Political Economics (HT23): Final Exam

Question 1: Electoral competition and equilibrium policy [40%]

Consider an economy with a continuum of voters of mass 1, who are characterized by unequal income endowments, y, distributed uniformly on the interval $[0, 2]$. There are two parties, L and R, representing either side of the political spectrum. Each select their candidate through some *exogenous* nomination process. Elections are settled by majority vote, or a coin flip in the case of a tie. The winning candidate gets to set tax rate τ, which is redistributed equally to everyone as lumpsum, g. Thus the utility of a household (indexed by i) can be written as:

$$u_i = \sqrt{c_i} + \sqrt{g} \tag{1}$$

The household faces budget constraint:

$$c_i = (1 - \tau)y_i \tag{2}$$

And the government budget constraint is:

$$g = \tau\bar{y}. \tag{3}$$

where $\bar{y}$ is average income.

(a) [10 pts] Identify the most-preferred tax of Household i.

Answer:

$$max_\tau \sqrt{(1-\tau)y_i} + \sqrt{\tau\bar{y}}$$
$$\frac{-y_i}{2\sqrt{(1-\tau)y_i}} + \frac{\bar{y}}{2\sqrt{\tau\bar{y}}} = 0$$
$$\tau_i^* = \frac{\bar{y}}{\bar{y} + y_i}$$

(b) [15 pts] Assume the nomination process is such that the two parties choose the most "ideologically pure" candidate. Specifically, Party L nominates the household with $y_i = 0$ and Party R nominates $y_j = 2$. The two candidates debate and commit to their platforms. What is the equilibrium policy in this setting? Be detailed in your reasoning and discuss the "forces" acting on the candidates' policy announcements.

Answer: The candidate that is chosen for either party will care about the eventual outcome and be drawn to proposing their bliss point as a policy. For example, the candidate representing the Left party will want to set a tax higher than average, $\tau_L > \frac{1}{2}$, a "centrifugal" force pushing them away from the centre towards their bliss point. However, they also need to affect their probability of winning, which

means they need to appeal to the median voter and compete with their opponents proposal. This "centripedal" force pulls their policy announcement to the centre towards the median voter's bliss policy.

We can apply the MVT, because we have single-peaked preferences over one-dimensional policy (e.g. check second derivative for concavity). The logic follows that with policy commitment, the candidates will compete with each other in the policy debate to appeal to the decisive voter. Despite having their bliss points on either side of the political spectrum, the centripetal force dominates, and each candidate's best response to their opponent's proposal is to offer a policy that is more attractive to the Median Voter. The equilibrium is thus the Condorcet winning policy:

$$\tau^* = \tau_m = \frac{\bar{y}}{\bar{y} + y_m} = \frac{1}{2}$$

(c) [15 pts] Now suppose parties are abolished and candidates have to pay their own way, incurring cost ϵ if they run in the race. Also, in the absence of political parties, candidates can no longer commit to their policy platform. Thus, candidates arise *endogenously* from the distribution of households. If no citizen runs, the default policy, $\hat{g} = 0$, is implemented. That is, there is no taxation or government good provision. What are the conditions for an equilibrium where only one citizen runs and implements the same policy as in part (b)?

Answer: Since the equilibrium policy in part c was the median voter's bliss point, we need to check the conditions for which one candidate runs and implements $\tau = \frac{1}{2}$. Since we no longer have commitment, the only candidate who will implement this policy is the Median Voter themself. So we need to check the conditions for the median voter running. This is:

$$W^m(g_m) - W^m(\bar{g}) \geq \epsilon$$

In words, this is checking that the welfare gained from their favourite policy over the default policy, at least compensates them for the cost of participation.

It is not probability weighted, because if the median voter decides to run, they will win with certainty, since their policy is the Condorcet winner and any challenger would have to also play g_m in order to have a chance of winning. Since costs are positive, they might as well stay out.

Then we just need to check when costs are low enough to induce the median voter to run, rather than just accept $\hat{\tau} = 0$, the default.

$$\begin{aligned}
\sqrt{(1-\tau_m)y_m} + \sqrt{\tau\bar{y}} - (\sqrt{(1-0)y_m} + \sqrt{0\bar{y}}) &\geq \epsilon \\
\sqrt{1/2} + \sqrt{1/2} - \sqrt{1} - 0 &\geq \epsilon \\
2\sqrt{1/2} - 1 &\geq \epsilon
\end{aligned}$$

Question 2: Political reforms [40%]

Political reforms can alter the incentives and behaviour of politicians and/or policy outcomes, but reformers' intentions are not always consistent with theory and evidence. Use your knowledge of both theory and empirical studies to address the following reform settings.

(a) [20 pts] "Positions of power are dominated by men, yes, but since women make up half the voting population, their policy preferences should be well-served by democratically-elected policy makers. Thus a reform instituting a quota for women politicians will not change outcomes."

Answer: Depending on the theoretical model selected, the identity of the politician may or may not matter for the enacted policy. In the workhorse model of political competition, the median voter is decisive. So regardless of the identity of the elected politician, the resulting policy will not change. Some alternative frameworks would predict results differently. The citizen candidate model, where a lack of commitment mechanisms means that the winning candidate will implement their bliss point, is a good example of policy divergence. Here the identity of the politician does matter for the resulting policy, and restricting candidates to being of a specific group, means that that groups' policy preferences will be better served. One could also discuss the Baron Ferejohn legislative bargaining framework, where reserving the agenda setting role for a woman would mean that their policy goals would be best-served in the post-election politics and resources would be diverted toward this "in group" interests.

