ECO 3111 TRADE
FINAL EXAM
APRIL 17TH, 2013.

II. PROBLEM

1. (30 points) Dumping and anti-dumping

(1) (5) Provide two conditions under which dumping is said to occur under the WTO agreements.
(2) (10) With the help of a *discriminating monopoly* model and graphical analysis, explain why a foreign firm would want to practice dumping. Assume that the foreign country is the USA and the Home country is Canada. Make sure to mention the important assumptions of the model. Two assumptions will be that there is perfect competition in the Canadian market and a monopoly in the USA market.
(3) (5) Explain why would the USA firm find it profitable to sell at a lower price in Canada than the price it can obtain in the USA.
(4) (10) With the help of graphical analysis, explain why the *anticipation* of an anti-dumping duty (or threat of duty) may lead to a larger welfare loss than the standard loss from an import tariff.

2. (25 points) Import quotas under perfect competition

(1) (15) With the help of a graphic, analyze the welfare effects of an import quota for a small open economy when there is perfect competition at home.
(2) (5) Describe two scenarios under which the quota is equivalent to an import tariff in terms of its welfare effects. (Keep the assumption of a small open economy when there is perfect competition at home.)
(3) (5) Describe two scenarios under which the quota is worse than an import tariff in terms of its welfare effects. (Keep the assumption of a small open economy when there is perfect competition at home.)

3. (15 points) The specific-factors model of trade

Suppose an economy with two sectors: manufacturing and agricultural. Use the specific-factors model in order to analyse the effect of a fall in the price of manufactured goods.

(1) (5) Describe what happens to the real labor wage in terms of manufactured goods.
(2) (5) Describe what happens to the real labor wage in terms of agricultural goods.
(3) (5) Are the workers better off or worse off with trade? Explain.

Karl Marx
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(1)

#1 DUMPING:

1) The two conditions are:

i) The selling price in the foreign market is below the price in the home market.

ii) The selling price in the foreign market is below the average cost of production.

2) The discriminating monopoly:

assumptions:

① perfect competition in Canada } ALREADY GIVEN IN QUESTION
② Monopoly in the USA.
③ Increasing marginal cost.
④ U-shaped average cost function (i.e. presence of a fixed cost)
⑤ Price in Canada is below the minimum of average cost for monopolist.

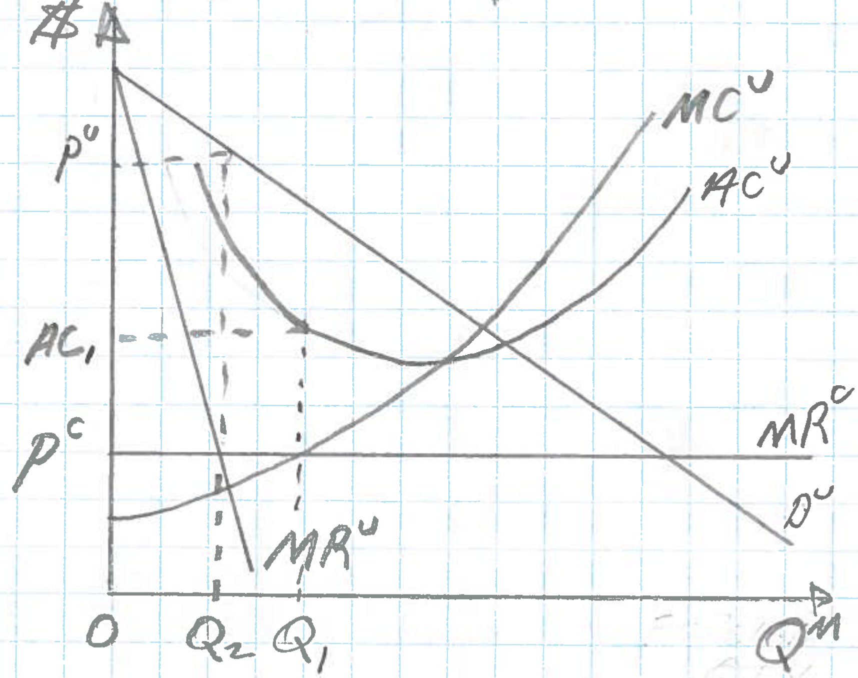
Q^u ≡ quantity produced by monopolist

P^c ≡ price in Canada

D^U = demand in USA

MR^U = marginal revenue in USA

MR^c = marginal revenue in Canada



The foreign monopolist will produce quantity Q_1 at the point where its marginal revenue equals its marginal cost.

Note that the monopolist's effective marginal revenue curve is MR^U up to quantity Q_2 and MR^C for quantities above Q_2.

