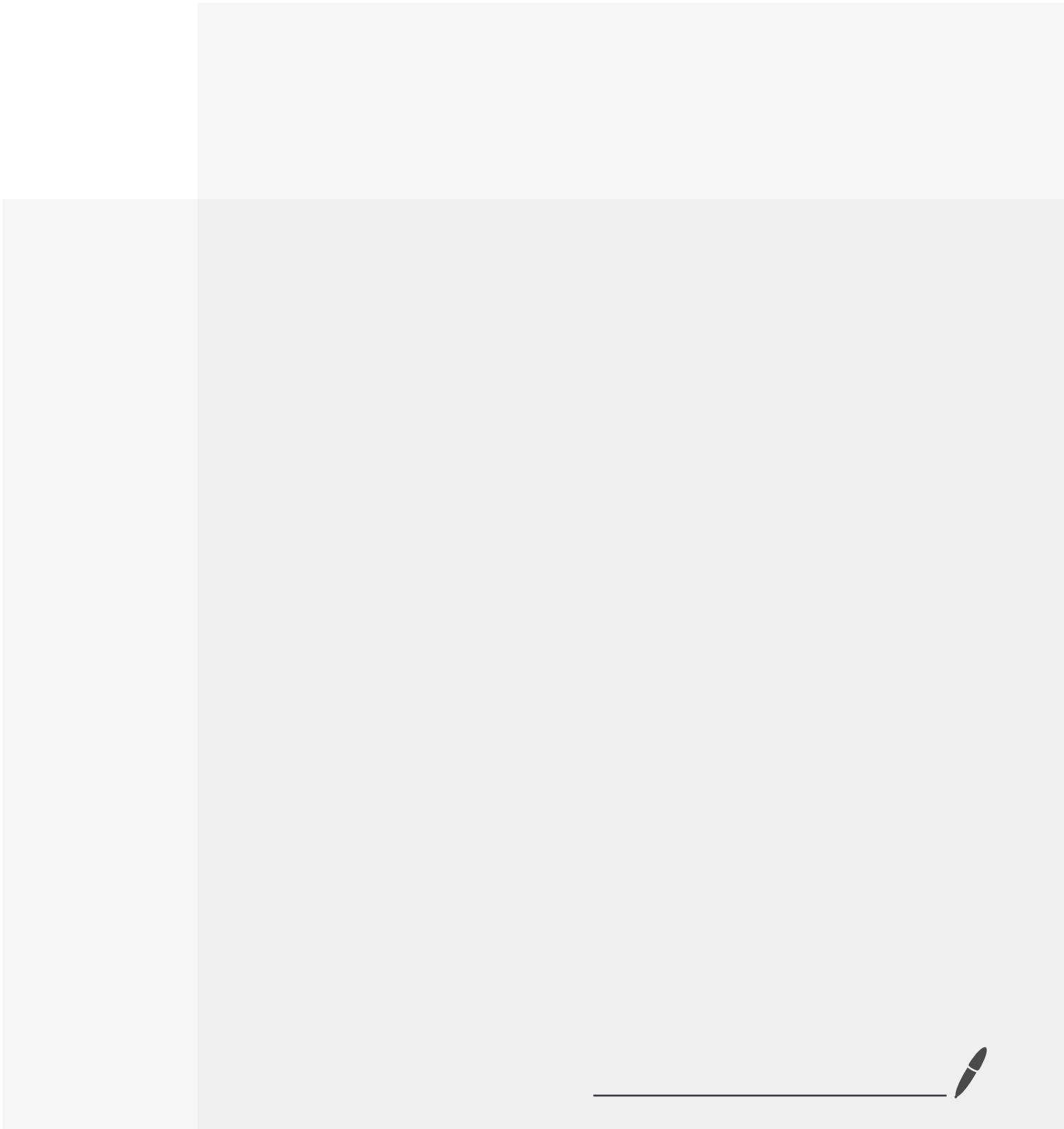


Market Structures

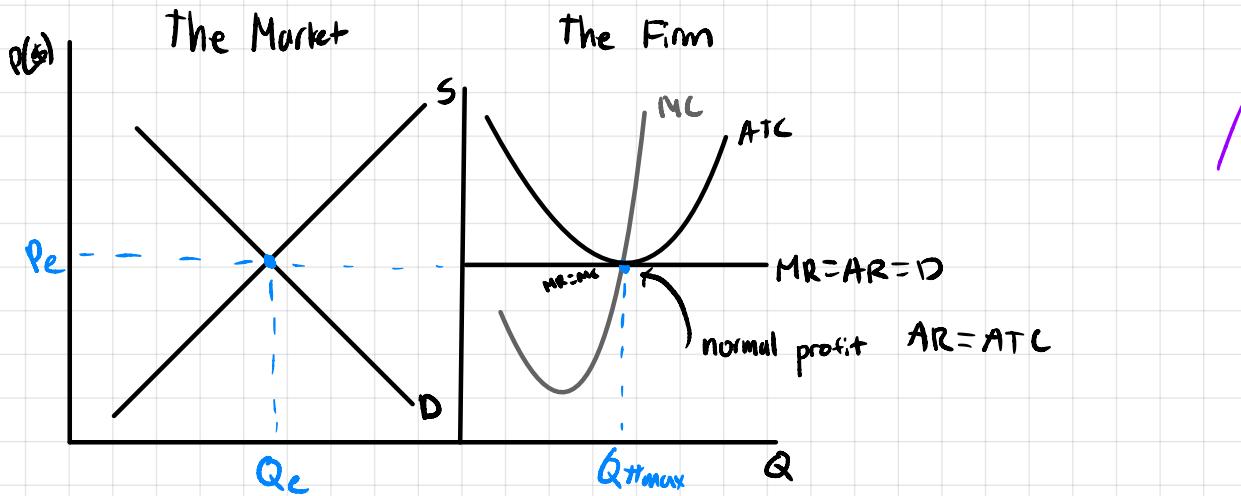


Perfect competition

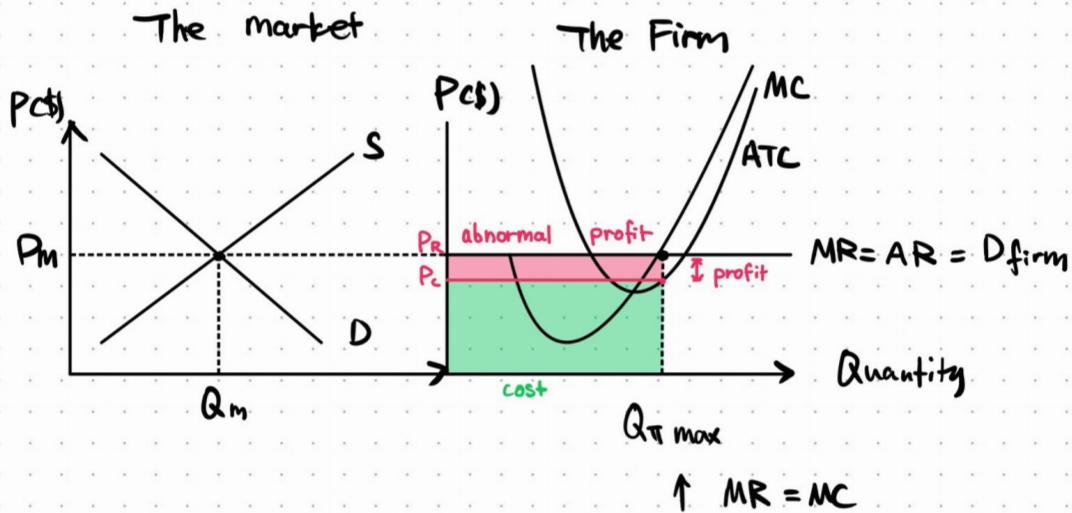
Assumptions:

- ① There are many buyers and sellers on the market.
- ② Sellers sell identical / homogenous products / services.
- ③ Buyers and sellers are well informed about costs and prices ("perfect information").
- ④ It is easy for sellers to enter and exit the industry (no barriers).
- ⑤ Sellers have no influence over the market price at an individual level (price takers).

