

Exam for the M.Sc. in Economics
University of Copenhagen
Political Economics, Fall 2010

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3 hours.

Suggested answers
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1. **Short questions.** Write briefly and concisely, no more than 2 pages per question.

- (a) Define retrospective voting (in words) and give examples of – and explain in detail – retrospective voting strategies under various informational assumptions.

Answer: Retrospective voting embodies the idea that voters reward government incumbents for good behavior while punishing them for bad behavior. In most cases observed in the readings, the assumption is that the incumbent is running against an identical opponent, but as shown in the paper Alt and Lassen in the readings, it is possible to have retrospective voting even with politicians who differ in their political platform and/or ability. Retrospective voting strategies depend on the informational assumptions made. If there is full information, RV strategies can be formulated in a state dependent way: if the incumbent delivers an outcome, in terms of public goods provision and rents as functions of the state of the economy / price of public goods θ , which is greater than some cutoff level of utility, then all voters vote for the incumbent. If there is asymmetric information, such that incumbents know the price of the public good but voters do not, the cut-off rule can no longer be state dependent, but is derived from the voters' knowledge of the distribution of the variable about which there is asymmetric information. In this case, if the price of the public good is higher than the one implied by the cutoff, voters do not reelect, while if it is lower they always reelect.

- (b) The standard Downsian model of electoral politics with two office-motivated parties predict full policy convergence, with the two parties proposing similar economic policies.

- i. Suppose, in an otherwise Downsian framework, that parties are also ideological, that is, are motivated both by office rents *and* policy. Does that change the Downsian result regarding policy convergence? Explain!

Answer: This does not change the Downsian result. The key here is that when binding commitments to policy are feasible, the only equilibrium is one where they propose the same policy: that of the median voter (PT pp.98-9). This is easy to show.

- ii. Can you give (other) examples of how changing the basic assumptions of the Downsian set-up leads to a prediction of policy divergence in a two-party setting?

Answer: One example is that given in PT section 5.2, where there is no commitment to electoral proposals. In that case, the winning candidate simply implements his/her bliss point after the election. More examples include endogenous, rather than exogenous, candidates, as in the citizen-candidate models of representative democracy.

- (c) Suppose you are the president for two periods and you want your favorite policy implemented in each period. There is an election after the first period in which you may be replaced by your political opponent with probability x . Implementation of the policy in each period is handled by an official who has preferences over policy. You do not fully know the preferences of the official. You can at time $t = 0$, the constitutional stage, choose between appointing the official for life, that is for two periods without the possibility of replacement, or you can choose to have the opportunity for appointing a new official after the first period. Explain whether – and if so, how – your choice depends on the probability x that you are voted out of office. Include in your explanation an account of how the official chooses policy in the two different regimes.

Answer: Based on Hanssen (2004), this is the logic of strategic institutions. Both institutions carry

with the potential benefits and potential costs. On the one hand, choosing an official for life, that is, two periods, entails a risk: if the official turns out not to be of your persuasion, you cannot replace him and have to live with him for two periods. On the other hand, if he is of your persuasion, not being able to get rid of him is a benefit should you lose the next election, as your opponent cannot get rid of him either. Choosing an official for one term has the reverse properties: If you are very certain of the official's persuasion, it is potentially costly to have a possibility of replacement by your opponent. On the other hand, if you are very uncertain about this, having flexibility is a good thing. As such, as x increases it becomes more attractive to tie the hands of your potential successor, even if this successor may be yourself. More generally, where there is power sharing or high political competition, institutions are more likely to be impartial.

2. Consider an economy populated by individuals with preferences

$$w = c + 2\sqrt{g},$$

where c is private consumption and g is economy-wide public good. Individuals have different income levels y_i distributed with mean \bar{y} and median y_{med} . The public good is financed through common proportional income tax t , so that the government budget constraint is

$$g = t \int y_i di = t\bar{y}.$$

and individual consumption is given by after-tax income

$$c_i = (1 - t)y_i = \left(1 - \frac{g}{\bar{y}}\right)y_i,$$

- (a) Find the public good levels g_i preferred by individual with income y_i . How does it depend on y_i ? Provide intuition.

Solution: An individual with income y_i solves

$$\begin{aligned} & \max_{c,g} c + 2\sqrt{g} \\ \text{s.t.} \quad & g = t \int y_i di = t\bar{y} \\ & c_i = (1 - t)y_i = \left(1 - \frac{g}{\bar{y}}\right)y_i \end{aligned}$$

or equivalently

$$\max_g \left(1 - \frac{g}{\bar{y}}\right)y_i + 2\sqrt{g}$$

FOC is

$$-\frac{y_i}{\bar{y}} + \frac{1}{\sqrt{g}} = 0$$

which gives the best preferred public good level of individual with income y_i

$$g(y_i) = \left(\frac{\bar{y}}{y_i}\right)^2$$

Everyone enjoys the public good equally much, but people with higher income pay more for it. Thereby, the higher is the income of the individual, the less he is interested in public good.

- (b) Assume that the tax rate in this economy is decided by pure majority rule. What level of public good is chosen in equilibrium?

