**Cost of production and Market structures**

**Singapore Airlines, caught between the rapid emergence of airlines from the Gulf countries (for example, Emirates) and low cost Asian rivals, is attempting to revive growth by cutting prices.**

**Source: CNBC**

**(a) Using appropriate examples, explain the various internal economies of scale enjoyed by an airline company. [10]**

Approach

* + Explain what it means for an airline company to expand.
	+ Followed by this, explain 3 sources of IEOS, using examples, which can result from such an expansion.
	+ Explain using a diagram how LRAC is lowered when there is such an expansion.

Introduction

Internal economies of scale (IEOS) are the cost savings a firm experience as it increases its scale of production/operation. Thus, as the scale of production/operation increases, the long run average cost will fall (as the total cost is spread over a larger range of production/operation).

Main Body

There are different types of IEOS that an airline company can enjoy when they expand their scale of operation. Expansion of scale of operation in this case may refer to the number of passengers they carry, the number of flights they operate or even the number of airports they serve/fly to.

There are IEOS from organizational administrative economies. As an airline company grows its operation, there is greater flexibility to employ specialists to be in-charge of customer service management, sales and advertisement, human resource management, training of the crew, finance etc. This will help the airline company to achieve higher managerial efficiency and lower average cost of operation.

There are technical IEOS from spreading overheads and indivisibilities. As an airline embarks on R&D for more fuel efficient planes or better quality of in-flight experience, they will incur significantly large costs of embarking on such investments. Similarly, for each airline company the fleet of aircraft constitutes a huge fixed cost. An airline company also has to incur high start-up cost in terms of the technology required, routes to be chosen and setting up of the facilities (especially in terms of logistics) at different airports. Thus, all these investments in fixed costs tend to be viable and cost efficient only with a large scale of operation (such that the long run average cost is lowered with increase in scale of operation).

There are financial IEOS that can be enjoyed by an airline company. An airline company may have to obtain funds from financial institutions to carry out their operations and research projects. The larger the scale of operation (for example, SIA or Emirates which not only have aircrafts with large (passenger/seat) capacity but also serves many airports), the lower is the interest rate on loans. This is because the scale of operation directly affects their credit worthiness as a borrower (less risk of default). Thus, a lower interest rate will help to lower the average cost of the firm. Similarly, the administering of the interest rate can be spread over a large scale of output which will lower long run average costs.

An airline company may enjoy commercial EOS by enjoying cost cutting form advertisement to attract many tourists and gain market share both in the domestic market as well as the international market. As the advertisement cost can be considered to be a fixed cost, the average cost of advertising will be lower for SIA which has large scale of operation over long run.



As seen from the diagram, the IEOS enjoyed by a firm can be shown using a LRAC curve. As the airline company expands/has a higher scale of operation from Q0 to Q1, the long run average cost falls from C0 to C1.

Conclusion

Thus, an airline company will enjoy different IEOS from large scale of operation and move down along the LRAC. However, the assumption is that the company will choose to operate on the LRAC at any given level of operation. It is important to note that as the airline company keeps expanding their scale, they may incur higher long run average cost after expanding beyond a certain scale of operation (i.e. internal diseconomies of scale).

**12. Explain how firms set price and output in the imperfect market structure and assess the factors that cause the extent of change in price and output level.**

**Essay Question**

**Explain how, in economic theory, firms in imperfect markets would determine the price that would maximize profits. [10]**

Introduction (**requirements of the question / economic principles**

Imperfect market structures are market structures that have imperfect market information (price and cost of production) and immobility of factors of production (occupational and geographical). The firms under these forms of market structures possess certain degree of market power which will affect the production equilibrium that will determine the price level set by the firm. Regardless of the types of market structures, the firm will base on the notion of profit maximization to determine production equilibrium when the firms aim to maximize profit.

Main Body

**1. Explain the various types of market structures**

Under the imperfect market structures, it can be classified as monopolistic, oligopolistic or monopolistic competitive market where the industry may have one firm, few firms or many firms. For the monopoly, the produce of the firm is unique and there is high degree of market power while the product of the firm in the oligopoly is classified as homogeneous or differentiated and has strong market powers. However, the product of the firms in the monopolistic competitive market is classified as differentiated and there is small degree of market power.

**2. Explain how the firms in the imperfect market is affected by the market power of the firms**

Due to the influence of the market power, the firms in the imperfect market structure will have a downward-sloping MR and AR, indicating that the firm is capable of practicing price-setting whereby the firm can either decrease price to increase quantity demanded or increase price but face a lower level of quantity demanded. For the monopoly and oligopoly, the market power is derived from the barriers to entry while the market power for the monopolistic competition is based on product differentiation.

