

H2 Prelim Essay Question 3

- a) Explain how rational decision-making by consumers and producers results in efficient resource allocation in a free market. [10]

Suggested answer for (a):

Due to the problem of scarcity where there are limited resources to meet unlimited wants, economic agents have to make decisions on the 3 fundamental questions of resource allocation – what and how much to produce, how to produce, and for whom to produce. Rational-decision making assumes that consumers and producers make choices that maximize their self-interest.

Rational consumers who aim to maximize their utility make choices on the amount and type of goods to purchase based on additional satisfaction derived and additional costs incurred from consuming an additional unit of the good. Likewise, rational producers aiming to maximize profits make choices among the various methods of production based on the additional revenue gained and additional costs incurred from producing an additional unit of the good. The pursuit of self-interest by both rational consumers and producers addresses the problem of scarcity via the working of price mechanism to bring about efficient allocation of resources.

Rational consumers who pursue self-interest will cast their dollar votes to transmit their preferences for the types and quantities of goods and services they prefer. Consumers influence producers' decisions on what to produce based on their demand preferences. The amount they are willing and able to pay is determined by the additional satisfaction they derived from consuming an additional unit of the good. This is represented by the demand curve which is also the marginal private benefit (MPB) curve of the consumers. Assuming that there is an absence of externalities, $MPB=MSB$.

Producers who seek to maximize profits will receive the price signal from consumers. Prices of goods and services preferred by consumers will rise when quantity demanded exceeds quantity supplied. Rational producers will respond to this price signal by diverting more resources to produce more of those goods and services whose prices have risen and hence deemed to be more profitable. Profit-maximizing producers will also decide on how to produce by comparing the relative prices of factors of production to achieve the lowest cost. Furthermore, rational producers who are profit-motivated will only produce goods and services for consumers who are willing and able to pay. The amount which producers are willing and able to supply at various price levels represents the supply curve. Producers' decision to supply is based on the extra cost incurred in producing an extra unit of the good or service. Hence, the producer supply curve is also the marginal private cost (MPC) curve. Assuming that there are no externalities, $MPC=MSC$.

The intersection of the demand ($D=MPB=MSB$) and supply ($S=MPC=MSC$) curves leads to an equilibrium price at $0P_e$ and quantity at $0Q_e$. At the price of $0P_e$, consumers decide what and how much to buy and producers decide on what and how to produce based on price signal. This is also a situation where $MSC=MSB$ where resources are efficiently allocated.

For example, a shortage may arise if there is an increase in demand for a good – for e.g. through an increase in taste and preference. At the original price level, OP_1 , quantity demanded exceeds quantity supplied, resulting in a shortage. Rational consumers and producers will begin to respond to the shortage. Due to the shortage, consumers will begin to bid up the price so that they can get the good/service, resulting in an upward pressure on prices. As the price increases, some consumers will not be willing or able to pay for it and hence quantity demanded falls. Concurrently, as the price rises, producers find it more profitable and will increase their quantity supplied. The price will continue to rise until quantity demanded equals quantity supplied. This is where equilibrium quantity and price is attained. Assuming that there is no source of market failure, for example externalities, consumer and producer surpluses are maximised, and so is society's welfare.

In conclusion, rational decision making by consumers and producers guide efficient resource allocation via the price mechanism which determines what to produce, how much to produce, how to produce and for whom to produce.

Mark scheme (9757)

Level of Response Mark Scheme (LORMS)		
L3	Well-developed explanation of how rational decision making by consumers and producers helps to allocate resources efficiently.	8 – 10
L2	Under-developed explanation of how rational decision making by consumers and producers helps to allocate resources efficiently. Max 5m for answers that only address rational decision making of either consumers or producers.	5 – 7
L1	For a descriptive answer that is irrelevant or has conceptual errors and inaccuracies.	1 - 4

Mark scheme (9732)

Level of Response Mark Scheme (LORMS)		
L3	Well-developed explanation of how rational decision making by consumers and producers helps to allocate resources efficiently.	7 - 10
L2	Under-developed explanation of how rational decision making by consumers and producers helps to allocate resources efficiently. Max 5m for answers that only address rational decision making of either consumers or producers.	5 - 6
L1	For a descriptive answer that is irrelevant or has conceptual errors and inaccuracies.	1 - 4

In Singapore, Citizens and Permanent Residents have to pay an entry fee of \$100 to enter into casinos for 24 hours while in Malaysia, it is free of charge. However, in both countries, there is an age limit of 21 years old and above to enter casinos.

