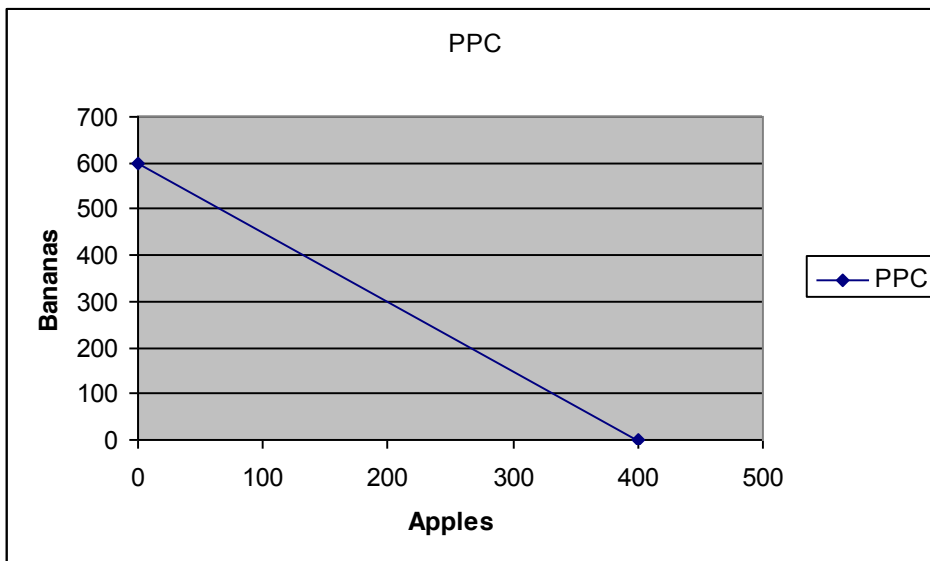




Sample: Economics of Enterprise - Trade Economics

Answer all 10 questions in one file. Each question is worth 10 marks. Keep your answer concise. Use figures to illustrate your point wherever possible. Show all your work and graphs.

1. Home Country has 1,200 units of labour available. It can produce two goods: apples and bananas. The unit labour requirement in apple production is 3, while in banana production it is 2.
 - a. Graph Home Country's production possibility curve (PPC). Show all the steps involved in deriving this PPC.



To build this graph we made such steps: the maximum amount of apples to be produced is $1200/3 = 400$ apples, so one of the PPC points is (400;0); the maximum amount of bananas to be produced is $1200/2 = 600$ bananas, so the second of the PPC points is (0;600). In this case the PPC curve is presented by line, so 2 points are enough to build the PPC.

- b. What is the opportunity cost of apples in terms of bananas?

Answer:

The opportunity cost of apples in terms of bananas is $3/2 = 1.5$ bananas

- c. In the absence of trade, what would the price of apples in terms of bananas be?

Why?

Answer:

The opportunity cost of apples in terms of bananas in the absence of trade will be the same: $3/2 = 1.5$ bananas, because this opportunity cost is determined by the amount of labor used, so even there is a barter, apples will be more labour-consuming product than bananas.



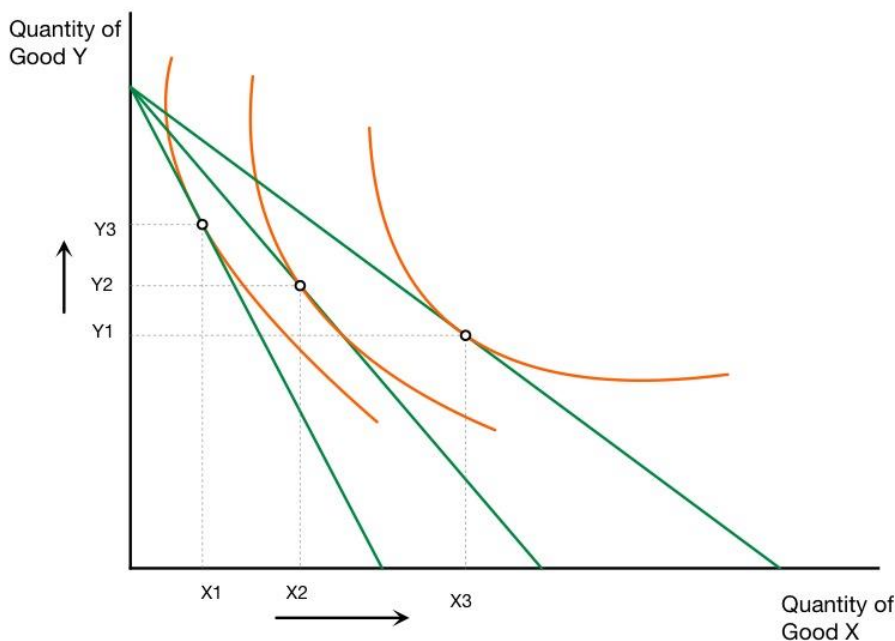
2. Since the case for gains from trade for a country is strong, why do governments continue to attempt to reduce trade with tariffs, quotas, and the like?