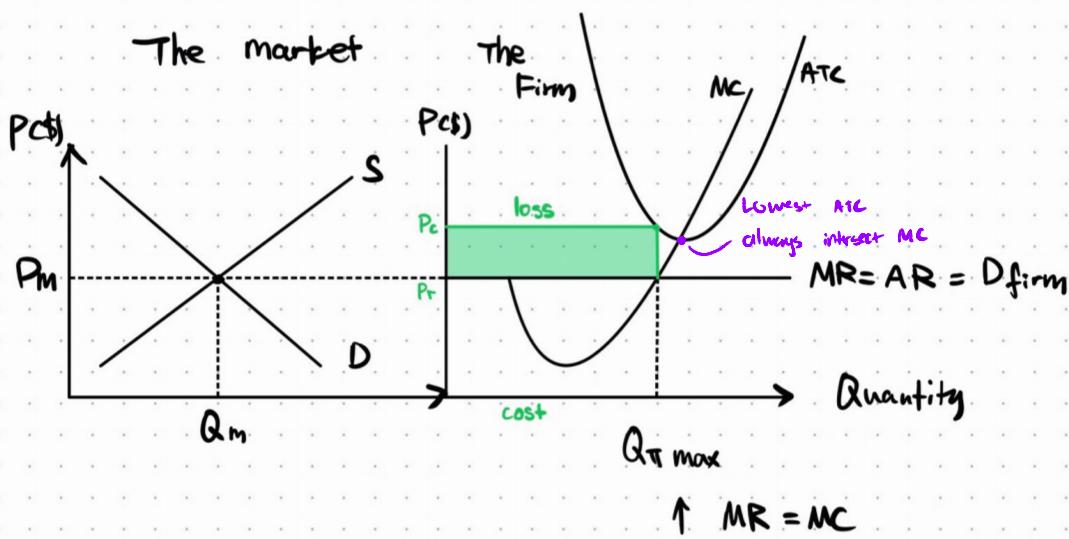
Diagram:



P.C. Firm Making Abnormal / Supernormal Π



P.C. Firm Making Subnormal Π / Loss



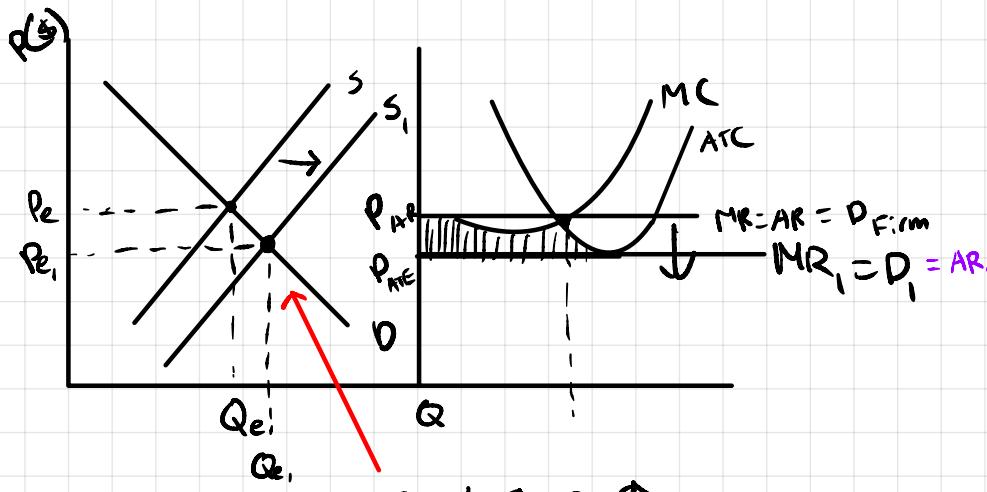
PC in the long run is the time period when all its factors of production are variable - Decision-making phase.

In PC, a firm (price-takers) can earn any form of Π in the short term but only normal Π in long term.

Why? Because there are no barriers to entry or exit.

(5.1)

Abnormal $\pi \uparrow$ to normal π in long run:



Revenue is dropping,
 $AR = ATC = 0\pi$.

No abnormal profit.

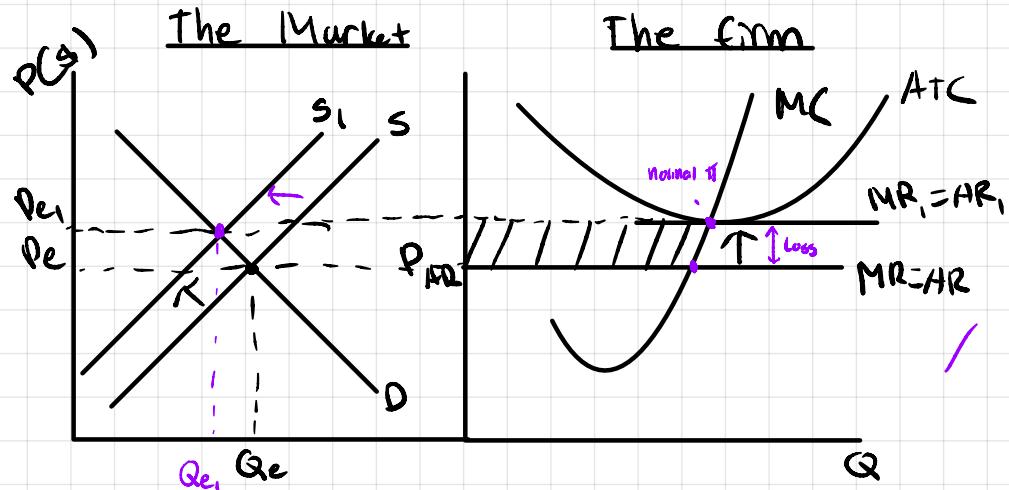
Supply ↑, $Q_E^* \uparrow$

Price-takers must take new price

For the firm, $MR = AR \downarrow$, so does Q_H max. At $MR = MC$, ATC is now equal to AR , meaning the firm makes normal π (profit)

(5.2)

Subnormal π / loss to normal π in the long run.



Loses: $ATC = \text{prod efficient}$,
 $MC = \text{allocate efficient}$.

When firms lose, firms will leave reducing supply increasing revenue.