- b) Assess why governments may impose different policies in tackling market failure associated with the same demerit good. [15]

Suggested answer for (b):

Note: students may provide any appropriate example of demerit goods besides gambling.

Explain how market fails in the case of demerit goods e.g. casino gambling

- Consumption of the demerit good is deemed socially undesirable by government
- Generate negative externalities in consumption
 - E.g., in the case of gambling, the external cost is the lower productivity of the workforce that is caused by the addiction to gambling. This will result in a lower economic growth. There will also be social instability if addiction to gambling and bankruptcy rises, resulting in higher crime rates. → the existence of MEC creates a divergence between MPC and MSC.
 - In their pursuit of self-interest, gamblers consider only their private costs and benefits. The market equilibrium level of consumption, Q_e occurs at the point where consumers equate their MPB to MPC. MPB is the benefit enjoyed by individual from the consumption of an additional unit of gambling e.g. the satisfaction of winning. MPC is the cost faced by the individual in the consumption of an additional unit of gambling e.g. the bets placed
 - However socially optimal level of output, Q_s is determined where $MSB=MSC$. MSB is the benefit enjoyed by the society in the consumption of an additional unit of gambling. MSC is the cost incurred by the society in the consumption of an additional unit of gambling.
 - $Q_e > Q_s$ → overconsumption of gambling activities → deadweight loss incurred by society
- Imperfect information about the benefits and costs derived from the consumption of gambling: individuals may have a lower perceived cost of gambling than its actual cost → overconsumption of gambling beyond socially optimal level
- Thus, when left to the free market, there will be over-consumption of demerit goods such as gambling due to imperfect information and the presence of negative externalities. Hence, governments may intervene to reduce the deadweight loss to increase society's welfare and improve allocative efficiency through different policies such as indirect tax, regulations/legislation and public education

Explain reasons why governments may impose different policies to tackle overconsumption of the same demerit good.

Reason 1: Different perceived extent of negative externalities generated from consumption of the same demerit good

- E.g. SG government may perceive gambling as a socially undesirable good that generates significant amount of MEC from consumption and hence high level of overconsumption → need to impose an entry fee of \$100 to discourage locals from gambling at casinos. The additional monetary cost of entering the casino increases the MPC of gambling to MSC, forcing consumers to internalize the MEC. Hence, this may reduce the over-consumption of gambling, bringing the market equilibrium level of consumption of gambling (Q_e) closer to the socially optimal level (Q_s) and reducing deadweight loss. The higher the perceived level of MEC, the higher the entry fee that could be imposed.
- In contrast, the Malaysian government may perceive the MEC from gambling to be insignificant, hence no need to impose an entry fee i.e. allow free entry.
- If government perceives the level of MEC to be too significant to society, they may even consider banning the consumption of the good.

Reason 2: Different extent of information failure

- If government thinks that there's a large degree of information failure resulting in larger divergence between perceived MPC and actual MPC, and hence greater over-consumption, it may implement various public education campaigns to correct the problem of info failure. E.g. campaigns to raise awareness of problem gambling with gambling-related advertisement on how gambling negatively impacts the family are designed to reduce imperfect information. If successful, these campaigns may effectively reduce the divergence between perceived MPC and actual MPC (i.e. raise perceived MPC to actual MPC) and causing the Q_e to move closer to Q_s . With a smaller level of over-consumption, this would reduce deadweight loss.
- However, if government thinks that the degree of info failure is low and insignificant, they may not carry out or invest less funds on public campaigns.

Reason 3: Different relative effectiveness/ limitations of policies across countries.

