

Section 9:

The political economy of growth

The question

- The economics of growth and development deals with issues like:
 - How physical and human capital affect growth and income
 - How individuals cumulate capital
 - How technology changes and is transferred
 - How policy affects technology, capital accumulation, individual choices
- The next question is: why do different countries adopt different (and less efficient) policies?
- In a nutshell, the answer is: because they have different economic and political institutions
 - Institutional differences (i.e. difference in the organization of society) shape economic and political incentives of agents

The impact of institutions

- There are large differences across countries in the way economic and political life is organized
- Large cross-country evidence of strong correlation btw economic institutions and economic performance
 - Knack and Keefer (1995): lower measure of property rights enforcement are negatively correlated with economic performance
 - Djankov et al. (2002): poorer countries have higher entry barriers (e.g. regulation to open a new business) (0.02% in the US, but 4.95% in the Dominican Republic)
- However, this does not imply that countries are poor *because* of worse institutions
 - The US and the Dominican Republic differ in many other dimension (e.g. cultural, geographic, etc.). These differences may be the source of institutional differences themselves.

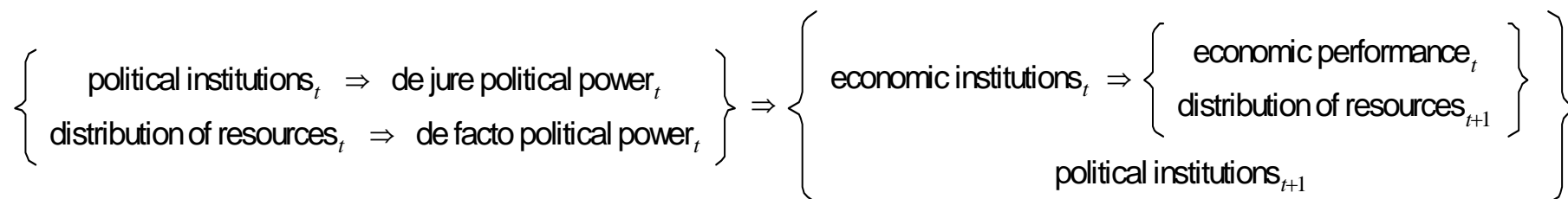
The impact of institutions

- To understand the effects of institutions, we need to isolate a source of exogenous difference in institutions
 - So that a number of otherwise similar societies end up with different institutions
- AJR (2001) show causality: institutional differences have a major effect on income per capita
 - In large numbers of colonies (e.g. Africa, Central America), European powers set extractive states (with poor property rights, checks on governments, etc.)
 - In other colonies (e.g. North America, Australia), this was not the case. Extractive institutions were chosen when it was difficult to settle
 - AJR use mortality rates of European settlers in colonies as a source of exogenous variation in institutions

Modeling institutions

- If institutions have an important effect on riches: why do some societies choose, end up and maintain bad institutions?
 - We build a dynamic model of economic and political institutions
- Economic institutions (e.g. property rights)
 - Influence investment in physical and human capital and technology
 - Determine economic growth and the distribution of resources
- Political institutions (e.g. from of government)
 - Influence incentives of actors in the political sphere
 - Determine *de jure* (formal) political power
- Political power is determined by political institutions and by *de facto* power, which depends on economic resources

A dynamic set-up



- Institutions and the distribution of resources are persistent
 - Political power at time t determines economic institutions. These, in turn, determine economic performance and the distribution of resources at $t+1$
 - Economic power and formal political institutions determine political power at time $t+1$
- Shocks to the *de facto* political power (e.g. technology shock) can generate change in political institutions and in economic institutions and growth
 - Example: the development of property rights in XVII century Europe

The framework

- Consider an infinite horizon economy with three groups: elite, middle class and workers of size $1 + \theta^e + \theta^m$
- Political institutions: the elite has a monopoly on political power and chooses policy (redistribution) and economic institutions
- Economic institutions
 - Limits on taxation and redistribution
 - Regulation on the technology used by middle class
- The elite put in place inefficient economic policy/institutions to increase their payoff. More precisely, there are three reasons:
 - Revenue extraction (RE)
 - Factor price manipulation (FPM)
 - Political consolidation (PC)

The model

- The expected utility of agent j is

$$U_0^j = E_0 \sum_{t=0}^{\infty} \beta^t c_t^j$$

- Members of the elite and the middle class have access to technology

$$y_t^j = \frac{1}{1-\alpha} \left(A_t^j \right)^\alpha \left(k_t^j \right)^{1-\alpha} \left(l_t^j \right)^\alpha$$

