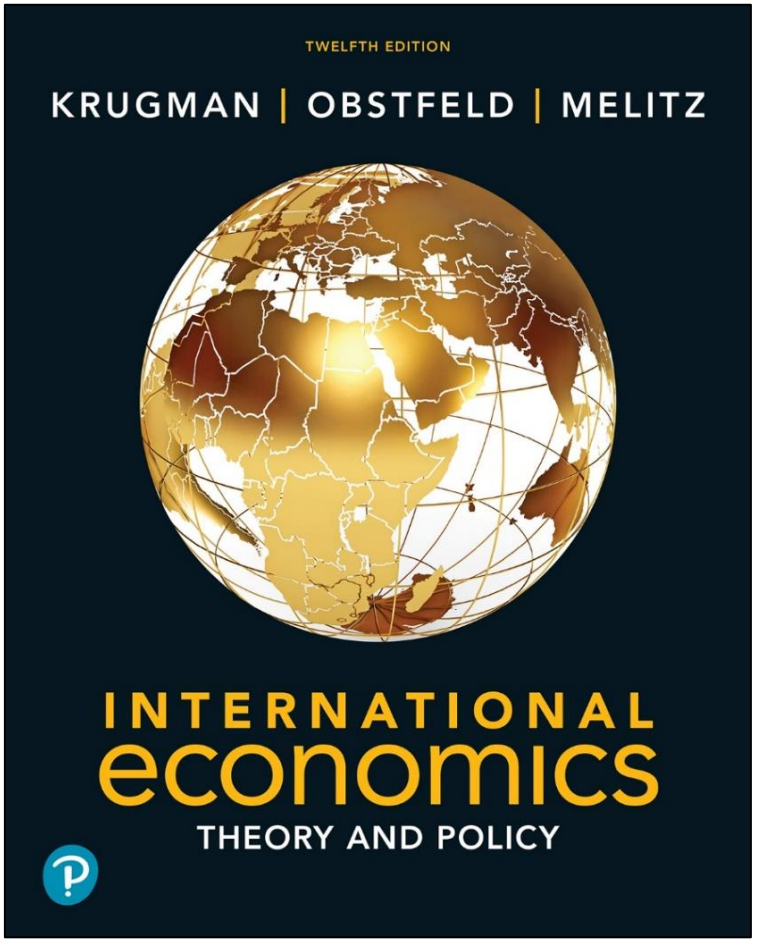
International Economics: Theory and Policy

Twelfth Edition



Chapter 8

Firms in the Global Economy

Pearson

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Monopolistic Competition Theory

- A firm in a monopolistically competitive industry is expected to sell
  - **more** as total sales in the industry increase and as prices charged by rivals increase.
  - **less** as the number of firms in the industry increases and as the firm's price increases.

$$Q = S\left[\frac{1}{n} - b\left(P - P\right)\right]$$

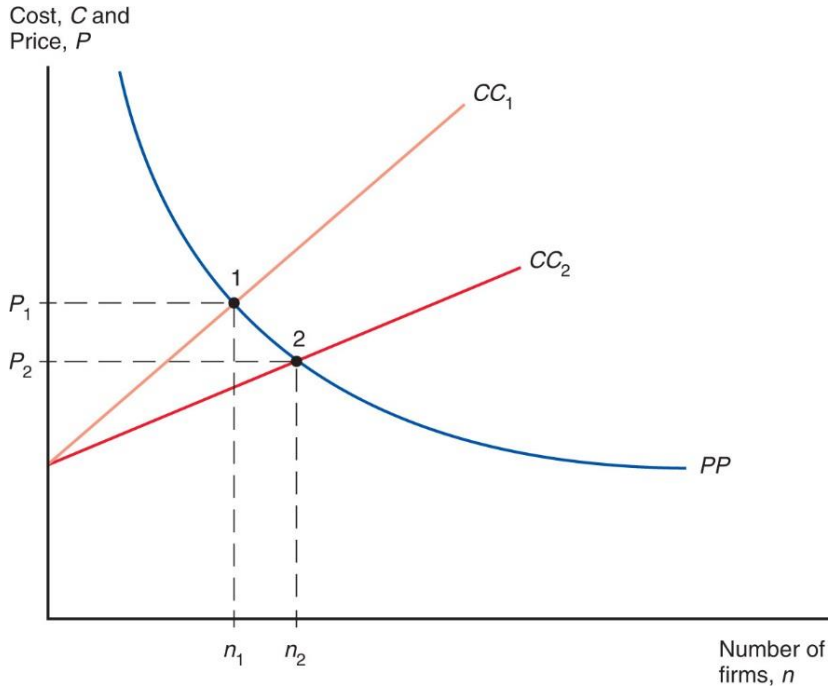
Monopolistic Competition and Trade (1 of 2)

