

PJC 2014 H1 Economics Preliminary Examination
– Suggested Answers for Q3 Essay

Question 3

(a) Using examples, distinguish between public and merit goods. [10]

Interpret the Question

What is the cue word?
 (what are the skills required for this question?)

Distinguish - Show, illustrate and discuss differences or similarities between two concepts.

What is the concept word?

Public Goods – non excludable, non rivalry, not produced in the free market

Merit Goods – goods deemed as desirable to society, whose consumption gives rise to positive externalities, overconsumed in the free market

What is the context word?

(what is the context for this question?)

Not specific – Give relevant examples

Schematic Map 3a

Criteria	Public good	Merit good
Excludability: this refers to the <u>ability of firms</u> to exclude non-payers from consuming the goods	Non-excludable as it is <u>difficult</u> or <u>costly</u> for the <u>firm/producer</u> to exclude non-payers from consuming the good once the good is being provided E.g. when a person decides to put up streetlights to brighten up the street leading to his house, it is <u>difficult</u> for him to <u>restrict/prevent</u> his neighbours and pedestrians from benefiting from the streetlights <u>even though they do not pay for the good</u> .	Excludable as it is <u>easy</u> and <u>relatively cheaper</u> for the firm/producer to exclude non-payers from consuming the good once the good is being provided. E.g. education. It is relatively easy for a school/university to stop a person from attending lessons if he/she does not pay his/her school fees.
Rivalry: this refers to whether the consumption of a good by one person will reduce the amount consumed (or benefits enjoyed) by another person	Non-rivalry as the consumption by one person <u>does not reduce</u> the amount available or the benefits enjoyed by another person. E.g. when one person enjoys the benefit of a bright and safer road due to the streetlights, another person who walk pass the same road will also enjoy the same amount of benefits.	Rivalry as the consumption by one person <u>reduces</u> the amount available or the benefits enjoyed by another person. E.g. when one student attends the school, there will be one less place available for another student due to the limited capacity of the school facilities and resources.
Ability of firms to provide the goods	Due to the characteristics of non-excludability → this leads to the problem of free-rider → consumers conceal their	Due to the characteristics of excludability → the consumers must be willing and able to pay in order to enjoy the good

	<p>demand as they are not willing to pay for the good</p> <p>→ no effective demand since effective demand refers to ability and willingness to pay for the good</p> <p>→ <u>firms are not able and willing to provide public goods</u> due to the <u>lack of effective demand</u>.</p> <p>Due to the characteristics of non-rivalry</p> <p>→ once the good is being provided, there is <u>no additional cost</u> incurred in <u>providing the good for another person</u>.</p> <p>→ $MC = 0$</p> <p>→ for allocative efficiency, $P = MC$</p> <p>→ since $MC = 0$, the <u>efficient price</u> must also be 0</p> <p>→ <u>firms will not be able and willing to provide the good at the efficient price of 0.</u></p>	<p>→ there is an effective demand for the good</p> <p>→ thus <u>firms are able and willing to provide merit goods</u> as there is <u>an effective demand</u> for it.</p> <p>Due to the characteristics of non-rivalry</p> <p>→ once the good is consumed by one person, additional cost is needed to provide the good for another person</p> <p>→ $MC > 0$</p> <p>→ efficient price which is equal to MC is also > 0</p> <p>→ hence <u>firms will be able and willing</u> to provide the good at the efficient price which is more than 0</p> <p>→ however, note that the firms will under-provide such goods as there are external benefits attached to merit goods and such benefits are often not taken into consideration by consumers or firms.</p>
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Write the Essay 3a

