6. Selection into politics

Voting and Electoral Competition

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Citizen-candidate models

- The identity of politicians is endogenized
- Typical approach: any citizen may enter electoral competition at a cost. There is no pre-commitment on the platforms, and winner implements his or her ideal policy. Citizens vote to elect the decision-maker among self-declared candidates
- Classical papers: Osborbe and Slivinski (1996) and Besley and Coate (1997)
6.1 A Model of Political Competition with Citizen-Candidates


Summary

- A spatial model of electoral competition
- A continuum of citizens, each has an ideal point that corresponds to a real number
- Distribution of citizen's ideal positions is continuous and has a unique median $m$
- Each citizen chooses whether to enter electoral competition (E) or not (N)
- Citizens who choose E are referred to as candidates
Voting

- Analysis of two electoral systems: plurality rule (candidate with most votes wins) and runoff (if neither candidate wins a majority, a new vote between the two candidates with most votes)
- Voting is assumed to be sincere: citizens vote for the candidate whose ideal point is closest to theirs. Everyone votes
- If two or more candidates are equally close, the one to vote for is chosen randomly among them

Payoffs

- Denote the winner's ideal position $b_w$. A citizen whose ideal point is $a$ and who chooses N (does not enter) has payoff $-|w - a|$.
- A citizen whose ideal point is $a$ and who chooses E (enters) has payoff:
  $\begin{cases} 
  b - c & \text{if she wins} \\
  -|w - a| - c & \text{if she loses}
  \end{cases}$
- Here, $c$ is the cost of entry and $b$ is the return to holding office, apart from the utility from implementing one’s favorite policy.
Game theoretic interpretation

- The set of players = the set of citizens
- The set of actions for each player \{E,N\}
- Nash equilibrium
- Citizens know the ideal points of all other citizens
- Caveat (for those with advanced game theoretic knowledge, others can ignore this): the model assumes a continuum of citizens, but citizens behave as if there is a finite number of them

Results for plurality rule

- Lemma 1: In equilibrium a candidate does not lose with certainty if either (i) there are other candidates with the same ideal position as hers or (ii) the ideal positions of all other candidates are on the same side of her ideal position
Running to lose?

- A candidate may run in elections even if being sure to lose. Intuition: in the class

One candidate equilibria

- Proposition 1: There is a one-candidate equilibrium if and only if $b \leq 2c$. If $c \leq b \leq 2c$, then the candidate’s ideal position is $m$, while if $b < c$, then it may be any position within the distance $(c-b)/2$ of $m$
Two-candidate equilibria

- In any two-candidate equilibrium, the two candidates are of equal distance to the median voter.
- The positions of the two candidates are neither too similar, nor too different.
- If the positions are too far, a third candidate could enter between them and win.
- If \( c > b/2 \) and the positions are too similar, either candidate prefers to exit and let the other win.

Two-candidate equilibria

- We can rule out an equilibrium in which the candidates would have the same ideal point:
  - If there are two candidates who have the same ideal point, then it must by \( b \geq 2c \).
  - In that case, a third candidate whose ideal point is someone else but not too far could enter and win.
  - This applies also if the two candidates are at the median voter's ideal point.
Equilibria with three candidates

- In any equilibria with three or more candidates, at most two share any given position.
- In an equilibrium with three candidates, either all obtain one third of votes, or the candidate in the middle is sure to lose and enters to cause a lottery between the two remaining candidates rather (without her entry, her less preferred candidate would win for sure).

Equilibria with more than three candidates

- A necessary condition for an equilibrium with $k \geq 3$ candidates is $b \geq kc$. 
Results for a runoff system

- There can be a single-cluster multicandidate equilibrium with several candidates who have the same ideal point \( m \). For any \( k \geq 2 \), this requires \( kc \leq b \leq (k + 1)c \)

Comparison with Duverger’s Law

- Duverger’s Law: Plurality rule fosters a two-party system
- The model by Osborne and Slivinski predicts that a two-candidate equilibrium in, indeed, more likely under plurality rule (for the mathematically advanced: for technical details, read the paper; the level of difficulty is beyond what is required in this course)
Relationship with Hotelling’s model

