COMPETITION WORKSHOP

Mexico City

OECD
BETTER POLICIES FOR BETTER LIVES

Session 1 Concepts

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Concepts in Assessing Competition Issues

Purpose

- **Introduce key concepts relating to markets and assessing the competitive effects of interventions.**
  - **Defining Competition**
  - **Identifying Relevant Markets**
  - **Concepts for Assessing Anti-competitive Effects**
  - **Application in a Regulatory Impact Assessment Setting**

Concepts in Assessing Competition Issues

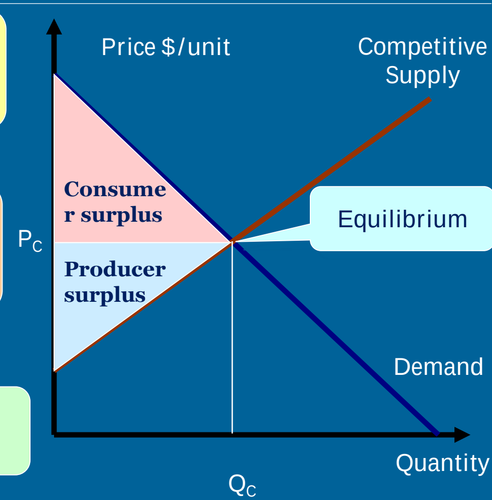
- **Competition:**
- Rivalry in which sellers attempt to achieve sales, profits and market share by offering the best combination of sales, profit and market share.
- In competitive markets no individual supplier or buyer can dictate prices or other terms of supply.
- Rather these are determined by the intersection of supply and demand.
  - The marginal buyer's willingness to pay equals the resource cost of the next unit of supply.

Efficiency and Surplus: Illustration

Consumer surplus: area between the demand curve and the equilibrium price

Producer surplus: area between the supply curve and the equilibrium price

Total welfare: sum of consumer and producer surplus



Deadweight Loss due to Monopoly

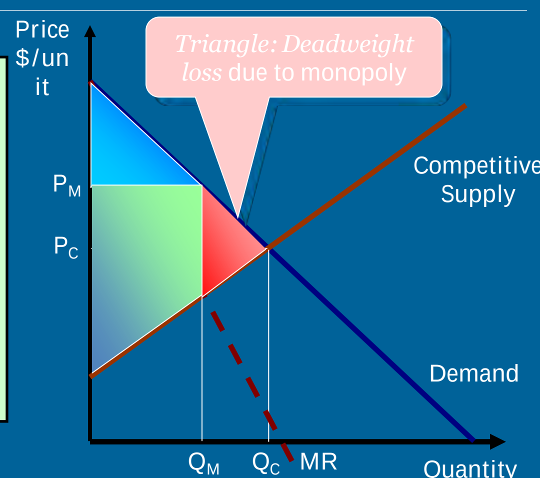
Product price increases

Quantity transacted in the market decreases

Consumer welfare decreases

Firm's profits increase

Total welfare decreases



Relevant Markets

Monopolistic Competition

- **Businesses compete not only on price and quantity, but also product characteristics, such as style, and combination of product characteristics.**
- **Under monopolistic competition, increase in price may lead to the loss of some but not all sales.**
- **In monopolistically competitive markets, competition promotes the supply of products providing the best combination of prices and product characteristics.**

Relevant Markets

- **Identifying and assessing the competitive effects of interventions requires a basic understanding of the markets affected.**
- **Markets consist of products that buyers consider to be reasonably substitutable.**
- **A single policy may have different competition effects in a number of separate markets.**
  - **For example, a policy applying to all cars will affect segments that do not compete against each other (e.g., small economy vehicles versus large luxury vehicles).**
- **Markets normally have both a product and geographic element.**

Relevant Markets

Product Element

- Product element captures the substitutability of products, or the willingness of buyers, other things remaining the same, to switch between products if there is a change in their relative prices.

- Evidence on whether buyers do or do not switch between products when their relative prices change is the best indicator of ones that should or should be considered part of a market.

  - Such information is often not readily available or may actually reflect changes in other product features.
  - For example: A company that improves the quality of materials in a product give it a longer useful life will be able to charge a higher price without losing significant market share.

Relevant Markets

- Qualitative information must often be used.

- May include, for example:

  - Each product's functional characteristics, such as their specific end uses, physical and technical characteristics and features;
  - Buyers' views regarding the substitutability of products';
  - Costs to switch between products; and
  - Suppliers' views on products competing with their own.

