

Lecture 18 Preferential Trade Areas

Preferential trade areas, refer to liberalization agreements applying to a subset of all countries. So the models require at least 3 countries. Generally, at least three goods are need to make the question interesting.

The difficulty with this topic is that it is inherently a second-best topic, and it is never clear ex ante that a liberalization by a few countries benefits either them or the whole world (the general theorem of the second-best).

The second difficulty is that the analysis generally proceeds by using fairly specific special cases. But there are many possible cases to consider, and it is not very clear what we learn from them overall.

Here is some old, but still used terminology.

Trade Creation - creation of trade from when there wouldn't be any.

Trade Diversion - diversity of imports from a genuinely low-cost source to a high-cost source.

Suppose that we are country A, and can produce a good ourselves, or import it from B or C

<u>Country</u>	A	B	C
Price	35	26	20
100% Tariff	35	52	40
50% Tariff	35	39	30

Suppose that we form a customs union with B, eliminate tariff against B, but not against A.

Initial Situation 1: 100% tariff

Initially no trade, home price is \$35. With a FTA we buy from B at a price of \$26. This is trade creation.

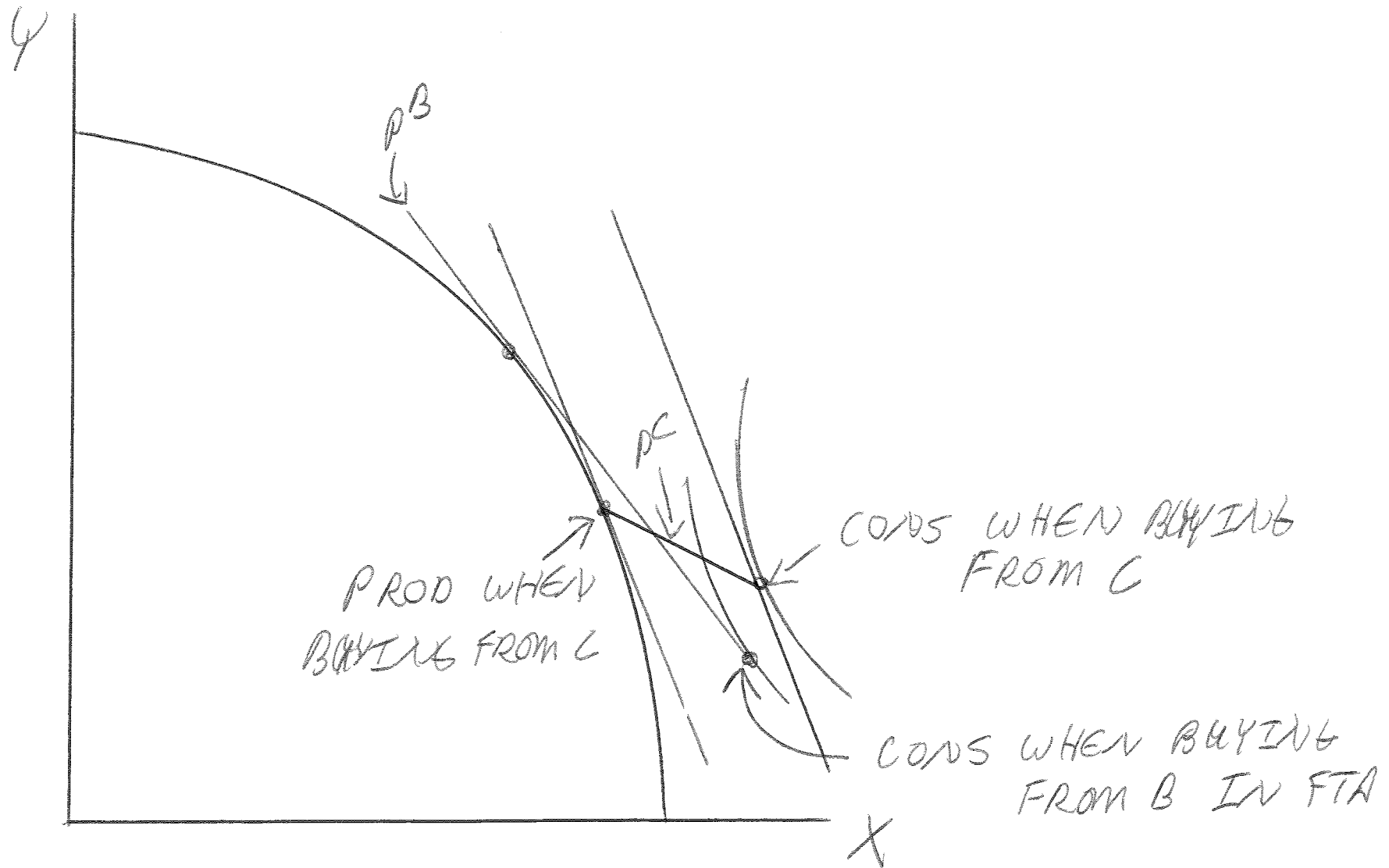
Initial Situation 2: 50% tariff

Initially, we import from C, price is \$30. The "true" price is only \$20, since \$10 is tariff revenue which goes to our government.

With the FTA with B, consumers will now buy from B at a price of \$26 instead of the tariff-inclusive price of \$30 from C. But this is deceiving, since the "true" import price was only \$20.

