

True/ False/ Uncertain: For each question, answer T/F/U and briefly explain the answer.

For 1-6, assume the market is competitive and has no externalities.

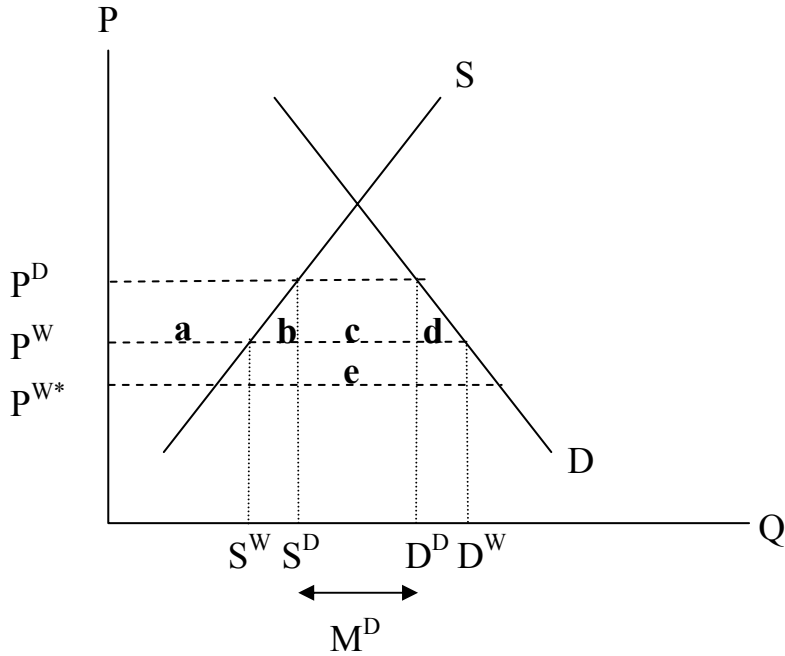


Figure 1. The effect of a tariff in a large importing country

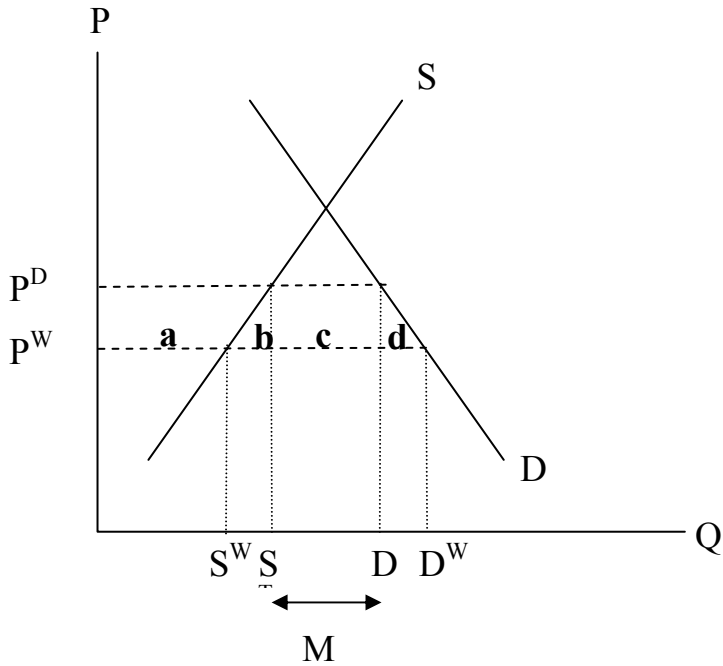


Figure 2. The effects of a tariff in a small importing country

1. If Home is a “large” country a domestic tariff on sugar raises the price of sugar at home and in the rest of the world.

False.

See figure 1. A domestic tariff on sugar raises the price of sugar at home and decreases the price of sugar in the rest of the world.

2. A quota on imports of mangos decreases the *quantity* of mangos produced at home, but could increase the *quality* of mangoes imported.

False. Recall that the effects of a quota look the same as the effects of tariff except instead of raising prices, you directly restrict quantities. So, for example, you can look at figure 2 or figure 1 and see that a quota on imports of mangos will increase the quantity of mangos produced at home. Because quotas act on quantities, rather than values, firms can increase product quality (price), and lower the impact of the barrier.

3. A quota on imports of cars increases consumption and production of cars at home.

False. A quota on imports of cars will decrease domestic consumption of cars and increase domestic production of cars.

4. A tariff always increases welfare in a large importing country.

False. See figure 1.

CS decreases by $(a+b+c+d)$

PS increases by a

Revenue gain = $c+e$

Deadweight loss = $b+d$

If $e > b+d$, then the tariff will increase welfare in a large importing country.

