Chapter 9: Competitive Markets

9.1 Market Structure and Firm Behaviour

- **Market Structure:** All features of a market that may affect the behaviour and performance of the firms in a market, such as the number of firms or the type of product they sell
- A market is said to be competitive when its firms have little or no market power. The more market power the firms have, the less competitive the market is.
- Firms in perfectly competitive markets (e.g. the Saskatchewan and Manitoba wheat producers) do not compete actively with each other
- Firms that do actively compete with each other (e.g. MasterCard and Visa) do not operate in perfectly competitive markets

9.2 The Theory of Perfect Competition

- Assumption of Perfect Competition:
    - 1. All firms in the industry sell an identical product. Economists say that the firms sell a **homogeneous product.**
    - 2. Consumers know the characteristics of the product being sold and the prices charged by various firms. →**perfect information**
    - 3. Level of each firm's output at which its long-run average cost reaches a minimum is small relative to the industry's total output. (each firm is small relative to the size of the industry)
    - 4. Industry is characterized by freedom of entry and exit. Existing firms cannot block the entry of new firms, and there are no legal prohibitions or other barriers to entering or exiting the industry.
- Perfect competition → price taker, has no market power, passively accept whatever happens to be the market price, but can sell as much as it wants (quantity)
- Even though the demand curve for the entire industry is negatively sloped, each firm in a perfectly competitive industry faces a horizontal demand curve because variations in the firm's output have no significant effect on market price. → leave price unchanged

9.3 Short-Run Decisions

- As long as the firm's own level of output cannot affect the price of the product it sells, then the firm's marginal revenue is equal to its average revenue → price-taking firm, AR=MR=price
- Rule #1: A firm should not produce at all if, for all levels of output, total revenue (TR) is less than the total variable cost (TVC). Equivalently, the firm should not produce at all if, for all levels of output, the market price (P) is less than average variable cost (AVC).
- Shut-down Price= Lowest point of the firm's AVC curve
- Rule #2: If it is worthwhile for the firm to product at all, the profit-maximizing firm should produce the output at which **marginal revenue equals marginal cost**.
- A profit-maximizing firm that is operating in a perfectly competitive market will produce the output that equates its marginal cost of production with the market price of its product (**as long as price exceeds average variable cost**).

- Supply #1: For prices below average variable cost, the firm will supply zero units. #2: For prices above the minimum of average variable cost, the competitive firm will choose its level of output to equate price and marginal cost.
- In perfect competition, the industry supply curve is the horizontal sum of the marginal cost curves (above the level of average variable cost) of all firms in the industry.
- When an industry is in short-run equilibrium, quantity demanded equals quantity supplied, and each firm is maximizing its profits given the market price. → producing and selling a quantity where MC=MR
    - Any firm may be making losses, making profits, or just breaking even

<u>9.4 Long- Run Decisions</u>

- Long-run average cost curve- Profits in a competitive industry are a signal for the entry of new firms; the industry will expand, pushing the price down until economic **profits fall to zero**.
- Losses in a competitive industry are a signal for the exit of firms; the industry will contract, driving the market price up until the remaining firms are just covering their total costs.
- The longer it takes for firms' capital to become obsolete or too costly to operate, the longer firms will remain in the industry while they are earning economic losses.
- The long-run equilibrium of a competitive industry occurs when firms are earning zero profits.
- Conditions for Long-Run Equilibrium:
    - 1. Existing firms must be maximizing their profits, given their existing capital. Thus,, short-run marginal costs of production must be equal to market price.
    - 2. Existing firms must not be suffering losses. If they are suffering losses, they will not replace their capital and the size of the industry will decline over time.
    - 3. Existing firms must not be earning profits, if they are earning profits, then new firms will enter the industry and the size of the industry will increase over time.
    - 4. Existing firms must not be able to increase their profits by changing the size of their production facilities. Thus, each existing firm must be at the minimum point of its *long-run average cost (LRAC)* curve.
- For a competitive firm to be **maximizing** its long-run profits, it must be producing at the minimum point on its LRAC curve.
- In long-run competitive equilibrium, each firm's average cost of production is the lowest attainable, given the limits of known technology and factor prices.
- In industries with continuous technological improvement, low-cost plants will exist side by side with older high-cost plants. The older plants will continue operating as long as their revenues cover their variable costs.
- Response of Firms: The antiquated equipment in a declining industry is typically the effect rather than the cause of the industry's decline.
- Response of Governments: Often tempted to support declining industries as worried about resulting job losses.

