



Topic 7:

Characteristics, Strategies & Impacts

Theme 2.2: Firms and Decisions

How to use this set of lecture notes?

1) BEFORE LECTURES – UNDERSTANDING CONTENT

- Reference your notes against your H2 syllabus. Mark out the key concepts so that you know what you **MUST** know
- Read your notes ahead so that you can focus on listening and capturing additional notes during lectures

2) During lectures – APPLYING CONTENT

- Bring your hard copy notes along, and use your PLDs to refer to the lecture slides concurrently
- Capture additional notes, especially the real-world examples where you can note down how concepts are applied and how economic analysis are developed in varying contexts
- You should make use of a notetaking/consolidation tool to take notes during lessons and to consolidate your learning at timely junctures. Examples are Miro, Notion, Goodnotes, Notability, Microsoft OneNote, KAMI, etc. The choice is yours!

3) After Lectures – TUTORIAL PREPARATION to use content flexibly to show application, analysis and evaluation skills

- Revise concepts relevant for the case study and essay questions
- Refer to the notes and use it flexibly to prepare your answers to meet question requirements. Pure memorisation will not work as it does not involve deep understanding.
- Do share your notes with your friends to multiply learning!

Introduction to Firms and Decisions: Characteristics, Strategies & Impacts

1. Characteristics

- 1.1 Perfect Competition
- 1.2 Monopoly
- 1.3 Monopolistic Competition
- 1.4 Oligopoly

2. Strategies

- 2.1 Pricing Strategies
- 2.2 Non-Pricing Strategies

3. Impacts

- 3.1 Impact on Consumers
- 3.2 Impact on Firms
- 3.3 Impact on Society

Summary Table

Essential Questions:

- 1. What decisions do firms make?
- 2. What factors influence a firm's decisions?
- 3. What are the different impacts of a firm's decisions?

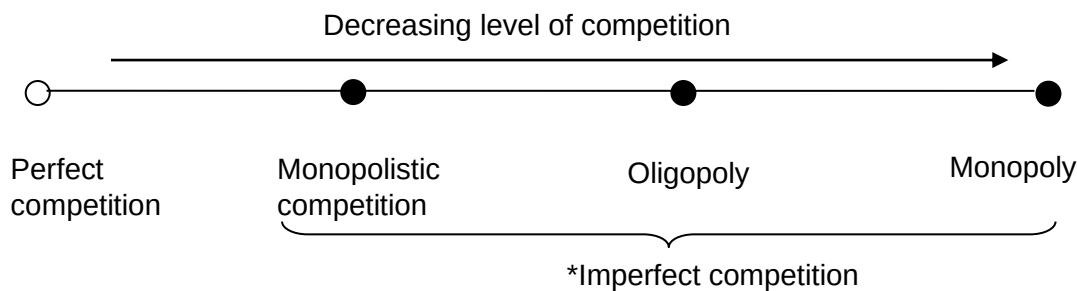
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Introduction to Firms and Decisions: Characteristics, Strategies & Impacts

How exciting are these times! We are living in an age with disruptive technologies that have changed the rules of the game for many firms. We have seen emergence of the sharing economy where firms like Grab and Airbnb have provided excellent alternatives to taxis and hotels respectively. The incumbent firms, once basking in their dominant market power, are now faced with competition like never before. What insights could we glean from economic theory?

Firms (recall Topic 1 on the Central Economic Problem) aim to maximise profits and must make various decisions—such as pricing of their products and adopting non-price strategies, etc. These decisions differ across firms due to varying levels of competition. Understanding key characteristics and behaviours of different firms will help you better understand and appreciate such decisions.

Spectrum of Market Competition



Market structure is defined as the way in which a market or industry is organised.

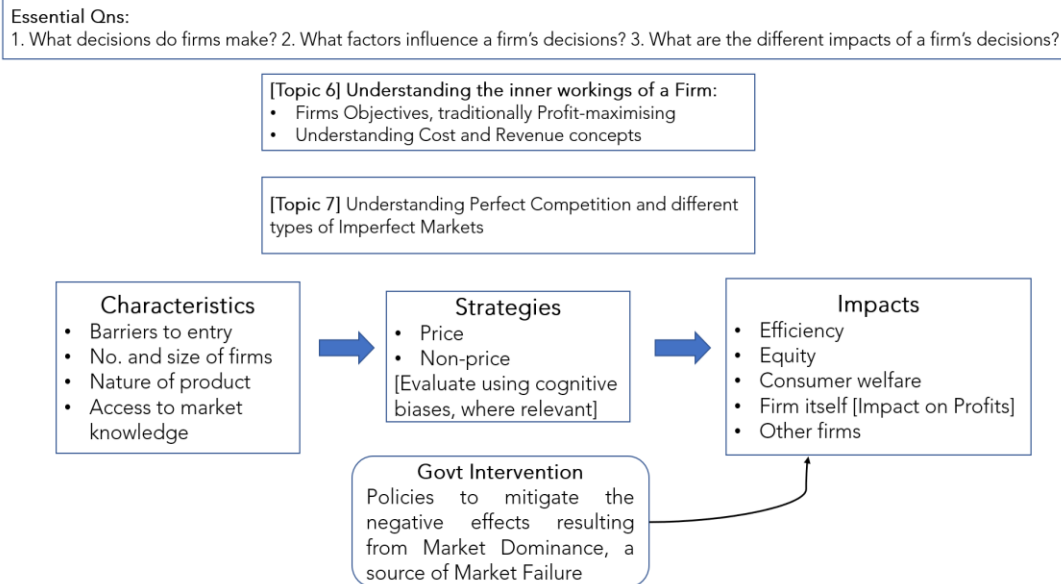
Economists generally classify the four market structures (perfect competition, monopolistic competition, oligopoly, and monopoly) based on characteristics. Each form of market structure is unique (with perfect competition and monopoly representing the extremes).

The market structure has a direct impact on the firm's economic strategies, which in turn affects its market impacts. Therein, feedback effects occur such that market impacts may influence strategies and characteristics, or strategies may affect the market structure.

We will adopt the **CSI** framework: **Characteristics-Strategies-Impacts** framework to understand each market structure type.

Characteristics-Strategies-Impacts (CSI) Framework

Figure 1: Theme 2.2 Concept Map



1. Characteristics

1.1 Perfect Competition

Perfect competition is a theoretical model where other less competitive real-world markets are benchmarked against. While such a market in its purest form does not exist, there are some industries that come very close to being perfectly competitive: some commodities and agricultural goods markets (e.g., wheat market).

A perfectly competitive industry is characterised by the following:

a. Barriers to entry - Freedom of entry into and exit from the industry

Barriers to entry (BTE) are anything that prevents or impedes the entry of firms into an industry and thereby impacts the profits that firms can make in the long run.

Freedom of entry means there are **no barriers** to prevent a new firm from starting a business in the industry if it so wishes. In a perfectly competitive industry, assuming perfect information exists and where there are no barriers to entry, it is easy for any potential entrant to gain access to information on production processes as well as information on rivals. Any existing firm can also easily cease production and leave the industry if it so wishes.

The extent of BTE can thus explain the number and size of firms in a market.

b. Number and size of firms

In a market where there are a **large number of sellers**, the output of every seller is a very small and insignificant portion of the total market share. An individual seller is in no position to influence the market price of the good by varying its own output. Hence, every seller in a perfectly competitive market is a **price-taker**.

c. Nature of product - homogeneous product

The product in a perfectly competitive market is exactly the same in every aspect, i.e., the size, shape, quality, colour etc. The product of any producer is a **perfect substitute** for the products of other producers. Since each firm is producing an identical product, when one producer increases the price of his product, all consumers will switch to other producers. On the other hand, firms would not lower the price of the good as it is more profitable for each firm to sell whatever quantity it wishes at the given price.

1.2 Monopoly

A monopoly refers to a market with a single dominant seller. The pure monopoly hence does not have any rival firm to contest with.

Characteristics

a. Barriers to entry – High barriers to entry

High barriers to entry protect firms from competition, allowing monopolies or oligopolies to maintain market power by preventing new entrants. One means of doing so is to erect barriers to entry which are legal or natural impediments protecting a firm from competition from potential new entrants.

- **Costs – High startup costs**

Certain production processes require a huge amount of startup infrastructure and R&D costs before production can happen. This makes it more likely for a single producer to supply the entire market and hence enjoy a lower average total cost of production due to the opportunity to reap internal economies of scale. Due to the huge capital outlay involved with low average cost of production, this effectively bars potential entrants with insufficient capital funds. Example of such industries are aircraft and shipbuilding industries.

- **Financial barriers – Financial credibility**

Usually, a firm which requires huge capital funds may also be large and hence have more financial credibility to the banks. This may allow them to have a lower interest rate for the loans made, acting as a financial barrier to entry to its potential competitors.

- **Access to inputs and markets - Controlling supply chain**

Controlling the supply chain is another way which a firm can create barriers to entry, and this may involve controlling the supply of inputs

(i.e., upstream) or controlling the distribution/retailing of the product (i.e., downstream).

Controlling of key inputs enables a firm to create BTE by denying new entrants' access to such resources. For example, South African diamond producer De Beers, at one time controlled most of the world's diamond mines, thus preventing entry of new diamond suppliers.

Controlling retailers by preventing them from selling competing products can also enable a manufacturer to deter competition. For example, food joints typically sell either Coca-Cola or Pepsi due to special contracts that are negotiated between them and these cola producers. This makes it very difficult for other cola brands to penetrate the market.

- **Legal barriers - Government regulation**

Legal barriers to entry include licenses, patents and copyrights. For example, the issuance of telecommunication (telco) **licenses** in Singapore comes under the jurisdiction of Infocomm Media Development Authority of Singapore (IMDA), in accordance with its guidelines. This is especially important given the great reliance of consumers and businesses on telco services and where delivery of service standards is crucial for the functioning of an aspiring smart nation.

A **patent** is an exclusive right granted by the government to the inventor of a product for a limited period. Patents legally prevent others from copying inventions for a set period, allowing inventors to benefit exclusively. Common examples include pharmaceutical drugs and software. In Singapore, IPOS manages these rights. Beyond inventions, intellectual property also covers creative works, which are protected by copyright laws that can last for 120 years in some countries such as in the US before becoming public domain.

b. Number and size of firms – One dominant producer of the good

In a pure monopoly, one firm is the entire industry. Consequently, there is no distinction between the firm and industry. For example, Singapore had a sole telecommunication provider until the sector was fully liberalised in 2000.

However, in reality, we see more instances of **one firm being the dominant producer** rather than being the sole producer. In such a case, we may also regard the firm as a monopoly (examples include De Beers for diamond industry in the 1980s, Microsoft for desktop operating systems in the 1990s, SingPost and Utilities board in Singapore, etc.).

**Connect, Extend, Challenge**

Uber and Grab once held 80% of Singapore's market share in the 2010s.

What is the market structure that best describes the characteristics of the ride-hailing market in Singapore? Why?

c. Nature of product – Unique product that has no close substitute

The good is the only one of its kind, i.e., there are no existing products that can satisfactorily substitute it. This means that a consumer who wants this good can only purchase it from the monopolist and must therefore accept the price set by the firm. Hence, the monopoly is a price setter, being the only producer of a good with no close substitutes. Its demand curve is downward sloping.

**Connect, Extend, Challenge**

What is the PED likely to be for a unique product?

d. Access to market knowledge – Imperfect knowledge

In contrast to the case of perfectly competitive industry, all knowledge resides within monopolist. Such knowledge includes information on R&D, production processes, costs and profit margins. Consumer will not have access to such knowledge including the extent to which the monopoly is deliberately restricting production to keep prices artificially high.

1. Few markets in the world, if any, meet the strict conditions of perfect competition. This makes the model unrealistic. However, the perfect competition market structure is still useful as it plays an important role in economic analysis and government policymaking. The perfect competition model is often taken as an 'ideal structure' or the standard against which to judge the shortcomings of real-world markets which are less competitive.
2. The monopoly is often used to predict how a single firm operating in a market could look like, its characteristics, the kind of strategies it would (and would not) adopt, as well as the likely impacts of such a firm's decisions and strategies.

However, given the strictness of its assumptions and characteristics, it is also highly unlikely that a pure monopoly (single firm with complete market share) exists. In reality, we do observe the existence of effective monopolies, i.e. firms that have extremely high market share in a market where other firms with much smaller market share do co-exist.

We have studied the two extreme types of market structures: perfect competition and monopoly. In perfect competition, many small firms exist, each unable to influence market prices, making them price takers. In contrast, a monopoly consists of a single firm with no competition from within the industry. However, these extremes are relatively rare in reality.

Firms usually exist in market structures that lie between these two extremes. In the middle come **monopolistic competition** (i.e., hair salons and restaurants), which involves many firms competing and there is freedom for new firms to enter the industry, and **oligopoly** (i.e., banks, petrol companies and telecommunication companies), which involves a few dominant firms and where entry of new firms is restricted.

1.3 Monopolistic Competition

Characteristics

Monopolistically competitive markets and firms are more common than you might think. Consider hair salons and restaurants. What characteristics do they have?

a. Barriers to entry – Freedom of entry into and exit from the industry

Recall from Topic 7 Section 1.2 that barriers to entry are anything that prevents or impedes the entry of firms into an industry and thereby limits the amount of competition faced by existing firms. Entry into the industry is relatively free and easy with few government restrictions. Start-up costs are also relatively low, hence there is limited scope for economies of scale to pose as a barrier to entry. A firm could also choose to exit easily as the start-up costs that will be forfeited are relatively low.

b. Number and size of firms – Many firms in the market with no dominant firm

There are many firms in the market. This means **each firm is relatively small** and there is **no dominant firm**. The price and output decisions of one firm is unlikely to have a significant effect on the price and output decisions of other firms within the market.

However, despite the **competitive market with many firms**, each firm enjoys **some ‘market power’** in terms of being a **price setter** for its **own differentiated product**.

c. Nature of product – Slightly differentiated products

While the goods and services produced are similar across firms, they are not identical due to the use of product differentiation strategies.

- i. **Real** differences in terms of
- workmanship in areas like durability, degree of intricacy and attention to details
 - quality of materials used/chemical composition
 - specifications like size and colour
 - quality of service provided such as convenience of location, hours of operation, availability of delivery service, availability of credit facilities, after-sales service, etc.
- ii. **Perceived** differences in terms of advertising and branding – for example the ‘hip factor’, association with celebrities, etc.

Whether the differences are real or perceived, great or small, there is product differentiation if consumers *perceive* the product of one firm to be different from those of other firms.

Every firm hopes, by **product differentiation**, to convince customers that their products are better than those of their competitors. The greater the product differentiation, the greater the degree of freedom such firms have in their **pricing strategies**.

However, the goods produced by the firms in monopolistic competition are similar in that they satisfy similar consumer needs. Hence, they are **substitutable and in direct competition** with one another.

d. Access to market knowledge – Imperfect knowledge

Due to the vastness in the availability of product offerings by many firms, it is virtually impossible for any consumer or firm to know all available knowledge on all product specifications and prices.

