Written Exam at the Department of Economics summer 2021

Course name

Final Exam

August 20, 2021

(3-hour open/closed book exam)

Answers only in English.

This exam question consists of 4 pages in total

Falling ill during the exam
If you fall ill during an examination at Peter Bangsvej, you must:
submit a blank exam paper.
leave the examination.
contact your GP and submit a medical report to the Faculty of Social Sciences no later than five (5) days from the date of the exam.

Be careful not to cheat at exams!
You cheat at an exam, if during the exam, you:
Make use of exam aids that are not allowed
Communicate with or otherwise receive help from other people
Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text
Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
Or if you otherwise violate the rules that apply to the exam

Problem A

Please provide short answers to the following questions and statements:

1. Please explain why intra-household inequality may be a source of bias in estimates of inequality across countries and state if the bias is positive or negative.
2. Please briefly describe both the private and the social benefits and costs of schooling.
3. Please explain the identification problem in theoretical poverty analyses and explain how the problem is "solved" in practice in many poverty measurements in developing countries, with respect to differences in household sizes.
4. Please explain what the "health multiplier" is.
5. Suppose a government in a developing country wishes to provide free insecticide-treated bed nets to reduce malaria infections. Please briefly describe potential advantages and disadvantages of such a programme.
6. Please explain what is meant by the endogeneity of aid and what this implies for a simple aid-growth correlation analysis.
7. Please state and briefly explain two channels through which climate change may have adverse impacts on poverty rates.

Problem B Savings

1. Please discuss the role of domestic savings in a closed developing economy according to the Solow model. Further, please discuss why the savings rate tends to increase as countries develop.
2. Consider an economy with two goods, namely capital (K) and output (Y), and assume constant returns to scale production, perfect competition and no depreciation of capital.
   Please derive a measure of the returns to capital used to produce output that can be measured using available macroeconomic data. Please give a mathematical description as well as the intuition for how this differs from a measure of returns where there is only one good in the economy.
   (Hint: the marginal return to capital used in output production is $\frac{P_Y * MPK}{p_K}$, where p_y and p_k are prices of output and capital, and MPK is the marginal product of capital for producing Y. Total returns to capital can be written as $p_y * MPK * K$).
3. The measure of capital returns in a multi-good economy derived in question 2 is denoted as PMPKN in figure 1, which is taken from Caselli & Feyrer (2007)[1]. Please explain what the four measures of capital returns across countries suggest about the functioning of international capital markets.
4. Consider a closed-economy developing country, in which a new source of natural resources is discovered. Assume that the revenue from the proceeding natural resource extraction accrues to the government. Please discuss which effects one can expect on domestic savings, domestic investments and domestic growth.

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[1] Caselli, F. and Feyrer, J (2007). The marginal product of capital. Quarterly Journal of Economics, 122: 535-68.

Problem C Two types of market failure

Sharecropping:

1. Consider a farmer in a developing country. Please discuss the efficiency properties of this farmer's production if he/she i) owns the land, ii) pays a fixed rent for the land, and iii) pays a share of farm output as rent (i.e., sharecropping). Please illustrate your answer with a relevant figure.
2. Please discuss how sharecropping can occur as a consequence of risk aversion and a failure in the insurance market

Credit rationing:

3. In many developing countries, credit rationing is widespread. Please explain what credit rationing is and how it can be caused by a combination of informational asymmetries between borrower and lender and limited liability.
4. There is some hope that microfinance can help alleviate market failures in the credit market. Please explain what microfinance is and the mechanisms through which microfinance may improve credit market outcomes.
5. It has proven difficult to evaluate the effects of microfinance.
    a. Please give an overview of potential issues faced when evaluating effects of microfinance by simply comparing the outcomes of those who use microfinance to those who do not.
    b. Banerjee et al. (2015)[2] evaluate six studies of microfinance. Please give an overview of their main findings of the impacts of microfinance.

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[2] Banerjee, A., Karlan, D., & Zinman, J. (2015). Six randomized evaluations of microcredit: Introduction and further steps. American Economic Journal: Applied Economics, 7(1), 1-21.

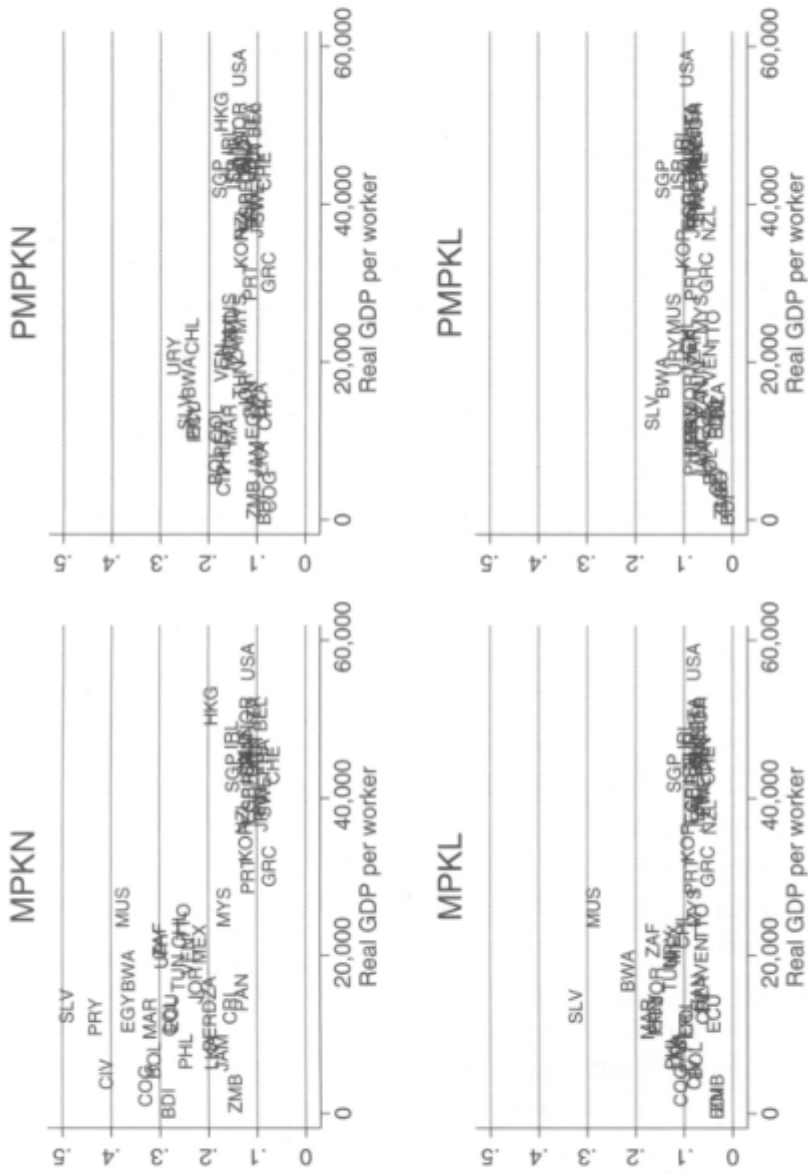Figure 1: Figure from Caselli and Feyrer (2007)

FIGURE V

The Marginal Product of Capital

MPKN, naive estimate; MPKL, after correction for natural-capital; PMPKN, after correction for price differences; PMPKL, after both corrections.

Source: Heston, Summers, and Aten [2004], Bernanke and Gurkaynak [2001], World Bank [2006], and authors' calculations.