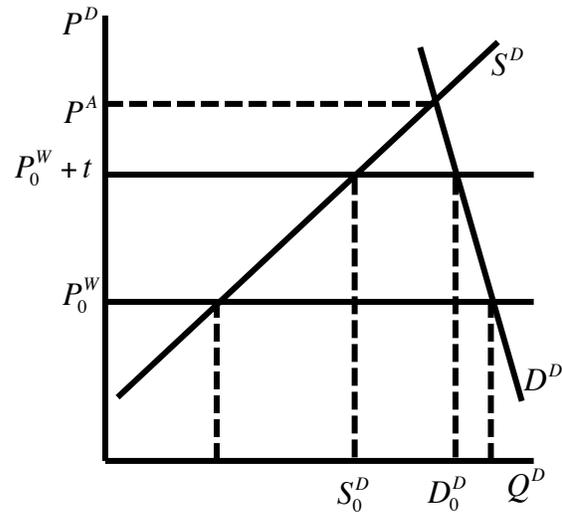


Midterm Exam - *Answers*
October 31, 2013

Answer on these sheets. Use the indicated point values as a guide to how extensively you should answer each question, and budget your time accordingly. Note that the last page of the exam (page 9) is intentionally left blank for you to use if you run out of space to answer any of the questions, although I do not intend that you should need it.

The exam has a total of 60 points.

1. (15 pts.) The graph at the right shows the domestic market in a small country for a good that is imported subject to a specific tariff, t , from a world market where the price is P_0^W .



a. (5 pts.) Add labels to the figure as needed to identify:

i. Quantity of domestic production

Ans: S_0^D

ii. Quantity of domestic consumption

Ans: D_0^D

iii. Quantity of imports

Ans: $D_0^D - S_0^D$

iv. Tariff revenue

Ans: Area c

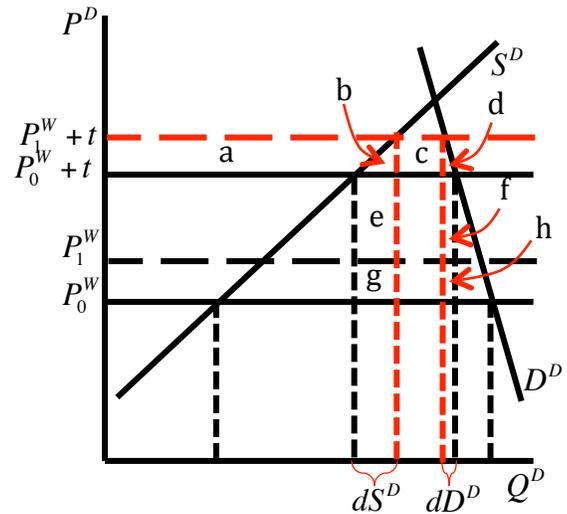
v. Dead weight loss due to the tariff

Ans: Areas b+d

b. (2 pts.) Suppose that the tariff in part (a) were doubled in size, to $2t$. State in words what would happen to domestic price, production, consumption, and trade. (Look carefully at the figure before you answer.)

Ans: The price of imports would rise to $P_0^W + 2t$, but at that price, which is above the intersection of supply and demand, less would be demanded than supplied on the domestic market. Therefore imports would fall to zero, the price would rise only to that intersection – i.e., the autarky price – shown as P^A . Supply would increase and demand would decrease to become equal.

- c. (6 pts.) Suppose now, with the tariff back at its level in part (a), that the world price were to rise to P_1^W shown in the figure here. Add any labels that you need to this figure to identify the following changes due to this increase in the world price:



- i. Change in quantity supplied

Ans: dS^D

- ii. Change in quantity demanded

Ans: dD^D

- iii. Change in tariff revenue

Ans: Area $-(e+g+f+h)$

- iv. Change in producer surplus

Ans: Area $+a$

- v. Change in consumer surplus

Ans: Area $-(a+b+c+d)$

- vi. Change in dead weight loss due to the tariff

Ans: Zero! (The height of each dead-weight loss triangle is the size of the tariff, which since it is a specific tariff, is not changed. And since the supply and demand curves are both straight lines, the dead-weight loss triangles move, but they do not change size.)

- d. (2 pts.) Finally, suppose that we had an import quota instead of a tariff, but that the quota was set at the level of imports that we started with in part (c). And suppose that the quota was allocated to domestic residents. Who now gains, who loses, and who is unaffected by the increase in world price?

Ans: Since the domestic supply and demand curves have not moved, the quantity of imports permitted by the quota will require that the domestic price not change. Therefore both suppliers and demanders are unaffected. The only change is in the amount of quota rents, which fall by the change in world price times the (fixed) quantity of imports.

2. (8 points) An article in *The Economist*, September 28, 2013, said the following:

“In the run-up to the financial crisis the world economy was marked by huge current-account imbalances. Since then the world has rebalanced.”

