14.773 Political Economy of Institutions and Development.
Lecture 9. Persistence of Elites and Institutions

Daron Acemoglu

MIT

April 5, 2012.

Persistence and Change

- Institutional persistence, essential for empirical and theoretical work in political economy.
- But persistence and change coexist.
- End of colonial system, persistence of economic relations in Latin America
- End of slavery and enfranchisement of blacks in the South, persistence of practices.

Why Persistence?

- Why do institutions persist?
- Related to persistence of power.
- Multifaceted, here focus on persistence of elites
- Also related to: will democracy cater to the needs of the citizens?
  - in many instances, not clear.

Model: Environment

- Mass 1 of citizens and M traditional landed elites, each owning L/M units of land.
  - Below results with finite number of citizens.
- All factors of production supplied inelastically.
- All agents infinitely-lived indiscreet time with discount factor β.
- Two economic institutions: competitive markets, rent per unit of land R^c and labor oppression, rent per unit of land $R^r > R^c$.

Model: Political Power

- Traditional elites can invest in de facto power and will do so since there is a finite number of them.
- Elite i invests $\theta_t^i \geq 0$ in the group's de facto power:

$$P_t^E = \phi \sum_{i \in \mathcal{E}} \theta_t^i. \tag{1}$$

- Political power of the citizens (from sheer numbers and political institutions):

$$P_t^C = \omega_t + \eta I\left(s_t = D\right), \tag{2}$$

where $I\left(s_t = D\right)$ is an indicator function for $s_t = D$, i.e., for democracy.

- ω_t is a random variable drawn independently and identically over time from a given distribution $F\left(\cdot\right)$.
- When $P_t^E \geq P_t^C$, we have $\pi_t = 0$ and the elite have more political power and will make the key decisions; economic institutions today, τ_t, and political regime tomorrow, $s_{t+1} = D$ or $s_{t+1} = N$.

Model: Timing of Events

- At each date t, society starts with a state variable $s_t \in \{D, N\}$. Given this, the following sequence of events take place:
  1. Each elite i simultaneously chooses how much to spend to acquire de facto political power for their group, $\theta_t^i \geq 0$, and P_t^E is determined according to (1).
  2. The random variable ω_t is drawn from the distribution F, and P_t^C is determined according to (2).
  3. If $P_t^E \geq P_t^C$ (i.e., $\pi_t = 0$), a representative elite agent chooses (τ_t, s_{t+1}), and if $P_t^E < P_t^C$ (i.e., $\pi_t = 1$), a representative citizen chooses (τ_t, s_{t+1}).
  4. Given τ_t, transactions in the land and labor market take place, R_t and w_t are paid to elites and workers respectively, and consumption takes place.
  5. The following date, $t+1$, starts with state s_{t+1}.

Model: Equilibrium Concept

- Let us focus on Markov Perfect Equilibria (MPE), so that no punishment strategies within the elite.
- Also let's start with symmetric MPE.
- Later look at non–symmetric MPE and subgame perfect equilibria.

Model: Value Functions

- Consider nondemocracy and suppose that all other elite agents, except i, have chosen $\theta(N)$ and agent i chooses θ^i.
- Then, the elite will have political power with probability

$$p\left(\theta^i, \theta(N) \mid N\right) = F\left(\phi\left((M-1)\theta(N) + \theta^i\right)\right). \quad (3)$$

- The net present discounted value of agent i is

$$\begin{aligned} V(N) = \max_{\theta^i \geq 0} \Bigg\{ & -\theta^i + p\left(\theta^i, \theta(N) \mid N\right)\left(\frac{R^r L}{M} + \beta V(N)\right) \\ & + \left(1 - p\left(\theta^i, \theta(N) \mid N\right)\right)\left(\frac{R^c L}{M} + \beta V(D)\right)\Bigg\}, \quad (4) \end{aligned}$$

Model: Value Functions (continued)

- Similarly in democracy,

$$p\left(\theta^i, \theta\left(D\right) \mid D\right) = F\left(\phi\left(\left(M-1\right)\theta\left(D\right) + \theta^i\right) - \eta\right), \tag{5}$$

$$\begin{aligned} V\left(D\right) \quad = \quad & \max_{\theta^i \geq 0} \left\{ -\theta^i + p\left(\theta^i, \theta\left(D\right) \mid D\right)\left(\frac{R^r L}{M} + \beta V\left(N\right)\right) \right. \\ & \left. + \left(1 - p\left(\theta^i, \theta\left(D\right) \mid D\right)\right)\left(\frac{R^c L}{M} + \beta V\left(D\right)\right) \right\} \end{aligned} \tag{6}$$

