**Question 1**

***"The new S$12 million FairPrice Xtra hypermarket, at Ang Mo Kio Hub, offers a wider range of goods than the typical FairPrice supermarket, and includes new lines like electronic products and fashion wear."***

**Explain how the scale of a firm influences its costs. [10]**

**Cost of production increases or decreases on an average basis and total cost of production increases at a decreasing rate or increasing rate, - there is a change in output**

**Introduction**

A firm refers to a business unit which employs productive resources to produce goods and services. Scale of firm is characterized by the amount of capital outlay fixed assets, employment size and the levels of output / market share. In Singapore, the employment size of the Small Medium Enterprises does not exceed 200 workers and fixed assets not exceeding S$15 million.

**Development**

As a firm increases its scale of production, it is able to enjoy cost advantages - internal economies of scale. Internal Economies of Scale are lower unit cost achieved by a firm when it expands its output or enlarges its scale of production. The internal EOS arises within the firm as a result of its own expansion and are independent of the size and expansion of the industry.

**Internal Economies of Scale** (required to explain only two)

**1. Marketing / Commercial Economies**

A large firm buys its raw materials in bulk and large discount are often offered by the suppliers. Instead of buying from the wholesaler, the large firm can buy directly from the producer. For example, a supermarket can obtain its meat, egg supplies, vegetables and fruits directly from the farms at a discount while an independent stall at the wet market may have to obtain his supplies from the wholesaler.

In selling a large volume of output, the firm may be able to use more expensive but more cost-effective advertising. In other words, advertising cost will be spread out. A firm such as NTUC Fairprice supermarket with a nationwide market can afford to advertise in the papers, etc, to bring its product to the notice of potential buyers whereas a small firm may not have the capacity to advertise. Though such firms may spend large sums on advertising, their advertising costs per unit sold may be well below those of a small firm.

Advertising costs can spread over a large volume of sales. Moreover, the large firm can save on advertising costs as the same advertisement helps to promote its range of products and not just one product.

**2. Administrative / Managerial Economies**

As the scale of a firm increases, specialists can be employed to manage the firm. In other words, division of labour can be introduced into tasks of management. Different experts can be employed to take charge of planning, production, accounting, sales promotion and personnel management. Efficiency in management thus can reduce unit costs in large firms.

**3. Financial Economies**

A large firm is often able to obtain finance more easily or on better terms than a smaller firm. Its larger assets and greater selling potential provides banks with greater security and makes it possible for them to provide loans at lower rates of interest. The larger firm can also raise substantial capital through public issue of shares.

**4. Risk- bearing Economies**

Large firms are in a better position to spread risks. Furthermore, large firms have greater opportunities for reducing risk through the diversification of markets or products. Thus, if sales drop in one market, a large firm can still rely on sales in other markets to compensate for the loss or if one product becomes unpopular, the firm can make up for the loss from its sale of other products. In the case of FairPrice Xtra hypermarket, it offers a wide range of goods and includes new lines like electronic products and fashion wear.

**Diseconomies of Scale** (require to explain only one)

When a firm enlarges its scale beyond the minimum efficient scale, it may experience diseconomies of scale where the unit cost increase.

**1. Management problem**

As a firm continues to expand, coordination and control become more difficult. Communication becomes a time-consuming process, so that decisions are inevitably delayed. In addition, communication in a large firm tends to be one - way; i.e., a superior will pass on to his subordinates something to do without discussing the matter with them. One-way communication often leads to ill-feeling and misunderstanding.

**2. Financial Problems**

When a firm is very large, it requires a lot of capital to finance farther expansion. It may be possible for the firm to obtain such finance only from sources which charges increasingly higher rates of interest

**3. Marketing Problems**

When a firm becomes too large, it will experience difficulties in finding sufficient demand for the commodity it produces. After a certain point is reached, expansion of the existing market can be achieved only by huge expenditure on advertising and publicity.

**External EOS** (required to explain only one)

Large as well as small scale firms are able to enjoy external economies of scale. External EOS are cost savings enjoyed by individual firms as a result of the expansion of the industry as a whole. These economies are independent of the firm's own output and are outside the control of the firm. External economies are possible to an industry as a whole when most of the firms in a particular line of production comprising the industry are concentrated in one area, i.e. when localization of industry occurs.

**1. Economies of Concentration**

These are mutual benefits to be derived when the firms in a particular industry are concentrated together and the industry expands.

Development of infrastructure & marketing facilities

When an industry is first set up in a new area, transport, amenities (like water, electricity, telephone facilities) and marketing facilities (for the purchase of materials and sale of the product, specialized warehousing and banking) may not be well developed. With the entry of firms leading to expansion of the industry, it is possible for transport and marketing facilities to be developed. Thus, individual firms need not build their own road system and generator. This will help to cut down unit cost of production. For example, in Singapore, the Ang Mo Kio Hub or IMM building housed a large number of retail outlets including supermarkets which enjoy the well-developed transportation (MRT and SBS Transit) and other amenities.

**2. Economies of Information**

The development of the industry often leads to the development of research facilities to improve the existing production techniques and the publication of specialist journals. It becomes possible to set up research associations which will carry out research work on behalf of individual firms and publish the results for all firms to use. Such researches are of enormous advantage to the industry as a whole but far too expensive for a single firm to undertake unaided.

**Conclusion**

In conclusion, the large scale production enjoys internal EOS as AC decreases. However, when a firm enlarges its scale beyond the minimum efficient scale, it may experience, diseconomies of scale where the unit cost increase (AC increases). The external EOS are enjoyed by both the small and large scale firms. Besides cost advantages, the scale of the firms also influences its revenue. Firms must be large enough to capture a bigger market share and therefore able to exert market power to set prices or output in order to increase its revenue.

