



AFRICAN ECONOMIC RESEARCH CONSORTIUM

Collaborative Masters Programme in Economics for Anglophone Africa
(Except Nigeria)

JOINT FACILITY FOR ELECTIVES (JFE) 2010

JUNE - OCTOBER

PUBLIC SECTOR ECONOMICS II

Second Semester: Final Examination

Duration: 3 Hours

Date: Tuesday, September 28, 2010

INSTRUCTIONS:

1. Answer **TWO** questions from **SECTION A** and **ONE** question from **SECTION B**.
 2. You are required to attempt **THREE QUESTIONS** in total.
 3. Each question carries 20 marks.
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SECTION A

(Theory of Taxation)

Answer TWO Questions from this Section

Question 1

A capital city of your country is considering a 10% accommodation tax on revenues of all hotels/motels inside the limits. While not completely different from hotels and motels in the nearby suburbs, the ones in the city have a distinct advantage in their proximity to the interesting sights and convention centers. That is, individuals will pay some premium in order to stay in the city rather nearby. Furthermore, all land is used equally well by hotels/motels and other forms of business; any City land not taken by hotel/motel is readily absorbed by other forms of business. The city mayor calls you in to advise him on the efficacy of such tax. The Mayor is particularly concerned with who will bear this tax in the short-run (i.e. one month) and the long-run (i.e. five years).

- (a) What is the incidence of tax in the short-run? Answer intuitively, and use a diagram if possible. (5 marks)
- (b) What is the long-run incidence? Once again, use a diagram if possible. (5 marks)
- (c) How would your analysis in (b) change if hotels/motels in the suburbs were perfect substitutes of those in the city? What would happen to tax revenues? (5 marks)
- (d) How would your analysis in (b) change if land were somewhat specialized to hotels, that is, if business could not readily use land vacated by hotels? How would the equilibrium number of hotels compare to (b)? What if land were completely specialized to hotels? (5 marks)



Question 2

- (a) Explain why governments find it prudent to tax corporations. (5 marks)
- (b) Using a graphical illustration, explain the income and substitution effects of an increase in income tax on supply of labour. (10 marks)
- (c) How do your results in (b) change for a tax credit? (5 marks)

Question 3

- (a) Using your own country experience, discuss the factors that influence individuals to evade tax. (5 marks)
- (b) Assume there are two goods i.e. cigarette (X) and fruit drink (Y). Derive the expression for excess burden of a selective excise tax on:
- (i) Good X in terms of e_x , P_x , X , and t_x where e_x = price elasticity of the compensated demand for good X, P_x = Price of good X, X = Quantity of the good X consumed and t_x = the rate of tax on good X (3 marks)
- (ii) Good Y in terms of e_y , P_y , Y , and t_y where e_y = price elasticity of the compensated demand for good Y, P_y = Price of good Y, Y = Quantity of the good Y consumed and t_y = the rate of tax on good Y (2 marks)
- (c) Assuming that there are no cross-effects between cigarette and fruit drink (X and Y), state and derive:
- (i) the inverse elasticity rule (5 marks)
- (ii) the Ramsey Rule (5 marks)

SECTION B

(Tax Policy and other Issues)

Answer ONE Question from this Section

Question 4

The following data depict the fiscal characteristics of the two divisions in a metropolitan area, each composed of identical single-family houses with one pupil per house:

Division A	Characteristic	Division B
\$250,000	Per Pupil Property Value	\$100,000
40	Property Tax Rate (in dollars per \$1,000 of value)	100
10,000	Per Pupil Expenditure	10,000

The voters who have chosen to live in both districts desire and select \$10,000 of educational spending per pupil and collect property taxes to finance it.



- (a) Would a voter in division B prefer to live in a big (\$250, 000) house in division A? Why or why not? (3 marks)
- (b) Would a voter in division B prefer to live in a small (\$100,000) house in division A? Explain (3 marks)
- (c) Suppose there is a third division to choose from with an equal number of big and small houses so that the average per-pupil value is \$175,000.
- (i) What tax rate is required in this division to spend \$10,000 per pupil? (2 marks)
- (ii) If small houses also cost \$100,000 in this division, are small-house consumers better off here or in division B? (2 marks)
- (iii) If big houses also cost \$250,000 in this division, are big-house consumers better off here or in A? (2 marks)
- (d) Given your answers to part (c) above:
- (i) What do you expect will happen to the demand for big and small houses in this third division? (3 marks)
- (ii) What will have to be the prices of these houses in this mixed division? Will similar effects be obtained even with adjustment in the supply of houses? (2 marks)
- (e) Characterize the equilibrium that would allow all the three divisions to exist simultaneously (assuming the supply of houses does not adjust) (3 marks)

Question 5

- (a) Using examples of taxes levied in your country, explain the conditions under which benefit tax criteria is feasible. (9 marks)
- (b) Explain the debt redemption methods that African countries have been using in the recent years. (11 marks)