Thinking / Comments	Write
Introduction	Market Failure is a situation in which free market, in the absence of government intervention, fails to achieve economic efficiency. In the market for public goods for example national defence, the market fails due to the free rider problem while in the market for merit goods for example healthcare (Vaccination), the market fails due to the presence of positive externalities.
Compare between the characteristics non-excludability vs excludability.	Public goods are goods that display the characteristics of non-rivalry and non-excludability while Merit good are rivalrous and excludable in consumption. Non-excludability means it is very difficult to exclude non-payers from enjoying the good once it is produced. For example, it is not possible to defend residents from one area and not defend others from the same district when the government provides national defence to protect the whole Singapore. On the other hand, consumption of healthcare products such as vaccination is excludable. This meant that it is technically possible or feasible to exclude anyone who has not paid for the good from consuming the good once it is produced. This is so as the healthcare provider (hospital/polyclinics) can choose not to give the vaccination to anyone unless they pay the required price and purchase the good. Hence, public goods and merit goods portray different characteristics.
Compare between the characteristics of non-rivalry vs rivalry.	Non-rivalry means that when a person consumes the good, it does not diminish the amount of goods available for others. When one more person enters the country and enjoys the security from national defence, it does not reduce or diminish the security that others enjoy. On the other hand, merit goods are goods that portray the characteristics of rivalry in consumption. This meant that the consumption of the good by one person diminishes the amount available for another person to consume. For example, consumption of healthcare products such as vaccination are rivalrous since when a person receives the injection for vaccination, no one else can consume that same vaccination and there is less available for others.
Allocation of resources. Compare in terms of how market fail → missing market vs partial failure of the market.	<p>MG → Possible to be provided by private sector via the price mechanism. Due to the characteristic of excludability:</p> <ul style="list-style-type: none"> • those who wish to enjoy the good must pay for them • firms able to charge a price for the good since there is expression of demand • possible for private firms to supply the good for a profit • However market underallocates resources to the provision of it due to existence of +ve externalities. <p>PG → Non-provision by private sector due to the characteristics of:</p> <p>Non-rivalry</p> <ul style="list-style-type: none"> • cost of supplying the good to an additional consumer is zero ie. $MC=0$ • to achieve AE, $P = MC = 0$

	<ul style="list-style-type: none"> not possible for private sector to supply the good if $P = 0$ since private firms are assumed to be profit-motivated government provision required <p>Non-excludability</p> <ul style="list-style-type: none"> free-rider problem → no expression of demand not possible to charge a market price for the good. private firms do not receive the signal for the market → do not allocate resources to the production of the good → missing market government provision required <p>Due to the characteristics of non-rivalrous and non-excludability, resources are not allocated to the production of public goods when left to the private sector. Government must intervene to provide for such goods that yield high positive externalities.</p>
OR	
Explain the similarity of both good → confers +ve externalities when consumed.	<p>Consumption of merit good and PG confers positive externality.</p> <ul style="list-style-type: none"> Define positive externality: the production & consumption of the good results gives rise to benefits not only to those who are directly involved in the production & consumption but also those who are not involved. With more individuals consuming healthcare, this gives rise to a healthier and productive workforce which in turn attracts more investors to invest in a country. Hence, leading to economic growth → higher income and SOL in Singapore. The consumption of public goods would also confer large external benefits to others in the society → for example, the provision of national defence ensures a safe and stable environment → promotes investment in the economy → benefit both the citizens (Employment and growth)
Conclusion: SR	<p>In conclusion, the market for public goods such as national defence and merit goods such as vaccination differ from one another mainly due to the characteristics of NR and NE. As such, they causes market to fail differently and thus, government intervention is needed to reduce the extent of market failure in order to achieve allocative efficiency.</p>

PJC 2014 Prelim H1 Q3

(b) Discuss the view that the role of the government should be restricted to the provision of public and merit goods. [15]

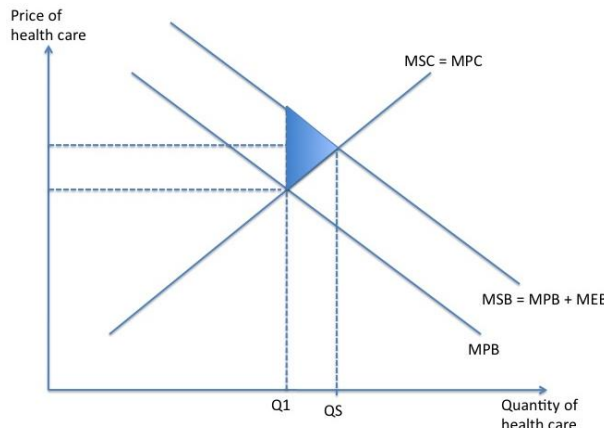
Interpret the Question

<u>What is the cue word?</u>	<u>What is the concept word?</u>	<u>What is the context word?</u>
Discuss	Role of the government Provision of Public good and Merit Good	

