

Place your name on the back of this sheet of paper and nowhere else. Staple your answers on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. If you use double-sided printing or write on the back of scrap paper, I will give you one additional point.

- 1) (35 points) Draw the PPF/CPF/indifference curve diagram for a small country with a tariff on imported cars when they export sculptures. Illustrate production and consumption points under both free trade and with a tariff. Explain how you found the points.
- 2) (5 points) State the Stolper-Samuelson Theorem and explain why it makes sense.
- 3) (20 points) Draw an offer curve diagram for the USA and Mexico, both large. The USA is capital abundant and Mexico is labor abundant. The two goods are textiles and cars. Draw the offer curve for Mexico which will result from its optimum tariff. Explain how you know it is the optimal tariff. Prove that the USA is hurt a lot.
- 4) (40 points) I drew a different diagram than the book draws for a small country with an import quota. Draw the diagram I drew and explain why it takes that shape. Find the price, quantity made, quantity imported, consumer surplus, producer surplus, quota revenue (assuming the quota rights are auctioned off) and the dead weight loss for both free trade and with the quota. Briefly state how you found each.

The one question on the exam that you appear to have problems with was #3. Note that the question states “We export agriculture and import textiles.” In 3A, if we had joined the TPP, this would mean there would be more demand for our export, agriculture. Therefore, capital in agriculture would gain because there is more demand for it. However, there is less demand for our textiles, so there is less demand for capital in textiles. Therefore, they are hurt. This is because the capital cannot change industries in the Specific Factors Model. The TPP would have an ambiguous effect upon labor. There is more demand for workers in agriculture but less demand for them in textiles. Because they are mobile, some will go from textiles to agriculture. If we measure their real wage in terms of the export agriculture, the workers are hurt. Their nominal wage sees little impact but the price of agriculture is up, so they are hurt. However, in terms of the price of the import textiles, the real wage is up because the price of textiles is down. (Remember, the real wage is how much of that good you can buy and is effectively  $W/P$  where  $W$  is the wage rate and  $P$  is the price of the good.)

For 3B, capital and labor are both mobile. Since we want to produce more of the capital intensive good, agriculture, we need to shift both capital and labor from textiles. However, the textile industry gives up more labor per unit of capital than the agriculture industry wants. This causes a shortage of capital and an excess of labor. Therefore, capital in both industries gain and labor in both industries lose.

In 4B, make sure the one country’s exports is the other country’s imports by having the horizontal distance between S&D at the given prices be the same in both graphs.

In 5A, you need to state that if we increase the abundance of one input, then we will produce

more of the good that uses that input intensively and produce less of the other good. Therefore, if we add capital, we will produce more of the capital intensive good and less of the labor intensive good. This is because the increased production of the capital intensive good will require some labor be taken from the labor intensive good to work the new capital.

In 5B, you need to state that if we increase our abundant factor, we will produce more of that product. If the foreign market has an inelastic demand for that good, then the increased production will drive the price of our export down so far that we are worse off.

In 6A, you have to first move the CPF parallel to the old CPF and tangent to the new PPF. However, that means we are exporting more, so the price of our export decreases. Since this country exports the labor intensive good, the CPF now gets flatter. Find where it is now tangent to the new PPF. Whether the growth is immiserizing or not is seen by looking at the very first indifference curve and the last one. If the first one has higher utility, then it is immiserizing growth. It is rare that you draw it that way because there is a tendency to draw it helping the country, even when you try to draw immiserizing growth.

In 6B, make sure your capital intensive good is on the vertical axis of both diagrams and that the offer curve bends towards the import axis on the offer curve diagram. Also, the shape of the indifference curves below are not valid. Remember, the offer curve is gotten by finding where the indifference curves are tangent to the TOT line. Therefore, each TOT line can only cross each line once. However, the TOT line drawn crosses both offer curves twice. Therefore, the beginning of both offer curves are invalid.