- Because trade increases market size, trade is predicted to decrease **average cost** in an industry described by monopolistic competition.

$$AC = n\left(\frac{F}{S}\right) + C$$

- Because trade increases the variety of goods that consumers can buy under monopolistic competition, it increases the **welfare** of consumers.
  - And because average costs decrease, consumers can also benefit from a decreased **price**.

Effects of a Larger Market



An increase in the size of the market allows each firm, other things equal, to produce more and thus have lower average cost. This is represented by a downward shift from CC_1 to CC_2. The result is a simultaneous increase in the number of firms and a fall in the price of each.

Monopolistic Competition and Trade (2 of 2)

- **Product differentiation** and **internal economies of scale** lead to trade between similar countries with no comparative advantage differences between them.

  - This is a very different kind of trade than the one based on comparative advantage, where each country exports its comparative advantage good.

Gains from an Integrated Market: A Numerical Example (1 of 2)

- Suppose fixed cost F = \$750,000,000 and a marginal cost of c = \$5,000 per automobile.
- The total cost is

$$C = ???$$

- The average cost is therefore

$$AC = ???$$

Gains from an Integrated Market: A Numerical Example (2 of 2)

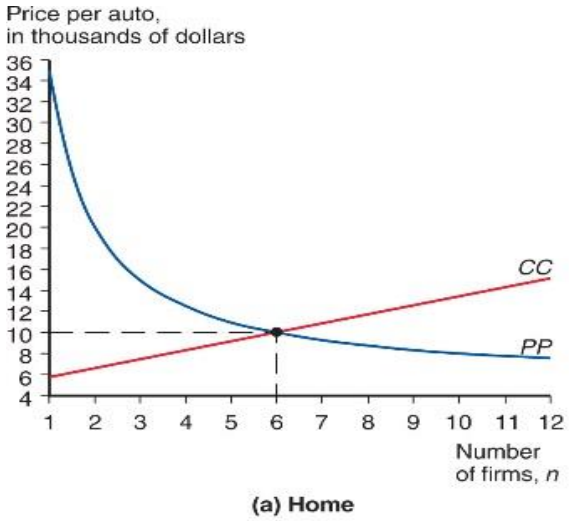
- Suppose there are two countries, Home and Foreign.

- Home has annual sales of 900,000 automobiles; Foreign has annual sales of 1.6 million.
- The two countries are assumed (for now) to have the same costs of production.

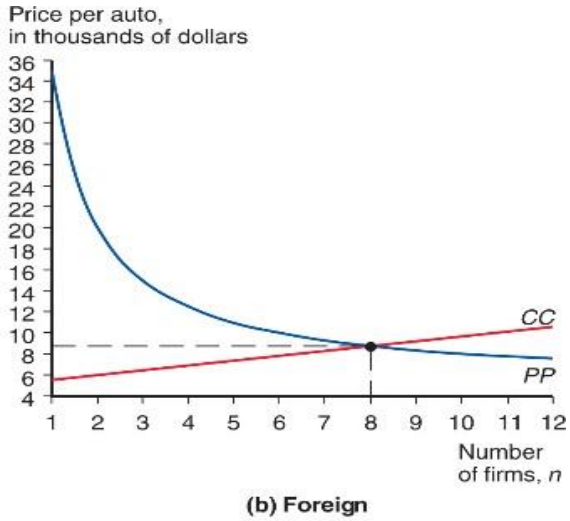
Hypothetical Example of Gains from Market Integration

