

## **Intermediate Development Economics. Examples of exam questions**

Attached to each question is a reference to where in the handouts you will find the relevant answer, e.g. [5.10].

### **Lecture 2**

1. a) Describe the main features of the Harrod-Domar growth model [2.7-2.9];  
b) Show in the model why growth may not take place in the poorest countries (the vicious circle);  
c) In the model, three different opportunities for boosting growth **after** the “big push” can be accommodated. What are they and how is growth assumed to be enhanced?
  
2. In the **Lewis two-sector model**, a crucial assumption is that there is a "distortion" in the labour market. [2.10-2.19]
  - a) What kind of **distortion** is that?
  - b) In this model, the market cannot bring about a socially optimal static allocation of labour between the traditional agricultural sector and the "emerging industry sector". Show the difference between the **market equilibrium** and the **socially optimal** allocation of labour in a simple diagram; also show the static welfare loss accruing from being in the market equilibrium rather than in the social optimum equilibrium.
  - c) What other allocation can be **optimal** if we introduce domestic savings, investment and growth into the model?
  - d) How can the Lewis type of model be modified so as to explain **voluntary unemployment**?

### Lecture 3

1. Different growth models give different predictions on whether growth rates across countries tend to **diverge** or **converge** over time - or be **neutral**. Describe the basic features of a growth model that predicts: **[3.9-3.11]**

- a) Divergence;
- b) Neutral (no relationship between growth and initial income level)

### Lecture 4

1. It has been widely held that the **Solow** Growth model can predict quite well differences in growth rates across countries in **qualitative** terms, but not **quantitative** differences. In his Brookings paper, **Mankiw** makes an attempt to reformulate the Solow model in a way that also its quantitative predictions become more in line with observations from reality. **[4.2-4.4]**

- a) Explain in what way he "**reinterprets**" the Solow model.
- b) Give a **numerical example** of how his reinterpretations affect the quantitative relationship between savings ratios and (steady state) per capita income.

2. Andrew Young (1995) uses a refined version of the Growth Accounting Model to estimate the **sources of growth** in the East Asian "miracle" economies. **[4.5-4.6]**

- a) Describe the basic features of the standard Growth Accounting model.
- b) What are the refinements in Young's model?
- c) What are his main conclusions regarding the **determinants** of growth in the "miracle economies"?

3. Time-series regressions can be helpful for shedding light on some growth-related questions. Discuss two such questions for which time-series data can be suitable.

**[4.7-4.8]**

4. **Cross-country regressions** have become a standard tool for empirical estimations of determinants of differences in growth rates across countries. Give examples of three **methodological problems** facing research in this field, and how econometricians have tried to resolve these problems. [4.12-4.24]

3. Sala-i-Martin (AER 1997) uses a test to check the “**robustness**” of the various parameters that have been found to be significantly correlated to growth in cross-country regressions. [4.13-4.14].

a) Describe the **test** he undertakes.

b) What are the two main **differences** between his test and the one conducted earlier by Levine and Renelt?

c) What are Sala-i-Martin’s main results?

## Lecture 5

1. In some models of the relationship between economic growth and population growth, one of these two variables is assumed to be **exogenous** and the other **endogenous**. In still other models, both are either assumed to be endogenous or exogenous. Give one example of a theory based on each of these four possible “combinations” of assumptions under four different headings (a-d). [5.7-5-11.f].

2. One of the more frequently advanced hypothesis why poor people in developing countries have very **high fertility** is that a large number of children is needed in order to ensure support of the parents in their **old age**. [5.12-5.14]

a) How does an increase in parental income affect their “**demand**” for children in such a model of “children as pension providers”?

b) Give a few examples of **factors other than income** that may affect parents’ demand for children in such a model.

c) Assuming that the **probability** that each born child actually will provide for his or her parents at their old age is 0.25, how many children must they opt for in order to stand a 0.90 chance to be supported by at least one child?

3. The so-called transition theory predicts an **inverted U-shape relationship** between the rate of growth of the **population** and the level of **per-capita income**. [5.11-5.12].
  - a) Explain the main features of this theory and why the relationship takes this form.
  - b) How is the relative size of the labour force in the population changing over the “transition”?

