

Lecture 1

Comparative Advantage

Basic Concepts: Single Country Model

α_W is amount of labour needed to produce 1 litre wine

α_C is amount of labour needed to produce 1 kg cheese

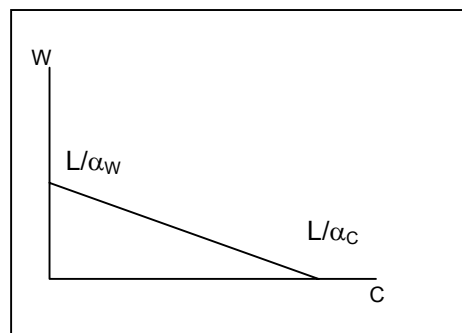
$1/\alpha_W$ is labour productivity in wine $1/\alpha_C$ is labour productivity in cheese

To get 1 kg more cheese, it is necessary to give up α_C/α_W wine: **this is the opportunity cost of cheese in terms of wine**

To get 1 litre more wine, it is necessary to give up α_W/α_C cheese: **this is the opportunity cost of wine in terms of cheese**

There is a fixed amount of labour L; so production must satisfy:

$$\alpha_W Q_W + \alpha_C Q_C \leq L$$



So slope of production-possibility curve is α_C/α_W : **the opportunity cost of cheese in terms of wine**

Prices

P_W and P_C are prices of wine and cheese, respectively

P_C/P_W is the **relative price** of cheese: to get 1 kg of cheese, you have to pay (P_C/P_W) litres of wine

P_C/α_C is the wage of a cheese worker; P_W/α_W is the wage of a wine worker;

If $P_C/\alpha_C > P_W/\alpha_W$ all will work in cheese: no wine produced; If $P_W/\alpha_W > P_C/\alpha_C$ all will work in wine: no cheese produced

In equilibrium: $P_C/\alpha_C = P_W/\alpha_W$ or $P_C/P_W = \alpha_C/\alpha_W$

Relative price (of cheese) = opportunity cost (of cheese)

Two-Country Model

α_W is amount of labour needed to produce 1 litre wine at Home (H)

α^*_W is amount of labour needed to produce 1 litre wine in Foreign (F)

α_C is amount of labour needed to produce 1 kg cheese in H

α^*_C is amount of labour needed to produce 1 kg cheese in F

$1/\alpha_W$ is labour productivity in wine $1/\alpha_C$ is labour productivity in cheese in H

$1/\alpha^*_W$ is labour productivity in wine $1/\alpha^*_C$ is labour productivity in cheese in F

If $1/\alpha_W > 1/\alpha^*_W$ (equivalently, $\alpha_W < \alpha^*_W$): H has an **absolute advantage** in wine over F

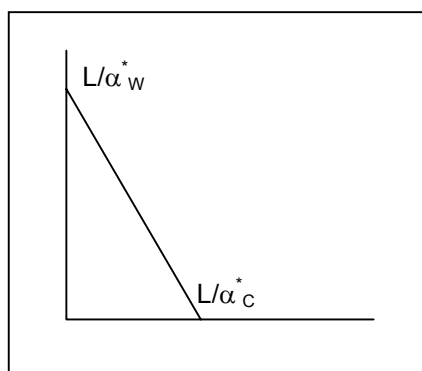
If $1/\alpha_C > 1/\alpha^*_C$ (equivalently, $\alpha_C < \alpha^*_C$): H has an **absolute advantage** in cheese over F

If $\frac{\alpha_C}{\alpha^*_C} < \frac{\alpha_W}{\alpha^*_W}$ then **relative productivity** in F is higher in wine than in cheese or

equivalently, **relative productivity** in H is higher in cheese than in wine

H has a **comparative advantage** in cheese and F has a **comparative advantage** in wine

A country may have **absolute advantage** in both commodities but it can only have **comparative advantage** in one commodity



Before trade the relative prices in the two countries are: $\frac{\alpha_C}{\alpha_W}$ and $\frac{\alpha^*_C}{\alpha^*_W}$

They are determined entirely by domestic labour requirements (domestic productivity)

After trade there is a common relative price: $\frac{\hat{P}_C}{\hat{P}_W}$

Gains From Trade

GfT arise essentially because trade gives a country **an additional source of supply**. H can either produce wine or it can use some of its cheese (exports) to buy wine from F (imports).

If it uses 1 man-hour to produce wine it gets $1/\alpha_W$ litres of wine. Alternatively, it could use 1 man-hour to produce $1/\alpha_C$ kg of cheese and use this cheese to

buy $\frac{1}{\alpha_C} \frac{\hat{P}_C}{\hat{P}_W}$ litres of wine from F. If $\frac{1}{\alpha_C} \frac{\hat{P}_C}{\hat{P}_W} > \frac{1}{\alpha_W}$ or $\frac{\hat{P}_C}{\hat{P}_W} > \frac{\alpha_C}{\alpha_W}$, the second

course is more attractive. So $\frac{\alpha_W}{\alpha_C} \frac{\hat{P}_C}{\hat{P}_W}$ **is the percentage gains from trade**.

Key Concepts:

David Ricardo: Ricardian Model of Comparative Advantage

Unit labour requirement

Labour productivity

Absolute advantage

Comparative advantage

Specialisation

Gains from Trade