- Hotelling (1929) presented a groundbreaking model of product differentiation. Two competing firms find it optimal to converge to the same position. Downs (1957) applied to politics (median voter model)
- Unlike Hotelling’s model, the citizen-candidate model endogenizes the number of candidates, and candidates care also about policy, not just winning

6.2 An Economic Model of Representative Democracy

Setup

- A community made up of N citizens must choose a representative to select a policy alternative. The set of policies available may differ between citizens
- Each citizen's utility depends on the policy and on the identity of the policymaker
- Citizens face a small cost if running
- Citizens have one vote that is valid only if given to one of the self-declared candidates

Differences compared with Osborne and Slivinski (1996)

- Strategic voting
- Analysis of only plurality vote
- A discrete number of citizens; game theoretically more elegant
- Mixed strategies allowed for
- Allows for multidimensional policy space
Political equilibrium

- Political equilibrium consists of entry decisions and voting decisions
- There can be a pure strategy equilibrium with one, two or more candidates, just as in Osborne and Slivinski

One-dimensional model

- Assumption: the identity of the policy-maker does not matter. That is, no term related to who makes the policy.
- With sufficiently small entry costs, the policy choice in a one-candidate equilibrium is the median voter's ideal point
- In two-candidate equilibria, the candidates are on the opposite sides of the median voter and receive the same number of votes. Difference must be sufficiently big, but not too big
Conditions for only two candidates

- No pure strategy equilibrium with three or more candidates tying, if citizens abstain when they are indifferent between all candidates
- Here, strategic voting makes a difference compared with assuming sincere voting

Normative results

- If all citizens have the same policy-making abilities, the resulting set of candidates is efficient
- If citizens differ in their policy-making abilities, the outcome may be inefficient
6.3 Paying Politicians: Theory and Evidence


### Introduction

- Politicians are paid surprisingly little when compared with executives in the private sector. Yet, private sector and public sector compete for the same talent.
- One reason is that politicians are expected to be motivated by public service considerations.
- There is a risk that paying more would encourage more politicians who are not motivated by public service considerations.
Intrinsic and extrinsic motivations

- Intrinsic motivations: serving the public / the nation, altruism, fame (as a good politician), ideological motivations (to do what one considers the right thing)
- Extrinsic motivations: money and other perks from office
- Theory of CEO compensation (incentive pay) focused on extrinsic motivations

Political decisions

- In each period, the politician in power makes a single decision, $e_t \in \{0,1\}$
- In each period, there is a realization of the state of the world, $s_t \in \{0,1\}$. Each state occurs with equal probability
- Voters receive a payoff $\Delta$ if $e_t = s_t$ and zero otherwise
- At the beginning of each period, a politician is elected for one period. A politician can serve at most two terms. Time in infinite
Politicians

- Two types of politicians:
  - Congruent politicians (c) share the same objective as voters
  - Dissonant politicians (d) get a private utility \( r > 0 \) from choosing \( e_t \neq s_t \). This private benefit is a random variable with a new realization in each period. There is an exogenous probability \( 1-q \) that a dissonant politician cannot take the action \( e_t = s_t \).
- All politicians get payoff \( E \) from holding office
- A politician cannot return to office after leaving it

Voters

- Voters observe the state of the world and the policy and decide whether to re-elect the politician
- Voters use Bayes rule to update their belief about the type of the politician
- Voters discount future with a constant discount factor \( \beta < 1 \), which also politicians use
Equilibrium behavior

- Congruent politicians do always what voters want
- Dissonant politicians always do what voters do not want in the second term. In the first term, they can do what voters like with probability $q$. In that case, dissonant politicians compare the private benefit from deviating from what the voters like now and the expected utility from being in the office in the next period

Moral hazard and pay

- Increasing $E$ increases the likelihood that a first-period dissonant politician does what voters like, and reduced the turnover among first-period incumbents
- This reduces the likelihood that a re-elected politician does what voters like
- Increasing the value of holding office improves voter welfare
Entry to politics

- Assume next that entry to politics is endogenous.
- There are no campaigning costs, so all potential politicians whose outside wage is less than the benefit in politics run. The winner is selected randomly.

