İKT 411 Principles of Development Economics

Spring 2016

Homework 1: Due: 02 February 2016 (in class)

Late submissions will not be accepted.

Group work is allowed and encouraged, but each student has to submit own homework. Violations of academic integrity will be penalized.

Question 1: (10 points)

Production function: $Y = K^{\alpha}H^{\beta}L^{1-\alpha-\beta},\ 0 < \alpha,\ \beta < 1,\ \alpha + \beta < 1.$

Physical capital accumulation: $\dot{K} = sY - \delta K$.

Human capital accumulation: $\dot{H} = qY - \delta H$.

L shows population, which is constant. The parameters s and q are the shares of output devoted to capital accumulation. Depreciation rate is δ.

Define the steady-state.

Question 2: (10 points)

a) Why is a strictly economic definition of development inadequate? What do you understand *economic development* to mean? Can you give hypothetical or real examples of situations in which a country may be developing economically but still be underdeveloped?
b) How does the concept of "capabilities to function" help us gain insight into development goals and achievements? Is money enough? Why or why not?

Question 3: (10 points)

Read in the Todaro and Smith's textbook titled "Economic Development" the case study that compares Pakistan to Bangladesh. Summarize the similarities and dissimilarities of these two countries. Why have these two countries diverged?

Question 4: (10 points)

a) Which international institution publishes Human Development Report (HDR)?
b) Describe the HDI. What are its components?
c) Examine the tables in the 2013 HDR and how the country rankings based on HDR and income per capita may differ. Using the data in the table (taken from the 2013 report), fill in the last two columns of the table. Show your computations clearly.
d) Which countries do the data in the table belong to? Which development categories do these countries belong to?
e) Comment on the table. Notice that countries in the same development category can have diverse characteristics.

Country	Life expectancy at birth	Mean years of schooling	Expected years of schooling	GNI (gross national income) per capita (PPP 2005$)	GNI per capita rank minus HDI rank	HDI value	Non-income HDI value
	80.0	10.1	16.3	20,511			
	76.1	9.3	16.1	15,347			
	75.2	9.4	13.4	19,154			
	79.3	10.2	16.2	5,539			
	74.2	6.5	12.9	13,710			
	67.4	10.4	15.3	10,451			
	73.5	6.4	12.1	5,401			
	49.1	3.1	8.1	1,000			

Definitions:
Mean years of schooling: Average number of years of education received by people ages 25 and older in their lifetime based on education attainment levels of the population converted into years of schooling based on theoretical durations of each level of education attended.

Expected years of schooling: Number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrolment rates were to stay the same throughout the child's life.

Life expectancy at birth: Number of years a newborn infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the infant's life.

GNI (gross national income) per capita: Sum of value added by all resident producers in the economy plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad, divided by midyear population. Value added is the net output of an industry after adding up all outputs and subtracting intermediate inputs. When expressed in PPP US dollar terms, it is converted to international dollars using PPP rates. An international dollar has the same purchasing power over GDP that a US dollar has in the United States.

Non-income HDI value: Value of Human Development Index computed from life expectancy and education index only.