

Opportunity Cost and Comparative Advantage

Tara Shankar Shaw

IIT Bombay, Mumbai

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- ▶ **Firms** Firm is an organisation that combines various factors of production to produce goods and services.
- ▶ **Firms** directs the resources to achieve stated goal of the enterprise
 - ▶ Direct the effort of others
 - ▶ Purchase Inputs
 - ▶ Making Decision
- ▶ Role of Exchange
- ▶ Scarcity of resources
- ▶ Exercise of Choices
- ▶ Specialization and Mutual Exchange of Goods and Services

Exchange and Trade

- ▶ Trade is beneficial between individuals.
- ▶ Trade is beneficial even between countries that have large disparity between resource and income.
- ▶ This can be achieved by individual or international specialization
- ▶ Barack Obama: Feb 23 2012
"It provides tax break for moving jobs ad profits overseas and hits companies that choose to stay in America with one of the highest tax rate in the World..."
- ▶ Patrick Buchanan: Feb 14 1996
"American rose growers are the casualties of free trade policies that my friend-excuse me Senator Dole-has supported again and again"

Opportunity Cost

- ▶ To produce rose for the winter market in US the economy has to use Green houses that consumes resources like energy, capital etc. which could be used to produce other good like computer
- ▶ **Opportunity Cost**
“Value of the next best alternative that is forgone for making a choice”
- ▶ What is the reason for Opportunity Cost?

limited resources

Example

- ▶ In US given the amount of resource, it can be used to produce 10mn Kg of roses or 100,000 computers.
- ▶ In Colombia the same amount of resources used to produce 10mn Kg of roses can produce computers.
less computer as opportunity cost of roses in colombia is less
- ▶ What is the opportunity cost of producing 10mn kg of roses in USA and Colombia? in us value of 100000 comouters
- ▶ Question: Which country should produce roses from the used of World resource? Why? .
- ▶ Efficiency .

Comparative Advantage

- ▶ **Comparative Advantage** “A country/individual had CA in producing a good or service in terms of other goods or services in which it has lowest OC.
- ▶ **Important:** *Trade/Exchange between country/individual can benefit both countries/individual if each country/individual exports/exchanges the good in which it has CA.*
- ▶ Questions
 - ▶ How CA or lowest OC is determined?
 - ▶ What are the determinant of CA?
 - ▶ Is there any gain from trade/exchange?
 - ▶ If country/individual exchanges goods or services what are the terms of trade?

Comparative Advantage-1

- ▶ CA in a production/specialization for a country/individual is determined by the efficiency of the use of its factor of production/s that is determined by its technology
- ▶ Consider the following Example:
 - ▶ There are two countries “home” and “foreign”
 - ▶ One factor of production, say labor L , that is limited in supply
 - ▶ Both country can use labor to produce either or both of the
- ▶ Technology in each country is determined by labor productivity of producing each good in each country.
- ▶ Let
 - ▶ 1 unit of labor/labor-hour can produce 1lb of Cheese
 - ▶ 1 unit of labor/labor-hour can produce 2Gallon of wine

Productivity

- ▶ Let a_{LC} : Number of labor/labor hour required to produce one unit of cheese in the home economy
- ▶ Let a_{LW} : Number of labor/labor hour required to produce one unit of cheese in the home economy
- ▶ Let Q_C : Total production of Cheese in home
- ▶ Let Q_W : Total production of Wine in home
- ▶ Total labor used in the production of Cheese in Home economy is $.q_C \cdot a_{LC} \dots$
- ▶ Total labor used in the production of Wine in Home economy is $\dots \dots \dots$ Text
- ▶ Total labor used in the production in the home economy. $\dots \dots \dots$ Text

Production Possibility Function(PPF)

- ▶ Production possibility frontier: It is the maximum amount of goods or services that an economy can produce given the amount of resource.
- ▶ Draw the PPF; Interpret the slope of the PPF.
- ▶ Opportunity Cost of Good Cheese: Is the amount of W that has to be given up to produce 1 unit of Wine and *vice-versa*
 - ▶ a_{LW} unit of labor can produce — 1 gallon of Wine
 - ▶ 1 unit of labor can produce — $\frac{1}{a_{LW}}$ gallon of Wine
 - ▶ a_{LC} unit of labor can produce — $\frac{a_{LC}}{a_{LW}}$ gallon of Cheese
- ▶ Thus, the OC of producing 1 unit of Cheese is $\frac{a_{LC}}{a_{LW}}$ Wine.
- ▶ The OC of producing 1 unit of Wine is

