Political Economics Exam Answers

January 11 2019

Problem 1

1a. A strong belief in *upward* mobility can make individuals from a poor background less supportive of redistribution through a purely self-interested motive. Intuitively, children of low-income parents may oppose redistributive policies such as high taxes if they expect to climb the income ladder in the future. A similar argument can be made for the low-income parents themselves, assuming that they care about the future well-being of their children.

Perceptions of intergenerational mobility may also affect preferences for redistribution for the non-poor, and through motives other than pure self-interest, such as fairness considerations: If people think intergenerational income mobility is low, it is likely that they assign low weights to factors such as skills and hard work when thinking about what determines relative income levels in society, but large weights to factors that are outside individuals' own control, such as luck or social background. Such beliefs about the causes of poverty may lead to the view that income differences are unfair and should be evened out through redistributive policies.

Several papers (including the one by Alesina et al.) provide empirical evidence showing that *beliefs* about income mobility are stronger in the US than in Europe (despite the fact that there is no evidence of corresponding differences in *actual* mobility). If perceptions about intergenerational mobility do in fact affect preferences for redistribution in the way described above, this can help explain why there is much more redistribution in Western Europe than in the US.

1b. Observing a correlation between perceptions of mobility and preferences for redistribution (as the authors do in the paper) does not imply a causal effect of the former on the latter; it could also reflect a reverse causal effect, or the effect of other variables, such as perceptions of inequality or overall political views. In econometric terms, simple comparisons between respondents with different perceptions of income mobility are likely to suffer from selection bias.

The idea of the experimental treatment is to manipulate perceptions of mobility, without affecting preferences for redistribution through any other channel. Since treatment assignment is random, there is no reason for concerns about selection bias. The combination of these two features means that we can interpret the estimated treatment as solely reflecting the causal effect of mobility perceptions on preferences for redistribution. The first-stage results reported in the paper show that the treatment does indeed have a large negative impact on perceptions of income mobility.

(Unlike this first-stage effect, the exclusion restriction - i.e. the assumption that the treatment does not affect preferences for redistribution through any other channel than perceptions of mobility – cannot be tested directly. Students don't have to mention this in their answers, though).

1c. Panels A and C show that there are almost no significant effects of the treatment on the reported measures of support for redistribution for the average respondent. But panels B and D show that this masks considerable heterogeneity between left-wing respondents and right-wing respondents. For example, the results in column (1) show that there is a significant positive effect on the preferred share of government spending on "equal opportunity" spending items (such as schooling and health) for left-wing

respondents, but not for right-wing respondents. Similar differences are found in many of the other columns. Thus, the treatment has a polarizing effect: Left-wing respondents generally favor redistributive policies much more strongly than right-wing respondents, and telling respondents that intergenerational income mobility is low only widens this gap.

The lack of effect on right-wing respondents' preferences for redistribution could be due to widespread aversion to government intervention of any kind among such respondents, which is only made worse by the treatment. This is supported by the negative impact on the share of right-wing respondents who say that the government has the tools to act against unequal opportunities (column 9). Kuziemko et al. (AER 2015) find similar results when studying the effects of knowledge about income inequality on policy preferences. Overall, the recent literature suggests that right-wing respondents do adjust their beliefs about inequality and mobility when presented with information about these phenomena, but mistrust in government means that such changes in beliefs does not make them support more redistributive policies.

Problem 2

The fact that the candidate typically votes for a different party suggests that she has different political (policy) preferences than the people (candidates) in the party I work for. The question is to what extent she can still serve as a useful advisor in that case.

The cheap talk model of Crawford and Sobel speaks very directly to this issue. In the model, one agent (sender) observes a signal about what is the optimal thing to do and then conveys this in a message to another agent (receiver) who decides what to do. In the present context, we can think of me as the receiver who wants to know what is the right economic policy platform to choose, and the candidate as the potential sender who observes a signal about what the right policy platform is. The key feature of the Crawford and Sobel model, however, is that the sender may have slightly different policy preferences than the receiver so that the sender may have an incentive to misrepresent what she knows about the optimal choice. In the present context, this corresponds to the fact that the candidate sender seems to prefer a different policy outcome than me and therefore may bias her advice.

Crawford and Sobel provides a series of results that have implications for whether I may want to hire the candidate: First, Crawford and Sobel show that as long as the disagreement between sender and receiver is not too great, an equilibrium exists in which the senders message carries actual information (a partition equilibrium). This suggests that the candidate in question can indeed be useful as an advisor despite her different policy preferences.

