the Singapore government aims to help them achieve government's micro-objectives of efficiency and equity.

Especially in the case of small economy like Singapore, labour resources are all which she has and it is imperative to ensure that the resources are efficiently and fully utilised. Policies need to be for the long term development of Singapore's workforce.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	<p>For a well-developed answer that examines the strengths and limitations of policies to correct for market failures arising from merit goods and immobility of factors of production.</p> <p>Answers are relevant and appropriate in the given context of Singapore.</p> <p>Developed answer without reference to SG context – Max 9m</p>	9 - 11
L2	<p>For an undeveloped answer which attempts to examine the strengths and limitations of possible measures to correct for market failures arising from merit goods and immobility of factors of production.</p> <p>Fails to consider limitations <u>or</u> strengths of policy – Max 8m</p>	6 - 8
L1	<p>For a largely descriptive and irrelevant answer about policies in general without addressing the question.</p> <p>Answer may consist of conceptual errors.</p>	1 - 5
<b>Max 4m given to Evaluation</b>		
E2	Value judgements supported by economic reasoning.	3 - 4
E1	Value judgements unsupported by economic reasoning	1 - 2