

Innova Junior College

Prelim 2 2011

H2 Question 3

Wireless@SG is a wireless broadband programme developed by Info-communications Development Authority of Singapore. Registered Wireless@SG users are able to enjoy free wireless broadband access with speeds of up to 1 Mbps at public areas within its coverage. Wireless@SG is powered by the network of three wireless operators: iCell, M1 and SingTel.

- a) Explain the key differences between “public good” and “merit good”, and consider whether Wireless@SG is an example of a public good. [12]

Introduction: Definitions	Public goods Merit goods
Body: Key differences between public and merit goods Consider whether Wireless@SG is an example of a public good	<p>Degree of rivalry - Non-rival vs rival in consumption</p> <ul style="list-style-type: none">• Public goods are non-rival in consumption i.e. consumption of the good by one user does not diminish the amount of the good available to additional users. As such Marginal Cost of providing the good to the additional user is zero. Examples include the provision of national defence – the provision of national security protection for one citizen does not diminish the level of security provided to additional citizens• Merit goods may be rival in consumption i.e. when one user consumes, it will diminish the amount available to additional users. <p>In this light, Wireless@SG, on the surface, seems to be a public good. Access to the network by one user does not mean that an additional user will be excluded in the consumption i.e. it can support multiple users.</p> <p>However, closer examination of the market → As more and more additional users access the network, this will slow down the speed of access → additional user can lead to rivalry in consumption in terms of speed of access.</p> <p>Degree of excludability - Non-excludable vs excludable to non-paying users</p> <ul style="list-style-type: none">• Public goods are non-excludable to a non-paying user i.e. it is not possible to prevent a non-paying user from enjoying the benefits of consumption of a good. This can potentially lead to a free rider problem since there is no incentive for consumers to pay. E.g. once a pedestrian sheltered walkway is built, it is not possible to prevent non-payers from using the walkway.• Merit goods may be non-excludable to non-payers. <p>In this light, Wireless@SG seems more likely to be a merit good rather than a public good. Only registered users can enjoy the free access. Similarly if charges need to be imposed, non-payers can be easily excluded via non-registration.</p>

	<p>Extent of market failure and government intervention – complete vs partial</p> <ul style="list-style-type: none"> Public goods, due to non-rivalry and non-excludability as mentioned above, gives rise to the free-rider problem. No direct charge can be levied on the user. Therefore, left to the free market, there is zero provision → complete market failure. Hence there is often a need for government provision. Merit goods, on the other hand, can be provided profitably by the free market since it does not face the free rider problem and a direct charge can be levied on the user. However, there is some form of government intervention as merit goods are deemed to be under-consumed if left to the free market. This is due to the existence of positive externalities causing a divergence between social and private benefits. E.g. in the case of public schools. <p>In this light, Wireless@SG seems more likely to be a merit good rather than a public good. Wireless networks have been provided by the various telecommunication companies profitably. The main reason for government intervention is due to under-consumption rather than non-provision.</p>
Conclusion	

L3	Well-developed explanation on the key differences between “public good” and “merit good”. Key differences can be explained in terms on degree of rivalry, degree of non-excludability and extent of market failure. There is a clear stand on whether Wireless@SG is an example of a public good or a merit good.	9 – 12
L2	Under-developed explanation on the key differences between “public good” and “merit good”. There may be some confusion between characteristics of non-rival vs non-excludable.	6 – 8
L1	Descriptive answer with little economic analysis.	1 – 5

b) Discuss the extent to which the Singapore economy would likely benefit from the free provision of Wireless@SG. [13]

- Explain that Wireless@SG is a merit good as concluded from part (a)
- Explain how there is a divergence between MPB and MSB
- Explain the third party benefits (Society benefiting as a whole in terms of a more technologically advanced economy;)
 - Under-consumed if left to the free market
- Explain how free provision will result in shifting MPB to meet up to MSB

Evaluation 1:

- Cost to wireless network operators – loss of profits in the SR
However, MC for providing for the extra user is near zero
- Moreover, as the society becomes more wired and technologically advanced
→ higher demand for higher bandwidth (higher than 1 Mbps) → Higher demand and therefore profits in the long-run.

Evaluation 2:

- May encourage the narrowing of the digital divide
- However, needs the use of communication devices such as mobile phones and laptop computers
- Extent of which depends on whether the lower-income group can access to such hardware
- In itself may not be sufficient → need to be complemented with other programmes such as providing for cheap laptops to schools

L3	Well-developed 2 sided analysis on the benefits of wireless network anchored on cost vs benefits.	7 – 9
L2	Under-developed analysis on the benefits of wireless network.	4 – 6
L1	Descriptive answer on the benefits of wireless network.	1 – 3
E2	Judgment based on economic analysis on the extent of benefits	3 – 4
E1	Unexplained judgment on the extent of the benefits.	1 – 2