

Name: \_\_\_\_\_  
Spring 2012

Economics of Development  
Exam 1

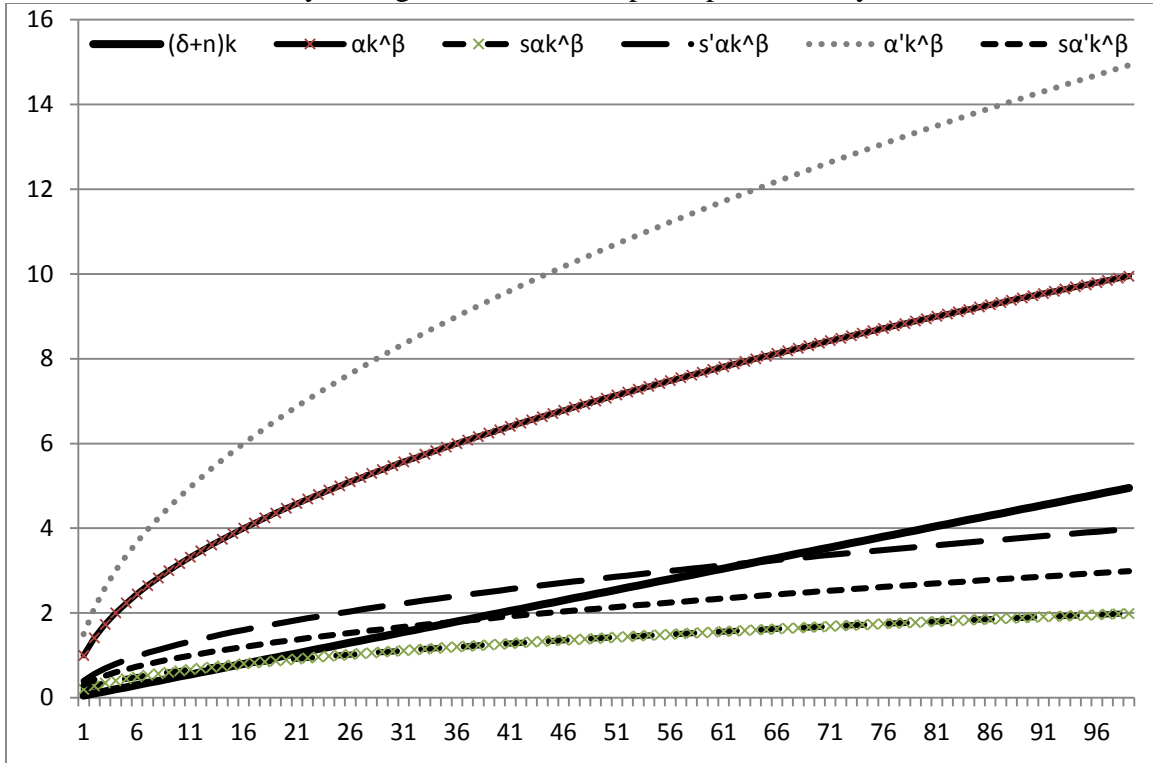
Total quiz is 30 points. Each question is worth three points. Each sub question is worth an equal share of these three points.

1) Circle to indicate whether the statement is true or false.

<b>Statement</b>	<b>Is the statement True or False?</b>
Transfer pricing is when a firm that has monopoly power in a home country sells uses the monopoly profits to sell at a lower price in foreign markets to drive out competitors.	True or False
The Harrod Domar model predicts growth rates in a national economy diminish as capital stocks increase due to diminishing marginal returns to capital.	True or False
An overvalued currency means that market forces would lead to more units of the domestic currency being needed to purchase one unit of a foreign currency than is possible at the current rate.	True or False
The United States is the largest provider of ODA compared to any other member of the OECD in terms of ODA/GNI.	True or False
Every country has to have a comparative advantage in at least one commodity by the theory of comparative advantage.	True or False
Debt service payments are subtracted from the current account in the balance of payments.	True or False
Solow's model was designed to explain cross country evidence on 'conditional convergence' in income per capita over time.	True or False
Sala-i-Martin's study of the world distribution of income finds there has been no significant reduction in the number of people in absolute poverty from 1970 to 2000 worldwide.	True or False
Conversion of a currency by the purchasing power parity method applies a common set of international prices to all goods and services produced in a country.	True or False

2) Growth theories.

- a. Using the notation on this graph, use the space below the graph and / or the space on the next page to describe the contrast Solow drew between growth from technological progress and growth from increased savings. What kind of growth can lead to steady state growth in income per capita and why?



