Exam for the M.Sc. in Economics
University of Copenhagen
Political Economics, Spring 2012

June 19, 2012
3 hours.

Answers should be given in Danish or English.
No aids allowed except Danish-English / English-Danish dictionaries.

1. **Short questions.** Answer briefly and concisely.

    (a) Discuss how different electoral rules affect patterns of government spending on public goods and transfers. Explain the logic given your assumptions.

    (b) Explain the common pool problem in the context of local public finance. Discuss possible solutions to the problem.

    (c) In a median-voter equilibrium of an economy with a broad redistributive program, higher income inequality leads to more redistribution. True or false? Explain your answer.

2. In country X, there are three possible terrorist targets, $s = 1, 2, 3$. A succesful attack on target s results in expected damage L_s (the damage from a failed attack is zero). An attack on target s is succesful with probability $v(r_s)$, where r_s is the amount of resources devoted to defending target s. The total amount of resources available for defensive counterterrorism is $R = 1$. The objective of the authorities in country X is to minimize expected damage from terrorism.

    For all the questions below, assume that

    $$L_1 = 4, \ L_2 = L_3 = 1$$

    and

    $$v(r_s) = (1 - r_s)^2 \text{ for } r_s \in [0, 1].$$

    (a) Suppose the authorities in country X believe that the terrorists will attack each of the three targets with probability $\frac{1}{3}$. Given this belief, set up the optimal counterterrorism problem facing the authorities. Solve the problem, i.e. find the optimal r_1, r_2 and r_3.

    (b) Now suppose the authorities view the terrorists as strategic actors with the objective of maximizing expected damage. Describe briefly how the authorities should allocate the available defensive counterterrorism resources. Find the optimal levels of r_1, r_2, and r_3.

    (c) Compare the results from questions (a) and (b) and comment. If the authorities behave as in (a) but terrorists are in fact strategic actors, which target(s) will they choose to attack with positive probability?

    (d) Now suppose the terrorists care about the symbolic values of the targets rather than the material damage. The terrorists' symbolic values of succesfully attacking the different targets are

    $$G_1 = G_2 = 1, \ G_3 = 4.$$

    The authorities are fully informed about the preferences of the terrorists (and the fact that they are strategic actors). How should the authorities allocate the available defensive counterterrorism resources? Find the optimal r_1, r_2 and r_3. Explain briefly your result.

3. Over the past year, both Greece and Italy have installed technocratic governments that are not elected, with the goal of implementing economic reforms aimed both at lowering budget deficits in the short term and providing better conditions for economic growth in the medium and longer term.

    (a) Provide possible explanations of why these democratically elected governments have been unable to implement timely reforms.

    (b) Why are non-elected governments able to solve (some of) the problems facing past Italian and Greek governments? Would it be a good idea to have long-term unelected governments in these countries?

    (c) One concern is that laws and programs put in place (or abolished) by unelected governments are reversed, once electoral democracy returns. Is there any way for the technocratic governments to prevent this from happening?

Good luck!