Then, all firms will make normal profit.

Flaw: Some firms don't leave when making loss. (Anticipating others leave) and $p \uparrow$

Why is P.C. "perfectly efficient"?

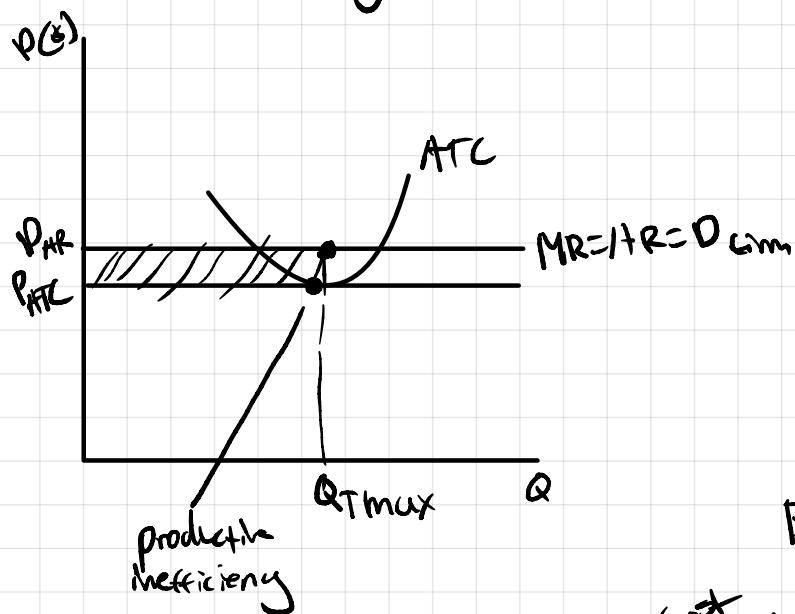
- Productive efficiency is point where the firm is producing at lowest total average cost.
- Allocative efficiency is when a firm is producing at $MR=MB$, community surplus is maximized and market failure is eliminated. Shown at:

$$P=MC$$

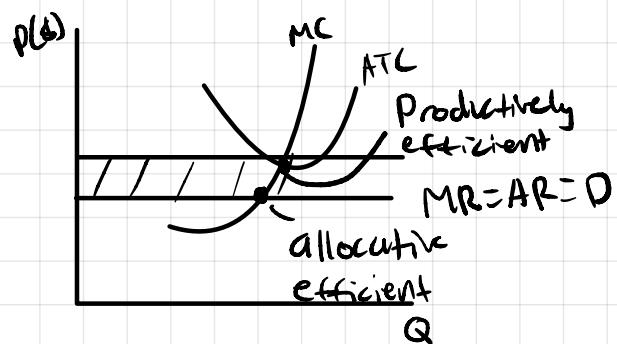
$$AR=MC$$

$$MB=MC$$

Inefficiency of P.C. firm making abnormal profit.

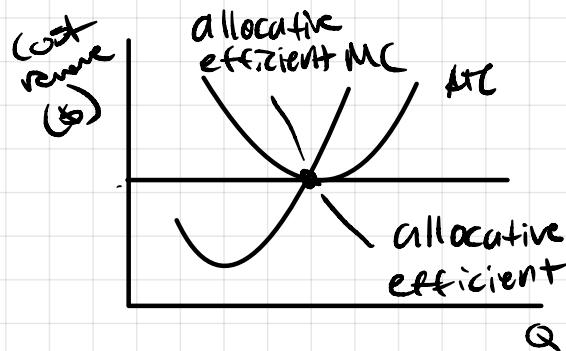


The Firm at loss



- Firm is always allocatively efficient
- Firm is not always productively efficient
 - ↳ If making abnormal π

Efficiency of PC firm at normal π



When a firm is making normal π ($ATC=AR$) in P.C., it will be both allocatively and productively efficient.

Since firms always make normal π in the L.R. (in P.C.). They are always perfectly efficient.

long run,

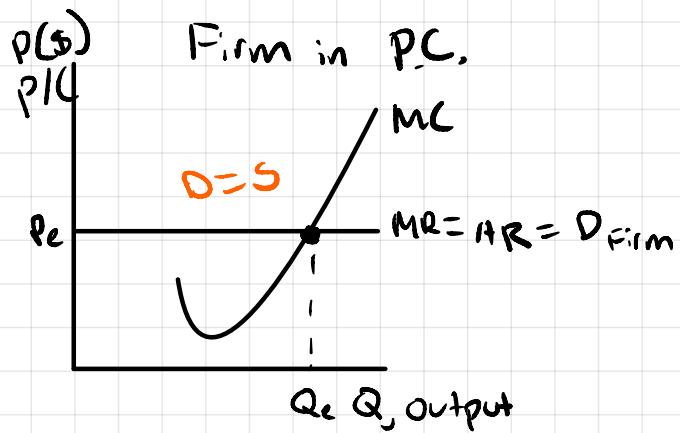
Monopolistic Competition

Market failure, perfect competition, and imperfect competition

Market failure takes place when the market fails to produce at the allocatively correct level of output.

Firms in P.C. always profit max.

↳ Where $MC = MR$ at $AR = MC$ which is the allocatively efficient level of output.



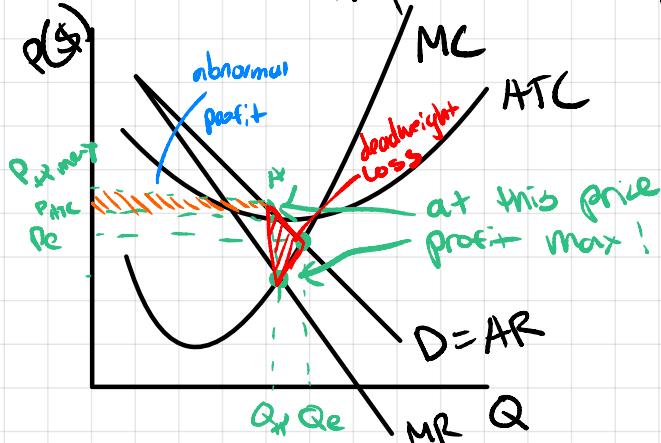
- ∴, there is no market failure, and no need for govt' intervention.

- No chance of P.C. firm to produce at $MR \neq MC$, since they have no market power and are price takers

Imperfect markets are markets with firms producing at a point where $AR \neq MC$, because they have market power.

- Face normal, downward sloping demand curve.
- Price can be set through the restriction of output,
↳ maximize ↑↑ price, restrict supply.

Firm in Imperfect Competition: price maker.



- The more market power a firm has, the greater the market failure and the greater the need for government intervention.

