

Written Exam at the Department of Economics winter 2016-17

Political Economics Solutions

Problem 1

a.

The graphs plot various measures of the size of government against the democratic win margin in the preceding election, i.e. the difference between the vote share obtained by the democratic candidate and the opponent who got the most votes (typically, the republican candidate). Thus, the graphs allow us to compare the difference in policy outcomes between situations where the democrats barely lost the election (win margin slightly negative) and situations where they barely won (win margin slightly positive). Such comparisons are informative because the final outcome in such closely contested elections is likely to be heavily influenced by arbitrary factors, such as the weather on election day. This means that within this group of elections, whether democrats won or lost is “as good as random”, and there should be no selection bias. If election outcomes have a causal effect on the size of government, we should therefore see it as a discontinuity in the mean value of the policy outcome variables at a win margin of zero.

However, the graphs show no such effect: For none of the depicted measures of government size is there a jump at zero. This suggests that whether a democrat or a republican is elected for mayor does not matter for the size of the city government.

b.

Ferreira and Gyourko’s results are about the causal effect of partisan control of government on the size of *local* U.S. governments. If we directly extrapolate their results to the national level, they would suggest that electing Trump instead of Clinton is likely to have no effect on the size of the U.S. government.

However, one should be extremely cautious with applying the results to different settings, as there may be problems with external validity: Studies that use the same RD method as Ferreira and Gyourko, but in other settings, find very different results. For example, Lee, Moretti, and Butler (2004) study the effect of election outcomes of congressional races on subsequent policy outcomes and find that electing a democratic representative instead of a republican has a very large effect on the representative’s voting behavior in the House of Representatives. Pettersson-Lidbom (2009) studies Swedish municipalities and finds substantial effects of electing a left-wing government, rather than a right-wing, on the size of the local government. These differences in results across settings suggest that we cannot really infer anything from Ferreira and Gyourko’s study of local politics about the effect of presidential election outcomes on the size of the U.S. federal government. To do that credibly, we would need to design a study to identify the causal effect of election outcomes on size of government within the context that we are really interested in, in this case U.S. presidential elections.

Problem 2

a.

Substituting the two budget constraints into the utility function for citizen i , we can write his/her indirect utility function in terms of g as

$$W^i = ((1 - \theta)y - g) \frac{y^i}{(1 - \theta)y} - \frac{1}{2}(2 - g)^2$$

The first-order condition for maximizing this function with respect to g is

$$-\frac{y^i}{(1 - \theta)y} + (2 - g^{*i}) = 0$$

$$\leftrightarrow g^{*i} = 2 - \frac{y^i}{(1 - \theta)y}$$

The indirect utility function is strictly concave in g , so the first-order condition is a necessary and sufficient condition for an interior optimum. It is clear from this expression that g^{*i} depends negatively on θ . Intuitively, a higher value of θ makes taxation more costly, so that the price of delivering public goods in terms of foregone private consumption increases. This makes public goods spending less attractive to all groups of citizens.

b.

The combination of single-peaked preferences and Downsian electoral competition means that the median voter theorem applies: The median voter's preferred level of spending is a Condorcet winner and the unique equilibrium of the model. The median voter is in this case a citizen from group M . Inserting $\theta = 0$, $y = \frac{1}{3}(1 + 3 + 8) = 4$, and $y^i = y^M = 3$ in the FOC above gives us that the equilibrium level of public goods spending is

$$g^* = 2 - \frac{3}{4} = 1.25$$

The answer would be exactly the same if we had instead assumed that politicians cared about policy outcomes, rather than just winning the election. In that case, the candidates would face a trade-off between proposing something closer to their own preferred spending level, thus getting a policy they like better if they win the election, vs. proposing something close to the median voter's preferred policy, thus increasing the probability of actually winning. Under Downsian electoral competition, the latter effect always dominates the former, so there would be full policy convergence to the median voter's preferred policy, which would again be the unique equilibrium.

c.

The new equilibrium becomes $g^* = 2 - \frac{3}{2} = 0.5$, which is lower than in 2.2. The explanation is that the increase in the cost of taxation reduces the median voter's preferred level of spending, and the political candidates react by adjusting their policy proposals. This is an example of voters *affecting* the policy outcome: Both candidates change their policy platforms in response to the change in voter preferences, and the equilibrium level of spending becomes lower no matter who wins the election.

d.

The arrival of the immigrants reduces the average income level in the economy to $y = 3.25$. However, because the immigrants are not allowed to vote, the identity of the median voter is unchanged. The

equilibrium level of spending therefore becomes $g^* = 2 - \frac{3}{3.25} \approx 1.08$. This is lower than in 2.2. The reason is that the drop in the average income level makes public goods spending less attractive for citizens in group M because it now requires a higher tax rate to deliver a given amount of public goods per capita. The price in terms of foregone private consumption is therefore higher.

e.

The extension of voting rights to the immigrants changes the identity of the median voter, since citizens in groups P and I now make up a majority of the electorate. The median voter now belongs to one of these groups, so the equilibrium spending level becomes $g^* = 2 - \frac{1}{3.25} \approx 1.69$. The increase in equilibrium spending compared to 2.4 arises because the income level of the median voter is lower, while the income level of the average taxpayer is unchanged: The newly enfranchised voters have low income relative to the rest of the population, and this shifts the position of the pivotal voters towards more spending on public goods.

(It can also be noted that the level of spending is also higher than before the immigrants arrived. This is because their arrival has resulted in an income distribution that is more *skewed to the right*.)