The article shows data indicating that, as fractions of GDP, both the large surpluses (as of China) and the large deficits (as of the US and also much of Europe, other than Germany) have become smaller than they were before the crisis.

- a. How is a current account surplus defined?

Ans: The surplus is exports minus imports of goods and services, plus net inflows of interest and dividends and net inflows of transfer payments.

- b. What does it represent, in terms of aggregate spending and income?

Ans: A surplus represents the fact that the economy is spending less than its income.

- c. What changes in parts of the world economy might have caused the reduced imbalances noted in the data?

Ans: The best answer here is that spending has changed relative to income. In Europe and the US, where deficits meant that they were spending more than income, austerity policies have reduced spending. At the same time, China with its surplus, has been trying to stimulate spending, especially by consumers.

Also mentioned in the news have been two other factors that you could mention, but need not: 1) The role that the gradual appreciation of the Chinese currency may have played in making their goods more expensive compared to the world's, and thus reducing their exports. 2) The increased production of energy in the United States, allowing it to reduce imports of oil.

3. (10 points) Regarding the World Trade Organization:

- a. What are the three agreements that comprise the WTO, and what, very briefly, does each say?

Ans:

GATT = General Agreement on Tariffs and Trade, limits countries' freedom to raise and lower tariffs.

GATS = General Agreement on Trade in Services, aims to work toward national treatment for international service providers.

TRIPs = Agreement on Trade Related Intellectual Property Issues, requires countries to have and enforce systems of protection for intellectual property, such as patents, copyrights, and trademarks.

- b. What are the two principles of the WTO that promote nondiscrimination, and what do they mean?

Ans:

MFN = Most Favored Nation, requires that member countries treat exports of other members as favorably as they treat any other member, thus non-discrimination among foreign exporters

National Treatment, requires that foreign products, once they have entered a country, be treated the same as products produced there.

- c. Name, and very briefly explain, two exceptions that are explicitly permitted in the WTO to one or both of the principles of nondiscrimination in part (b).

Ans:

Free Trade Agreements, permits countries to form FTAs with other countries, so long as they reduce tariffs all the way to zero on almost all goods.

Anti-Dumping Duties, permits countries to counter unfairly price imports with duties (tariffs) applied only to the offending exporters.

(Others you could mention: CVDs = Countervailing Duties; GSP = Generalized System of Preferences)

- d. What is the Prisoners' Dilemma, what is its relevance for international trade policy, and how does the WTO address this?

Ans: Prisoners' Dilemma is a game in which two players would both be better off if they cooperated, but in which each could benefit individually by not cooperating, given the choice of the other player, so that the equilibrium has both not cooperating and both worse off. Since countries either can (if they are large) or may perceive (if they are small) that they benefit by using tariffs, even though all would achieve greater welfare if all tariffs were zero, tariff-setting by countries is an example of a Prisoners' Dilemma. The WTO exists in part to facilitate and enforce cooperation among countries so as to achieve lower tariffs to the benefit of all, when countries individually perceive that they can benefit from higher tariffs at others' expense.

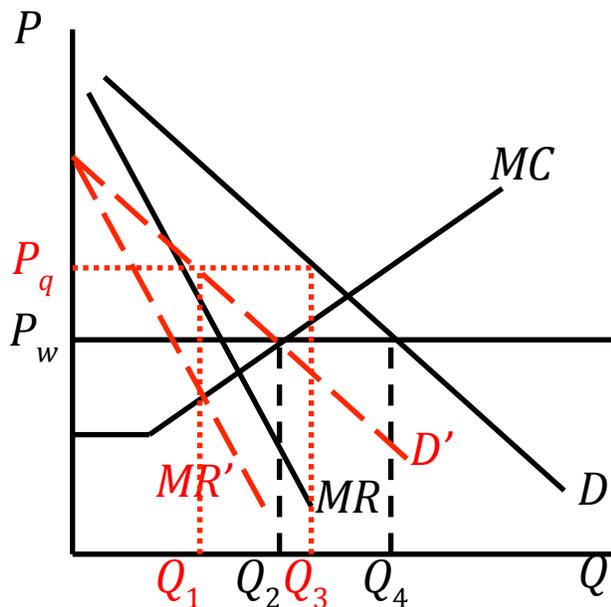
4. (5 points) What is “Fast Track,” and what is its relevance for trade policy and/or trade negotiations? Does Fast Track exist right now, and is it likely to be needed?

Ans: Fast Track, more formally called Trade Promotion Authority, is a commitment by the US Congress to consider the trade legislation to implement agreements that have been negotiated by the US Administration according to a strict time-table and to vote on that legislation without amendment. It is relevant for trade negotiations between the United States and other countries because without it Congress would very likely make changes in any negotiated agreement, with the result that it would not be what the other countries that are party to the agreement had agreed to. Fast Track is not currently in place in the US, and it is now being sought by President Obama, with a view to facilitating both the negotiations and the later adoption of the agreements now being negotiated with countries of the Pacific, in the Trans-Pacific Partnership, and with the European Union, in the Trans-Atlantic Trade and Investment Partnership.