Answer:

Although the case for gains from trade for a country is strong, most of the governments try to protect their producers and markets by providing subsidies, or implementing barriers (tariffs, quotas). This is known as protectionism which allows supporting the national producer against the influence of big international companies-competitors, who sell its products more effectively with the lower prices worldwide. When producers receive subsidies from their government, they can afford selling their goods at a lower price than those goods can be sold on the market. By implementing tariffs and import quotas on foreign products, governments try to make those products more expensive for domestic consumers. This is made to encourage domestic consumers to continue buying domestically produced goods, which will continue to be less expensive, but in reality they may be more expensive to produce than a similarly made imported product. Protectionism can be considered either positive or negative phenomenon. On the one hand, it helps to protect the national production and national interests from the external influence of the transnational corporations from the more developed countries. On the other hand, it makes national companies less competitive in comparison with the transnational corporations and creates the barriers to the free trade and prohibits the consumers of the country to buy imported products with better quality and lower prices.

3. Suppose that, from an initial consumer equilibrium position, the price of good X falls while the price of good Y remains the same. Using indifference curve analysis, explain how and why the consumer's relative consumption of the two goods will change.

Answer:



After the price of good X falls while the price of good Y remains the same the consumer's relative consumption of the two goods will change. Now the consumer will have possibility to buy more of good X, because its price decreased, that's why his budget constraint will be moved to the right as you can see from the graph. The consumer equilibrium position will also move from



point (X1; Y1) to point (X2; Y2) or even (X3; Y3), so as we can see the consumer now can afford the higher indifference curve as before with the same budget. That's why we can say, that consumer improves its equilibrium position and improves its consumption, because it is possible for him to reach the higher indifference curve than before, increasing the consumption of good X and with the same budget and consumption of good Y.

4. Suppose Singapore is endowed with 100 units of labour. With 1 unit of labour, it can produce either 1 computer or 10 cameras. The world relative price of computers in terms of cameras is 12.

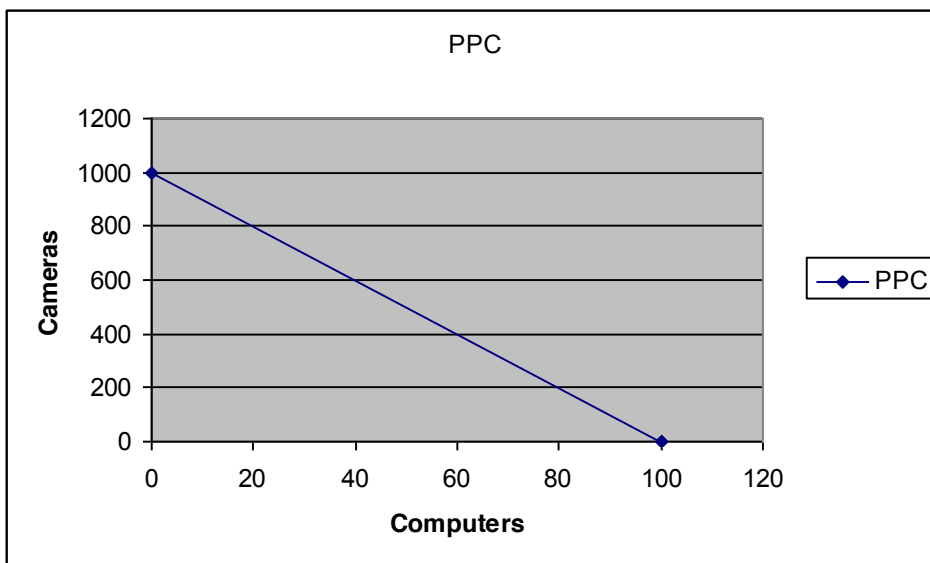
a. Determine Singapore's comparative advantage.

