Question 1: A winner in the pandemic – Amazon

Suggested Solution and Mark Scheme

(a)	Compare the relative change in the retail revenue for Amazon, Walmart and Home Deport -between 2010 and 2020. [2]
	Similarity: All three firms have seen an increase in their retail revenue between 2010 and 2020. Difference**: However, the** rate of increase in the retail revenue for the three firms are different, with Amazon experiencing the fastest increase (2,800%), followed by The Home Depot (466%) then Walmart (90%).
(b)	Using a diagram and a relevant elasticity concept, explain how the Amazon's differentiation strategy [Extract 1] may have contributed to the change in its revenue. [5]
	- Amazon worked on differentiating their services, for e.g. priorities were placed on customer feedback and service were prompt [in Extract 1] and this has the effect of changing the taste and preferences of consumer towards the services provided by Amazon. - This will lead to an increase in demand for their services, c.p. as shown by the shift from AR_0 to AR_1 in where equilibrium price and quantity will increase, Figure 1, and hence, increase in Amazon's revenue as shown by the area $0P_oaQ_o$ to $0P_1cQ_1$. - Their differentiation strategy promotes customer loyalty who believes that the high standard of services could not be found in the services provided by their rivals, that is the service offered by Amazon is not easily substitutable**,** and hence, the value of PED for Amazon's services will be less than one, as illustrated by the increase in the gradient of the demand curve (AR1). - With PED<1, hence, Amazon could increase the price of their products/services, leading to a less than proportionate decrease in quantity demanded. Hence its revenue will increase. - Diagram showing the increase in demand, fall in PED (increase gradient of AR curve) and the area of increased in revenue.
(c)	With reference to Extract 1, explain a source of cost advantage experienced by Amazon. [2]
	This suggests that technical economies of scale (indivisibility) can be achieved when Amazon taps on the larger warehousing facilities and processing capability [Extract 1] and share the high costs of capital equipment over large output (in this case, the increasing number of users/customers), resulting in a fall in the long run average cost.
(d)	Identify and explain two possible barriers to entry faced by the potential competitors into the e-commerce market that Amazon is in. [3]
	- In the case of e-commerce market, Extract 2 states that Amazon had used data on third-party sellers that use its market-place, which is a control of key resource, to boost sales of its own-label goods. Or - Amazon used critical information taken from data on their third party sellers that use its market-place to analyse consumers' preferences and what they are spending their money on which could help Amazon increase its market share and higher profits. These higher profits earned by Amazon could create a natural barrier to entry to prevent potential competitors from entering the market due to their lower demand of its potential rival and not being profitable. And

	● According to Extract 2, the Commission also launched a fresh probe into the possible preferential treatment of sellers that use the tech giant's logistics services . Such practice by Amazon will prevent potential competitors from making profits from having fewer third-party sellers using their platform to sell their goods as these third parties that uses Amazon's logistics services will also have preferential treatment selling on Amazon.
(e)	Discuss the likely impact of Amazon's dominant position in the industry on society. [8]

	Introduction:
	 ● Amazon, being a dominant firm in the industry may have both desirable and undesirable impact on society.
	
