1 Introduction

I will divide my classes into the following two parts:

1. Agency Problems, Rent-seeking, Lobbying

2. Institutions, Corruption, Law and Legal origin, Regulation, Economics of Violence.

In the first part, we will go through basic, course book, material.

In the second part we will do more cutting edge research.

2 Road map, my part of Section 1

- Agency Problems
  - The Basic Persson and Tabellini model
  - Rent-Seeking Politicians
  - Rents from Incumbent power.
  - Partisan Politicians
  - Endogenous Candidates

- Rent Seeking
  - The “Tullock Model”
  - Collective Rent-Dissipation
- Lobbying
  - Lobbying for a pure public good.
  - Lobbying a la Grossman and Helpman

3 Agency Problems

(P & T chapter 4)

In this part of the course we address questions such as

To what extent can political representatives exploit their political power?

Can the voters discipline politicians' just through the implicit incentives elections offer?

Two contrasting theories:

The "Public Choice School" early pointed out the conflict of interest between rent-maximizing leaders and voters.

The "Chicago School", however, holds that competition will drive down politicians' rents.

3.1 The basic model

Consider a society inhabited by a large number of citizens

Citizens differ in income (only).

The preferences for citizen i is given by

$$W^i(g) = c^i + H(g), \tag{1}$$

where c denotes consumption and g denotes public goods provision.

$H(g)$ is the utility she gets from public goods provided by the government.

$H(g)$ is assumed to be concave, i.e., $H'(g) > 0$ and $H''(g) < 0$.

It is assumed that these public goods cannot be targeted to specific groups.

Nor can taxes. So the tax rate τ is common to all individuals.

Consumption for citizen i is given by

$$c^i = (1 - \tau)y^i. \tag{2}$$

It is assumed that $E(y^i) = y$.

The government budget constraint is therefore

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

Total incomes from taxation, τy, must equal expenditures on public goods.

We can now use equation (3) in equation (2).

We get

$$c^i = (1 - \frac{g}{y})y^i. \tag{4}$$

By substituting this into equation (1) we get the policy preferences for citizen i

$$W^i(g) = (y-g)\frac{y^i}{y} + H(g). \tag{5}$$

In general, we know from first-order condition that every citizen has a uniquely preferred policy, which satisfies

$$g^i = H_g^{-1}(\frac{y^i}{y}). \tag{6}$$

Let's do an example to see this.

Assume that

$$H(g) = \sqrt{g}. \tag{7}$$

Note that $H(g)$ is concave because

$$H'(g) = \frac{1}{2\sqrt{g}} > 0$$

and

$$H''(g) = -\frac{1}{2g^{\frac{3}{2}}} < 0.$$

So let's solve

$$\max_g (y-g)\frac{y^i}{y} + \sqrt{g}$$

The first-order condition is

$$-\frac{y^i}{y} + \frac{1}{2\sqrt{g}} = 0. \tag{8}$$

There is a trade-off between public spending and consumption.

Hence,

$$g^i = \frac{1}{4}(\frac{y}{y^i})^2. \tag{9}$$

So the poorer the voter is compared to the average income (the lower y^i is compared to y), the more public goods does she want.

The reason is that since the tax rate is identical, rich people will contribute more to public goods.

Similarly, rich people (having a high income y^i) want a low level of public good provision because they have to pay for the poor.

3.2 Rent Seeking Politicians

3.2.1 Non-continuous probability function

Politicians provide public goods, g, and take two types of rents.

Exogenous ego-rents from holding office, R, and endogenous rents r.

The average income of citizens is denoted by y and the tax rate by τ.

The government budget constraint is therefore

$$\tau y = g + r \tag{10}$$

Assume there are two candidates competing for the office.

The objective function of candidate P is

$$E(v_P) = p_P(R + \gamma r) \quad (11)$$

where γ measures the transaction costs associated with taking rents (i.e. hiding the activities).

The higher is γ the lower are the transaction costs for rent appropriation.