Relevant Markets

Geographic Element

- **Geographic element of markets captures ability of suppliers of relevant products in one area to compete against suppliers in another.**
- **Evidence on the movement or products between areas due to changes in relative prices generally best measure.**
- **However, often difficult or impossible to obtain and has to be properly used.**
- **Other information that may be used includes, for example:**
  - **Costs of transporting products between regions;**
  - **Perishability of products;**
  - **Barriers to trade, such as tariffs, quota and border measures;**
  - **Evidence of shipments occurring between regions; and**
  - **Buyer purchasing perceptions and strategies pertaining to suppliers in other regions.**

Defining a Market
Cross-Price Elasticity: Concept

- Concept: **cross-price elasticity of demand (CPE)**
- Consider two products Y and X

$$\varepsilon^{D}_{Q(Y),\,P(X)} = \left\{ \frac{\textit{Percentage change in quantity demanded of } Y}{\textit{Percentage change in price of } X} \right\}$$

$$\varepsilon^{D}_{Q(Y),\,P(X)} \begin{cases} > 0 & \textit{Substitutes in consumption: e.g., Coke and Pepsi} \\ = 0 & \textit{Unrelated in consumption: e.g., pens and sugar} \\ < 0 & \textit{Complements in consumption: e.g., cars and petrol} \end{cases}$$

Defining a Market
Cross-Price Elasticity: Estimates

- Some illustrative estimates of cross-price elasticities from U.S. market data
  - Cars: BMW Model 735 & Ford Escort = 0.009
    - Basically zero, signalling no relationship
  - Breakfast cereals: Corn Flakes & Wheaties = 0.242
  - Soft drinks: Coke & Pepsi = 0.63
    - Indicates that a 10% increase in price of Pepsi leads to a 6.3% increase in demand for Coke.
  - Beer: Miller Lite & Budweiser Light = 1.26
    - Indicates that a 10% increase in price of Budweiser Light leads to a 12.6% increase in demand for Miller Light. Very strong substitution.

Sean Ennis and Vivek Ghosal. Competition and Benefits

Defining a Market
Cross-Price Elasticity: Concept

- For a product like the automobile, the extent of product differentiation is important
  - Ferrari and Hyundai: CPE≈0
  - Toyota Camry and Hyundai Sonata: CPE>0
- For perishable products, distance can be important.
  - Increase in distance and time to transport tends to render CPE closer to 0.

Relevant Markets

Identifying Competing Firms

- Businesses currently supplying the relevant products in a geographic area may not be the only ones that should be included in the relevant market.
- Others that currently do not supply the products may also be included if they could easily enter.
- Key determinant *barriers to entry*.
  - Barriers to entry are broadly factors that hinder or restrict entry.
  - May be cost-based, regulatory or behavioural.

Relevant Markets

- Cost-based barriers are non-recoverable (sunk) costs that must be expended to enter, or exit a market.
  - Sunk costs impede entry by increasing the associated risks and potential losses.
  - Examples, product specific research and development, costs to adapt buildings to manufacture a specific product, drug test trials and advertising tied to the introduction of a new product.
  - Do not include costs that can be recovered, such as trucks, equipment or materials that can be resold for use in another market.

Relevant Markets

- **Regulatory barriers to entry are ones caused by regulation or legislation.**
  - Create absolute barriers to entry when restrict or limit number of competitors.
  - May create sunk costs, such as costs to obtain non-transferable permits, meet educational or training dealing specifically with a trade or profession, or to restore sites if entry fails.
  - May limit particular types or classes of competitors (e.g., restrictions against physician dispensing of pharmaceuticals).

Relevant Markets

- **Behavioural barriers are business practices that make it more costly for competitors to enter.**
  - Include for example, tied selling, the building of excess capacity, the filing of weak patents, aggressive business strategies (e.g., history of heavy discounting when faced with new entry), or raising rival's cost strategies (e.g. designing product offerings to make it more difficult to switch to a new entrant by such means as long-term contracting and high exit fees).
  - Subject to being required or explicitly permitted by regulation, such behaviours may be subject to competition law.

Relevant Markets

Dimensions of Competition

- Within markets competition can take place in many different dimensions.
- Although an intervention may directly affect only one product dimension, it can intensify or lessen competition in others.
  - For example, if prices regulated at a high level, companies may compete more intensely in other dimensions such as quantity supplied, product quality, product characteristics and terms, research and development advertising and number retail outlets.
  - If prices set at a low level may lead to wasteful buyer behaviour like queuing.

