14.770: Introduction to Political Economy
Lecture 12: Political Compromise

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Political Compromise

- We have so far stayed away from repeated game considerations.
- but these are potentially important, because they can generate political compromise.
- This this true under both democratic and nondemocratic institutions.
- In this lecture, we will discuss some of the implications and limits of such political compromise.

Commitment and Noncommitment in Democracy

- Consider a model related to Alesina (1989).
- There are two parties that are ideologically different and unable to commit to policies.
- But they are competing dynamically.
- Can they compromise and stay away from their ideological extremes?

Description: Parties

- Suppose that there are two ideological parties A and B.
- There is no policy commitment, so once in office a party chooses policy in an unconstrained fashion.
- The two parties are competing for election every period.
- The utilities of the two parties are

$$-\sum_{t=0}^{\infty} \beta^t \left(p_t - p^A \right)^2 \text{ and } -\sum_{t=0}^{\infty} \beta^t \left(p_t + p^B \right)^2$$

  where p_t is the policy choice at time t, and $\beta < 1$ is the discount factor.
- Let us also assume that

$$p^A > p^B > 0.$$

Description: Citizens

- Citizens as in our basic models, but with dynamic preferences.
- Suppose that there is a measure 1 of consumers with bliss point $p(\alpha^i)$, and thus with utility

$$- \sum_{t=0}^{\infty} \beta^t \left(p_t - p(\alpha^i) \right).$$

- Suppose also that $p = 0$ is the Condorcet winner in every period.

Markov Equilibrium

- In Markovian equilibria, parties, once in power, choose their ideal point as policy.
- Knowing this, citizens have no choice but select whichever party is closer to their own bliss point, 0.
- This is partly B.
- So this party will be elected in each period.

Repeated Game Equilibria

- Can we design some type of trigger strategies such that party A is convinced to choose $p = 0$ all the time?
- Consider the following voters strategies:
  - All voters with $p(\alpha^i) \geq 0$, which form a majority, vote for party A now at time $t = 0$, and keep on voting for party A at time $t = k$ as long as $p_{k-j} = 0$ for all $j \leq k$. If $p_{k-j} \neq 0$ for some $j \leq k$, all voters with bliss point $p(\alpha^i) < \varepsilon$ for some small ε vote for party B in all future elections.

Repeated Game Equilibria: Argument

- First note that once it comes to power, party B will always choose its most preferred policy, $p = -p^B$, since it's behaving under no constraints.
- Moreover, since $p^A > p^B > 0$, more than half of the voters will support party B against party A when both of them are playing their most preferred policy.
- Then, if party A adopts the policy of $p = 0$ in all periods, its utility is

$$U_C^A = -\sum_{t=0}^{\infty} \beta^t \left(p^A \right)^2 = \frac{-\left(p^A \right)^2}{1-\beta}$$

If it deviates to its most preferred policy, its utility this period is 0, but from the next period onwards, the equilibrium policy will be $p = -p^B$, so the utility to deviating is

$$U_D^A = -\sum_{t=1}^{\infty} \beta^t \left(p^B + p^A \right)^2 = \frac{-\beta \left(p^B + p^A \right)^2}{1-\beta}$$

Repeated Game Equilibria: Argument (continued)

- Therefore, despite party ideologies, the Condorcet winner will be implemented as long as

$$U_C^A \geq U_D^A,$$

that is, as long as

$$\beta \left(p^B + p^A \right)^2 \geq \left(p^A \right)^2$$

- This condition will be satisfied if β is high enough, that is, if

$$\beta \geq \frac{\left(p^A \right)^2}{\left(p^B + p^A \right)^2}.$$

- Thus better outcomes are possible even without commitment if political parties are patient, or if p^B is sufficiently large.

- This last condition is interesting, since it emphasizes that greater disagreement among the parties may be useful in forcing one of the parties to adopt the policies desired by the voters.

Repeated Game Equilibria: Further Issues

- Question: why did we choose party A as the one to be in power and implement the Condorcet winner policy of voters?
- Question: how would you support an equilibrium in which party B is induced to choose the Condorcet winner policy?
- Question: what happens if we allow nonstationary strategies? Can we do better?
- What will the Pareto frontier look like? (See, for example, Dixit, Grossman and Gul, 2000).