Schematic plan

The role of government should be restricted to the provision of public and merit goods	
<u>Thesis</u>	<u>Anti-thesis</u>
<p>The government should provide public and merit goods because they bring about positive micro-economic and macro-economic effects on the economy.</p> <p>Microeconomic effects: Government provision solve the problem of non-provision of public goods due to non-excludability and non-rivalry and under-provision of merit goods due to the presence of external benefits by the market → this leads to an efficient allocation of resources leading to maximisation of society welfare</p> <p>Macroeconomic effects: By providing public and merit goods, these will often lead to higher productivity which will increase the level of aggregate demand and supply, thus achieving sustained economic growth. E.g. through providing education → increase literacy and labour productivity → attracts FDI and promote technology transfer → rise in AD and AS → sustained economic growth</p>	<p>The role of government should not be restricted to the provision of public and merit goods due to</p> <ol style="list-style-type: none"> 1. The limitations of government provision such as increasing the government expenditure which worsen the budget and debt burden of the government and the poor quality and high cost of government provision due to lack of competition and profit motive. Such limitations/government failures will sometimes lead to a more inefficient allocation of resources. 2. There could be other better ways to intervention to improve the resource allocation particularly for the market for merit goods. E.g. government can make use of subsidies and regulation to improve resource allocation in the market for healthcare. These measures are often less costly than government provision. The firms are allowed to continue to provide the goods, albeit with some regulation, and thus there is still element of competition and profit-motivation to ensure good quality and low cost of provision. 3. There are other roles of government such as to correct market failures caused by negative externalities (e.g. traffic congestion) and to promote macroeconomic stability through the four macroeconomic aims.
<u>Synthesis</u>	
<p>The role of government should not be restricted to the provision of public goods and merit goods. Often the government will want to achieve all the microeconomic aims of allocative efficiency and equity and macroeconomic aims.</p> <p>However, sometimes due to lack of resources the government may need to prioritise its aims. Hence, there is a need to explore the least costly and most effective methods of achieving its aims, e.g. instead of using government provision for merit goods, the government could explore other less costly but more effective methods such as subsidies, regulation and moral suasion.</p> <p>The government will also need to prioritise its aims based on the current needs of the economy. E.g. if unemployment is very high, the government may need to divert more resources to tackle this problem and cut back on its spending on public and merit goods.</p> <p>Lastly, it is noted that the role of providing public and merit goods and help to promote other aims, e.g. spending on education, a merit good, help to reduce structural unN. Hence, the aims need to substitute but complement one another.</p>	

GIST	<p>The role of all governments is to achieve both microeconomic aims and macroeconomic aims. Thus, the role of the government should not be restricted to the provision of public and merit goods as it only helps to achieve the microeconomic aim of allocative efficiency. The government also needs to fulfil its macroeconomic aim of sustained economic growth, full employment, price stability and healthy balance of payments. However, in view of lack of resources and competing needs of the economy, the government may sometimes need to prioritise its aims based on the current needs of the economy.</p>
Thesis 1 : The role of the government should be restricted to the provision of PG	
Explain how the existence of public goods is a source of market failure	<p>If public goods were left to private firms, they would not be provided at all due to the characteristics of NE and NR → no resource will be allocated to the production/consumption of the good → result in a missing market for public goods.</p> <p>When national defence is produced, no additional cost is needed to provide for another person. Thus, the marginal cost of providing national defence for an additional person is zero. Since, $P=MC$ is the condition to achieve allocative efficiency, if $MC=0$, the socially efficient price would be zero. No firm will be willing to provide national defence at price zero where revenue and profit are non-existent.</p> <p>Furthermore, the characteristics of non-excludability, this leads to the problem of free-ridership where if consumers can enjoy public goods without paying for it, they will not be willing to pay for it. Consumer demand is concealed and firms will not be willing to produce the good since they are unable to charge a price for the good when no one is willing to pay. This leads to zero production, resulting in complete market failure where the free market quantity is zero.</p> <p>However, such public goods are essential services to the economy and yield valuable benefits to society. So since the market mechanism fails to provide for such goods (given their non-rivalry and non-excludable nature), there is a need for government intervention in the provision and regulation of public goods.</p>
Explain how Singapore government intervenes	<p>Government will step in to provide the goods themselves and finance it through taxation. In Singapore, pure public goods such as street lights, national defence, national parks are provided by the government.</p>
Thesis 2 : The role of the government should be restricted to the provision of MG	
Explain how +ve externalities result in the govt provision → 7 step market failure	<p>On the other hand, the market for merit goods fails due to the presence of positive externalities. Positive externalities are spill over effects to the third party who are not directly involved in the consumption or production of the good and these parties are often not being accounted for. When a person receives vaccination for influenza, he would only take into account his own marginal private cost (MPC) such as the costs of vaccine and his own marginal private benefit (MPB) such as a reduction in chance/prevention of getting influenza. However, he neglects the external benefit that his consumption of vaccination will affect the people when they also benefit having a lower chance of contracting influenza or</p>