Relevant Markets

Supplier considerations

- Interventions that raise some rival's costs versus others can have important competitive effects.
  - For example, the banning of an input or process used by one supplier but not others may reduce its ability to compete or lead to its exit from the market.
- Supplier strategies can also be affected differently by interventions.
  - For example, a supplier offering high quality products may be more heavily affected by price caps than one offering lower quality products.

Relevant Markets

Buyer side dimensions

- Within markets buyers may still have differing tastes and needs warranting consideration.
- Buyers use a variety of sources of information to help them make better product choices.
  - Sources may include advertising, third party studies, ratings or commentary, product comparisons, word of mouth, brand-name recognition, endorsements, and social media.
  - Restrictions placed on any of these sources of information can increase the costs for consumers to obtain information and result in less-informed product selection.
- Interventions that restrict the number of buyers can create buyer power resulting in prices and quantities that are too low.

Potential Anti-Competitive Effects of Interventions

- Interventions can restrict the benefits from market competition by:
  - Creating market power;
  - Promoting interdependent or collusive behaviour;
  - Restricting or distorting product choice; and
  - Limiting innovation.

Potential Anti-Competitive Effects of Interventions

Market Power

- Market power is the ability to profitably charge prices that are above competitive levels.
  - If a market is effectively competitive, any attempt to increase prices above competitive levels or reduce the value of the product offered at a given price will result in a loss of enough sales to make it unprofitable.
- Market power of particular concern where it can be sustained over time and is not due to superior competitive performance.

Potential Anti-Competitive Effects of Interventions

- Interventions may increase market power by increasing market concentration or barriers to entry.
- Market concentration measures the number and relative size of competitors.
- In general, the more competitors in a market the more likely it is to result in competitive prices.
- The relative size of competitors is also important.
  - Where one or a small number of supplier account a large amount of capacity, they may be able to sustain prices in excess of competitive levels even in the presence of many other small competitors.

Potential Anti-Competitive Effects of Interventions

- **Market concentration is often measured by concentration ratios including:**
  - **The market shares of the largest supplier, the 4 largest suppliers and 8 largest suppliers; and**
  - **The Herfindahl-Hirschman Index, a geometric measure of concentration.**
  - **Canadian Merger Enforcement Guidelines indicate that generally not be concerned with mergers giving largest firm less than 35% market share and 4 largest firms less than 65%.**
- **In markets that are already concentrated or non-competitive, intervention that raise barriers to entry can allow incumbents to charge higher prices without threat of entry.**

Potential Anti-Competitive Effects of Interventions

Interdependent or Collusive Behaviour

- **Interventions can lessen competition, even in unconcentrated markets, by promoting interdependent or collusive behaviour.**
  - **In well-functioning firms seek to achieve market and profits at the expense of their competitors' market share and returns.**
  - **When they behave interdependently or collusively, they take into account their effects on each and seek to maximize their collective returns.**
  - **In extreme cases they can operate, in essence, like a monopoly.**

Potential Anti-Competitive Effects of Interventions

- **Factors that can increase the likelihood of interdependent or collusive behaviour include:**
  - **The number of competitors;**
  - **Standardization of business practices or products;**
  - **Arrangements or requirements to release or share confidential price and other information; and**
  - **The speed with which competitors can adjust to each others' competitive practices.**

Potential Anti-Competitive Effects of Interventions

Innovation

- **Innovation is an important result and benefit from competitive markets.**
- **Innovation make take place in various dimensions such as the development of new products, business strategies, production processes, marketing approaches, and business models.**
- **The full benefits provided by market driven innovation are often difficult to measure ex ante.**
  - **Their potential marketplace effects are often highly uncertain and their introduction often leads to future unforeseen innovations.**
  - **However, the importance of innovation for economic progress difficult to overestimate.**

Potential Anti-Competitive Effects of Interventions

Restricting or Distorting Product Choice

- For markets to work well, it is essential that buyers have the ability to reveal their preferences through their product selection, suppliers be able to develop and provide products desired by buyers, and buyers have access to information required for them to make adequately informed product choices.
- Interventions can restrict or distort product choice in various ways including by:
  - Prohibiting the use of desired products;
  - Eliminating or disadvantaging suppliers of a desired product; and
  - Reducing buyer access to information.

Potential Anti-Competitive Effects of Interventions

Innovation

- Innovation is an important result and benefit from competitive markets.
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- However, the importance for economic progress hard to overestimate.