	Home Market before Trade	Foreign Market, before Trade	Integrated Market, after Trade
Industry output (# of autos)	900,000	1,600,000	2,500,000
Number of firms	6	8	10
Output per firm (# of autos)	150,000	200,000	250,000
Average cost	$10,000	$8,750	$8,000
Price	$10,000	$8,750	$8,000

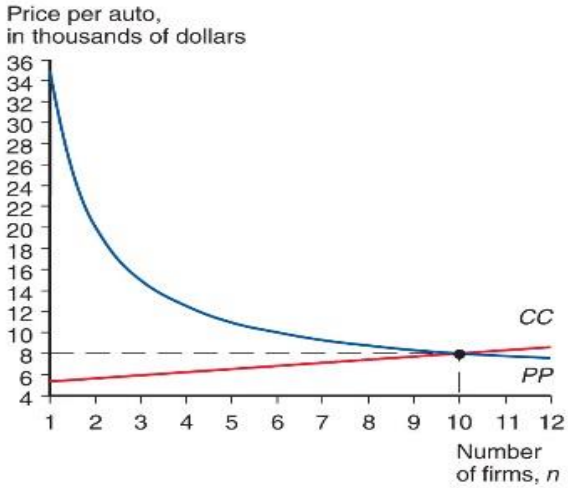
Equilibrium in the Automobile Market



(a) Home



(b) Foreign



(c) Integrated

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The Significance of Intra-Industry Trade (1 of 2)

- **Intra-industry trade** refers to two-way exchanges of similar goods.
- Two channels for welfare benefits from trade:
  - Benefit from a **greater variety at a lower price**.
  - Firms consolidate their production and take advantage of **economies of scale**.
- A smaller country stands to gain more from integration than a larger country.

The Significance of Intra-Industry Trade (2 of 2)

- About 25–50% of world trade is intra-industry.
- Most prominent is the trade of **manufactured goods** among **advanced industrial nations**, which accounts for the majority of world trade.
  - For the United States, industries that have the most intra-industry trade—such as **pharmaceuticals**, **chemicals**, and **specialized machinery**—require relatively larger amounts of skilled labor, technology, and physical capital.

