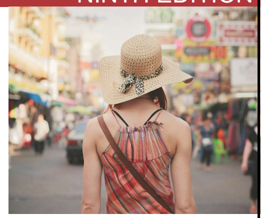
N. GREGORY MANKIW NINTH EDITION

PRINCIPLES OF

ECONOMICS



CHAPTER

16

Monopolistic Competition

Modified by Joseph Tao-yi Wang

Interactive PowerPoint Slides by:
V. Andreea Chiritescu
Eastern Illinois University

The Big Picture

- Chapter 13: The cost of production
- Now, we will look at firm's revenue
  - But revenue depends on market structure

1. Competitive market (chapter 14)
2. Monopoly (chapter 15)
3. Monopolistic Competition (this chapter)
4. Oligopoly (chapter 17)
   - Are there other types of markets? Yes, see more advance courses in IO and firm competition

IN THIS CHAPTER

- What market structures lie between perfect competition and monopoly, and what are their characteristics?
- How do monopolistically competitive firms choose price and quantity? Do they earn economic profit?
- How does monopolistic competition affect society's welfare?
- What are the social costs and benefits of advertising?

Introduction

- Two extreme forms of market structures:
  - Perfect competition (perfect substitute): many firms, identical products, price takers, ***P*** = ***MC***
  - Monopoly (no substitute): one firm, price maker, ***P*** > ***MC***
- Imperfect competition – in between the extremes: (partial substitutes)
  - Oligopoly: only a few sellers offer similar or identical products.
  - Monopolistic competition: many firms sell similar but not identical products.

Oligopoly

- Concentration ration
  - Measure a market's domination by a small number of firms
  - The percentage of total output in the market supplied by the four largest firms
  - Less than 50% for most industries
    - A few exceptions: light bulbs (84%), batteries (87%), tobacco (88%), beer (88%), and home refrigerators and freezers (93%)

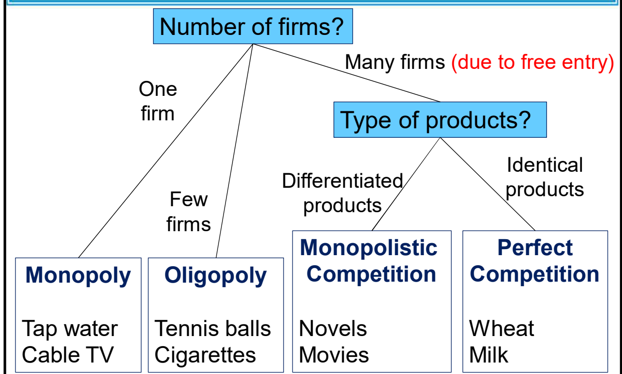
Monopolistic Competition

- Characteristics:
  - Many sellers: competing over customers
  - Product differentiation: Location! (產品定位)
  - Not price takers; downward sloping ***D*** curve
  - Free entry and exit
    - Zero economic profit in the long run
- Examples:
  - Apartments, books, computer games, restaurants, piano lessons, cookies, clothing

Comparisons

	Perfect competition	Monopolistic competition	Monopoly
Number of sellers	Many	Many	One
Free entry/exit	Yes	Yes	No
LR economic profit	Zero	Zero	Positive
Products firm sells	Identical	Differentiated	No close substitute
Market power?	None	Yes	Yes
D curve facing firm	Horizontal	Downward-sloping	Downward-sloping (market D)

The Four Types of Market Structure



Short Run Equilibrium

- Profit maximization in the short-run for the monopolistically competitive firm:
  - Produce the quantity where ***MR*** = ***MC***
  - Price: on the demand curve
  - If ***P*** > ***ATC***: profit
  - If ***P*** < ***ATC***: loss
  - Similar to monopoly

EXAMPLE 1: Short-Run Equilibrium

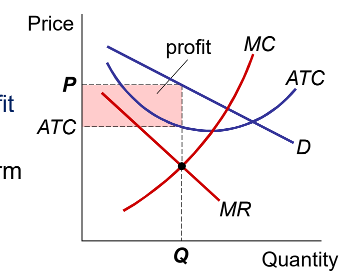
The firm faces a downward-sloping ***D*** curve.

