ECON 4640: Political Economics

Question 1: Agency and Money in Politics [35%]

Assume there is a large pool of politicians, and a donor. For simplicity, we assume that the donor can make sure a politician wins the election by donating C. An elected politician can choose to reward the donor once in office. The timing is as follows:

1. The donor donates to zero or more politicians. The election is decided by a coin-flip between the politicians receiving donations. If no politician received a donation, the election is randomly determined ("period 1").
2. The elected politician chooses whether to reward the donor or not.
3. The donor donates to zero or more politicians. The election is decided by a coin-flip between the politicians receiving donations. If no politician received a donation, the election is randomly determined ("period 2").
4. The elected politician chooses whether to reward the donor or not.

The per-period payoff for the politician is:

$$U_P = \begin{cases} 0 & \text{if not elected} \\ R & \text{if elected and not rewarding donor} \\ R - k & \text{if elected and rewarding donor} \end{cases}$$

The per-period payoff of the donor is

$$U_D = \begin{cases} 0 & \text{if not donating} \\ -C & \text{if donating and not being rewarded} \\ B - C & \text{if donating and being rewarded} \end{cases}$$

where R is the politician's benefit to holding office (e.g. wage), k is the cost of rewarding the donor (i.e. clientelism), C is the cost of donations, B is the reward from donating. Assume that $B > C$. All players discount period 2 payoffs by $\delta < 1$.

Consider the following strategy of the donor: the donor donates to politician A in period 1. If A rewards the donor, the donor donates to A in period 2. Otherwise, the donor donates to another randomly chosen politician.

(a) [5%] Under which condition, if any, will A reward the donor in period 2 (if re-elected)? Explain.

(b) [5%] Under which condition, if any, will A reward the donor in period 1 (if re-elected)? Interpret the expression.

(c) [5%] Under which condition does this strategy give the donor higher payoffs than from not donating at all?

(d) [5%] Assume we are in period 2. Considering A's optimal strategy in (a), what is the donor's optimal strategy?

(e) [5%] If the donor behaves optimally in period 2, what is the optimal strategy of politician A and the donor in period 1? Explain.

(f) [10%] Given these results, do you think term limits reduce the influence of money in politics? Discuss.

Question 2: Citizen-Candidate Model [30%]

Consider a society inhabited by a continuum of citizens with incomes distributed uniformly between 0 and 2. Each citizen i has preferences over private consumption c and a publicly provided private good g that are given by

$$w^i = \sqrt{c^i} + \sqrt{g}.$$

The public good g is financed through a proportional income tax τ, and the government budget constraint is $\tau y = g$ where y is average income. Private consumption is $c^i = (1-\tau)y^i$.

Consider the following timing:

1. Any citizen may enter as a political candidate at a cost ε.
2. An election is held among the candidates; the candidate who gets plurality wins the election, and a tie is resolved by the toss of a coin.
3. The winning candidate selects a tax rate; if there are no candidates, then a default tax rate $\bar{\tau}$ is implemented.

Note. The mean and median of a random variable $X \sim U[a,b]$ is $(a+b)/2$.

(a) [15%] What optimal policy would a winning candidate with income y^i implement?

(b) [15%] Suppose that $\varepsilon = 2\sqrt{\frac{1}{2}} - \sqrt{\frac{3}{4}} - \sqrt{\frac{1}{4}}$. In what region must the status quo policy $\bar{\tau}$ lie in order for the equilibrium with only the citizen with median income as candidate to exist? Note that the median income candidate must prefer implementing his/her own tax policy and paying the cost of running to accepting the outside option (i.e. default tax rate $\bar{\tau}$).

Question 3: Women as Policymakers [35%]

(a) [5%] Suppose you want to study whether women leaders spend more on health and education. Describe the ideal experiment. State clearly the unit of randomization, what is randomized, and what outcomes would be compared.

(b) [15%] Consider the following regression estimated in the Chattopadhyay & Duflo (2004) paper:

$$Y_{ij} = \beta_1 + \beta_2 R_j + \beta_3 D_i \cdot R_j + \varepsilon_{ij},$$

where Y_{ij} is investment in good i in village j (standardized, i.e. in *standard deviation* terms), R_j is an indicator that village j had a seat reserved for a woman, D_i is average difference between the *fraction* of requests about good i from women and from men.

