



AFRICAN ECONOMIC RESEARCH CONSORTIUM

Collaborative PhD Programme in Economics for Sub-Saharan Africa

COMPREHENSIVE EXAMINATIONS IN CORE AND ELECTIVE FIELDS

FEBRUARY 14 – MARCH 6, 2018

PUBLIC SECTOR ECONOMICS

Time: 08:00 – 11:00 GMT

Date: Friday, March 2, 2018

INSTRUCTIONS:

Answer a total of FOUR questions: ONE question from Section A, ONE question from Section B, and TWO questions from Section C. For Section C, answer either Question 5 or 6 and either Question 7 or 8.

The sections are weighted as indicated on the paper.

SECTION A: (15%)

Answer only ONE Question from this Section

Question 1

- (a) Using examples from your country, distinguish between social protection and social insurance. **(5 Marks)**
- (b) Explain how adverse selection and moral hazard could cause a failure in social insurance. Cite relevant examples from your country. **(10 Marks)**

Question 2

Explain five merits of Value Added Tax using examples from African countries. **(15 Marks)**



SECTION B: (25%)

Answer only ONE Question from this Section

Question 3

- (a) 'Public sector intervention in an economy may be justifiable, yet such interventions may not always be desirable'. Discuss. **(15 Marks)**
- (b) State and explain the median voter theorem. **(10 Marks)**

Question 4

- (a) Explain three determinants of excess tax burden and the ways through which the Revenue Authorities in African countries use to reduce it. **(15 Marks)**
- (b) Discuss the enablers of illicit financial flows from the African Continent. **(10 Marks)**

SECTION C: (60%)

Answer TWO Questions from this Section:

Either Question 5 or 6 and Either Question 7 or 8

Question 5

- (a) Using examples, explain the meaning of a club good. **(4 Marks)**
- (b) Using a mathematical approach, derive an expression for the provision and membership conditions for homogenous club goods, and interpret your results. **(8 Marks)**
- (c) Explain whether or not your results in (b) above can be taken as an efficient condition for homogenous club goods. **(2 Marks)**
- (d) Compare and contrast using algebra, the efficient provisions of both weak-link public goods and best-shot public goods. **(12 Marks)**
- (e) What is the economic intuition of your results in (d) above? **(4 Marks)**



Question 6

- (a) Explain the conditions that make Cost-Benefit Analysis a desirable method of evaluating public projects in Africa. **(12 Marks)**
- (b) State and describe an example of the theory of second-best. **(4 Marks)**

Consider a two-consumer, two-commodity, two-input and two-firm economy with an initial endowment of input Z. Assuming a perfectly competitive environment, and using mathematical approach, demonstrate under what conditions such an economy can achieve efficiency in:

- (i) Exchange (consumption). **(7 Marks)**
- (ii) Production (output mix). **(7 Marks)**

Question 7

- (a) Explain using examples, how a partnership method can be used to integrate personal and corporate income taxes into a single tax system in an economy. **(16 Marks)**
- (b) Explain, using examples from Africa, the methods that have been used to redeem public debt. How successful have these methods been in reducing public debt in Africa? **(14 Marks)**

Question 8

- (a) Consider three sub-governments shown in the table below, which contains information on equalization of tax revenue given the tax base and population differentials.

	Sub-governments			Total
	A	B	C	
Tax revenue	\$1.0 B	\$0.5 B	\$2.0 B	\$ 3.5 B
Tax base	10.0 B	6.0 B	8.0 B	24.0 B
Population	3.0 M	2.0 M	4.0 M	9.0 M

- (i) For each sub-government, calculate approximate percentages of total tax base and total population. **(3 Marks)**



- (ii) If redistribution is desired using a tax and transfer scheme, which sub-government(s) will be taxed and by how much? Which sub-government(s) will receive a transfer and by how much? **(6 Marks)**
- (iii) Which type of grant should be used for redistribution in question (ii) and why? **(2 Marks)**
- (iv) Suppose sub-government C raised its revenue from \$2.0 B to \$2.5 B by increasing its tax rates and redistribution is still desired using a tax and transfer scheme, which sub-government(s) will be taxed and by how much? Which sub-government(s) will receive a transfer and by how much? **(5 Marks)**
- (b) Discuss the following challenges which African economies face with respect to mobilisation of public resources and their policy implications:
- (i) Cross-cutting structural bottlenecks. **(6 Marks)**
- (ii) Shallow tax-bases. **(4 Marks)**
- (iii) The tax mix. **(4 Marks)**