	that the firms benefit from having a healthier and thus more productive worker in the office (MEB)
Illustrate with diagram	<p>When people receive vaccination, they hence only take into account of MPC and MPB, consuming where $MPC=MPB$ at Q_e. The free market equilibrium is hence at Q_e. The existence of MEB creates a divergence between MSB and MPB.</p>  <p>However, the socially optimal level is where $MSC=MSB$ at Q_s. There is an under-consumption of vaccination in society since $Q_s > Q_1$, leading to a welfare loss in the society as shown in the shaded area. The welfare loss implies market failure in the case of vaccination.</p> <p>Hence, there is a net benefit that is not enjoyed by society since only Q_1 level of healthcare is consumed. The loss of net benefit (deadweight loss) is denoted by the shaded triangle.</p>
Explain how Singapore government intervene	Government provides free healthcare through direct provision of healthcare services → Examples include the polyclinics in Singapore and government hospitals (NUH). These healthcare services are provided by the government and are heavily subsidised → increasing supply of healthcare such that it SS will increase from SS to SS2. Thus, the new equilibrium level of consumption will be at Q_s . Thus solving the problem of market failure.
Evaluation/Limitations.	However, due to the nature of the good itself, the merit goods would only experience partial market failure. As such, there is no need for government intervene via direct provision. Other forms of government intervention can also correct the market.
Other policies that can achieve allocative efficiency.	The government can subsidize the private providers of healthcare (e.g. subsidised doctors' consultation fees and healthcare screenings at private clinics), thereby shifting the supply curve or the $MPC = SS$ to the right (from SS to SS2) which causes the price of healthcare to fall, hence increasing the consumption of healthcare from Q_e to Q_s which is the socially optimal level of consumption.
Anti-thesis: The role of Singapore government should <u>not</u> be restricted to the provision of PG and MG → government intervention is needed for <u>macroeconomic</u> activity and other sources of market failure (-ve externalities)	
Explain why govt	One of the main macroeconomic aims of the Singapore government is to achieve price stability and low inflation. This is an important

intervention is needed for macro activity.	macroeconomic aim as it helps to ensure that the economy remains attractive to foreign investments and promotes export competitiveness, hence helping to achieve healthy balance of payments and sustained economic growth.
Explain how Singapore government intervenes?	<p>Thus, the role of the government should not be restricted to provision of merit and public goods as it is not sufficient to bring about low inflation. While the provision of merit and public goods can help to bring about higher productivity which increases the level of aggregate supply and lowers cost-push inflation, it may not be able to lower demand-pull inflation. Thus, in times of high and rising inflation due to excessive aggregate demand, the government may have to cut back its spending on its merit or public goods so as to lower AD and demand-pull inflation.</p> <p>Thus the role of government should not be restricted to the provision of public and merit goods and is dependent on the current state of the economy.</p>
Conclusion	
	<p>The role of government should not be restricted to the provision of public goods and merit goods. Often the government will want to achieve all the microeconomic aims of allocative efficiency and equity and macroeconomic aims.</p> <p>However, sometimes due to lack of resources the government may need to prioritise its aims. Hence, there is a need to explore the least costly and most effective methods of achieving its aims, e.g. instead of using government provision for merit goods, the government could explore other less costly but more effective methods such as subsidies, regulation and moral suasion.</p> <p>The government will also need to prioritise its aims based on the current needs of the economy. E.g. if unemployment is very high, the government may need to divert more resources to tackle this problem and cut back on its spending on public and merit goods.</p> <p>Lastly, it is noted that the role of providing public and merit goods and help to promote other aims, e.g. spending on education, a merit good, help to reduce structural unN. Hence, the aims need not substitute but complement one another.</p>