However, it is possible for a firm to monitor some of their direct rivals (one in the same locality or one that also appeals to their intended consumer base). Likewise, consumers can have access to some knowledge on product offerings and prices, depending on their own initiative.

1.4 Oligopoly

Oligopoly is another common market structure where a few large firms dominate, unlike monopolies with a single seller or perfect and monopolistic competition with many sellers. Examples include banks, petrol, and telecommunications companies. Wonder what characteristics these markets have?

In terms of decisions and strategies, there is a key difference in the way oligopolistic firms make decisions and deploy strategies, as compared to firms in other market structures. **Oligopolistic firms are mutually interdependent.** This means that one firm's behaviour greatly affects its rivals. Consequently, the rival firms are likely to react to any action by the oligopolistic firm, and the oligopolistic firm must consider those reactions every time it makes a decision. Oligopolistic firms hence must make decisions carefully in anticipation of what rivals could do.

There are many theories of oligopoly, each based on different assumptions about the rivals' reactions. Examples of such theories are Cartel Theory, Price Leadership Model, Price Rigidity and Game Theory (as part of H3 syllabus). In general, oligopolies can be classified as **Collusive (i.e., non-competitive) oligopolies or Competitive (i.e., non-collusive) oligopolies.**
Characteristics

An oligopoly is characterised by the following:

a. Barriers to entry (BTEs) – High barriers to entry

Similar to a monopoly, oligopolistic firms have no freedom of entry and exit as they are obstructed by high barriers to entry and exit into the market. High BTEs could include natural or artificial BTEs. (*Refer to Section 1.1 of Topic 7*)

b. Number and size of firms/Concentration ratio – A few large dominant firms which are mutually interdependent.

Oligopoly is a market structure in which a small number of firms has the large majority of market share. An oligopoly is similar to a monopoly, except that two or more firms dominate the market. There is no precise upper limit to the number of firms in an oligopoly, but the number must be low enough that the actions of one firm significantly impact and influence the others. It is possible for a market that comprises many firms to be considered as an oligopoly if the market is dominated only by a few large firms. A specific example of an oligopoly is a duopoly where 2 dominant firms exist. A good example is Airbus and Boeing, where both control a large proportion of the market for large commercial airplanes.

Each firm's profit-maximising decisions regarding output, price and product differentiation depend on corresponding decisions made by rival firms. We call this **mutual interdependence**, a key characteristic of oligopolies.

How do we know if the market is an oligopoly i.e., dominated by a few large firms? The **concentration ratio** indicates whether a market is comprised of a few large dominant firms or many small firms. A concentration ratio is

the **ratio of the combined market shares** of a **given number of firms** to the whole market size.

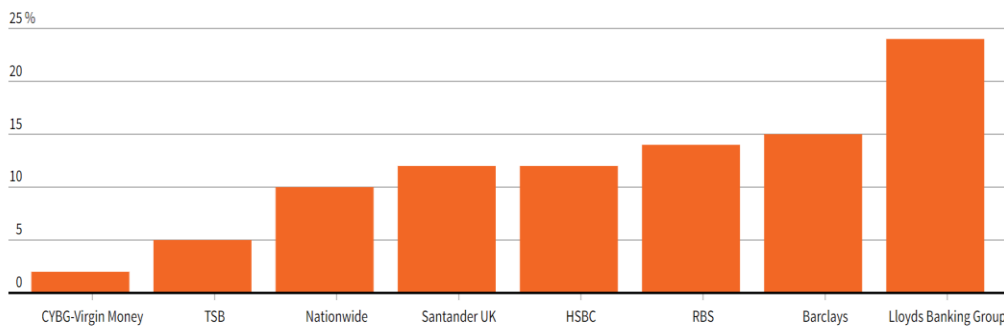
Note: Market share refers to the proportion (%) of the firm's sales revenue with respect to the industry's sales revenue. Sales revenue is derived by multiplying the price of each product to the quantity sold of each product ($P \times Q$). A firm with a relatively higher proportion of the industry's sales revenue would thus be considered as a relatively bigger firm.

It is common to consider the **concentration ratio of the top 3 or 4 or 5 firms**. When the top 5 firms account for more than 60% of total market sales revenue, it is usually considered as an oligopoly. For example, Figure 2 shows that the top 5-firm concentration ratio for the UK banking industry in 2018 was 77%. The top 5 firms were Lloyd's (24%), Barclays (15%), RBS (14%), HSBC (12%) and Santander UK (12%).

Figure 2: Top 5-firm Concentration Ratio of UK Banking Market

Britain's banks by market share

Percentage of retail market using lender as main bank



Lloyds Banking Group, HSBC and RBS shares include multiple brands. Data from Q218.

Source: RFI Group

Emma Rumney | REUTERS GRAPHICS

Concentration ratios are used to assess the extent to which a given market is oligopolistic firm. With top 5-firm concentration ratio at 77%, this implies that that UK banking industry is oligopolistic, and the degree of competition amongst the top 5 banks was very high. **Typically, the larger the concentration ratio of a smaller number of firms, the more oligopolistic the market is.**

Note: Market share of a firm is measured using sales revenue. Besides sales revenue, there are other methods to determine the size and growth of a firm.

c. Nature of product – Differentiated or Homogeneous Products

The goods produced by oligopolistic firms could be either differentiated or homogeneous.

Differentiated goods could refer to different banking services, or different telecommunications packages.

Homogeneous goods could relate to raw materials like petrol. However, oligopolistic firms would try to differentiate themselves to reduce the degree of substitutability. Petrol companies, for example, influence consumer perception towards their quality of petrol through premium petrol grades like Shell V Power and Caltex Techron.

d. Access to market knowledge - Imperfect Knowledge

The knowledge available to an oligopolistic firm includes the prices and range of their rival's products.

However, the knowledge relating to the strategic behaviour of rivals is not available. For example, when Coca Cola engaged Taylor Swift to front their multi-million-dollar advertising campaign, it is certainly not sure of how Pepsi would respond.

The oligopolistic firm also does not have perfect knowledge on the insights gained from other firms' R&D efforts. Such knowledge is typically heavily guarded in a tightly contested market. Employees in these companies will also have to sign confidentiality clauses and may be barred from joining rival firms when they resign or leave the companies.

Consumers may have access to abundant product information, but the overload makes it hard to make informed choices, requiring time and effort to navigate.

SUMMARY GUIDE TO THEME 2.2: FIRMS AND DECISIONS

MARKETS BY DEGREE OF COMPETITION	PERFECT COMPETITION *Theoretical model	IMPERFECT COMPETITION		
		MONOPOLISTIC COMPETITION	OLIGOPOLY	MONOPOLY
Examples	Commodities; agricultural produce, i.e., wheat; stock market (closest examples)	Restaurants, fashion retailers, fast food outlets, bubble tea shops, travel agencies, hawker stalls	Banks, car manufacturers, supermarkets, petroleum industry, airlines	Microsoft, public utilities
CHARACTERISTICS				
Barriers to entry	No barriers to entry	Low barriers to entry and exit	High barriers to entry which are either natural or man-made	High barriers to entry which are either natural or man-made
	Complete freedom of entry and exit of firms	Freedom of entry and exit	Little freedom of entry and exit	No freedom of entry and exit due to high BTEs and exit costs
Number and size of firms	Very large number of small firms	Many small firms or retailers	A few large firms/retailers, leading to firms being mutually interdependent	One dominant firm
Nature of product	Homogeneous/identical products that are perfect substitutes for one another	Slightly differentiated products i.e., many close substitutes available	Products can be: Slightly differentiated (i.e., some variety and choices for consumers) or homogeneous	Unique product with no close substitutes
Access to market knowledge	Perfect knowledge	Imperfect knowledge	Higher degree of imperfect knowledge	Highest degree of imperfect knowledge

**Please be clear in the use of the specific terminology. For example, the term monopolistic firm refers to Monopoly/Monopolist. On the other hand, monopolistically competitive firms refer to that where there are many small firms offering slightly differentiated products.*

2. Strategies

*The traditional objective of firms is to profit-maximise. The firms can either **raise total revenue (TR) or lower total cost (TC) [or even ensure that rise in TR exceeds rise in TC]**. It can deploy a range of strategies to compete, namely **price** and **non-price** strategies.*

As each strategy involves costs, the firm needs to make a rational decision by weighing the costs (limitations) vis-à-vis the benefits (advantages) to determine if the strategy should be deployed, and if yes, the extent to which the strategy is employed.

2.1 Pricing Strategies

2.1.1 Price-takers (*Perfectly Competitive Firms*)

Given that perfectly competitive firms are price-takers, they **WILL NOT engage in pricing strategies such as rising or reducing price**. Doing any of these will lead to a fall in profits.

- If a firm were to increase price by 1 cent, no consumer will buy from this firm and will instead buy the identical product from other firms. Hence, the firm will earn zero revenue.
- If a firm were to reduce price by 1 cent, all consumers will choose to buy from this firm. However, with the existence of perfect knowledge, all other firms will also realise this and have no choice but to reduce their prices by 1 cent. While the firm could enjoy a temporary increase in revenue, the long-term effect is that the firm will have to sell their product at a permanently lower price (product sold at a price lower than average cost). Hence, triggering an initial price drop is not a rational decision.

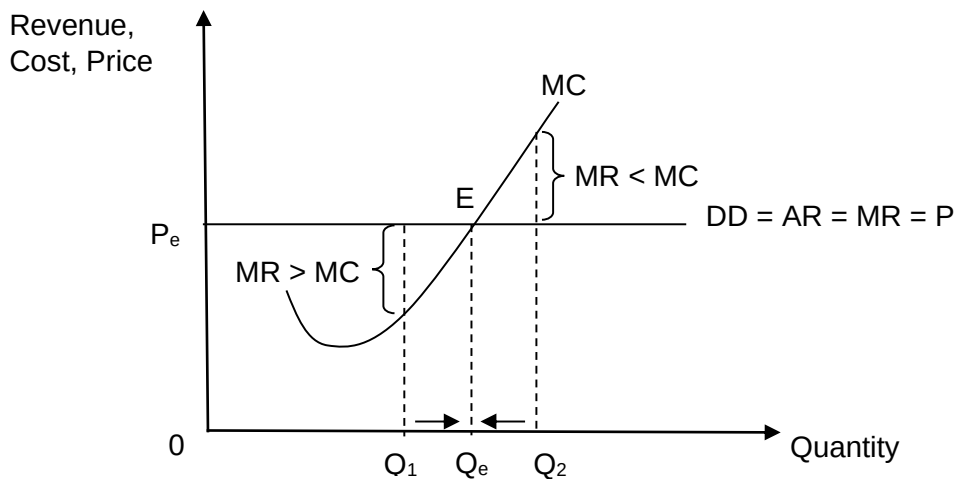
Hence, uniquely, **a perfectly competitive firm is a price taker** and the only decision it makes is to choose to **produce at the profit-maximising level of output** as illustrated below:

Approach to Profit-Maximisation Output level: $MC = MR$

Recall that economic agents make decisions at the margin. For firms, profits are maximised when $MC = MR$ and where MC is rising, i.e., at Q_e . At this output level, there is no tendency for the firm to alter its output since it has maximised its profits.

Flashback to Topic 6:

Figure 3: Profit-maximising output of a perfectly competitive firm



For $MR > MC$, consider an output level Q_1 :

If the firm were to produce Q_1 unit, the MR (the extra revenue from selling *one more* unit) is greater than the MC (the extra cost of producing *that* additional unit). Producing this additional unit will benefit the firm as the extra unit will add to its total profits.

For $MC > MR$, consider an output level Q_2 :

By producing an output greater than Q_e output level (e.g., Q_2), the MC (the extra cost of producing *one more* unit) is greater than the MR (the extra revenue from selling *that* additional unit). Hence, doing so will not benefit the firm and in fact will lead to lower profits.

Hence, the profit-maximising level of output should be where $MC = MR$ and where MC is rising. Thus, **perfectly competitive firms will produce at output Q_e and charge price P_e .**

Short-run Equilibrium of a Perfectly Competitive Firm	Long-run Equilibrium of a Perfectly Competitive Firm
In the short run, a perfectly competitive firm maximises its profits by producing at the output where $MC = MR$ where MC is rising and can earn 3 types of profits: Supernormal: $AR > AC$ Normal: $AR = AC$ subnormal profits: $AR < AC$ For subnormal profits, a firm will choose to shut down only if $AR < AVC$ but remain in operation if $AR \geq AVC$.	When firms are in the short run equilibrium, they can be making all three types of profits. However, in the long run due to the freedom of entry and exit from the perfectly competitive industry, firms only make normal profits. Supernormal profits → ENTRY of new firms If existing firms are making supernormal profits, new firms will be enticed to join the industry. At any price, more units will now be supplied because there are more firms due to the freedom of entry and exit of firms. The market supply curve shifts rightwards with the unchanged demand curve. Profits will be competed away until all the firms in the industry are just covering their total cost. The long run equilibrium is reached when all firms are making only normal profits. Subnormal profits → EXIT of firms If existing firms make subnormal profits in the long run, some firms will shut down and leave the industry i.e., the size of the industry shrinks. As a result, the market supply curve shifts to the left and hence market price rises. Firms will continue to exit, and equilibrium price will rise until remaining firms can cover total costs. Each firm will also be producing a higher equilibrium quantity. The exit of firms stops when each firm in the industry is making only normal profit.

Note: Diagrammatic analyses of firms' short run to long run equilibrium adjustment are not required.

2.1.2 Price-setters (Monopolist, Monopolistic Competitive and Oligopolistic firms)

a. Profit-maximising output and pricing level (a comparison between monopolist and monopolistic competitive firm)

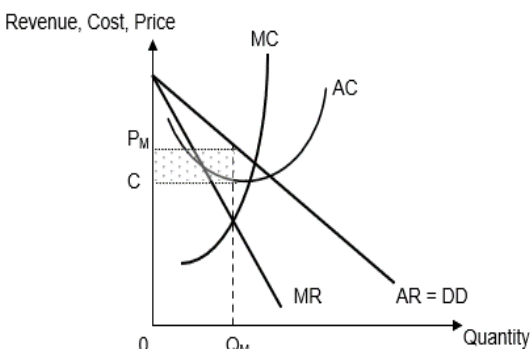
Since the monopoly equates to the industry, the monopoly's demand curve is downward sloping. Its demand is relatively price inelastic due to the absence of close substitutes. Because the monopoly has high market power and faces a downward sloping demand curve, **it is a price-setter**. This means that it has the autonomy to decide what price to set **OR** what output to produce.

Note: Recall that the Law of Demand stipulates that to sell more units of the output, the monopolist must lower its price. In other words, the monopoly **cannot control both price and quantity at the same time**.

