

# 14.773 Political Economy of Institutions and Development.

## Lecture 25. Persistence of Elites and Institutions

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# 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  $\beta$ .
- 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:

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

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

$$P_t^C = \omega_t + \eta I(s_t = D), \quad (2)$$

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

- $\omega_t$  is a random variable drawn independently and identically over time from a given distribution  $F(\cdot)$ .
- 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,  $\tau_t$ , 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  $\omega_t$  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  $(\tau_t, s_{t+1})$ , and if  $P_t^E < P_t^C$  (i.e.,  $\pi_t = 1$ ), a representative citizen chooses  $(\tau_t, s_{t+1})$ .
  - 4 Given  $\tau_t$ , 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  $\theta^i$ .
- Then, the elite will have political power with probability

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

- The net present discounted value of agent  $i$  is

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

## Model: Value Functions (continued)

- Similarly in democracy,

$$p(\theta^i, \theta(D) | D) = F(\phi((M-1)\theta(D) + \theta^i) - \eta), \quad (5)$$

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

# Equilibrium Conditions

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

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

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

- These two equations imply:

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

and

$$p(D) \equiv p(\theta(D), \theta(D) | D) = p(\theta(N), \theta(N) | N) \equiv p(N), \quad (10)$$

# 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  $\omega^*$  such that  $f'(\omega) > 0$  for all  $\omega < \omega^*$  and  $f'(\omega) < 0$  for all  $\omega > \omega^*$ ) and satisfies  $\lim_{\omega \rightarrow \infty} f(\omega) = 0$ .

- 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  $M \ll K$  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:*

$$\partial p^* / \partial \phi > 0.$$

## 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

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

and that

$$\eta > -\underline{\omega} \quad (12)$$

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  $\beta \rightarrow 1$ , 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  $\phi$  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:

- Economic rents:*

$$\frac{\partial \theta^*(N)}{\partial \Delta R} > 0, \frac{\partial \theta^*(D)}{\partial \Delta R} > 0, \frac{\partial p^*(N)}{\partial \Delta R} > 0 \text{ and } \frac{\partial p^*(D)}{\partial \Delta R} > 0.$$

- Discount factor:*

$$\frac{\partial \theta^*(N)}{\partial \beta} > 0, \frac{\partial \theta^*(D)}{\partial \beta} > 0, \frac{\partial p^*(N)}{\partial \beta} > 0 \text{ and } \frac{\partial p^*(D)}{\partial \beta} > 0.$$

- 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  $\phi$  and  $\eta$  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  $\lambda$  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  $\omega$ .

**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  $\omega$  and  $\lim_{\omega \rightarrow \infty} f(\omega) = 0$ .

- 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...