Monopolistic Competition

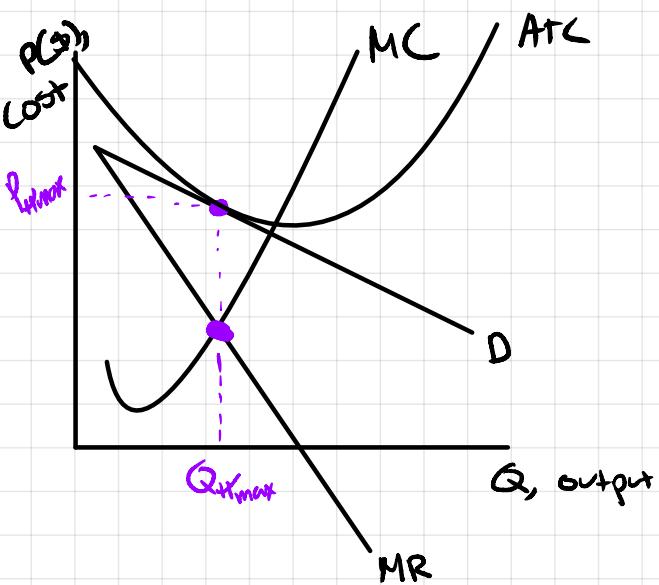
- A market structure with competing firms, with each having "a little bit" of market power.
 - ↳ they are "mini-monopolies" for their own product.

Assumptions

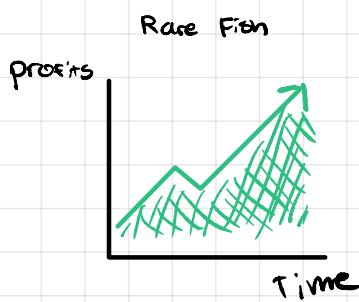
- ① The industry has many firms.
 - ② The firms are small relative to the size of industry.
 - ③ The firms all sell slightly different ("differentiated") products.
 - consumers can tell the difference.
 - ④ Firms are free to enter and exit the industry.
- Differentiation leads to price-making rather than price-taking.
- ie - Branding product
- Quality service
- Location
- Packaging
- Exclusivity
- Social causes
- Examples of monopolistic competition (markets)
- Restaurant Market
 - Nail Salons
 - Convenience Stores
 - Private Gyms
 - Phone repairs
- The ability to differentiate and create brand loyalty leads the firm, in monopolistic competition, to be price-makers.
- ↳ However, these price-making firms have weaker market power. Weaker than monopoly or oligopoly.
- ↳ We show this through their fairly elastic demand curve for the firms' products.

Diagrams

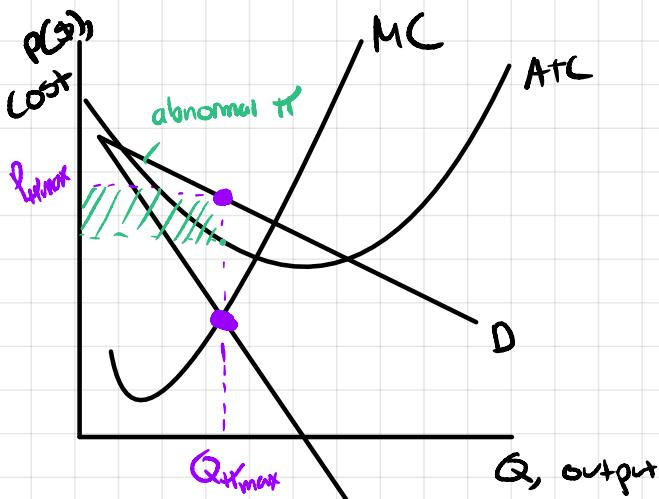
one firm in monopolistic competition



$ATC = AR \therefore$ the firm is making normal π .



$AR > ATC \therefore$ the firm is making abnormal π .

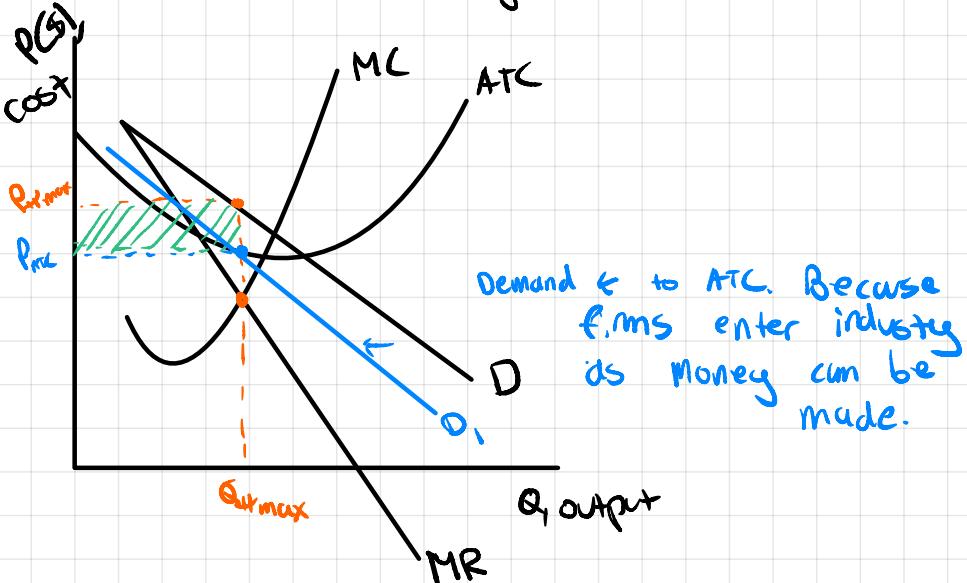


$AR < ATC \therefore$ the firm is making loss.

An MC firm in the long run.

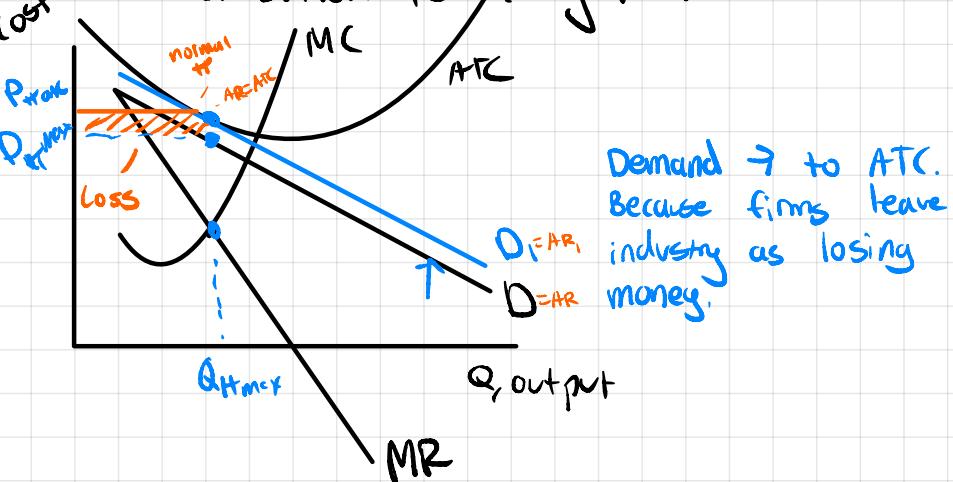
- Can make any kind of π in the short run, when at least one F.o.P. is fixed and the firm is producing.
- In the long run, when all F.o.P. are variable, and the firm is planning it, can only make normal π .

MC. firm making abnormal profit in SR
 → transition to long run.