The monopolist, will choose to maximise profits by producing the output, Q_M , at which $MR = MC$ and MC is rising, and sell at the corresponding price as seen in Figure 4 below

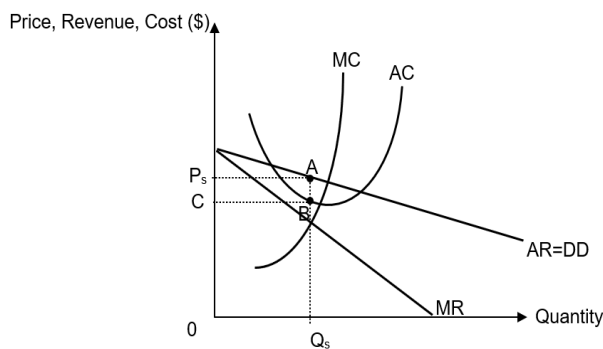
Note:
Diagrammatic analyses of comparison of types of market structure are not required

Figure 4: Profit-maximising price and output of a monopolist



Although the **monopolist** produces the level of output Q_M at which $MC = MR$, he **charges a higher price that is along the corresponding point on the AR (or demand) curve**. (**Note:** $P > MC$ for the monopoly).

Figure 5: Profit-maximising price and output of a monopolistic competitive firm



The profit-maximising output, Q_s , is similarly determined by the intersection of the MR and MC curves ($MC = MR$), and the **lower price (compared to the monopolist), P_s , is found on the gentler AR (or demand) curve** at that output Q_s .

Like a monopoly, firms under monopolistic competition market are **price setters** - can **choose what price to charge** as each firm has some degree of 'market power' (similar but less than a monopoly). Of course, the firm's pricing decision and corresponding output are constrained by the firm's demand curve. **A monopolistically competitive firm faces a downward-sloping demand curve, which is gentler than for the monopolist** (as shown on Figure 5 above) as demand for the monopolistically competitive firm's product is **more price elastic** given the many competing firms and slightly differentiated products.

Hence, a **monopolistic competitive firm will charge a lower price P_s** as shown on Figure 5 as a relatively lower in price will increase the quantity demanded by more than proportionately, hence resulting to a rise in total revenue for the for the monopolistic competitive firm.

Short-run Equilibrium of a Monopolist	Short-run Equilibrium of a Monopolistically Competitive Firm
In the short run (where there is at least one fixed factor of production), each firm will produce at the output where $MC = MR$ to maximise profits. All 3 types of profits could be earned - supernormal, normal, or subnormal. When subnormal profits is made in the short run, it needs to decide whether to continue producing or shut down to minimise losses. It would choose to shut down if the revenue earned is less than the variable cost, i.e., $AR < AVC$, but remain in operation if $AR \geq AVC$.	

Long-run Equilibrium of a Monopolist	Long-run Equilibrium of a Monopolistically Competitive Firm
Unlike perfect competition in which supernormal profits attract new firms and are eventually competed away, the monopolist can retain its supernormal profits in the long run due to insurmountable BTEs. Thus, due to the presence of high BTEs, a monopoly is unlikely to change its pricing and output decisions in the long run. Any changes in profits (in the long run) are largely due to changes in factors which lower the BTEs and encourage greater competition. In addition, the expiration of existing patents, or the effecting of new patents also impacts the monopolist's long run equilibrium position. In the long run, a monopoly must be making at least normal profits (and is more likely to be making supernormal profits). If it is making subnormal profits in the long run, it will shut down.	
	Given low BTEs, there is much freedom of entry and exit for monopolistically competitive firms. Hence any short-run supernormal/subnormal profit will eventually be normal profits in the long-run. Supernormal profits will incentivise new firms to enter while subnormal profits will force existing firms to exit. For instance, a monopolistically competitive firm earning supernormal profits in the short run. This incentivises new firms to enter, and so existing firm's demand begins to fall due to competition. As the demand curve shifts leftwards, so too does the firm's MR curve. Not only will there be a fall in demand, demand for the firm's product is also likely to become more price-elastic due to the availability of a greater number of substitutes from competitors. Once long-run normal profits are made, no firms will be attracted to enter the market. Similarly, subnormal profits will force existing inefficient firms to exit. The demand curve for each monopolistically competitive firm will increase and shift rightwards. It will also become more price inelastic, hence steeper. Once

	long-run normal profits are made, no firms will leave the market. In the long run, a monopolistically competitive firm can only earn normal profits.
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Note: Diagrammatic analyses of firms' short run to long run equilibrium adjustment are not required.

b. Price Competition (*Monopolist & Monopolistic Competitive firms*) vs **Price Rigidity** (*Competitive & Collusive Oligopolistic firms*)

i. Price Competition (*Monopolist & Monopolistic Competitive firms*)

Firms consider the existing and potential levels of competition in the industry when making decisions and engaging in strategies. Do bear in mind that barriers to entry can change over time.

How the strategy works	
A monopoly in theory sets prices at where $MC = MR$ to maximise profits. Should costs or demand fall, the monopolist will lower its prices so that it can move to its new profit-maximisation position. The monopolist may also lower its prices to earn more revenue if it perceives the demand for its product to be relatively price elastic (i.e., $PED > 1$). Like that of a monopoly, since a monopolistically competitive firm is a price-setter, they may make occasional price cuts to win over customers from their competitors selling similar products.	
Advantages	Limitations
<u>How strategy enables the firm to earn higher profits – Raise revenue</u> Lower prices will bring about a more than proportionate rise in quantity demanded (if PED is >1, thereby raising revenue earned)	<u>How strategy may <i>not</i> enable the firm to earn higher profits – Revenue may <i>not</i> rise</u> Other firms may start to reduce prices as well, resulting in a price war. Total revenue may fall instead

ii. Price Rigidity (*Competitive & Collusive Oligopolistic firms*)

Oligopolistic firms are generally classified as competitive (i.e., non-collusive) or collusive (i.e., non-competitive). Their pricing and output decisions, as well as the strategies they adopt, will depend on which model we are looking at. Similar to firms in other market structures, the traditional objective of an oligopolistic firm is to maximise profits at $MC = MR$.

As compared to a monopoly or a cartel (collusive oligopoly), demand for a competitive oligopoly's products is less price inelastic as firms compete and products are substitutes. Thus, profit-maximising output tends to be higher, and **profit-maximising price tends to be lower in a competitive oligopoly** compared to a cartel.

A **competitive oligopolistic market adopts price rigidity** -- a scenario where prices of goods and services are often observed to remain relatively unchanged and seldom practices price competition (i.e., neither increase/decrease its price). The underlying assumption is that **rival firms will match each other's price reductions but not each other's price increases**. This highlights the concept of **mutual interdependence** between oligopolistic firms and explains why competitive oligopolistic firms seldom change prices even when production costs may change slightly. Any attempt to reduce prices will be matched by rivals, resulting in a loss in total revenue. This same reason also explains why **competitive oligopolists tend to be extremely aware of their rivals' decisions and strategies (high rival consciousness)**. An attempt by any firm to engage in price competition can quickly escalate into a price war, which will be detrimental to all competitive oligopolists in the industry.

Why Competitive Oligopolies exhibit Price Rigidity

A rational competitive oligopolistic firm will not increase price	A rational competitive oligopolistic firm will not decrease price
If the firm increases its price above the existing market price, quantity demanded of its product will decline (according to the Law of Demand). Since this is an oligopolistic market, the final output will be affected by the reactions of rival firms. Given the similarity of the products offered, if a firm were to increase price, no other firm will follow. Rival firms will now enjoy their price advantage as consumers will switch to cheaper alternatives, thus benefiting the other firms with higher revenue. In this case, the rivals will be gaining the sales lost by the first firm, so they will have no reason to match the first firm's price increase.	On the other hand, if the first firm reduces its price below the existing market price, quantity demanded of its product will rise (according to the Law of Demand). Once again, the outcome will be affected by the reactions of rival firms. This time, the rivals will be losing sales to the first firm, so they will most likely match the first firm's price cut to retain their respective market shares. When these rivals reduce their prices, the first firm will not be able to increase its market share significantly, and the rise in the quantity demanded of its product will not be as great as intended. If a firm were to initiate a price cut, other firms have no choice but to also follow likewise. This leaves all firms with roughly the same market share, but they now have to sell the same level of output at a lower price. Overall, all firms suffer from a lower profit level.

Hence, since a rational competitive oligopolistic firm will not increase or decrease price, it will choose to keep price unchanged (price rigidity).

***Note:** Not all competitive oligopolies exhibit price rigidity. For example, many supermarket chains often run sales with discounted items. Many large hotel chains also provide heavily discounted room package deals to compete for customers. This is just a possible form of price competition adopted by non-collusive oligopolies.*

(iii) Collusive Oligopoly (Cartel, Price Leadership)

Cartel Theory (Explicit collusion)	Price Leadership Theory¹ (Implicit/Tacit collusion)
A cartel is a formal and explicit collusion whereby oligopolistic firms cooperate to establish a virtual monopoly (although these firms still exist as separate entities). A cartel seeks to increase overall profits by restricting the total output for all members. To make up the total output level, individual firms are assigned a pre-agreed quota to produce (which must be strictly adhered to). The firms will also agree on a common price to sell their output. Since they essentially come together to make a joint profit-maximising decision, the diagrammatic analysis is the same as that of a monopoly diagram. Organisation of Petroleum Exporting Countries (OPEC) is a cartel of 13 major oil-exporting nations founded in 1960 which coordinates petroleum policies and provides support to its members. It aims to manage oil supply to stabilise global prices and reduce economic fluctuations for both producers and consumers.	Given that cartels are usually illegal, firms resort to the next best alternative i.e., tacit (or implicit) collusion. Firms rely on implicit price agreements to fix prices at the monopoly level. In essence, there exists a price leader which will decide on the price; other firms simply match its price without any obvious means of communication.

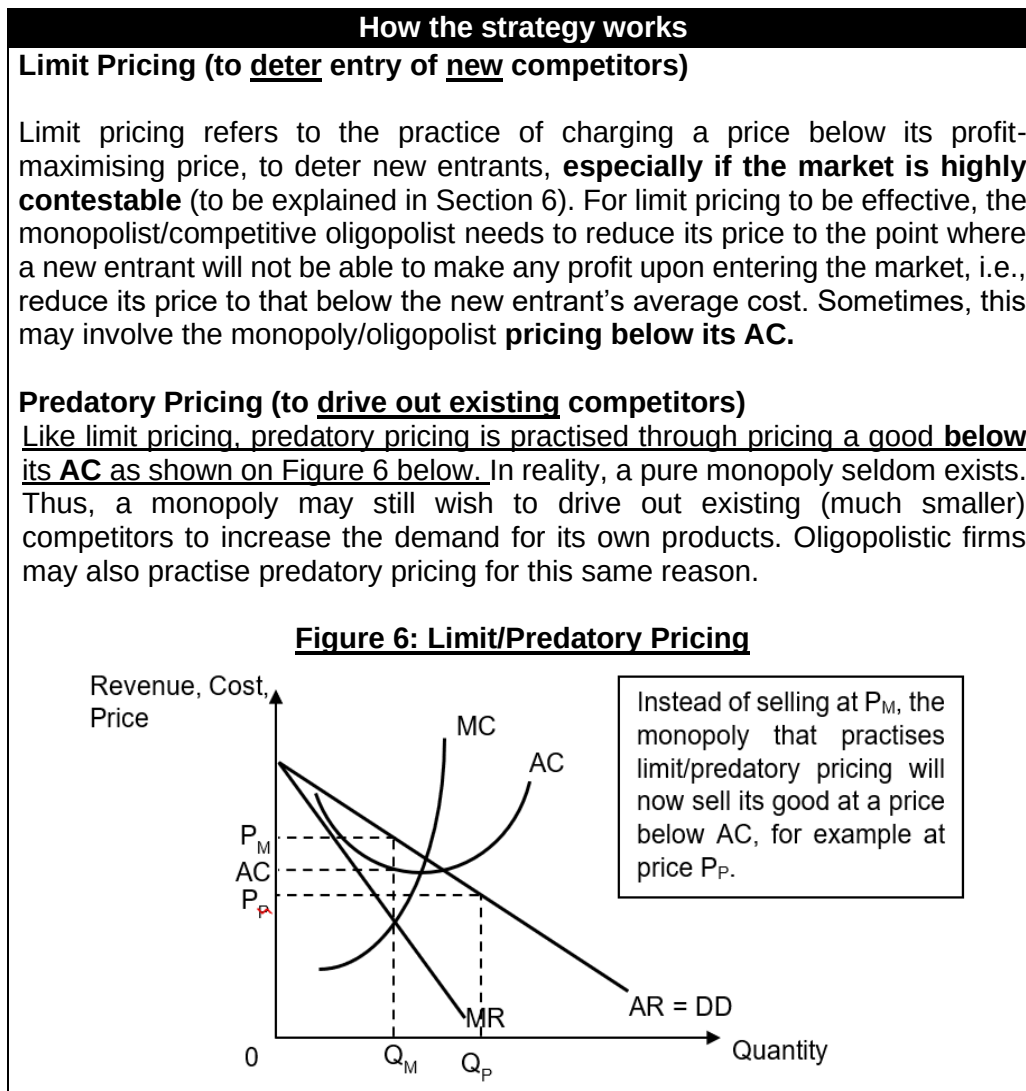
¹ Price Leadership Theory is not in syllabus. For your reading pleasure.

Short Run Equilibrium of an Oligopolistic Firm	Long Run Equilibrium of an Oligopolistic Firm
In the short run, an oligopolistic firm can make three types of profits: supernormal, normal and subnormal If an oligopolistic firm is making subnormal profits in the short run, it will choose to shut down if $AR < AVC$ but remain in operation if $AR \geq AVC$.	In the long run, an oligopolistic firm must be making at least normal profits. Supernormal profits are possible due to the presence of high BTEs which prevent new entrants from competing away the profits. If it is making subnormal profits in the long run, it will shut down.

Note: Diagrammatic analyses of firms' short run to long run equilibrium adjustment are not required.

Collusive (non-competitive) Oligopolist

c. Limit/Predatory Pricing for Dominant Firms (Monopolist & Oligopolist)



Advantages	Limitations
<u>How strategy enables the firm to earn higher profits</u> Limit Pricing Unable to make at least normal profits, potential competitors will not be attracted to enter the industry. This allows the monopolist/oligopolistic firm to maintain its market share and market power, hence the firm will face a more price inelastic demand which will allow the firm to raise prices to increase total revenue and earn more profits in the long run. Predatory Pricing By driving out existing competitors, the monopolist/oligopolistic firm can increase demand for their own products and reduce PED. Once existing competitors leave the industry, the firm will then raise prices back to profit-maximising level to earn higher revenue.	<u>How either strategy may not enable the firm to earn higher profits – Revenue may not rise</u> Monopolist/Oligopolist will likely earn less revenue because of the lower price set than at the profit-maximising price level. This would likely result in lower profits – in extreme cases, the firm may even be earning subnormal profits in the short run. Also, limit/predatory pricing will certainly require the monopolist/oligopolist to tap on its past profits (or retained profits) to sustain its existence.

d. Third Degree Price Discrimination

Price discrimination means the charging of different prices to different customers or for different units of the **same product** when there are **no differences in costs**.

It is often difficult to prove a monopoly guilty of limit/predatory pricing since its cost curves are not made known to the public. Instead, we often see firms that charge different prices (not due to cost differences) for the same good in the real world. For example, a working adult and a student pay different prices for the same movie viewing experience. Similarly, transport fares are different for adults and students. This is known as **third-degree price discrimination** i.e. the monopoly no longer charges a single price for the good. We will explore this further now.

