

EC 380 Problem Set 01

Instructions: Answers must be submitted online through the designated Canvas assignment in a **PDF file**. Any other file type is not allowed. This Problem Set is due on **January 15 at 01:59pm**. Please write as legible and clearly as possible. You will not be given full credit if your answers cannot be easily understood.

Questions

1. Answer the following short questions:

(a) [5 points] How is the Trade to GDP ratio measured?

$$\frac{\text{IMPORTS} + \text{EXPORTS}}{\text{GDP}}$$

(b) [10 points] Have trade frictions **increased or decreased** over time? How has this **increase/decrease** impacted trade flows?

DECREASED

SOME ARGUMENT THAT MENTIONS LOWER COSTS ENABLE MORE TRADE

(c) [5 points] One possible explanation for increased trade is given by the Krugman model, which says **Demand for variety of goods motivates trade**. How does wanting different type of goods motivate international trade? ¹.

DEMAND FOR VARIETY CAN INCREASE DEMAND FOR FOREIGN GOODS, WHICH ARE DIFFERENT

¹We will not be covering this model in depth, but you should arrive at a logical answer given the model's main result

2. Suppose we are considering a **Ricardian Model** setting, where countries have not yet opened up to trade. Two goods are produced exclusively by domestic labor supplies, Rubber Ducks and Bath Bombs. Home and foreign produce both goods as in the table below. The two countries have a labor pool $\bar{L} = 30$ each, which means there is no difference in their labor endowments.

	Rubber Ducks	Bath Bombs
Home	20	18
Foreign	14	8

Consider the autarky scenario where neither country exchange goods. Complete the following questions to obtain the two countries consumption and production equilibria.

- (a) [4 points] Which country has **comparative advantage in producing Bath Bombs**?

$$OC_{BB}^H = \frac{MPL_{RD}^H}{MPL_{BB}^H} = \frac{20}{18} = \frac{10}{9} = 1.11$$

$$OC_{BB}^F = \frac{MPL_{RD}^F}{MPL_{BB}^F} = \frac{14}{8} = \frac{7}{4} = 1.75$$

$$1.11 < 1.75$$

HOME HAS THE COMP. ADV.

- (b) [4 points] What is the **price of Rubber Ducks** in each country?

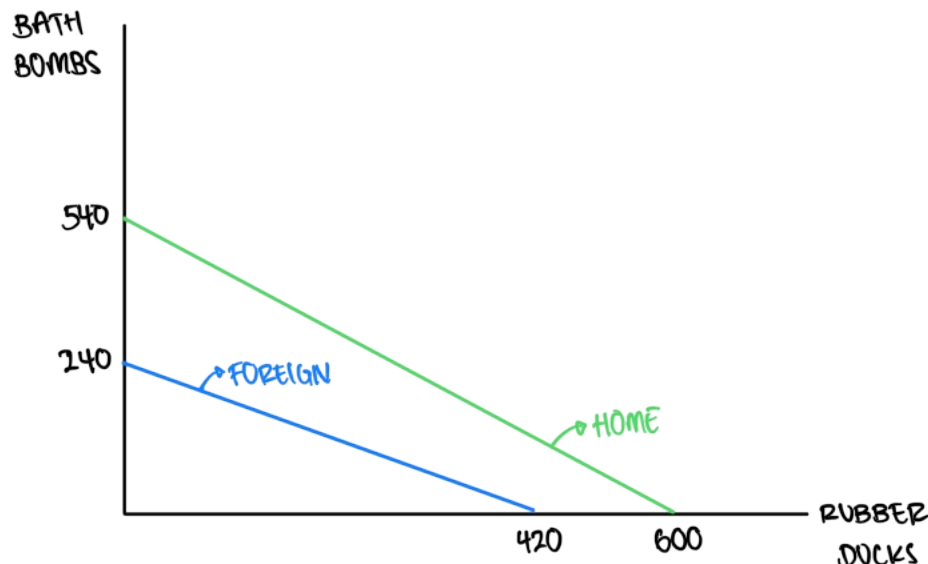
PRICE = OPPORTUNITY COST

HOME	FOREIGN
$OC_{RD}^H = \frac{18}{20} = \frac{9}{10} = 0.9$	$OC_{RD}^F = \frac{8}{14} = \frac{4}{7} = 0.57$

- (c) [4 points] What are the **maximum quantities of each good** that Home and Foreign can produce? (Fill in the table)

	Rubber Ducks	Bath Bombs
Home	600	540
Foreign	420	240

- (d) [8 points] Sketch the PPFs for **both countries** in a single graph. Be sure to correctly label the graph for full credit.



- (e) [2 points] What should be the **World Price of Rubber Ducks**?

WORLD PRICE IS SOMEWHERE BETWEEN COUNTRY PRICES

$$P_{RD}^F = \frac{4}{7} < P_{RD}^W < \frac{9}{10} = P_{RD}^H$$

- (f) [8 points] Suppose Home prefers to consume **5 Rubber Ducks** for every **2 Bath Bombs**. Calculate the consumption bundle of Home.

$$BB = 540 - \frac{9}{10} RD \quad \& \quad BB = \frac{2}{5} RD$$

$$\frac{2}{5} RD = 540 - \frac{9}{10} RD$$

$$\left(\frac{2}{5} + \frac{9}{10}\right) RD = 540$$

$$\frac{13}{10} RD = 540$$

$$RD = \frac{540}{\frac{13}{10}} = 415.38$$

$$BB = \frac{2}{5} RD$$

$$BB = \frac{2}{5} (415.38)$$

$$BB = 166.15$$