AFRICAN ECONOMIC RESEARCH CONSORTIUM

Collaborative PhD Programme in Economics for Sub-Saharan Africa

COMPREHENSIVE EXAMINATIONS IN CORE AND ELECTIVE FIELDS

FEBRUARY 11 – MARCH 3, 2014

INTERNATIONAL ECONOMICS

Time: 08:00 – 11:00 GMT **Date: Monday, February 24, 2014**

INSTRUCTIONS:

Answer a total of FOUR questions: ONE question from Section A, ONE question from Section B, and TWO questions from Section C.

The sections are weighted as indicated on the paper.

SECTION A (15%)

Answer only ONE Question from this Section

Question 1

(a) The following table gives the unit labour requirement (in hours) for the production of 2 goods (Good X and Good Y) in two countries, namely Country 1 and Country 2.

	Country 1	Country 2
a_{LX}	2	3
a_{LY}	3	4

(i) Determine the pattern of trade based on the concept of absolute advantage.
(3 marks)

(ii) Determine the pattern of trade based on the concept of comparative advantage.
(5 marks)

(b) Use the information in (a) above and assuming that country 1 has 120 labour hours, draw the production possibility frontier for country 1 and show the gains from trade for the country. **(7 marks)**

Question 2

(a) Show and explain how the IS and LM curves are modified in the open economy framework. **(5 marks)**

(b) Assuming perfect capital mobility, explain with the aid of diagrams the effect of monetary expansion under fixed and flexible exchange rate regimes. **(10 marks)**

SECTION B (25%)

Answer only ONE Question from this Section

Question 3

Consider the following market for homogenous good, rice, in the Home country.

The Home country's demand and supply functions for rice are

$$D_H = 27 - 0.75P_H$$
$$Q_H = -6 + 0.75P_H$$

where D_H and Q_H are domestic demand and supply, respectively, and $P_H$is domestic price for rice.

Let the Foreign country's export supply function be Q_F = -3 +1.5 P_F

(a) Determine Home country's import quantity demand for rice. **(3 mark)**

(b) Find the world's free trade equilibrium price and the equilibrium level of foreign exports. Find also the Home country's consumer surplus and producer surplus. **(5 marks)**

(c) Suppose the government in the Home country decides to introduce an import quota q = 9. What is the import tariff that is equivalent to the quota in terms of its effects on Home country imports? Demonstrate your answer with the help of a diagram. **(7 marks)**

(d) Assume that the Home country is a large country. What is the new world market clearing price after thecountry introduces a tariff, t = 4? Does the introduction of the tariff improve the welfare of the Home country? Demonstrate your answers with the help of a diagram. **(10 marks)**

Question 4

(a) Show how devaluation can improve the trade balance through its effects on income and absorption. **(17 marks)**

(b) Using the approach in (a) above, can the trade balance worsen? Explain your answer. **(8 marks)**

SECTION C (60%)

Answer TWO Questions from this Section

Choose EITHER Question 5 OR 6

Question 5

(a) Using the Median Voter approach, illustrate the process of tariff determination. **(15 marks)**

(b) Critically analyze the importance that has been placed on geographic proximity as a criterion for membership in Preferential Trading Agreements. **(15 marks)**

Question 6

(a) 'There is no direct test of the theory of comparative advantage'. With reference to the Ricardian model, discuss the relevant empirical literature that addresses the above statement. **(18 marks)**

(b) The gravity equation is commonly specified as follows:

$$\ln PX_{ij} = \ln \beta_0 + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j + \beta_3 \ln DIST_{ij} + \ln \varepsilon_{ij}$$

Where PX_{ij} is the value (in current prices) of the merchandise trade flows from exporter *i* to importer *j*, GDP_i (GDP_j) is the level of nominal gross domestic product in country *i* (*j*), $DIST_{ij}$ is the bilateral physical distance between the economic centers of countries *i* and *j*, and ε_{ij} is assumed to be a log normally distributed error term.

(i) What are the expected signs of the coefficients in the above equation? Explain **(6 marks)**

(ii) How has the gravity equation in (a) above been augmented in empirical studies? **(6 marks)**

Choose EITHER Question 7 OR 8

Question 7

(a) What are the implications of viewing the exchange rate as an asset price? **(7 marks)**

(b) The flex-price monetary model with rational expectations gives us the result

$$S_t = (1-\beta)\sum_{j=0}^{\infty}\beta^j E_t Z_{t+j}$$

where $\beta = \alpha_2(1+\alpha_2)^{-1}$, α_2 is the interest semi-elasticity of money demand, S_t is the exchange rate in domestic currency units per foreign currency unit, E_t is the expectations operator, and Z_t represents the fundamental determinants of the exchange rate interpreted here to mean excess money supply. Interpret this result. **(7 marks)**

(c) Assume that the stochastic structure driving the fundamentals is given by the first-order autoregressive process:

$$Z_t = \theta Z_{t-1} + \epsilon_t$$

where $\theta > 0$.

This can be used under certain assumptions to derive the result

$$S_t = (1-\beta))(1-\theta\beta)^{-1}Z_t$$

If α_2 is fixed at 0.02, how does the magnitude of θ influence volatility in the exchange rate markets from the equation? Intuitively explain the result. **(10 marks)**

(d) What are the implications of the answer to (c) for monetary policy? **(6 marks)**

Question 8

(a) Discuss the three criteria as espoused by Mundell (1961), McKinnon (1963) and Kenen (1969) under which countries can come together to form an optimum currency area. **(18 marks)**

(b) Show how Bayoumi (1994) developed a mathematical framework incorporating all these three criteria. **(12 marks)**

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