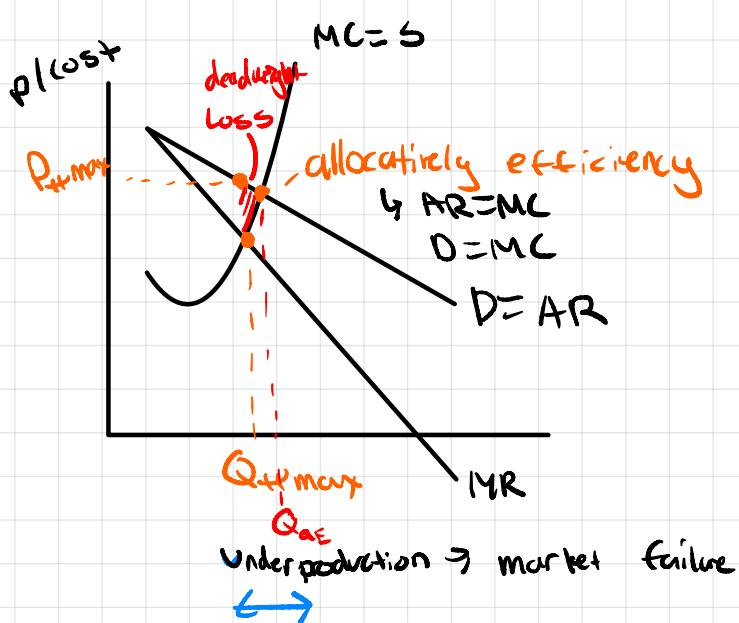
Demand \leftarrow to ATC. Because firms enter industry as Money can be made.

MC firm making subnormal profit in SR
 → transition to long run.



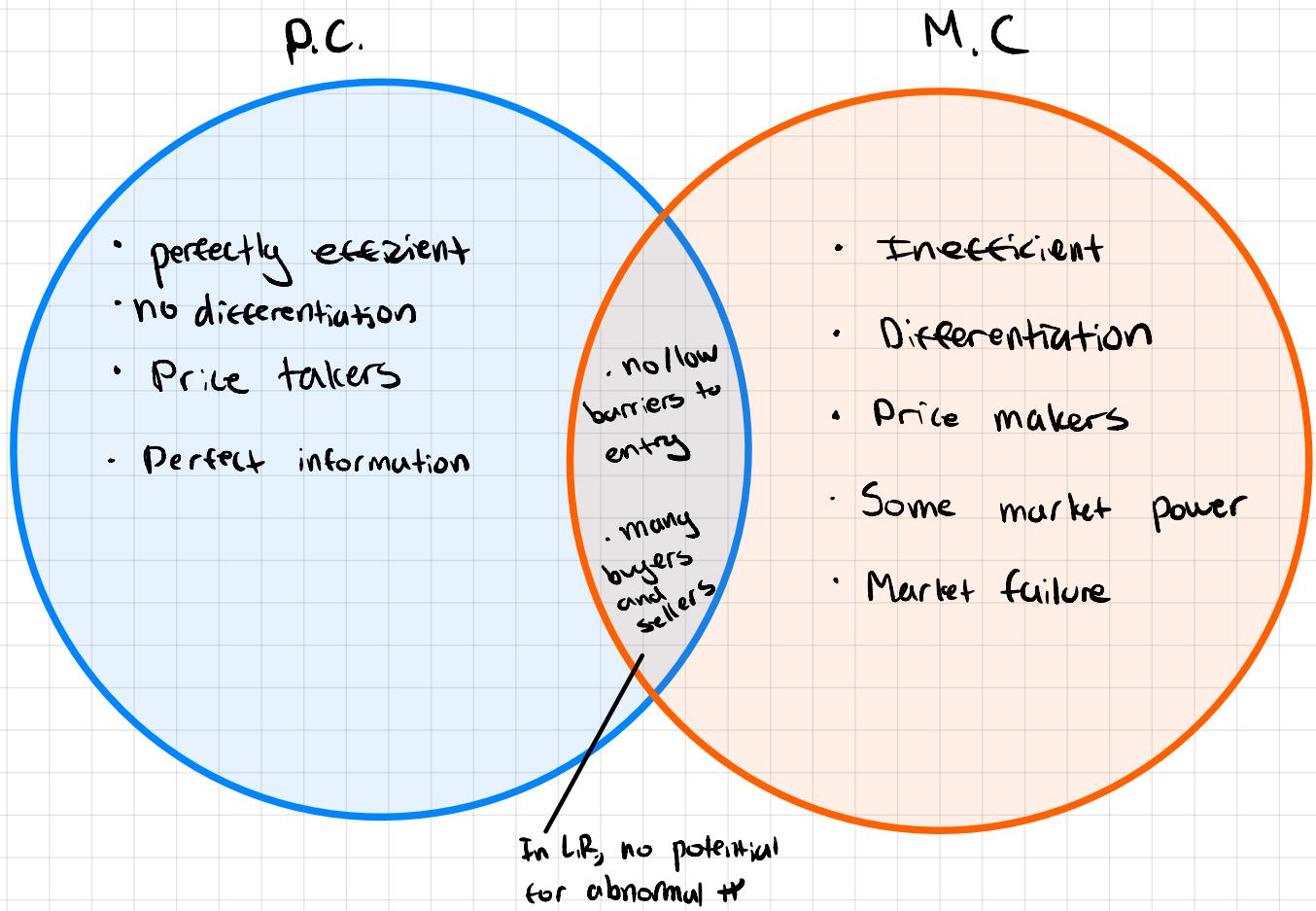
Demand \rightarrow to ATC.
 Because firms leave industry as losing money.

- Firms in M.C. are never allocatively or productively efficient.



- We tolerate inefficiency because we (society) like differentiation

Comparing Perfect Competition and Monopolistic Competition.



Monopoly

Assumptions

- ① There is only one firm producing the product so the firm is the industry.
- ② Barriers to entry exist, which stop new firms from entering the industry and maintains the monopoly.
- ③ As a consequence of barriers to entry, the monopolist may be able to make abnormal profits in the long run.

Monopoly can change depending on how industry is defined. One type of software is not all software. Better to define how much market power the firm has. To what extent can firm make its own prices.

Barriers to Entry

Barriers to entry are difficulties faced by firms when trying to enter a new industry:

↳ Economies of Scale:

- As units costs fall as economies grow larger, their average will decrease for following reasons:

Specialization: Management will specialize in specific areas such as production, finance, marketing etc

Division of Labor: Production process is broken down into smaller processes which can be done more quickly, efficiently and repeatedly

Bulk Buying: Larger firms can negotiate discounts with suppliers. Cost of inputs is reduced which therefore reduces costs of production.

Financial Economies: Larger firms can raise financial capital at smaller costs they're less risk of defaulting and can get lower interest rates.

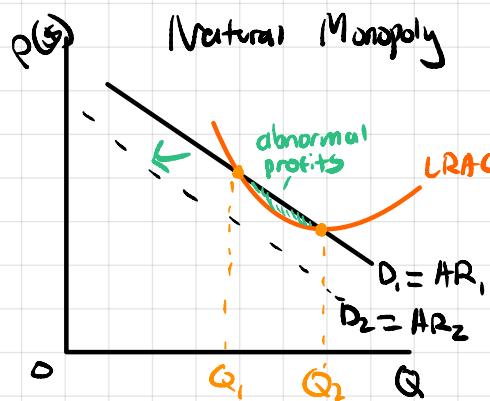
Transport Economics: Large firms with bulk orders can pay less for transportation costs. May have in-house fleet as well.