Answer:

The Singapore's opportunity cost of 1 computer in terms of cameras is 10 cameras and world opportunity cost of 1 computer in terms of cameras is 12 cameras. So, Singapore has comparative advantage in producing computers, because it has lower opportunity cost of producing computers in terms of cameras, that's why it will produce only computers and import cameras under free trade.

b. Draw the production-possibility curve indicating the point at which Singapore will choose to produce under free trade.

Answer:



(0 cameras; 100 computers) is the point at which Singapore will choose to produce under free trade, because it has comparative advantage in producing computers.

c. Show the combinations of computers and cameras for consumption under free trade. Hint: Show the amount of exports and imports.

Answer:

As we don't know the real consumption of cameras and computers in Singapore, we suppose that the population needs 50 computers and 500 cameras (see the PPC).



So, it will export 50 computers and will get $50 \times 12 = 600$ cameras in return. So, the import will be 600 cameras and 100 cameras will be Singapore's profit from the international trade.

5. What do you regard as the main weaknesses of the Ricardian/Classical model as an explanation of trade patterns? Why do you regard them as weaknesses?

Answer:

For a long period of time the Ricardian/Classical model was the most acceptable explanation of the international trade and its features. But Ricardo's theory was subjected to number of criticisms nowadays, as there are new theories and models that better explain the national trade.

The main weaknesses of Ricardian/Classical model are:

- *Restrictive Model* (is based on only 2 countries and only 2 commodities, but international trade is made among many countries with many commodities)
- *Labour Theory of Value* (value of goods is expressed in terms of labour units, but not in terms of money as in real world, that's why it has too many limitations)
- *Full employment* (the real world is far from full employment)
- *Ignore transport cost*
- *Demand is ignored* (the theory explains international trade in terms of supply and doesn't take demand into account)
- *Mobility of factor of production* (there are some difficulties in the mobility of labour and capital within particular country. At the same time their mobility between different nations was never totally absent)
- *No Free Trade* (it is unrealistic to assume to have no restriction, because the real world countries create a lot of tariff and non-tariff barriers on international trade)
- *Complete specialization* (complete specialization is unrealistic even in two countries and for two commodities model)
- *Static Theory* (does not consider the growth effect)
- *Not applicable to developing countries* (is not applicable to developing countries as these countries are far from full employment)

6. Suppose the free trade market price of a car is \$20,000. It contains \$10,000 worth of steel. The importing country imposes 25% tariff on car imports.

a. Calculate the effective rate of protection if there is no duty on steel imports.

Answer:

$ERP = (VA_t - VA_f) / VA_f = (VA_t / VA_f) - 1$, where ERP = Effective rate of protection, $VA_t = VA$ with tariff, $VA_f = VA$ with free trade.

$VA_f = \text{Selling price with free trade} - \text{Costs of intermediate goods with free trade} = \$20,000 - \$10,000 = \$10,000$

$VA_t = \text{Selling price with tariff} - \text{Costs of intermediate goods with tariff} = \$20,000 \times 1.25 - \$10,000 = \$15,000$

$ERP = (\$15,000 / \$10,000) - 1 = 0.5$, so ERP = 50%.

b. Calculate the effective rate of protection if the importing country imposes a 20% tariff on steel imports.



Answer:

$ERP = (VA_t - VA_f) / VA_f = (VA_t / VA_f) - 1$, where ERP = Effective rate of protection, $VA_t = VA$ with tariff, $VA_f = VA$ with free trade.

$VA_f = \text{Selling price with free trade} - \text{Costs of intermediate goods with free trade} = \$20,000 - \$10,000 = \$10,000$

$VA_t = \text{Selling price with tariff} - \text{Costs of intermediate goods with tariff} = \$20,000 * 1.25 - \$10,000 * 1.2 = \$13,000$

$ERP = (\$13,000 / \$10,000) - 1 = 0.3$, so ERP = 30%.

- c. Suppose it also takes \$4000 worth of copper (besides \$10,000 worth of steel) to produce a car. Calculate the effective rate of protection if there is no import tariff on the imports of either steel or copper.

Answer:

$ERP = (VA_t - VA_f) / VA_f = (VA_t / VA_f) - 1$, where ERP = Effective rate of protection, $VA_t = VA$ with tariff, $VA_f = VA$ with free trade.

$VA_f = \text{Selling price with free trade} - \text{Costs of intermediate goods with free trade} = \$20,000 - (\$10,000 + \$4,000) = \$6,000$

$VA_t = \text{Selling price with tariff} - \text{Costs of intermediate goods with tariff} = \$20,000 * 1.25 - (\$10,000 + \$4,000) = \$11,000$

$ERP = (\$11,000 / \$6,000) - 1 = 0.833$, so ERP = 83.3%.

