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AFRICAN ECONOMIC RESEARCH CONSORTIUM

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

JOINT FACILITY FOR ELECTIVES (JFE) 2009

JUNE – OCTOBER

PUBLIC SECTOR ECONOMICS II

Second Semester: Final Examination

Duration: 3 Hours | **Date: Friday, October 2, 2009**

INSTRUCTIONS:

Answer a total of **THREE QUESTIONS**; **TWO QUESTIONS** from **SECTION A** and **ONE QUESTION** from **SECTION B.**

Each Question Carries 20 Marks.

SECTION A: Theory of Taxation

Answer ANY TWO Questions from this Section

Question 1

(a) Given a level of government revenue to be raised which must be financed solely by taxes upon commodities, derive and explain using the Ramsey rule, how these taxes should be set so as to minimize the cost to the economy of raising the required revenue. **(12 marks)**

(b) Explain the implications of implementing a tax system based on the Ramsey rule. **(8 marks)**

Question 2

(a) Explain the effects of a negative income tax on labour supply. **(10 marks)**

(b) Given the following profit expression; $\pi = [1-\tau_c][pF(K,L)-wL]-rK$, where τ_c is the tax rate on profit, p is the product price, r is the rental rate on capital, w is the wage rate, L the labour employed and K the level of capital. Demonstrate the fact that with constant returns to scale and with the non-deductibility of costs, the corporate profit tax is a tax on the value of capital use. **(10 marks)**

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Question 3

(a) Distinguish between tax buoyancy and tax elasticity. **(4 marks)**

(b) Consider a typical firm in a competitive industry in the presence of tax evasion. Output is produced at a constant marginal cost c and each firm chooses a fraction ϕ of its sales to report to the tax authority. Further, the resource cost of concealing each unit of output is determined by a convex function $G(1-\phi)$ of the proportion of sales concealed. The probability that evasion is detected is given by ρ and the penalty rate on evaded tax is given by $\tau - 1$. The market price is q.

The problem of a typical firm in this industry is to maximize expected profit which is given by the difference between total revenue and expected total cost. Suppose further that the tax payment when not caught is $[1-\rho]\phi t$ and when caught, the tax payment is given by $\rho\{t + [\tau - 1][1-\phi]t\}$.

(i) Describe the necessary condition for the optimal choice of ϕ **(4 marks)**

(ii) In the presence of tax evasion in a competitive industry, the market price is equated to the expected marginal cost of production. Further, suppose you are told that the expected tax rate, t^e is given by $t^e = [\phi + (1-\phi)\rho\tau]t$. Show the effect of the tax rate t and probability of detection ρ on the fraction of sales revealed by the firm to the tax authority ϕ. What happens to the post-tax price q as the tax rate t is increased? **(8 marks)**

(iii) Show that though the tax evasion decision is independent of the pricing decision, the converse is not true - that is, tax evasion will affect the price level. **(4 marks)**

SECTION B: Tax Policy and Other Issues

Answer ANY ONE Question from this Section

Question 4

(a) Briefly explain the ideal budget cycle and highlight the extent to which it is being followed in your own country. **(6 marks)**

(b) Discuss the ideas put forth by the various Schools of thought regarding the burden of public debt and their application to the African context. **(6 marks)**

(c) Explain the extent to which special economic problems of developing countries affect tax reform policies in these countries. **(8 marks)**

Question 5

(a) Due to equity and efficient considerations, Musgrave (1983) proposed guidelines for tax assignment. Explain these guidelines and show their relevancy in the African context. **(7 marks)**

(b) Should budget deficits in African countries be financed by borrowing or by raising taxes? Explain your answer. **(7 marks)**

(c) According to Hallerberg and von Hagen (1998), "in a parliamentary system, ***delegation*** is the proper approach to centralization for single-party governments, while ***contract*** is the proper approach for multiparty coalition governments."

Explain this statement in light of the budgeting process in your country. **(6 marks)**