

Development Economics  
Exam - December 13th 2012

Assigned time : 1 hour

1) Consider the Solow model without technological progress and with constant rate of population growth equal to  $n$ . Suppose that the production function  $F(L, K)$  satisfies the usual properties (i.e. constant returns to scale, Inada conditions, diminishing marginal returns for both labor and capital). Assume that capital is owned by capitalists and labor is supplied by a different set of agents, the workers. Following a suggestion by Kaldor (1957), suppose that capitalists save a fraction  $s_K$  of their income, while workers consume all their income.

a) define and characterize the steady state equilibrium of this economy and study its stability.

b) what is the relationship between the steady-state capital-labor ratio  $k^*$  and the golden rule capital-labor ratio  $k_{gold}^*$  (i.e. that one which maximises steady state consumption)?

2) Let us talk about education and fertility. We have seen two papers dealing with this subject, one looking at Nigerian women (Osili and Long) and one looking at the Arab Israel women (Lavy et al.). Both papers adopt a similar identification strategy, difference-in-differences. Describe how this strategy is used in both papers, discuss upon what assumption this strategy works and how the two papers checked for whether this assumption is credible in their context.

3) In developing countries informal transfers take place among poor households. Particularly Rwandan households hit by the earthquake of 2008 benefitted from a flow of airtime through the mobile phone network. Describe how Fafchamps and co-authors have measured this flow of resources and what tests they have conducted to distinguish between two possible motives explaining airtime transfers, altruism and reciprocity.

4) Political and economic institutions play a major role in determining economic development. However identifying their causal effect is difficult, unless one disposes of a clean natural experiment. Colonization in Cameroon offers this opportunity. Why? Describe how the effect of the British vs French institutions has been identified by Lee & Shultz.