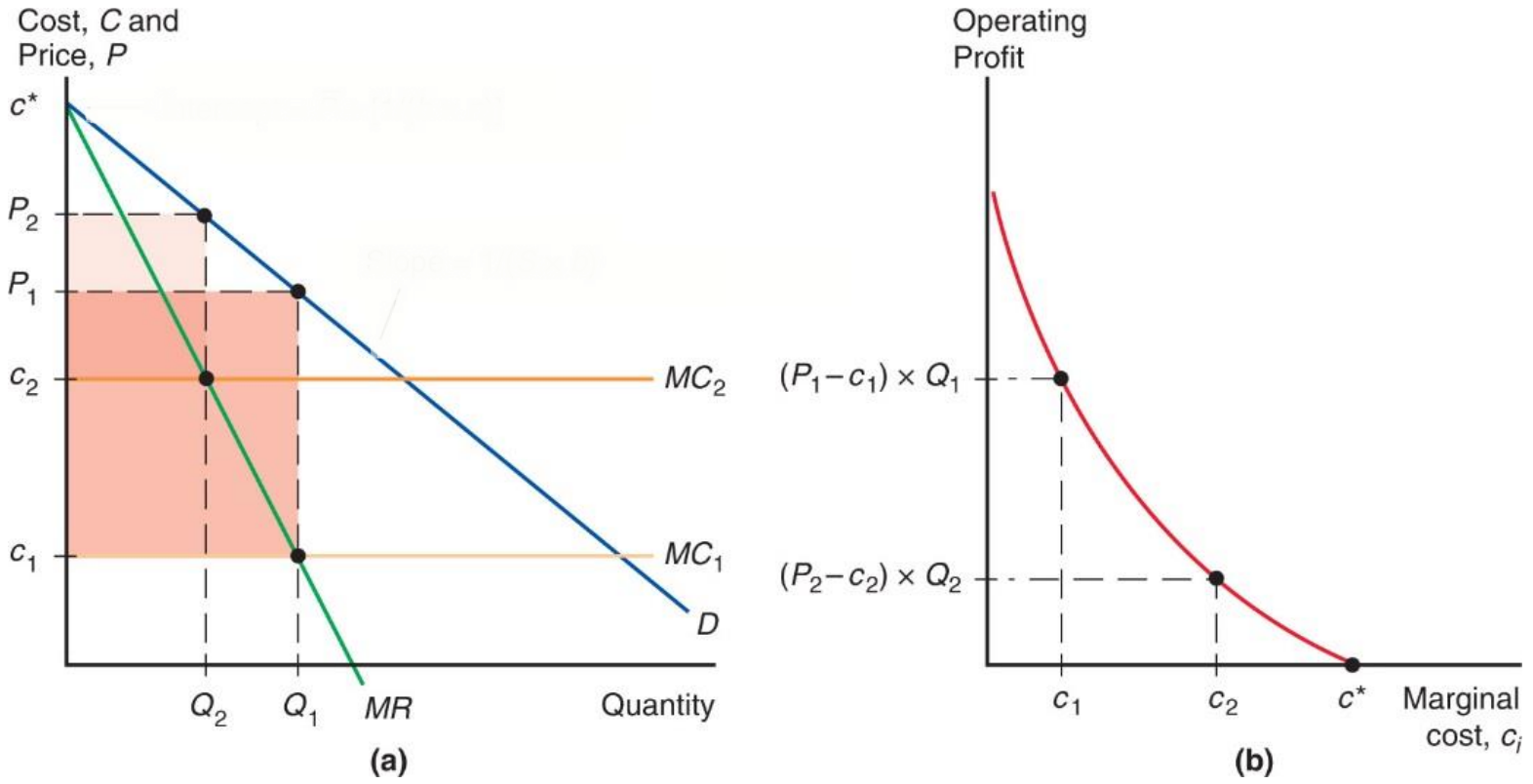
Indexes of Intra-Industry Trade for U.S. Industries, 2009

Metalworking Machinery	0.97
Inorganic Chemicals	0.97
Power-Generating Machines	0.86
Medical and Pharmaceutical Products	0.85
Scientific Equipment	0.84
Organic Chemicals	0.79
Iron and Steel	0.76
Road Vehicles	0.70
Office Machines	0.58
Telecommunication Equipment	0.46
Furniture	0.30
Clothing and Apparel	0.11
Footwear	0.10

Firm Responses to Trade

- Increased competition tends to hurt the **worst-performing firms** — they are forced to exit.
- The **best-performing firms** take the greatest advantage of new sales opportunities and expand the most.
- Overall industry performance improves.
  - Trade and economic integration improve industry performance as much as the discovery of a better technology does.

Performance Differences Across Firms



Intra-Industry Trade in Action: The North American Auto Pact of 1964 and NAFTA (1 of 4)

- Before 1964, tariff protection by Canada and the United States produced a Canadian auto industry that was largely self-sufficient, neither importing nor exporting much.
- The Canadian auto industry was about 1/10 the size of the United States.
- A labor productivity about 30 percent lower than that of the United States.

Intra-Industry Trade in Action: The North American Auto Pact of 1964 and NAFTA (2 of 4)

- The United States and Canada agreed in **1964** to establish free trade in automobiles, which allowed the auto companies to reorganize their production.
- Both exports and imports increased sharply.
- By the early 1970s, the Canadian industry was comparable to the U.S. industry in productivity.