- The effectiveness of an indirect tax depends on the PED of the demerit good. If $PED < 1$, Q_d would fall less than proportionate to the increase in price → indirect tax ineffective. A higher level of tax might be required to reduce the consumption to Q_s .
- So, this would mean that the imposition of the entry fee of \$100 will likely be more effective in deterring Singaporeans who are very responsive to the increase in cost of gambling particularly the lower-income group which might be the SG gov't's target group as they are less able to cope with the gambling losses.
- Given that gambling is addictive in nature, demand for gambling would tend to be price inelastic. As such, while the casino entry fee may increase the cost of gambling, it is likely to result only in a less than proportionate fall in quantity demanded for gambling. Furthermore, the public campaigns is likely to take a long time to educate and change the mind-set of consumers - public education is likely to be met with limited success in the short run in dealing with the problem of gambling. As such, the government may want to consider a wider range of short term policies in order to better deal with the problem of gambling such as casino exclusions as a form of regulation - a ban is placed on the people who were either recommended by family members or by the gamblers themselves; and/or legislation such as imposing the age limit of 21 years old

- Depends on whether government can obtain accurate information to estimate the PED, MEC, MSB, MSC correctly to determine the optimal amount of tax and Qs correctly.

Reason 4: Different economic priorities of government

- E.g. Malaysian govt may prioritize economic growth over efficiency through increase in C of gambling from casino industry (hence allowing free entry into casinos for the locals) whereas SG govt may focus more on achieving allocative efficiency in this market – reduce over-consumption of gambling from Q_e to Q_s by imposing an entry fee
- The degree and type of government intervention in the market for demerit goods depend on the extent of external costs generated from consumption of the demerit goods and/or extent of information failure which is perceived differently by different countries. This in turn depends on the extent of govt failure e.g. whether govt can estimate MEC correctly – might be difficult to quantify the MEC of gambling in monetary terms given imperfect info of govt
- The degree and type of intervention will also depend on the costs and benefits of the measures adopted in relation to the perceived deadweight loss incurred by the society when there's no govt intervention.
- Depends on whether government has sufficient funds available to implement a range of short-term and long-term policies to reduce the consumption of demerit goods more effectively.

Mark scheme (9757)

Level of Response Mark Scheme (LORMS)		
L3	<p>For a well-developed answer that thoroughly explains (at least 2 reasons) why governments may impose different policies (at least 2 policies explained) in tackling market failure associated with the same demerit good. (neg ext and info failure)</p> <p>Answer shows excellent application with the use of appropriate examples of demerit goods.</p>	8 – 10
L2	<p>For an undeveloped answer that attempts to explain why governments may impose different policies in tackling market failure associated with the same demerit good.</p> <p>Answer shows some application with the use of appropriate examples of demerit goods.</p> <p>For a well-developed explanation of 1 reason why governments may impose different policies (with the policies explained) - Max 7m</p> <p>Mere explanation of policies without explanation of reasons why governments may impose different policies – Max 6m</p>	5 – 7

L1	For a descriptive answer of the causes of market failure or largely listing of reasons. Answer may contain conceptual errors and inaccuracies.	1 - 4
Evaluation		
E3	Well-reasoned evaluation/ judgments on why governments may impose different policies in tackling market failure associated with the same demerit good, based on prior economic analysis.	4 – 5
E2	Largely unexplained judgments. Some attempt at evaluation or summative conclusion.	2 – 3
E1	An unsupported evaluative statement(s) or judgment(s) that lacks explanation.	1

Mark scheme (9732)

Level of Response Mark Scheme (LORMS)		
L3	For a well-developed answer that thoroughly explains (at least 2 reasons) why governments may impose different policies (at least 2 policies explained) in tackling market failure associated with the same demerit good. Answer shows excellent application with the use of appropriate examples of demerit goods.	9 – 11
L2	For an undeveloped answer that attempts to explain why governments may impose different policies in tackling market failure associated with the same demerit good. Answer shows some application with the use of appropriate examples of demerit goods. For a well-developed explanation of 1 reason why governments may impose different policies (with the policies explained) - Max 8m Mere explanation of policies without explanation of reasons why governments may impose different policies – Max 7m	6 – 8
L1	For a descriptive answer of the causes of market failure or largely listing of reasons. Answer may contain conceptual errors and inaccuracies.	1 – 5
Evaluation		
E2	Well-reasoned evaluation/ judgments on why governments may impose different policies in tackling market failure	2 – 4

	associated with the same demerit good, based on prior economic analysis.	
E1	Largely unexplained judgments.	1 – 2