Large Machines: Some machinery is too costly to be owned by a small firm. After growing, it is feasible to own it instead of paying renting fees.

Promotional Economics: Cost of promotion per unit output falls as volume of output increases. If firm 2x revenue, unlikely to 2x promotional costs. Also applies to fixed costs like insurance, security, etc.

↳ Natural Monopolies:

- Some industries are natural monopolies. This is if there is only enough economies of scale to support one firm.



- Monopolist is the industry.
- Long run average cost (LRAC) set by economies of scale experienced by the monopolist.
- Between Q_1 and Q_2 , abnormal profits can be made.
- If another firm joined the industry, D_1 would shift to D_2 . If so, not even normal profit can be made. $LRAC > AR$ at all output levels.
- This is natural monopoly because market will only support one firm.

↳ Legal Barriers

- In some cases, legally, only one firm can be in an industry.

Patents: If firm acquires a patent, they can be the only one producing of a product. Lasts usually ~20 years to encourage inventions.

Direct: Government can directly allow only one firm in an industry and ban all else from entering. For example, national postal service paid by government and ban other firms from entering industry.

↳ Brand Loyalty

- If customers think of the product as the brand, it is more difficult for others to enter the industry and compete.
- Demand for only the one firm.

↳ Anti-Competitive Behaviour

- Restrictive practices, legal or illegal to make it more difficult for other firms. For example, loss-making price to force others out of the industry

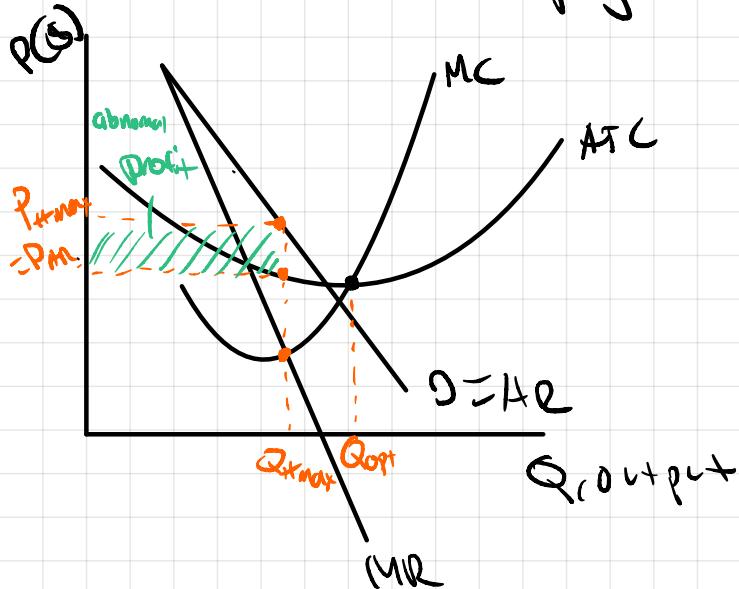
Monopoly can earn abnormal π in long run and not a loss because it would exit the industry if long run loss. Market making normal π will stay in the market producing a good/service in the long-run.

Monopoly: Market Power, Profit Positions, and Market Failure

- The monopolist is the industry so it is a price maker
- They completely control output (supply)
∴ they have significant market power

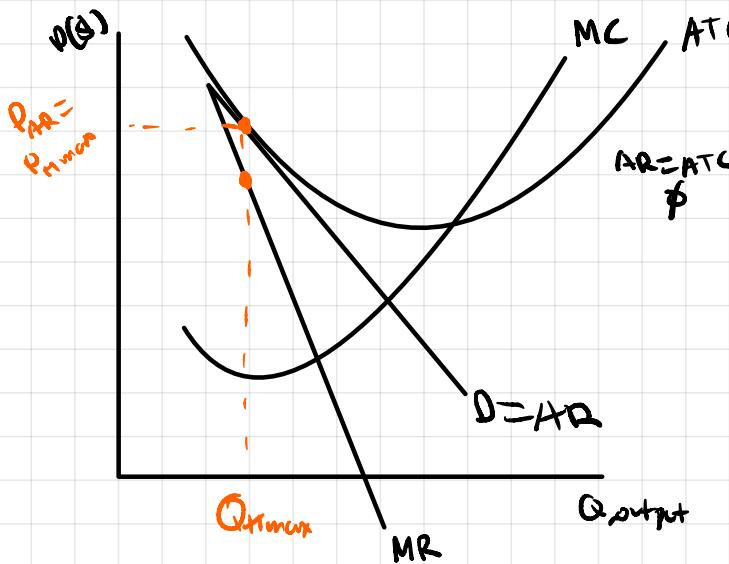
Diagrams

Abnormal π in Monopoly

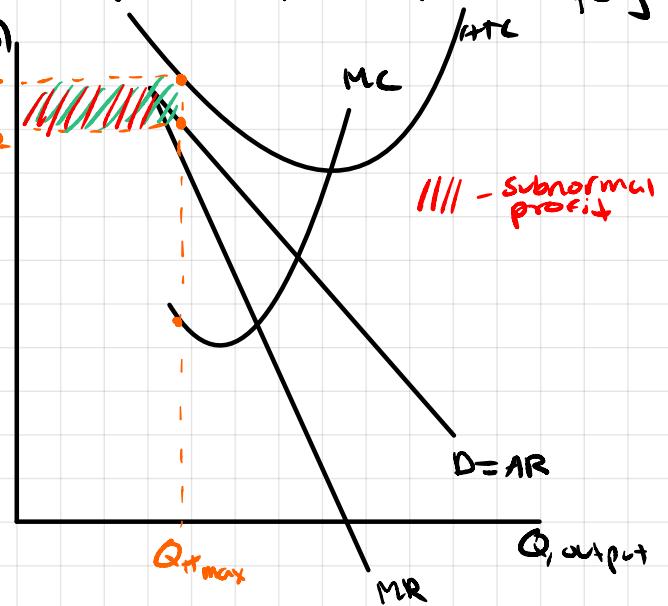


- Abnormal π is possible as long as they have effective barriers of entry.
- Demand curve is inelastic, more steeper, in monopoly because theres not alternatives

Normal π in Monopoly



Subnormal π / Loss in Monopoly

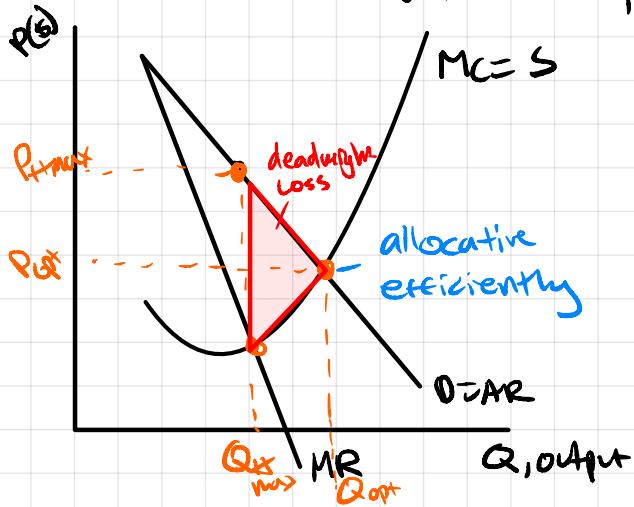


- Loss can only happen in the short run.
- If it makes a loss in the long run, the monopoly will exit the industry.