Equilibrium Conditions

- Suppose we have an interior equilibrium.
- Then the first-order conditions of the above value functions are

$$\phi f\left(\phi M\theta\left(N\right)\right)\left(\frac{\Delta RL}{M}+\beta V\left(N\right)-\beta V\left(D\right)\right)=1, \tag{7}$$

$$\phi f\left(\phi M\theta\left(D\right)-\eta\right)\left(\frac{\Delta RL}{M}+\beta V\left(N\right)-\beta V\left(D\right)\right)=1. \tag{8}$$

- These two equations imply:

$$\theta\left(D\right)=\theta\left(N\right)+\frac{\eta}{\phi M}. \tag{9}$$

and

$$p\left(D\right)\equiv p\left(\theta\left(D\right),\theta\left(D\right)\mid D\right)=p\left(\theta\left(N\right),\theta\left(N\right)\mid N\right)\equiv p\left(N\right), \tag{10}$$

Assumptions

- Let us assume the following regularity and boundary conditions (for a unique and interior equilibrium):

  Assumption F is defined over $(\underline{\omega}, \infty)$ for some $\underline{\omega} < 0$, is everywhere strictly increasing and twice continuously differentiable (so that its density f and the derivative of the density, f', exist everywhere). Moreover, $f(\omega)$ is single peaked (in the sense that there exists ω^* such that $f'(\omega) > 0$ for all $\omega < \omega^*$ and $f'(\omega) < 0$ for all $\omega > \omega^*$) and satisfies $\lim_{\omega \to \infty} f(\omega) = 0$.

- and

  Assumption

$$\min\left\{\phi f(0)\frac{\Delta RL}{M}, \phi f(-\eta)\frac{\Delta RL}{M}\right\} > 1.$$

Model: Main Result

- Main result is:
  Proposition (Invariance): There exists a unique symmetric MPE. This equilibrium involves $p(D) = p(N) \in (0,1)$, so that the probability distribution over economic institutions is non-degenerate and independent of whether the society is democratic or nondemocratic.
- Therefore, even if de jure power changes, overall power does not change.
- The equilibrium distribution of economic institutions invariant to political institutions— invariance.
- Intuition:
  - technology of de facto power the same for the elite in democracy and nondemocracy;
  - marginal cost of contribution must equal the marginal benefit for each agent, which equalizes probabilities of different economic institutions in the two regimes.

Model: Main Result—Extension

- Does it matter that there is a continuum of citizens?
- Suppose that there are $K < \infty$ citizens and $M < \infty$ elites. **Proposition (Extended Invariance):** Supposed that there are $K < \infty$ citizens and $M << K$ elites. Then there exists a unique symmetric MPE that is identical to that in the above proposition.
- Intuition: first-order conditions for investing in lobbying can only hold for one of the two groups, and they will do so for the group that has "fewer" members.

Basic Model: Comparative Statics

Proposition: The following comparative static results hold:

1. *Economic rents:*
$$\frac{\partial \theta^{*}(N)}{\partial \Delta R} > 0, \ \frac{\partial \theta^{*}(D)}{\partial \Delta R} > 0 \text{ and } \frac{\partial p^{*}}{\partial \Delta R} > 0.$$
2. *Discount factor:*
$$\frac{\partial \theta^{*}(N)}{\partial \beta} > 0, \ \frac{\partial \theta^{*}(D)}{\partial \beta} > 0 \text{ and } \frac{\partial p^{*}}{\partial \beta} > 0.$$
3. *Number (cohesion) of the elite:*
$$\frac{\partial \theta^{*}(N)}{\partial M} < 0, \ \frac{\partial \theta^{*}(D)}{\partial M} < 0, \text{ and } \frac{\partial p^{*}}{\partial M} < 0.$$
4. *Democratic advantage of the citizens:*
$$\frac{\partial \theta^{*}(N)}{\partial \eta} > 0, \ \frac{\partial \theta^{*}(D)}{\partial \eta} > 0, \text{ and } \frac{\partial p^{*}}{\partial \eta} > 0.$$
5. *Technology of de facto power:*