Chapter 10: Monopoly, Cartels, and Price Discrimination

10.1 A Single-Price Monopolist

- **Monopoly:** A market containing a single firm. The sole producer of the product that it sells.
- A monopolist faces a negatively sloped demand curve.
- A tradeoff between the price it charges and the quantity it sells. Sales can be increased only if price is reduced, and price can be increased only if sales are reduced.
- Demand curve = average revenue curve
- The monopolist's marginal revenue is less than the price at which it sells its output. Thus the monopolist's MR curve is below its demand curve.
- A profit-maximizing monopolist will always produce on the *elastic* portion of its demand curve (that is, where MR is positive).
- The intersection of MR and MC curves determines the firm's profit-maximizing *quantity.*
- Nothing guarantees that a monopolist will make positive profits in the short run, but if it suffers persistent losses, it will eventually go out of business.
- For a profit-maximizing monopolist, price is greater than marginal cost.
- A monopolist does not have a supply curve because it is not a price-taker; it chooses its profit-maximizing price-quantity combination from among the possible combinations on the market demand curve.
- A monopolist restricts output below the competitive level and thus reduces the amount of economic surplus generated in the market. The monopolist therefore creates an inefficient market outcome.
- Monopolists are rare as they tend to earn very large profits, and this profitability quickly attracts other firms into the industry.
- When a monopoly does persist, it is usually heavily regulated by government or owned outright by the government.
- Natural entry barriers: most commonly arise as a result of (1) economies of scale - occurs when the industry's demand conditions allow no more than one firm to cover its costs while producing at its minimum efficient scale
- (2) Limited access to key natural resources - result is that entry by new firms is difficult and incumbent firms often possess market power for extended periods of time.
- (3) Network effects - for some products such as social media, the benefits to any individual consumer depend importantly on the existence of a large network of already existing consumers
- Entry barriers are often dodged by the innovation of production processes and the development of new goods and services. Such innovation explains why monopolies rarely persist over long periods.
- Joseph Schumpeter - creative destruction thrives on innovation, the existence of high profits is a major incentive to economic growth.

10.2 Cartels and Monopoly Power

- **Cartel:** An organization of producers who agree to act as a single seller in order to maximize joint profits.

- Can agree among themselves to restrict their total output of the level that maximizes their joint profits. - ex. Steel and oil industries
- The profit-maximizing cartelization of a competitive industry will reduce output and raise price from the perfectly competitive levels.
- Problems: (1) Ensuring that members follow the behaviour that will maximize the cartel member' joint profits. (2) Preventing these profits from being eroded by the entry of new firms.
- Cartels tend to be unstable because of the incentives for individual firms to violate the output restrictions needed to sustain the joint-profit-maximizing (monopoly) price.

10.3 Price Discrimination

- **Price Discrimination:** The sale by one firm of different units of a product at two or more different prices for reasons not associated with differences in cost.
- If price difference reflect cost differences, they are not discriminatory. When price differences are based on different buyers' valuations of the same product, they are discriminatory.
- Legal for firms to charge different prices based on perceptions of consumers' willingness to pay.
- Price-taker: cannot discriminate because there is no power to influence the price at which it sells its product
- If the firm is able to determine which consumers are prepared to pay a high price and which are prepared to pay only a low price, the firm is able to **segment** the market.
- **Arbitrage-** when a product is sold at different prices, there is an incentive for buyers to purchase the product at the low price and re-sell it at a higher price to profit
- Price Discrimination among *units of output:*
    - A firm that charges different prices for different units of a product is trying to capture some of this consumer surplus.
    - Sold to the *same* consumer requires that the firm be able to keep track of the units that a buyer consumers in each period
- Price Discrimination among *market segments:*
    - More common→ Segments may correspond to the age of consumers, or different regions in which the consumers live.
    - Sold to the *same* consumer requires that the firm be able to keep track of the units that a buyer consumers in each period
- Firms need to charge a higher price in the market segment with the *less elastic demand*→contains consumers that are more "committed" to this product than consumers with a more elastic demand
- A firm with market power that can identify distinct market segments will maximize its profits by charging higher prices in those segments with less elastic demand.
- Price discrimination is easier for services than for tangible goods because for most services the firms transact directly with the final customer and thus can more easily prevent arbitrage.

- **Hurdle pricing** exists when firms create an obstacle that consumers must overcome in order to get a lower price. Consumers then assign themselves to the various market segments - those who don't want to jump the hurdle and are willing to pay the high price, and those who choose to jump the hurdle in order to benefit from the low price.
- Consequences: for any given level of output, price discrimination by the firm will provide higher profits than the profit-maximizing single price.
- A profit-maximizing monopolist that price discriminates among units will produce more output than will a single-price monopolist.
    - Can sell output in separate blocks without spoiling the market for blocks that are already sold, will produce every unit for which the price charged is greater than or equal to its marginal cost.
- If price discrimination leads the firm to increase total output, the total economic surplus generated in the market will increase, and the outcome will be more efficient.
- There is no general relationship between price discrimination and consumer welfare. Price discrimination usually makes the producers better off and other consumers worse off.