(i) Examples of price discrimination

Firms can **practise price discrimination** in the following real-world scenarios:

- **Income of the customer** - For example, doctors and lawyers charge different fees from different customers based on their incomes. Higher fees are charged to rich persons and lower to the poor.
- **Consumer characteristics such as age and gender** - One familiar example is the different bus fares paid by students, compared to senior

citizens as well as adults. While each consumer takes up a similar amount of space on the bus and enjoys an identical transport service, the price charged differs for reasons not related to cost differences.

- **Time of service** - Cinemas charge lower rates for the morning shows than for the evening shows even though the costs of running the movie such as electricity bills and manpower costs are the same regardless of timing.

(ii) Conditions for a firm to practise price discrimination

The firm can practise price discrimination when the conditions in the market allow him to do so. The conditions are:

- the seller has **some degree of monopoly power** (some degree of market imperfection)
- the **markets can be effectively segmented** (so that resale of the good is impossible)
- **the price elasticities of demand differ for different markets** (so that the seller will sell at a higher price in the market with a more price inelastic demand and a lower price in the market with a less price inelastic demand to maximise his total revenue)

(iii) Determining if a firm can practice price discrimination

To determine if a firm can practice price discrimination, the following two criteria must be met:

1. **No difference in production costs between units of good/service**

The question of production costs is important. Choosing different prices for products because firms have different costs of producing them is **not** price discrimination.

Therefore, charging first class passengers more than second class passengers is not price discrimination **if** it costs an airline more to provide a first-class seat. There is greater leg room, better food, and service and therefore a more comfortable journey. But the opportunity cost is that the airline can fit in fewer passengers. The higher price is charged because the first-class passenger must cover the higher costs and the opportunity cost of not being able to fit in more seats (loss of potential revenue).

However, if all these costs still do not add up to explain the difference in price, then there is some degree of price discrimination.

A less obvious example would be a coastal hotel charging more for sea-view rooms. It may seem unrelated to costs, but the higher land or property acquisition costs mean the hotel pays more to offer that view. Therefore, higher prices reflect these underlying costs, and the value guests place on the sea view.

2. Products are perfect substitutes

This is a further reason for saying that paying extra for our room with a sea view is not price discrimination. We are paying for a different product. It may be the same sized room with the same facilities, but it is a better product. If people did not think so, the hotel would be unable to charge a higher price for it.

How do economists decide whether the product is the same or different? If the two goods are identical, they are homogeneous or perfect substitutes for one another. The room without the sea view is not a perfect substitute for one that has such a view. If there are two seats on a train and passengers are indifferent between them, then they are perfect substitutes.

So, when firms charge different prices for a product at different times this may be wrongly regarded as price discrimination. Such price differences reflect differences in the nature of the product. Hence, **we must be sure that the good for which different prices are charged is a perfect substitute.**

How the strategy works	
A firm raises its price in the sub-market where demand is price inelastic and lower its price in the sub-market where demand is price elastic. This enables the firm to earn higher revenue, and assuming cost remains the same, the firm will enjoy higher profits from the market as compared to charging a single price to both sub-markets.	
Advantages	Limitations
<u>How strategy enables the firm to earn higher profits - Raise revenue</u> Third degree price discrimination allows the firm to earn a higher revenue from any given level of sales. When a firm sells an identical product in two separate markets with no cost difference but different PED values: 1. a higher price charged in the market with price inelastic demand will result in a less than proportionate fall in quantity demanded, therefore total revenue increases. 2. a lower price charged in the price elastic demand market will result in more than proportionate rise in quantity demanded, therefore total revenue increases.	<u>How strategy may not enable the firm to earn higher profits – Revenue may not rise</u> Ability to raise revenue depends on the firm's ability to segment the markets appropriately.

Note: Diagrammatic analyses of price discrimination are not required.

2.2 Non-Pricing Strategies

After understanding the different pricing strategies which firms can consider implementing, let's now look at the range of non-pricing strategies which firms can consider as well.

*(A quick note on perfectly competitive firms: Perfectly competitive firms **do not engage in non-pricing strategies** and do not attempt to differentiate their products from those of their rivals. This is because they can already sell all their output at the market price; any additional expense would be unprofitable. There is therefore no branding or advertising. With perfect information available, firms also do not develop better products because if they do, their rivals will merely copy them, in which case, the investment would be a waste of money for them.)*

Innovation refers to the efforts put in by a firm to come up with new, improved or differentiated products. For a firm to innovate, it must have both the **incentive** and the **ability** to do so. In the case of perfect competition, there are no barriers to entry as firms have easy access to information about production processes, cost of production and pricing decisions. As such, there is **no/little incentive for the firms to carry out innovation** as the research findings would be easily available to other producers, thereby eroding any possible advantage over rival firms.

Furthermore, perfectly competitive firms **only earn normal profits in the long run**, thus they **do not have the ability to carry out innovation**, especially research and development (R&D) which usually requires much capital input. A study estimated that it takes 12 years on average to research a pharmaceutical drug and the cost of successfully developing it is US\$800 million, which is a high cost to incur.)

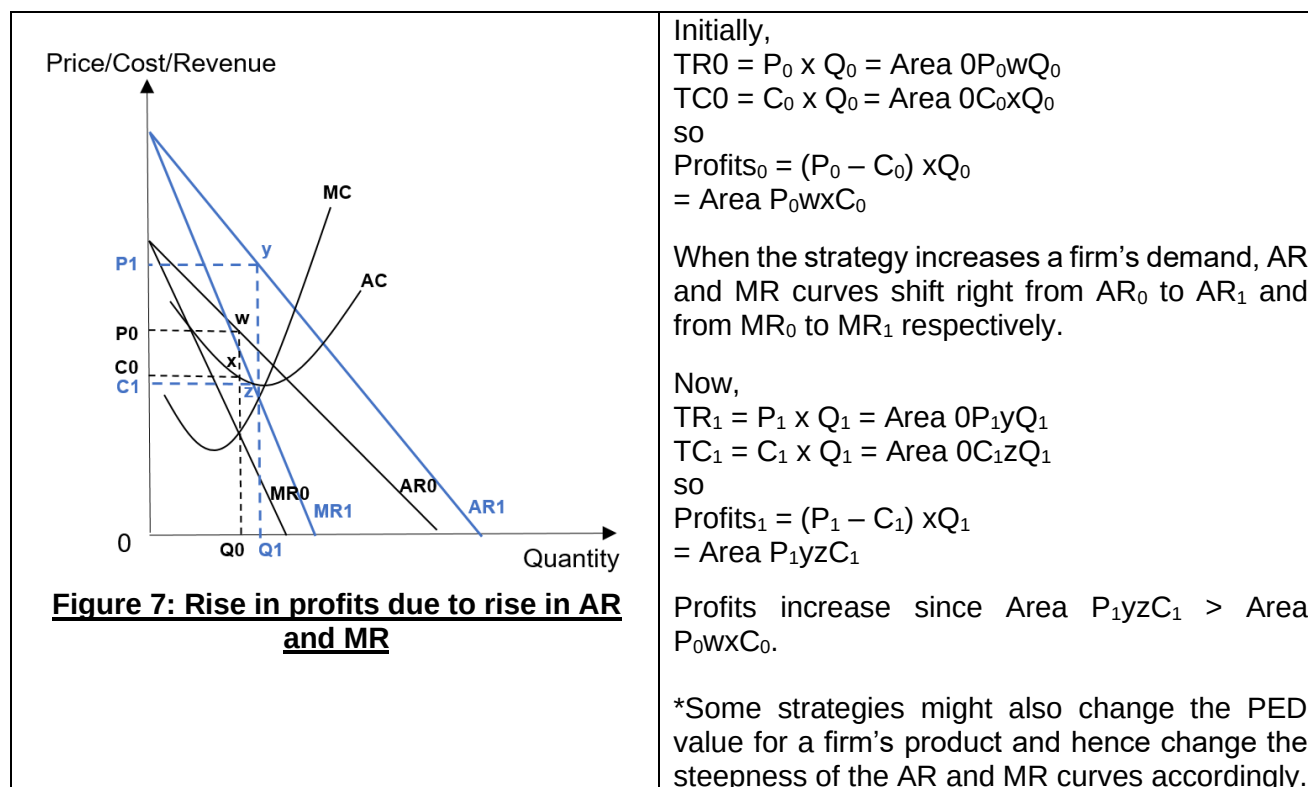
In imperfect markets, price-setting firms like monopoly, oligopoly and monopolistic competitive firms make decisions to undertake the following non-price strategies to **increase profits**:

- a. **Growth i.e. output expansion**
- b. **Diversification**
- c. **Innovation and R&D i.e. product and process**
- d. **Marketing, i.e., Product differentiation/Advertising**
- e. **Shut down**

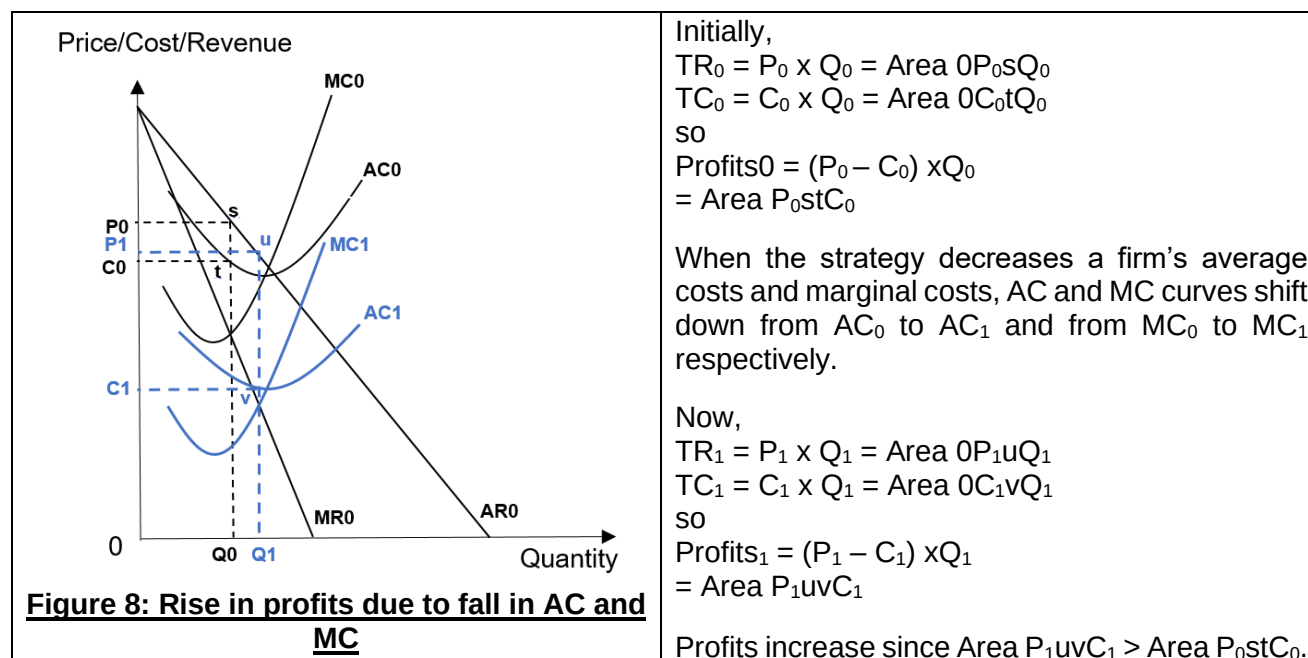
How would a non-price strategy increase the firm's profits?

Recall that Profits = Total Revenue (TR) – Total Costs (TC)

(i) Demand/Average revenue (AR) and Marginal revenue (MR) increase



(ii) Unit costs/Average costs (AC) and Marginal cost (MC) decrease



*****Important:** The following strategies that you see will go back to either of the above diagrammatic analysis. Even as you appreciate the application in the real world, you must be intentional in anchoring your analysis on the relevant diagram.

a. Growth i.e. output expansion

How the strategy works

Growth is usually measured in terms of a growth in sales revenue since sales revenue is the simplest way of measuring the size of the firm/business.

Growth may be achieved by:

- Internal expansion

Internal growth requires an increase in sales, which requires an increase in the firm's production capacity. To increase its sales and expands the business, the firm can increase its size by making more/promoting extensively its existing product, launching new products or by opening more stores in other locations. To increase its production capacity, the firm will require new investment which can be financed by borrowing or by reinvesting profits.

- Merger and acquisition

- A **merger** occurs when two separate firms amicably combine to create a bigger firm, such as the merger of Exxon and Mobil in 1999 to create ExxonMobil and the merger of Scoot and Tigerair under a common holding company, Budget Aviation in 2017.
- An **acquisition** refers to a takeover of one firm by another. In so doing, the smaller firm is often consumed and ceases to exist, and its assets become part of the larger firm. For instance, The Walt Disney Company acquired 21st Century Fox in 2019. This deal will include film rights to certain franchises previously owned by Fox, including popular Marvel characters such as the X-Men.

There are three ways of integration through mergers and acquisition:

Vertical integration

When a firm integrates with another firm that is involved in an earlier, or later stage of production

- a retailer buys a wholesaler, and Apple Inc. buys a chip supplier (backward integration)
- an airline acquiring an online travel deal portal (forward integration)

Horizontal integration

This is characterised by firms producing the same good in the same stage of production. One example is GlaxoSmithKline, a giant drugmaker that was born out of the merger of Glaxo Wellcome and SmithKline Beecham. The firm was able to ride on the insights gleaned from the combined R&D efforts as well as leverage the existing capital assets to create new breakthroughs and capture a larger market share.

Conglomerate integration

When firms producing unrelated goods come together as one entity. The objective is to diversify risks and enlarge its presence through different markets. For some, it is to find new business opportunities across two seemingly diverse industries. In Singapore, Keppel Corporation is one of the largest local conglomerates that have business interests in fields such as property, telecommunications, oil and gas.

How strategy enables the firm to increase profits - Raise revenue

It enables a firm to **capture more market share** as the firm can tap on the ready base of existing consumers of the other firm. This will **increase the firm's demand** and hence its total revenue.

Furthermore, it could give the firm **greater market power**. The increased market power could be gained because (i) **the firm could build entry barriers to potential competitors**, or (ii) **the firm could reduce the number of rivals and reduce competition**. The increased market power **reduces its PED value (make demand less price elastic/more price inelastic)**, it allows the firm to **charge higher prices** to increase total revenue since the degree of competition is reduced.

How strategy enables the firm to increase profits – Lower unit costs

To serve a larger market now, the firm can produce a much larger output (i.e. **higher scale of production**) and the firm can enjoy **lower unit costs** through the reaping of **internal economies of scale**. This would lead to **lower average costs and marginal costs of production**. For example, merger and acquisition enable the merged firm to streamline the sales, marketing and operations. This would mean that the costs of such support services would be spread over a larger number of output, leading to lower average costs.