The intuition is simple. With a probability p_P the candidate wins the election in which case she gets $(R + \gamma r)$.

The timing is the following

1) Platforms $q_P(g_P, \tau_P)$ are announced.

2) Elections are held.

3) The winner's platform is implemented.

Let's now characterize the policy preferences of the citizens.

We start by using the budget constraint

$$\tau y = g + r \tag{12}$$

in

$$c^i = (1 - \tau) y^i. \tag{13}$$

We then get

$$c^i = (\frac{y - (g + r)}{y}) y^i. \tag{14}$$

By substituting this in

$$W^i(q) = c^i + H(g) \tag{15}$$

we get the policy preferences for citizen i

$$W^i(q) = (y - (g + r)) \frac{y^i}{y} + H(g). \tag{16}$$

All voters agree that rents are a waste but there is a conflict over spending.

Assume that the voter just votes for the candidate that gives her highest utility.

That is

$$p_A = \begin{cases} 0 & \text{if } W^m(g_A) < W^m(g_B) \\ \frac{1}{2} & \text{if } W^m(g_A) = W^m(g_B) \\ 1 & \text{if } W^m(g_A) > W^m(g_B) \end{cases} \tag{17}$$

where $p_B = 1 - p_A$. That is to say, the median voter is pivotal.

Results: In this model the public goods provision is optimal from the median voters point of view and there will be no rents to politicians. That is,

$$g_A = g_B = g^m = H_g^{-1}(\frac{y^m}{y}) \tag{18}$$

and

$$r_A = r_B = r^m = 0. \tag{19}$$

Intuition: Assume that candidate A's policy is further away, utility-wise, from the unanimously preferred policy g^* than the policy announcement by candidate B.

Then candidate A can get a discontinuous jump in the probability to win by moving closer to g^*.

The same is true for candidate B and hence they both move to g^*.

Comparative statics: a drop in y^m relative to y implies that g^m rises.

Let's look at our example again when $H(g) = \sqrt{g}$. The median voter solves

$$\max_g (y - g)\frac{y^m}{y} + \sqrt{g}. \tag{20}$$

The first-order condition is

$$-\frac{y^m}{y} + \frac{1}{2\sqrt{g}} = 0. \tag{21}$$

The preferred provision of public good is therefore given by

$$g^m = \frac{1}{4}(\frac{y}{y^m})^2. \tag{22}$$

Increasing the income for the median voter affects the public provision in the following way:

$$\frac{dg^m}{dy^m} = -\frac{1}{2}\frac{y^2}{(y^m)^3} < 0. \tag{23}$$

Intuitively, if the lower tail of the income distribution is fat, that is if the median voter is relatively poor, then she wants, and gets, much public goods.

Why are rents driven down to zero in this model?

This is because the very stiff "Bertrand" competition between politicians.

Nobody can get away with stealing.

So the Chicago school is right in this setting.

Despite the conflict in interest among voters regarding public spending, the prize for winning the election keeps politicians honest.

3.2.2 Continuous probability function

We study the probabilistic voting model used in chapter three in P & T.

Candidates have ideological attributes or personal characteristics (a nice or an uggly tie, a nice or an uggly smile, or what not) in addition to their platforms and voters have preferences over these attributes.

Analogous to the model of probabilistic voting in chapter 3, we can derive candidate A's probability of winning as

$$p_A = \frac{1}{2} + \psi(W(g_A, r_A) - W(g_B, r_B)) \tag{24}$$

where ψ measures the level of uncertainty of the ideological popularity.

A high ψ implies little uncertainty about the preferences.

Note that competition is less stiff than before.

Candidate P again maximizes

$$E(v_P) = p_P(R + \gamma r) \tag{25}$$

The first-order condition with respect to public goods provision is equal to

$$\frac{\partial E(v_P)}{\partial g_A} = (R+\gamma r_A)\frac{\partial p_A}{\partial g_A} = (R+\gamma r_A)\psi W_{g_A}(g_A, r_A) = 0. \tag{26}$$

This implies that the level of public good provision is socially optimal.