If $e < b+d$ then the tariff will decrease welfare in a large importing country.

You could also argue that if the exporter retaliates, the terms of trade gains will be lost.

5. A small country imports one million pounds of tomatoes and charges a 5% ad-valorem tariff on tomatoes imports. As a consequence world price of tomatoes will rise.

False. This is a small country and so cannot affect world prices.

6. For a large country, any national welfare gain from tariffs is associated with a world-wide welfare loss.

True. To see how this works, recognize that for the tariff to improve national welfare, it must lower import prices, improving the terms of trade. But, this comes at the expense of the exporter, who is made worse off. The terms of trade effects are therefore zero sum, but the dead weight losses added on top make this a net welfare loser worldwide.

7. If wine production generates positive externalities, a country may want to intervene in markets to increase production.

True. See lecture notes (the case of French farmers)

8. Tariffs are a more efficient way to increase production than subsidies because they do not require the government to write producers a check.

False. A subsidy is a more efficient way to increase production than a tariff because subsidies do not create consumption distortions. The country has to bear the burden of the tariff even without writing checks explicitly.

9. If capital moves freely internationally, national savings and investment rates should, in theory, be highly correlated.

False. If capital markets are closed, then national saving and investment are equal by definition. This means that any rise in savings will be exactly reflected in rising investment. However, with an open economy, capital will seek out the highest returns. Suppose savings rises. Without capital mobility this would tend to push down interest rates. With capital mobility, domestic savers will see a higher interest rate abroad than at home and capital will flow out. Thus, savings rises, but investment stays constant. This means that movements in national savings and investment are not correlated in theory, if capital markets are highly integrated.

As a final note, the data suggest a high degree of S,I correlation, suggesting that capital markets are pretty closed.

10. The cost of capital explanation for international capital flows implies that capital should simultaneously flow into and out of a country.

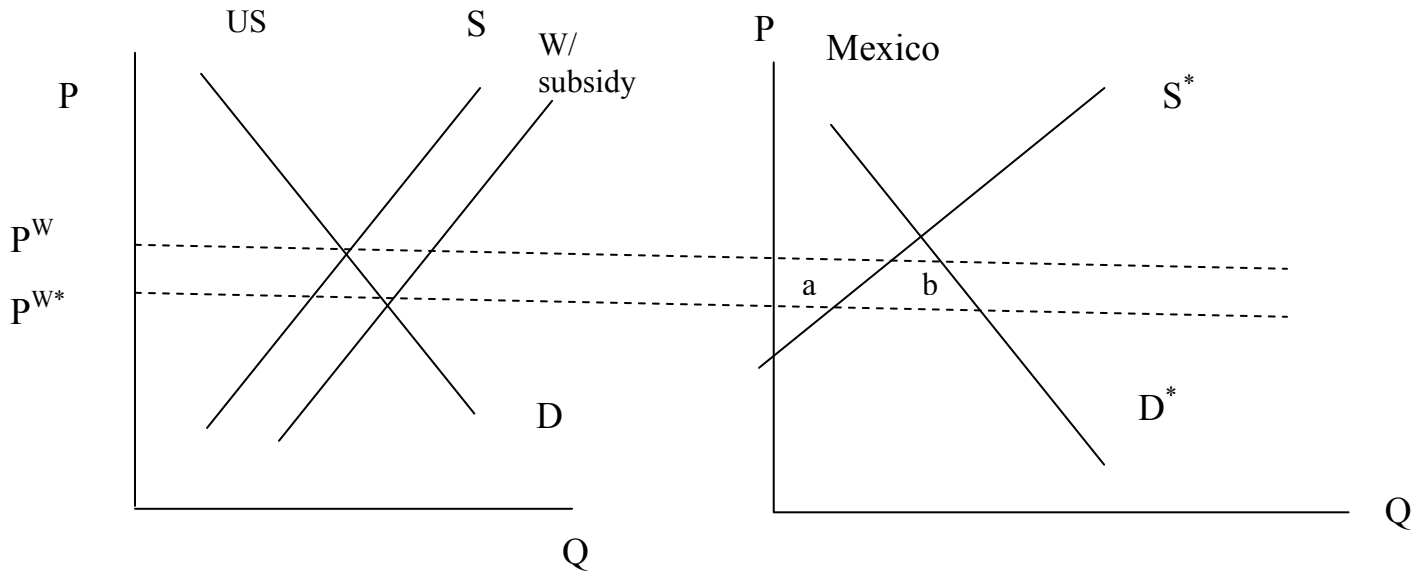
False. This explanation says that capital moves from low interest rate to high interest rate locations. Since an economy can't be both high and low interest rate at the same time, it will either be a recipient or a source of capital, but not both. The fact that we see flows in and out of a country means that there must be other reasons that capital flows. That doesn't mean that the cost of capital explanation is wrong, per se, rather that it is insufficient to explain all the capital flows we see.