## Lecture 6

1. Claims have been made that private firms exploiting non-renewable resources do not take future scarcity into account when making decisions on how much to produce. This argument is incorrect according to other theories in the Hotelling tradition. [6.4-6.5]
  - a) Describe how “user costs” can affect production decisions.
  - b) Does the consideration of “user costs” mean that there may be no “over-exploitation” of non-renewable resources?
  
2. Two main methods have been applied to test empirically the “increased-scarcity-of-non-renewable-resources” hypothesis. [6.7-6.10]
  - a) What are these methods?
  - b) What are the main results and conclusions?
  
3. Grossman and Krueger provide estimates of the correlation between **economic growth** (or rather per capita income levels) and **environmental pollution** in various dimensions. [6.13-6.17].
  - a) What is their hypothesis and what econometric model do they test?
  - b) What are their main findings?
  
2. The International Panel for Climate Change (IPCC) projects that if no drastic measures are taken to reduce the emission of carbon dioxide and other greenhouse gases, the global temperature will increase by 2-4 degrees (C) over the next century. The Stern Review is perhaps the most well-known assessment of the costs and benefits of not undertaking these drastic measures to cut down the emission of such gases. [6.31-6.33]
  - a) What are the main claims made in the Stern Review?

b) The Stern Review has been criticised by some economists. What are their main points of criticism?

### Lecture 7

1. a) Describe the relationship that the so-called **Lorenz curve** traces out.  
b) Many of the most commonly used measurements of the size income distribution are related to the Lorenz curve. Give **two examples**. [7.3-7.4].
  
2. There are two main mechanisms through which **income distribution** is hypothesised to affect the rate of **growth** in subsequent periods. [7.16-7.18].
  - a) Describe these mechanisms.
  - b) What seems to be the rather conform empirical evidence?
  
3. Different empirical studies of income distribution across countries reach very different conclusions; some find inter-country income distribution to have worsened drastically; other that it has become more even. Discuss three reasons why this is the case [7.20-7.24]

### Lecture 8

1. Estimated so-called **Poverty Gaps** are increasingly used as indicators of the development status of countries. [8.6-8.9].
  - a) Describe three commonly used such “**gap-indicators**”, either with the help of simple graphs or formulas (or both).
  - b) In principle, the size of a given gap can decline (or increase) in response to **changes** in three parameters. Which are these three parameters?
  
2. The rate of total (income) growth required to **reduce the absolute number** of people below the **poverty line** in a country depends on the **distribution of incomes** and the **population growth** rate. [8.10-8.12].
  - a) Show in a simple graph, or in some other way, **why** this is the case.
  - b) Provide **numerical examples** of what income growth rates that are required to reduce absolute poverty at the margin for given income distribution and population growth rate.

3. The World Bank (Chen and Ravallion, 2004) and Sala-i-Martin (2002) have estimated the **level of poverty** in the world and its **change over time**. They reach different conclusions both with respect to levels and changes over time. [8.17-8.21]

- a) What are the main reasons for the diverging results?
- b) Can the diverging results be reconciled and how?

### Lecture 9

1. Sebastian Edwards' claims in his EJ article (1998) that he has found robust evidence showing **openness in trade** to be beneficial for economic growth. [9.11-9.14]

- a) What are the basic features of the **theoretical model** from which he derives the econometric model he uses for the tests?
- b) Provide examples of a few **indicators of openness** used in the tests.
- c) Give an example of a point of criticism that one may make against his **econometric method**.

2. Show in simple diagrams what are the **static gains from trade** for a small country in 2x2x2 models (two countries, two goods and two factors of production) when there are: [9.2 and 9.6]

- a) **Constant** returns to scale in both sectors;
- b) **Increasing** returns to scale in both sectors.

## Lecture 10

1) Acemoglu *et al.* (American Economic Review article) argue that, basically, **climate and health hazards** are to blame for the lack of “good” **institutions**, which is a hinder for growth in many developing countries. They present a five-stage theory linking climate to institutional hurdles for economic growth. [10.15-10.23].

a) What are those five links?

b) Glaeser et al question the Acemoglu results. What is the alternative link of causation that they test?

## Intermediate Development Economic Exam 2008-11-29

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*Please be to the point and good luck!*