

ECON 161: Economic Issues in Latin America

Problem Set 1.

Out: October 6, 2003. Due: October 17, 2003, noon, 245 Sequoyah Hall.

1. Write a short essay (less than 500 words) evaluating the following statement:

The fact that institutional differences explain the bulk of the differences in income per capita among countries means that we should focus our energies on institutional reforms as the primary vehicle of development.

2. Consider the production function we saw in class:

$$Y = f(K, H) = K^\alpha(AH)^{1-\alpha}, \quad (1)$$

where Y is output per capita, A is productivity, K is the capital stock per worker, and H is the average educational attainment.

- (a) Compute the marginal product of capital (MPK).
- (b) Assuming that the interest rate is r , set the MPK equal to r , and compute the optimal capital stock as a function of the other variables.

Download the cross-country output data from the course web site.

- (c) Which country is the poorest in this hemisphere, according to the data provided? What is its income as fraction of that of the United States? What is the income (relative to the U.S.) of the median country in the hemisphere?
 - (d) Suppose that educational attainment in every country in the hemisphere were to rise to U.S. levels. Using the production function above, compute what the incomes of the poorest and median countries would be.
 - (e) Now consider how physical capital would adjust to the rise in H . Redo the calculations from (d) under this scenario. Has this eliminated the income gap?
 - (f) Outside of North America, Mexico, Trinidad and Tobago, and Venezuela have highest total-factor productivities (TFP, or the A term) in the hemisphere. There are two possibilities: (i) these countries really are nearly as productive as the U.S. or (ii) that there is some systematic measurement error (i.e., a problem with applying equation (1) to these countries). Consider possibility (ii). Propose and justify a possible explanation for why factors appear to be more productive in these countries. (Hint: consider the principal exports that these countries have in common. Consult the *CIA World Factbook* web site if you wish.)
 - (g) In view of the explanation advanced in (f), what does this imply about the productivity of additional investment in these countries (higher, lower, the same, relative to apparent productivity from the data)?
3. (Not to be handed in.) There are several assigned readings (Haber, *Economist*, Wasserman) on agriculture and development in Latin America. Contrast these experiences in the context of general themes of the course: (i) institutions, (ii) geography, and (iii) dependency.