Market Failure in Monopoly

- At $MC=MR$, a monopoly will NOT be allocatively efficient or productively efficient.
 $\rightarrow MC = ATC$
- Output is purposely restricted to earn high profits.
- This means that there is market failure.

Market Failure in Monopoly



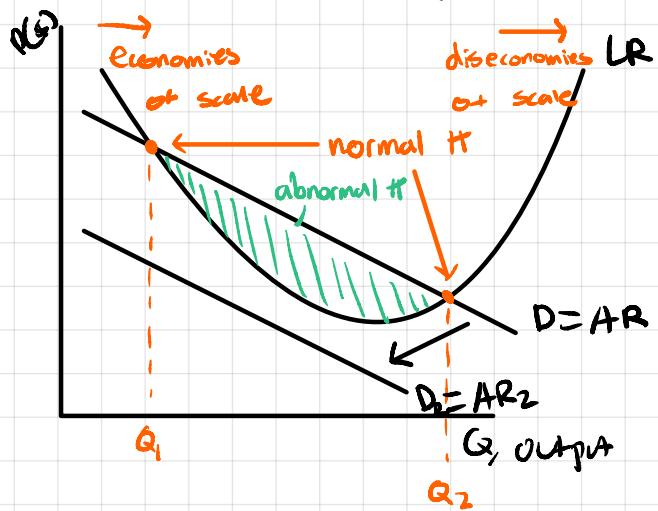
- Governments won't necessarily intervene
- Sometimes advantages outweigh disadvantages.

Where Monopolies are Valuable to Society (2 times)

- Natural monopoly situation where only enough economies of scale (EOS) exist for one firm to make economic profit and stay in business.

Example: public transit (subways), electricity production

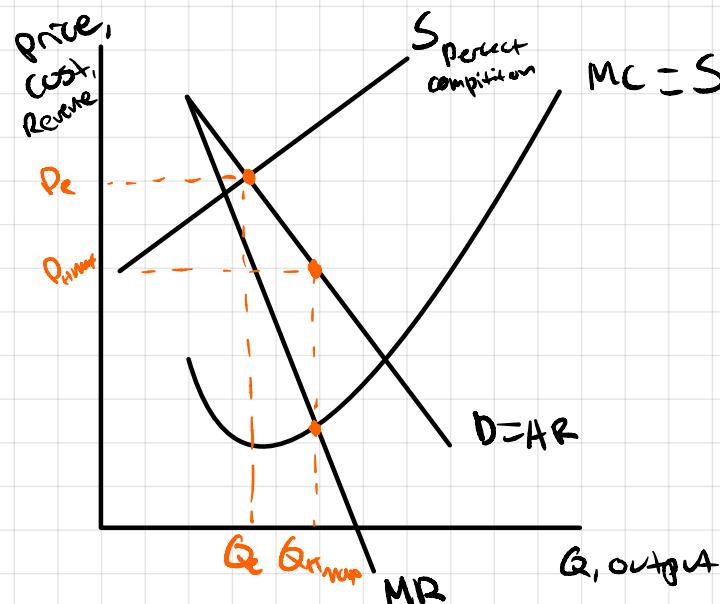
Natural Monopoly Model



economies of scale only in L.R.
LRATC - long run average total cost. (long run)

- Not enough economies of scale to support >1 firm
(Bad)
- If 2+ firms, industry will collapse.
- Natural monopoly won't stay for long especially with technology improve.

- EOS in monopoly but not PC



- Because of EOS, the monopoly can produce more goods and services at a lower price than a firm in P.C.

Company Monopoly to Perfect Competition

Monopoly (Advantages)

- When economies of scale lower the P and increase the quantity beyond what P.L. can provide.
- Natural monopolies are necessary or else the industry wouldn't exist.
- When research + innovation is needed, patents grant a monopoly.
- Monopolies can make abnormal π which can lead to further research and innovation.
- Allows for differentiated products.

Perfect Competition (Advantages)

- Generally has lower prices for consumers.
- Allocatively and productively efficient.
 - ↳ Uses society's resources in the best manner.
- More quantity, generally, for consumers.

Oligopoly

Assumptions

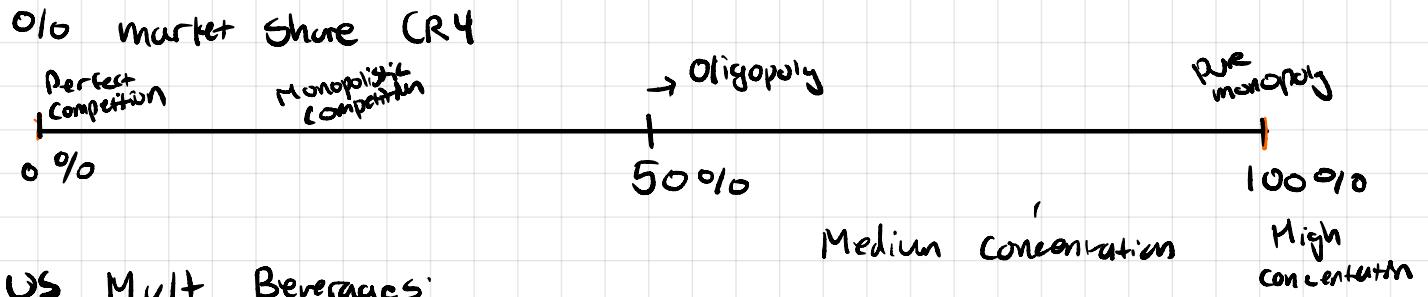
- ① There are a small # of large size firms.
- ② There are high barriers to entry.
(Same barriers as monopoly: economies of scale, legal barriers, control natural resources)
 - Additional barrier: high startup costs.
 - Established Oligopolists spend big \$ on product differentiation and marketing.
 - These make it difficult to enter the market.
- ③ Products can be differentiated or homogeneous.
 - Differentiated: Cars, aircraft parts, breakfast cereal.
 - Homogeneous: Oil, Steel, copper, cement.
- ④ Mutual Interdependence
 - Small # of firms makes them mutually independent.
 - ↳ Decisions made by one firm affect others in the industry.
 - If one firm changes, this can have a major

Price Rigidity

- Firms are interdependent which makes them want to work together (collusion) to avoid unexpected outcomes.
- If they can collude and set a common price that doesn't change, they will act like a monopoly and will maximize TR.
- In some oligopolies, there is a tendency to compete for market share, but not through price.
 - Advertisements.
 - Promotions.
 - Contracts.

C.R. Numbers

- To help us determine if a market is an oligopoly, concentration ratio is a measure of much an industry's production is concentrated among the industry's top firms.
- CR4 shows us the % of market share (output) held by the four largest firms. CR8, CR10, etc also exists.



