Alternative Theories of Modern Trade

Why the need for alternative theories?
- H-O does not offer a complete explanation
- Many examples of international trade seemingly not driven by a factor proportions interpretation

Trade regularities ("facts") that need explanation
- Two-way trade in similar products (Canada exports autos to US and US exports auto to Canada)
- Dominance of a few large firms in some world industries

Extensions of the H-O model
- Intra-Industry Trade (IIT)
- Increasing returns to scale, economies of scale in production
- Monopolistic competition, differentiated products
Intra-Industry Trade: Will H-O Handle It?

» Homogeneous products

- Explanations for IIT can be accommodated easily within H-O model, after taking into account:

  - Transportation costs - important for bulky items (see picture)
    - The border may have a separate and very important impact: Toronto does 7 times as much trade with Vancouver (Canada) than with Seattle (USA)
  - Joint production (e.g. financing of traded goods)
  - Entrepôt trade: Singapore, Panama
  - Government induced price distortions (taxation)
  - Seasonal fluctuations (e.g. fruit, tourism)
Trade and Transportation Costs

Circle centers represent production points, circumference are shipping limits. Political border bisects the region. A’s exports in pink, B’s exports in blue.
Intra-Industry Trade: Will H-O Handle It?

Differentiated products

» Usually need to go outside the H-O framework to explain why trade takes place, gains from trade, welfare effects, etc.
  ◆ Consumer substitutability: Wood vs. steel furniture, coarse vs. fine wool
  ◆ Quality differentiation: Countries may specialize in production of goods of different quality. Income and quality patterns may explain some trade (see picture)
  ◆ Differentiation by style
    – Taste differences, cultural factors, variety is a luxury
    – Small countries lack scale economies, trade to get diversity
  ◆ Technological gaps
    – Break-throughs protected by patents and copyrights
    – Trade could result from lags in technology transfer
Trade due to Income and Quality Differences

Country A: Exports lower priced, lower quality model of a product
Country B: Exports higher priced, higher quality model of a product
Economies of Scale

- Economies of scale defined
  » % increase in output > % increase in expenditures on inputs (holding input prices constant)

- Internal scale economies
  » Spreading fixed costs (e.g. overhead, R&D, etc.) ⇒ Average costs decline with scale

- External scale economies
  » Size of the entire market is a benefit shared by all firms
  » Locating near competitors improves input markets for specialized skills and services (e.g. high tech in Silicon Valley, finance and Wall Street, etc.)
Economies of Scale

Key questions:
» How large are the cost reductions associated with scale economies?
» How large must a firm be to achieve scale economies?
» How large can a firm be before losing scale economies?

Classifying the degree of scale economies
» If unlimited, firm has incentive to grow without bounds, one firm dominates world industry - **monopoly** *(Examples?)*
» If substantial economies over a large range of output, a few large firms dominate world industry - **oligopoly** *(Examples?)*
» If limited, room for a large number of firms. If products also differentiated, then a mild form of imperfect competition - **monopolistic competition** *(Examples?)*
Monopolistic Competition Before Trade

Under purely competitive condition, firm sets price (its marginal revenue) = Marginal cost (MC)

Under monopolistic competition, firm sets price = Average cost
  » At point “A”, Honda sells 4,000,000 autos at ¥1,900,000 each

By charging ¥1,900,000 per car, Honda invites competition from other firms
Monopolistic Competition After Trade

- With trade, Honda exports additional output to a foreign market
- In the foreign market (U.S.) Honda meets other competitors
- The new demand curve \( (D_2) \) including foreigners is more elastic
- Output expands to 8,000,000 units, price falls to ¥1,100,000
- What explains trade?
  - Some H-O elements
  - Some IIT: Product differentiation, competitive marketing, etc.
Monopolistic Competition and Gains from Trade

- Gain from trade under monopolistic competition more varied than pure H-O type gains
  - Increase in variety and diversity of products
  - International competition undercuts domestic monopoly
    - Beware: international price discrimination. Will auto prices in Japan fall?
Oligopoly and International Trade

- Competition among 2-3 large international players often modeled using game theory rather than international trade theory
  - Do these firms compete or cooperate?
  - Do governments encourage competition or cooperation?

- Several observations
  - History matters: Current situation is “path dependent.”
  - Initial location (airplane) industry may have been H-O driven, but then, role of government, wars, inventions, buyer decisions, etc.
  - May be national gain associated with large oligopoly firms
  - Leads to strategic trade theories (Chapter 10)
External Scale Economies and Trade

- $S_1 = $Sum of individual firm’s supply (MC) curve w/o external economies
- When external economies are present, rise in demand triggers expansion, lower costs, and lower prices
- If nations have similar endowments, cost curves and demand curves, whichever nation “moves first” to capture export market gains a cost advantage
A Summary of Alternative Trade Theories

Alternative trade theories focus on
- Product differentiation and monopolistic competition
- Internal scale economies and global oligopoly
- External scale economies

Alternative trade theories do not contradict the *main conclusions* of standard trade theory under competitive market conditions
- Examines a richer environment, more things matter for trade
- Technology, R&D play a larger role; product differentiation matters - for producers + may give added consumer benefits
- Current pattern of trade in part due to history, luck, early government policy ⇒ invites government intervention (can government “pick winners” and target trade policy?)
Summary of Gains and Losses from Opening Up Trade in Three Cases

<table>
<thead>
<tr>
<th>Type of Trade</th>
<th>Standard Competition</th>
<th>Monopolistic Competition (IIT)</th>
<th>External Economies</th>
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</thead>
<tbody>
<tr>
<td><strong>Group</strong></td>
<td></td>
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<tr>
<td>Exporting Country</td>
<td>Gain</td>
<td>Gain</td>
<td>Gain</td>
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<tr>
<td>Export Producers</td>
<td>Gain</td>
<td>*</td>
<td>Gain</td>
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<tr>
<td>Export Consumers</td>
<td>Lose</td>
<td>Gain</td>
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<tr>
<td>Import Consumers</td>
<td>Gain</td>
<td>Gain</td>
<td>Gain</td>
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<tr>
<td>Whole World</td>
<td>Gain</td>
<td>Gain</td>
<td>Gain</td>
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* In monopolistic competition (IIT) producers are both exporters and import-competing at the same time. If trade mostly or completely IIT, impact on producers usually small.

** Gain/Lose to producers ⇒ change in producer surplus in short-run. In long-run, gains & loses follow according to Stolper-Samuelson theorem.