Chapter 11: Imperfect Competition and Strategic Behaviour

11.1 Imperfect Competition

- **Monopolistic competition-** industries with many small firms, but where each firm has some degree of market power
    - Each firm also differentiates itself simply by being in a different location, which itself gives it some degree of market power, unlike a perfectly competitive firm.
- **Oligopoly-** industries with a few large firms, each with considerable market power and compete actively with each other.
- **Concentration Ratio-** The fraction of total market sales controlled by a specified number of the industry's largest firms. An industry with a small number of relatively large firms is said to be highly *concentrated.*
- **Firms Differentiate their Products**
    - Develop variations on existing products or even a product with a whole new capability → its own distinctive characteristics
    - Differentiated product: a group of products similar enough to be called the same product but dissimilar enough that they can be sold at different prices
    - Most firms in imperfectly competitive markets sell differentiated products. In such industries, the firm itself must choose its product's characteristics.
- **Firms Set Their Prices**
    - When different firms' products are not identical, each firm must decide on a price.
    - Price Setters - A firm that faces a downward-sloping demand curve for its product. It chooses which price to set.
    - In imperfect competition, most firms set their prices and then let demand determine sales. Changes in market conditions are signalled to the firm by changes in the firm's sales.

- Prices change less frequently → costs of changing the prices include the costs of printing new list prices and notifying all customers, the difficulty of keeping track of frequently changing prices for accounting purposes
- Only after changes in demand are expected to persist will firms adjust their entire list of prices.

Firms Engage in Non-Price Competition

- (1) Advertising: In an attempt to both shift the demand curve for the industry's products and to attract customers from competing firms. Some cases, a monopolist will still advertise in an attempt to convince consumers to shift their spending away from other types of products and toward the monopolist's product.
- (2) Product Quality: Competing standards of quality and product guarantees.
- (3) Entry Barriers: Firms in many industries engage in activities that appear to be designed to hinder the entry of new firms, thereby preventing the erosion of existing profits.

<u>11.2 Monopolistic Competition</u>

- Industry contains many firms and exhibits freedom of entry and exit→ firms in monopolistic competition sell a differentiated product and thus have some power over setting price.
- Differentiation leads to the establishment of brand names and advertising → gives each firm a degree of market power over its own product.
  - Can raise its price, even if its competitors do not, without losing all its sales.
- Short-Run restriction comes from the presence of similar products sold by many competing firms; very elastic.
- Long-Run restriction comes from free entry into the industry, which permits new firms to compete away the profits being earned by existing firms.

The Assumptions of Monopolistic Competition:

- Each firm produces its own version of the industry's differentiated product. Each firm thus faces a demand curve that, although negatively sloped, is highly elastic because competing firms produce many close substitutes.
- All firms have access to the same technological knowledge and so have the same cost curves.
- The industry contains so many firms that each one ignores the possible reactions of its many competitors when it makes its own price and output decisions. In this respect, firms in monopolistic competition are similar to firms in perfect competition.
- There is freedom of entry and exit in the industry. If profits are being earned by existing firms, new firms have an incentive to enter. When they do, the demand for the industry's product must be shared among the increased number of firms.

- Short-Run restriction comes from the presence of similar products sold by many competing firms; very elastic.

- Long-Run restriction comes from free entry into the industry, which permits new firms to compete away the profits being earned by existing firms.
- Profits provide an incentive for new firms to enter the industry → total demand for the industry's product must be shared among this larger number of firms; each firm gets a smaller share of the total market
- Demand curve has shifted to the left until the curve is tangent to the LRAC curve →still maximizing its profit (MC=MR) profit is now =0
- **Excess-Capacity Theorem:** Long-run equilibrium in monopolistic competition that firms produce on the falling portion of their LRAC → excess capacity measured by the gap between present output and output that coincides with minimum AC
- In long-run equilibrium in monopolistic competition, goods are produced at a point where average total costs are not at their minimum.
- Excess capacity of monopolistic competition does not necessarily indicate a waste of resources because benefits result to consumers who can choose among a variety of products.
- It is the differences in preferences *across many consumers* that give rise to the social value of variety
- From society's point of view, there is a tradeoff between producing more brands to satisfy diverse preferences and producing fewer brands at a lower cost per unit.

<u>11.3 Oligopoly and Game Theory</u>

- The firm's marginal revenue depends importantly on what its rivals do
- Might leave their output levels unchanged and introduce new options in an attempt to attract consumers to their products
- Determining the level of output that maximizes profits is complicated for an oligopolistic firm because it must consider its rivals' likely responses to its actions
- Strategic Behaviour →they take explicit account of the impact of their decisions on competing firms and of the reactions they expect them to make
- Can either <u>*cooperate*</u> *(or collude)* in an attempt to maximize joint profits or they can <u>*compete*</u> in an effort to maximize their individual profits. → dependent on how it thinks its rivals will respond to its decision
- Distinction between *cooperative* and *non-cooperative* behaviour
    - **cooperative -** usually be worthwhile for any one of them to cut its price or to raise its output, so long as the others do not do so. If every firm does the same thing, they will be worse off as a group and may all be worse off individually
    - **non-cooperative outcome -** proceed by thinking about their own gains without cooperating with other firms
- Typically thinks about how the other firms in the industry will react to its own decisions → resembles a game of strategy
- If each firm thinks the other will cooperate it has an incentive to cheat and produce two-thirds of the monopoly output
- Cooperative outcome can only be achieved if the firms have some effective way to enforce their output-restricting agreement