	Body (1): Undesirable impact of dominant firms such as Amazon on society
	
	 (i) Higher prices may be charged to consumers in markets with dominant firms such as Amazon.
	  ● With Amazon's large market share in the industry, their dominance might imply the industry is less competitive leading to possible abuse of market power as mentioned in Extract 2. The demand curve facing the dominant firm is downward sloping and the firm will have greater price setter power with the lack of competitors in the industry.
	  ● While Amazon may charge lower prices to consumers in the short run, however, in the long run, the smaller e-commerce firms may not survive the competition of lower prices and are forced to leave the industry due to their inability to enjoy economies of scale to charge lower prices than Amazon. This may result in greater market dominance and market power for Amazon. Amazon might be able to raise prices and exploit consumers welfare due to few competitors available to offer alternatives to consumers.
	  ● The e-commerce market would become more allocatively inefficient as seen in Figure 1 above where the lower PED value for its demand will result in its prices rising higher than it marginal cost (MC) in the US. Amazon, an oligopolistic firm, will have a downward sloping and relatively price-inelastic demand (AR) curve as seen in figure 1, and have the significant ability to set prices. A profit-maximising firm will produce at an output Qm where MR = MC at price Pm. This is because at output before Qm, MR exceeds MC and thus each additional output of the firm adds more to revenue than to cost and thus increases the firm's profits. A profit-maximising firm will thus increase production till Qm where MR = MC. At output levels beyond Qm, MC exceeds MR and thus a profit-maximising firm will not produce beyond Qm as each additional output beyond Qm reduces the firm's profits instead. In figure 1, the firm has restricted output to Qm in order to charge relatively higher prices at Pm. At output Qm, the firm is also likely to be making supernormal profits indicated by the area PmxyAC. It should be noted that the price Pm is at a significant mark-up above the MC at output Qm due to the relatively price-inelastic firm's demand curve, which indicates the significant price-setting ability of a dominant firm. This had had to allocative inefficiency and a deadweight loss to society (area xab).

Cost/Revenue ($)

MC
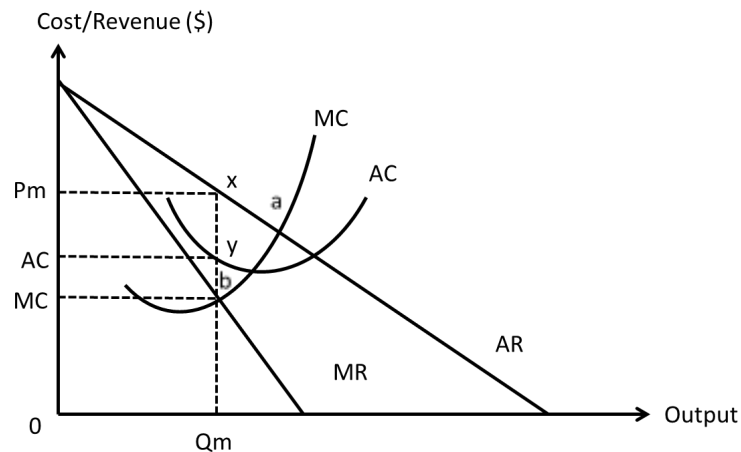
AC

Pm

x

a

AC

y

MC

b

AR

MR

Output

0

Qm

Figure 1: Price and Output of Firm in Market with Significant Barriers to Entry

- There would be less choices for consumers since the variety of products will also fall. Dominant firms may also not have the incentive to innovate, again hurting consumers welfare.

(ii) Dominant firms such as Amazon could be x inefficient.
- Dominant firms could also be X-inefficient. This may occur when the dominant firm became complacent due to lack of competition and hence produce at a higher average cost instead. It will not be producing on its long run average cost curve. Without the competitive pressure on profit margins, the dominant firm could be lax about cost controls, it could over-renumerate its staff by giving them huge perks and bonus packages or hire more staff than necessary.
- The firm produces at a cost that is above their long run average cost and still continue to make supernormal profits in the long run because of the barriers to entry that limited competition in the market. The firm is said to suffer from X-inefficiency.

(iii) Dominant firms may lead to greater inequity
- With Amazon's ability to set higher prices and ability to enjoy internal economies of scale, Amazon can earn supernormal profits in the long run due to the high barriers to entry it set up as mentioned in part (d).
- Amazon is owned by a select few, namely the shareholders which make up a minority of the population. Hence, if Amazon continues to earn supernormal profits in the long run and dividends are paid to the shareholders at the expense of consumers. Wealth would be concentrated at the hands of the shareholders who are initially already better off than the majority of the population. Extract 2 mentioned that Jeff Bezos, founder of Amazon, became the richest man in the world with a fortune of more than $200bn after the firm's share price rocketed in the early months of the pandemic.
- This leads to a greater income inequality and thus, may cause unfair distribution of economic welfare, leading to greater inequity, at the expense of consumers.