Intra-Industry Trade in Action: The North American Auto Pact of 1964 and NAFTA (3 of 4)

- Later on, this transformation of the automotive industry was extended to include Mexico.
- This process continued with the implementation of NAFTA.

- https://www.youtube.com/watch?v=371CRxnGkA8

  – For each model of car, there is typically a plant in one of these three countries that sells to the whole North American market.

Intra-Industry Trade in Action: The North American Auto Pact of 1964 and NAFTA (4 of 4)

- The manufacture of auto parts was also consolidated throughout the North American market.

- Do you think **Ending NAFTA** would likely result in higher car production in the United States???
- How about outside North America???

Trade Costs and Export Decisions (1 of 2)

- Most U.S. firms do not report *any* exporting activity at all — sell only to U.S. customers.
  - In 2007, only 35% of U.S. manufacturing firms reported any exports.
- Even in industries that export much of what they produce, such as chemicals, machinery, electronics, and transportation...
- A major reason: **trade costs**

Proportion of U.S. Firms Reporting Export Sales by Industry, 2007

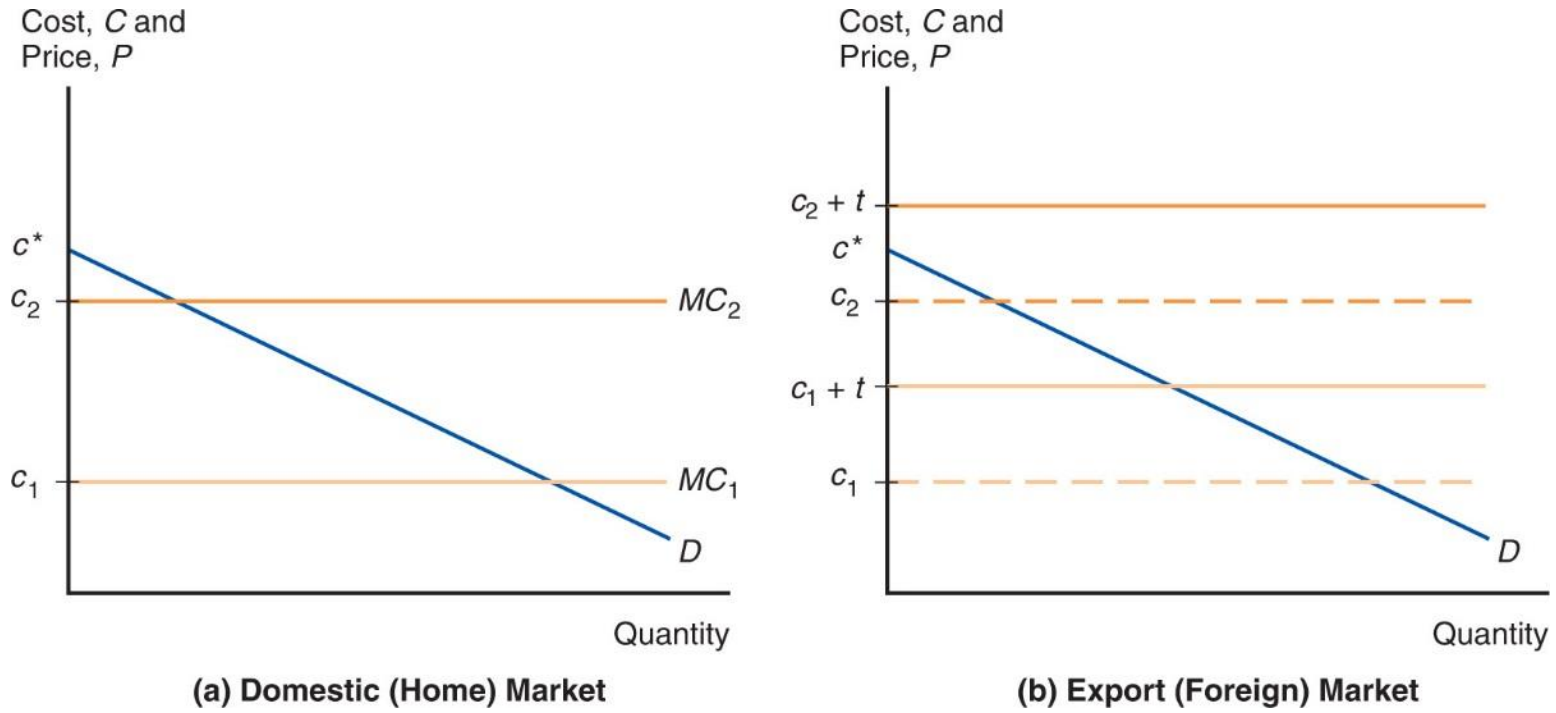
Printing	15%
Furniture	16%
Wood Products	21%
Apparel	22%
Fabricated Metal	30%
Petroleum and Coal	34%
Transportation Equipment	57%
Machinery	61%
Chemicals	65%
Electrical Equipment and Appliances	70%
Computer and Electronics	75%