Limitation(s) - How strategy may not enable the firm to earn higher profits - Revenue may not rise; Costs may not be lowered

- Excessive growth may result in **poorer quality products** which may reduce firm's demand and thus revenue or **diseconomies of scale** which may raise firm's average costs of production.
- Strategy could be expensive and unprofitable i.e. profits may not increase if the firm invests in risky costly projects.

b. Diversification

How the strategy works

Diversification enables a firm to achieve new sources of revenue by extending a more diverse range of products.

Diversification also allows the firm to spread its risks as losses incurred for one product can be offset by profits earned from another.

Diversification can lead to new opportunities for growth and expansion, helping a company to continue to grow over time.

Companies such as IKEA and Amazon have diversified their product range—IKEA expanded beyond furniture into food and interior design services, while Amazon grew from an online bookseller into a major e-commerce platform offering groceries and digital entertainment.

With diversification, a firm can take advantage of the **sunk cost fallacy** of upselling. Once consumers have already paid a large sum for a product (e.g., a laptop), they can be easily persuaded to pay a little more for related products and services such as gaming chairs and headphones.

How strategy enables the firm to increase profits - Raise revenue	How strategy enables the firm to increase profits – Lower unit costs
Secure access to retail markets and find new sources of revenue . This would increase the firm's demand , allowing it to enjoy higher revenue. Furthermore, it could lead to increased market power and reduce its PED value (make demand less price elastic/more price inelastic), it allows the firm to charge higher prices to increase total revenue.	A fall in the demand for a particular product could be compensated by continued/increased sales in other products or markets, hence maintaining/increasing its output (therefore maintaining/reducing unit costs). With a well-diversified product range, the costs of risks relating to changing market conditions will fall . As such, firms can enjoy risk-bearing IEOS and spread their cost of uncertainty over a wider range of products. This would lead to lower average costs and marginal costs of production .
Limitation(s) - How strategy may not enable the firm to earn higher profits - Revenue may not rise; Costs may not be lowered	
Diversifying into a new market is risky and costly. Consumers may have reservations in buying unproven products. Would you be as willing to try out Ikea bicycles? How about Razer wearable air purifier?	

c. Innovation and Research and development (R&D)

How the strategy works
Innovation and research and development (R&D) refers to the efforts put in by a firm to come up with new, improved or differentiated products. With high barriers to entry that protects long-run supernormal profits, monopolies and oligopolistic firms have the incentive and financial ability to invest in R&D to create product and process innovations. Innovation can take the two forms: (i) Process innovation refers to new or improved production processes perhaps using machines (ii) Product innovation such as improving the packaging of the product (relatively low cost in nature) or may involve more costly R&D, especially if it is technology related. Note: As a monopoly and oligopolistic firms can enjoy large supernormal profits even in the long run, it has the ability to carry out R&D which requires significant capital input.

However, unlike monopolists, oligopolists will have considerable **incentive** to do R&D. If the innovative product is improved, this may allow the oligopolist to capture a larger share of the market. Moreover, if costs are lowered by technological improvement, the oligopolists will earn higher profits which enable the firm to withstand any price war/competition.

Whether a monopoly has the **incentive** to do so depend on how **contestable** (to be explained later) the market is and whether the innovation allows it to make **larger profits** (through raising revenue and/or lowering costs) or at least **maintain** its level of profits/monopoly power. As there are usually **high BTEs** and **imperfect information**, the monopoly can keep its research findings to itself and prevent the benefits from being made available to other firms. It thus has the incentive to innovate so long as the potential profits are likely to outweigh the cost of innovation. Hence, even though the monopolist produces a unique product as the only firm in the industry, it may engage in innovation. For instance, Microsoft started out with Windows, a computer operating system, and branched out into producing a web browser. Consumers will be less likely to switch to substitutes offered by new potential entrants.

How strategy enables the firm to increase profits - Raise revenue	How strategy enables the firm to increase profits – Lower unit costs
If successful, product innovation improves the quality of the product and service, or/and increases the variety of the products to meet the taste and preferences of consumers, this would increase its demand and revenue (both AR and MR rise). It could help firm to capture greater market share and deter entry of new firms (in the case of monopoly). This would increase market power and make demand less price elastic/more price inelastic as its PED value is reduced. Hence, the firm can charge higher prices to increase total revenue.	Process innovation allows the firm to raise productivity and/or lower unit costs by finding more efficient methods of production. It enables firms to produce in a more cost-efficient way, such as using fewer resources to produce the same output. This would lead to lower average costs and marginal costs of production.
Limitation(s) - How strategy may not enable the firm to earn higher profits - Revenue may not rise; Costs may not be lowered	
R&D is expensive and a long-drawn process - revenue may not rise and cost may not fall in the short run and result is not guaranteed.	

d. Marketing, i.e., Product differentiation/Advertising

How the strategy works
Monopolistically competitive firms and oligopolists rely on product differentiation development to compete. The aims are to produce a product that will sell well (i.e. one in high demand) and that is different from rivals' products (i.e. has a relatively price inelastic demand due to lack of close substitutes) . For example, this could include a big range of different products of many different flavours, different functions, different specifications and even

different packaging, each meeting the different requirements of different consumers.

For shops or firms providing services, product differentiation takes the form of attempting to **provide a service that is differentiated, which is better than, or at least different from, that of rivals**: personal customer service/experience, late opening, certain goods stocked, online shopping and delivery service.

Efforts taken by the firm to **promote its product, sometimes drawing on the idea of salience bias**. This largely takes the **form of advertising**, although it can also be done through other means. The firm's **advertisements to highlight both real and perceived differences**. Firms working on a lower budget can do so through low costs ways such as flyers, coupons, banners, promotions, photos with public figures, etc.

Like monopolistic competition, oligopolistic firms can also employ strategies like **differentiated consumer experience and advertising**, although with a much higher budget. Apart from the **typical celebrity endorsements**, there has been much more variation in recent years for **product development**.

Advertising aims to sell the product by informing the consumer of the product's existence and availability. It can be informative in nature, where a firm aims to inform consumers about the prices of its products, the features/characteristics of its products, or the locations and conditions of sale. Advertising can also be persuasive in nature where a firm influences consumers about the quality or desirability of its product and deliberately trying to persuade consumers to purchase the good.

Note: The degree of product differentiation/marketing/advertising can vary between market structures. **Monopolistic competitive firms** earn only normal profits in the long run and so are only able to afford **lower budget with low advertising costs** ways such as flyers, coupons, banners, promotions, photos with public figures and so **product differentiation tends to be perceived** in nature. On the other hand, **monopolies and oligopolies** can use part of their long-run supernormal profits and are able to engage in **higher budget and aggressive advertising** (i.e. celebrity endorsements) or even R&D and thus **product differentiation tends to be real in nature**.

How strategy enables the firm to increase profits - Raise revenue

These strategies would **increase demand and revenue**.

They can also **make the demand less price elastic or more price inelastic (lower PED value)** as consumers may perceived the products of the firm to be more unique, or of better quality, hence reducing the availability of close substitutes. The firm can then **raise prices to increase total revenue**, as **quantity demanded will fall less than proportionately** since fewer consumers switch over to substitutes that are not considered close enough.

These strategies also **reduce the degree of substitutability of other products for the firm's product, hence lower cross elasticity of demand**

i.e. XED value. This makes the firm less susceptible to competitors' strategies, i.e., when competing firms lower price, fewer consumers will switch over to competing firms. **Demand and hence total revenue fall by a smaller extent.**

Limitation(s) - How strategy may not enable the firm to earn higher profits - Revenue may not rise as much

- The effect of product differentiation/advertising on the demand will be difficult for a firm to forecast. In addition, there is a limit to which product differentiation/advertising can influence consumers to buy a firm's products. Anyone recalls these Coca-Cola flavours of Lime, Cinnamon and Orange Vanilla?
- Product differentiation/advertising can be expensive and involved increased costs i.e. costs incurred to engage an advertising firm to conceptualise and run the advertising campaign, and the result is not guaranteed. In the short run, this would increase the firm's fixed costs and thus average costs, leading to lower profits.

e. Shut down

As established at the relevant junctures earlier, when a firm is making subnormal profits in the **short run**, it needs to decide whether to continue producing or shut down to minimise its losses. If the revenue earned is less than the variable costs i.e. **$AR < AVC$** , the firm should shut down so that its losses are limited to only the fixed costs and will not incur variable costs such as operating costs like the labour costs and electricity costs.

In the **long run**, if **total costs continue to exceed total revenue i.e. $AR < AC$** , the firm should probably shut down permanently to avoid losses.

Final notes on Strategies

- Even as you appreciate the different strategies that firms can employ; it is essential for you to **match each with the relevant diagrammatic analysis as shown on page 27**. Try doing so now and more importantly, to draw it out on your own.
- As seen from the various strategies explained in this section, strategies like growth, diversification, innovation and marketing may cause both revenue and costs to rise. Hence firms will only carry out strategies if **they expect the rise in revenue to exceed the rise in costs**, in other words, its **revenue has risen more than its costs resulting in higher profits**.
- **How firms may account for cognitive biases of consumers in their business strategies.** In the 9570 H2 Economics syllabus, students are required to have **an awareness that firms may apply knowledge of consumers' cognitive biases (sunk cost fallacy, loss aversion and salience bias) in their strategies**. Please refer to the handout on **Behavioural Economics – Cognitive Biases** for a refresher. We will explore this further in our tutorials.

3. Impacts

At this juncture, it is important for us to do a stock-take on where we are in this overall narrative. Please refer to this same Figure 1 that was first introduced on page 4.

We will now consider the impact of a firm's decisions and strategies on the three different economic agents and on their respective Objectives:

Impact on Economic Agents					
Consumers		Firms		Society (i.e. Impact on the government's microeconomic goals)	
		The firm itself	Rival firms		
Consumer Welfare	Consumer Surplus	Cost, Revenue, Profit	Cost, Revenue, Profit	Efficiency	Allocative Efficiency
	Consumer Choice and Product Quality				Productive Efficiency
					Dynamic Efficiency
				Equity	

Note the following linkages:

- When price and quantity change in response to a firm's decisions and strategies, these will in turn affect consumer surplus, revenue and profits, as well as allocative efficiency.
- Firm's strategies affecting consumer choice and product quality will also affect dynamic efficiency.
- Firms' strategies affecting cost will also affect productive efficiency.

3.1 Impact on Consumer Welfare

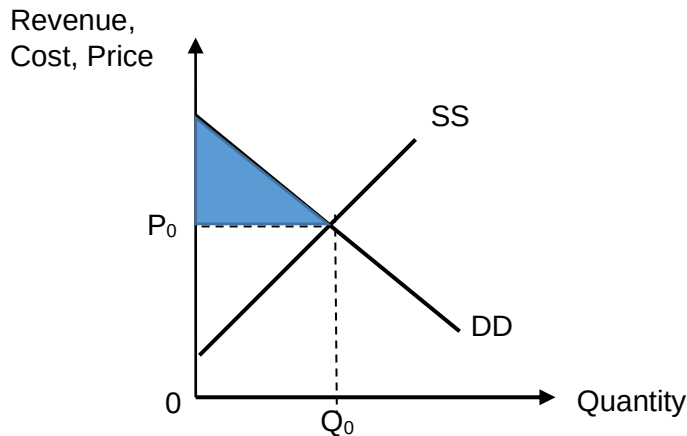
Consumer welfare is affected by:

- Consumer surplus, and
- Consumer choice and product quality.

3.1.1 Impact on Consumer Surplus

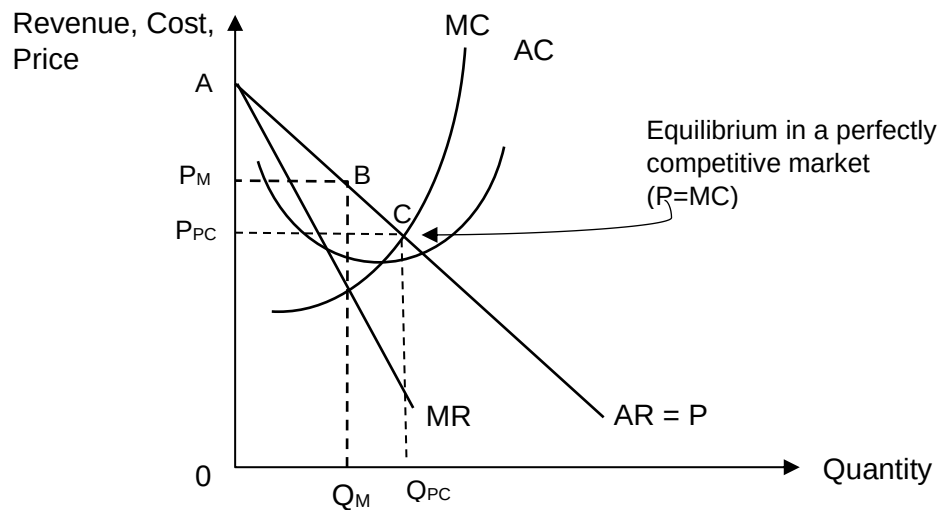
Recall from Topic 4 that **consumer surplus is the difference between the maximum price that a consumer is willing and able to pay and what he is paying.**

Figure 9: Consumer surplus in a perfectly competitive market



The **perfectly competitive market** maximises consumer surplus. With reference to Figure 9, at the market price P_0 which all perfectly competitive firms charge, there is no other output level that can increase consumer surplus beyond the shaded area.

Figure 10: Consumer surplus under a monopoly (compared to a perfectly competitive market)



On the other hand, referring to Figure 10, the **consumer surplus is generally smaller under a monopoly (area P_MAB)** as compared to the consumer surplus that could have been enjoyed in a perfectly competitive **market (area P_PCAC)**.

Note: Point C where the monopolist's AC and AR curves intersect, and where price equals to marginal cost ($P=MC$) can be taken to represent the equilibrium in a perfectly competitive market since it achieves allocative efficiency where $P=MC$.

However, there could be exceptions to the above. Two scenarios are as follows:

- i. As a monopoly possesses the ability to engage in innovation due to its long run supernormal profits, it may engage in process innovation that can reduce costs of production. This can result in a downward shift of both its MC and AC curves, leading to a lower price and higher quantity than what could have been enjoyed in a perfectly competitive market. This would then result in the consumer surplus being larger under a monopoly than in a perfectly competitive market.
- ii. If a monopolist practises price discrimination, where it charges a lower price in the sub-market where demand is price elastic, and a higher price in the sub-market where demand is price inelastic, those charged the lower price will enjoy a larger consumer surplus than those charged the higher price. Those charged the lower price may even enjoy a larger consumer surplus than they would have in a perfectly competitive market, especially if they might not have been able to afford a good if price discrimination was not practised.

Between the two extreme cases of a perfectly competitive market and a monopoly, lie the cases of the monopolistically competitive firm and oligopolistic firm. **Without considering any exceptional scenarios, the level of consumer surplus is largest in the perfectly competitive market, followed by under the monopolistically competitive firm and the oligopolistic firm, and is smallest under a monopoly. In short, consumer surplus decreases with the increase in market power of a firm to raise price and restrict output.** For the monopolistically competitive firm or oligopolistic firm, you may draw a diagram similar to Figure 10 (but with gentler AR and MR curves representing a lower level of market power) to compare the consumer surplus under the firm with that in a perfectly competitive market (at Point C where $P=MC$).