Body (2): Desirable impact of dominant firms such as Amazon on society

(i) Consumers can enjoy lower prices and a higher quantity demanded. This leads to higher consumer surplus enjoyed where consumer surplus is the difference

between how much consumers in the market are prepared to pay and how much they actually pay.
- Amazon may bring benefits to the consumers of e-commerce in the U.S. in terms of lower prices due to the internal economies of scale enjoyed by the firm as discussed in part (c).
- The cost-savings could be passed on to consumers in the form of lower prices. Consumers enjoy lower prices, and purchase a higher quantity demanded. This will result in higher consumers' surplus.

(ii) Innovation can be carried out by large and dominant firms such as Amazon.
- Amazon places great priority on consumers service [Extract 1].
- Large firms such as Amazon have higher ability to engage in intensive R&D and innovation due to the supernormal profits earned in the long run.
- Amazons engage in intensive R&D to develop new processes and service differentiation and enhance existing ones. This results in dynamic efficiency benefitting society. Dynamic efficiency can be defined as the situation in which firms are technologically progressive (through investing in research and development for the purpose of product and process innovation) in order to reduce the average cost of production or to meet the changing needs and wants of consumers over time. Examples include, Amazon investing in larger warehousing facilities and processing capability to meet the rising demand and to capitalize on its ability to gain internal economies of scale as discussed in part (c). Extract 2 also mentioned that Amazon has created their own label goods that are more align to consumers' taste and preferences.
- These resulted in a better quality and a wider variety of products to cater to the different tastes and preferences of consumers. This translates to higher consumer welfare.

Evaluative Conclusion:
- Whether dominant firms such as Amazon has more positive impact on society depends on the level of contestability of the market.
- If the e-commerce has high contestability, these dominant firms such as Amazon will likely benefit the society due to the incentive to innovate their processes and differentiate their services they provide and at lower prices to keep potential entry of firms at bay. This way, they achieve productive and dynamic efficiency for society and increases consumers welfare.
- However, if there is low contestability in the e-commerce industry, for example, if Amazon is able to reap significant internal EOS, the firms would likely not be beneficial to society. There would be a lack of incentive to pass on the cost savings to consumers or to use invest the supernormal profit gained into R&D without any real threat of competition. This way, it will lead to allocative inefficiency and income inequality in society.

Marking Scheme:

L2 4-6 marks	For an answer that demonstrates knowledge and understanding and has application and analysis: At least GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. At least GOOD **depth** in economic analysis that reflects the following in MOST explanations.

| | | | ✔ **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing.

The answer should also be supported by:
　　Well-labelled and well referred to diagram(s) / Tool(s) of analysis drawn with **precision** (where appropriate).
　　Evidence(s).
　　Logical structure. |
| | | **L1**
1-3
marks | For an answer that demonstrates knowledge but lacks understanding, application and analysis:
● INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question.

● INSUFFICIENT depth in economic analysis that may reflect the following:
● Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing. |

E2 **2 marks**	For an evaluation that contains 　　A synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). 　　Well-explained criteria-based evaluative comments supported by **accurate** and **clear** analysis to provide **fairness** in views. 　　A good summative conclusion.
E1 **1 mark**	For an evaluation that contains 　　Relevant but unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis or 　　A relevant unexplained conclusion