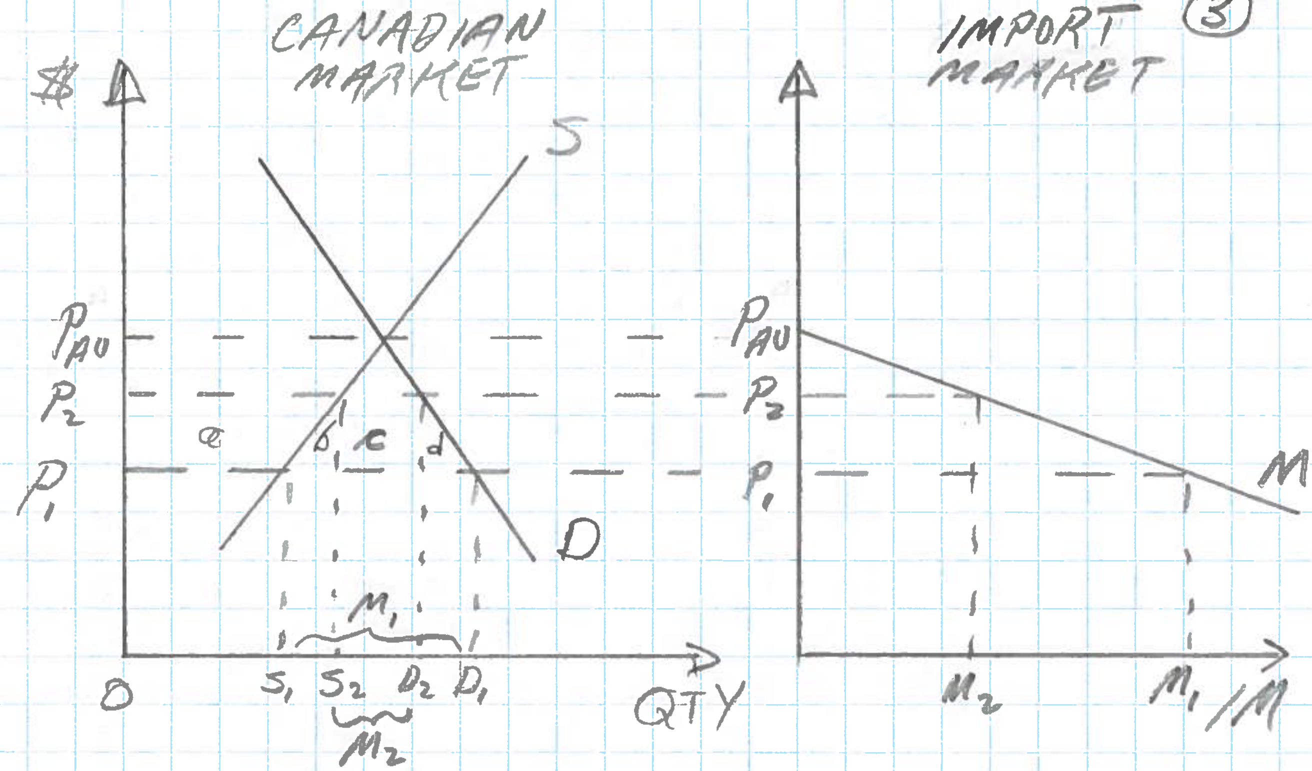
The monopolist sells where its marginal revenue is highest. Hence, it will sell quantity Q_2 in the USA and quantity $Q_1 - Q_2$ in Canada.

In equilibrium, the firm sells at price P^U in the USA, P^C in Canada, and the average cost is AC_1. It therefore practices dumping for the two reasons mentioned above:

$$P^C < P^U \text{ and } P^C < AC_1.$$

3) The firm finds profitable to sell at a lower price in Canada because in order to sell more in the USA, it has to reduce its price for ALL the quantities already being sold. This effect drives its marginal revenue in the USA below the one in Canada even though the price is still above at Q_2.

4)



P_{AU} = autarky price

P_1 = price charged by foreign firm in the absence of a tariff.

