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ECON 4350 – Growth and Investment – Fall 2011
Problem Set 5 (seminar 5) – November 14

Question 1

In the little (experiment) model used on November 2, we derived demand functions for the commodities from the Stone-Geary preference function $U(C_1, C_2) = \beta \ln(C_1 - a) + \ln C_2$, with a being a parameter showing the minimal requirement (subsistence level) of commoditiy 1, and with a budget constraint $C_1 + pC_2 = m$, where relative price of commodity 2 is p and m is the real income, measured in units of commodity 1. Let sector 1 be the "traditional" sector while sector 2 is the "modern" one.

a) What is the impact on the price ratio if the traditional sector becomes more progressive in Baumol's terminology?
b) What is the impact on the division of labour in the closed economy if the modern sector becomes more progressive? Explain the result!
c) Try to reformulate the model (without looking for an explicit solution – just play with the model) so that it may capture the hypothesis that productivity growth is *caused by* structural change itself.

Question 2

Use Baumol (1967) – on the reading list – to explain

a) his proposition 2,
b) and then how the division or distribution of labour will be affected by having a target on output in one of the sectors (say due to political objectives).

Question 3

In an article from 1985, Baumol, Blackman and Wolff (*American Economic Review*; No. 4 – Sept. 1985; vol. 75, pp. 806-817), revisit the original Baumol-paper and provide some new evidence. They say: "The service sector happens to contain some of the economy's most progressive as well as its most stagnant." Also, they say "as the model predicts, the U.S. labor force has been absorbed predominantly by the stagnant subsector of the services rather the services as a whole." Try to put up a three-sector version of the Baumol-model, with two service sectors, of which one is progressive while the other is stagnant, and one progressive manufacturing sector, so as to derive – from the underlying assumptions you make – the dynamics of the division of labour between the three sectors.