The pure income-based model of redistribution, of which this is an example, is generally somewhat lacking when it comes to explaining differences in the size of government and the level of redistribution across countries and time. However, the prediction that extension of voting rights to poorer segments of the population is broadly consistent with historical evidence from a number of Western economies. Controlling for other observable factors, empirical studies have found that franchise extensions to the poor tend to coincide with increases in the level of government spending.

Problem 3

The main difference is that their measure of political competence captures cognitive and non-cognitive skills which influence policy-making ability, independently of socioeconomic type. Thus, they will measure competence as individual's earnings relative to other people of similar age and labor market characteristics. In other words, competence is measured as the variation in income that is left out after controlling for age, education, experience, industry, etc.

The difference is important because the authors of the paper are worried that measures of political competence that use income or educational attainment confound competence with socioeconomic background and, therefore, representation of certain socioeconomic types.

Problem 4

a.

Using the potential outcomes model, we can express β_1 as:

$$\begin{aligned}
& \underbrace{E[\text{Vote}_{ij,1999} | \text{WatchesNTV}_{i,1999} = 1] - E[\text{Vote}_{ij,1999} | \text{WatchesNTV}_{i,1999} = 0]}_{\text{Observed difference in average turnout}} = \\
& = \underbrace{E[\text{Vote}_{1ij,1999} | \text{WatchesNTV}_{i,1999} = 1] - E[\text{Vote}_{0ij,1999} | \text{WatchesNTV}_{i,1999} = 1]}_{\text{Average treatment effect on the treated}} + \\
& + \underbrace{E[\text{Vote}_{0ij,1999} | \text{WatchesNTV}_{i,1999} = 1] - E[\text{Vote}_{0ij,1999} | \text{WatchesNTV}_{i,1999} = 0]}_{\text{Selection bias}}
\end{aligned}$$

The problem described by the equations above is that media exposure, $\text{WatchesNTV}_{i,1999}$, may be endogenous to vote choice. Thus, β_1 will also measure selection bias: being exposed to NTV could be driven by observed and unobserved characteristics that also have an effect on voting. For instance, individuals who watch NTV are more likely to be anti-government, and therefore, more likely to vote for opposition parties, regardless of the effect of watching NTV.

b.

In order to estimate the causal effect of NTV on voting behavior we need a source of exogenous variation. A well-done IV approach can provide a solution for that. Thus, if availability of NTV signal is idiosyncratic, i.e. that there were no unobserved characteristics of regions with and without NTV that could drive as well the observed differences in voting behavior, we would be able to estimate the causal effect of watching NTV on voting behavior.

The following are the assumptions and their explanations:

- The instrument is as good as randomly assigned. That means it is independent of the vector of potential outcomes and potential treatment assignments.
- Exclusion restriction: the potential outcome (the endogenous variable) is only a function of treatment. That means that the outcome variable is only affected through treatment, and not through any other channel.

The following is the discussion of what each assumption means in the context of this research question:

- That the instrument is as good as randomly assigned means that the instrument is not correlated with any other covariate. In other words, covariates are balanced across treatment and control group. This assumption is enough for both the reduced form and the first-stage to capture a causal effect.
- Exclusion restriction: that means that we are only measuring the effect of watching NTV on voting behavior in the parliamentary elections in 1999. Thus, the exclusion restriction is violated if NTV signal availability affects voting behavior through channels other than watching NTV. One potential example is that the availability of NTV signal thanks to the transmitters also makes more radio stations available. Thus, more signal availability of NTV could also mean access to more media, and we can no longer state that we are measuring the causal effect of watching NTV on voting behavior. Note that violation of the exclusion restriction does not invalidate a causal interpretation of the reduced form and the first-stage, but just of the second stage.

c.

In the table we see that regions with higher population and higher income were more likely to get the NTV

signal. Therefore, an IV strategy without controls will not be valid, since it will violate the independence assumption. In other words, if we do not include controls, our estimate will include selection bias, i.e. people with higher income might be more pro-opposition regardless of how many hours of NTV they watch. Thus, the IV strategy needs to include control variables. The key identifying assumption is that the availability of NTV, after controlling for observable characteristics of regions, is uncorrelated with political preferences of voters.

d.

Even after adding controls in the IV regression it could be that there are unobserved characteristics of subregions with and without NTV signal that could drive the differences in voting behavior. Thus, the authors conduct a placebo experiment using the results for elections in 1995, when there were no significant differences in TV coverage. The fact that availability of NTV in 1999 had no effect on voting in 1995 suggests that unobservable characteristics of regions that could be correlated with voting choice are not likely to explain any potential effect that the authors might detect for 1999. An implicit assumption in this type of exercise is that political preferences are persistent over time.

e.

The paper by Gentzkow and Shapiro finds that the effect of newspapers' slant on ideology accounts for only a small part of the variation in ideology. The authors measure the slant of most newspapers in the US and find that newspapers mostly cater to the ideological preferences of the region where they are distributed. In other words, they act in a profit-maximizing way and provide the ideological bias that their readership wants. This is in contrast to the behavior of a newspaper who might want to further influence the ideology of their readers and thus deviate from the profit-maximizing strategy and push for a worldview different to that of its readers. Thus, the paper by Gentzkow and Shapiro points out that the slant of newspapers in the US is endogenous to their readers, and suggests that newspaper ideology might have at most a small effect on the ideology of its readers. This is in contrast to the results in the paper by Enikolopov et al., who find quite large effects of media persuasion on voting (and presumably ideology as well).