US Mult Beverages:

- 160 operating firms } Oligopoly
- CR4: 90%

Collusive Oligopoly

Formal Collusion

- Firms openly agree on the price that they will charge, the market share they will have, and/or budget for advertisement they will use.
- Also known as a "cartel"
- Formal collusion results in ↑ prices and ↓ output for consumers.
- Because they are deemed to be against the interests of consumers, collusive oligopolies are typically illegal.

i.e.: - Organization of Petroleum Exporting Countries (OPEC)

Tacit Collusion

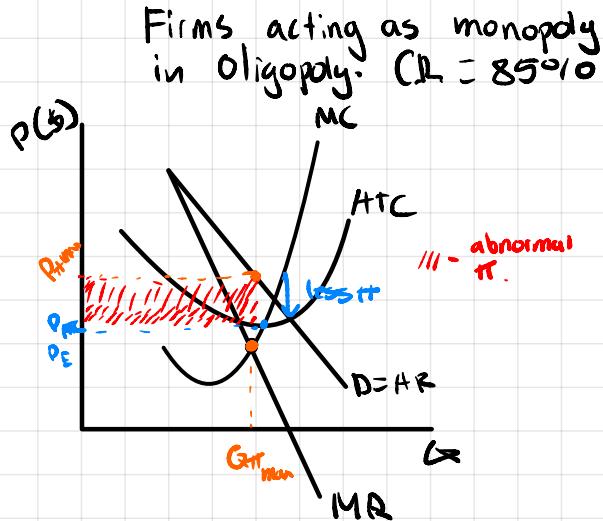
- Exists when firms in an oligopoly charge similar/the same prices without a formal agreement.
- For example, firms look at the prices of a "dominant" firm in the industry and set their prices in line with the dominant firm.

i.e.: North American car companies. Prices very similar and budget goes toward advertising to ↑ brand loyalty Hard to prove.

- Collusive oligopoly provides one reason for price rigidity.
- Firms have an incentive to cooperate and collude to keep prices stable as long as they make more it.

- Paradoxically, there is also a short-term incentive to cheat.
 - ↳ By \downarrow prices, a firm can gain market share which can lead to more revenue and profit.
- \downarrow price can lead to price wars where all firms lose revenue and π .

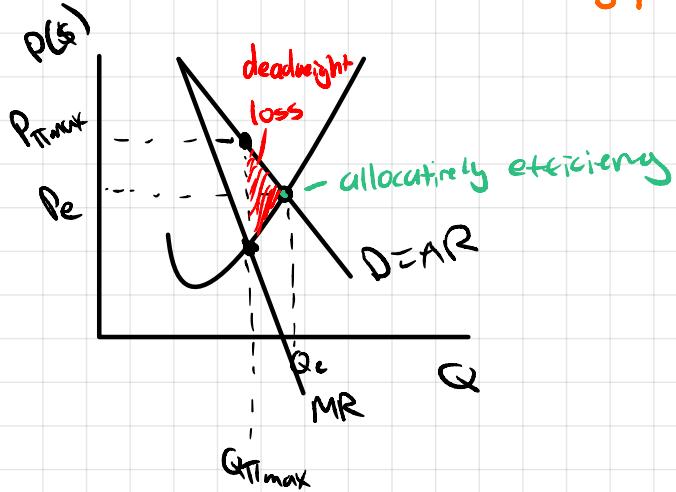
Collusive Oligopoly Model



Non-collusive Oligopoly

- Exists when firms in oligopoly do not collude and \therefore have to be aware of other firms pricing decision
- Firms will still not compete based on price (price wars still hurt).
- They compete based on non-price competition:
 - brand names
 - packaging
 - Special features
 - Sales promotion, etc

Market Failure in Oligopoly



- Firms in oligopoly are not allocatively efficient because they restrict output to increase price and maximize profits.
- Government may choose to intervene based on like if a good is essential, the degree of market power the firms have or the level of abnormal π .

GOVERNMENT RESPONSES TO THE ABUSE OF MARKET POWER

WHY DO GOVERNMENTS INTERVENE TO RESTRICT MONOPOLIES OR OLIGOPOLIES?

Restriction of output, higher prices, distorted resource allocation

- Firms with significant market power will restrict output where $MC=MR$ in order to maximize price
- This will force up market prices and consumers will get less of a product (i.e., there will be loss of consumer surplus)
- There might also be unemployment as less of the product is made
- In oligopoly, large spending on advertising and marketing to make the D curve more price inelastic, creating a barrier to entry, but this might not be the best use of society's resources

Lower consumer choice

- The existence of fewer, or single, firms in an industry lead to the production of fewer brands, leading to a lack of choice.

Productive and allocative inefficiency

- Production in imperfect marks does not take place at the lowest possible unit cost, leading to a waste of resources (productive inefficiency).
- There is also an under allocation of resource, since the value put on it by consumers is greater than the cost to producing it to consumers (allocative inefficiency).

Abnormal Profits and inequity

- Higher prices in oligopoly and monopoly mean less consumption of goods and services for low income consumers
- As well, higher prices means "purchasing power" (the ability to purchase goods and services) may be transferred from low income groups to the owners of firms, entrepreneurs or shareholders in the form of higher profits

- This makes income distribution in society more unequal and more **inequitable** (unfair).

WHAT DO GOVERNMENTS DO ABOUT THE ABUSE OF MARKET POWER?

- Governments usually have **agencies to promote competition** and prevent the abuse of market power.
- In Canada, we have the “Competition Bureau.”

Pass laws that restrict the ability of firms to grow through mergers and takeovers.

- **Mergers:** two companies (of roughly the same size) decide to combine to become one larger firm
- **Takeover:** acquisition of a company by another company (usually a larger one)
- Laws may be passed that prevent a merger or takeover that would **exceed a certain % of the market share** (e.g., a merger cannot result in a firm controlling more than 25% of the market share)

Governments can pass laws on price fixing

- This makes it illegal for firms to **collude over prices**
- Most countries in the world have these

Governments can pass laws that prevent firms from forcing retailer to sell at a certain price or stopping firms from refusing to sell to certain retailers

- A retailer, or merchant, is an entity that sells goods such as clothing, groceries, or cars directly to consumers through **various distribution channels** with the goal of earning a profit.

Governments can set up regulatory bodies to oversee certain industries, with the duty to represent the interests of consumers and promote competition.

- Regulatory bodies can have powers such as:
 - Setting **price controls** (“price caps”).
 - Imposing **fines** for anti-competitive behaviour.
 - Insist average prices be set at a “fair rate of return” (e.g., prices have to be based on profit levels that would be expected in a competitive market)
 - Making firms “unbundle” their products, making it easier for firms to enter the market and compete.

- Ability to **break up a monopoly** into separate businesses, promoting competition.
- Set quality standards.

Governments can nationalize the industry

- This is an extreme measure where governments take the industry into public **(government) ownership**.
- The goods and services would be produced under the control and direction of the government.
- In the past Canada has done this (e.g., creation of “Petro Canada” gas) but now tends to privatize (sell off to the private sector) publicly-owned industries rather than create them.