(f)	The "mountains of discarded packaging" [Extract 3] that comes from online shopping addiction leads to economic inefficiencies in resource allocation. Assess the most appropriate measures to deal with this economic inefficiency in resource allocation. [10]
	Introduction: ● With the e-commerce giants like Alibaba Group Holdings Ltd. and JD.com Inc. luring shoppers with huge bargains during the Singles' Day bonanza, Alibaba reported almost 500 billion yuan ($76 billion) of sales this year, nearly four times U.S. ● The "mountains of discarded packaging" that comes from online shopping addiction leads to economic inefficiencies in resource allocation. That is, there is negative externalities that arise from the over-consumption of online shopping. Body (1): Explain how the "mountains of discarded packaging" that comes from online shopping addition leas to economic inefficiencies in resource allocation. ● With reference to Extract 3, Greenpeace estimates that Singles' Day generated 52,400 metric tons of CO_2 from manufacturing, packaging and shipping in 2017. The generation of CO_2 from these activities due to online shopping addiction results in pollution of the environment. This is the external cost of consumption imposed on the environment.

- External costs are not borne by the online shoppers - these are not reflected in the prices charged for the goods and services. Negative externalities occur when private consumption/ production creates an external cost to society that affects third parties as a 'spill-over effect' that is not internalised by private households and/ or firms.

- Since MEC to society is not internalised by the consumers of online shoppers, there is divergence between MPC and MSC, as seen in Figure 3 below, the actual costs to society is where MSC= MPC+MEC.
- Online shopping consumers behaviour (that led to discarded packaging) only consider their private cost of consumption. MEC is not internalised, leading to a greater private consumption, where MPC=MPB at Qp units, than the social optimal level of output, where MSC=MSB at Qs units of consumption in Figure 3.
- There is over-consumption of QsQp units of online shopping. This results in allocative inefficiency and deadweight/welfare loss to society of area AE_0E_1.

Cost/ Benefit ($)

MSC = MPC + MEC

MPC

A

E_1

MEC

E_0

MPB=MSB

Quantity (online shopping)

0   Q_s Q_p
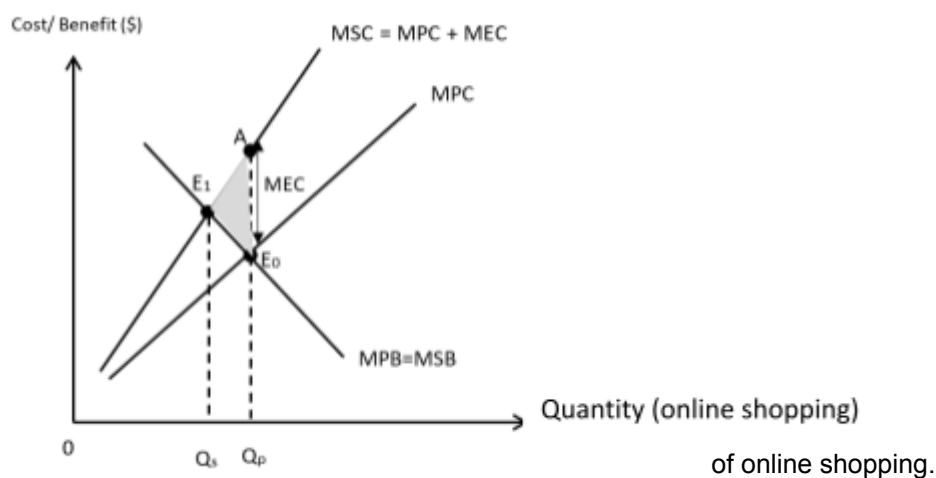
of online shopping.

- The government would implement policies to reduce the negative effects of discarded packaging caused by overconsumption of online shopping on the natural environment to achieve allocative efficiency in resource allocation and increase social welfare.

Body (2):

Measure (1): Government could impose an indirect tax on the expenditure on online shopping
- The aim of such indirect specific taxes (for example, expenditure tax) is to get online shopping addicts to internalize the negative cost imposed on the environment caused by packaging wastes.