Democracy As an Absorbing State

- Let us relax the above boundary conditions. Then we have
  Corollary: Suppose there exists $\bar{\theta}(N) > 0$ such that

$$\phi f(\phi M \bar{\theta}(N)) \left(\frac{\Delta RL/M - \beta \bar{\theta}(N)}{1 - \beta F(\phi M \bar{\theta}(N))} \right) = 1, \tag{11}$$

  and that

$$\eta > -\underline{\omega} \tag{12}$$

  Then in the baseline model, there exists a symmetric MPE in which $p(N) \in (0,1)$ and $p(D) = 0$.
- Therefore, an equilibrium with permanent democracy. But, the equilibrium characterized above might still exist.
- Finally, note that the above boundary condition can be relaxed to:

  Assumption A There exists $\bar{\theta}(N) > 0$ satisfying (11), and

$$\phi f(-\eta) \left(\frac{\Delta RL/M - \beta \bar{\theta}(N)}{1 - \beta F(\phi M \bar{\theta}(N))} \right) > 1.$$

Model: Non-Symmetric MPE and SPE

- Same results without symmetry:
  Proposition(Non-Symmetric MPE and Invariance): Any MPE involves $p(D) = p(N) \in (0,1)$.
- Define Pareto optimal SPE as those in which no elite can be made better off without some other elite agent be made worse off.
  Proposition (Subgame Perfect Equilibrium and Invariance): There exists $\bar{\beta} \in [0,1)$ such that that for all $\beta \geq \bar{\beta} \in [0,1)$, the symmetric Pareto optimal SPE induces equilibrium probabilities of labor repressive institutions $p(D) = p(N) \in (0,1)$. Moreover, as $\beta \to 1$, any Pareto optimal SPE involves $p(D) = p(N) \in (0,1)$.

Markov Regime-Switching Model of State Dependence

- Above model: invariance, but democracy as likely to follow democracy as to follow nondemocracy.
- Let us now generalize the above model to get a richer form of persistence.
- In particular, so far probability of different economic institutions and different future political institutions independent of current political institutions.
- Two alternative models:
  - Limits on the de facto political power of the elite
  - Sluggish economic institutions

Limits on the De Facto Political Power of the Elite

- Suppose that there are limits on the de facto political power of the elite in democracy. In particular ϕ replaced by $\phi_D \in (0, \phi)$ in democracy.
- Then:

  Proposition(Limits on De Facto Power): Any symmetric MPE of the modified model with limits on the elite's de facto power in democracy leads to a Markov regime switching structure where the society fluctuates between democracy with associated competitive economic institutions ($\tau = 1$) and nondemocracy with associated labor repressive economic institutions ($\tau = 0$), with switching probabilities $p(N) \in (0,1)$ and $1 - p(D) \in (0,1)$ where $p(D) < p(N)$.

Limits on the De Facto Political Power of the Elite: Comparative Statics

- Now we have:
  Proposition: The following comparative static results hold:
  1. *Economic rents:*
  $$\frac{\partial \theta^*(N)}{\partial \Delta R} > 0, \frac{\partial \theta^*(D)}{\partial \Delta R} > 0, \frac{\partial p^*(N)}{\partial \Delta R} > 0 \text{ and } \frac{\partial p^*(D)}{\partial \Delta R} > 0.$$
  2. *Discount factor:*
  $$\frac{\partial \theta^*(N)}{\partial \beta} > 0, \frac{\partial \theta^*(D)}{\partial \beta} > 0 \frac{\partial p^*(N)}{\partial \beta} > 0 \text{ and } \frac{\partial p^*(D)}{\partial \beta} > 0.$$
  3. *Number (cohesion) of elites:*
  $$\frac{\partial \theta^*(N)}{\partial M} < 0, \frac{\partial \theta^*(D)}{\partial M} < 0, \frac{\partial p^*(N)}{\partial M} < 0 \text{ and } \frac{\partial p^*(D)}{\partial M} < 0.$$
- Weaker than before, because the regularity conditions are now stronger, and also comparative statics with respect to ϕ and η ambiguous.

Sluggish Economic Institutions

- Suppose that it is costly for the elite to immediately change economic institutions.
- They receive rent equal to look $R^p < R^r$ when they take control.
- Define

$$\lambda \equiv \frac{R^p - R^c}{\Delta R},$$

Proposition (Sluggish Economic Institutions): The symmetric MPE of the model with sluggish economic institutions leads to a Markov regime switching structure where the society fluctuates between democracy with associated competitive economic institutions ($\tau = 1$) and nondemocracy with associated labor repressive economic institutions ($\tau = 0$), with switching probabilities $p(N) \in (0,1)$ and $1 - p(D) \in (0,1)$ where $p(D) < p(N)$.