Second, Crawford and Sobel show that the amount of information that can be transmitted in equilibrium (the fineness of the partition) is decreasing with the amount of disagreement between sender and receiver. This suggests that the candidate will be a more useful advisor if her political preferences are closer to those of my party. A particular important factor to consider is therefore whether the candidate has previously been voting for a party that is very different from mine or for a party that is relatively similar. In the former case, she will be less valuable as an advisor (less information can be transmitted).

Third, Crawford and Sobel show that full information transmission is never possible when the sender and receiver have different preferences. All other things equal, this implies that I would do better by hiring a candidate that consistently votes for my party because they likely have the same policy preferences as my party.

Given the description in the problem, the "all other things equal" qualifier under the third point above is important to bear in mind as it is explicitly stated that the candidate in question looks more competent than the rest of the applicant pool. Differences in "competence" are not included in Crawford and Sobel's

model. But intuitively, we might think about the different potential senders as having (receiving) more or less precise information about the right thing to do. In this case, I could face a trade-off: I can either hire a very competent sender with different policy preferences, which would mean that the sender has very precise information but may not transmit all of it to me. Alternatively I could hire a less competent sender who has the same policy preferences as me, which would mean that the sender has less precise information but truthfully conveys all of their information to me. This trade-off is analogous to the competence vs. representation trade-off highlighted in the model by Matozzi and Snowberg, in which poor voters must choose between a very competent politician that they disagree with politically, and a less competent politician who shares their policy preferences.

In terms of grading, if students analyze the hiring decision using different models and/or concepts from the course, credit should be given according to how relevant, coherent and well-argued the answer is.

Problem 3

3a. The bliss point for citizen *i* is the policy that maximizes his/her indirect utility function. It is straightforward to see that this corresponds to α_i. Moreover, the indirect utility function is globally concave, so citizens have single-peaked preferences. With a one-dimensional policy, this implies that a Condorcet winner exists. It is the policy preferred by the median voter (more precisely: the voter whose bliss point is median among all the bliss points), i.e. α_M.

3b. If the median voter prefers τ_A over τ_B, then so will at least half of all other voters, and candidate A will win the election with certainty. Conversely, if the median voter prefers τ_B over τ_A, then candidate B will win with certainty. If the median voter is indifferent, then either the rest of the electorate is split exactly in half (in which case the election will be decided by the median voter, who flips a coin), or all other voters are also indifferent and will decide their vote by a coin toss. The probability that candidate A wins is one half in both cases. Mathematically, we can express this as follows:

$$p_A = \begin{cases} 1 & if\ W(\tau_A;\alpha_M) > W(\tau_B;\alpha_M) \\ ½ & if\ W(\tau_A;\alpha_M) = W(\tau_B;\alpha_M) \\ 0 & if\ W(\tau_A;\alpha_M) < W(\tau_B;\alpha_M) \end{cases}$$

Inserting $W(\tau;\alpha_i) = -(\tau-\alpha_i)^2$ then gives

$$p_A = \begin{cases} 1 & if\ -(\tau_A-\alpha_M)^2 > -(\tau_B-\alpha_M)^2 \\ ½ & if\ -(\tau_A-\alpha_M)^2 = -(\tau_B-\alpha_M)^2 \\ 0 & if\ -(\tau_A-\alpha_M)^2 < -(\tau_B-\alpha_M)^2 \end{cases}$$

Note that $-(\tau-\alpha_i)^2$ is decreasing in the absolute distance between τ and α_M. In words, candidate A wins when she proposes something closer to the median voter's preferred policy than candidate B, loses in the opposite case, and wins with probability ½ if they propose something equally distant from α_M.

3c. The unique Nash equilibrium is full policy convergence to the median voter's preferred policy. The policy platforms in this equilibrium are $\tau_A = \tau_B = \alpha_M$. The intuition is that the forces of electoral competition provide candidates with a strong motive to moderate their policies to become more attractive

to voters in the center and increase their chances of winning. In other words, political competition acts as a *centripetal* force that pulls politicians toward the center of the political spectrum.

Pulling in the opposite direction is a *centrifugal* force stemming from politicians' own policy preferences. Intuitively, while moderating the policy proposal increases a candidate's probability of winning, it also reduces the value of winning because the policy that the candidate must implement if he/she wins moves farther away from his/her preferred policy. This will tend to pull the policy proposals away from the center of the political spectrum.

