

- a) Show a graph for small country with  $P=200$ ,  $Q_s=135$ ,  $Q_d=180$ , and imports of 45 MMT. The autarky  $P=350$  at  $Q=150$ . World supply is horizontal.
- b) Show on the above graph the new domestic price of  $P=300$ , so  $Q_s=145$ ,  $Q_d=160$ , and imports are 15. CS falls by \$17,000 million, PS rises by \$14,000 million, and government revenue is \$1500 million. The deadweight loss is 1500 million.
- c) New graph with  $P=250$ ,  $Q_s=140$ ,  $Q_d=170$ , and imports=30. CS falls by \$8,750 million, PS rises by \$6,875 million, and government revenue is \$3000 million. Though there is still a deadweight loss, there is a net gain for the U.S. of \$1,125 million because foreign suppliers are paying half of the tariff revenue.

*I didn't ask it, but foreign countries lose \$1,875 million, so the deadweight loss for the world in this case is \$750 million. And you could use these numbers to make a hypothetical prisoner's dilemma matrix. Suppose Home exports good X and imports good Y from Foreign, and the above numbers apply in both cases. If neither country puts a tariff on imports, there is no change from the free trade optimum. If Home has a tariff and Foreign does not, Home is better off by \$1,125 and Foreign is worse off by \$1875. If Foreign has a tariff and Home does not, Foreign is better off by \$1,125 and Home is worse off by \$1,875. If both have tariffs, then each is better off in their import sector by \$1,125 and worse off in their export sector by \$1,875, for a net loss of \$750 each.*

	<i>Home – no tariff</i>	<i>Home – tariff</i>
<i>Foreign – no tariff</i>	<i>Home 0, Foreign 0</i>	<i>Home+1125, Foreign -1875</i>
<i>Foreign - tariff</i>	<i>Home -1875, Foreign +1125</i>	<i>Home -750, Foreign -750</i>

*You can see that a tariff is the dominant strategy for both countries, and the resulting Nash equilibrium makes both countries worse off.*

*Also note that the prices and quantities for the U.S. steel industry are roughly correct, though I have rounded off the numbers. The U.S. produces less than 10% of the world's steel and consumes less than 15%, so it is probably closer to the small country case than the big one. Asia (Japan, Korea, and China) produces more than half the world's steel, the EU produces more than 15%, and the former Soviet Union produces less than the U.S. does. The U.S. steel industry employs about 240,000 people. If employment is proportional to output, then a price increase of \$100 (as in b) would lead to about 18,000 more jobs, at a cost to consumers of almost \$1 million dollars per job (17 billion/18 thousand) per year.*