Economics 39F: Final Exam

Please be concise and to the point. Print your name on your exam and turn it in with your blue books. You have 3 hours (but I doubt you will need it). The exam has 100 points. Answer all 3 questions. You should spend the first 10 minutes reading the exam. Good luck!

1. (50 points) A few weeks ago, the New York Times ran an article reporting that the WTO had just authorized the US to impose tariff retaliation against the EU for the EU’s WTO-illegal program of production subsidies offered to its major aircraft maker Airbus. As the Times article noted:

“The World Trade Organization’s decision brings to an end a roughly 15-year dispute over the financial assistance that Europe provides to its major plane maker. The organization ruled last May that Europe had illegally subsidized several of Airbus’s models. On Wednesday morning, the global trade body announced that the United States could seek to recoup $7.5 billion in damages by imposing tariffs, the largest authorized retaliation in the organization’s history.

The Office of the United States Trade Representative said that it plans to levy a 10 percent tariff on European aircraft and a 25 percent tariff on agricultural goods, industrial products and other imports in an effort to pressure the European government to abandon its subsidies.

“For years, Europe has been providing massive subsidies to Airbus that have seriously injured the U.S. aerospace industry and our workers,” Robert Lighthizer, the United States trade representative, said in a statement. “We expect to enter into negotiations with the European Union aimed at resolving this issue in a way that will benefit American workers.”

You have been hired by Robert Lighthizer as a winter intern to help him resolve the US-EU trade dispute “in a way that will benefit American workers.” In particular, Mr. Lighthizer believes that, with the threat of large US tariffs hanging over the EU, he can negotiate a deal under which the EU will agree to remove its production subsidies to aircraft. He is interested in how the removal of the EU production subsidy will impact US workers in the short run and in the long run in a setting where the US and EU aircraft industries are competing to export to third-country markets, and he is also interested in how overall utility in the US and in these third-country markets (the non-EU rest of the world) will be impacted. To help Mr. Lighthizer, please answer the following:

a) First, use the 3-country (EU, US, ROW) 2-good Basic Trade Model, with the EU and US exporting aircraft to ROW and importing clothing from ROW, and with the EU initially imposing a production subsidy on aircraft and the US and ROW adopting free trade policies, to determine how overall utility in the US and the ROW will be impacted by the removal of the EU production subsidy to aircraft, illustrating the impact on each of these countries in monetary terms by depicting the equivalent variation.

b) Second, focusing on the US, and assuming that in the short run the US economy is a Specific Factors economy with some capital specific to the aircraft sector, some capital specific to the clothing sector, and labor (workers) mobile between the two sectors, determine whether the real wage of labor will in fact rise in the US in the short run as Mr. Lighthizer hopes after the removal of the EU production subsidy to aircraft.

c) Third, focusing again on the US, and assuming that in the long run the US economy is a Heckscher-Ohlin economy with capital and labor both mobile across sectors and with aircraft the capital-intensive good and clothing the labor-intensive good, determine whether the real wage of labor will in fact rise in the US in the long run as Mr. Lighthizer hopes after the removal of the EU production subsidy to aircraft.
2. (30 points) Using the Continuum-of-Goods Ricardian Trade Model with the fraction $k<1$ of income spent on traded goods and the fraction $(1-k)$ spent on non-traded goods, show that immigration of foreign labor to the domestic country will improve the competitiveness of the domestic country but reduce the real wage of its native workers. Then show that if the foreign country makes a transfer of purchasing power to the domestic country in the right amount, both of these effects can be avoided – that is, both the competitiveness of the domestic country and the real wage of its workers (not counting the direct benefit they will get from the transfer itself) will remain unchanged.

3. (20 points) Earlier this year, the Washington Post ran an article with the title “Help wanted: Rural America needs immigrants,” which began as follows:

“President Trump argues that keeping immigrants and refugees out of our country is a matter of vital national security. He has made it his campaign thesis and shut down the government over it. Here in Storm Lake, Iowa, where the population is about 15,000 and unemployment is under 2 percent, Asians and Africans and Latinos are our lifeline. The only threat they pose to us is if they weren’t here. That’s been the case for years all over rural Iowa and southern Minnesota, in the heart of the Corn Belt, where anyone who wants a job cutting hogs or laying block or working as an orderly can get one. One part of the rural condition in American today is that, after college, our young people go to Des Moines or some city beyond for a job in finance or engineering that simply doesn’t exist in the old, county-seat towns of 5,000 people. As rural counties are drained of young people with higher educations, immigrants flow into the vacuum. The influx began 40 years ago and continues today.”

Let’s use the Specific Factors Model to explore why “rural America needs immigrants.” In particular, suppose Corn farms are located in Storm Lake and the Finance industry is located in Des Moines, and that these two locations and industries represent the US economy, which we will assume for simplicity is small in world markets. Suppose further that Land in Storm Lake is specific to Corn, Skilled Workers in Des Moines are specific to Finance, and (unskilled) Labor is mobile between Corn and Finance (and hence mobile between Storm Lake and Des Moines).

Now suppose that some of the Labor living in Storm Lake and working the Corn fields decides to go to college, get a degree in Finance and become a Finance-specific Skilled Worker and move to Des Moines, increasing the supply of Finance-specific Skilled Workers there (and hence shifting up the MPP of Labor curve in the Finance sector) and decreasing the US supply of Labor. Show first that this will cause the population in Storm Lake to decline, and that it will cause the real income of Land owners in Storm Lake to decline as well. Then show that if immigration is allowed to augment the US supply of Labor, this will increase both the population in Storm Lake and the real incomes of Storm Lake Land owners, but it will decrease the real wage of the native Labor that had remained in Storm Lake (as it will the real wage of native Labor across the US).

Extra Credit (5 points) Pose a question on a trade policy topic that your grandmother might ask you at the Thanksgiving dinner table this Thursday, and provide an answer that, while supported by the models we have covered in Econ 39 this Fall, you have translated into words and intuitive explanations that your grandmother could appreciate without having taken Econ 39 herself.