

International Economics

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Problem Set 1

Exercise 1: Comparative advantage

Consider two isolated islands, Palawan and Mindanao. Both of them have a stock of fruits - bananas and coconuts. The quantity of bananas on both islands is the same, but the quantity of coconuts is twice as big on Palawan than on Mindanao. In addition we know that Mindanao has three times more of bananas than of coconuts.

- Will there be any difference in relative (autarky) prices between the two islands? Explain.
- What kind of trade flows can you expect between the islands?
- Draw a line of relative prices and show the prices change in relative prices for both islands after trade. Explain.
- Represent graphically gains from trade for Palawan. (triangle of exchange)

Exercise 2: Ricardian model of trade (I)

Take two economies in autarky, Denmark and Netherlands, endowed with 400 and 500 hours of work, respectively. Both countries produce two types of goods, cheese and bread:

Output per hour	Denmark	Netherlands
Cheese	4	2
Bread	0.5	1

- Which country has absolute advantage in the production of cheese? Which in bread?
- What is relative price of cheese in Denmark, the Netherlands?
- Which country has comparative advantage in cheese? Which in bread? Explain.
- What are the upper and the lower bound of the free trade price? Do countries specialize partially or completely?
- Draw the PPF of Denmark. What is its slope? Idem for Netherlands. Draw PPF of this two-country world.

Exercise 3: Ricardian model of trade (II)

Take two other closed economies, Brazil and the United States. Both countries produce two types of goods, Wheat and Cloth, with following output per worker and good:

Country	Wheat	Cloth	Labor Endowment
United States	2	8	100
Brazil	1	2	120

- Identify which country has the absolute advantage in the production of either good.
- What is the opportunity cost of wheat in the US and in Brazil?
- What is the opportunity cost of cloth in both countries?
- Who has the comparative advantage in which good?
- What are the limits of the post-trade relative price of wheat?
- Suppose the actual post-trade relative price of wheat to clothing is 3. Draw the pre- and post-trade PPF and TPF. Who gains from trade?

Exercise 4: Revealed Comparative Advantage

Consider the intra-EU trade in the HS category 840734 (Engines; reciprocating piston engines, of a kind used for the propulsion of vehicles of chapter 87, of a cylinder capacity exceeding 1000cc), reported in the table below.

Compute the revealed comparative advantage of 3 countries of your choice.

Exporter	HS840734 (\$ mn)	Total (\$ mn)
AUT	1389.8	120886
BEL	11.4	320070
BGR	1.1	22868
CZE	84.2	166444
DEU	2439.0	874504
DNK	1.8	62247
ESP	235.8	216527
EST	0.05	10928
FIN	0.80	44376
FRA	1491.0	331049
GBR	790.1	222918
GRC	0.07	19815
HRV	0.04	12013
HUN	3551.0	95890
IRL	0.11	82447
ITA	257.5	304896
LTU	5.3	18893
LVA	0.09	10627
NLD	22.2	395941
POL	78.7	205161
PRT	2.4	53349
ROU	10.9	60267
SVK	249.4	76958
SVN	2.3	28676
SWE	316.2	95772
EU	10941	3853522

Table 1: Intra EU Trade in HS category 840734 in the year 2018

Exercise 5: General questions

- a. Many countries in sub-Saharan Africa have very low labor productivities in many sectors, for example in manufacturing and agriculture. They often despair of even trying to attempt to build their industries unless it is done in an autarkic context, behind protectionist walls because they do not believe they can compete with more productive industries abroad. Discuss this issue in the context of the Ricardian model of comparative advantage.
- b. In 1975, wage levels in South Korea were roughly 5% of those in the United States. It is obvious that if the United States had allowed Korean goods to be freely imported into the United States at that time, this would have caused devastation to the standard of living in the United States, because no producer in this country could possibly compete with such low wages. Discuss this assertion in the context of the Ricardian model of comparative advantage.