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**Lecture 05: Tariffs and Trade**

1. Comparative Advantage
   1. Potato chips versus micro chips
2. Production possibility frontiers (PPF)
   1. Japan had the comparative advantage in microchips and the US had the comparative advantage in potato chips.
   2. To summarize what’s going on, let’s make a graph (economists like graphs).

Potato Chips

1200

2000

1000

900

1900

3200

US

Japan

Microchips

* + 1. The dotted line is the US’s possible production (making 1,000 microchips, 2,000 potato chips, or some combination of the two). The solid line is Japan’s production options.
    2. We call these lines *production possibilities frontiers (PPF)*—the maximum an entity can produce. Anything within the line is below capacity and outside of it is impossible.
    3. Note we also combined the lines to capture world production (we’re assuming there are only two countries). These larger curves always bend outward, creating a small protrusion. This is because as you move from more production of a good, you will move to the best available producer first.
  1. Generally speaking, a production possibilities frontier is smooth. All production options within a country are not the same, and there are also many countries. Even the frontier for a single person is drawn as a smooth line (1).

Product B

1

2

3

Product A

* 1. They can also vary in slope, depending on the natural qualities of the product. In (2), product B is universally more difficult to produce than product A. In (3), the opposite is true. Changes can warp these curves, or completely shift them. In (1), there is improvement for both products.

Product B

1

2

3

Product A

* + 1. For example, if a new technology made only Product B easier to produce, the PPFs flatten as indicated. The world can now produce more of Product B.

1. Tariff diagram
   1. A tariff is a tax on import. We express its effects on the economy in two ways.
   2. The first is most direct: simply shift the supply curve to the left, reflecting an increase in the marginal cost of production. The price of the good increases, the quantity decreases, and deadweight loss appears in the triangle as indicated.

**Q**

**P**

**D**

**S’**

**S**

**DWL**

**P\***

**P’**

**Q’**

**Q\***

* 1. This method, however, does not capture the fact that tariffs affect the domestic and foreign suppliers in fundamentally different ways. We will need a more complicated diagram to show that.

1. Domestic and foreign markets

**P**

**S**F

**D**

**S**D

**Q**

* 1. We begin by looking at the *domestic* market for the good, as opposed to the world market. We then assume there is a much larger foreign market which can supply as much quantity at a certain price people are willing to pay for. This foreign supplier, SF, sells at a price lower than the equilibrium price if the domestic market does not trade.
  2. Note that in this model, there are two suppliers: a foreign supplier and a domestic supplier. Under free trade, the cheaper supplier for any unit will produce. This causes the domestic supply curve, SD, to bend.

**P**

**S**D

**D**

**Q**

**Q**D\*

**P**D\*

* 1. Under free trade, some domestic suppliers still compete with foreign suppliers, but opening the markets allows competition to drastically reduce prices and increase quantity.
  2. But suppose a government institute a tariff on the good. This raises the price of imports, allowing less productive domestic suppliers (who naturally do not pay the tariff) to compete. The supplied quantity falls, as indicated.

**P**

**S**D

**D**

**Q**

**Q**D\*

**P**D\*

**Q**D’

**P**D’

**S**D’

**A**

**B**

**C**

**D**

* 1. Consumer surplus falls. Each shaded area represents what happens to the lost consumer surplus:
     1. A goes to the domestic producer surplus.
     2. B goes to the domestic producer’s costs (labor, materials, etc).
     3. C goes to the government in the form of tax revenue.
     4. D is deadweight loss.
  2. The areas of A, B, and C are transfer payments and tell us nothing about if the economy is more or less efficient. Only D tells us that the tariff makes us worse off: the consumer surplus goes to no one.