Development Economics
Problem Set 1
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1-Define and discuss the following terms in the context of this course. Your answer should not exceed more than 5 sentences.

a-Economic Development (World Bank approach and Sen's "Capabilities")

Page 16-Traditional Economic Measure;
Focus on Gross National Income (GNI) and Income per capita. GNI are used to measure the overall economic well-being of a population—how much of real goods and services is available to the average citizen for consumption and investment

Page 18-Capability Approach; the "capability to function" is what really matters for status as a poor or nonpoor person. Important thing is what use the consumer can and does make of commodities. Functionings - what a person can do with the commodities of given characteristics that they come to possess or control; Functionings as an achievement. Capabilities as freedoms enjoyed in terms of functionings.

b-Subsistence economy

Page 6- An economy in which production is mainly for personal consumption and the standard of living yields little more than basic necessities of life—food, shelter, and clothing.

c-Absolute poverty

Page 4- A situation of being unable to meet the minimum levels of income, food, clothing, healthcare, shelter, and other essentials.

d. Dependency burden

Page 64- The proportion of the total population aged 0 to 15 and 65+, which is considered economically unproductive and therefore not counted in the labor force.

2. What are the Millennium Development Goals (MDGs) and how did they come about? What do you consider to be the most important of these and why?

Answer: The answer should stress that the goals cover a broad range of objectives both economic and social. These were put forward so that developing countries would have numerical targets against which their progress could be judged and, where warranted,

appropriate assistance offered. An interim assessment of the MDGs can be found at: www.unmilleniumproject.org.

3-Carefully explain some of the similar problems faced by otherwise diverse countries in Africa, Asia, and Latin America by referring common characteristics of developing countries?

Answer: Summarize some of the main points of common characteristics of developing countries. Page 55-73.

4.What are the main differences between the linear stages and international dependency models of development?

Answer: Lack of development is generated internally with the linear stages model, and is attributed to a lack of savings and investment. It is generated externally in the dependency model, and is the result of actions taken by the developed countries.

5.Why are women often referred to as playing a central role in economic development? Development scholars generally view women as playing the central role in the development drama.

Globally, women tend to be poorer than men. They are also more deprived in health and education and in freedoms in all its forms. Moreover, women have primary responsibility for child rearing, and the resources that they are able to bring to this task will determine whether the cycle of transmission of poverty from generation to generation will be broken. mothers tend to spend a significantly higher fraction of income under their control for the benefit of their children than fathers do. Women also transmit values to the next generation.

6.Describe one important criticism of Rostow's stages of economic growth theory.

The stages are only necessary and not sufficient conditions, savings is too aggregate a measure, the theory does not take into account the constraints of the international economic order, and there are counter-examples such as Argentina.

7.What are remittances and what role do they in developing countries? How could this potentially benefit an economy?

An answer should pose a definition, mention how remittances reduce poverty for many migrants and their families, and speak to the possible net increase in labor force skills driven by the desire to emigrate.

8. Assume the growth rate of income is 8% and the growth rate of population is 6% and calculate the following;

a. The doubling time of income = 70/8=8.75

b. The doubling time of population =70/6= 11.6

c. The doubling time of income per capita =70/(8-6)=35

9. Consider the Harrod-Domar growth model. If capital output ratio is 3, and the saving rate is 27%

a. What is the growth rate of income?

The growth rate of income = s/k = 27%/3 = 9%

b. To increase the growth rate of income, what do you need to do?

To increase the growth rate of income, we need to save bigger portion of the income

10. The Human Development Index (HDI) is a composite statistic of indicators, which are used to rank countries into four tiers of human development.

a. What are the main factors taken into consideration when constructing the new HDI (the sub-elements of the index)?

Human Development Index initiated in 1990 by UNDP. New version introduced in 2010, updated 2015. Human Development Index attempts to rank all countries on a scale of 0 (lowest development) to 1 (highest development) based on 3 goals;

1. *Long and healthy life; Life expectancy at birth*
2. *Knowledge; Average schooling attained by adults and expected years of schooling.*
3. *Decent standard of living; GNI PPP adjusted.*

b. How is the new HDI calculated (the equation)?

Aggregating the resulting indices.

$$HDI = (I_{Health} . I_{Education} . I_{Income})^{1/3}$$

c. Following countries has HDI values as

Bangladesh 0.515;
Canada 0.911;
Russian Federation 0.78;
China 0.699;
Burkina Faso 0.343

What can you tell about their development level? Please consider cutoff points of new HDI for the four categories of human development achievements.

Very high human development	0.800 and above
High human development	0.700–0.799
Medium human development	0.550–0.699
Low human development	Below 0.550

Bangladesh 0.515; LHD
Canada 0.911; Very HHD
Russian Federation 0.78; HHD
China 0.699; MHD
Burkina Faso 0.343; LHD

11. a. Without writing any math, explain the basic difference between the exchange rate method and the purchasing power parity method of measuring national income, and explain the motivation for using the purchasing power parity method.

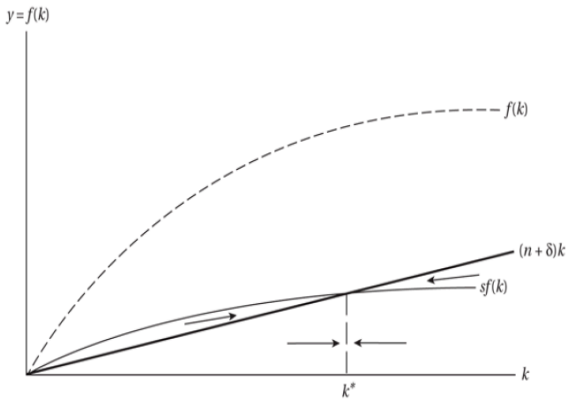
For each country, the exchange rate method multiplies the quantity of each good produced by the price of that good in that country, sums this product across goods, and converts that sum into a common currency using a market exchange rate. The PPP method multiplies the quantity of each good produced by its price in a chosen country, and uses those same prices across all countries.
The PPP method is useful to compare the physical quantities of goods produced across countries since the same weights (prices) are used to aggregate quantities across countries. Also, it is useful for comparing the purchasing power of countries' incomes, since it adjusts for price differences across countries.

b. Why do purchasing power parity measures of income tend to show a smaller difference between low-income and high-income countries than other measures of income?

Low-income countries tend to have lower prices, when prices are expressed in a common currency using market exchange rates.

12. Draw a graph for Solow Growth Model. Specifically, graph output per worker, y, on the vertical axis, and capital stock per worker, k, on the horizontal. Draw in the production function $y = f(k)$, the investment function $s \cdot f(k)$, and the straight line that has slope equal to $(n + \delta) k$.

a- What is a steady-state equilibrium? Mark the steady-state equilibrium on your graph as k_1^*.



$\Delta k = sf(k) - (\delta + n)k$

Per capita capital stock is affect by investment, depreciation, and population growth. The steady state value of capital k that maximizes consumption is called the Golden Rule level of capital. Equilibrium point In the steady state, where savings investment equals investment required by population growth and depreciation.

$$\Delta k = 0$$
$$0 = sf(k) - (\delta + n)k$$
$$sf(k^*) = (\delta + n)k^*$$

b-Suppose many years of hard work in population policy is finally paying off such that the population growth rate falls to n2. Mark the new steady-state equilibrium on your graph as k_2^*. Explain in words what has happened to this economy.

More gradual population growth allows for a movement towards a new steady-state because slower population growth allows for an increase in capital per worker, and thus in output per worker.