**3. Explain how the price level is determined by the production equilibrium based on profit maximization**

Based on this downward-sloping MR and AR, the firms in the imperfect market can set the price level when the production equilibrium is attained; abiding to the profit-maximising rule, Under this rule, the firm will increase production when the MR is greater than the MC since additional net profit can be earned and decrease production level when the MR is less than MC since additional net loss may be incurred. Thus, it will attain production equilibrium at the level of output where MR is equal to MC

**MR > MC – presence of additional net profit – increase production**

**MR < MC – presence of additional net loss – decrease production**

**MR = MC – production equilibrium**

AR=DD=P

Q0

Qty

MR

MC

Price

PC

P0

As seen from the diagram, it can be observed that the MR and AR are downward-sloping while the MC is upward-sloping as there is a higher rate of utilization of resource capacity. The production equilibrium is set at the quantity level of Q0 while the price level is set at P0 where MR = MC, abiding the rule of profit maximization when the firm determines price and output level.

**Different profit levels (optional)**

The firms in the imperfect market structures will make different levels of profit in the short-run and long run when it attains production equilibrium. In the short run, it can make subnormal profit, normal profit or supernormal profit. But in the long run, the firm can make only normal or supernormal profit as the firm will have to shut down when it incurs subnormal profit.

**Production and allocative efficiency**

It is imperative to note that the firm in the imperfect market structure will not be able to attain allocative efficiency as the price level is set at profit-maximising level does not equal to the marginal cost. It is not able to attain production efficiency in the short-run as the firm is producing at the excess capacity at the profit-maximising level of output though they are able to achieve production efficiency in the long run from the profit-maximizing level of production.

Conclusion

In sum, the profit-maximising rule will influence how the firm determines its price strategy in the imperfect market structure. The downward-sloping AR and MR condition will mean that the firms may not satisfy other aims of the firms when it set price level based on profit-maximising rule.

Until the price and output is set – what would you want to discuss further

Qn: Why the price is higher at the rural area and why it is lower at the urban city?

Variation of price-elasticity of MR and AR 🡪 degree of substitution 🡪 affected by number of firms 🡪 the price is higher when the MR and AR is price-inelastic and the price is lower when the MR and AR is price-inelastic

**13. Forms of Efficiency**

Allocative efficiency is a type of economic efficiency in which economy/producers produce only those types of goods and services that are more desirable in the society and in high demand. Allocative efficiency is a point where marginal benefit is equal to marginal cost (P=MB=MC). When this is attained, the industry attains optimization of allocation of resources as there is no dead weight loss. Thus, both consumers and producers attain maximization of consumer and producer surplus

Productive efficiency occurs when the economy is utilizing all its resources efficiently. The concept is illustrated on a production possibility curve where all points on the curve are points of maximum productive efficiency. When this is attained at the respective level of output, the firm produces at the lowest average cost of production, enabling it to sell at the lowest price level. In doing this, the consumers and producers can gain greater maximization of welfare with higher consumer and producer surplus.

Reaping Economies of scale is also beneficial as firms can lower average cost of production by spreading the total cost over a larger number of outputs. As such, the firm can lower price level of the good. Consequently, the consumers and producers can lower their price and output level to raise welfare for the consumers and producers.

X-inefficiency is the difference between efficient behavior of businesses assumed or implied by economic theory and their observed behavior in practice caused by a lack of competitive pressure. This usually occur when there is only firm in the industry and the firm acts like a monopoly. In this situation, the firm has little incentive to control costs, causing the average cost of production to be higher than necessary.

**Explain what is meant by productive efficiency and allocative efficiency, and assess whether in reality, it is in consumers' interest when firms are both productive efficient and allocative efficient. [25]**

Introduction

* Define Productive Efficiency - firms produced at lowest possible cost of the LRAC given the output.
* Explain the LRAC: As firm expands its scale of production, it enjoys internal EOS and this cost savings outweighs the higher cost incurred due to bigger size - internal disEOS and unit cost will fall.
* Beyond, MES (min of LRAC), internal EOS is outweighed by diseconomies of scale (DEOS) and unit cost will rise.
* Diagram to show LRAC.
* Define and explain Allocative Efficiency (explain in details P>MC, P<MC, etc)