In terms of empirical evidence, Chattopadhyay and Duflo (2004) make a strong causal case that the identity of the policy maker, and that reserving the village council head seat for a woman has a large significant impact on policy outcomes. For example, the authors surveyed voters on their preferences for public spending, and women identified clean drinking water and road improvements as being of greater importance. When the council head seat is randomly reserved for a woman, the spending on these policies increased in comparison to the unreserved seats.

(b) [20 pts] "Power corrupts and allowing politicians to linger in positions of power will only breed more corruption. We need term limit reforms to remove corrupt leaders."

Answer: There are two relevant cases for theory here. The first is from the agency model, where yes politicians are corrupt by nature, but they can be disciplined by re-election mechanisms. Term limits will weaken these re-election mechanisms, and politicians who aren't facing re-election will be corrupt with certainty. The other line of argument is from Myerson's model, where voters know that politicians are corrupt, and can observe their corruption, but because they have multidimensional policy interests, are willing to put up with the corruption as long as the other policy choices of the politician align with their preferences. In order to escape this bad equilibrium of re-electing corrupt politicians, voters need some

sort of coordination mechanism to free themselves. In this case, term limits would help them coordinate away from the corrupt candidate.

In terms of theory, Ferraz and Finan (2011) present a strong case that term-limited mayors in Brazil engage in more corruption providing evidence that re-election incentives do discipline new mayors. They address alternative explanations for why new mayors engage in less corruption, including a "learning" mechanism of veteran mayors becoming better at grabbing rents over time. They rebut this learning explanation by restricting the sample of "new mayors" to ones that have previous political experience. Another source of evidence that voters punish corruption is Ferraz and Finan (2008), which uses a randomization of municipal audits to show that an incumbent's re-election probability is decreasing in the number of corruption incidences revealed by the random audits. However, this does not necessarily let us reject the Myerson model, since mayors with only one case of corruption are not punished, implying that such a level is acceptable as long as they perform well otherwise.

Regardless one should be very careful about term limits, since they could have unintended (perverse?) consequences.

Question 3: Patronage [20%]

Patronage is the exchange of public sector employment for political support, and potentially a tool for politicians to engage in legal quid pro quo. Colonnelli et al. (2020) [1] study this phenomenon in a Brazilian municipal context.

(a) [20 pts] Interpret the first two rows of column (1) in Table 4 (see below) from Colonnelli et al. (2020). Explain these findings in the context of the authors' addressing alternative explanations to the existence of patronage as a quid pro quo relationship.

Answer: Here the authors are testing an alternative explanation to quid pro quo patronage being strong ideological alignment between mayor and supporter-employee. If mayors appoint supporters because they are more ideologically aligned, and therefore would be better at implementing the mayor's mandate, then supporters who switched political allegiance should not be rewarded to the same degree as ideologically pure supporters. What this table shows us is that supporters of the mayor are 18,4 pp more likely to be employed in public sector job if their mayor is a winner of a close election. However, if a supporter switched allegiance to support the mayor, they are still rewarded with a 18,4 - 2,7 pp increase in probability of public employment. Thus there is a very small punishment for being a "switcher" - so ideology is not a sufficient alternative explanation quantitatively.

[1] Colonnelli, E., Prem, M., & Teso, E. (2020). Patronage and selection in public sector organizations. American Economic Review, 110(10), 3071-3099.

TABLE 4—EFFECT OF SUPPORTING THE WINNING PARTY: IDEOLOGY TESTS

Type of supporter:	Candidates (1)	Donors (2)	Own supporters candidates (3)	Neighboring candidates (4)	Own supporters donors (5)	Neighboring donors (6)
Mayor	0.184	0.082	0.156	0.001	0.114	0.001
	(0.029)	(0.031)	(0.006)	(0.000)	(0.015)	(0.001)
Mayor × switcher	−0.027	0.002				
	(0.010)	(0.027)				
Switcher	0.011	−0.014				
	(0.007)	(0.020)				
Observations	82,160	9,496	299,188	701,276	129,150	181,296
Mean D.V. runner-up	0.258	0.337	0.140	0.001	0.098	0.001
Supporters	22,646	3,821	81,063	149,768	41,669	51,410
Elections	3,361	536	4,679	4,679	893	893

Notes: Columns 1 and 2 present estimates from a version of equation (1) augmented by an indicator equal to 1 if the supporter is a "switcher," namely supported a different party in the previous election, and its interaction with the *Mayor* indicator. Column 1 focuses on the sample of candidates, while column 2 focuses on the sample of donors. See Section IVC for the list of variables included as additional controls. Columns 3–6 present the estimated effects in the samples of candidates and donors supporting the winning party or the runner-up party in the municipality (columns 3 and 5, respectively), and in the samples of candidates and donors supporting the same parties but in neighboring municipalities (columns 4 and 6, respectively). See Section IVD for additional details. The sample is restricted to supporters of the winning party or of the runner-up in a close election, using a 5 percentage point margin of victory to define an election as close. *Mean D.V. runner-up* shows the average of the dependent variable for the supporters of the runner-up in the post-election period. Standard errors are shown in parentheses and are double clustered at the supporter and election level.