UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4715 – Labour economics**

Date of exam: Thursday, December 5, 2013   **Grades are given: January 3, 2014**

Time for exam: 09.00 a.m. – 12.00 noon

The problem set covers 5 pages   (including cover sheet)

Resources allowed:
• No resources allowed

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

Final Exam ECON4715- Labour economics

This exam has 6 questions, with in total 18 sub-questions.

When answering the questions on the exam you should be brief and to the point!

Make sure to write clearly. Difficult to decipher answers will not be counted!

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1. In this question you have to indicate whether you think the statement is true or false and explain why. You don't get any points if you only state whether the statement is true or false.

   (a) If a government would redistribute income from the richest quintile to the poorest quintile this would increase the Gini coefficient.

   (b) If a developed country increases the amount of trade with a less-developed country we expect that the skill wage differential increases in the developed country.

   (c) Becker's model of taste-based discrimination predicts that employer discrimination is unlikely to persist in the long run.

   (d) Use the information in Table 1. If high-productivity workers obtain 9 years of schooling in order to signal they are high-productivity workers, this will result in a separating equilibrium where both type of workers are paid their present value of lifetime productivity.

Table 1. Productivity and cost of schooling for high- and low-productivity workers

Type of worker	Proportion of population	Present value of lifetime productivity	Cost of a year of schooling
low-productivity	0.60	500 000	30 000
high-productivity	0.40	800 000	20 000

2. Becker's theory of general and specific training.

   (a) Explain how (and why) the worker and firm will divide the costs and benefits of general training

   (b) Explain how (and why) the worker and firm will divide the costs and benefits of specific training

3. Incentives.

   (a) Performance pay can change the productivity of the workforce in two ways. What are these?

   (b) Explain how upward-sloping age-earnings profiles can provide incentives to provide effort for workers.

   (c) The fact that "riskier" jobs have higher powered incentives is evidence against the principal agent model when workers are risk averse. Discuss.

4. This question is about: Hartzell, J. C., Parsons, C. A., & Yermack, D. L. (2010). Is a higher calling enough? Incentive compensation in the church. Journal of Labor Economics, 28(3), 509-539

   (a) What are the two main research questions of the paper?

   (b) Explain how the paper tries to answer these research questions.

   (c) What are the main results?

5. This question is about: Gneezy, U., Niederle, M., & Rustichini, A. (2003). Performance in competitive environments: Gender differences. The Quarterly Journal of Economics, 118(3), 1049-1074.

Gneezy et al. conducted a set of controlled laboratory experiments in which groups of 6 students were asked to perform the task of solving computerized mazes. There were 4 different treatments:

- Piece rate: individuals received 2 shekels for every maze solved.

- Mixed tournament (groups with men and women): only the participant who solved the most mazes received 12 shekels for every maze solved.

- Random Pay: only one participant, chosen at random, received 12 shekels for every maze solved.

- Single sex tournament: only the participant who solved the most mazes received 12 shekels for every maze solved.

Figure 1 shows results of the paper.

Figure 1. Results from Gneezy, Niederle and Rustichini (2003)
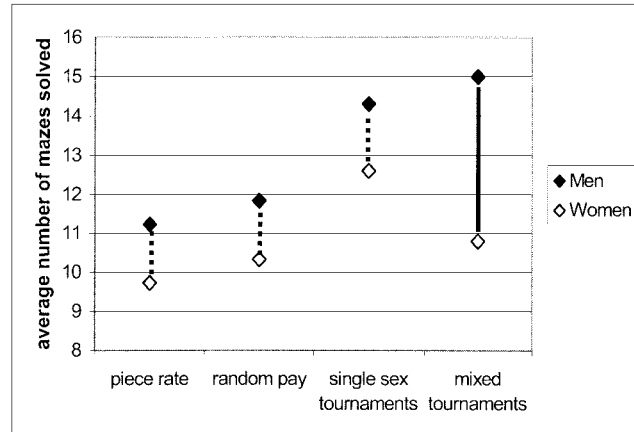
(a) Use the results in Figure 1 to give an explanation for the observation that in many labor markets there are more men than women in high-ranking positions.

(b) A researcher claims that women perform worse than men in the mixed tournament treatment, because they are more risk averse. On the basis of the results in Figure 1, do you agree with this researcher, explain why or why not.

(c) Another researcher claims that the results in Figure 1 show that women shy away from competition and that men compete too much. Do you agree with this researcher, explain why or why not.

6. This question is about: Esther Duflo (2001). Schooling and Labor Market Consequences of School Construction in Indonesia. American Economic Review 91 (September). 795-813.

Between 1973 and 1978, the Indonesian government engaged in one of the largest school construction programs on record. Duflo investigates the effect of this school construction program on years of education and wages. Table 2 shows results of the paper.

Table 2. Results from Duflo (2001)

—EFFECT OF THE PROGRAM ON EDUCATION AND WAGES: COEFFICIENTS OF THE INTERACTIONS BETWEEN COHORT DUMMIES AND THE NUMBER OF SCHOOLS CONSTRUCTED PER 1,000 CHILDREN IN THE REGION OF BIRTH

| | | Dependent variable | | | | | |
| | | Years of education | | | Log(hourly wage) | | |
	Observations	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Experiment of Interest: Individuals Aged 2 to 6 or 12 to 17 in 1974							
(Youngest cohort: Individuals ages 2 to 6 in 1974)							
Whole sample	78,470	0.124	0.15	0.188			
		(0.0250)	(0.0260)	(0.0289)			
Sample of wage earners	31,061	0.196	0.199	0.259	0.0147	0.0172	0.0270
		(0.0424)	(0.0429)	(0.0499)	(0.00729)	(0.00737)	(0.00850)
Panel B: Control Experiment: Individuals Aged 12 to 24 in 1974							
(Youngest cohort: Individuals ages 12 to 17 in 1974)							
Whole sample	78,488	0.0093	0.0176	0.0075			
		(0.0260)	(0.0271)	(0.0297)			
Sample of wage earners	30,225	0.012	0.024	0.079	0.0031	0.00399	0.0144
		(0.0474)	(0.0481)	(0.0555)	(0.00798)	(0.00809)	(0.00915)
Control variables:							
Year of birth*enrollment rate in 1971		No	Yes	Yes	No	Yes	Yes
Year of birth*water and sanitation							
program		No	No	Yes	No	No	Yes

Notes: All specifications include region of birth dummies, year of birth dummies, and interactions between the year of birth dummies and the number of children in the region of birth (in 1971). The number of observations listed applies to the specification in columns (1) and (4). Standard errors are in parentheses.

(a) On the basis of human capital theory, what kind of effect of the program would you expect to find on the education and wages of those affected by the program? Explain your answer.

(b) Interpret the result in column (3) - row (1) and compare it with the result in column (3) - row (3). Is there a difference in findings and if so how can we interpret this difference, is it what we would expect?

(c) Duflo also estimates the returns to education. It is sometimes argued that returns to education are expected to be higher in developing countries than in developed countries. Give an explanation for why returns to education could be higher in a developing country.