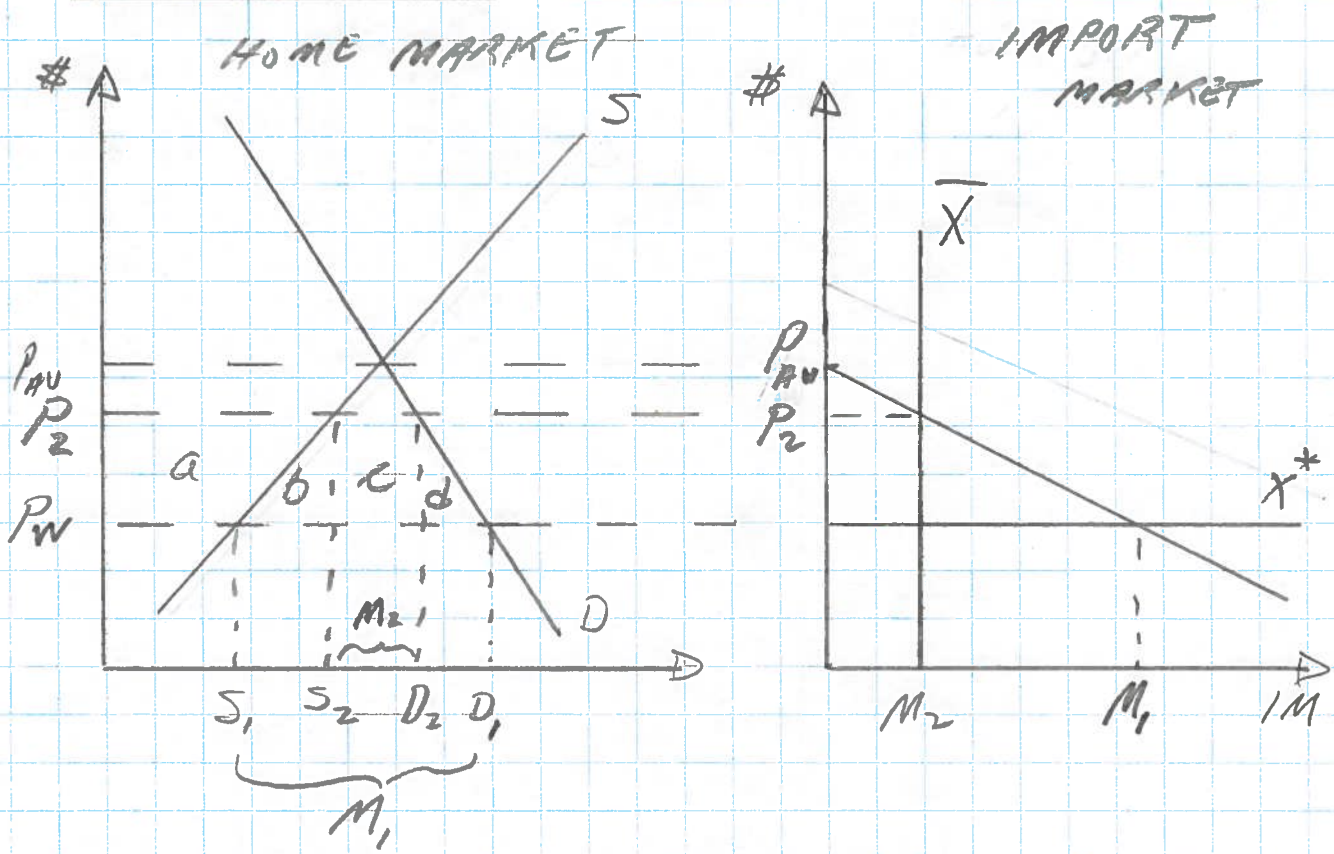
P_2 = Anticipated price with the tariff.

If the foreign firm anticipates that an anti-dumping duty will raise the price to P_2, it will prefer to act now and raise its price before the duty is imposed. The change in welfare is then:

$$\Delta W = \Delta CS + \Delta PS = -(a+b+c+d) + a = -(b+c+d) < 0$$

In the case of an import tariff, the welfare loss is smaller and equal to $-(b+d)$ only, because area c is transferred to the government. But when the foreign firm raises its price, it can also benefit from area c.

#2 | IMPORT QUOTAS UNDER PERFECT COMPETITION:

1) 

Under perfect competition at Home and given world price P_W, Home firms will supply quantity S_1 in the absence of a quota. Home demand being at D_1, quantity M_1 is being imported.

If a quota equal to $\bar{X}$ is imposed, the quantity imported falls to M_2, which drives the price up to P_2. The Home supply increases to S_2 and demand drops to D_2. This implies the following changes in welfare:

$\Delta CS = -(a+b+c+d)$

$\Delta PS = +a$

quota rents $= +c$

The overall change in welfare depends on who gets to keep the quota rents c. If quota rents stay in the Home country, we have

$$\Delta W = -(b+d)$$

If quota rents are reaped by foreigners, then:

$$\Delta W = -(b+c+d)$$

2) If quota rents are kept at Home, then the quota is equivalent to a tariff in terms of its welfare effects. This would occur if:

① The quota license is given to Home firms who can then keep the rents equal to area c at Home.

② Quotas are being auctioned by the government, in which case the government raises revenues equal to area c.