Trade Costs and Export Decisions (2 of 2)

- Trade costs added two important predictions to our model of monopolistic competition and trade:
  - Why only a subset of firms export,
  - and why exporters are relatively **larger and more productive** (lower marginal costs).

  - In the *United States*, in a typical manufacturing industry, an exporting firm is on average more than *twice as large* as a firm that does not export.
  - Differences between exporters and nonexporters are even larger in many *European countries*.

Export Decisions with Trade Costs



Dumping (1 of 2)

- **Dumping** is the practice of charging a lower price for exported goods than for goods sold domestically.
- Dumping is an example of **price discrimination**.

- Price discrimination and dumping may occur only if
  - **imperfect competition** exists: firms are able to influence market prices.
  - **markets are segmented** so that goods are not easily bought in one market and resold in another.

Dumping (2 of 2)

- Dumping can be a profit-maximizing strategy:
  - An exporting firm will respond to the trade cost by lowering its markup for the export market.
  - This strategy is considered to be **dumping**, regarded by most countries as an “unfair” trade practice.

  - **Example:**
  - Canada’s $5.9 billion of softwood lumber exports to the U.S.

Protectionism and Dumping (1 of 4)

- A U.S. firm may appeal to the Commerce Department to investigate if dumping by foreign firms has injured the U.S. firm.
  - The Commerce Department may impose an “anti-dumping duty” (tax) to protect the U.S. firm.
  - Tax equals the difference between the actual and “fair” price of imports, where “fair” means “price the product is normally sold at in the manufacturer's domestic market.”

Protectionism and Dumping (2 of 4)

- Next, the International Trade Commission (ITC) determines if injury to the U.S. firm has occurred or is likely to occur.
- If the ITC determines that injury has occurred or is likely to occur, the anti-dumping duty remains in place.

- In November 2017, the Trump administration imposed an 18% tariff on Canada's lumber exports.
- https://www.youtube.com/watch?v=CBgzj1hflqk
- In April 2019, the WTO ruled that the United States violated international trade rules in the way it calculated the tariff.

Protectionism and Dumping (3 of 4)

- In the early 1990s, the bulk of anti-dumping complaints were directed at developed countries.
  - But since 1995, developing countries have accounted for the majority of anti-dumping complaints.
  - Among those countries, China has attracted a particularly large number of complaints.

Protectionism and Dumping (4 of 4)

- A nonmarket economy with substantial export growth, China has been subject to anti-dumping duties on:
  - TVs, furniture, crepe paper, hand trucks, shrimp, ironing tables, plastic shopping bags, iron pipe fittings, saccharin, solar panels, tires, and cold-rolled steel.
- These duties are as high as 78% on color TVs and 266% for cold-rolled steel…