Note: AC curve should be positioned accurately to reflect the type of profits the firm is earning e.g. low AC for supernormal profits.

3.1.2 Impact on Consumer Choice and Product Quality

Consumer choice refers to the range of products made available to consumers.

Having an array of choices will better meet the tastes and preferences of the different consumer segments.

A **perfectly competitive** market cannot cater to the varying preferences of consumers in terms of size, quality, design, colour, style, etc. given the homogeneity of products in the market. With many sellers and perfect knowledge, there is no incentive for sellers to differentiate their goods. Consumers therefore have only one choice (which is not much of a choice).

Similarly, there is no consumer choice under a **monopoly**. As there is no alternative provider of the good concerned, there is no other choice but to purchase the good from the monopoly. Hence, consumers have to make do with whatever is available. This is unless the monopoly engages in innovation (recall that the monopoly has the ability in terms of supernormal profits to do so) which improves the range and the quality of its products.

Just as a monopoly possesses the ability to conduct R&D, an **oligopolistic firm** has supernormal profits that allows it to do so. In a competitive oligopoly, firms have the incentive to innovate and introduce new products and/or improve on the quality of existing products. By engaging in product proliferation (increasing product offerings to saturate the market), consumer welfare is improved via the extensive choices made available to consumers.

While a criticism of **monopolistic competition** is the wastage of resources used to make subtle or perceived differences to a fundamentally identical product, instead of making real differences, consumers have access to a wide array of product choices due to extensive product differentiation, in terms of variety and quality. This means that there is a high likelihood for a consumer to find a product that best meets his unique set of tastes and preferences.

Below are some reasons why **consumer welfare is higher under monopolistic competition with greater consumer choice and product quality**.

- **Personalised services**

Small firms under monopolistic competition can provide personalised services and attention to the consumers. Such businesses usually serve the immediate locality and know their consumers personally to meet their preferences well. Examples include hawker stalls, medical general practitioners, and hairdressing salons.

- **Convenience to consumers**

In general, consumers are less willing to travel a long distance to buy certain goods and services such as food and groceries, and necessities like health services. Small firms under monopolistic competition can provide goods and services conveniently to consumers since they tend to be located in close proximity to the residential areas. As there are many of them, these small firms can better cater to different consumer needs.

- **Ancillary firms**

Moreover, small firms under monopolistic competition can complement large firms. They supply component parts or supporting services to large firms. For example, a large electronic firm may require smaller firms to supply component parts such as switches and bulbs. Large construction companies may require smaller firms to renovate the interiors. This gives consumers more choices from small firms rather than standardised products or services mass produced from large firms.

Thus, small firms are relevant and play an important role even in the presence of large firms.

3.2 Impact on Firms

3.2.1 Impact on the Firm Itself

The impact of the market characteristics and of a firm's strategies on its own revenue, cost and profits has been covered in earlier sections.

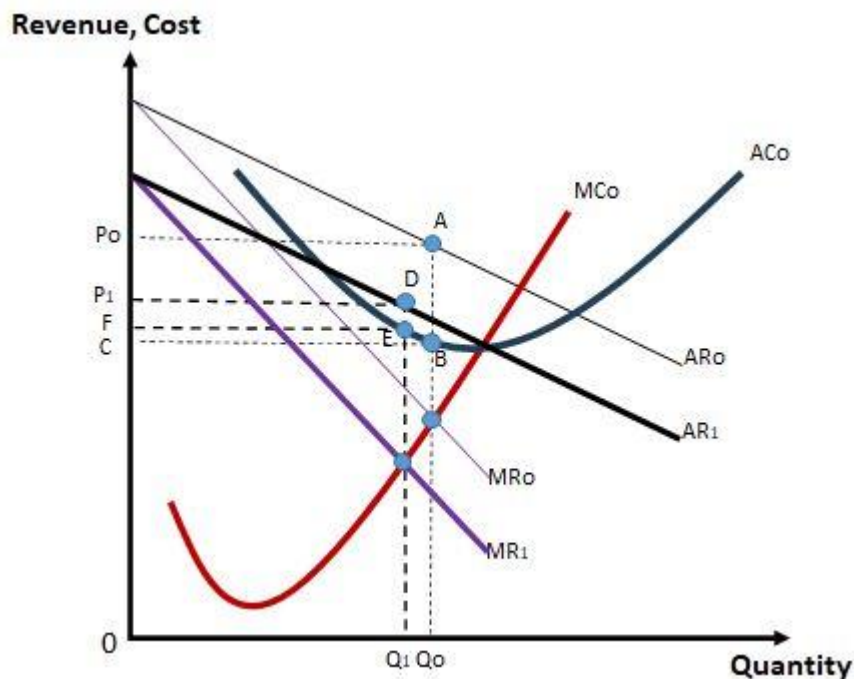
3.2.2 Impact on Other/Rival Firms

As established earlier, **perfectly competitive firms** are price takers (i.e. will not engage in pricing strategies) and do not engage in non-pricing strategies. In other words, there is no strategy to speak of that will affect other/rival firms under perfect competition.

On the other hand, decisions and strategies taken by a **monopolistically competitive firm** or an oligopolistic firm to increase its profits will likely have an adverse impact on the profits of other/rival firms. This is because a firm's decisions and strategies can potentially reduce the revenue earned, or raise the costs incurred by other/rival firms. For example:

- A reduction in price either as a pricing strategy or achieved through process innovation by firm A will reduce the demand and hence total revenue for rival firm B, assuming that firms A and B sell products which are considered substitutes (i.e. XED is positive).

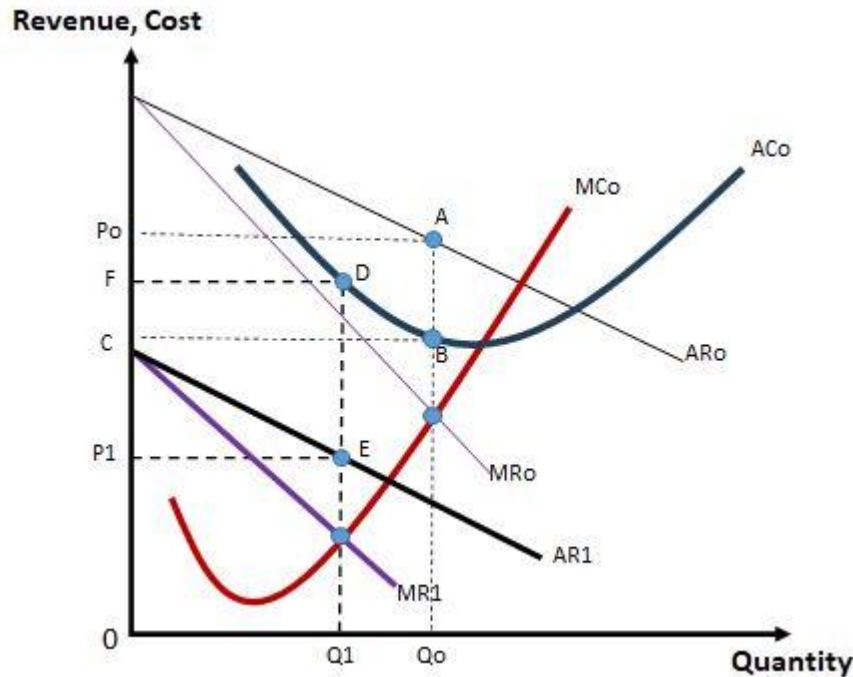
Figure 11: Fall in supernormal profits for rival Firm B due to fall in demand



With reference to Figure 11, Firm B will experience a fall in average revenue (AR) causing the curve to shift from AR_0 to AR_1 . This shift in AR

will lead to a shift in the marginal revenue (MR) curve as well from MR_0 to MR_1 . There will be a fall in the price (P_0 to P_1) and output level (Q_0 to Q_1). Profit will fall from area P_0ABC to area P_1DEF .

Figure 12: Fall from supernormal to subnormal profits for Rival Firm B due to fall in demand

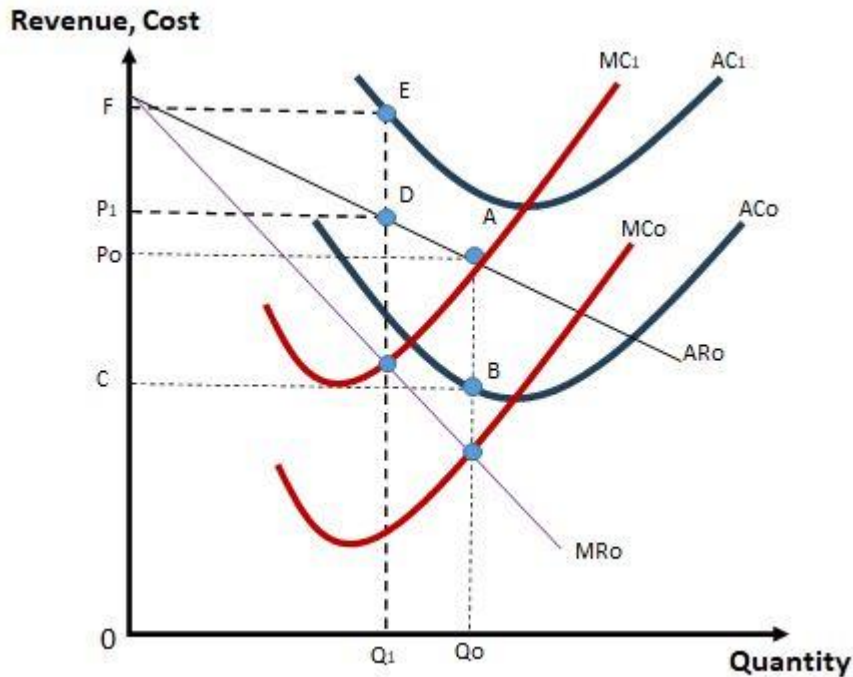


Referring to Figure 12, however, should the goods and services produced by both firms be close substitutes whereby the XED is positive with an absolute value that is more than 1, Firm B will experience a more than proportionate fall in average revenue (AR) causing the curve to shift from AR_0 to AR_1 . The firm might end up being making subnormal profits as seen by the area P_1EDF .

- Product innovation by firm A can make rival firm B's product seem relatively less attractive to consumers, whose tastes and preferences then shift away from firm B's product. This reduces the demand and hence total revenue for rival firm B.
- An expansion of firm A through merger and acquisition results in firm A increasing its demand for raw materials, which may be similar to what rival firm B uses. This means that the price of raw materials rises and hence marginal cost and average cost for firm B rises from MC_0 to MC_1 and AC_0 to AC_1 in Figure 13 next. Should this rise in costs be large, Firm B might end up being making a subnormal profit of area P_1DEF .

Note: MC and AC will not rise for firm A since it is likely able to enjoy internal economies of scale due to its expansion.

Figure 13: Fall from supernormal to subnormal profits for other/rival Firm B due to rise in costs



Assuming that there is no other firm under a monopoly market structure, what the monopoly does has no impact on other firms (since there is no other firm). However, if there are other smaller firms co-existing with the monopoly in the same market, the above for monopolistic competition and oligopoly will be applicable.

3.3 Impact on Society

The impact of market structure and firms' strategies and behaviour on society, can be examined in terms of **Efficiency** (allocative, productive and dynamic efficiency) and **Equity**.

3.3.1 Impact on Efficiency

3.3.1.1 Impact on Allocative Efficiency

Allocative efficiency is defined as the output level where society's welfare is maximised.

Allocative efficiency under Perfect Competition

Recall the central problem of economics being that of scarcity – unlimited wants that cannot be met with limited resources. Allocative efficiency hence concerns the extent to which scarce resources can be allocated across competing demands within the economy to produce various goods and services.

Recall also from Topic 1 that allocative efficiency is achieved only at one point on the Production Possibility Curve. That was the framework used to analyse at the economy level.

At the firm level, this is achieved also only at one specific point where $P = MC$.

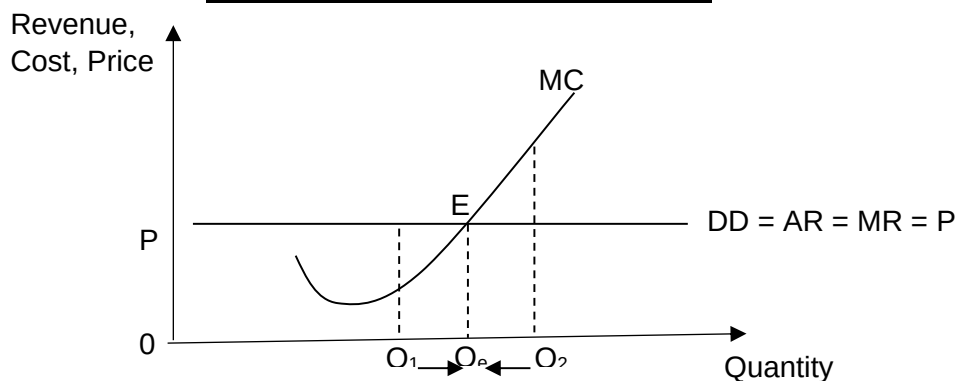
Why is allocative efficiency achieved when $P = MC$?

The price (P) of a good indicates the value (marginal private benefit) that each buyer places on the last unit of the good that he consumes based on its valuation of the utility derived from the consumption of that unit of good.

The marginal cost (MC) of a good indicates the additional cost to a firm of producing the last unit of the good. It also includes the (opportunity) cost to society which refers to other goods that could have been produced by the resources used to produce this additional unit of output.

When $P = MC$, allocative efficiency is achieved. Now, refer to figure below to understand why this condition for allocative efficiency can be achieved by profit-maximising perfectly competitive firms.

Figure 14: Perfectly competitive firm where Allocative Efficiency is achieved during profit-maximisation



If $P < MC$ (at output Q_2)

Suppose a good is priced at \$20 but has a marginal cost of \$25.

This means that the additional cost to society (in terms of resources) used is greater than the value society place on the last additional unit produced (its price). The resources used to produce this good could have been used to produce *other* goods instead. In other words, less resources should have been allocated to the production of this good to achieve greater efficiency in terms of resource allocation.

If $P > MC$ (at output Q_1)

Suppose a good is priced at \$20 but has a marginal cost of \$15.

This means that the additional cost to society (in terms of resources) used is less than the value society place on the last unit produced (its price). More resources could have been used to produce this good since its marginal cost is less than its price. The original allocation of resources is inefficient – as the

society *could have gained* additional welfare from the production of *more* of the good and in so doing, achieve greater efficiency in resource allocation.