Solution: The median voter will be decisive, and the level of public good will be

$$g^* = \left(\frac{\bar{y}}{y_{med}}\right)^2$$

(c) Assume now that there is an inflow of immigrants to the country in question. They all get jobs and receive incomes, so the new mean income in this economy is \bar{y}_{new} , and their incomes are taxed at the same common tax rate. However, immigrants are not eligible for voting, as they do not have citizenship.

i. Consider the case when $\bar{y}_{new} > \bar{y}$ (for example, it is a high-skill immigration). What happens to the level of public good provided in this economy?

Solution: It is still the old median voter who will be decisive, and the new level of public good will increase:

$$g_{new}^* = \left(\frac{\bar{y}_{new}}{y_{med}} \right)^2 > g = \left(\frac{\bar{y}}{y_{med}} \right)^2$$

Indeed, now the high-skill, high-income immigrants can contribute to the public good through taxes, so it pays out (for the median voter) to tax more.

ii. Now assume that $\bar{y}_{new} < \bar{y}$ (e.g., it is a low-skill immigration). What happens to the level of public good provided in this economy?

Solution: Again, it is the old median voter who will be decisive, and the new level of public good will decrease:

$$g_{new}^* = \left(\frac{\bar{y}_{new}}{y_{med}} \right)^2 < g = \left(\frac{\bar{y}}{y_{med}} \right)^2$$

With the low-skill, low-income immigration, the median voter becomes relatively more rich, and is thus less interested in paying for the public good.

iii. Assume that the median voter in this economy can choose whether to allow for immigration or not. Will she allow high-skill immigration? low-skill immigration? Motivate your answer both mathematically and intuitively!

Solution: The utility of the median voter pre-immigration is given by

$$\begin{aligned} U_{med} &= \left(1 - \frac{g^*}{\bar{y}}\right)y_{med} + 2\sqrt{g^*} = \left(1 - \left(\frac{\bar{y}}{y_{med}}\right)^2 \cdot \frac{1}{\bar{y}}\right)y_{med} + 2\frac{\bar{y}}{y_{med}} = y_{med} - \frac{\bar{y}}{y_{med}} + 2\frac{\bar{y}}{y_{med}} \\ &= y_{med} + \frac{\bar{y}}{y_{med}}. \end{aligned}$$

The utility post-immigration is given by

$$U_{med}^{new} = y_{med} + \frac{\bar{y}_{new}}{y_{med}}.$$

So, we can see that high-skill immigration will be allowed, but not the low-skill one. Indeed, the high-skill immigrants contribute more to the public good through paying tax, and thus, their immigration is beneficial for the median worker. The reverse is true for the low-skill immigration.

(d) Assume now that the median voter in this economy can also decide whether to give the citizenship to the immigrants (that are already working in this economy), i.e. whether to grant them the right to participate in voting. Will she ever do it? Explain.

Solution: Even without any mathematics one can see that the answer is "NO". Indeed, as long as the citizenship is not given to the (already immigrated) immigrants, the median voter is decisive in the economy and she can choose her best-preferred level of public good while still taxing the immigrants. Once citizenship is given to the newcomers, the median voter identity will likely change, and the "old" median voter will no longer be able to implement her best-preferred choice.

3. In recent years, and even more so following the financial crisis, fiscal transparency has been heralded as an important part of good governance.

(a) Explain, based on the readings of the course, what fiscal transparency is and how it affects, or does not affect, decisions of policy makers both in theory and in practice.

Answer: Fiscal transparency is a central part of fiscal governance, and attempts to capture the

degree to which it is possible for the public, including non-government politicians and the media, to gain access to accurate information about the fiscal situation of the country. A distinction is sometimes made between formal and actual fiscal transparency, with the index discussed in class being an example of the former. Examples of fiscal transparency include whether the government regularly issues long term projections of government finances and whether assumptions used for forecasting are devised by non-governmental agencies. Examples from class suggest that public finance, including debt, deficits and political budget cycles, all are affected by fiscal transparency, even if there is some concern about endogeneity issues; levels of fiscal transparency are decided upon by politicians and they may implement it, or refrain from doing so, when it is optimal for them to do so, including in cases of power sharing similar to question 1c above. Also briefly mentioned in class is the finding that more fiscal transparency tends to be associated with less procyclical fiscal policies.

- (b) In the fiscal transparency index employed in class, Greece scores 0 on a 0-11 scale. At the same time, Greece is in deep trouble regarding its public finances. Suppose the European Central Bank (or some equivalent supra-national actor) would command that Greece improves its level of fiscal transparency; based on your answer in (a) and the readings in class, how would that, everything else equal, affect the future performance of Greek public finances? Would this fully address the challenge of decentralized decision-making in the eurozone? If yes, how? If no, why not and what can be done about it?

Answer: Here, a number of arguments can be made, and the following is not an exhaustive list. The discussion should include the issue of endogeneity, that lack of control over public finances and no fiscal transparency may both stem from what is basically a less than well-functioning public sector. If this is the case, implementing fiscal transparency may have little or no effect, and may even contribute to more off-budget activity. If implemented, fiscal transparency should be incentive compatible, i.e. it should be optimal for the government to implement and act according to principles of fiscal transparency. While asymmetric information may harm redistribution and risk-sharing arrangements among countries in a fiscal union, due to standard moral hazard reasons, perfect information does not make this go away; this is an example of the common pool problem. One solution to this is the centralization of fiscal policies, towards which a movement can be seen at present.