WRITTEN PRELIMINARY Ph.D EXAMINATION

Department of Applied Economics

Summer – 2007

Trade, Development and Growth

For students electing

New Trade Theory (8702) & Micro (8703) option

Instructions

· Identify yourself by your code letter, not your name, on each question
· Start each question's answer at the top of a new page
· You are requested to answer a total of FOUR questions
· Answer ONE question from Set One
· Answer THREE questions from Set Two
· You have four hours to complete this examination
SET ONE

Required Question; Answer ONE Question (I or II but not both)

I. Evolution of Theory

Consider the evolution of the theory of international exchange. Over time, four distinctive bodies of literature have emerged, including: (1) traditional theories of comparative advantage, (2) factor-content theory, (3) New Trade theory, and (4) trade and multinationals theory. Consider this evolution of the literature to answer the questions below.

1) What are the key assumptions of each body of literature?

2) What real-world observations prompted the initiation of each of the four bodies of literature?

3) What are the implications of each body of literature for theory predictions in terms of the patterns of exchange?

II. Miscellaneous Questions on Microeconomic Analysis of Development Issues

1) Economists often claim that there is a “production function” for academic skills. One can also imagine a “demand function” for child academic. Briefly explain the difference between the production function and the demand function for child academic skills. Suppose that school quality, which the household considers to be exogenous, increases. Would the impact of that increase on children’s academic skills be higher in the production function or in the demand function? Briefly explain your answer. There is no need to refer to a particular model presented in class, just give very general arguments.

2) Many economists argue that, in developed countries, increases in the minimum wage will lead to increases in unemployment. Give three arguments as to why this is less likely to happen in developing countries. Cite at least one empirical study discussed in class that supports one of your arguments. Please keep your answers brief.

3) Reinikka and Svensson pointed out a serious problem with foreign aid for education in Uganda. First, briefly describe the problem (2 or 3 sentences is enough). Second, briefly describe a policy that the central government could introduce that is likely to reduce this problem (again, just use 2 or 3 sentences). Third, briefly explain how this problem may complicate attempts to estimate the impact of foreign aid using cross-country regressions (2-3 sentences is sufficient).
SET TWO

Answer THREE of the following four questions (III to VI)

III. Stylized Facts

Consider the following changes in the patterns of international trade and foreign direct investment (FDI):

1) Since the late 1980s, FDI has grown worldwide.
2) Developed countries are the predominant sources and recipients of FDI.
3) FDI tends to be horizontal rather than vertical.
4) A majority of world trade is intra-firm trade.

Use your knowledge of trade and multinationals theory to explain the above stylized facts. Be sure to discuss key assumptions and features of the models in this literature.

IV. Trade and Multinationals Models

A primary effort of the theory research on trade and multinationals is to explore firms’ decisions about how to service foreign markets. These decisions include servicing via trade, FDI, licensing, or joint ventures.

1) Discuss at least three features of the models that explain the servicing decision?
2) Discuss the links between these modeling features and the concepts of ownership, location, and internalization of Dunning’s eclectic paradigm.

V. Productivity and Technical Change

Answer all of the following 3 questions.

1) Using the relationship between a partial-, a multi-, and a total-factor productivity index, describe what Abramovitz meant by the notion that productivity is a “measure of our ignorance.”
2) In a one output, two input world, illustrate graphically and carefully explain the difference between productivity growth and technical change.
3) Carrying forward the one output two input world, will forming a Paasche input aggregate cause measured changes in multi-factor productivity to over-or under-state the extent of technical change? Illustrate and discuss.
VI. Models of Rural Land Markets.

Consider a land market model, similar to one discussed in class, in which farmer effort determines output. Output, Y, depends on the effort of the (tenant) farmer, where effort is denoted by e, and e lies between 0 and 1. Y is a random variable that can take 3 values, 0, 1 and 2. Assume that Y is related to effort as follows:

\[ \text{Prob}[Y = 0] = (1 - e)/2 \]
\[ \text{Prob}[Y = 2] = e/4 \]

1) What is the probability that Y = 1?

2) Suppose that tenant effort (e) is the only variable that determines the probabilities that Y equals 0, 1 or 2. The farmer does not own any land and so he must rent it from a landlord. Assume that e is not observed by the landlord. The contract is set up by the landlord as follows:

Tenant receives h when Y = 2
Tenant receives m when Y = 1
Tenant receives l when Y = 0

The tenant has an expected utility function equal to \( E[y_T] - ce^2/2 \), where \( E[y_T] \) is the expected income of the tenant, which is a function of e, and \( ce^2/2 \) is the disutility of effort. Assuming that the tenant maximizes expected utility, derive the tenants optimal effort (e) as a function of h, m, l and c.

3) From the viewpoint of society as a whole, what is the “socially optimal” value of e?

4) Express the profit of the landlord, denoted by \( \pi \), as a function of h, m, l and e. Insert your solution for e from part b) into this expression. Show the first order condition for profit maximization with respect to h (assume an interior solution).

5) Use your answer for d) to compare the socially optimal level of e you showed in c) with your derivation for e in part b). Give an intuitive explanation for your comparison result.