# Question 9

Many companies, recognizing the increase in environmental awareness among consumers that they have invested in research to ensure that their products are now advertise environmentally friendly. They hope that this will increase their demand for their products and lead to higher profits.

1. Explain the difference between the fixed and variable costs and suggest what might happen to the fixed and variable costs in the above companies in the short run. (12)

Introduction

Definition of short run, variable and fixed factors and costs

The short run period of production refers to the production situation where the firm can only increase their output by varying the variable factors while holding one factors of production fixed. In this stage of production, variable factors like labour will incur variable cost like wages and fixed factors while fixed factors like machinery, which will incur fixed cost.

Main body

Explain the difference between the fixed and variable factor

* 1. Fixed cost is incurred once the firm is engaged in the business and it does not vary with the change in output but the variable cost is only incurred when production begins as the cost of the variable factors will only increase when the production increases which means that the variable cost will vary with production.
	2. The Total fixed cost curve is a horizontal curve, which means that the fixed cost is constant through out the production. On the other hand, the total variable cost will increase at different rate as the production increases; it will increase at decreasing rate at the initial stage and increases at decreasing rate at the second stage, when the law of diminishing returns set in.
	3. As for the average fixed cost, it will decrease as production increases but it decreases sharply initially and gradually when the law of diminishing returns set in. As for the average variable cost, it will decrease and increase, once the law of diminishing return sets in, as the decrease in MP will lead to a rise in the average variable cost.

Explain how the increase in advertising and research and development will affect the cost of production

The increase in R & D is a form of fixed cost as the expenditure on the fixed factors is incurred even when no unit of output is produced. These forms of expenditure take in the form of laboratories setup, specialized equipment and fittings and furniture. Although the employment of research personnel, like scientists or specialists and electrical costs are variable costs, these costs are incurred even when the production and revenue is zero and thus, it is considered fixed cost. The increase in advertising is also incurred before any revenue is earned and therefore it is classified as fixed cost.

* + 1. However, the increase in productivity brought about by R& D will increase the marginal product and thus, enabling the firm to reduce AFC and lower down the AVC as the firms now enhance the utilization of the fixed factors.
		2. The increase in market demand due to increase in advertising will also help to spread the total fixed over more units of production and thus lower the average fixed and variable cost. The increase in market demand will induce the firm to reap the benefit of the excess capacity in production.
		3. However, when the production reaches a stage of diminishing returns, the average variable cost and average cost will rise. (over-utilization of fixed factors by variable factors )

In conclusion, the various kinds of production activities will affect the production and hence contribute to the change in the cost of production at both total and unit level.

**Question 13**

**Discuss the extent to which the survival of firms in the real world depends on the actions of their rival firms**. [15]

**Survival of firms in the real world?**

Real world e.gs: Monopolistic competitive firms, oligopolistic firms, monopolists

Survival of firms -> at least long-run normal profits.

**Thesis: Survival of firms in the real world the actions of their rival firms**

1. Firms in the real world may not be able to survive in the long- run if their rival firms launch aggressive price wars.

-Firms in monopolistic competitive or oligopolistic markets with slightly differentiated goods have a relatively more elastic demand.

-This means that cross elasticity of demand for the products/services of rival firms would be high. If rival firms reduce their price, the demand for a firm's product will fall more than proportionately and thus lose significant revenue necessary to survive in the long run.

-Smaller firms may not be able to survive when larger firms set predatory pricing.

2. Firms in the real world may not be able to survive in the long- run if their rival firms have aggressive non-price strategies.

-Firms in monopolistic competitive or oligopoly markets tend to focus on non-price competition such as product differentiation, branding and aggressive advertising.

-Such actions of rival firms might cause the demand of a firm's product fall significantly, especially if rival firms are to satisfy the changing taste and preferences of consumers, as well as to successfully persuade consumers through aggressive advertising.

- E.g. MC firms: donut and bubble tea shops; oligopolistic firms: BP retail petroleum, MediaWorks

**Anti-Thesis: The survival of firms in the real world may also depend on other factors**

1. Firms in the real world also depend on their own strategies to ensure survival.

-> Pricing Strategy: matching any price reduction to protect market share and revenue.

-> Non-price Strategy: matching any product development, as well as innovating new products.

Smaller firms can survive if they produce personalized products/services in their own niches.

-> Mergers and Acquisitions: Some firms may also merge to gain more market share, increase total revenue and enjoy economies of scale. This may allow these firms to increase profits above the normal level necessary to remain in the market. E.g. Nike bought over Umbro and Converse, Delta-Northwest merger.

-> Overseas Expansion: Some firms unable to expand consumer base domestically might look overseas for a larger market so as to increase total revenue and lower average cost through economies of scale. E.g. Comfort Delgro overseas operations.

4. The survival of firms in the real world also depends on market conditions.

-> A prolonged economic recession or a persistent supply shock (e.g. oil shocks) may also threatened a firm's survival if subnormal profits is earned in the long-run.

- This is especially true for firms that produce goods/services with high income elasticity, or firms which are heavily dependent on oil as an energy resource.

E.g. GM motors filed for bankruptcy and closed many plants in this 2009 recession; airline companies hit by 2007 oil price hikes.

**Extent of dependency of firms1 survival on the actions of rival firms depends on:**

* Degree of product differentiation, availability of company resources and range of alternative strategies to counter price and non-price competition.
* The time period of which rival firms sustain their competitive behaviour, which is in turn dependent on the availability of rival firms' resources.