When $P = MC$ (at output Q_e)

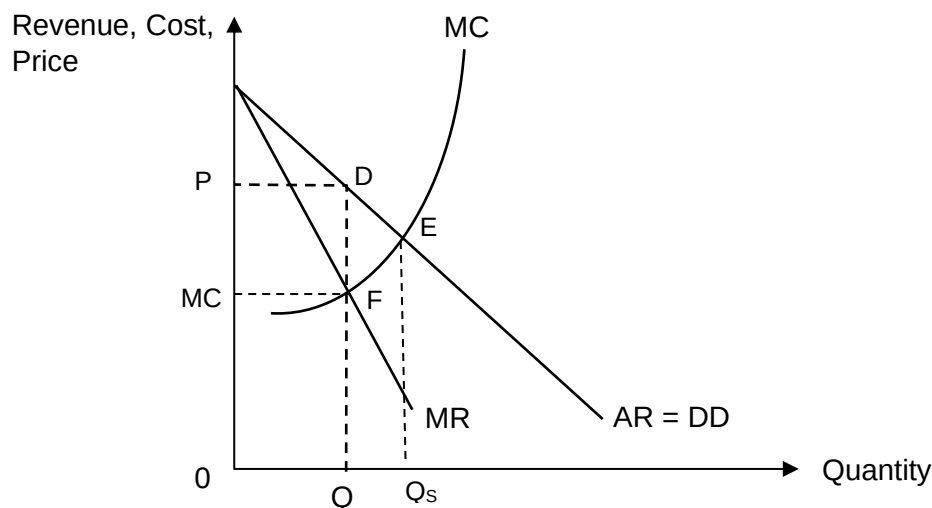
This is the outcome whereby society's valuation of the last unit of the good equates to the opportunity cost of producing it – where Allocative Efficiency is achieved. Scarce resources are allocated such that it is not possible to make anyone better off without making someone else worse off. Achieving this results in the largest societal welfare enjoyed by consumers and producers, with no deadweight loss.

This is also the profit-maximising level of output where $MC = MR$. Hence, in perfect competition, profit-maximisation outcome coincides with allocative efficient outcome.

Allocative Efficiency under Imperfect Markets i.e. Monopolistic Competition, Oligopoly and Monopoly

All firms seek to profit maximise at $MC=MR$. For imperfect firms, the analysis is as such:

Figure 15: Allocative inefficiency in a firm in imperfect markets



At output Q , **price is higher than its marginal cost ($P > MC$)**. In other words, the society values the good at a higher price than the additional cost that the firm would incur to produce it. Hence, more production of the good is desired by society. There is an under-production of the good between Q and Q_s , and under-allocation of resources. This results in deadweight loss (Area DEF) to society and thus allocative inefficiency. The difference is that a monopolistically competitive firm is less allocatively inefficient than an oligopoly, which in turn is less than a monopoly. This is because of their lower entry barriers, many firms and thus weaker power to influence market price and output.

Besides pricing strategies, non-price strategies such as mergers and acquisitions can worsen allocative inefficiency. When a firm acquires or merges

with another firm, the combined market share and greater power enables these firms to raise prices further above MC.

3.3.1.2 Impact on Productive Efficiency

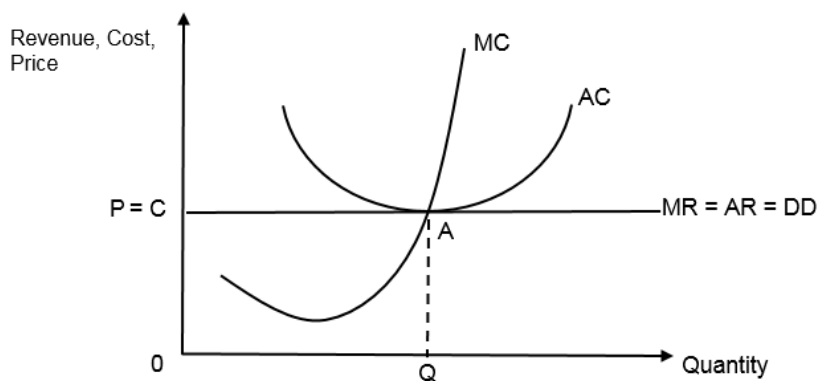
Productive efficiency is achieved when a given level of output is produced at the lowest cost.

Productive Efficiency under Perfect Competition

Recall from Topic 1 that productive efficiency is achieved anywhere along the Production Possibility Curve (PPC). Productive efficiency is achieved when a given level of output is produced at the lowest cost. **A perfectly competitive firm is productively efficient in the long run, both from the firm's and the society's perspectives.**

Firm's perspective:

Figure 16: Perfectly competitive firm which is productively efficient (from both firm's and society's perspectives)

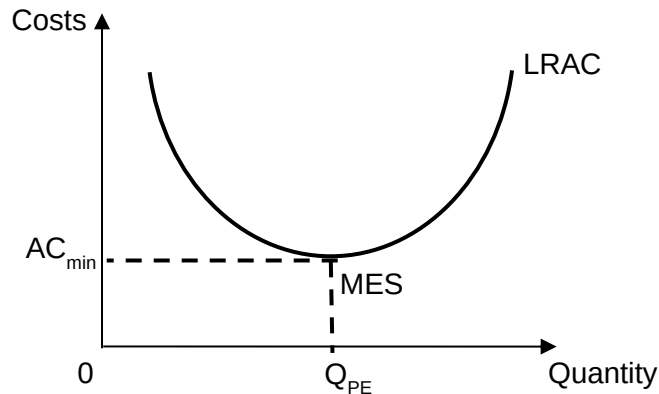


Productive efficiency is achieved when the lowest average cost of producing any output is attained, i.e., production on any point of the long run average cost (LRAC). Each point on the LRAC represents the firm's lowest unit cost of producing a given level of output. In Figure 16, since a perfectly competitive firm only earns normal profit in the long run, it must operate on its LRAC at point A and minimise average cost. If the perfectly competitive firm operates at a point above LRAC, then average cost will be higher than price and the firm will earn subnormal profits and will shut down and exit the industry in the long run. Hence a perfectly competitive firm achieves productive efficiency in the long run from the firm's perspective.

Society's Perspective:

From society's perspective, the firm is productively efficient only when it is producing at the lowest point of the LRAC (also known as the Minimum Efficient Scale, MES), as seen in Figure 17.

Figure 17: Perfectly competitive firm which is productive efficient



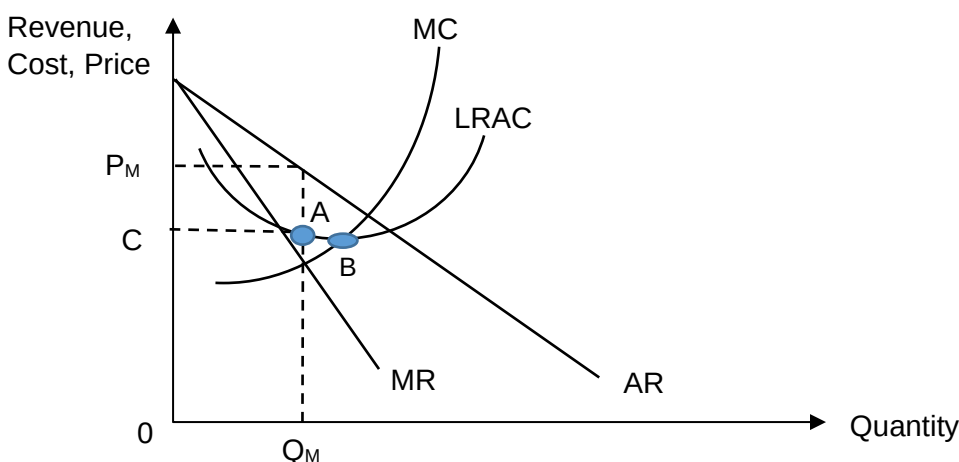
Under perfect competition, firms' supernormal profits are competed away in the long run by the entry of new competitors. As a result, firms are forced to produce at the bottom of their average cost curves. **Hence a perfectly competitive firm achieves productive efficiency in the long run from the society's perspective.** Since a perfectly competitive firm only earns normal profit in the long run, it operates on its LRAC at Point A and minimise average cost.

Productive (in)efficiency under Monopolistic Competition, Oligopoly and Monopoly

Firm's Perspective:

Firms in these market structure types are productively efficient since it is producing along its LRAC across its output levels.

Figure 18: Productive inefficient outcome for a firm in imperfect market



With reference to Figure 18, the firm produces at output level Q_M (determined by $MC = MR$). At output level Q_M , the average cost is OC . The firm is productively efficient as it is producing on the LRAC (point A). However, if the firm is producing the output at a higher cost (any point above the LRAC) instead, it will be productively inefficient. The significant BTEs protect the monopolist from competition. There is thus reduced incentive for the monopolist to make efficient

use of its resources, as long as it is still making profits (some amount of supernormal profits but not maximising profits).

This reduced incentive could manifest itself in a few ways. One of which is slack management, with less regard for the use of factor inputs. For example, departments may become overstaffed, or there could be unnecessary spending on items not crucial to the running of the firm, or less effort being made to keep technologically up to date. The firm will end up incurring a level of cost that is higher than the lowest possible cost of producing any given output. This is also known as **x-inefficiency** (no incentive to push costs down to the lowest level due to absence of competitive pressures), where a firm chooses to produce at a point above the LRAC.

Society's Perspective:

From a society's perspective, a monopoly is very unlikely to be productively efficient since it is operating with excess capacity and not producing at its MES (point B). Recall from Topic 6 that the MES would have been where the different sources of internal EOS is fully enjoyed by the firm.

The only (very unlikely) situation for a monopoly to be productive efficient from society's perspective is when the LRAC cuts MC at the point where $MC = MR$.

However, when firms practice third degree price discrimination, they can produce and sell more and get **greater revenue**. If the **increased production allows the firm to enjoy IEOS**, the **average costs would also be lower**, leading to greater productive efficiency (from society's perspective).

3.3.1.3 Impact on Dynamic Efficiency

Dynamic efficiency refers to the situation when firms invest in technology so that productivity and product quality will improve over time. This is usually achieved through innovation, which can come in the form of *product innovation* and *process innovation*. Innovation refers to the efforts put in by a firm to come up with new, improved or differentiated products. Recall that:

- **Product** innovation refers to the creation of new products and/or services over time.
- **Process** innovation refers to efforts by firms to lower costs of production and to increase productivity.

Innovation can be low cost in nature (e.g., improving the packaging of the product) or may involve costly research and development (R&D), especially if it is technology related. If a perfectly competitive firm undertakes innovation, they will be aware that, with perfect knowledge, if they did develop new more efficient methods of production, their rivals would be easily able to copy their innovations, rendering the initial investment to be a waste of money. Hence, there is **no incentive** for perfectly competitive firms to engage in innovation.

In addition, even if perfectly competitive firms are willing to engage in innovation, the long run normal profits they make may not be sufficient to fund the necessary R&D. Thus, perfectly competitive firms are unlikely to be dynamically efficient.

With only **long-run normal profits**, the monopolistically competitive firm will have **limited financial ability** to embark on large scale, radical innovations. Instead, **small scale, incremental improvements** can be made to further differentiate its product offerings to secure and extend its consumer base.

Moreover, there is **little incentive** for a monopolistically competitive firm to innovate much as any reward in the form of supernormal profits will only be short-term and be competed away easily with the entry of new firms into the industry.

While the monopoly has the financial ability to engage in innovation, due to its ability to earn supernormal profits in the long run, it may not be willing to undertake any since it already has control of the whole market. A monopoly is well-protected from any entrant by high BTEs and see no need to improve upon its product offerings and processes. Thus, a monopoly may not be dynamically efficient due to a lack of incentive to do so.

However, if the market becomes contestable (Topic 8), a monopoly can engage in R&D, innovation in products and processes to deter prospective new entrants. It can be argued that the profit motive is sufficient to ensure that a monopoly is dynamically efficient. To increase its profits, a monopoly might be motivated to find newer and cheaper production methods to lower costs of production and increase profits.

Given long-run supernormal profits, oligopolistic firms have the willingness and the ability to engage in large scale, radical innovation. This is especially so in view of how competitive the industry is. In addition, these firms are well-resourced to carry out expensive R&D efforts by drawing on their supernormal profits. An example in point is how technological companies are working in overdrive to continually improve the product in a bid to win over new consumers. The firms with the greatest number of patents issued in 2020 are:

1	International Business Machines Corp	9130
2	Samsung Electronics Co Ltd	6415
3	Canon Inc	3225
4	Microsoft Technology Licensing LLC	2905
5	Intel Corp	2867
6	Taiwan Semiconductor Manufacturing Co TSMC Ltd	2833
7	LG Electronics Inc	2831
8	Apple Inc	2792
9	Huawei Technologies Co Ltd	2761
10	Qualcomm Inc	2276
11	Amazon Technologies Inc	2244
12	Sony Corp	2239
13	BOE Technology Group Co Ltd	2144
14	Toyota Motor Corp	2079
15	Ford Global Technologies LLC	2025
16	Samsung Display Co Ltd	1902
17	Google LLC	1817
18	General Electric Co	1760
19	Micron Technology Inc	1535
20	Hyundai Motor Co	1464

Source: www.fortune.com, 12 Jan 2021

3.3.2 Impact on Equity

Distinct from the concept of 'equality', equity is related to the idea of fairness. While fairness is a normative issue, there are usually some common indicators of equity, such as:

1. **Affordability of essential goods**
2. **Income distribution between producers and consumers**

Equity under Perfect Competition

Relative to other market structures, goods in a perfectly competitive market have lower prices and are more affordable due to the large number of sellers in the market. Thus, **essential goods are likely to be cheaper** and more affordable to low-income families and this improves equity.

As all firms in the perfectly competitive market is only able to make normal profits in the long run, firms will **not be able make profits at the expense of consumers and other firms, resulting in improved equity**. However, because of normal profits in the long run as explained earlier, perfectly competitive firms are unable to carry out innovation. In contrast to firms in other market structures, which can conduct innovation and lower costs of production, prices of essential good may be higher in the long run.

Equity under Monopoly

The distribution of welfare is at the most inequitable in the monopoly market.

Consumers have access only to a limited quantity of the good at a higher price compared to a perfectly competitive market. In addition, due to the lack of substitutes, **the demand for the good produced by the monopolist tend to be price inelastic. To profit-maximise, the monopolist will set an even higher price**. For essential goods, the high price may make it out of reach for low-income consumers.

Monopolies can make supernormal profits in the long run at the expense of consumer surplus (to be explained in the next section). This might worsen the income inequity between producers and consumers.

Also, the supernormal profits enjoyed by existing monopolies may allow them to engage in certain strategies (such as limit pricing and advertising) to prevent competition from entering the market. In some cases, this might be considered inequitable.

Moreover, if the monopolist can segregate and control more market by practising third-degree price discrimination, he will be able to increase his market power and cause greater market imperfections. The firm will be able to gain higher profits but capturing more consumer surplus, and this can worsen the income inequity between producers and consumers. In addition, the firms will be able to use the higher profits to deter entry from potential competitors, leading to greater inequity between producers.

Equity under Oligopoly

Similar to monopoly, oligopolist firms earn **supernormal profits in the long-run** due to the presence of high BTE. Hence, it is **relatively less equitable**

when comparing with perfect competitive and monopolistically competitive markets.