Short answer

1. The US subsidizes rice production so heavily that it is able to export rice from the Californian desert. Mexico is a rice importer with a small domestic rice industry. Would Mexico be better off countering the US rice subsidy with a tariff equal to the amount of the subsidy? (This is called a countervailing duty. If the subsidy lowers rice prices by 10%, the countervailing duty would raise rice prices by an offsetting 10%) To answer this contrast three situations

- (a) Mexico with no US subsidy;
- (b) Mexico with US subsidy;
- (c) Mexico with US subsidy plus countervailing duty.

Contrasting situation (a) with situation (b)



On the left graph, we show that the subsidy lowers the world price of rice. (I've drawn it so that the world price is determined in the US market to keep it simple. If there were many rice exporters, US subsidies would decrease rice prices in world markets, but not as dramatically as I've shown here.)

Since Mexico is an importer, it is better off with the subsidy. In the right graph, Mexico's consumers gain (a+b), while its producers lose a.

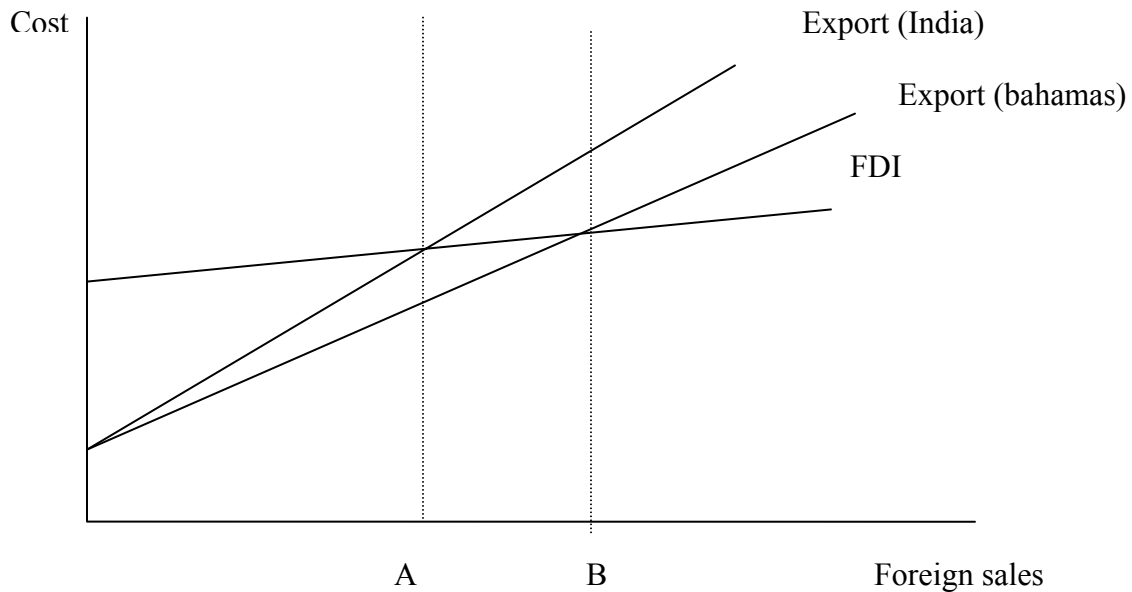
If Mexico introduces the countervailing duty to exactly offset the price decline we'd be back to the original price. The changes in consumer and producer surplus would be reversed, but in addition, the Mexican government would gain some tariff revenue.

So if you ranked the policies from Mexico's perspective

- 1. Subsidy only (with a net gain of b relative to no subsidy)

2. Subsidy plus a tariff (with prices, and CS, PS equal to no subsidy case, but Mexico gaining tariff revenue)
3. No subsidy.

2. Suppose a US firm can serve two foreign markets, India and the Bahamas, either by exporting or by building a plant in the foreign market (FDI) and selling locally. Show in a diagram how the population and proximity of India and the Bahamas could influence why this decision would look different in the two markets.



Exporting is characterized by low fixed cost and high marginal cost. The marginal cost depends on the cost of serving markets, so it is higher for countries that are further away. In the diagram above that means that the slope of the export curve is higher for India than for Bahamas, so you'd prefer to switch to FDI at a lower level of sales (at point A) than in the case of the Bahamas (point B)

FDI is characterized by high fixed cost and small marginal cost. That means that you are only willing to engage in FDI if you can sell enough to cover the fixed costs. Since Bahamas is a small population country, and India is a large population country, foreign sales will be much higher in India. Other things equal, you'd prefer to build a new plant in India, and export to Bahamas.