Political Compromise in Nondemocracies

- The **Olson stationary bandit argument:** Mancur Olson formulated the now famous stationary bandit argument (Maguire and Olson, 1996).
- It goes like this:
  - What is bad for a society is to have a number of bandits that come and go and rob citizens. They will apply maximal extraction, and thus kill any incentive for investment or effort.
  - If instead there is a single bandit that stays around (a "stationary bandit"), that's not so bad, because the bandit can use repeated game strategies.
  - Taking away everything would discourage investment. Thus the bandit has an incentive to establish a reputation for taking only part of what is produced, thus encouraging people to continue producing.

Is the Stationary Bandit Argument Compelling?

- Sanchez de la Sierra (2014) provides evidence for this perspective by exploiting the differential increases in incentives of armed groups in the civil war of Eastern Congo to become "stationary bandits" because of the coltan price hike.

- Coltan is easier to tax because it's much harder to conceal than gold, so he uses gold as a control.

- He therefore hypothesizes that "attempted conquests" should increase due to the higher interaction of Coltan deposits and coltan price, but not the same for gold.

- Potentially consistent with the stationary bandit argument — the rebels may want to become stationary bandits when the returns are higher.

Evidence

Table 3: Effects of price shocks, conquests

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Coltan X Coltan Price	0.25*	0.61***	0.26*	0.30**	0.60**	0.59**	0.60**	0.30**	0.66***
	(0.14)	(0.14)	(0.14)	(0.14)	(0.24)	(0.24)	(0.25)	(0.14)	(0.20)
Coltan X Coltan Price X Far		-0.58***			-0.57*	-0.56*	-0.57*		-0.66**
		(0.19)			(0.29)	(0.29)	(0.29)		(0.27)
Gold X Gold Price	-0.01***	0.00	-0.01***	-0.02	-0.02	-0.02	-0.03		
	(0.00)	(0.01)	(0.00)	(0.02)	(0.03)	(0.03)	(0.04)		
Gold X Gold Price X Far		-0.01			0.01	0.02	0.02		
		(0.01)			(0.05)	(0.04)	(0.04)		
Congolese Army, Village			-0.06**						
			(0.03)						
Constant	0.12***	-70.08	0.12***	0.15*	-0.02	-0.04	-0.05	0.09***	0.09***
	(0.03)	(74.18)	(0.03)	(0.09)	(0.09)	(0.08)	(0.09)	(0.02)	(0.02)
Observations	1,342	1,342	1,342	732	732	678	732	244	244
R-squared	0.21	0.33	0.22	0.34	0.35	0.29	0.37	0.68	0.69
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Village FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Region*Year FE	NO	NO	NO	NO	NO	NO	YES	NO	NO
Distance to road	NO	NO	NO	NO	NO	YES	NO	NO	NO
Sample	1998-2009	1998-2009	1998-2009	1998-2003	1998-2003	1998-2003	1998-2003	1999-2000	1999-2000

But

- Yet this is a rather indirect argument.
- The fact that these rebel groups are trying to control coltan-rich places when the price of coltan increases doesn't mean that they will act like stationary bandits (or will be building "proto-states").
- They may just be attracted by greater naked extraction.

But (continued)

- Empirically, long-lived dictators (Mobutu, Mugabe, the Duvaliers in Haiti) are not more developmental, and if anything seem to be among the most kleptocratic.
- Conceptually, this equates the state with organized banditry. But is that right?
- Theoretically, Olson's vision is too narrow also.
  - Acemoglu and Robinson (APSR 2006): the relationship between entrenchment and likelihood to take actions against economic development is inverse U-shaped. This is because a very non-entrenched dictator has no reason to sabotage development in order to save his future rents.
  - Acemoglu, Golosov and Tsyvinski (JET 2010): from a repeated games perspective, a less entrenched dictator may be easier to discipline. This is because if he deviates, society can more easily punish him by removing him from power. We next explain this result.

The Entrenchment Argument

- We will see the entrenchment argument more clearly in the next two lectures.
- But the main idea is that if bandits/dictators/politicians have a way of manipulating things in order to stay in power, then having them longer livedor more forward-looking is not good.
- Here, we will develop the alternative argument against stationary bandits in Acemoglu, Golosov and Tsyvinski (2010).

