Why do Countries Trade?

Part III

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International Commerce
and the World Economy

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Increasing Opportunity Costs

Standard modern theory of trade is due to Swedish economists Heckscher and Ohlin writing in the 1930s, with further developments by Samuelson.

Theory assumes there are increasing opportunity costs of producing more units of one good at expense of other good.

Explanation for increasing opportunity costs:

(i) two factors of production, e.g., capital and labor, which are fixed in supply

(ii) oil-refining is capital-intensive in production, textiles are labor-intensive
Increasing Opportunity Costs

- Causes “bowed out” production possibilities frontier
- As oil refining is reduced, releases lots of capital and not much labor
- As more capital is added to slowly changing amounts of labor, fewer units of textiles obtained for each extra unit of lost oil refining
- Fundamental difference between countries: one is relatively well-endowed in capital relative to labor, and vice-versa for other country
- Differences in relative factor endowments drive trade
Autarky Equilibrium

Relative prices $p = p^T/p^O$, and under autarky, $p^{US} > p^C$
What Determines Trade?

- Assume US has relatively more capital than labor, and China has relatively more labor than capital.
- Difference reflected in autarky prices, i.e., oil refining relatively cheaper in US, textiles relatively cheaper in China.
- Price differences an incentive for arbitrage and hence for trade.
- Equilibrium is where each country exports (imports) that good which intensively uses factor of production in which it is relatively well-endowed (less well-endowed).
Trade Equilibrium

US exports = $Q^{US}$ to $T^{US}$, Chinese imports = $C^{C}$ to $T^{C}$

US imports = $C^{US}$ to $T^{US}$, Chinese exports = $Q^{C}$ to $T^{C}$
## Who Wins, Who Loses?

<table>
<thead>
<tr>
<th></th>
<th><strong>US</strong></th>
<th><strong>China</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Initial prices</strong></td>
<td>Oil refining cheap, textiles expensive</td>
<td>Oil refining expensive, textiles cheap</td>
</tr>
<tr>
<td><strong>Trade effects</strong></td>
<td>Refined oil products exported\nTextiles imported</td>
<td>Refined oil products imported\nTextiles exported</td>
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<tr>
<td><strong>Price effects</strong></td>
<td>Price of refined oil products rises\nPrice of textiles falls</td>
<td>Price of refined oil products falls\nPrice of textiles rises</td>
</tr>
<tr>
<td><strong>Output effects</strong></td>
<td>Produce more refined oil products\nProduce less textiles</td>
<td>Produce less refined oil products\nProduce more textiles</td>
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<tr>
<td><strong>Factor effects</strong></td>
<td>Many workers, and small amount of capital unemployed</td>
<td>Small number of workers, and large amount of capital unemployed</td>
</tr>
<tr>
<td><strong>Short-run</strong></td>
<td>Wage rates fall, capital rental rates rise</td>
<td>Wage rates rise, capital rental rates fall</td>
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<tr>
<td><strong>Long-run</strong></td>
<td>Winners: owners of capital/consumers\nLosers: workers</td>
<td>Winners: workers/consumers\nLosers: owners of capital</td>
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</tbody>
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Does Model Fit China?

- Over past three decades China integrated into world market – what has been its pattern of trade?
- Growth in China’s exports of labor-intensive products and imports of capital-intensive products
- China’s product specialization is incomplete, i.e., it still produces some capital-intensive products
- Available statistics suggest many in Chinese population have increased their purchasing power with trade
- Experience mirrors that of other Asian economies, i.e., Japan and Korea