International Economics: Lecture 15
Effects of Economic Growth on Trade

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Whenever you are not comfortable with any model, theory, statement, and would like further clarifications, then please be so kind to ask about it.
Neutral Economic Growth

Before Growth
<table>
<thead>
<tr>
<th></th>
<th>Before Growth</th>
<th>After Growth</th>
<th>% Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production of A</td>
<td>800</td>
<td>1040</td>
<td>30</td>
</tr>
<tr>
<td>Consumption of A</td>
<td>500</td>
<td>650</td>
<td>30</td>
</tr>
<tr>
<td>Exports of A</td>
<td>300</td>
<td>390</td>
<td>30</td>
</tr>
<tr>
<td>Production of B</td>
<td>700</td>
<td>910</td>
<td>30</td>
</tr>
<tr>
<td>Consumption of B</td>
<td>1300</td>
<td>1690</td>
<td>30</td>
</tr>
<tr>
<td>Imports of B</td>
<td>600</td>
<td>780</td>
<td>30</td>
</tr>
<tr>
<td>Slope of production ray</td>
<td>800/700</td>
<td>800/700</td>
<td>0</td>
</tr>
<tr>
<td>Slope of consumption ray</td>
<td>500/1300</td>
<td>500/1300</td>
<td>0</td>
</tr>
<tr>
<td>Terms of trade (price of A in terms of B)</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>GDP in terms of B</td>
<td>2300</td>
<td>2990</td>
<td>30</td>
</tr>
</tbody>
</table>

$A = (800/700)B$

$A = (500/1300)B$

$A = (1040 + 910 \times 0.5) - 0.5B$

$A = (800 + 700 \times 0.5) - 0.5B$
**Protrade Economic Growth**

<table>
<thead>
<tr>
<th></th>
<th>Before Growth</th>
<th>After Growth</th>
<th>% Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production of A</td>
<td>800</td>
<td>1120</td>
<td>40</td>
</tr>
<tr>
<td>Consumption of A</td>
<td>500</td>
<td>593.48</td>
<td>18.7</td>
</tr>
<tr>
<td>Exports of A</td>
<td>300</td>
<td>526.51</td>
<td>75.51</td>
</tr>
<tr>
<td>Production of B</td>
<td>700</td>
<td>490</td>
<td>-30</td>
</tr>
<tr>
<td>Consumption of B</td>
<td>1300</td>
<td>1543.04</td>
<td>18.7</td>
</tr>
<tr>
<td>Imports of B</td>
<td>600</td>
<td>1053.04</td>
<td>75.51</td>
</tr>
<tr>
<td>Slope of production ray</td>
<td>800/700</td>
<td>1120/490</td>
<td>100</td>
</tr>
<tr>
<td>Slope of consumption ray</td>
<td>500/1300</td>
<td>500/1300</td>
<td>0</td>
</tr>
<tr>
<td>Terms of trade (price of A in terms of B)</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>GDP in terms of B</td>
<td>2300</td>
<td>2730</td>
<td>18.7</td>
</tr>
</tbody>
</table>

\[
A = \frac{1120}{490}B
\]

\[
A = \frac{800}{700}B
\]

\[
A = \frac{500}{1300}B
\]

\[
A = (1120 + 490 \times 0.5) - 0.5B
\]

\[
A = (800 + 700 \times 0.5) - 0.5B
\]
Protrade Economic Growth

When the supply of the factor used intensively in the production of the exported good increases relatively more than the other factor,

then the output of the exported good grows relatively more, than the output of the imported good,

and international trade rises relatively more than GDP.

in other words, if factors supplies growth skewed towards the abundant factor, then the growth is protrade.
Antitrade Economic Growth

Before Growth
Production of A: 800
Consumption of A: 500
Exports of A: 300
Production of B: 700
Consumption of B: 850
Imports of B: 150
Slope of production ray: 800/700
Slope of consumption ray: 500/850
Terms of trade: 0.5
GDP in terms of B: 1100

After Growth
Production of A: 880
Consumption of A: 645.45
Exports of A: 234.54
Production of B: 980
Consumption of B: 1097.27
Imports of B: 117.27
Slope of production ray: 880/980
Slope of consumption ray: 500/850
Terms of trade: 0.5
GDP in terms of B: 1420

% Growth
Production of A: 10
Consumption of A: 29.1
Exports of A: -21.8
Production of B: 40
Consumption of B: 29.1
Imports of B: -21.8
Slope of production ray: -21.43
Slope of consumption ray: 0
Terms of trade: 0
GDP in terms of B: 29.1
Antitrade Economic Growth

When the supply of the factor used intensively in the production of the imported good increases relatively more than the other factor,

then the output of the imported good grows relatively more, than the output of the exported good,

and international trade rises relatively less than GDP.

in other words, if factors supplies growth skewed towards the scarce factor, then the growth is antitrade.
International Labor Mobility

VMP_LA:
\[ w_A = 30 - 0.2L \]

VMP_LB:
\[ w_B = 37 - 0.5L \]

Total labor: \( L = L_A + L_B = 70 \)
- before move: \( L_A = 12; \ L_B = 58; \)
- after move: \( L_A = 40; \ L_B = 30; \)

Wage
- before: \( w_A = 27.6; \ w_B = 8 \)
- after: \( w_A = w_B = 22 \)

In A
- native labor loses: \( a = 67.2 \)
- capital gains: \( a + b = 145.6 \)

In B
- remaining labor gains: \( e + f = 420 \)
- capital loses: \( d + e + f = 616 \)

- Moving labor wage increases: \( c + d = 392 \)
- World output increases: \( b + c = 274.4 \)
Thank you and take care,

but remember

Children must be taught how to think, not what to think.

Margaret Meads