- d. Suppose there is import duty of 20% and 15% on imports of steel and copper, respectively. Calculate the effective tariff rate.

Answer:

$ERP = (VA_t - VA_f) / VA_f = (VA_t / VA_f) - 1$, where ERP = Effective rate of protection, $VA_t = VA$ with tariff, $VA_f = VA$ with free trade.

$VA_f = \text{Selling price with free trade} - \text{Costs of intermediate goods with free trade} = \$20,000 - (\$10,000 + \$4,000) = \$6,000$

$VA_t = \text{Selling price with tariff} - \text{Costs of intermediate goods with tariff} = \$20,000 * 1.25 - (\$10,000 * 1.2 + \$4,000 * 1.15) = \$8,400$

$ERP = (\$8,400 / \$6,000) - 1 = 0.4$, so ERP = 40%.

7. Explain how the Krugman model of trade works. Explain the similarities and differences between the Krugman model and Heckscher-Ohlin model.

Answer:

Prior to Krugman's model, trade theory (in our case Heckscher–Ohlin model) characterized trade that is based on the comparative advantage of countries with different characteristics (such as a countries with a high agricultural compared to countries with a high industrial productivity, which are trading to each other with agricultural and industrial goods respectively). But in the 20th century, large share of trade occurred between similar countries, which is very difficult to be explained by comparative advantage. New model of trade between similar countries was proposed in 1979, and involves two key assumptions:

- 1) consumers prefer a diverse choice of brands,
- 2) production favors economies of scale.

Consumers' preference for diversity explains the existing of different versions of goods like cars of different brands - GMC and Ford. Due to the economies of scale, it is not profitable to spread the production of GMC all over the world, that's why it is concentrated in a few factories and in a few countries or maybe even one country. This is how the model explains that



each country may specialize in producing a few brands of any given type of product, instead of specializing in different types of products.

The economist also modeled a “preference for diversity” by assuming a constant elasticity of substitution utility function. Nowadays many models of international trade follow Krugman's one and incorporate such features as economies of scale in production and a preference for diversity in consumption.

Krugman's model also takes into account transportation costs, that are the key feature in producing the "home market effect" which states that, “ceteris paribus, the country with the larger demand for a particular good will produce a more than proportionate share of that good and be a net exporter of it at the point of equilibrium”.

So, trade remains beneficial in general, even between similar countries, because it permits firms to save their costs by creating production at a larger and more efficient scale, and because it also increases the range of brands available and increases the competition between firms that produce these brands.

So, the main differences between the Krugman model and Heckscher-Ohlin model are preference for diversity, economies of scale, taking into account transportation costs and the ability of analyzing similar countries. In other aspects these theories are similar.

8. Explain the difference between the price and the physical definitions of factor abundance. When could they give conflicting answers about which factor is the abundant factor?

Answer:

The physical definition of factor abundance is based on the relative physical amounts of the factors present in the particular country, or the difference in the capital to labor ratios. The country with the largest capital to labor ratio is the capital-abundant country. The price definition is based on relative prices of the factors rather than on measurements of their existence in the country. The relatively-abundant factor in the country A should be relatively cheaper if it is compared to the country B. So, according to this definition, if the ratio of the price of capital to the price of labor is lower in country A if it is compared to a country B, country A is the capital-abundant country.

These two definitions give the same result in the most of cases. But if there are some different tastes between these two countries, factor prices will reflect not only different supply conditions but also they will reflect different demand conditions. In this case the price definition and the physical definition could give conflicting answers about relative factor abundance. If consumers in a physically capital-abundant country have a strong preference for the capital-intensive product, this would increase the price of the capital-intensive good and also would increase the price of capital. That's why, ceteris paribus, w/r would fall and could become lower than in the second country. So, the physically capital-abundant country could become labour-abundant according to the price definition, and this is a condition when price and the physical definitions of factor abundance give conflicting answers about which factor is the abundant factor.

9. Illustrate how the Linder theory of trade works. Explain similarities and/or differences between the Linder model and Heckscher-Ohlin model.