- This type of game, in which the non-cooperative outcome makes *both* players worse off than if they had been able to cooperate, is called *a **prisoners' dilemma**.*
- **Nash Equilibrium:** An equilibrium that results when each player is currently doing the best it can, given the current behaviour of the other players.
    - In a Nash equilibrium, each player's best strategy is to maintain its current behaviour *given the current behaviour of the other players.*
    - The basis of a Nash equilibrium is rational decision making in the absence of cooperation
    - A self-policing equilibrium, in the sense that there is no need for group behaviour to enforce it. Has self-interest to maintain it because no move will improve its profits, given what other firms are currently doing.
    - If a Nash equilibrium is established by any means whatsoever, no firm has an incentive to depart from it by altering its own behaviour.
- Game theory can be used in other settings such as how: they charge different prices for their differentiated products, and whether to develop a new product or not

<u>11.4 Oligopoly in Practice</u>

- **Collusion:** An agreement among sellers to act jointly in their common interest. Overt or Covert, Explicit or Tacit
    - Agree to cooperate in order to restrict output and raise prices
- **Explicit Collusion:**
    - Easiest way for firms to ensure that they will all maintain their joint profit-maximizing output is to make an explicit agreement
    - Been illegal among privately owned firms in Canada for a long time (some exceptions for firms exporting)
- **Tacit Collusion:**
    - Behave cooperatively without any explicit agreement as each firm recognizes that maximizing their joint profits is in its own interest
    - Very difficult to prove rigorously
    - Companies changing prices after competitive firms are seemingly coordinated actions that may be the result of a secret explicit agreement or of tacit collusion
        - Could easily argue that with their competitor raising prices, the natural response is to raise their own prices
- Compete to attract consumers away from their rivals, increase their overall share of the market, and increase their profits
- Consumers gain: They result in lower prices, better products or better service
- Major types of competitive behaviour: **(1)** firms with differentiated products may compete by reducing their prices and hoping to attract customers away from their rivals **(2)** Often actively engage in non-price competition, through advertising campaigns and variations in product quality **(3)** keep a step ahead of their rivals by developing new products or by making significant improvements in existing ones

- Entry Barriers: Without significant entry barriers, new firms will enter the industry and erode the profits of existing firms- discuss three important types of *firm-created* entry barriers
    - **(1)Brand Proliferation as an Entry Barrier:** by altering the characteristics of a differentiated product, it is possible to produce a vast array of variations on the general theme of that product, each with its unique identifying brand. Each firm in the industry produces *several* brands of the differentiated product → can have the effect of discouraging the entry of new firms
    - (1) The larger the number of differentiated products that are sold by existing oligopolists, the smaller the market share available to a new firm that is entering with a single new product. Brand proliferation therefore can be an effective entry barrier.
    - (2) **Advertising as an Entry Barrier:** Successful ads are usually expensive to produce and can constitute a formidable entry barrier for a new producer.
    - (2) A new entrant with small sales but large required advertising costs find itself at a substantial cost disadvantage relative to its established rivals.
    - (3) **Predatory Pricing as an Entry Barrier:** An existing firm can create such an expectation by cutting prices below costs whenever entry occurs and keeping them there until the entrant goes bankrupt. The existing firm sacrifices profits while doing this, but sends a discouraging message to potential future rivals
    - Creates *reputation effects* to deter the entry of new firms
- Oligopoly is an important market structure in modern economies because there are many industries in which the minimum efficient scale is simply too large to support may competing firms. The challenge to public policy is to keep oligopolists competing, rather than colluding, and using their competitive energies to improve products and to reduce costs, rather than merely to erect entry barriers.

Chapter 12: Economic Efficiency and Public Policy

12.1 Productive and Allocative Efficiency

- Factors of production must be fully employed, as idle resources represent an opportunity cost in terms of output that could otherwise be produced
- Three Examples of inefficiency in the use of full employed resources:
    - Any firm that does not use the least-cost method of producing its chosen outputs is being inefficient - considers the cost for a single firm producing some level of output **productive efficiency**
    - If the marginal cost of production is not the same for every firm in an industry, the industry is being inefficient - focus is on the total cost for all the firms in an industry - **productive efficiency for the industry**
    - If too much of one product and too little of another product are produced, the *economy* overall is being inefficient - level of output of one product compared with another - **allocative efficiency**
- Productive Efficiency:

    - Has 2 aspects: one concerning production within each firm and one concerning the allocation of production among the firms in an industry
    - Short run- firm merely uses enough of the variable factors to produce the desired level of output
    - Long-run- different methods of production are available
    - **Productive efficiency for the firm requires the firm to be producing its output at the lowest possible cost.**
    - Firm that is not being productively efficient is producing at a higher cost than is necessary and thus will have lower profits than it could have.
    - **Productive efficiency for the industry** is producing a given level of output at the lowest possible cost. Can be reduced by reallocating production among the industry's firms.
    - **Productive efficiency for the industry requires that the marginal cost of production be the same for each firm.**
    - If firms and industries are productively efficient, the economy will be on, rather than inside, the production possibilities boundary.
- Allocative Efficiency:
    - When allocatively efficient, the economy is *Pareto efficient*
    - **The economy is allocatively efficient when, for each good produced, its marginal cost of production is equal to its marginal value in consumption (as given by the market price)**

Market Structures Efficiency:

- Perfect Competition:
    - Producing at the lowest point on its LRAC curve, every profit-maximizing firm is productively efficient.
    - Firms face the same market price and equate their own marginal cost to that price → marginal cost is equated across all firms. **Productively Efficient**
    - Price would be equal to marginal cost in each industry, resulting in **allocative efficiency** across the entire economy.
- Monopoly
    - Profits will be maximized when it adopts the lowest-cost production method → will operate on its LRAC curve be **Productively Efficient**
    - Firms sell differentiated products and there is no single industry-wide price → **impossible to conclude** that marginal costs will be equated across all firms
    - Profit-maximizing monopolist, price is greater than marginal cost → monopoly is **not allocatively efficient**
- Monopolistic Competition and Oligopoly
    - Maximize their profits when they adopt the lowest-cost method of product →therefore **productively efficient**
    - Firms sell differentiated products and there is no single industry-wide price → **impossible to conclude** that marginal costs will be equated across all firms
    - Both market structures are **not allocatively efficient.** Oligopoly Firms sell differentiated products and there is no single industry-wide price → some

situations where rivalry between firms drives price *toward* marginal cost, improving efficiency

- For each unit sold, producer surplus is the difference between price and marginal cost

- Allocative efficiency of perfect competition: Occurs at the level of output where the sum of consumer and producer surplus is maximized
    - Consumers value an extra unit of the product *less t*han it costs to produce it
    - Producers would earn *negative* producer surplus on the units about equilibrium quantity because the marginal cost of those units excess price of equilibrium
    - Consumers would earn *negative* consumer surplus on the units above equilibrium quantity because their marginal value of the product is less than equilibrium price.
    - **The sum of producer and consumer surplus is maximized only at the perfectly competitive level of output. This is the only level of output that is allocatively efficient.**
- Allocative Efficiency of Monopoly:
    - When the monopolist chooses an output below the competitive level, market price is higher than it would be under perfect competition
    - Consumer surplus is diminished, and producer surplus is increased→ monopolist gains at the expense of consumers
    - More surplus is lost by consumers than is gained by the monopolist
    - Loss of surplus is called the *deadweight loss of monopoly*
- There is a conflict between the private interest of the monopolist and the public interest of all the nation's consumers → creates grounds for government intervention
- Market failures exist in many parts of the economy. One of the most important issues in public policy is determining the circumstances in which government action can increase allocative efficiency in the situations.

<u>12.2 Economic Regulation to Promote Efficiency</u>

- *Competition policy* (also known as *anti-trust* policy in the United States)
- Crate more competition market structures where possible, to discourage monopolistic practice and encourage competitive behaviour where competitive market structures cannot be established.
- Regulations are used by governments to address the allocative inefficiency used by various kinds of market failures
- Competition policy is used to promote allocative efficiency by increasing competition in the marketplace
- **Crown corporations:** In Canada, businesses owned by the federal or provincial government.
    - Government to assume ownership of the single firm
    - Government appoints managers and directors who are supposed to set prices in the public interest rather than to maximize profits for the firm
- Can allow private ownership but *regulate* the monopolist's behaviour

- Pricing policy is determined by the government or its appointed agents
- **Short-Run Price and Output- 3 general types of pricing policies exist**
    - **1. Marginal-Cost pricing:** where the market demand curve and the firm's marginal cost intersect
    - Sets up a tension between the regulator's desire to achieve the allocatively efficient level of output and the firm's desire to maximize profits
    - When a natural monopoly with falling average costs sets price equal to marginal cost, it will suffer losses.
    - If regulations impose marginal-cost pricing, ad the firm ends up incurring economic losses, this situation cannot be sustained for long

    - **2. Two-Part Tariff:** Charge a *two-part tariff* in which customers pay one price to gain access to the product and a second price for each unit consumed
    - Permits the natural monopoly to cover this costs

