First Exam
November 9, 2006
Answers

Answer in blue book. Use the point values as a guide to how extensively you should answer each question, and budget your time accordingly. There are 100 points total.

1. (20 points) Write a short essay answering either one (just one – your choice) of the following questions:

   a. What, if anything, can and should be done to reduce the United States trade deficit, and why?

   The U.S. trade deficit is indeed very large and growing, and it has become a source of great concern among policy makers and pundits, as well as among many economists. However, their reasons for concern are different. Non-economists see the US trade deficit as a failure of the US to be able to export to the world as much as the world, especially China, exports to us. They therefore advocate policies that would restrict US imports and encourage US exports, such as tariffs and quotas on imports and threats to other countries if they do not take more of our exports.

   Economists, however, recognize that the trade deficit is a reflection of the high level of US expenditure on goods and services, in comparison to our level of income. As long as we try to spend more than our income, that means that we are trying to buy more goods and services than we produce, and this necessarily implies that our imports exceed our exports. Most (though not all) would agree that this is a problem, for it means that we must finance this excess expenditure by borrowing from the world and/or selling them our assets. Such net borrowing from abroad will cost us eventually, as we service that debt, and it may also undermine the world’s confidence in our ability to do so. If that happens, their willingness to lend to us may cease, causing a crisis for the value of the US dollar and for the US economy.

   What can we do about it? Fundamentally, reducing the trade deficit requires reducing our expenditure relative to our income. One step in that direction would be for the US government to reduce its expenditure relative to income by reducing its budget deficit. More important, however, must be reduction in private expenditure relative to incomes, and thus an increase in private saving. How this may be achieved, unfortunately, is not clear.

   Were it to be achieved, however, another problem might arise. If the US reduces expenditure without any offsetting change abroad, world aggregate demand will fall and perhaps push the world economy into recession. This suggests the need for some sort of international cooperation and coordination, so that US policies may be matched with opposite ones abroad, so as to stabilize the world economy.
b. Should the United States and Europe put pressure on China to increase the value of its currency? Why or why not?

The fact that China’s currency, the yuan or renminbi, remained fixed vis a vis the US dollar for many years and has only increased by about 3% over the last year, together with the fact that the Chinese government has accumulated huge quantities of US dollars as reserves (in the form mostly of US treasury securities), suggests that the yuan is seriously undervalued. That is, it is well below the value at which supply and demand would be equal. And one reflection of this imbalance is that China is running a trade surplus, especially vis a vis the United States. As a result, US government officials as well as ones in Europe have called upon China to increase the value of their currency.

Those who call for such an appreciation seem convinced that it would both reduce the trade surplus of China and reduce the trade deficits of the US and various European countries. And they see such reductions as also stimulating demands for US and European products and therefore employment. Such beneficial effects on the US and Europe are unlikely, as a yuan appreciation has no obvious relevance for the imbalance between expenditure and income that is reflected in the trade balance. More likely, a yuan appreciation would primarily cause the US and Europe to switch their purchases away from China and towards other low-cost foreign exporters, leaving US and European total trade imbalances unchanged. And to the extent that they continue to buy from China (which they surely would), the appreciated yuan would mean a worsening of US and European terms of trade and a fall in real income that they might well regret.

However, the more important question is whether it is in China’s own interest to appreciate its currency. Right now, its pegged exchange rate (pegged to an unspecified basket of currencies but moving very little with respect to the dollar) is forcing it to accumulate ever larger reserves, and these are held mostly in US dollar assets paying a reasonably secure, but low, return. Furthermore, at least in the foreseeable future if they continue their peg, they cannot risk spending these reserves since that would drive down the dollar.

By appreciating the yuan, China could eliminate this need to pile up reserves and even become able to spend some of this accumulation on something useful. Of course the reserves would be worth less than they are now on paper, but a lower value that you can spend is presumably better than a high value that you cannot.

