North-North Trade

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North-North Trade

- For North-North trade, observe countries with similar endowments and technology trading similar products – *intra-industry* trade
- Cannot be explained by Heckscher-Ohlin model which predicts trade in different products – *inter-industry* trade
- North-North trade characterized by imperfectly competitive firms, realizing scale economies, and selling differentiated products
- Suppose a firm’s technology is one where total production costs consist of fixed costs and constant marginal costs (see Figure 1)
Monopoly equilibrium

Figure 1

[Graph showing the demand (D), marginal revenue (MR), average cost (AC), and marginal cost (MC) curves for a monopoly. The graph illustrates the equilibrium point where the marginal revenue equals the marginal cost.]
Product differentiation

- Initially, a single firm produces with this technology, setting output where marginal revenue is equal to marginal cost.
- Firm makes monopoly profits of area pefAC.
- Unlikely monopoly profits will go uncontested, so assume other firms with same technology enter industry selling differentiated products.
- Firms continue to enter until p'=AC in equilibrium – *monopolistic competition*.
- Each firm sells Q' of differentiated product (see Figure 2).
Monopolistic competition

Figure 2

- $p', c$
- $D$
- $MR$
- $Q$
- $AC$
- $MC$
- $e$
- $Q'$
- $p' = AC$

The graph illustrates the concept of monopolistic competition, showing the demand curve $D$, marginal revenue $MR$, marginal cost $MC$, average cost $AC$, and the equilibrium output $Q'$. The price $p'$ equals the average cost $AC$ at the equilibrium point $e$.
Industry equilibrium - autarky

- Number of firms in market and prices they charge determined by two relationships:
  - the more firms in industry, the more intense is competition and hence the lower the price (PP)
  - the more firms there are, the less each firm sells, and hence the higher is industry average cost (CC)

- In equilibrium, two firms enter under autarky, each selling a differentiated product (Figure 3)
Industry equilibrium - autarky

Figure 3

$p, c$

$p_1$

$AC_3$

$p_2 = AC_2$

$p_3$

$AC_1$

CC

PP

Number of firms
Industry equilibrium - trade

- Suppose two countries in North have the same technology under autarky, but one country has a larger market than the other.

- If countries integrate through trade, size of market increases, allowing firms to produce more at lower average cost – CC₁ shifts to CC₂.

- End result is increase in number of firms from n₁ to n₂, and fall in prices, p₁ to p₂ (Figure 4).

- One can imagine some firms based in one country, and some in the other, all producing for their home and the foreign market.
Industry equilibrium - trade

Figure 4

p, c

E1

E2

p1

p2

n1

n2

Number of firms

CC1

CC2

PP
Industry equilibrium - trade

- Intra-industry trade occurs, benefits being more product varieties, sold at lower prices and produced at lower average cost
- Model does good job of explaining why we observe two-way trade in automobiles between Germany and France
- However, model assumes firms are symmetric, and so says nothing about which firms may survive after markets integrated through trade
- Important question: why do some firms trade?