$k$  is capital per worker on the x axis,

output per worker is defined as  $y = \alpha k^\beta$  on the y axis.

$\alpha$  represents technological knowledge,

$\beta$  is the share of national income controlled by owners of capital,

$n$  is population growth rate,  $\delta$  is the depreciation rate, and  $s$  is the savings rate.



3) Palmlandia workers can produce 100 units of beans per unit of labor and 200 units of rice per unit of labor. Neighboring Mangotopia workers can produce 200 units of beans and 300 units of rice per unit of labor.

- a. Write out the production functions for each good in each of the two countries with units of output as a function of units of labor (that is  $y=f(L)$  takes what mathematical form for each product in each country).

	Beans	Rice
Palmlandia		
Mangotopia		

- b. Identify the product in which each country has a comparative advantage and explain why this is the product in which they have a comparative advantage.

- c. If there are 100 laborers in Palmlandia and 100 in Mangotopia, describe the level of production of each commodity in each country in autarky if each country divides up their labor force with half of the work force allocated to each commodity.

	Beans	Rice
Palmlandia		
Mangotopia		
TOTAL		

- d. Illustrate by moving 20 of Palmlandia's workers and 11 of Mangotopia's workers to the commodity for which they have comparative advantage how it is possible to increase total production of the two goods without using any new resources.

	Beans	Rice
Palmlandia		
Mangotopia		
NEW TOTAL		

- e. Can Palmlandia and Mangotopia can both be better off than they were in autarky if they trade 2100 units of beans for 3500 units of rice.

	Beans	Rice
Palmlandia		
Mangotopia		
NEW TOTAL		

4) Define:

a. Purchasing Power Parity Currency Conversion.

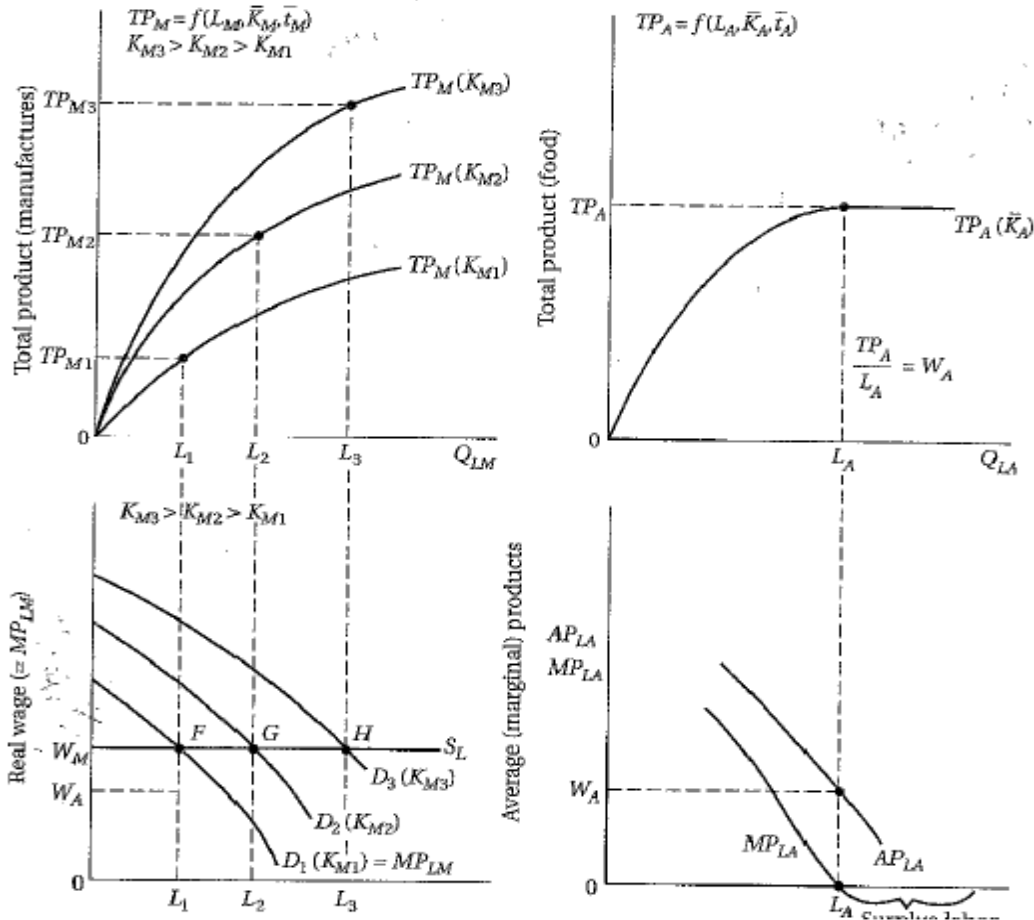
b. Club convergence.

c. The Commodity Terms of Trade.

d. Dumping.