An appreciation would offer China several benefits. First, just as it would worsen the terms of trade of the US, the terms of trade of China would improve. That is, at a high value of the yuan China would be getting more real value of imports in exchange for its exports, and China’s real income would rise as a result. Also, the appreciation would satisfy the demands for doing this that have been made for years by the US and Europe, thus improving political relations with them and reducing the likelihood that they will implement protectionist policies against Chinese exports.
The drawback of a Chinese appreciation, however, is well understood by the Chinese government. A higher yuan will reduce the competitiveness of Chinese exporters, upon whom China has depended for years to sustain its economic growth. Other expansionary policies might accompany an appreciation so as to prevent it from being too severe (China has in any case been more worried about inflation than recession in recent years), but particular sectors will be hit harder than others and will surely suffer. It is this likelihood that an appreciation will disrupt Chinese exports, in particular sectors and regions, that most likely accounts for their reluctance, so far, to permit more than a token appreciation.

2. (20 points) Write a short paragraph explaining the meaning and importance each of any two (your choice) of the following three terms and its role in the institutions of the international economy:

   a. Trade promotion authority

   Trade promotion authority (TPA), also called Fast Track, is the commitment by the US Congress to consider trade legislation on an up or down basis. That is, at the request of various presidents, Congress has agreed to refrain from amending trade legislation that would be brought to it by the administration during various specified periods of time, and subject to timetables of procedures. TPA makes it possible for the administration to negotiate trade agreements, both with particular partners in potential preferential trade agreements and multilaterally in the World Trade Organization, with the assurance that these agreements will not be altered by Congress. Without that (which expires in summer 2007), it is understood that countries are unlikely to be willing to negotiate with the United States at all, on trade issues, and therefore that any trade liberalization involving the United States is unlikely to go forward.

   b. Dollar shortage / dollar glut

   Shortly after World War II, with the United States the only large industrialized economy that had not been destroyed, the rest of the world depended on US exports for much of its needs. But without much that it could export to the US, it lacked the dollars needed to buy these exports. This was called the “dollar shortage,” and it gave rise to much policy discussion attempting to change the situation. Over time, the problem solved itself, as other industrialized countries rebuilt their infrastructures and manufacturing capabilities, so that by the 1960s the dollar shortage was no longer an issue. It was replaced, however, by the “dollar glut,” which arose as the US moved into trade deficit resulting from its lavish expenditures on both the Great Society programs and the Vietnam War. Now the US was spending more dollars in trade than it was earning, and dollars came to be in excess supply. This situation led to the breakdown of the Bretton-Woods exchange rate system, which was based on countries pegging their currencies to the US dollar. With the dollar glut undermining confidence in the continuing value of the dollar, speculative capital flows made the pegged exchange rates increasingly difficult to sustain, and in the early 1970s the system collapsed.
c. Most favored nation

Most favored nation (MFN) is the term used for a central requirement of the GATT and WTO, that members extend to all members the “best” treatment that they extend to any member. That is, whatever is the lowest tariff that a country levies on the exports of one other member of the WTO, it must also levy that same low tariff on exports of the product from all other members. The importance of MFN is the following implication: if two members of the WTO negotiate an agreement between them to lower tariffs on particular exports to each other, then they must extend that same benefit to all other members of the WTO. As a result, such bilateral reciprocal trade negotiations provide the driving force behind multilateral trade liberalization among all the members. (There are, however, several important exceptions to the MFN requirement, including for example permission to negotiate free trade agreements within which countries reduce almost all of their tariffs to zero on exports from partner countries, without extending that treatment to others.)

3. (45 points) Consider a small country that initially imports 2 million bushels of potatoes, per year, under free trade at a world price of $5 per bushel. A large number of domestic firms also produce potatoes (identical to imported ones) and sell them on the domestic market.

a. Show, using an appropriate model, who in this country will gain and who will lose if it now levies a 10% ad valorem tariff on imports of potatoes.

Supply and demand for potatoes in the country’s domestic market are shown in the figure. Because it is small, the country takes as given the world price of $5/bushel, and under free trade it produces $Q^S_0$ and consumes $Q^D_0$, the latter exceeding the former by 2 million bushels, which it imports.

A 10% tariff raises the price of imports to $5.50, which becomes the domestic price of domestically produced potatoes as well. At this price, supply rises to $Q^S_1$ and demand falls to $Q^D_1$, thus reducing the quantity of imports.

