Econ 101: Principles of Microeconomics
Chapter 16 - Monopolistic Competition and Product Differentiation

Fall 2010
Outline

1. What is Monopolistic Competition

2. Firm Behavior in a Monopolistically Competitive Industry
   - Behavior in the Short Run
   - Behavior in the Long Run

3. Monopolistic Competition versus Perfect Competition
A monopolistically competitive market has three fundamental characteristics.
Monopolistic Competition

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Monopolistic Competition

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... but first consider some examples of monopolistic competition
Example Industries

- Audio and Video Equip.
- Computers
- Frozen Foods
- Canned Foods
- Book Printing
- Men's/Boys Clothing
- Sporting Goods
- Fish and Seafood
- Jewelry
- Women's/Girl's Clothing

Legend:
- Red: Top 4 Firms
- Blue: Next 4 Firms
- Green: Next 12 Firms
Characteristic #1: Many Buyers and Sellers

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  - Restaurants (in a larger city) are a good example of this
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Product Differentiation

- There are three basic types of product differentiation:
  1. Differentiation by Style or Type: Here the products differ due to differences in function or form. There are numerous examples: Vehicle types (SUV’s vs. trucks vs. sedans, etc.), Restaurant types (Mexican vs. Chinese vs. French, etc.), Clothing stores (GAP vs. American Eagle vs. Abercrombie and Fitch, etc.).
  2. Differentiation by Location: Retailers often attempt to "capture" a portion of the market by strategically locating. - Gasoline stations and hotels locate near the interstate. - Starbucks locates everywhere.
  3. Differentiation by Quality: This is really a special case of the first type of differentiation. - Gasoline stations try to convince you that their gas makes your car run better. - Pizza firms try to convince you they use better ingredients.
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- In monopolistic competition, however, assumption about easy entry goes further.

- No barrier stops any firm from copying the successful business of other firms.
- Think of recent efforts by McDonalds and Dunkin Donuts to compete with Starbucks or other regional coffee shops such as Caribou Coffee.
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Short-Run Behavior

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     - firms will exit the industry driving demand for remaining firms up
Monopolistic Competition in the Long-Run

- The distinction between a monopoly and monopolistic competition occurs in the long-run.
- For the latter,
  1. If *economic* profits exist in the short-run,
     - firms will enter the industry driving demand for existing firms down
     - entry will continue until *economic* profits are driven to zero.
  2. If *economic* losses exist in the short-run,
     - firms will exit the industry driving demand for remaining firms up
     - exit will continue until *economic* profits are driven to zero.
Long-Run Behavior

Profit

Marginal Cost Curve

Average Total Cost Curve

Average Variable Cost Curve

$P_M$

$ATC_M$

$Q_M$

Quantity
Long-Run Behavior

- Marginal Cost Curve
- Average Total Cost Curve
- Average Variable Cost Curve

$P_M$

$ATC_M$

$Q_M$

$D$

$MR$

Quantity

Firm Behavior in a Monopolistically Competitive Industry

Behavior in the Long Run
Long-Run Behavior

- Marginal Cost Curve
- Average Total Cost Curve
- Average Variable Cost Curve
- Demand Curve (D)
- Marginal Revenue (MR)
- Quantity (Q)
- Price (P)
- Average Total Cost (ATC)
- Quantity (Q)

In a monopolistically competitive industry, firms operate in the long run where entry and exit are possible. The diagram illustrates the firm's behavior, showing the equilibrium at the point where the price intersects with the marginal cost curve, indicating the profit-maximizing quantity (Q_M). The firm's price (P_M) is set above the average total cost (ATC_M), ensuring profit. The demand curve (D) and marginal revenue (MR) are also depicted, highlighting the competitive nature of the market.
Long-Run Behavior

In a monopolistically competitive industry, firms operate in the long run where entry and exit of firms are free. The graph illustrates the firm's behavior in the long run.

