SUGGESTED ANSWERS
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.
   Short answer: The answer should include definitions of and comparisons between the majoritarian and proportional system in terms of government spending. It should provide an intuition for why a majoritarian system is often associated with lower public good provision, both for preelectoral policy choices and political accountability models. This question is based broadly on PT Chapter 8 and 9.

   (b) Explain the common pool problem in the context of local public finance. Discuss possible solutions to the problem.
   Short answer: The common pool problem may arise, for example, in the following situation. Suppose several regions within the same country separately decide on the amount of their own local public good. In turn, the tax used to finance this provision is determined residually. In such a situation the regions fully enjoy the benefits of the local public good, while sharing the costs. This tradeoff results in overprovision of local public goods, as compared to the socially optimal level. One possible way of solving the problem would be to introduce local taxes for public good financing. This question is based on PT Chapter 7.

   (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.
   Short answer: The effect of higher income inequality on redistribution depends on the form of inequality. More precisely, the median voter's preferred tax rate is

   $$\tau^m = \frac{e^m - e}{L_\tau(\tau^m)}.$$

   So if there is a higher income inequality due to better relative position of the middle class (poor become extremely poor), it leads to lower taxation/redistribution. If instead there is a higher income inequality due to worse relative position of the middle class (rich become extremely rich), it leads to higher taxation/redistribution. This question is based on Ch 6. in PT.

2. The problem is based on Powell 2007.

   (a) The problem of the authorities is:

   $$\min_{r_1, r_2, r_3 \geq 0} \frac{4}{3}(1 - r_1)^2 + \frac{1}{3}(1 - r_2)^2 + \frac{1}{3}(1 - r_3)^2 \quad \text{subject to}$$

   $$r_1 + r_2 + r_3 \leq 1$$

   It is straightforward to see that we must have $r_2 = r_3$ and $r_3 = 1 - r_1 - r_2$. Thus we can rewrite the problem as

   $$\min_{r_1 \in [0,1]} 4(1 - r_1)^2 + (1 - \frac{1}{2}(1 - r_1))^2 + (1 - \frac{1}{2}(1 - r_1))^2$$

The first order condition for this problem is

$$-8(1 - r_1) + (1 - \frac{1}{2}(1 - r_1)) + (1 - \frac{1}{2}(1 - r_1)) = 0$$

Solving this equation we get

$$r_1 = \frac{7}{9}$$

and thus

$$r_2 = r_3 = \frac{1}{2}(1 - r_1) = \frac{1}{9}.$$

(b) According to Powell 2007, the authorities should allocate resources such that the maximum damage that the terrorists can make is minimized. I.e., they should minimize

$$\max\{4(1 - r_1)^2, (1 - r_2)^2, (1 - r_3)^2\}.$$

Obviously we must have $r_2 = r_3 = \frac{1}{2}(1 - r_1)$. Thus the authorities should choose r_1 such that

$$4(1 - r_1)^2 = (1 - \frac{1}{2}(1 - r_1))^2.$$

From this equation we get

$$r_1 = \frac{3}{5}$$

and thus

$$r_2 = r_3 = \frac{1}{2}(1 - r_1) = \frac{1}{5}.$$

(c) In (a) the authorities spend more on defending target 1. This means that the expected damage from attacking target 2 or 3 is higher than the damage from attacking target 1. Thus, if terrorists are strategic, they will only attack target 2 and 3 with positive probabilities. This means that the resources spend on defending target 1 are wasted, so the authorities are not best responding to the strategy of the terrorists.

(d) According to Powell 2007, the authorities should allocate resources such that the maximum utility (here: symbolic value) that the terroists can achieve is minimized. I.e., they should minimize

$$\max\{(1 - r_1)^2, (1 - r_2)^2, 4(1 - r_3)^2\}.$$

By analogy with (b) we get

$$r_1 = r_2 = \frac{1}{5}, \ r_3 = \frac{3}{5}$$

Note that the authorities spend more on target 3 even though the expected damage from an attack on target 1 is four times higher. If the authorities shifts resources from target 3 to target 1 then the terrorists will attack target 3 and thus the resources spend on target 1 (and 2) will be wasted.

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?

Answers to this problem can be quite broad in nature, but should be focused and comprehensive.One problem is that in some cases, elected governments choose to pander to voters in order to get reelected, rather than choosing the 'right' solution (Maskin/Tirole). Another issue is that the Southern European have weak fiscal governance and low government transparency, hiding the problems for the public/voters, and indeed were engaged in deliberately beautifying public finance (Alt and Lassen, various papers). Finally, there have been disagreement over how to implement reforms (who should pay?) and, moreover, the access to cheap financing of government debt from membership of the euro would tend to delay implementing reforms in a war-of-attrition logic (Andersen et al.)

Unelected governments are immune to some of these problems, even if the measures and reforms they propose still have to be implemented/passed by legislatures. Long term unelected governmens can, if benevolent, be beneficial (perhaps Singapore), but there is no possibility of removing them from office if they are not or if a majority of citizens have a change of mind. While technocratic governments may be a good thing at the present, it is difficult to have future governments commit to a certain behavior if there is no pressure from electoral accountability.

Under the war of attrition theory, both (or, more generally, all) parties wish to implement reforms, but are concerned with bearing a disproportionate share of the burden for it. Therefore, it may not be against the wishes of legislatures or political parties to have reforms implemented, and they will be able to agree on not undoing them. At the same time, reforms change to status quo, such that undoing reforms will effectively be changing the status quo, which is often harder. Finally, some reforms may be focused on procedues and government transparency that can be undone only at great political costs, and such procedural reforms may themselves bring about better policies.