Problem 1

Illustrate how a change in taste can reverse the pattern of trade for a small country (its export good becomes its import good).

a. The initial conditions are represented by the graph below. First answer the following question:
   i. Which line corresponds to the autarky relative price? A
   ii. Which line corresponds to the world relative price \((P_C/P_B)^w\)? B
   iii. Which good is exported? books

[Graph of international trade with labeled axes and curves]
b. Now assume that a change in taste occurs such that *the export good becomes the import good and vice versa*. The world price stays the same.

i. Draw on the graph above the corresponding new indifference map (draw the 2 new indifference curves where consumption in autarky and consumption with trade take place).

ii. Draw the corresponding new autarky price line $C$.

iii. Show the corresponding point where production/consumption take place in autarky (name this point $Q^A$).

iv. Show the corresponding point where production takes place with trade (name this point $Q^T$).

v. Show the corresponding point where consumption takes place with trade (name this point $C^T$).

c. You could interpret the completed graph as a situation where 2 separate countries have the same PPF and a different indifference map. In this case, what determine whether beneficial trade could take place?

Supply and demand conditions demand conditions only supply conditions only

Relate your answer to the models of chapters 2, 3 and 4

*They are all supply side model only while this is a demand side only model*
Problem 2

Two countries of similar sizes, Sutra (a relatively labor abundant country) and Densky produce both batik cloth and steel\(^1\) under increasing cost conditions. Sutra suddenly loses a large number of workers as a result of a natural disaster, a tsunami triggered by a nearby underwater earthquake.

a. Show on Sutra’s production possibility frontier the impact of this reduction in its labor force.

![Production Possibility Frontier](image)

b. Show the impact on Sutra’s terms of trade using the RS/RD graph. Report Sutra’s terms of trade (specifying the 2 goods) on the y-axis and the corresponding relative quantities on the x-axis.

![Terms of Trade Graph](image)

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\(^1\) You might guess accurately that steel is the relatively capital intensive good.
c. What happens to Sutra’s terms of trade?

improve, deteriorate, stay the same, unknown

d. What is the effect on Sutra’s welfare? (Sutra is not Prebish)

increases, decreases, stays the same, unknown

e. What is the resulting effect on Densky’s terms of trade?

improve, deteriorate, stay the same, unknown

f. What is the resulting effect on Densky’s welfare?

increases, decreases, stays the same, unknown

Problem 3

Assume a transfer of income (Y) equal to €5,000,000 from Germany (donor country) to Poland. Germany and Poland consume only 2 tradable goods, beer and fish. Germany has a comparative advantage in fish and Poland in beer. Germany’s marginal propensity to spend on beer is .4 while it is .6 in Poland.

a. Fill the table below indicating the resulting changes in income ΔY, consumption of beer ΔC_B, and consumption of fish ΔC_F for the two countries (include the signs).

<table>
<thead>
<tr>
<th></th>
<th>ΔY</th>
<th>ΔC_B</th>
<th>ΔC_F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>-5,00</td>
<td>-2,000</td>
<td>-3,000</td>
</tr>
<tr>
<td>Poland</td>
<td>+5,000</td>
<td>+3,000</td>
<td>+2,000</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>+1,000</td>
<td>-1,000</td>
</tr>
</tbody>
</table>

What happens to Poland’s terms of trade.

improve, deteriorate, no effect, unknown
b. Use the world RD-RS curves to illustrate your findings above. Name all axes and curves.

![RD-RS Curve Diagram]

P_B/P_F

RS
RD'
RD

Beer/Fish

c. Now assume that both Germany and Poland also consume a third good, berries, too perishable to trade. The marginal propensity to spend on each of the 3 goods consumed is the same in the 2 countries: .5 for beer, .4 for fish, and .1 for berries. Show below what happens to the Polish terms of trade when Germany transfers €1,000,000 of income to Poland.

improve deteriorate no effect unknown

Explain how you reached these conclusions.

In Poland, the demand for berries increases attracting resources from the export industry so Q_B drops.

d. What would have happened to the German terms of trade if Germany and Poland were only consuming beer and fish (but no berry, the non-tradable) and had exactly the same marginal propensity to spend on these two goods (e.g. .6 on beer and .4 on fish).

improve deteriorate no effect unknown

e. So what determined your answer in Part c.

The existence of non-tradables.