At each ***Q***, ***MR*** < ***P***.

Identify the firm's profit or loss.

To maximize profit, firm produces ***Q*** where ***MR*** = ***MC***.

The firm uses the ***D*** curve to set ***P***.

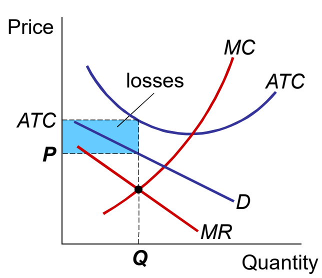


Active Learning 1: Profit or Loss in SR?

Identify the firm's profit or loss.

For this firm,
P < ***ATC***
at the output where
MR = ***MC***.

The best this firm can do is to minimize its losses.



The Long-Run Equilibrium

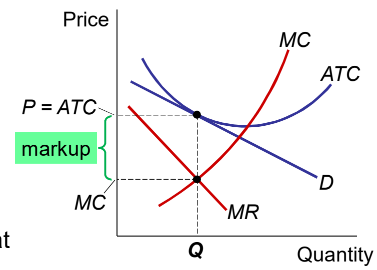
- If monopolistically competitive firms are making profit in short run
  - New firms: incentive to enter the market
    - Increase number of products
  - Reduces demand faced by each firm
    - Demand curve shifts left; prices fall
  - Each firm's profit declines to zero
- If losses in the short run:
  - Some firms exit the market, remaining firms enjoy higher demand and prices

EXAMPLE 2: Long-Run Equilibrium

Entry and exit occurs until:

P* = *ATC and profit = zero.

Notice that the firm charges a markup of price over marginal cost and does not produce at minimum ***ATC***.



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Monopolistic vs. Perfect Competition

- Monopolistic competition
  - Excess capacity: quantity is not at minimum ***ATC*** (it is on the downward-sloping portion of ***ATC***)
  - Markup over marginal cost: ***P*** > ***MC***
- Perfect competition
  - Quantity: at minimum ***ATC*** (efficient scale)
  - ***P*** = ***MC***

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The Welfare of Society – 1

- Monopolistically competitive markets
  - Do not have all the desirable welfare properties of perfectly competitive markets
- Sources of inefficiency
  - Markup of price over marginal cost
  - Too much or too little entry (number of firms in the market)
    - Product-variety externality
    - Business-stealing externality

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The Welfare of Society – 2

- Markup, ***P*** > ***MC***
  - Market quantity < socially efficient quantity
    - Deadweight loss of monopoly pricing
- The product-variety externality:
  - Consumers get extra surplus from the introduction of new products
- The business-stealing externality:
  - Losses incurred by existing firms when new firms enter market

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Active Learning 2: Advertising

A. So far, we have studied three market structures: perfect competition, monopoly, and monopolistic competition.
   - In each of these, would you expect to see firms spending money to advertise their products? Why or why not?

B. Is advertising good or bad from society's viewpoint? Try to think of at least one "pro" and "con."

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Advertising

- Incentive to advertise
  - When firms sell differentiated products and charge prices above marginal cost
  - Advertise to attract more buyers
- Advertising spending
  - Highly differentiated goods: 10-20% of revenue
  - Industrial products: little advertising
  - Homogenous products: no advertising

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The Debate Over Advertising

- In monopolistically competitive industries
  - Product differentiation and markup pricing lead naturally to the use of advertising
- The more differentiated the products
  - The more advertising firms buy
- Economists disagree about the social value of advertising:
  - Wasting resources?
  - Valuable purpose?

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The Critique of Advertising

- Firms advertise to manipulate people's tastes
  - Is psychological rather than informational
    - Creates a desire that otherwise might not exist
- Advertising impedes competition
  - Increase perception of product differentiation
    - Foster brand loyalty; higher markups
    - Makes buyers less concerned with price differences among similar goods

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The Defense of Advertising

- The defense of advertising
  - It provides useful information to buyers
  - Informed customers make better choices
  - Advertising promotes competition and reduces market power
- Case studies:
  - Eyeglasses: more expensive in states that prohibited advertising (Benham, JLE 1972)
  - Liquor: about 20% cheaper after advertising was allowed (Milyo and Waldfogel, AER 1999)

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Advertising as a Signal of Quality

- Advertising
  - Even if contains little apparent information
  - The real information offered is a signal
  - The willingness to spend large amount of money is a signal about the quality of the product
  - Content of advertising = irrelevant

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EXAMPLE 3: To Advertise or Not to Advertise?