However, the centrifugal force is completely dominated by the centripetal force in this version of the model. This is because of the discontinuous relationship between a candidate's policy proposal and the probability of winning the election, as shown in 2b. Loosely speaking, the gain from moderating one's policy platform is discrete, as the probability of winning can jump from either zero to one half, or from one half to one, whereas the cost from moving farther away from one's preferred policy is only marginal. Hence, for any (reasonable) equilibrium candidate with less than full convergence, at least one candidate will have an incentive to deviate by bringing his/her policy platform closer to the median voter's bliss point. It follows that the full convergence outcome is the only equilibrium. Since both candidates propose and commit to the same policy platform in this equilibrium, the outcome of the election does not matter for the policy outcome.

The value of R does not matter for this result. A higher value of R strengthens the incentive to moderate policies by increasing the value of wining. However, then centripetal force dominates even when R=0. In this situation, candidates' motivation for winning the election comes solely from the fact that the winner gets to decide the policy outcome. But because of the discontinuity in the probability of winning, this is sufficient to generate full convergence.

3d. Since the value of δ is common to all citizens, the introduction of this parameter shifts the preferences of all citizens in the same way. So once again, candidate A wins if and only if the median voter prefers her over candidate B. (More formally: The preferences over candidates satisfy the single-crossing property, so if the median voter prefers candidate A over candidate B, then so will at least half of the other citizens.)

The probability that candidate A wins is therefore given by

$$\begin{aligned} p_A &= pr(W(\tau_A;\alpha_M) > W(\tau_B;\alpha_M) + \delta) \\ &= pr(-(\tau_A - ½)^2 + (\tau_B - ½)^2 > \delta) \\ &= \frac{1}{2} + \psi(-(\tau_A - ½)^2 + (\tau_B - ½)^2) \end{aligned}$$

where the last equality follows from the fact that δ is uniformly distributed on the interval $\left[-\frac{1}{2\psi};\frac{1}{2\psi}\right]$.

We then get that $\frac{\partial p_A}{\partial \tau_A} = \psi(1 - 2\tau_A)$, which is positive when $\tau_A < ½$ and negative when $\tau_A > ½$. In words, this means that bringing τ_A closer to the median voter's bliss point (which is ½) increases the probability of winning for candidate A. The crucial difference compared to the answer in 3b is that candidate A's probability of wining is now a *continuous* function of candidate A's policy proposal, so that a marginal change in τ_A has a marginal, rather than discrete, impact on p_A.

3e. Suppose candidate B announces $\tau_B = \alpha_M = ½$. From the answer in 3d we then get

$$p_A = \frac{1}{2} + \psi(-(\tau_A - ½)^2)$$

and

$$E[U_A] = \left(\frac{1}{2} + \psi(-(\tau_A - ½)^2)\right)(-\tau_A)^2 - \left(\frac{1}{2} - \psi(-(\tau_A - ½)^2)\right)\left(\frac{1}{4}\right)$$

Taking the derivative of this expression wrt. τ_A and evaluating at $\tau_A = ½$ yields (after some steps):

$$\frac{\partial E[U_A]}{\partial \tau_A}_{|\tau_A=\tau_B=\frac{1}{2}} = -\frac{1}{2} < 0$$

That is, if both candidates announce the median voter's bliss point, candidate A can increase her expected utility by lowering her proposal. Full convergence to this point can therefore not be an equilibrium outcome.

The reason is that the centripetal force no longer dominates the centrifugal force: Starting from the situation with full convergence, if candidate A lowers her policy proposal marginally it will lower her chance of winning, but only marginally so, since the probability of winning is now a smooth function of the policy proposals. Intuitively, proposing something that she knows the median voter likes less than candidate B's proposal is not fatal to her chances of winning the election because there is a positive probability that voters will perceive her as having a better personality, so that at least half of them vote for her anyway. The gain she gets from proposing something closer to her own preferred policy will therefore outweigh the cost.

This is very different from the situation without uncertainty about δ, where the discontinuities in the probability of winning leads to full policy convergence, as explained in 3c.

3f. In the political equilibrium, the centrifugal and centripetal forces are balanced, and candidates will neither converge fully to the median voter's preferred policy, nor diverge completely to their own bliss points (the latter can be shown formally following similar steps as in 3e, but this is not required). Moreover, since everything is completely symmetrical for A and B, the equilibrium is also symmetric, so that $\tau_A = 1 - \tau_B$.

A higher value of ψ lowers the uncertainty about the value of δ. This implies that the probability of winning becomes more sensitive to the candidate's policy proposal, thus strengthening the centripetal force working through electoral competition. Higher values of ψ therefore leads to more convergence.

The introduction of more precise opinion polling methods is an example of a shock that would reduce politicians' uncertainty about voter perceptions, and we can model it as an increase in ψ. So according to this model, we should expect to see more political convergence as a result.