Consumers save \$4, but the government loses \$10 on each unit switch (diverted), so the loss per unit is \$6. This is trade diversion.

This is a diagram of the second case, with trade diversion dominating. Free trade with B results in imports from B, which has a lower price than the tariff-inclusive price from C. But this is welfare worsening.



Problems, limitations with this.

1. It ignores the opening of (market access to) the other country's market for our exports.
2. More generally, multiple goods.
3. Internal terms of trade changes.
4. External terms of trade changes.
5. Endogenous changes in the external tariff of the union.
6. Who to choose as a partner. A similar country, a dissimilar country?
7. Rationalization and vertical fragmentation when there are increasing returns and imperfect competition.

One of the few theoretical propositions is called the Kemp-Wan theorem.

Permitting an arbitrary number of goods, countries, and tariff rates, allow any subset of countries to form a CU. There is a common tariff vector which, combined with internal lump-sum compensation payments, makes all individuals no worse off and some better off.

One scheme is to find a common tariff vector for the CU that leaves trade with the rest of the world unchanged, and therefore the welfare of the rest of the world unchanged.

Step 1: There exists a common external tariff for the union members that leaves trade with the rest of the world unchanged. Not proved here.

Step 2: Using this common external tariff, aggregate consumption within the union is revealed preferred to aggregate consumption of the union countries before the union's formation.

Let X_{ij} and C_{ij} be the production and consumption by country i of good j , where country i is in the union, and let M_j denote the union's imports of good j from outside.

Let superscript u denote values with the union and superscript r denote pre-union restricted values.

Since there is free trade within the union after the union is established, there is production efficiently within the union:

$$(1) \quad \sum_i \sum_j p_j^u X_{ij}^u \geq \sum_i \sum_j p_j^u X_{ij}^r$$

Before the union, trade with the ROW is given by:

$$(2) \quad C_{ij}^r - X_{ij}^r = M_{ij}^r \quad \sum_i (C_{ij}^r - X_{ij}^r) = M_j^r$$

which allows us to write

$$(3) \quad p_j^u X_j^r = p_j^u C_j^r - p_j^u M_j^r$$

In establishing the union, a common external tariff is established to keep trade with the ROW constant, so

$$(4) \quad \sum_i (C_{ij}^u - X_{ij}^u) = M_j^r, \quad \sum_i (p_j^u C_{ij}^u - p_j^u X_{ij}^u) = p_j^u M_j^r$$

which allows us to write

$$(5) \quad p_j^u X_j^u = p_j^u C_j^u - p_j^u M_j^r$$

Take the summation of (1) over i (countries in the union), and substitute on the left-hand side from (5) and the right-hand side from (3).

$$(6) \quad \sum_j p_j^u C_j^u - \sum_j p_j^u M_j^r \geq \sum_j p_j^u C_j^r - \sum_j p_j^u M_j^r$$

Which reduces to:

$$(6) \quad \sum_j p_j^u C_j^u \geq \sum_j p_j^u C_j^r$$

So consumption with the union is revealed preferred to consumption before the union.

Step 3: The final step in the proof is to show that it is possible to use lump-sum transfers to redistribute income so that every country in the union is better off with the union.

(1) Production efficiency in the union

$$\sum_j p_j^u X_{ij}^u \geq \sum_j p_j^u X_{ij}^r$$

(2) Balance of payments in the union

$$\sum_j p_j^u X_{ij}^u = \sum_j p_j^u C_{ij}^u + T_i \quad \text{where } T = \sum_i T_i \text{ is total union tariff revenue.}$$

(3) Balance of payments in restricted trade

$$\sum_j p_j^* X_{ij}^r = \sum_j p_j^* C_{ij}^r$$

(4) Do some stuff

$$\sum_j p_j^u C_{ij}^u \geq \sum_j (p_j^u X_{ij}^r - p_j^u C_{ij}^r) + \sum_j p_j^u C_{ij}^r + \sum_j (-p_j^* X_{ij}^r + p_j^* C_{ij}^r) + T_i$$

Simplify to

$$(5) \quad \sum_j p_j^u C_{ij}^u \geq \sum_j p_j^u C_{ij}^r + \sum_j (p_j^* - p_j^u)(C_{ij}^r - X_{ij}^r) + T_i$$

Now suppose that we sum over all i countries in the union. Then all internal trade will cancel out in the second summation on the right-hand side and we will be left only with external trade prior to the custom's union. But this is also trade after the custom's union. Further the price different within and outside the union is just the common external tariff rate, and so this second summation is just total external tariff revenue in the union.

$$(6) \quad \sum_i \sum_j (p_j^* - p_j^u)(C_{ij}^r - X_{ij}^r) = \sum_j -t_j M_j^r = -T \quad t_i = p_j^u - p_j^*$$

Thus if the union's tariff revenue is distributed according to the rule:

$$(7) \quad T_i = \sum_j (p_j^u - p_j^*)(C_{ij}^r - X_{ij}^r) = \sum_j t_j(C_{ij}^r - X_{ij}^r)$$

Then tariff revenue will be exactly exhausted and for each country i (5) becomes

$$(8) \quad \sum_j p_j^u C_{ij}^u \geq \sum_j p_j^u C_{ij}^r \quad \text{For all countries } i$$

So for all countries in the union, post-union consumption is revealed preferred to pre-union consumption.