Pay and adverse selection

- Higher pay encourages more competent (measured in outside wages) politicians to run.
- Dissonant politicians gain more from politics, by the assumption of their private benefit from dissonant action.
- Increasing the pay for politicians helps to increase the fraction of congruent politicians.
6.4 Candidate Quality


How much politicians should be paid?

- An argument in favor of higher salary: “if you pay peanuts, you get monkeys”
- An argument against high salary: a very high salary makes politics attractive to (almost) everyone, including incompetent citizens. Voters cannot always tell how good candidates are.
Citizen-candidate model with parties

- Builds on citizen-candidate models by Osborne and Slivinski and Besley and Coate
- Crucial differences: candidates’ ability is not common knowledge & political parties play a role in elections

Political system

- A two-party system with twice as many candidates as seats. One-member districts
- Representative officials are needed to make decisions on behalf of the rest of society.
- The higher the representatives’ abilities, the better they can serve the interests of society.
Citizens

- Citizens can be identified by their abilities. Citizen $i$’s ability is denoted by $a_i$
- Ability is valuable both in politics and in the other labor market
- Outside option for citizens who are not politicians is to receive salary $a$
- Ability also helps in convincing voters
- Ability follows a uniform distribution $[0,1]$

Electoral game of three stages

1. *entry stage*, where each citizen decides whether to stand for an election or not
2. *primary election stage* the parties select their candidates from the set of the citizens who express an interest in candidacy in the first stage
3. *general election*, where the citizens vote for one of the candidates
Whether to run?

- Candidates in the general election have to pay campaigning cost $e$
- Elected politician receives $\pi$
- The decision whether to enter politics is based on the maximization of the expected utility. When indifferent, citizens enter politics
- Unsuccessful candidates collect their reservation wage

Signaling

- Voters do not know the candidates’ abilities, but campaigning creates a noisy signal of the ability level
- Signal can take only two values, high ($H$) and low ($L$)
- Probability of signal $H$ equals ability $a$
- There is signaling also in primary election, but it is easier to send a good signal there
Political equilibria

- A perfect Bayesian equilibrium consists of three components
  - (1) Citizens’ decisions on whether to enter primary elections
  - (2) Citizens’ voting behavior, which describes how the citizens vote as a function of the information they have received from the campaign.
  - (3) Voters’ belief function, which describes a common assessment that candidate $i$ is of higher expected ability than candidate $j$ conditional on the signals that voters observe.

General election

- If one candidate signals $H$ and another $L$, the one signaling $H$ is elected
- If candidates send the same signal, voters randomize and both with equal probability of 0.5
- After some math, probability that candidate $i$ wins = $(1+q_i-q_j)/2$
Decision to run

- When a citizen contemplates candidacy the winning probability should be calculated before the parties select their candidates
- The probability of winning depends on the ability range of potential candidates
- In equilibrium, everyone who expects a positive payoff of running runs
- Rational expectations

Results on party primaries

- The ability distribution of the candidates in the general election first-order stochastically dominates the ability distribution of the primary election candidates, whenever citizens of more than one ability point are willing to run.
Uniqueness

- With any combination with pay for politicians and campaigning cost, there is a unique range of abilities from which citizens want to run
- Set of candidates wanting to run is always convex

Candidate quality, pay for politicians and campaigning costs

- There are 5 ranges of political equilibria:
  - Universal democracy
  - Competent candidates
  - Mediocre candidates
  - Incompetent candidates
  - Collapse of democracy: Only one or no candidate
Equilibria

Rewards and candidate abilities

- With any given $e$, an increase in $\pi$ increases the average quality of incompetent and mediocre candidates, and reduces the average quality of competent candidates.
- Thus, the effects of pay for politicians non-monotonic
Good (>0.6) and bad (<0.4) candidates

Ability range of candidates when $e=4/9$
Conclusions

- Depending on the level of campaigning costs, an increase in the reward for office holders may increase or decrease candidate quality.
- If the costs are high, it may be optimal to decrease the reward to screen good candidates.
- When campaigning is cheap, the low-ability citizens have a comparative advantage in politics, which dilutes the quality of candidates.
- High campaigning costs needed to screen good politicians.