- **$P_M$:** The market price.
- **$ATC_M$:** The average total cost at the output level $Q_M$.
- **MR**: The marginal revenue curve.
- **MR'**: The marginal revenue curve when the demand curve is $D'$.
- **D**: The demand curve.
- **D'**: An alternative demand curve.
- **Marginal Cost Curve**
- **Average Total Cost Curve**

The firm's profit-maximizing output occurs where MR = MC, which is at $Q_M$. At this output, the firm covers its average total cost, $ATC_M$, and earns zero economic profit.
Long-Run Behavior

$P_M$

$ATC_M$

$Q_M$

$D$

$D'$

$MR$

$MR'$

Marginal Cost Curve

Average Total Cost Curve

Average Variable Cost Curve
Long-Run Behavior

- Marginal Cost Curve
- Average Total Cost Curve
- Average Variable Cost Curve

$P_M$, $ATC_M$, $Q_M$, $Q'_M$, $D$, $D'$

Quantity
Long-Run Behavior

\[ P_M = \frac{ATC'_M}{ATC_M} \]

Marginal Cost Curve

Average Total Cost Curve

Average Variable Cost Curve

D

D'

Q'_M

Q_M

Quantity

$
Monopolistic Competition Versus Perfect Competition

- The long run equilibrium for Monopolistic Competition is, in many ways, similar to that of Perfect Competition.

For Monopolistic Competition:
- \( P \neq MC \)
- Firms do not operate at minimum ATC under Monopolistic Competition, whereas they do under perfect competition.
- This gap between \( P \) and \( MC \) for monopolistic competitor reflects the fact that they face a downward sloping demand curve (i.e., \( P \neq MR \)). It is also their motivation for advertising - to draw in more customers.
- While some argue that this is a source of inefficiency in this market structure, the tradeoff is that this industry type provides diversity that is desired by consumers.
Monopolistic Competition Versus Perfect Competition

- The long run equilibrium for Monopolistic Competition is, in many ways, similar to that of Perfect Competition. In both cases
  - there are many firms
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Nonprice Competition

- If monopolistic competitor wants to increase its output it can cut its price

Other actions include:
- better service,
- product guarantees,
- free home delivery,
- more attractive packaging, etc.

Nonprice competition is another reason why monopolistic competitors earn zero economic profit in the long run.

- All this nonprice competition is costly.
- The firm must pay for advertising, for product guarantees, for better staff training.
- These costs must be included in each firm's ATC curve, shifting it upward.
Nonprice Competition

- If monopolistic competitor wants to increase its output it can cut its price
  - ... moving along its demand curve
Nonprice Competition

- If monopolistic competitor wants to increase its output it can cut its price
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- Any action a firm takes to increase demand for its output—other than cutting its price—is called nonprice competition

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Monopolistic Competition and the Role of Advertising

- A monopolistic competitor advertises for two reasons
  1. To shift its demand curve rightward (greater quantity demanded at each price)
  2. To make demand for its output less elastic, allowing it to raise price and suffer a smaller decrease in quantity demanded

Advertising clearly raises costs in the industry, but it need not raise price.
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- However, it need not raise price.
Advertising Increasing Price

\[ P_{\text{no ads}} \]

\[ Q_{\text{no ads}} \]

ATC without Advertising
Monopolistic Competition versus Perfect Competition

Advertising Increasing Price

$\text{ATC with Advertising}$

$\text{ATC without Advertising}$

$P_{no\ ads}$

$Q_{no\ ads}$

Quantity
Advertising Increasing Price

$P_{no\ ads}$

$D_{no\ ads}$

$D_{ads}$

$Q_{no\ ads}$

$ATC\ with\ Advertising$

$ATC\ without\ Advertising$
Monopolistic Competition versus Perfect Competition

Advertising Increasing Price

$P_{ads}$

$P_{no\ ads}$

$D_{ads}$

$D_{no\ ads}$

$Q_{no\ ads}$

$Q_{ads}$

ATC with Advertising
ATC without Advertising
Advertising Increasing Price

$P_{ads}$

$P_{no\;ads}$

$D_{ads}$

$D_{no\;ads}$

$Q_{ads}$

$Q_{no\;ads}$

ATC with Advertising
ATC without Advertising

Profit per unit
Advertising Increasing Price

$P_{ads}$

$P_{no\ ads}$

$D_{ads}$

$D_{no\ ads}$

$D_{all\ ads}$

Profit per unit
Advertising Increasing Price

$P_{ads}$

$P_{all ads}$

$P_{no ads}$

$D_{ads}$

$D_{no ads}$

$D_{all ads}$

$Q_{ads}$

$Q_{no ads}$

$Q_{all ads}$

ATC with Advertising

ATC without Advertising

Profit per unit