That is, the voters' first-order condition $W_{g_A}(g_A, r_A) = 0$ gives the same level of public good provision.

The first-order condition with respect to rent extraction is equal to

$$\frac{\partial E(v_P)}{\partial r_A} = (R+\gamma r_A)\frac{\partial p_A}{\partial r_A} + p_A\gamma = -(R+\gamma r_A)\psi + \frac{1}{2}\gamma \leq 0. \tag{27}$$

because $\frac{\partial p_A}{\partial r_A} = -\psi$ and $p_A = \frac{1}{2}$ in equilibrium.

Unlike in the previous section, a marginal increase in rents does not imply discrete jumps in the probability of winning.

Politicians will therefore take

$$r^* = \max[0, \frac{1}{2\psi} - \frac{R}{\gamma}] \quad (28)$$

The rents are not competed away here!

The result is due to the fact that the candidates are no longer perfect substitutes for all voters.

Swing voters (voters whose ideological bias makes her indifferent between the two parties) by definition consider the candidates perfect substitutes and punish a rent-seeking candidate, but other voters do not because of their ideological preferences.

The crux is that the candidates do not know who is a swing voter and who is not. This weakens electoral competition.

If the politicians consider to take more rents, the probability to lose is weakened by the uncertainty (as captured by ψ).

The more uncertainty (the lower ψ) the larger is the scope for rents.

Similarly, a lower exogenous value of holding office, R, and a lower transaction cost, (higher γ), promote high endogenous rents.

A broader interpretation is that ideological dispersion should lead to high costs (large rents) of government spending.

Alesina, Easterly and Baqir (1997) find a positive correlation between size of government and ethnic fractionalization.

3.3 Repetition

In last class, we studied the extent to which rent-seeking politicians provide public goods and take rents.

If the probability function that determines the election is non-continuous (i.e., if candidates are perfect substitutes), then this creates intense competition between the candidates.

This therefore leads them to implement the median voter's preferred level of public good provision and take no rents.

If the probability function instead is continuous (due to that the candidates have different personal characteristics for example), then this creates uncertainty about how will vote for whom.

This uncertainty is use by the candidates to extract rents.

We had the probability function

$$p_A = \frac{1}{2} + \psi(W(g_A, r_A) - W(g_B, r_B)) \qquad (29)$$

where ψ is a measurement of uncertainty.

If $\psi = 0$ for example, then there is complete uncertainty, and the candidates can get away with anything since their platforms do not affect the probability to win.

If ψ is high (there is little uncertainty), then a bad behavior will be punished by the voters in the election.

We have assumed that candidates can commit to their platforms.

But this is not always a reasonable assumption.

3.4 Enforceability, Verifiability, and Observability

What if the candidates cannot make binding commitments?

To analyze this assume that there is a cost of producing public goods, θ, which is unknown to the citizens.

A higher θ means that provision has become more costly. (Assume for simplicity that $y^i = y$.).

We also assume homogenous preferences (A non-continuous probability function).

The timing is the following

1) Platforms (g, τ) are announced.

2) Elections are held.

3) θ is realized.

4) The winner's platform is implemented.

So the government budget constraint is

$$\tau y = \theta g + r \tag{30}$$

The level of efficient taxes (when $r = 0$) is therefore

$$\tau^*(\theta) = \frac{\theta g^*(\theta)}{y} \tag{31}$$

Assume that the cost can only take on two values $\overline{\theta}$ and $\underline{\theta}$.

Enforceable and Verifiable promises

Consider first the case when the there exists a judiciary that can enforce the promises politicians make.

The candidates still maximize

$$E(v_P) = p_P(R + \gamma r) \tag{32}$$

with respect to g and r taking into account that θ is uncertain.

The incentives are as sharp as in the previous model.

That is, whoever moves closer to the state-contingent policy the voters desire will discontinuously increase her probability of winning.

