STOCKHOLM UNIVERSITY
Department of Economics

Course name:	**Public Finance**
Course code:	**EC2106**
Examiner:	**Mikael Priks**
Number of credits:	**7,5 credits**
Date of exam:	**Wednesday, 2017-01-11**
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. The first and second question give 40 points each and the last question gives 20 points, 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.

Your results will be available on your “My Studies” account (www.mitt.su.se) on the 1st of February 2017 at the latest.

Good luck!

Exam, Public Finance, 2017-01-11

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!

Taxation (40)

a) State the three rules of tax incidence.

b) Why does taxation lead to efficiency losses? Show in a figure and explain.

c) Assume that the Laffer curve is given by T=t(10-t) where T are tax revenues and t is the tax rate. Show this Laffer curve in a figure. Assume that the government only cares about tax revenues. Set up the government's maximization problem and solve for the optimal tax rate.

d) Assume that the firms' marginal cost is equal to p=q and that the demand function is given by p=10. Assume also that the producers also have to pay a tax equal to t per unit produced. Show in a figure who bears the burden of the tax and explain. Show the tax revenues and the welfare loss.

Public Goods (40)

a) What are the two characteristics of a pure public good? Given one example of a pure public good, one example of an impure public good, and one example of a private good.

b) Is the consumption of public goods efficient? Explain.

c) Assume that individual 1 has the marginal valuation p=4-q and individual 2 has the marginal valuation p=8-q where q is a public good. Show in a figure how the marginal valuation curves should be summed up when the government decides on the optimal level of public good provision. Why are the curves summed in this way? How much should be produced if the marginal cost of producing the good is given by 1?

d) Each individual i in a group of n identical individuals can choose how much to voluntary contribute to a firework they will watch together. Individual i's contribution is given by x_i and the cost is given by $x_i^2/2$. The utility each individual receive from fireworks is the sum of all contributions. How many fireworks will each individual

contribute with if they do not co-operate? How many will each individual contribute with if they instead co-operate? Explain why the results differ.

Education (20)

a) State the two models discussed in the course of how education may affect earnings.
b) State reasons we have discussed for why the government should be involved in education.