    - **3. Average-Cost Pricing:** Set prices just high enough to cover average costs, thus generating neither profits nor losses
    - Firm Sets a price and produces the level of output at which the demand curve cuts the LRAC curve
    - Requires producing at less than the allocatively efficient output
    - For a natural monopoly with falling average costs, a policy of average-cost pricing will not result in allocative efficiency because price exceeds marginal cost

- Marginal-cost pricing generates allocative efficiency, but the firm incurs losses
- If the government is unwilling to cover the firm's losses the average-cost pricing may be preferable
- Provides the lowest price that can be charged and the largest output that can be produced as revenue must cover the total cost of producing the product
- **Long-Run Investment**
    - Since marginal cost for a natural monopoly is below average cost, average-cost pricing will generally lead to inefficient patterns of long-run investment
    - The price in this case must exceed the marginal cost (because marginal cost must be below average cost if average cost is falling)
    - Society would benefit by having a larger amount of fixed capital allocated to producing this good.
    - Government-owned natural monopoly may be prepared to make such investments to protect society's overall interests
    - A regulated privately owned firm has little or no financial incentive to undertake investment if it will only break even
    - Socially desirable investment will not likely occur when the fir is required to use average-cost pricing
    - For natural monopolies, average-cost pricing often leads to inefficient long-run investment decisions, with too little capital being built.

- **Very Long-Run Innovation**
    - Technological developments have made activities highly competitive but companies such as Canada Post still have a legislated monopoly over delivery of first class mall, but this segment of the overall delivery market is now much smaller than it once was.
- **Problems with Regulations**
    - Many practical problems arise with regulations designed to prevent natural monopolies from charging profit-maximizing prices.
    - Regulators usually do not have enough data to determine demand and cost curves precisely
    - Absence of accurate data, regulators have tended to judge prices according to the level of the regulated firm's profits
    - Price regulation becomes instead profit regulation, which is often called *rate-of-return regulation*→ marginal cost and allocative efficiency are often ignored in such regulatory decisions
    - Profits can be zero for any number of reasons → inefficient operation, excessive salaries or employee benefits, and misleading accounting
    - Regulatory commissions that rely on rate of return as their guide to pricing must monitor a number of other aspects of the regulated firm's behaviour in order to limit the possibility of wasting resources.

<u>12.3 Canadian Competition Policy</u>

- **Competition Policy-** Policy designed to prohibit the acquisition and exercise of monopoly power by business firms
- Designed to create conditions of competition by preventing firms from merging unnecessarily or from engaging in anti-competitive practice, such as colluding to set monopoly prices.
- Competition Bureau is obliged to consider such things as effective competition after the merger, the degree of foreign competition, barriers to entry, the availability of substitutes, and the financial state of the merging firms
- Challenge is to prevent those mergers that mostly lead to less competition, producing only small cost reductions, but to allow those mergers that mostly lead to cost reductions, with only small reductions in competition.
- Reforms of 2009:
    - Increase the penalties for deceptive marketing and empower the courts to award restitution to victims of false advertising
    - Create a more effective mechanism for the criminal prosecution of significant cartel agreements
    - Introduce a two-state merger review process to improve efficiency and effectiveness
    - Allow the Competition Tribunal to assign monetary penalties to companies who abuse a dominant position in the marketplace
- Future challenges:

    - As the flow of goods and services across national boundaries increases, it becomes more important to define markets on an international rather than a national basis
    - Globalization is the desirability of standardizing competition policy across countries. Firms that are mobile and have considerable market power may tend to locate their firms where competition policy is the most lax, exporting into other countries
    - So firms choose locations on the basis of economic rather than legal forces
    - Growing importance of firms' use of digital platforms and their access to data
    - Analyzing "big data" to learn about their consumers and their preferences, information that can lead to creative and profitable systems of price discrimination to learn about emerging bsuiness rivals
    - How much information and what types of information pose the most significant threats to competition, and how firms' anti-competitive behaviour can be reduced while maintaining the consumer benefits stemming from the innovative products and services

Chapter 16: Market Failures and Government Intervention

16.1 Basic Functions of Government

- The function that has not changed is to provide what is called a *monopoly of violence* - violent acts can be conducted by the military and civilian police arms of government
- Dangerous monopoly that is easily abused - which is why stable and well-functioning societies have systems of checks and balances designed to keep the government's monopoly directed to the general good
    - Poor societies have organized crime with substantial power to commit violence that government cannot control
- The importance of having checks on the government's arbitrary use of its monopoly is seen in the disasters that ensue in the many dictatorships that misuse their power.
- When the government's monopoly of violence is secure and functions with effective restrictions against its arbitrary use, citizens can safely carry out their ordinary economic and social activities.
- Related government activity is to provide security of property and enforce property rights that give people a secure claim to the fruits of their own labour.
- The challenges in developing countries such as local corruption, powerful warlords, and a lack of basic political infrastructure combine to make official development aid less effective that stem from their ineffective political structures.
- A growing share of official assistance to developing countries is taking the form of *political* rather than *economic* assistance - a process often referred to as *institution building*