TABLE VI
OLS REGRESSIONS: DETERMINANTS OF PUBLIC GOOD PROVISION

	West Bengal					Rajasthan			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Reserved for a Woman	.23	−.17	.00	.18	.17	.16	−.29	.04	.16
	(.101)	(.123)	(.159)	(.136)	(.111)	(.115)	(.19)	(.16)	(.118)
Reserved $* D_i$	1.63		1.22	1.56	1.67	4.40		4.66	4.29
	(.501)		(.799)	(.629)	(.554)	(1.454)		(1.6)	(1.491)
Reserved $* S_i$		2.04					1.78		
		(.642)					(.728)		
Reserved $* D_{\{ij\}}$			.03					−.37	
(village level)			(.047)					(.169)	
Reserved $* S_{\{ij\}}$			−.01					.05	
(village level)			(.155)					(.27)	
Pradhan is New					−.09				
					(.079)				
Pradhan is New $* D_i$					−.10				
					(.323)				
Reservation in 2003					.03				
					(.093)				
Reservation in 2003 $* D_i$					−.19				
					(.326)				
Reserved for SC/ST					−.07				.00
					(.075)				(.18)
Reserved for SC/ST $* D_i$					.10				.03
					(.145)				(.315)
$D_{\{ij\}}$	No	No	Yes	No	No	No	No	Yes	No
$S_{\{ij\}}$	No	No	Yes	No	No	No	No	Yes	No
Pradhan's Characteristics	No	No	No	Yes	No	No	No	No	No
Pradhan's Characteristics $* D_i$	No	No	No	Yes	No	No	No	No	No

Notes: 1. The dependent variable is a standardized measure of investment in each good. There are six types of goods in West Bengal (drinking water, roads, informal education, formal education, irrigation, others) and four types of goods in Rajasthan (drinking water, roads, formal education, others). 2. Standard errors (corrected for clustering at the GP level using Moulton (1986) in West Bengal) are in parentheses below the coefficients. 3. The regressions include a good-specific fixed effect. 4. The variables D_i, S_i, $D_{\{ij\}}$, and $S_{\{ij\}}$ are defined in the text: D_i is the relative strength of women's preference for good i in the district; S_i is the average strength of preference in the district; $D_{\{ij\}}$ is the difference of indicators for whether good i was mentioned by women and men in village j; $S_{\{ij\}}$ is the sum of the indicators for whether good i was mentioned by women and men in village j. 5. Pradhan characteristics include all variables in Table VII. 6. There are 323 village level observations in West Bengal, and 100 village level observations in Rajasthan.

Table VI, column (1) reports the OLS estimates for West Bengal. Interpret (i) the coefficient on *Reserved for a Woman* and (ii) the coefficient on *Reserved*$*D_i$. Is the sign on β_3 (the interaction) as predicted by the model? Explain why or why not.

(c) [15%] Using Table VII, discuss one alternative explanation to the gender effect and how this alternative variable, and not gender, may generate similar patterns. How would you address this empirically? (Are there concerns with your solution?)

TABLE VII

PRADHAN'S CHARACTERISTICS IN RESERVED AND UNSERVED GP (WEST BENGAL)

	West Bengal		
Dependent Variables	Mean, Reserved GP (1)	Mean, Unreserved GP (2)	Difference (3)
A. *Pradhan's Background*			
Age	31.87	39.72	−7.85
	(1.08)	(.87)	(1.45)
Years of Education	7.13	9.92	−2.79
	(.48)	(.29)	(.54)
Literacy	.80	.98	−.19
	(.06)	(.01)	(.04)
Married	.89	.87	.02
	(.04)	(.03)	(.06)
Number of Children	2.45	2.50	−.05
	(.20)	(.15)	(.26)
Below Poverty Line	.46	.28	.18
	(.07)	(.04)	(.08)
Number of Household Assets	1.72	2.36	−.64
	(.18)	(.14)	(.23)
Population of Pradhan's Own Village	1554	2108	−554
	(204)	(179)	(291)
Hesitates when Answering the Questions	.75	.41	.34
(interviewer's impression)	(.06)	(.05)	(.08)
B. *Pradhan's Political Aspirations and Experience*			
Was Elected to the GP Council Before 1998	.11	.43	−.32
	(.04)	(.05)	(.07)
Was Elected Pradhan Before 1998	.00	.12	−.12
		(.03)	(.04)
Took Part in Panchayat Activities	.28	.78	−.50
Prior to Being Elected	(.06)	(.04)	(.07)
Knew How GP Functioned	.00	.35	−.35
		(.05)	(.07)
Did Not Receive any Formal Training	.06	.00	.06
	(.03)		(.02)
Spouse ever Elected to the Panchayat	.17	.02	.15
	(.05)	(.01)	(.04)
Spouse Helps	.43	.13	.30
	(.07)	(.03)	(.07)
Will Not Run Again	.33	.21	.13
	(.06)	(.04)	(.07)
C. *Pradhan's Political Party*			
Left Front	.69	.69	−.01
	(.06)	(.04)	(.08)
Right (Trinamul or BJP)	.19	.18	.01
	(.05)	(.04)	(.06)
Observations	54	107	