Power and Efficiency

- Consider an infinite horizon economy in discrete time with a unique final good, consisting of N parties (groups).
- Each party j has utility at time $t = 0$ given by

$$\mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t u_j(c_{j,t}, l_{j,t}),$$

  where $c_{j,t}$ is consumption, $l_{j,t}$ is labor supply (or other types of productive effort), and $\mathbb{E}_0$ denotes the expectations operator at time $t = 0$.
- Labor supply lies in $[0, \bar{l}]$ for each party, and let us make the usual assumptions on the utility function.
- Aggregate output is given by

$$Y_t = \sum_{j=1}^{N} l_{j,t}.$$

First Best

- First best is straightforward to define.
- Let us introduce the *Pareto weights* vector denoted by $\alpha = (\alpha_1, ..., \alpha_N)$, where $\alpha_j \geq 0$ for $j = 1, ..., N$ denotes the weight given to party j, with $\sum_{j=1}^{N} \alpha_j = 1$.
- First best is then given as a solution to

$$
\max_{\left\{ [c_{j,t}, l_{j,t}]_{j=1}^{N} \right\}_{t=0}^{\infty}} \mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t \left[\sum_{j=1}^{N} \alpha_j u_j(c_{j,t}, l_{j,t}) \right]
$$

subject to the resource constraint

$$
\sum_{j=1}^{N} c_{j,t} \leq \sum_{j=1}^{N} l_{j,t} \text{ for all } t.
$$

First Best (continued)

- Standard arguments imply that the *first-best allocation* satisfies

  no distortions: $\dfrac{\partial u_j(c_{j,t}^{fb}, l_{j,t}^{fb})}{\partial c} = -\dfrac{\partial u_j(c_{j,t}^{fb}, l_{j,t}^{fb})}{\partial l}$ for $j = 1, ..., N$ and all t,

  perfect smoothing: $c_{j,t}^{fb} = c_j^{fb}$ and $l_{j,t}^{fb} = l_j^{fb}$ for $j = 1, ..., N$ and all t.

Political Economy

- Let us model political economy with the following game form:

1. In each period t, we start with one party, j', in power.
2. All parties simultaneously make their labor supply decisions $l_{j,t}$. Output $Y_t = \sum_{j=1}^{N} l_{j,t}$ is produced.
3. Party j' chooses consumption allocations $c_{j,t}$ for each party subject to the feasibility constraint

$$\sum_{j=1}^{N} c_{j,t} \leq \sum_{j=1}^{N} l_{j,t}. \qquad (1)$$

4. A first-order Markov process m determines who will be in power in the next period. The probability of party j being in power following party j' is $m(j \mid j')$, with $\sum_{j=1}^{N} m(j \mid j') = 1$ for all $j' \in \mathcal{N}$.

Political Economy (continued)

- Here MPE are straightforward and uninteresting (like Olson's roving bandits): maximum extraction every period by that group in power from all other groups.

- But Subgame Perfect Equilibria (SPE) potentially more interesting.

- These will have the feature that the current powerholder can be punished by high taxes/extraction in the future if it does not follow the agreed policy.

- The set of SPE is generally large, but one might wish to focus on the constrained Pareto efficient SPE (i.e., the frontier).

- Note that it is not possible to focus on a single point on this frontier, because as the identity of the group in power is stochastic, we will naturally move along this frontier.

Reevaluating Olson

- One possible question concerns the conditions under which first-best allocations are sustainable as SPE, and in particular how these depend on the Markov process for power switches.

Proposition: Consider an economy consisting of N groups. Suppose that $m(j \mid j) = \rho$ and $m(j' \mid j) = (1 - \rho)/(N - 1)$ for any $j' \neq j$. Then the set of sustainable first-best allocations is decreasing in ρ.

- Anti-Olson results. Why?
- Intuition: if $\rho = 0$ or very low, the group in power can be punished very strongly for extracting more than they are supposed to—next period they will not be in power with high probability, and they can be taxed very heavily.
- Conversely, when $\rho = 1$ or very high, less effective punishments, thus first-best publications are more difficult to sustain.