UNIVERSITY OF CAPE TOWN
SCHOOL OF ECONOMICS

ECO1010F/ECO1110F, 2024

Whiteboard session 1: CORE Unit 1 and parts of Unit 2, and additional notes

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For discussion on Monday 26 February 2023

This worksheet focuses on some aspects of the work covered in the first two weeks of ECO1010F/ECO1110F. It does not cover all the work. While some questions in this worksheet may be asked in a similar way in the test or exam, the primary aim of this worksheet is to gain a deeper understanding of the work. If you have a thorough understanding of the work, you will be able to handle the more applied questions in the test and exam much better.

You do not have to complete this worksheet before the whiteboard sessions on Monday, but you would do well to work through the questions, be in a position to answer them, and make a positive contribution to the session. This means that you would have to have read all the readings, and attended the lectures/watched the recorded lectures.

Question 1 [Time allocated: 10-15 minutes]

Answer the following question:

1.1 Why is economics called a "social science"?
1.2 Which *one word* describes the discipline of economics?
1.3 What are the three basic economic questions?
1.4 In the economy goods and services are produced. Each of these are subdivided into a number of categories. What are they?
1.5 There are two important characteristics that are used to compare different economic systems. What are they? Evaluate the command and capitalist systems in terms of these two characteristics.
1.6 Capitalism has three critical elements. What are they?
1.7 What is Adam Smith's "invisible hand"?
1.8 Karl Marx wrote about the proletariat and the bourgeoisie. What do these terms refer to?
1.9 In the Communist Manifesto, Karl Marx describes human history as a continuous struggle. A struggle of what? Give some examples.

Question 2 [Time allocated: 25-35 minutes]

Consider a community on the East Coast of Africa many centuries ago. It is an agrarian community. The community produces only maize, the staple crop. The relationship between the number of farmers and the output produced is presented in the table below.

Number of farmers	Total production (kg per year)	Average product of labour	New total production (see question 2.6)	New average product of labour (see question 2.7)
0	0			
100	80 000	800		
200	155 000			
300	225 000			
400	290 000			
500	350 000	700		
600	405 000			
700	455 000			
800	500 000			
900	540 000	600		
1000	575 000			
1100	605 000			
1200	630 000			
1300	650 000	500		
1400	665 000			

For the questions below, it may be more efficient to use an Excel spreadsheet. The raw data is provided in an Excel spreadsheet. However, if you do not feel comfortable in Excel, feel free to use paper and calculator.

2.1 Complete the column for the average product of labour in the table above.

2.2 Present the average product of labour (APL) curve (where you have the number of farmers on the horizontal axis and the APL on the vertical axis).

2.3 Assume that the subsistence wage is 600 kg of maize per farmer. Present this subsistence wage on the diagram that you have drawn. What is the equilibrium population, expressed in number of farmers?

2.4 If the population in this community were to be 500 farmers, what would be the mechanism to get to a point of Malthusian equilibrium?

2.5 If the population in this community were to be 1200 farmers, what would be the mechanism to get to a point of Malthusian equilibrium?

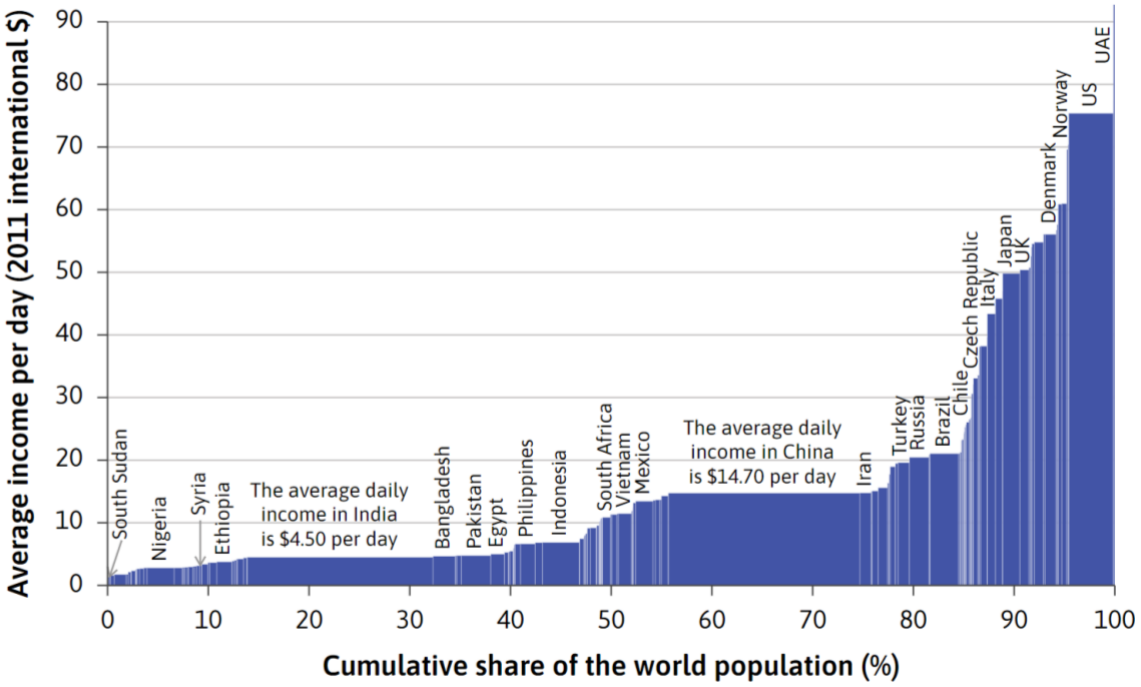
2.6 Imagine that farmers discover a new technique that increases total production by 20% for each and every level of output. Calculate the new level of output for each number of farmers. Do this in the table above.

2.7 Calculate average product of labour (APL) for this new production function, in the last column of the table above.

2.8 Explain how a new Malthusian equilibrium will come about, even with this once-off improvement in technology.

Question 3 [Time allocated: 10-15 minutes]

Consider the following diagram and answer the subsequent questions.



3.1 What is South Africa's (approximate) average income per day? And the US's average income per day?

3.2 If South Africa's population is 60 million, and China's population is 1.4 billion, how many times bigger is China's *economy* than South Africa's? (Note that this question does not ask about population differences, but differences in the size of the economy).

3.3 The World Bank defines countries' development status in terms of income, using the following four categories: low-income, lower-middle-income, upper-middle-income and high-income. Google the following countries and determine their income status according to the World Bank: (a) Ethiopia, (b) India, (c) Egypt, (d) Indonesia, (e) South Africa, (f) China, (g) Brazil, (h) Chile, (i) Italy, and (j) UK.

3.4 What would this graph looked like about 500 years ago?