Colgate (高露潔) and Sensodyne (舒酸定) each developed a new toothpaste formula. Each tube of toothpaste will sell for NT$150. Assume ***MC*** = 0.

If a company runs an advertisement, it will bring 500,000 new consumers (for this brand). If people are happy with the purchase, they will continue to buy 1 tube of toothpaste each month. The cost of the ad is NT$240 million.

Assume Colgate knows their toothpaste has a bad taste, while Sensodyne knows theirs is just right.

- Which firm should advertise and why?

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EXAMPLE 3: Solutions

If Colgate advertises, cost = NT$240 million

- Benefit = NT$150×500,000 (no repeat customers)
- Profit = $75 million – $240 million = – $165 million
- Do not advertise!

If Sensodyne advertises, cost = NT$240 million

- Benefit = NT$150×500,000×12 months
  - Because the toothpaste tastes just right, Sensodyne gets repeat customers
- Profit = $900 million – $240 million = $660 million
- Advertise!

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Brand Names – 1

- In many markets, brand name products coexist with generic ones.
- Brand names
  - Spend more on advertising and charge higher prices than generic substitutes
- As with advertising, there is disagreement about the economics of brand names…

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Brand Names – 2

- Critics of brand names
  - Products are not differentiated
  - Irrationality: consumers are willing to pay more for brand names
- Defenders of brand names
  - Consumers get information about quality
  - Firms have an incentive to maintain high quality to protect the reputation of their brand name

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THINK-PAIR-SHARE – 1

You are watching the Super Bowl and during a commercial break you see an ad featuring LeBron James. In the ad, LeBron James does nothing but shoot basketballs. He never speaks.

There is no written copy. At the end of the advertisement, the Nike "swoosh" appears on the screen along with the words "Nike" and "LeBron James Signature Basketball Shoes."

You read in a newspaper that LeBron James received $40 million to be the spokesperson for Nike basketball shoes.

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THINK-PAIR-SHARE – 2

A. While watching, a friend says, "What a waste of society's resources. I didn't learn anything about Nike basketball shoes from that ad. I think there should be government regulations requiring ads to be informative in some way." What have you learned from this ad?

B. Did the use of the Nike name and the Nike "swoosh" provide any information? Explain.

C. In general, does advertising tend to decrease competition and raise prices to consumers or increase competition and reduce prices to consumers? Why?

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CHAPTER IN A NUTSHELL

- Monopolistically competitive market: many firms, differentiated products, and free entry and exit.
- Inefficiencies:
  - Deadweight loss caused by markup of price over marginal cost
  - Number of firms (and thus the variety of products) can be too large or too small.
  - The ability of policymakers to correct these inefficiencies is limited.

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CHAPTER IN A NUTSHELL

- LR equilibrium
  - Each firm has excess capacity (Q is on the downward-sloping portion of the ATC curve)
  - Each firm charges a price above marginal cost.
- Product differentiation: advertising and brand names
  - Critics: manipulate consumers' tastes and reduce competition.
  - Defenders: inform consumers and compete more vigorously on price and product quality.

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Chapter 16: Monopolistic Competition

- Differentiated Products: Closest to reality!
  - Location, location, location!
- SR: Like a monopoly (locally)
- LR: Zero profits
- Homework: Mankiw, Ch.16,
  Problem 2, 5, 7-10

Challenge Questions (Past Finals)

- 2007 - Part 3, 6
- 2012 - Part III, 1-9
- 2014 - Essay C5-C6
- 2015 - Essay B7-B12
- 2017 - Essay B6-B8, D1
- 2018 - Essay C5-C9
- 2019 - Essay A, B4-8