

DEVELOPMENT ECONOMICS
COMPREHENSIVE EXAMINATION
JUNE 2000

TIME: 4 hours

MAXIMUM POSSIBLE SCORE: 240 Points

I. (80 Pts. = 6 2/3 points per TFU question) TRUE, FALSE, or UNCERTAIN. In each case give a clear explanation of your answer. Your grade will depend heavily on your explanation.)

1. In an electricity system containing five different types of thermal capacity (with the plants of any one type being fully homogeneous), a system based on marginal cost pricing and its corresponding investment criteria will require only one peaktime surcharge.
2. The two systems -- i) an economic cost of capital of $\omega = 10\%$, with a "shadow price of investible funds" (SPIF) equal to unity, and ii) an economic cost of capital of $r = 4\%$, with a SPIF equal to 2.5 ($= \omega/r$) -- give equivalent results for projects whose costs are concentrated in a single period and whose benefits take the form of a constant-level perpetuity.
3. A country whose GDP is growing at 5% per year, and whose money supply is initially equal to 20% of GDP, can use monetary expansion to finance a fiscal deficit equal to 1% of GDP, without fear of generating either inflation or other serious economic consequences.
4. The opportunity cost of labor is obtained by estimating, for each worker, the salary that he would get in the best opportunity that he faces in the labor market.
5. For projects whose profiles are independent (from each other) it is appropriate to work with a benefit-cost-ratio criterion, accepting all projects that have a ratio "present value of benefits/ present value of costs" greater than or equal to one, and rejecting those where this ratio is less than one.
6. The benefit-cost ratio is not, in general, an adequate criterion, because one obtains different results depending on how current costs are treated.
7. When a highway project has benefits that increase with time, the proper time to construct that project is when its profile first yields a positive net present value.
8. The net present value of a project is maximized by choosing that scale at which the marginal (or incremental) internal rate of return is just equal to the opportunity cost of capital.
9. If there are no import tariffs, and no export taxes or subsidies, and no quantitative restrictions of any kind on imports and exports, the social opportunity cost of foreign exchange will be equal to the market exchange rate.

10. If it is worthwhile to add an irrigation component (B) to an electricity project (A) then it is also worthwhile to add Project A, if Project B is considered as the initial base.
11. The social benefit that accrues when a project "absorbs" 100 workers who would otherwise be unemployed consists of the income that these workers obtain from the project.
12. If a project is located in a "protected sector" of the labor market, the social opportunity cost of labor will be higher than it would be if that project were located in the "unprotected" part of the same labor market.

II. (20 Pts.) Explain how a rise in population density can induce rises in agricultural productivity.

III. (30 Pts.) In recent years, the monetary policy regime known as "inflation targeting" has become very fashionable and several developing countries have adopted it (Brazil being a notable example). Write a short essay on the main characteristics of an inflation targeting regime and compare it to interest rate targeting, monetary targeting and exchange rate targeting (i.e., predetermined exchange rates). Make sure to analyze the pros and cons of each regime and the country characteristics that may be important for choosing the optimal monetary regime. [In writing this essay, be careful to distinguish between policy *instruments* and policy *objectives*.]

IV. (20 Pts.) Outline a model of the transformation of a dual economy and explain why its surplus labor phase is a theoretical curiosum.

V. (20 Pts. -- 6 2/3 pts. each) Evaluate critically the following statements:

1. A shrinking real money supply is evidence that monetary policy is too tight.
2. The monetary approach to the balance of payments predicts that a devaluation will lead to a current account deficit.
3. A current account deficit of over 10 percent of GDP is clearly unsustainable.

VI. (20 Pts.) Given that the urban wage is roughly twice the rural wage in many poor countries, explain why the Harris-Todaro model provides an overestimate of the urban unemployment rates in such countries, and how this deficiency can be overcome.

VII. (30 Pts.) Professor Robert A. Mundell was recently awarded the Nobel Prize in Economics. Discuss Mundell's main contributions in the area of monetary and fiscal policy under perfect capital mobility and fixed/floating exchange rates. What are the key results? Why have they been so influential? What (if anything) have we learned of fundamental importance in this area since Mundell's contributions?

VIII. (20 Pts.) Critically discuss the relative efficacy of the direct vs. indirect route of poverty alleviation.