- The amount of tax that the government should impose should equate to marginal external cost (MEC) at Qs.
- As seen in Figure 4, the tax will increase the marginal cost of online shopping as illustrated by an upward shift of the MPC curve from MPC to MPC+tax.
- Consumers will thus consume online shopping at MPB=MPC+tax, thereby decrease their consumption from Qp to Qs as illustrated in Figure 4.
- As Qs is the socially optimal output where allocative efficiency is achieved and there is no welfare loss, the market failure is addressed.
- Thus, taxation discourages excessive online shopping so as to reduce their MEC to reduce the tax they have to pay.
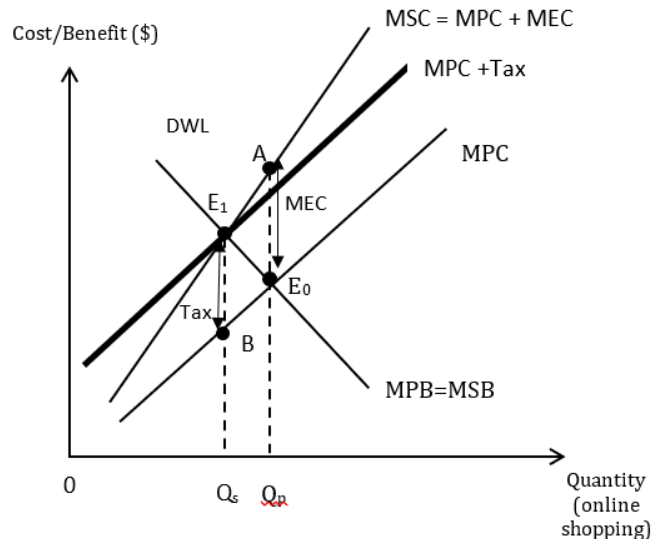
Figure 4: Impact of taxes

Limitations of taxation
- It is difficult to estimate the exact MEC as the impact of discarded packaging waste on the environment is intangible and hard to quantify.
- Hence, the government may under-tax or over-tax, hence underconsumption or overconsumption still persists, which does not eliminate the deadweight loss to achieve allocative efficiency. For instance, if the government were to under-tax, the consumption will still be between QsQp and not fall Qs.

Measure (2): Government could implement a regulation to phase out single-use plastics and encourage the switch to other materials.
- With regulation against the use of single-use plastics, a material used mainly in packaging, the demand for plastics will decrease.
- At the same time of the phasing out of plastics, government should encourage these online shopping platforms to switch to other materials. This can be seen in Extract 3, where Alibaba's logistics arm Cainiao designed recyclable corrugated cardboard boxes that don't have to be sealed with plastic tapes. This is also known as the zipper bag. Alibaba has also offered this packaging to more than its resellers such as Nestle SA and Procter and Gamble Co to use. Cainiao also used 190,000 plastic-free boxes and 3 million biodegradable bags to package their Singles' Day orders this year.

Limitations of Regulation / Legislation of phasing out single-used plastics
- Regulation is a blunt tool, which may incur high costs of monitoring to be effective, such costs includes the cost of checking on firms to ensure that they are abiding by the regulations and prosecuting them in case of non-compliance.

Evaluative conclusion:

- In the short run, it will be more appropriate to use indirect taxes as a measure to reduce the inefficiency in resource allocation in the online shopping market as it is relatively quick to implement and the least costly way to reduce the over-consumption. Taxation forces the consumers to internalize the external costs to the socially optimal level.

		E2
		2-3
		marks
			For an evaluation that contains
			    A synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question).
			    Well-explained criteria-based evaluative comments supported by **accurate** and **clear** analysis to provide **fairness** in views.
			    A good summative conclusion.	

		E1
		1
		mark
			For an evaluation that contains
			    Relevant but unexplained evaluative judgement(s) / statement(s) i.e. evaluative judgement(s) / statement(s) not supported by analysis.
			
			OR
			
			    A **relevant** conclusion.	

				[Total: 30]