16.2 The Case for Free Markets

- Consumers' preferences and producers' costs lead to demand and supply decisions that generate price signals
- Firms compete to get ahead of each other by producing better goods more cheaply, generate the technological changes that have raised average living standards fairly steadily
- 2 quite different approaches:

    - 1. characterized as the “formal defence” and is based on the concept of allocative efficiency
    - 2. “Informal defence” of free markets is based on 3 central arguments
        - Provide *automatic coordination* of the actions of decentralized decision makers
        - The pursuit of profits in free markets provides a stimulus to *innovation and growth* of material living standards
        - Permit a *decentralization of economic power*
- Flexibility can be contrasted with centralized control, which would force the same pattern on everyone as government quotas, allocations, and rationing schemes are much more difficult to adjust
    - Likely to be shortages and surpluses before adjustments are made
    - A free market provides automatic signals *as a situation develops* so that not all of the consequences of an economic change have to be anticipated and allowed
- A market system allows for coordination *with-out anyone needing to understand how the whole system works*
- Planners in more centralized systems have to guess which innovations will be productive and which goods will be strongly demanded
- Biggest failure of centrally planned economies was their inability to encourage experimentation and innovation that have proven to be the driving forces behind long-run growth in advanced market economies.
- Tends to decentralize power and thus requires less coercion of individuals than any other type of economy
- Defenders of the free market, even such concentrations of private power are far less substantial than government power
- Not only will coercion be regarded as arbitrary, but the power also creates major opportunities for bribery, corruption, and allocation according the preferences of the central administrators
- Markets tend to diffuse power, they do not do so completely; large firms and large labour unions clearly have and exercise substantial economic power

<u>16.3 Market Failures</u>

- **Market Failure:** failure of the market economy to achieve an efficient allocation of resources
- Market failure describes a situation in which the free market, in the absence of government intervention, fails to achieve allocative efficiency
- Conflict between achieving allocative efficiency at any given moment and encouraging economic growth → innovation and productivity growth comes from firms with market power
- **Externality:** An effect on parties not directly involved in the production or use of a commodity.
- Importance of the distinction between *private cost* and *social cost.*

    - **Private cost:** measures the cost faced by the private producer, including production costs, advertising costs etc
    - **Social cost:** The private cost (since the producer is a member of society) but also includes any other costs imposed on third parties.
    - **Private benefit:** The benefits received by the consumer from using the product
    - **Social benefit:** The private benefits plus whatever benefits accrue to third parties
- Discrepancies between private cost and social cost, or between private benefit and social benefit, occur when there are externalities. The presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes
- **When there is an externality, either too much or too little of the good is produced**
- Allocative efficiency requires that production and consumption take place where *social* marginal benefits are equal to *social* marginal costs.
- With a positive externality, a competitive free market will produce too little of the good. With a negative externality, a competitive free market will produce too much of the good.
- Negative externality → implement a tax on the firms or consumers; Positive externality → a subsidy
- **Rivalrous:** One person's consumption of one unit of the good means that no one else can also consume that same unit
- **Excludable:** People can be prevented from consuming it
    - **Private Goods:** Goods that are both rivalrous and excludable - private goods - pose no particular problem for public policy
    - **Common-Property Resources:** Rivalrous but non-excludable; no one person or firm "owns" these resources, there is no incentive for any one user to prevent its overuse or depletion → "tragedy of the commons"
        - Zero price leads to the obvious result that in the absence of government intervention, private users will tend to use the common-property resources until their marginal benefit reaches zero
        - Since the marginal cost will then exceed the marginal benefit the resource is being *overused*; society would be better off if *less* of the resource was used
        - Common-property resources tend to be overused by private firms and consumers
    - **Excludable but Non-Rivalrous Goods:** Called *club goods*
        - Marginal cost of providing the good to one extra person is zero
        - As long as their marginal benefit exceeds the social marginal cost of providing the good, it is efficient for these people to use the good.
        - National parks and art galleries, governments are often led to charge a price to help cover some of the operating costs (even though the marginal cost of use is very close to zero).
        - To avoid inefficient exclusion, the government often provides goods that are non-rivalrous but excludable.
        - Problem: *congestion*→ it is no longer true that the marginal cost of providing a club good to one more user is zero

