

Economics 39F: Second Midterm

Please be concise and to the point. Print your name on your exam and turn it in with your blue books. You have 65 minutes. The exam has 50 points. Answer Part I and *either* question 1 or 2 from Part II. Good luck!

Part I (30 points). In May of 2023, the Carnegie Endowment for International Peace published a Commentary entitled “The Biden Administration’s New Vision for Global Trade and Investment” which (paraphrasing) began as follows:

In two landmark speeches in recent weeks, Treasury Secretary Janet Yellen and National Security Advisor Jake Sullivan articulated the core principles of a new international economic order centered on industrial policy. In this vision, the U.S. government will take an active role in reshaping supply chains to ensure its national security, fight climate change, and reduce inequality. Contrary to common conception, Yellen and Sullivan argued, pursuing industrial policy at home is compatible with an open, fair, and cooperative global economic order.

For example, they argued that if all states engage in smart, fair industrial policy, then active government support for clean energy deployment can create a positive-sum global dynamic. The key premise of the argument is Yellen’s “modern supply-side economics,” in which the government makes strategic investments to expand potential economic output. If productivity increases, then the economic pie increases too—eliminating the need for zero-sum competition.

The two speeches declared the intent of President Joe Biden’s administration to revise the rules and practices that drive global trade and investment.

President Biden has read this Commentary and has asked his Council of Economic Advisers (CEA) to check up on what Treasury Secretary Yellen and National Security Advisor Sullivan have been saying in their speeches. You have been hired to assist the staff economists at the CEA over the winter break, and your first task is to help them provide President Biden with the answers to the questions he has raised. Please answer the following questions.

- (a) First, President Biden is wondering: Would the new rules for the global trading system that Yellen and Sullivan seem to be advocating in these speeches be as simple as the statement “If a country’s industrial policy succeeds in increasing its productivity, then that industrial policy will increase the global economic pie and allow each country to have a bigger slice of that pie, and so the country should not be constrained by international rules from pursuing that industrial policy”? *Using the continuum-of-goods 2-country (US and China) Ricardian trade model of Dornbusch, Fischer and Samuelson, show that this statement is incorrect, by showing that it is possible that the US could be hurt (i.e., the US real wage could be reduced) by an increase in Chinese productivity.*
- (b) Next, President Biden is also wondering if, by analogy, a similar rule might apply for industrial policies that take the form of subsidies to the production of a country’s exports, namely: “If a country’s production subsidy succeeds in increasing its production of the good that it exports, then its trading partner will not be hurt, and so the country should not be constrained by international rules from implementing that production subsidy”? *Using the 2-good (x and y) 2-country (US and China) Basic*

Trade Model where both countries are large, show that this statement is correct within the context of this model, by showing that the US indeed could never be hurt (i.e., the US real GNP could never be reduced) by a Chinese production subsidy on the good that China exports.

- (c) Finally, President Biden wonders if the result of part (b) above applies to every citizen in the US, or just to the US as a whole (its real GNP). *Use the 2-good (x and y) 2-country (US and China) Specific Factors Model to show that this result does not imply that every citizen in the US will gain from the Chinese production subsidy on the good that China exports that you analyzed in part (b).*

Part II. Answer *either* question 1 or question 2 below.

1. (20 points) Consider the 2-good (x and y) 2-country (A and B) Ricardian trade model, in the case where A is exporting good x to B in exchange for imports of good y from B under conditions of free and balanced trade, and where both A and B are large countries. Starting from this initial situation, show that country A would be indifferent between two alternative growth scenarios for B, a first scenario where B experiences population growth, with B's labor endowment increasing by a given percentage g so that $L^B_1 = (1+g)L^B_0$; and a second scenario where instead B experiences technological improvement, with B's unit labor requirement for the production of good y falling by that same percentage g so that $\ell^B_{y1} = \ell^B_{y0}/(1+g)$.

2. (20 points) There is currently great concern among many governments about the consequences of a falling world population for the real per-capita incomes (i.e., real wages) of their citizens. Using the 2-country continuum-of-goods Ricardian trade model of Dornbusch, Fischer and Samuelson, show that a falling world population would have no impact on real per capita income anywhere in the world as long as the populations in the home and the foreign country decline at the same rate so that, if d represents the rate of population decline, then $L_1 = (1-d)L_0$ and $L^*_1 = (1-d)L^*_0$.

Extra Credit (2 points): Pose a question on a trade policy topic that your aunt might ask you at the Thanksgiving dinner table this year, 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 aunt could appreciate without having taken Econ 39 herself.