Answer:

The Linder theory of trade states that the more similar the demand structures of countries

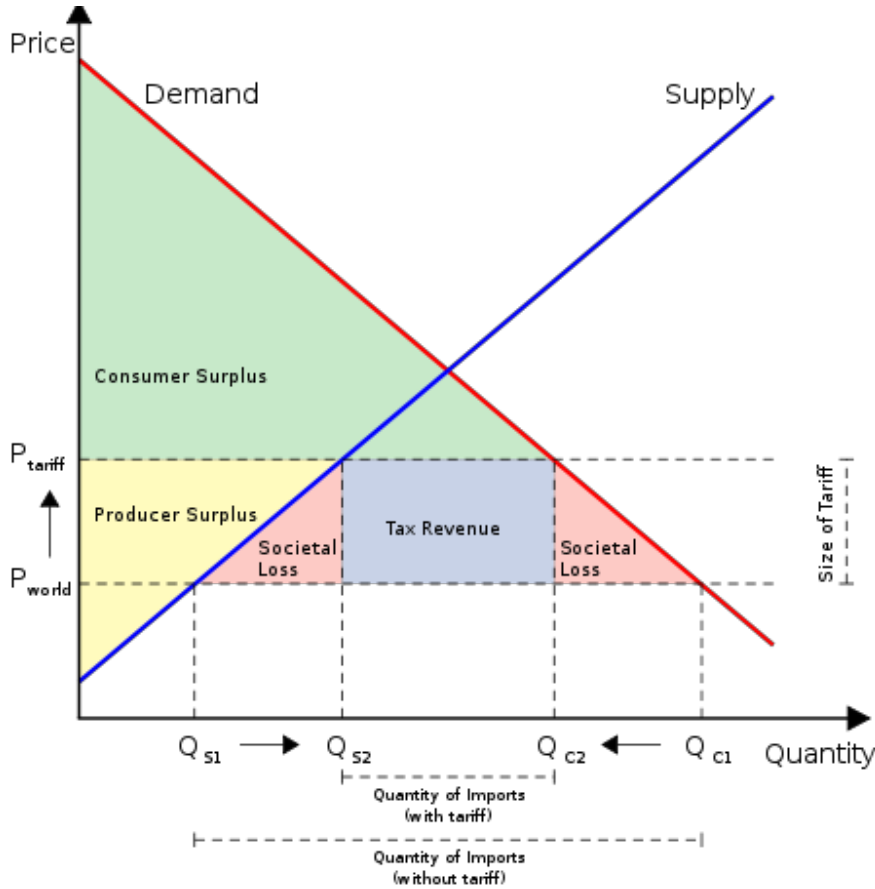


are, the more they will trade with each other. Further, international trade will still occur between two countries that have even identical preferences and factor endowments because of relying on specialization to create a comparative advantage in the production of differentiated goods between the these two countries.

The theory was proposed by Linder in 1961 as a possible resolution to the Leontief paradox (as Leontief discovered that the USA that is the most capital abundant nation at that time exported primarily labor-intensive goods), which questioned the empirical validity of the Heckscher-Ohlin theory, that determine patterns and features of international trade by the relative factor-endowments of different countries. Those with relatively high levels of capital in relation to labor would be expected to produce capital-intensive products while those with an abundance of labor relative to capital would be expected to produce labour-intensive products. Linder created an alternative theory of trade that was consistent with Leontief paradox and presented a demand based theory of trade in contrast to the usual supply based theories involving factor endowments (the main difference with Heckscher-Ohlin model). Linder said that countries with similar demands would develop similar industries. These countries would then trade with each other exporting and importing similar, but differentiated goods.

- Using a general equilibrium approach, point out the real income loss from a tariff to a country. What is the consumer welfare loss? Why might consumers prefer a production subsidy rather than a tariff?

Answer:





The graph above analyzes the effect of imposing the import tariff to a particular country. Before the imposing the tariff the price of the good in the world and particularly domestic market is P_{world} . The tariff also increases the previous domestic price to P_{tariff} . The higher price causes the increase in domestic production from Q_{S1} to Q_{S2} and also the decrease in domestic consumption from Q_{C1} to Q_{C2} .

This implies 3 main effects on welfare of the society. Consumers now are worse off because the consumer surplus decreases (green part). Producers now are better off because the producer surplus increases (yellow part). The government also has additional tax revenue (blue part). But the loss to consumers is greater than the gain got by producers and the government together. So, there is consumer welfare loss (two pink triangles). That's why the tariff implementation wouldn't be a net gain for society.

Consumers might prefer a production subsidy rather than a tariff, there is no consumer welfare loss in this case, but the government faces the costs of implementing this subsidy and welfare loss also occurs, though its mechanism is different.