5. (4 points) Explain the “variable levy.” What is it, who uses it, and why? Is its use permitted under the rules of the GATT/WTO, and why or why not?

Ans: The Variable Levy is used by the European Union as part of its Common Agricultural Policy, as a tool to keep prices of agricultural products higher inside the EU than on the world market to keep them from fluctuating as world price change over time. It does this by levying a tariff on imports, and changing that tariff as needed to keep the domestic price constant. Thus when the world price of a product falls, the levy is automatically increased. Its use does not violate the rules of the GATT in products for which the EU has not bound their tariffs, and for bound tariffs it is also legal so long as the levy remains below the bound level. If the levy were to exceed the tariff binding at some point, presumably due to a very low world price of the product, then it would violate GATT/WTO.

6. (8 points) Suppose that a small domestic economy has only a single firm producing a good that can be imported, under free trade, for the fixed price P_w shown. The firm's marginal cost is the upward sloping line shown here. Domestic demand is the downward sloping line, D , and the firm could earn the marginal revenue MR shown if there were no trade at all. Add lines and labels to the figure, as needed, to identify the following:



- a. Suppose first that there is free trade. What will be the domestic price of the good, and what will be the quantities of the good produced by the firm, demanded by the domestic market, and imported?

Ans: With free trade, the firm cannot charge a price higher than P_w , and its marginal revenue, in spite of being the only domestic firm, is therefore also P_w , as long as it does not sell more than Q_4 . The domestic price is therefore P_w . The firm operates as if it were a perfect competitor facing that price, producing where $MC=P_w$, at quantity Q_2 . Demanders buy Q_4 at that price, and import $Q_4 - Q_2$.

- b. Now suppose that the country imposes an import quota, set equal to the quantity of imports that would have come in under free trade. Determine what will be the quantities produced, demanded, and imported, and at what price?

Ans: The firm can now charge a price higher than P_w if it wishes. The demand curve that it faces is the domestic demand curve shifted horizontally to the left by the quantity $Q_4 - Q_2$ permitted by the quota, thus the demand curve shown as D' . The corresponding marginal revenue curve is parallel to MR , but also shifted left as shown. (In fact it shifts to the left by half the amount that D shifts, since it is half way between D' and the vertical axis, but that's not very important.) The firm sets output where $MR'=MC$, thus Q_1 , and charges the price P_q at which this quantity is demanded. Total demand is therefore Q_3 , and imports are $Q_3 - Q_1 = Q_4 - Q_2$.

7. (10 points) In the early 2000's, the US levied a safeguards tariff on imports of steel. As it turned out, the tariff was ruled illegal by the WTO, but suppose it had not.
- a. Which of the following would you have expected to be in favor of the tariff, and which opposed, and why? (No need for any formal analysis here; just say in words why these different groups might have the interests for or against a tariff on steel.)
 - i. US producers of coke (an input to producing steel)
 - ii. US producers of cars (for which steel is an input)
 - iii. US producers of aluminum (which is a substitute for steel in some uses)
 - iv. The US labor union of steelworkers
 - v. Foreign steel producers
 - vi. Foreign producers of cars abroad
 - b. By what mechanism might these interests express themselves in efforts to influence US trade policies.

Ans:

- a. *Who favors and who opposes, and why:*
 - i. *US producers of coke would favor a steel tariff, since it will increase US output of steel and therefore demand for coke.*
 - ii. *US producers of cars would be opposed to a steel tariff, since it raises the US price of steel and therefore their costs of production.*
 - iii. *US producers of aluminum would favor a steel tariff, since by raising the price of steel, it will cause users of steel to substitute toward aluminum and increase demand there.*
 - iv. *US steelworkers would favor the steel tariff, since it increases production of steel and demand for its workers, raising their wage and/or employment.*
 - v. *Foreign steel producers would oppose the tariff, since it raises the price of their steel to buyers, reducing demand for it and hurting their profits.*
 - vi. *Foreign producers of cars in other countries would favor the tariff, since it makes US-produced cars more costly relative to theirs. It may even reduce the world price of steel, thus reducing their costs as well.*
- b. *The above US interests could try to influence members of Congress by contributing to their political campaigns, in return for votes for or against tariffs on steel. If they already knew which politicians running for office were in favor of their own positions, they could contribute to their campaigns. They could also engage in lobbying of members of Congress, either by employing their own lobbyists or by hiring a lobbying firm to act on their behalf. And they could fund advertising campaigns espousing their favored position. The foreign interests are unlikely to have most of these options available. They might, however, lobby their own governments either to use diplomacy to achieve their objectives or to file complaints against the US in the WTO.*

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