If oligopolists act collusively to maximise profits, such as in a cartel, they will in effect be acting like a monopoly. In such cases, the negative impacts experienced under a monopoly will also be experienced under an oligopoly.

Due to the lack of substitutes, **the demand for the good produced by the oligopolist tend to be price inelastic**. To profit-maximise, the firm will set a high price to raise total revenue and profits. For essential goods, the high price may make it out of reach for the low-income consumer. This concern heightened during the outbreak of Covid where vaccines, hand sanitisers were essential for survival but were out of reach for many low-income households.

However, the oligopoly is **more equitable compared to a monopoly** since the profits reside across the firms, compared to just a single firm. However, when it acts like a monopoly, the arguments for and against will also apply. In addition, **market dominance** allows oligopoly firms to make supernormal profits at the expense of consumers. This is **relatively less equitable between producers and consumers when comparing with perfect competitive and monopolistically competitive markets**.

Moreover, if the oligopolistic firm practices third-degree price discrimination, market power will be further increased, causing greater market imperfections. The firm will be able to gain higher profits but capturing more consumer surplus, and this can worsen the income inequity between producers and consumers. In addition, the firms will be able to use the higher profits to deter entry from potential competitors, leading to greater inequity between producers.

Equity under Monopolistic Competition

Firms in the monopolistically competitive market only make **normal profits in the long run**. Hence, it is **relatively equitable** when comparing the welfare distribution between firms and consumers, as well as comparing the distribution of profits among all firms.

Moreover, due to many substitutes in the market, the demand for the firm's product tends to be price elastic. So monopolistically competitive firms have **little market power** to raise price and/or restrict output. Thus, monopolistically competitive firms **tend to lower price, and increase output**. If firms produce essential goods, such as food (i.e., in the case of hawker food stalls), these goods will be made **more affordable and accessible to low-income consumers**.

Summary Table on Impacts

Impact on Society (i.e. Government Microeconomic Goals)		Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Efficiency	Allocative Efficiency	Yes	Some inefficiency	More inefficient	Most inefficient
	Productive Efficiency (Firm)	Yes	Yes	Some degree of inefficiency	Higher degree of inefficiency
	Productive Efficiency (Society)	Yes	Some degree of inefficiency	Higher degree of inefficiency	Highest degree of inefficiency
	Dynamic Efficiency	No	Less	Most	Able to but unwilling to due to no rivals
Equity		Most	Some	Less	Least

In closing, let's consolidate our **Enduring Understandings**:

Every firm has its place and purpose in the market, each with its unique context. Through this Topic, you should now be able to explain real world applications by deconstructing the relevant economic analysis – explain their **Characteristics**, and how it affects their **Strategies** and lastly, how it leads on various **Impacts** on the different economic agents and on society.

Summary Table – Impacts of Firm Strategies

How the <u>Characteristics</u> of the firms/industry/market determine what strategies to adopt			Impact of firm's decisions and strategies on economic agents	
<u>STRATEGIES</u>	Firms make decisions and engage in strategies aimed at raising revenue and/or lowering unit costs			
How the strategy works (H)	<u>Benefits of engaging in strategy for the firm itself</u> (A)	<u>Costs of engaging in strategy incurred by the firm itself</u> (L) + FIRST		
	How it enables the firm to earn higher profits	How it may <u>not</u> enable the firm to earn higher profits		
Pricing strategy				
Price competition → Lower prices if demand for product is price elastic ($ PED > 1$)	Raising revenue If demand for product is perceived to be price elastic, lower prices → more than proportionate rise in quantity demanded → Higher revenue	Other firms may start to reduce prices as well → price war → total revenue may fall instead if other firms are able to reduce prices more significantly due to lower costs of production.	Consumers	
			Consumer Welfare	Consumer surplus increases
				No change in consumer choice and product quality
			Other/Rival firms	
			No change in cost; Fall in total revenue and hence fall in profits	
			Society (i.e. Impact on the government's microeconomic goals)	
			Efficiency	Allocative efficiency improves
				No change in productive efficiency
				No change in dynamic efficiency
Equity improves				
Limit pricing (Entry deterrence – to <i>deter</i> entry of new firms) → reduce its price to that below the	Raising revenue Unable to make at least normal profits, potential competitors will not be attracted to enter the industry. This allows the	Monopolist will likely earn less revenue because of the lower price set than at the profit-maximising price level. This would likely result in lower		

How the <u>Characteristics of the firms/industry/market</u> determine what strategies to adopt			Impact of firm's decisions and strategies on economic agents		
<u>STRATEGIES</u>	Firms make decisions and engage in strategies aimed at raising revenue and/or lowering unit costs				
How the strategy works (H)	<u>Benefits of engaging in strategy for the firm itself</u> (A)	<u>Costs of engaging in strategy incurred by the firm itself</u> (L) + FIRST			
	How it enables the firm to earn higher profits	How it may <u>not</u> enable the firm to earn higher profits			
new entrant's average cost, i.e., P < AC	monopolist to maintain its market share and market power , hence supernormal profits can still be retained in the long run.	profits – in extreme cases, the firm may even be earning subnormal profits in the short run .			
Predatory pricing (to drive out existing competitors) → reduce its price to P < AC	Raising revenue Drive out existing (much smaller) competitors → increase demand for their own products and reduce PED → Higher revenue	Short-term subnormal profits to drive out other small rivals. Doing so will certainly require the monopolist to tap on its past profits (or retained profits) to sustain its existence.			
Third-degree price discrimination - Higher price charged in the market where PED < 1 - Lower price charged in the market where PED > 1	Raising revenue Higher price charged in the market where PED < 1 → less than proportionate fall in quantity demanded → Total revenue rises	Revenue will not increase if firms are unable to segment the markets appropriately .	Consumers		
	Lower price charged in the market where PED > 1 → more than proportionate rise in quantity demanded → Total revenue rises		Consumer Welfare	Consumer surplus falls	
				No change in consumer choice and product quality	
	Lowering costs Reap EOS by producing a greater output → Lower per unit costs		Other/Rival firms		
			No change in cost, revenue and profits		
Society (i.e. Impact on the government's microeconomic goals)					
		Efficiency	Allocative efficiency improves for those charged lower price, but worsens for those charged higher price		
			No change in productive efficiency		

How the <u>Characteristics</u> of the firms/industry/market determine what strategies to adopt			Impact of firm's decisions and strategies on economic agents	
<u>STRATEGIES</u>	Firms make decisions and engage in strategies aimed at raising revenue and/or lowering unit costs			
How the strategy works (H)	<u>Benefits of engaging in strategy for the firm itself (A)</u>	<u>Costs of engaging in strategy incurred by the firm itself (L) + FIRST</u>		
	How it enables the firm to earn higher profits	How it may <u>not</u> enable the firm to earn higher profits		
Collusion refers to the situation where firms in a market cooperate to jointly fix prices or output. Explicit collusion – cartels Tacit/implicit collusion - price leadership Firms in more concentrated/less competitive industries tend to experience a higher degree of mutual interdependence and are thus more likely to collude and employ non-price competition over price competition <i>Explain example of collusion descriptively using examples, technical analysis in the form of mathematical models, diagrams not required</i>	Raising revenue Collusion allows firms to raise prices together to earn higher revenue	Collusion collapses when one or more of the firms involved cheat by charging less or producing more than the agreed price and output respectively → Price war → huge losses for all firms involved *Collusion is more likely to occur and continue if: 1. market is more concentrated 2. there is a clear market leader the extent of product differentiation is low.		No change in dynamic efficiency
			Equity improves	
			Consumers	
			Consumer Welfare	Fall in consumer surplus
				No change in consumer choice and product quality
			Other/Rival firms	
			Not applicable since 'rival' firms collude	
			Society (i.e. Impact on the government's microeconomic goals)	
			Efficiency	Allocative efficiency worsens
				No change in productive efficiency
No change in dynamic efficiency				
Equity worsens				

How the <u>Characteristics of the firms/industry/market</u> determine what strategies to adopt			Impact of firm's decisions and strategies on economic agents						
<u>STRATEGIES</u>	Firms make decisions and engage in strategies aimed at raising revenue and/or lowering unit costs								
How the strategy works (H)	<u>Benefits of engaging in strategy for the firm itself (A)</u>	<u>Costs of engaging in strategy incurred by the firm itself (L) + FIRST</u>							
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<u>Non-pricing strategy</u>									
Growth (i.e., output expansion) achieved through internal expansion, or horizontal integration (i.e., by merging with or acquiring another firm in the industry and in the same stage of production)	Raising revenue Capture greater market share → raise market power; can tap on the ready base of existing consumers of the other firm → increase the firm's demand and AR. Also, reduce its PED value (with stronger BTEs and fewer competitors) → allowing it to charge higher prices but quantity demanded falls LTP → increase TR.	Excessive growth → Fall in demand for the firms' products due to fall in product quality → fall in TR → lower profits → iDOS → higher average costs → lower profits *Firms will only carry out strategies if they expect the rise in revenue to exceed the rise in costs.	<table><tr><th colspan="2">Consumers</th></tr><tr><td rowspan="2">Consumer Welfare</td><td>Consumer surplus decreases (unless firm passes on the lower unit cost in the form of lower prices)</td></tr><tr><td>No change in consumer choice and product quality</td></tr></table>	Consumers		Consumer Welfare	Consumer surplus decreases (unless firm passes on the lower unit cost in the form of lower prices)	No change in consumer choice and product quality	
	Consumers								
	Consumer Welfare	Consumer surplus decreases (unless firm passes on the lower unit cost in the form of lower prices)							
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				<table><tr><th colspan="2">Other/Rival firms</th></tr><tr><td colspan="2">No change in cost; Fall in total revenue and hence fall in profits</td></tr></table>	Other/Rival firms		No change in cost; Fall in total revenue and hence fall in profits		
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Society (i.e. Impact on the government's microeconomic goals)									
Efficiency	Allocative efficiency worsens								
	Productive efficiency improves from firm's POV								
	No change in dynamic efficiency								
			Equity worsens						
Diversification enables a firm to find new sources of revenue and allows it to spread its risks as	Raising revenue	Diversifying into a new market is risky and costly	<table><tr><th colspan="2">Consumers</th></tr></table>	Consumers					
Consumers									

How the <u>Characteristics</u> of the firms/industry/market determine what strategies to adopt			Impact of firm's decisions and strategies on economic agents	
<u>STRATEGIES</u>	Firms make decisions and engage in strategies aimed at raising revenue and/or lowering unit costs			
How the strategy works (H)	<u>Benefits of engaging in strategy for the firm itself (A)</u> How it enables the firm to earn higher profits	<u>Costs of engaging in strategy incurred by the firm itself (L) + FIRST</u> How it may <u>not</u> enable the firm to earn higher profits		
losses incurred for one product can be offset by profits earned from another. → Vertical integration, i.e., merging with or acquiring another firm in the same industry but at a different stage of production)	Secure access to retail markets and find new sources of revenue → Higher demand and AR.		Consumer Welfare	No change in consumer surplus (for each individual market)
				Consumer choice increases but no change in product quality
	Lowering costs A fall in the demand for a particular product could be compensated by continued/increased sales in other products or markets → maintaining/increasing its output (therefore maintaining/reducing unit costs). With a well-diversified product range, the costs of risks relating to changing market conditions will fall → firms can spread their cost of uncertainty → enjoy risk-bearing IEOS → over a wider range of products and hence reduce their average cost.		Other/Rival firms No change in cost; Fall in total revenue and hence fall in profits	
			Society (i.e. Impact on the government's microeconomic goals)	
			Efficiency	No change in allocative efficiency
				Productive efficiency improves from firm's POV
				No change in dynamic efficiency
			No change in equity	
Innovation, research and development (R&D) Innovation:	Raising revenue Production innovation , if successful, product innovation improves the quality and increases the variety of the	R&D is expensive and a long-drawn process - revenue may not rise and cost may not fall in the short run and result is not guaranteed	Consumers	

How the <u>Characteristics</u> of the firms/industry/market determine what strategies to adopt			Impact of firm's decisions and strategies on economic agents	
<u>STRATEGIES</u>	Firms make decisions and engage in strategies aimed at raising revenue and/or lowering unit costs			
How the strategy works (H)	<u>Benefits of engaging in strategy for the firm itself</u> (A)	<u>Costs of engaging in strategy incurred by the firm itself</u> (L) + FIRST		
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- Low cost, e.g., improving packaging of product or - costly – R&D if it is technology related	products to increase its demand/AR and making demand more price inelastic . This will raise the firm's market power by capturing greater market share and deterring the entry of new firms, thus enabling it to earn higher revenue .		Consumer Welfare	Fall in consumer surplus for revenue-raising strategies, but rise in consumer surplus for cost-reduction strategies (assuming firm passes on the cost savings in the form of lower price)
	Lowering costs Process innovation allows the firm to raise productivity and/or lower costs by finding more efficient methods of production → both MC and AC fall.			Consumer choice increases through improvement in product quality
Marketing refers to efforts taken by the firm to promote its product. This largely takes the form of advertising although it can be also done through other means, e.g., free gifts/samples and lucky draws.	Raising revenue Product differentiation via marketing/advertising (could be persuasive or informative in nature) aims are to produce a product that will sell well and that is different from rivals' products → increases the demand/AR for the firm's products. At the same time, the degree of substitutability between products are weakened hence making demand for its products more price inelastic . The firm will then be able to charge higher prices and sell more output, hence earning more revenue.	Marketing is expensive, i.e., costs incurred to engage an advertising firm to conceptualise and run the advertising campaign, and result is not guaranteed.	Other/Rival firms	
			No change in cost; Fall in total revenue and hence fall in profits	
			Society (i.e. Impact on the government's microeconomic goals)	
			Efficiency	Allocative efficiency worsens for revenue-raising strategies, but improves for cost-reduction strategies (assuming firm passes on the cost savings in the form of lower price)
				Productive efficiency improves from firm's POV for cost-reduction strategies Dynamic efficiency improves

How the <u>Characteristics</u> of the firms/industry/market determine what strategies to adopt			Impact of firm's decisions and strategies on economic agents	
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	firm's demand/AR fall to a smaller extent if competitor lowers price.		Equity worsens for revenue-raising strategies, but improves for cost-reduction strategies (assuming firm passes on the cost savings in the form of lower price)	
Shut down Subnormal profits in the short run → needs to decide whether to continue producing or shut down to minimise its losses. If the revenue earned is less than the variable costs, the firm should shut down so that its losses are limited to only the fixed costs. In the long run, the firm should only continue producing if it can cover all costs.	Shutting down allows the firms to minimise its loss and reallocate its resources for more efficient usage	Demand and costs condition may change in the future → might not be rational to shut down	Consumers	
			Consumer Welfare	Fall in consumer surplus (since quantity falls) but final change in the market depends on other firms
				Fall in consumer choice and no change in product quality
			Other/Rival firms	
			No change in cost; total revenue and hence profit increase	
			Society (i.e. Impact on the government's microeconomic goals)	
			Efficiency Allocative efficiency worsens	

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				No change in productive efficiency
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