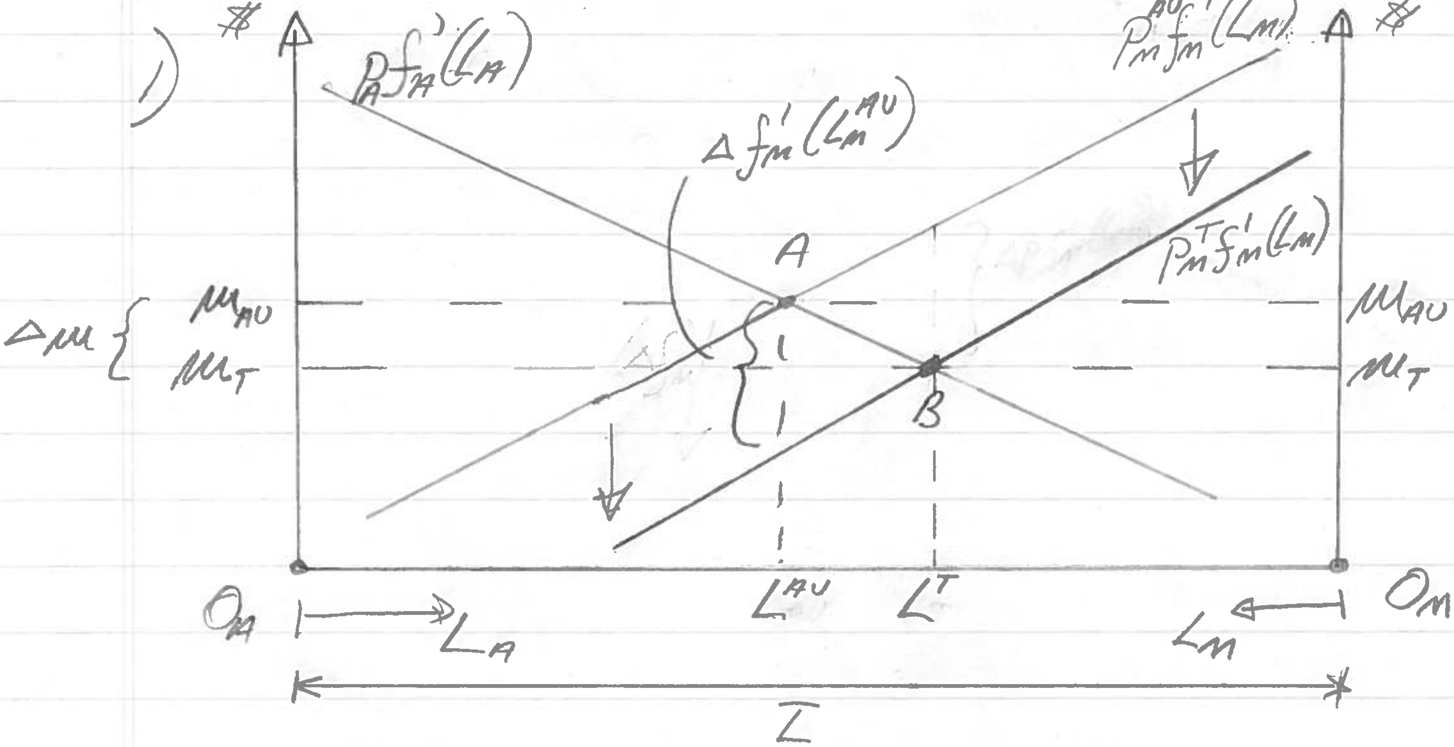
3) The quota is worse than a tariff if:

① If firms engage in "rent seeking" activities in order to acquire quota licenses from the government, then quota rents can be completely dissipated, such that area c is lost.

② If foreign firms "agree" to reduce exports through "Voluntary Export Restraints" then quota rents are lost to foreign firms.

3) THE SPECIFIC-FACTORS MODEL OF TRADE

1)



Point A corresponds to the equilibrium allocation of labor under autarky, with equilibrium nominal wage w_{AU}.

Suppose that with trade, we have $P_A^{AU} = P_A^T = P_A$ and $P_M^T < P_M^{AU}$. This causes the nominal wage to drop to w_T. At point B, we have

$$\frac{\Delta w}{w_{AU}} < \frac{\Delta P_M f_M'(L_M^{AU})}{P_M f_M'(L_M^{AU})} = \frac{\Delta P_M}{P_M}$$

Hence, the % drop in price is larger than the % drop in nominal wage. This implies that the real wage has increased in terms of manufactured goods.

2) Since the nominal wage has decreased while the price of agricultural goods is the same, the real wage in terms of agricultural goods has gone down with trade.

3) We cannot say for sure whether workers are better off with trade. It depends on their spending shares between agricultural and manufactured goods. If they spend much more on manufactured goods, then trade should make them better off. They would be made worse off if most of their income is spent on agricultural goods.