So the result is that

$$g_A(\theta) = g_B(\theta) = g^*(\theta) \tag{33}$$

and

$$r_A(\theta) = r_B(\theta) = 0 \tag{34}$$

The combination of enforceability, verifiability, and electoral competition is thus sufficient to ensure implementation of the efficient state-contingent policy even though the cost of providing the public good is unknown.

Enforceable Nonverifiable Promises

Suppose now that the judiciary can enforce promises but that the state θ is unverifiable.

It can be either $\overline{\theta}$ or $\underline{\theta}$.

That is, state-contingent platforms can not be enforced.

The winner will always misreport, claiming that it is expensive, $\overline{\theta}$, and pocket the rest.

So the best voters can hope for is an optimal policy in the expensive state.

Competition between politicians leads them to converge to

$$g_A(\theta) = g_B(\theta) = g^*(\overline{\theta}) \tag{35}$$

and

$$\tau_A = \tau_B = \frac{\overline{\theta} g^*(\overline{\theta})}{y}. \tag{36}$$

This comes directly from the budget restriction.

Equilibrium policy thus eliminates rents in the expensive state $r(\overline{\theta}) = 0$.

But it is also possible that it is in fact cheap to produce the public good, $\underline{\theta}$.

Since the politicians lie about the state of the world, they are in general able to take rents.

Too see this, use the tax rate that citizens always have to pay

$$\tau = \frac{\overline{\theta} g^*(\overline{\theta})}{y}$$

into the budget constraint

$$\tau y = \theta g + r.$$

We then get

$$\frac{\overline{\theta} g^*(\overline{\theta})}{y} y = \theta g + r.$$

The elected candidate therefore captures the rents

$$r(\theta) = (\overline{\theta} - \theta)g^*(\overline{\theta}) \tag{37}$$

So when the candidates can only enter into non-verifiable contracts with the voters, the candidates will use the uncertainty to extract rents for themselves.

The larger the uncertainty regarding θ the larger are the rents.

This suggests that in countries with more volatile political environments there is higher and more wasteful spending.

We note that politicians also have incentives to make public activities non-transparent.

Nonenforceable Promises

In the previous section, agreements could ex post be enforced which, at the very least, served as putting a higher cap on the rents politicians could take.

However, if contracts cannot be enforced there is nothing that stops politicians from fully exploiting the voters. This implies that the solution is

$$g(\theta) = 0,\ \tau(\theta) = 1,\ r(\theta) = y \tag{38}$$

That is, there would be no public goods provision, and all incomes would be captured by politicians as rents.

3.5 Rents from incumbent power

We have reasons to believe that a Leviathan politician may be punished severely.

In some cases physically, in other cases through elections.

We here consider the second case.

In this case it would be a ruinous behavior by politicians to extract all rents and they may consider to take less in order to get the office in the next period.

So we here consider a two-period model.

We now allow for a continuous realization of θ and assume a different timing than before.

1) θ is realized and observed.

2) Voters set a reservation utility for electing the incumbent.

3) The incumbent sets policy.

4) Elections are held in which voters select between an incumbent and an opponent.

The incumbent and the opponent are here identical in all respects from the viewpoint of the voters.

The only reason for not reelecting the incumbent is to punish him.

The different timing requires a reformulation of the incumbent's objective

$$E(v_P) = \gamma r + p_I R \tag{39}$$

This formulation reflects the incumbent policymaker's full discretion over current rents, r.

He could, if he wanted to, act as in the previous section and maximize r.

However, at stake in the election are future rents captured by R.

This should be interpreted as the expected value of holding office from the next period and on.

We assume that the voters coordinate on the same voting strategy, i.e., punishing the incumbent for bad behavior and rewarding him for good behavior.

This voting strategy boils down the following probability for candidate I (the incumbent) to win

$$p_I = \begin{cases} 1 \text{ if } W(g(\theta), r(\theta)) \geq \overline{\omega}(\theta) \\ 0 \text{ otherwise} \end{cases} \tag{40}$$

where $\overline{\omega}(\theta)$ is the voters' reservation utility.

