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International Trade – Midterm Exam

Directions: You will have two hours to complete this exam. Read each question carefully and think your way through each problem. Don't lose points due to carelessness. **Points will be deducted for irrelevant information and/or if your answer is incomprehensible.**

It's the spring of 2002. You are an economist on President Bush's council of economic advisors. Congress is considering legislation, called the "2002 Farm Bill," that would increase subsidies to US farmers. The president has asked you to explain how the proposed legislation will affect world market prices and how the proposed legislation will affect farmers in less-developed countries.

Background

Since the 1930s, marketing loans programs have been the primary source of domestic support for US farmers. Marketing loans allow farmers to sell their crops throughout the year. With the loan, producers can afford to store their harvest instead of having to sell the crops immediately. In other words, the loan allows farmers to sell the crop at a strategic time, i.e. when prices are high.

Every six years Congress passes a "Farm Bill," which sets the loan rates for each agricultural product (for example: $100 per metric ton of wheat). Beginning in 1985, Congress established "target prices" for agricultural products and authorized "deficiency payments" to farmers when the market price fell below the target price. (The payments were equal to the difference between the target price and the market price or the difference between the target price and the loan rate, whichever was lower).

To prevent the deficiency payments from creating excess supply of agricultural output, the 1985 Farm Bill separated payments from current production by basing the deficiency payments on a farmer's historical average yield and the number of acres planted to each program crop.

The 1990 Farm Bill went one step further and fixed the acreage base for each crop at historical levels. Since current planting and input decisions could no longer influence the deficiency payment a farmer received, income support payments were almost fully separated from production decisions.

The 1996 Farm Bill eliminated target prices and deficiency payments altogether, thus eliminating any link between income support payments and market prices.

2002 Farm Bill

President Bush has asked you, his economic advisor, to provide him with an analysis of the 2002 Farm Bill. The bill Congress is currently considering would reestablish a target price system, increase loan rates and allow farmers to update the historical base on which payments were made, so that payments would once again be linked to production decisions.

Not surprisingly, interest groups that represent farmers, such as the American Farm Bureau, strongly support the proposed legislation.

Oxfam (a development, advocacy and relief agency) opposes the legislation and is conducting a public awareness campaign to focus attention on the effects that such subsidies have on world prices and how lower agricultural prices depress living standards in developing countries.

Questions for ALL Students

For simplicity, assume that there are only two countries in the world: the US and Africa. Both the US and Africa produce two goods: manufactures and food. Manufactures are produced using capital, K, and labor, L. Food is produced using arable land, T, and labor, L. Assume that the US and Africa have equal endowments of arable land and labor, but the US has more capital than Africa.

The president has asked you to answer the following list of questions:

1. (5 points) Why does the US has a comparative advantage in the production of manufactures?

2. (5 points) Why does Africa has a comparative advantage in the production of food?

3. (5 points) Why does the US gain from exporting manufactures and importing food?

4. (5 points) Why does Africa gain from importing manufactures and exporting food?

5. (10 points) If US farmers sell food on world markets, then how will the 2002 Farm Bill affect the relative price of food in the world?

6. (10 points) How would passage of the 2002 Farm Bill would alter the income distribution in Africa? In other words: Who would gain and who would lose? Discuss.

One of the predictions of the Heckscher-Ohlin model is that – if both countries produce both goods and if both countries share the same technology and if trade equalizes product prices – then free trade will lead to factor price equalization.

7. (15 points) Explain why free trade equalizes factor prices in the Heckscher-Ohlin model.

8. (15 points) Why doesn't free trade equalize factor prices in the Ricardian model?

9. (15 points) Why doesn't free trade equalize factor prices in the Specific-Factors model?

One More Question for Undergraduates

10. (15 points) In the discussion of the empirical results on the Heckscher-Ohlin model, we noted that recent work suggests that the efficiency of factors of production seems to differ internationally. Explain how this would affect the concept of factor price equalization.

Five More Questions for Grad Students

The following questions pertain to Jones and Scheinkman (*JPE*, 1977):

10. (15 points) Describe the three general properties of production models.

11. (15 points) Why do magnification effects occur in the even and uneven cases? Why don't magnification effects occur in cases of joint production?

The following questions pertain to the "mystery of missing trade" (Trefler, *AER*, 1995).

12. (10 points) If the HOV model perfectly described trade patterns, then why would the variance of the measured factor contents of trade, F_k^i, equal the variance of the country endowments, $V_k^i - s^i V_k^w$?

13. (15 points) In what sense is trade "missing" if the variance of the measured factor contents of trade is very small relative to the variance of the country endowments (as Trefler found)?

14. (10 points) How does Trefler account for half of the "missing trade?"