Written Exam at the Department of Economics summer 2019

Development Economics

Final Exam

31 May 2019

(3-hour closed book exam)

Answers only in English.

This exam question consists of 5 pages in total

Falling ill during the exam
If you fall ill during an examination at Peter Bangs Vej, you must:
- contact an invigilator who will show you how to register and 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 give some characteristics of the world's poor people (a global poverty profile).

2. Please define and explain growth accounting

3. Please define and explain two obstacles to international transfer of technology.

4. Please explain briefly how Gollin, Hansen and Wingender (2016) estimates the total impact of the green revolution on GDP per capita

5. What are population "optimists'' and population "pessimists"? Provide a theoretical argument in favor of either view.

6. What was "The Brady Plan"?

7. The Berlin conference was instrumental in the creation of modern borders around contemporary African countries. (i) What is the problem with contemporary borders? (ii) How might it affect long run economic growth? Please, explain.

Problem B: Inequality and Development

1. Please explain how data for measurement of inequality is gathered in the developing world and discuss possible data problems.
2. Please give a brief summary of the main theories explaining how income inequality affects economic growth.
3. The table below (covering 2 pages) is Table 4 from Berg, Ostry, Tsangarides and Yakshilikov,"Redistribution, inequality, and growth: new evidence", J Econ Growth (2018) 23:259–305.
   Please relate the results in the table to the main theories given in Problem B2, and discuss the extent to which the theories are supported or refuted by the empirical findings.

Table 4 Transmission channels of inequality and redistribution. *Source:* See notes to Table 2

Variables	Effects on growth, adding channels						Effect of inequality and redistribution on the channels						Growth
	(1)	(2)	(3)	(4)	(5)	(6)	(7) Investment	(8) Population	(9) Education	(10) Life expectancy	(11) Fertility	(12) Polity	(13) Full specification
Log(initial income)	−0.0070**	−0.0068**	−0.0104**	−0.0130**	−0.0228***	−0.0237***	0.1130**	−0.0615***	0.2623***	0.0694***	−0.2555***	0.0182**	−0.0031
	(0.0035)	(0.0029)	(0.0049)	(0.0055)	(0.0058)	(0.0062)	(0.0495)	(0.0181)	(0.0455)	(0.0059)	(0.0350)	(0.0077)	(0.0034)
Net inequality	−0.0853**	−0.0672**	−0.0680**	−0.0776***	0.0228	0.0213	−0.0363	0.6802***	−2.5477***	−0.2050***	1.7899***	−0.2242***	−0.1135***
	(0.0361)	(0.0335)	(0.0302)	(0.0256)	(0.0279)	(0.0416)	(0.5787)	(0.2348)	(0.6882)	(0.0638)	(0.3389)	(0.0743)	(0.0425)
Redistribution	0.0357	0.0325	0.0447	0.0505	0.0420	0.0255	−0.6635	−0.1044	−1.5543***	−0.1027	0.1271	−0.1333	−0.0276
	(0.0406)	(0.0393)	(0.0541)	(0.0505)	(0.0505)	(0.0608)	(0.6580)	(0.3180)	(0.5039)	(0.0835)	(0.4831)	(0.1110)	(0.0627)
Log(investment)	0.0260*	0.0223**	0.0267***	0.0207**	0.0415***	0.0401***							
	(0.0147)	(0.0087)	(0.0093)	(0.0094)	(0.0110)	(0.0107)							
Log(population growth)		−0.0206	−0.0133	−0.0007	0.0169	0.0019							
		(0.0276)	(0.0212)	(0.0140)	(0.0131)	(0.0062)							
Log(total education years)			0.0122	0.0046	0.0179	0.0185*							
			(0.0096)	(0.0105)	(0.0117)	(0.0105)							
Life expectancy				0.0810	−0.0848	−0.0446							
				(0.0628)	(0.0670)	(0.0913)							
Log(fertility)					−0.0633***	−0.0593***							
					(0.0159)	(0.0175)							
Polity						−0.0405							
						(0.0656)							
Residual of Log(investment)													0.0401***
													(0.0107)

Table 4 continued

Variables	Effects on growth, adding channels						Effect of inequality and redistribution on the channels						Growth
	(1)	(2)	(3)	(4)	(5)	(6)	(7) Investment	(8) Population	(9) Education	(10) Life expectancy	(11) Fertility	(12) Polity	(13) Full specification
Residual of Log(population growth)													0.0019
													(0.0062)
Residual of Log(total education years)													0.0185*
													(0.0105)
Residual of life expectancy													− 0.0446
													(0.0913)
Residual of log(fertility)													− 0.0593***
													(0.0175)
Residual of polity													− 0.0405
													(0.0656)
Constant	0.0245	0.0628	0.0485	0.0285	− 0.1413**	− 0.1071**	2.2233***	2.1963***	0.2456	0.1239**	− 1.6924***	0.0064	0.0853**
	(0.0408)	(0.0650)	(0.0589)	(0.0510)	(0.0591)	(0.0487)	(0.4278)	(0.2343)	(0.5435)	(0.0571)	(0.3667)	(0.0779)	(0.0346)
Observations	656	656	656	656	656	656	656	656	656	656	656	656	656
Number of groups	88	88	88	88	88	88	88	88	88	88	88	88	88
Number of instruments	93	102	88	98	98	108	108	66	58	99	99	99	108
AR1 test (p values)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7789	0.2878	0.0008	0.0000	0.0000	0.5046	0.0000
AR2 test (p values)	0.5533	0.3761	0.4158	0.5819	0.5442	0.5442	0.0108	0.5049	0.1504	0.6189	0.1977	0.2640	0.5442
Hansen test of joint instrument validity (p values)	0.4947	0.8599	0.4867	0.7757	0.7450	0.8113	0.8480	0.2911	0.2027	0.7724	0.7386	0.5887	0.8113

System GMM estimation. Robust standard errors in brackets where *, **, and *** indicate statistical significance at the 10, 5 and 1% levels, respectively

Problem C: Physical capital

1. How much of the observed variation in GDP per worker across the world can be attributed to differences in physical capital? (i) Please, explain how development accounting can provide an answer. Be as precise as you can. (ii) What is the typical ballpark answer?

2. In a closed economy setting, cross-country differences in capital stocks is due to savings. The reason is that total investments equal total savings by national accounts identity. In a setting where capital is freely mobile, this is no longer true. Hence, in a world characterized by well-functioning international capital markets low savings is less of an obstacle for poor countries in their quest to obtain nation-wide prosperity. Please, explain what, respectively, "The Feldstein-Horioka puzzle" and "The Lucas Paradox" are, and how they relate to the issue of how effective international capital markets are in allocating capital.

3. In a more recent contribution, Francesco Caselli and James Feyrer re-examine the efficiency of international capital markets. Please, describe their approach and their main findings.

4. Consider a small open economy, Assume international capital mobility is perfect. Can foreign aid, in the shape of a capital transfer, help increase GDP (per capita)? Please, explain why or why not.

5. What domestically enacted policies may increase the domestic capital stock and thereby the gross domestic product of a small open economy, when capital is internationally mobile?