This voting strategy creates a trade-off for the incumbent.

Either she pleases the voters, or she does not.

If she pleases the voters, she maximizes the rents, given the restriction that $p = 1$.

To solve this, we use

$$W = c + H(g) \tag{41}$$

and substitute for

$$W(g(\theta), r(\theta)) = \overline{\omega}(\theta),$$

which yields

$$\overline{\omega}(\theta) = c + H(g). \tag{42}$$

We know that

$$c = (1 - \tau)y \tag{43}$$

and that the budget constraint is equal to

$$\tau y = \theta g + r. \tag{44}$$

So we can use the fact that $\tau = \frac{\theta g + r}{y}$ to get

$$c = (1 - \frac{\theta g + r}{y})y = y - (\theta g + r) \tag{45}$$

Consumption is equal to the income less the cost of public good provision and rents taken by politicians.

We use this in the utility function above to get

$$\overline{\omega}(\theta) = y - (\theta g + r) + H(g). \tag{46}$$

Solving for r, we finally get the level of optimally chosen rents as

$$r = y - \theta g^*(\theta) - \overline{\omega}(\theta) + H(g^*(\theta)) \tag{47}$$

So the incumbent satisfies the voters by giving them $W(g(\theta), r(\theta)) = \overline{\omega}(\theta)$ and pockets the rest of the rents for himself.

The incumbent's second alternative is not to not please the voters.

The best policy is to follow the Leviathan-like policy $r = y$.

Under which circumstances does the incumbent please the voters?

This is when the rents from doing so are larger than the "Hit and Run" policy.

That is, when

$$\gamma r(\theta) + R \geq \gamma y.$$

Voters prefer that rents be as small as possible.

Assume that the voters could coordinate their voting strategy.

They would set $\overline{\omega}(\theta)$ such that $\gamma r(\theta) + R = \gamma y$.

This implies that the rents, in equilibrium, are

$$r(\theta) = \max[0, y - \frac{R}{\gamma}] = r^*$$

Note that to achieve this level of equilibrium rents, the voters' reservation utility must be

$$\overline{\omega}(\theta) = y - \theta g^*(\theta) - r^* + H(g^*(\theta)) \qquad (48)$$

So voter have to give up some rents to avoid triggering a short-run aggression on the part of the incumbent.

We note that whereas the voters' utility is state-contingent, the equilibrium rents are not.

What determines the equilibrium rents?

Recall,

$$r^* = y - \frac{R}{\gamma} \tag{49}$$

A higher value of the intristic (exogenous) rents R keep equilibrium rents down

A higher rent-extraction costs (lower γ) keep equilibrium rents down.

In addition, a larger tax base (a higher y) increases rent extraction.

The reason is that the incumbent may use its powers to extract maximum rents from the voters.

A larger available tax base makes this discretion more threatening, and the voters have to renounce larger rent.

3.6 Partisan politicians

(A & R, chapter 2, see also P & T chapter 5.1 and 5.2)

Recall that the models, which assumed that candidates care only about winning, hold that there should be full convergence in politics (Hotelling 1929, Downs 1957).

A different view is that political parties represents the interests and values of different constituencies.

That is, they care about the policy outcome in addition to winning per se.

This generates a tendency for divergence.

However, since these preferences cannot be translated into policy unless the party wins, each party also has an incentive to move toward the middle in order to increase its chances of winning.

These conflicting incentives generate the basic insight in partisan models.

There should be partial convergence.

We now study the Alesina & Rosenthal partisan-model, which takes it starting point in the observation that American politics in fact is relatively polarized.

3.7 The model

There are two parties, R and D.

The parties have quadratic utility functions

$$u_D = u(x, \theta_D) \tag{50}$$

where x is the policy outcome and θ_D the party's ideal policy.

An example is

$$u_D = -(x - \theta_D)^2.$$

Party D is assumed to be left of party R.

$$0 < \theta_D < \theta_R < 1. \tag{51}$$

We assume that there may be exogenous rents attached to holding office $\widehat{u}$.