- ▶ The OC of 1 unit of Cheese is $\frac{a_{LC}}{a_{LW}}$ is Wine.
- ▶ **What is the Intuition:**.....
- ▶ The foreign economy
 - ▶ Let a_{LC}^f : Productivity of labor in the production of cheese in the foreign economy
 - ▶ Let a_{LW}^f : Productivity of labor in the production of Wine in the foreign economy
 - ▶ Let Q_C^f : Total production of Cheese in foreign
 - ▶ Let Q_W^f : Total production of Wine in foreign

Home Economy CA

- ▶ The OC of the producing cheese in the foreign country in terms of the Wine is $--- \frac{a_{LC}^f}{a_{LW}^f}$
- ▶ Suppose

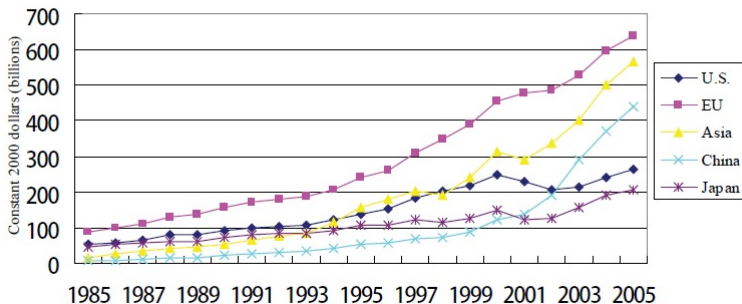
$$\frac{a_{LC}}{a_{LW}} < \frac{a_{LC}^f}{a_{LW}^f}$$
$$OC_C < OC_C^f$$

- ▶ **Home country has CA** in the production of cheese and it should **specialize** only in the production of cheese.
- ▶ **Intuition:** *The amount of labor (scarce resource) that is required to produce cheese relative to wine is less in home compared to the foreign country*

- ▶ In which commodity the foreign country have CA?
- ▶ **Absolute Advantage (AA)**
 - ▶ *If a/an country/individual can produce a unit of good with less labor(or the scarce resource) than another country/individual then we say that the country/individual has absolute advantage in the production of good and service*
 - ▶ Suppose $a_{LC} < a_{LC}^f$; Home economy has AA in the production of cheese
 - ▶ Also, $a_{LW} < a_{LW}^f$; Home economy has AA in the production of Wine
 - ▶ Does it implies that the home country has **CA** in the production of Cheese and Wine.
no as the ratio of a_{LC}/a_{LW} can be less than a_{LC}^f/a_{LW}^f

Is CA Static for a Country

Figure 1 Export volume of advanced-technology manufactures, by region/country, 1985–2005



Conclusion

- ▶ Individual/Country produces goods and specializes in the production of that good in which it has CA.
- ▶ CA is determined by the technology in production of the good and services which determines the productivity of the factors of production
- ▶ A country/individual has CA in the production of good in which it uses the factor or production more efficiently than the other good.
- ▶ **CA of India between 1995 – 2005**
 - ▶ Textile
 - ▶ Natural and Cultured Pearl
 - ▶ Footwears and Handgears
 - ▶ Raw hides and skin
 - ▶ Vegetable products

Problem-1

Suppose home country can produce textile and computer with a given amount of labor. The productivity of labor in the production of textile is 20 man-hour and the productivity of labor in the production of computer is 10 man hour. The foreign country can also produce textile and computer with the given amount of labor. The productivity of labor in the foreign country in the production of textile is 40 man-hour and the productivity of labor in the production of computer is 20 man hour.

- ▶ Do any country have CA in the production of Textile.

Suppose there is a technological innovation and the productivity of laborers in the production of computers increased. A computer can be produced in 5 man-hour.

- ▶ Does the technological advancement made the home country competitive in the production of computer.