- Similar comparative static results.
- But also, lower λ increases $p(N)$ because democracy more costly.

Durable Political Institutions and Captured Democracy

- All the models until now, perfect correlation between economic and political institutions.
- In practice, political institutions change, while economic institutions persist.
- Assume that influencing economic institutions easier than changing political institutions (natural given the durability of the institutions).

Captured Democracy: Setup

- Let us model durable political institutions as follows:
- When $P_t^C + \xi > P_t^E \geq P_t^C$, where $\xi > 0$, the elite can choose economic institutions but cannot change the political system.
- If $P_t^E \geq P_t^C + \xi$, the elite can choose both economic institutions and the future political system.
- Symmetrically when $P_t^E + \xi > P_t^C \geq P_t^E$, the citizens have political power, and they can choose economic institutions, but cannot change the political system.
- Denote the probabilities of regime change towards nondemocracy by $\hat{p}(N)$ and $\hat{p}(D)$, and the probabilities of labor repressing economic institutions by $p(N)$ and $p(D)$.

Captured Democracy: Assumptions

- Let us also strengthen the assumption on the distribution of ω.

  Assumption F is defined over $(\underline{\omega}, \infty)$ for some $\underline{\omega} < 0$, is everywhere strictly increasing and twice continuously differentiable (so that its density f and the derivative of the density, f', exist everywhere), and moreover we have $f'(\omega) < 0$ for all ω and $\lim_{\omega \to \infty} f(\omega) = 0$.

- Also, modify preferences so that citizens derive direct utility from democracy, so they are happy to choose democracy even if their income is lower under democratic political institutions.

Captured Democracy: Main Result

- Now we have:
  Proposition (Captured Democracy): The modified model with durable political institutions leads to a Markov-switching process for political change, with $1 > \hat{p}(N) > \hat{p}(D) > 0$. Moreover, democracy is captured in the sense that $0 < p(N) < p(D) < 1$, i.e., democracy will survive but choose economic institutions in line with the elite's interests with even a higher probability than does nondemocracy.
- Striking result: economic institutions even worse under democracy than nondemocracy.
- Intuition: elites more willing to invest in their de facto political power in democracy because of the added benefit of potential switch to nondemocracy.
  - This indirect effect strong enough that $p(N) < p(D)$.

But History Is Not Destiny

- The view that crude or qualified determinism widespread and social sciences.
- Determinism very different from persistence.
- Above examples show that change is ubiquitous, even though there are clear mechanisms of persistence at work.
- Some of this change is toward equilibria that lead to better economic performance.

Ending Persistence: Effective Reform

- The model suggests that very significant or simultaneous reforms necessary to end dysfunctional persistence.
- Examples:
  - Reform in formal institutions, switching from nondemocracy to democracy, but at the same time limiting the exercise of de facto political power by the elite.
  - Simultaneous reform in politics and economic institutions that are irreversible or hard to reverse, so that the economic rents the elite will gain by reversing the reforms are lower.
- Example of successful radical reform: Glorious Revolution of 1688 in England; simultaneous change in the distribution of de jure and de facto political power.

Emergence of Constitutional Monarchy in England

- 17th Century saw a struggle between Parliament and the Stuart Kings, with the Civil War 1642-1651 and the Glorious Revolution of 1688 when after a brief struggle Parliament ejected James II and made William of Orange King.
- Political Reforms: Regular Parliaments for the first time, Parliament given power over fiscal policy.
- Economic Reforms: removal of ability of Crown to predate on society, abolition of Crown granted monopolies, creation of Bank of England.
- Development of state institutions of taxation (the fiscal-military state).

End of Southern Equilibrium

- Starting in the 1940s rapid convergence of the Southern economy to US average takes place.
- End of isolation of the labor market.
- Abolition of institutionalized racial discrimination in labor markets and social life and re-enfranchisement of blacks culminating in the Voting Rights Act of 1965.

Conclusions

- Coherent framework for thinking about coexistence of institutional change and persistence.
- De jure power and constitutions are not everything.
- We need to take de facto political power seriously.
- Interaction of de jure and de facto political power useful in thinking about persistence of institutions in the US South, in Central America, Colombia, Liberia.
- But this theory not sufficient understand persistence of bad rulers in Congo or Ethiopia, or why inequality re-created itself in Bolivia.
- Future work...