The voters also care about policy.

Voter i's utility function is given by

$$u_i = u(x, \theta_i). \tag{52}$$

An example is

$$u_D = -(x - \theta_i)^2.$$

Thus the only difference between this utility function compared to the politicians' utility functions is the location of the bliss points.

There is a continuum with an infinity of voters.

Parties D and R simultaneously choose policy platforms, labelled respectively x^D and x^R.

Assume that they can commit to the platforms.

This implies that there is no distinction between policy platforms and actual policies.

Just as in previous class, it is crucial whether the probability to win the election is continuous or not.

This depends upon whether the information about voters' preferences is complete or not.

With complete knowledge we get the result that either one candidate wins with certainty or there is a draw.

Assume instead (more realistically) that there is incomplete information regarding the distribution of voters' blisspoints θ_i (or that the probability function is continuous).

The probability that candidate R wins the election is then given by

$$P = p(x^D, x^R). \tag{53}$$

This function embodies the idea that by moving the platform closer the other party's platform, it increases the probability of winning the election because it captures a larger fraction of the voters in the middle.

What is the Nash equilibrium of this game?

Again, each party faces a trade off between the cost of moving to a policy away from its most preferred policy and the benefit of increasing the probability to win as a result of the same move.

The benefits of winning are twofold.

First it makes it less likely that a less preferred policy will be implemented.

Second it increases the likelihood of receiving the benefit of $\widehat{u}$.

Assume first $\widehat{u} = 0$.

In equilibrium, this trade off generates partial convergence, i.e.

$$0 < \widehat{x}_D < \widehat{x}_R < 1$$

Why? We show this in two steps.

(1) Full convergence cannot be an equilibrium if parties are purely partisan:

Assume that

$$0 < \widehat{x}_D = \widehat{x}_R < 1$$

Suppose party D moves a bit to the left.

If party D loses the election $\widehat{\theta}_R$ will be implemented, which is equally good as before.

If party D wins it implements a better policy.

However, if $\widehat{u} > 0$ then risking to lose implies a "electoralist" loss.

Hence, if $\widehat{u}$ is very large, then there may in fact be full convergence.

(2) Non-convergence, $x^R = \theta_R$, $x^D = \theta_D$ cannot be an equilibrium:

Consider a small move to the right for party D.

The loss in utility is small (a second-order effect).

But there is a gain in the probability of victory (a first-order effect), which dominates.

As before, this is good because the policy will be better (it reduces the likelihood of θ_R) and the party can get the reward of victory.

Two important observations

(i) The higher the reward placed on holding office, the smaller will be the distance between the two policies.

If the parties care only about winning (that is, if they are not partisan), then $x^D = x^R$.

(ii) If there is no uncertainty about voters preferences, then convergence is complete, $x^D = x^R$ even though the parties are partisan.

Intuition for (ii). Suppose $x^D < x^R$ and that party D is the loser.

This party will then want to move in closer to x^R until it becomes the winner.

Then, for the same reason, party will want to move in and so on.

A platform that implies a sure defeat cannot be optimal, even for a purely partisan party!

Good polling technics and a fair amount of "lust for office" keep parties platforms close together

On the other hand, a substantial lack of convergence arises when the parties are sufficiently partisan and when there is enough uncertainty about voters' preferences.

3.7.1 No commitment

Suppose that party D has won the election.

When in office, party D, unconstrained by its electoral platform, selects policy to maximize its utility function

$$\max_{x^D}(x^D, \theta_D) \tag{54}$$

The solution is $x^D = \theta_D$, that is it selects a policy identical to its preferred policy.

This is true as long as candidates have a minimal amount of ideological preferences.

Voters, of course, understand that candidates have no incentives to implement other policy platforms other than the parties ideal policies, θ_D and θ_R.

Thus, they cast their ballots knowing that they are choosing between the policies θ_D and θ_R.

Hence, the probability to win for party R is given by $P(\theta_D, \theta_R)$.

So, there will be complete divergence when parties cannot commit!