- 5) Consider the following set of figures taken from the textbook and answer the questions below.

**FIGURE 3.1 The Lewis Model of Modern-Sector Growth in a Two-Sector Surplus-Labor Economy**



- What is the name usually given to this model?
- What qualitative change in the economy of a country is this model designed to describe?
- How does the model describe the economic forces that lead to the increase in the capital stock from  $K_{M1}$  to  $K_{M2}$ ?

6) In class, the approach behind the Poverty Reduction Strategy Papers (PRSP) were described as following four core principles: 1) Country driven, 2) Medium to long term in perspective, 3) Comprehensive and results-oriented, focusing on outcomes that will benefit the poor, and 4) Partnership oriented – involving coordinated participation of bilateral, multilateral, NGO, government, and civil society. Describe how each of these principles is a reaction to critiques of development policy as it had been practiced in the era prior to the PRSP era.



7) Exchange rates.

a. Illustrate on a supply and demand for foreign currency graph the impact of an overvalued official exchange rate.

b. In a country with an overvalued official exchange rate, are importers or exporters in the country likely to be harmed if the currency is devalued to the market determined exchange rate? Explain briefly.

c. Explain why a country might want to use an overvalued exchange rate as part of the country's import substitution industrialization strategy.

8) Romer model

a) Contrast the Solow Model production function with the Romer model production function.

b) How does the Romer model differ from the Solow model in the view of technological progress?

c) Explain how a Romer model can explain a failure to find unconditional convergence.

9) There are four workers in the economy who differ in their labor quality as defined by their 'q' value. Q is defined on a scale of [0,1] with higher q being higher quality. Worker one has q=1, worker two has q=0.8, worker three has q=0.6, and worker four is q=0.4. Production takes place using two workers, with output of combining workers i and j defined by  $y_{ij} = q_i * q_j$ .

a) Fill in the following

Combination 1	Resulting output 1	Combination 2	Resulting output 2	Total output (1+2)
(1, 0.8)		(0.6, 0.4)		
(1, 0.6)		(0.8, 0.4)		
(1, 0.4)		(0.8, 0.6)		

Say production can be increased by paying for training that will increase the q of a given worker. The cost of this training, c, can be expressed in terms of output y. Training that costs c raises the skills of a worker as represented by a 0.1 increase in their q value. As you may recall from class, training will be given to the lower q worker in a given pair so you can just focus on that.

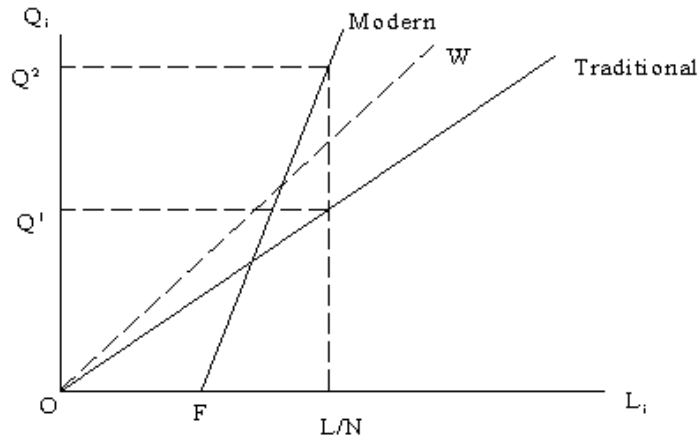
b) What is the maximum cost c a firm would be willing to pay for the training that will increase the skill level of the 0.8 worker in a (1, 0.8) pairing?

c) What is the maximum cost c a firm would be willing to pay for the training that will increase the skill level of the 0.4 worker in a (0.6, 0.4) pairing?

d) Contrast your answers to (b) and (c) to illustrate why the O-ring theory can be used to explain a lack of 'convergence'.

10) More models.

- a. Identify the name of the model associated with this figure and **define F, L, and N.**



- b. In the figure as drawn above, there are three wage lines. Is coordination across sectors needed to allow for adoption of the modern technology in this sector if the wage rate is  $W_1$ ,  $W_2$ , or  $W_3$ ? Explain your answer.