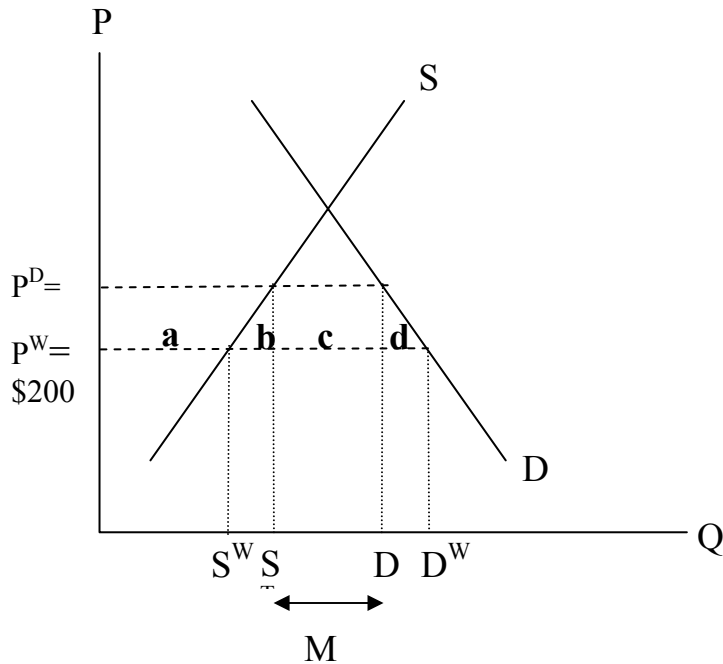
Both differences (size, proximity) push you toward using FDI to serve India, and exports to serve the Bahamas.

PRACTICE PROBLEM (DON'T TURN IN)

Home imports televisions at a price of \$200 each. Home decides to place a tariff on TV imports. TV's are produced under constant returns to scale and generate no externalities.

- a. Suppose Home is a small economy. Draw a diagram showing how the tariff affects equilibrium in Home's market for TV's. Describe what happens to domestic production, consumption, producer and consumer surplus, tariff revenue and overall welfare.
- b. Now suppose demand for TV's in home represents a large portion of overall world demand. Re-do the diagram in a, and explicitly contrast each element (domestic production, consumption, producer and consumer surplus, tariff revenue and overall welfare) to the small economy case.

a.



Domestic production will increase from S^W to S .
 Producer surplus will increase by a.

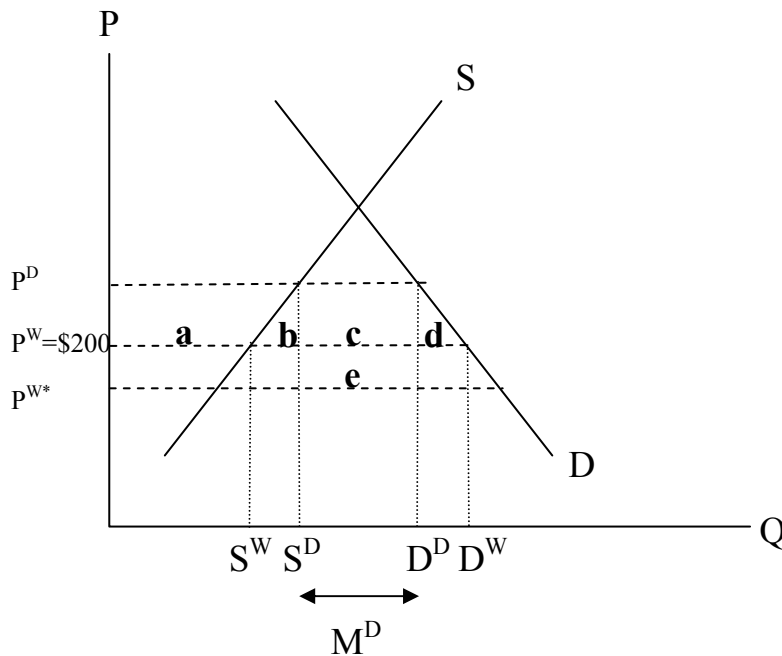
Domestic consumption will decrease from D^W to D .
 Consumer surplus will decrease by $(a+b+c+d)$.

Tariff revenues = c

Deadweight loss= b+d.

Home is worse off.

b.



Domestic production will increase from S^W to S^D .
Producer surplus will increase by a.

Domestic consumption will decrease from D^W to D^D .
Consumer surplus will decrease by (a+b+c+d).

Tariff revenues = c+ e

Deadweight loss= b+d.

The areas a, b,c,d will be smaller than in the small country case, because the domestic price will go up by less than the amount of the tariff.

The tariff revenues will be bigger in the large country case because the imports will be larger than in the small country case.

If $e > b+d$, then Home is better off.