The rise in price benefits suppliers in the country, who get more, and hurts demanders, who pay more. It also generates tariff revenue for the government, which is a gain for the country, presumably benefitting all the country’s residents as taxpayers.

b. If you were quantify (in dollars) these gains and losses and add them up, would the country as a whole gain, lose, or be unaffected by this tariff?
The welfare effects of this policy can be read from the several labeled areas in the figure:

Demanders lose (consumer surplus) \(-a-b+c+d\)
Suppliers gain (producer surplus) \(+a\)
Government (taxpayers) gain (tariff revenue) \(+c\)

Each of these areas is a dollar value (dollars per bushel times bushels). Adding them up, areas a and c cancel out (portions of what demanders lose that are matched by equal gains to producers and government). That leaves a net loss of area \((b+d)\), indicating that the country as a whole loses from the tariff.

c. How, if at all, would your answers to the above be changed if
   
   i. The policy was a specific tariff of $.50 per bushel, rather than an ad valorem tariff.

   This would not matter at all, since the specific tariff also raises the (fixed) price from $5.00 to $5.50.

   ii. Demanders were completely unwilling ever to pay more than $5 per bushel for potatoes, viewing them as perfect substitutes for turnips that continue to be available for $5 per bushel.

   Contrary to the demand curve drawn above, this says that the demand curve for potatoes is horizontal at price $5.00. In that case, even the tiniest tariff will eliminate imports completely, since demanders won't pay more than $5.00 for potatoes. With imports gone, the size of the tariff is irrelevant, and the price in the domestic market remains at $5.00. Thus, although imports are reduced to zero, there is no gain or loss for anybody in the country.

   iii. The country were not small, but instead faced a perfectly inelastic (i.e., vertical) supply of imported potatoes from abroad. (Let demand behavior be back to normal in this case; i.e., no turnips.)

For this it is easiest if we look at the market for imports, where the demand, \(D^M\), is excess demand from the domestic market. Under the assumption that the country faces a vertical supply curve of potatoes from abroad, the supply curve \(S^M\) here is vertical at 2 million bushels.

The tariff requires that the domestic price exceed the foreign price by the amount of the tariff, and that import supply equal import demand. Since import supply is 2 million bushels regardless of price, the domestic price must be the price at which import demand is
also 2 million, and that is the price that prevailed before the tariff was imposed, $5.00. The foreign price therefore falls enough so that $5.00 is 10% above it, or $5.00/1.1 = $4.55.

Thus there is, again, no change in the domestic price, and both domestic suppliers and domestic demanders are unaffected by the tariff. This time, however, the government/taxpayer does gain, the full amount of the tariff revenue, which is $0.45*2 = $0.90 million.

This gain comes at the expense of the foreign suppliers, who lose exactly this same amount in producer surplus. There is no dead weight loss.

4. (15 points) Without doing any formal analysis, for each of the following statements, explain in words why it is true or false:

a. An import quota provides a greater benefit to an import-competing domestic monopolist than would be provided by a tariff that would lead to the same quantity of imports.

True: A tariff merely raises the price that the monopolist can charge by the amount of the tariff, since the monopolist continues to face infinitely elastic demand at that price due to competition from imports. A quota, set at the level of imports that would come in under the tariff, makes it possible for the monopolist to raise price even higher, since demand is now less elastic. At the higher price, the monopolist makes a larger profit.

b. A voluntary export restraint lowers the welfare of the importing country as a whole more than would a tariff that provides the same benefit to import-competing domestic producers.

True: The two policies are stated as having the same effect on domestic producers, and this means that demanders also face the same price and suffer the same loss under the two policies. They differ, though, in who gets the revenue/rent. The tariff generates revenue for the domestic government. The VER, implemented by the foreign government, cannot benefit the domestic government, and therefore hurts the domestic country as a whole more than the tariff. (Most likely, what would have been tariff revenue becomes quota rents for the foreign country, perhaps its government or perhaps its firms, depending on how the VER is implemented.)

c. An export subsidy improves the exporting country’s terms of trade.

False: If the country is too small to affect world prices, then its terms of trade are unchanged, since the terms of trade is the relative price that the country gets, on the world market, for what it exports. If the country is large enough to affect world prices, then the subsidy causes the world price of its export to fall, and this worsens its terms of trade. So in neither case does the terms of trade improve.