STOCKHOLM UNIVERSITY
Department of Economics

Course name: **Public Finance**

Course code: **EC2106**

Examiner: **Mikael Priks**

Number of credits: **7,5 credits**

Date of exam: **Friday, January 10, 2014**

Examination time: **3 hours**

Write your identification number on each paper and cover sheet (the number stated in the upper right hand corner on your exam cover).

Do not write answers to more than one question in the same cover sheet. Explain notions/concepts and symbols. Only legible exams will be marked. No aids are allowed.

The exam consists of 3 questions, 100 points in total. For the grade E 45 points are required, for D 50 points, C 60 points, B 75 points and A 90 points.

If you think that a question is vaguely formulated: specify the conditions used for solving it.

Results will be posted on the notice board, House A, floor 3, on Friday, January 24, 2014 the latest

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Good luck!

Exam, Public Finance

Mikael Priks

This exam consists of three questions. The first and second question give 40 credits each and the last question gives 20 credits. p denotes prices and q quantities. To get full credit, you need to state and explain your results clearly. Good luck!

Public goods (40)

a) Define a pure public good. Give an example.

b) State and explain the condition for efficient public good provision.

c) Assume that the demand for consuming a pure public good is given by p=20-q. The total cost for providing the good is 70. Assume also that the price for consuming the good is set at 5. Will there be enough revenues to cover the cost of proving the public good? Show in a figure and explain. Why does this price level not generate an efficient situation?

d) Consider a similar situation as we did in class. Ben and Jerry will invest in fireworks, F, and a private good, X. Each individual i has the utility $U=2\ln(X_i)+\ln F$ where F is the sum of Ben's investments in fireworks, F_B, and Jerry's investments in fireworks, F_J, so $F=F_B+F_J$. The budget restriction for each of them is $200=X_i*1+F_i*1$. In other words, their income is 200, the price of the private good is 1 and the price for fireworks is also 1. Solve Ben's and Jerry's problems and show how much of the private good and fireworks they will buy. Show also how the solution is different from the social optimum. Explain.

Empirical Tools of Public Finance (40)

a) What is the difference between correlation and causality?

b) What does the concept attrition mean? What can it lead to?

c) What is the main problem we have discussed with cross-sectional regression analysis? Why are control variables used? In class, we went through papers on sickness insurance and absence from work. What was the causality problem in this literature? How would a randomized experiment be constructed to solve this problem?

d) Assume that there are two roads A and B and that the government introduces speed cameras on road A but not on road B. Before the introduction of cameras, road A had 15 accidents per year and road B had 10 accidents per year. After the introduction, the number of incidents on road A was 5 and on road B it was also 5. What is the effect of speed cameras on accidents according to the three different empirical methods cross-

sectional analysis, time-series analysis, and the difference-in-difference analysis?
Explain the results.

Externalities (20)

a) Define a negative production externality and a positive consumption externality.

b) State four reasons for why the market does not manage to compensate parties for externalities.