        - A good that is non-rivalrous when uncongested becomes rivalrous when congested
    - **Public Goods:** Some goods are neither excludable nor rivalrous. →*collective consumption goods*
        - Raise what is called the *free-rider* problem since public goods are not excludable, it is impossible to prevent anyone from using them once they are provided
        - Because of the free-rider problem, private markets will usually not provide public goods. In such situations, public goods must be provided by government.
        - Should provide the public good up to the point at which the *sum* of everyone's individual marginal benefit form the good is just equal to the marginal cost of providing the good
        - The optimal quantity of a public good is such that the marginal cost of the good equals the *sum* of all users' marginal benefit of the good.
- **Moral Hazard:** when one party to a transaction has both the *incentive* and the *ability* to behave in a way that shifts costs onto the other party
    - The market failure arises because the action by the insured individual or firm raises total costs for society
    - One party of the transaction has special knowledge that he or she could use to change the nature of the transaction in his or her favour → codes of professional ethics and licensing and certification practices are reactions to this
- **Adverse Selection:** the tendency for people who are more at risk than the average to purchase insurance and for those who are less at risk than the average to reject insurance
    - Resources are allocated inefficiently because the marginal private benefit of purchasing insurance is not equal to the marginal cost of providing it
- **Summary:**
    - 1. Firms with market power will generally charge a price greater than marginal cost. The level of output in these cases is less than the allocatively efficient level.
    - 2. When there are externalities, either social and private marginal costs are not equal or social and private marginal benefits are not equal. If there is a negative externality, output will be greater than the allocatively efficient level. If there is a positive externality, output will be less than the allocatively efficient level.
    - 3. Common-property resources will be overused by private firms and consumers. Public goods will be underprovided by private markets.
    - 4. Situations in which there is asymmetric information - both moral hazard and adverse selection - can lead to allocative efficiency

<u>16.4 Broader Social Goals</u>

- Even in the absence of market failures, the government may choose to intervene in markets to achieve broader social goals.
- Temporary differentials, caused by changes in demand or supply in specific industries or regions, will eventually be eliminated by the mobility of workers.

- Equilibrium differentials will persist, whether they are created by differences in non-monetary aspects of the job or by differences in human capital or acquired or inherited skills.
- Private charities and a great many government policies are concerned with modifying the distribution of income that results from such things as where one starts, how able one is, how lucky one is, and how one fares in the labour market
- A more equitable distribution of income often conflicts with the goal of allocative efficiency.
- **Paternalism:** Intervention in the free choices of individuals by others (including governments) to protect them against what is presumed to be their own ignorance or folly.
    - Whether such actions reflect the wishes of the majority in society or whether they reflect the actions of overbearing governments, there is no doubt that the market will not provide this kind of protection.
- Even if free markets generated allocatively efficient outcomes, they would be unlikely to generate outcomes consistent with most people's social goals. Furthermore, there is often a tradeoff between achieving these social goals and increasing allocative efficiency.

<u>16.5 Government Intervention</u>

- **Cost-benefit analysis:** An approach for evaluating the desirability of a given policy, based on comparing total (opportunity) costs with total benefits
- Add up the total costs associated with a given policy, then add up the benefits, and implement the policy only if the benefits outweigh the costs
- It is difficult for 3 reasons:
    - May be difficult to ascertain what will happen when an action is undertaken
    - Many government actions involve costs and benefits that will occur only in the distant future
    - Some benefits and costs are difficult to quantify
- Tools for the government to alter the workings of the unrestricted market economy:
    - **Public Provision:** Examples of goods or services that are provided by the governments in Canada → most obvious remedy for market failure to provide public goods/used to redistribute other social goals
    - **Redistribution Programs:** Taxes and government spending are often used to alter the distribution of income generated by the free market. Government *transfer* programs affect the distribution of income in this way
    - **Regulation:** Government regulations are public rules that apply to private behaviour → used to deal with all of the sources of market failure
- Government intervention is costly; generally imperfect and often fails; the decision process regarding what action to take is costly and imperfect
- **Direct Costs:** All forms of government intervention use real resources and hence impost direct costs
- **Indirect Costs:** 3 examples
    - **Changes in Costs of Production -** government safety and emission standards for cars raise the costs of both producing and operating cars → costs are much greater than the direct financial costs of administering the regulations

    - **Costs of Compliance -** Government regulation and supervision generate a flood of reporting and related activities, *red tape;* hours of business time devoted to understanding, reporting, and contesting regulatory provisions is enormous
    - Indirect costs of government intervention are substantial but difficult to measure and are usually dispersed across a large number of firms and households
    - **Rent Seeking -** Behaviour whereby private firms and individuals try to use the powers of the government to enhance their own economic well-being in ways that are not in the social interest.
    - Private firms, households, and business group can use political influence to seek *economic* rents from the government that **impose costs on society as a whole**
    - Government has power to act in ways that transfer resources among private entities → are democratic, they are responsive to public pressures
    - Private firms and special-interest groups often lobby governments for policies in their own interest but at the expense of the public interest. Such rent-seeking can impose significant costs on society.
- **Public Choice Theory:** Elected officials seek to maximize their votes. Civil servants seek to maximize their salaries and their influence. Voters seek to maximize their own utility.
- Evaluating the costs and benefits of government intervention requires a comparison of the free-market system as it *actually* works with the patter of government intervention as it *actually* performs