Potential Anti-Competitive Effects of Interventions

- Superior innovators are often able to obtain high levels of profit and potentially high market share for some period of time.
- However, the prospect of such returns is often an essential driver for innovation and the benefits it provides.
  - Example: Drug patents provide temporary monopoly over the supply of new drugs as incentive to develop new medications.
- Entrenched businesses and interests often seek to have restrictions or limitations imposed on innovative products and business practices to protect the status quo.
  - Maximizing the benefits of competition requires that any such restrictions be avoided where possible.

Use of Concepts In a Regulatory Impact Assessment Setting

- Products directly affected by a proposed intervention provide starting point for identifying markets that may be affected.
- It can also be important to identify markets that are indirectly affected.
  - Restrictions placed on a product that is an input to other products, can also affect competition in markets for these other products.
  - For example, countries efforts to increase the use of ethanol, produced largely using corn, have raised concerns that may be increasing costs of other products for which corn is an input.

Use of Concepts In a Regulatory Impact Assessment Setting

- Competition checklist provides starting point for identifying potential anti-competitive effects of warranting assessment.
- Effects grouped into 4 areas:
  - Limits on the number of suppliers.
  - Limits on the capacity or ability of one or more supplier to compete.
  - Limits on options and information available to consumers.
  - Reduction of incentives of firms to intensely compete.

Use of Concepts In a Regulatory Impact Assessment Setting

- Factors and concepts to consider regarding limits on the number of suppliers may include:
  - The net effect on the remaining firms' concentration and market power.
  - The nature of any supplier being eliminated or prevented from entering may also be important.
    - For example, is the firm a major innovator, does it supply unique products demanded by some buyers, or is the firm an aggressive, expanding or non-conformist competitor such that its removal would increase the likelihood of interdependent behaviour.

Use of Concepts In a Regulatory Impact Assessment Setting

- **Factors and concepts to consider regarding limits to the capacity or ability to compete may include:**
  - The importance of the competitive dimension affected compared to others.
  - The potential impacts of limits on one dimension of competition on other dimensions.
  - Whether the limits target an innovative or non-conformist competitor, or ones providing unique products.
  - Whether the limits would result in a significant increase in concentration by allowing one or a small number of suppliers to substantially increase their market share.

Use of Concepts In a Regulatory Impact Assessment Setting

- **Factors and concepts to consider regarding reducing incentives of firms to intensely compete.**
  - The significance of the dimension(s) of competition affected for incenting strong competition compared to other dimensions.
    - For example, for technologically advanced products versus commodities, avoiding restrictions on innovation may be particularly important for maintaining competition.
  - Where intervention likely to result in interdependent or collusive behaviour on one element of competition, how might others be affected.

Potential Anti-Competitive Effects of Interventions

- **Factors and concepts to consider in assessing interventions that limit options and information available to consumers to be able to make informed decisions may include:**
  - **The significance of the information being restricted for buyers purchasing decisions compared to other sources of information.**
  - **The significance of any switching costs being created in relation to the value of the product being purchased.**
  - **The potential for the limits on options and information to increase barriers to entry and/or increase market concentration.**

Break-Out Case Study

- Current Canadian fire safety regulations require cast iron pipe to be used for plumbing in the construction of buildings over 10 stories high.
- In response to concerns raised by the fire chiefs association, a regulation is being proposed to extend this regulation to also cover construction of any new buildings higher than 3 stories.
- What factors and concepts should be taken into account in assessing the potential competitive effects of the proposed regulation given the following considerations.
  - Currently, either cast iron pipe or ABS plastic pipe can be used for plumbing in buildings between 3 and 10 stories high.
  - ABS pipe is inexpensive, light and easier to install than cast iron pipe. For these reasons, it has generally replaced cast iron pipe except where required by regulation.
  - There are many Canadian suppliers of ABS pipe.
  - However, there are currently only 2 Canadian suppliers of cast iron pipe.
  - One supplies a full line of pipe and related fittings and accounts for over 80% of all sales.
    - It sells pipe under a successful loyalty program under which discounts increase with amount of product purchased.
  - The other supplier sells only a limited line range of pipe sizes and fittings.

Break-Out Case Study

- How would you go about assessing the competitive effects of the proposed regulation taking into account the concepts outlined in the presentation?
- In particular, how would you:
  - Define and describe the current market;
  - Describe the competitive effect of the proposed regulation; and
  - Assess the impact on competition (what considerations and concepts should be taken into account and additional information may be required)?