6.5 Pay for Politicians and Candidate Selection: An Empirical Analysis

Introduction

- The salaries of Finnish MPs were increased by 35 percent in the year 2000
- The main argument was that the salaries of MPs had fallen behind the salaries of certain comparison groups
- The effects of the salary increase on, e.g., the characteristics of electoral candidates has not been studied

Aim

- We aim to study whether the salary reform changed the characteristics of candidates in parliamentary elections
- We do not take a stand on what makes a good politician – there are likely to be many factors (motivation, experience, etc)
- In the current version, we analyze whether the reform affected the average level of education of candidates in parliamentary elections
Theoretical background

- a basic argument (e.g. Caselli & Morelli 2004):
  - more skillful candidates have a higher opportunity cost of running for political office (higher wages outside politics)
  - at low levels of wages, only low-skill candidates enter politics
  - higher salaries for politicians should attract more skillful candidates
- This simple argument does not hold in more general models (e.g. Poutvaara & Takalo 2007)
  - if political campaigning creates only a noisy signal of ability, the candidate with highest ability does not always win
  - the opportunity cost of running for political office is highest for candidates with high skills, but also the probability of winning an election is likely to be highest for them
  - the ability range from which candidates appear is unclear, à priori, and need not be continuous
  - the effect of candidate salaries on the average quality of candidates depends also on campaigning costs

Data

- We have data on the candidates’ age, gender, electoral district, party, incumbency, number of votes, whether (s)he was elected, education and occupation
- Data from official sources like Statistics Finland, Ministry of Justice
Method

- We use candidates in municipal elections as a control group for candidates in parliamentary elections
- We perform a differences-in-differences analysis to obtain an estimate for the effect of the salary reform on the fraction of candidates with higher education in parliamentary elections
  - So in effect, we look at whether the fraction of candidates with higher education is higher/lower in elections after the reform than before it
  - and compare this with the corresponding change in municipal elections

The reform

- In 1999, the starting salaries of Finnish MPs were lowest in the EU
- Discussions on a salary reform began after the 1999 parliamentary election
- The salary increase took effect on September 1, 2000.
- The first election in which the candidates were affected by the reform was in 2003.
- Remuneration of municipal councilors has remained constant over time.
Starting salaries of Finnish MP’s (in 2002 euros)

Proportion of non-incumbent candidates with higher education
Proportion of non-incumbent male candidates with higher education (age 25 to 50)

Proportion of non-incumbent female candidates with higher education (age 25 to 50)
Proportion of adult citizens with higher education

![Graph showing the proportion of adult citizens with higher education from 1998 to 2007 for both men and women.]

Results

<table>
<thead>
<tr>
<th>Dependent variable: Higher education dummy</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a)</td>
<td>b)</td>
</tr>
<tr>
<td>Parliamentary election</td>
<td>0.131*** (0.013)</td>
<td>0.120*** (0.013)</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td></td>
</tr>
<tr>
<td>Time after reforms</td>
<td>0.041*** (0.004)</td>
<td>0.037*** (0.004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time after reforms * Parliamentary election</td>
<td>0.040</td>
<td>0.050** (0.025)</td>
</tr>
<tr>
<td></td>
<td>(0.025)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.107*** (0.003)</td>
<td>0.088*** (0.009)</td>
</tr>
<tr>
<td>Unreported controls: age and party</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of observations</td>
<td>26,042</td>
<td>26,042</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.016</td>
<td>0.057</td>
</tr>
</tbody>
</table>

Notes: Standard errors in parentheses. Standard errors are robust and clustered on individuals. ** denotes significance at 5% level and *** at 1% level.
Discussion

- Possible effect of the reform on prospective earnings of candidates in municipal elections?
  - such an effect should be small
  - if this effect is significant, it causes a downward bias in our estimates
  - the estimated effect of the reform should then be considered as the lower bound for the actual effect

Conclusion

- we have tested whether paying higher salaries for parliamentarians has resulted in a more highly educated set of candidates
- we find tentative support for the hypothesis for female candidates