Growth and Development 2019/2020

Exercise questions for Mid-term examination

1. Discuss the notion of ‘a steady state, as used in growth theory, and make examples.
2. In the models in which growth of GDP per capita is driven by private R&D expenditure, innovation goods are generally produced by ‘local monopolists’. Discuss
3. With reference to the growth path of an economy with privately financed R&D, discuss the potential sources of its deviation from Pareto efficiency.
4. Define the notion of total factor productivity (TFP) and discuss problems raised by measurement of TFP growth.
5. Explain and compare the following notions, making examples referring to selected groups of countries in specific historical periods: ‘unconditional convergence’, ‘conditional convergence’, ‘club convergence’, ‘convergence/divergence in growth rates’, σ convergence/divergence.
6. With reference to the question posed by Lucas (1990): ‘Why doesn’t capital flow from rich to poor countries’, compare and discuss the tentative answers to the question relying on cross-county differences in human capital per person and/or technology.
7. What is an AK model of economic growth? Explain what are the structural characters an AK model and why its predictions differ from the predictions of the Solow model.
8. The endogenous-growth result of growth theory relies on ‘knife-edge’ assumptions. Discuss
9. Suppose the growth path of an economy is described by the Solow model. Aggregate production function is where K is physical capital, A is labor efficiency, which is growing at rate g. Population is growing at rate n. The rate of depreciation of the capital stock K is δ.

* What are the properties describing the transition of this economy to its steady state?
* What are the temporary and the persistent effects of an increase in the propensity to save?
* What is the relation between the propensity to save and steady-state capital per unit of efficiency?

1. What are the Inada conditions in the neoclassical model of economic growth and what are their implications?
2. Compare and discuss the steady-state effects on GDP per capita of a change in the propensity to save in the Solow model and in the model of Romer, Mankiew, Weil (1992).
3. Compare and discuss the steady-state effects on the growth rate of a change in the propensity to save in the Solow model and in the Schumpeterian-quality-ladder model (with innovation goods produced by physical capital).
4. Technology transfers as implemented by ‘knowledge spillovers’ give rise to what A. Gerschenkron called ‘the advantage of backwardness’. Explain how this idea has been used to suggest a model of cross-country convergence and divergence of growth rates.
5. In the standard neo Schumpeterian quality-ladder model of endogenous technology growth higher post-innovation profit leads to faster growth. Explain why this result obtains and discuss the robustness of this prediction in the light of empirical evidence.