Main Body

* Define AE - it is achieved when resources are allocated such that it is impossible to makes someone else better off without making someone else worse off.
* In the absence of externalities, allocative efficiency is achieved when MB (P) =MC.
* If P > MC, it means that the-price consumers are willing to pay for the additional unit exceeds the value they placed on the alternative goods forgone. Therefore, economic welfare would be increased if extra units were produced. There is presently an underproduction of this good.
* If P < MC, it means that consumers5 valuation of the additional unit is below that of the alternative goods sacrificed. Hence, it would make sense not to produce that additional unit and instead reallocate the resources to produce some other goods which consumers value more. There is presently an overproduction of this good.
* When P = MC, it means that there is neither over nor underproduction. Society's welfare is maximised.
* There is no misallocation of resources.

Examine the features of different market structures in relations to the PE and AE. Provide examples of the different market structures.

In essence, firms that are PE and AE are regarded as Perfect Competition (PC). Other imperfect competition firms are regarded as not AE (P>MC) but could be PE in the LR. These would include monopolistic competition, oligopoly and monopoly.

Analyse both the benefits and costs to consumers for the market

Discuss the benefits and cost of a **Perfect Competitive (PC) Model**:

* AE, PE for SR and LR. Draw the diagram to illustrate the benefits and cost
* Price Taker for a PC firm is as a result of product homogeneity and taking the market price from: the interaction of industry demand and supply
* Compared to other market structures PC firm is able to produce at lower price and has normal profit in the LR. The increases consumers’ welfare.
* But no incentive to undertake R&D and innovation. Also there is no product variety
* In reality, perfect competition does not exist. The closest example may be the stock market.
* While AE and PE would be good for consumers in terms for price but the examples may be restricted to basic necessities (if at all).

**Monopoly**, on the other hand, is not AE. It may be PE at given level of output but not producing at MES, which may not fully exploit EOS:

* Draw the diagram to illustrate the benefits and cost of monopoly and contrast with that of PC.
* Monopoly is not AE (with the P>MC). This leads to consumer exploitation and loss in consumer welfare (consumer surplus) in terms of higher price and lower quantity.
* However, Monopoly does have opportunity to have EOS due to its high supernormal profit. Provide some examples of EOS.
* In reality, monopoly in most countries in regulated by government (especially natural monopoly), there would be limited amount of consumer exploitations (in Singapore for example, public transport operators are regulated by Land Transport Authority (LTA)). Private monopolies (e.g.
* Microsoft) are always in a state of contestable market where the fear of entry of new close substitutes forces them to innovate.
* Only in certain countries (especially corrupted and/or developing ones) monopoly is truly exploitative to consumers where it is in government's interest to remain so.

**Monopolistic competition** is not AE. Some excess capacity but still PE in the LR.

* Explain that while it is not AE, MPC has the benefit of variety of consumer choice where the goods/services are differentiated. For example, bubble Tea andDonuts industries have many players that are able provide a wide range of choices for consumers for a relatively low price. This could also be attributed to the non-price competition nature of product development.
* The disadvantage is that there may not be much incentive to innovate due to the normal profit nature in the LR.
* In reality, MPC may be suitable market structure for most consumer goods/services that are not too high in value.

**Oligopoly**

* Oligopoly is not AE. There appear to some degree of consumer exploitation.
* Similar to arguments of monopoly but with some differences. Consumer interest may be affected if oligopolist decided to form collusion or cartels, which is why governments may intervene here.
* So allocative inefficiencies can be as undesirable as some unregulated monopolies.
* Competitive oligopolists may not have much price competitions due to price rigidity. In most cases this is not AE, but they can make use of supernormal profits to gain market shares e.g. for non-price competition (in terms of marketing, product development) and EOS.
* In reality, most high value added goods such as cans, computers and electronic items; are constantly being improved and upgraded. Consumers look forward to new and innovative products being introduced to the market. AE and PE may not be too much of a concern for

Conclusion

In the real modern world, consumers are not that concerned with either AE or PE. The free market and government regulation has, to a large extent, ensured consumer sovereignty. With higher income levels in developed and developing countries, consumer would want more for quality, variety and innovative products rather than just merely low prices.

**Explain how increase in market competition affects the profit level in the industry.**

**Explain how the reduction in market competition affects the society and consumers**

**Explain how firms will compete in the oligopolistic market structure.**

**Explain how price higher in some regions (rural) while it is lower in other regions (urban)**

**Explain the advantages and disadvantages of price discrimination.**

**Reasons for and against the mergers and acquisition of the firms.**