- The government budget is

$$T_t^w + \theta^m T_t^m + \theta^e T_t^e \leq \phi \int_{j \in S^e \cup S^m} \tau_t^j y_t^j dj + R$$

- Assume a maximum scale for each firm

$$l_t^j \leq \lambda \Rightarrow \theta^e + \theta^m \leq \frac{1}{\lambda}$$

- This implies excess supply of labor (ES)

Economic equilibrium

- Assume full capital depreciation, the maximization problem of the firm is

$$\max_{l_t^j, k_t^j} \frac{1-\tau_t^j}{1-\alpha} \left(A_t^j\right)^\alpha \left(k_t^j\right)^{1-\alpha} \left(l_t^j\right)^\alpha - w_t l_t^j - k_t^j$$

- From the FOC and the clearing condition in the labor market, we get the equilibrium wage

$$\left\{ \begin{array}{l} w_t = 0 \text{ if assumption ES holds} \\ w_t = \min \left\{ \frac{\alpha(1-\tau_t^e)^{\frac{1}{\alpha}}}{1-\alpha} A^e, \frac{\alpha(1-\tau_t^m)^{\frac{1}{\alpha}}}{1-\alpha} A^m \right\} \text{ if not} \end{array} \right\}$$

- And the equilibrium output is

$$Y_t = \frac{(1-\tau_t^e)^{\frac{1-\alpha}{\alpha}}}{1-\alpha} A^e \int_{j \in S^e} l_t^j dj + \frac{(1-\tau_t^m)^{\frac{1-\alpha}{\alpha}}}{1-\alpha} A^m \int_{j \in S^m} l_t^j dj + R$$

Policy choice

- The elite chooses policy to maximize its own welfare
- Assume upper bounds on taxation: $\tau_t^j \leq \bar{\tau}$ with $\bar{\tau} \leq 1$
- Timing:
 - Stage 1. policy (taxes and transfers) is set
 - Stage 2. investments are made
- Note: no hold up problem (i.e. there is no credibility problem as the policy is set *before* the investment decision)

Political equilibrium

- Focus on Markov Perfect Equilibrium (MPE)
 - Strategies are only dependant on pay-off relevant variables
 - With full capital depreciation, strategies are independent of past taxes and investment

- A political equilibrium is a sequence of policies

$$\{\tau_t^e, \tau_t^m, T_t^w, T_t^m, T_t^e\}_{t=0,1,\dots,\infty}$$

- Which maximize the utility of the elite
- Satisfying the government budget constraint
- Taking as given how economic variables depend on policy

MPE

- Under oligarchy, the problem corresponds to maximize consumption of the elite

$$c_t^e = \left[\frac{\alpha(1-\tau_t^e)^{\frac{1}{\alpha}} A^e - w_t}{1-\alpha} \right] l_t^j + T_t^e$$

- We characterize this equilibrium under two scenarios:
 1. Assumption ES holds and $\phi=1$
 2. Assumption ES does not hold and $\phi=0$

1. Revenue extraction

- The elite
 - do not redistribute income to other groups
 - use taxation to max tax revenue and use it for private consumption

$$\max_{\tau_t^m} \frac{\tau_t^m (1-\tau_t^m)^{\frac{1-\alpha}{\alpha}}}{1-\alpha} A^m \lambda \theta^m + R$$

- In equilibrium $\tau_t^m = \tau^{RE} = \alpha$
 - Unless the limit on taxation is binding
- Result 1: the elite realize that taxation is distortionary and optimally set taxes to max revenue extraction

2. Factor price manipulation

- The elite cannot use taxation directly for redistribution ($\phi = 0$), however, can get indirect redistribution by setting

$$\tau_t^m = \tau^{FPM} = \bar{\tau}$$

- Result 2: the elite set taxes to reduce labor demand of middle class producers, lower wages and increase their profits
- Notice:
 - With FPM the elite extract resources from both middle class and workers (through lower wages)
 - With FPM taxation is higher than under RE
 - The structure of taxation depends on government capacity ϕ

Political consolidation

- With some probability *de facto* political power shifts from the elite to the middle class
- Assume that this probability is a function of income level of the middle class

$$p_t = p(\theta^m c_t^m) \in [0, 1]$$

- With p increasing in its argument
- Result 3: the elite set taxes to reduce the probability of losing power

Holdup problems

- Consider now a different timing where policies are chosen after the economic decisions are made
 - This creates a commitment (or holdup) problem in policymaking
- In this case, the elite are unable to commit to a tax rate before the MC producers set investments
 - Whatever tax rate the elite announce, they have ex post an incentive to renege and set high taxes
 - MC producers anticipate this and expect high taxes
 - In equilibrium expected and actual taxes coincide
- Result 4: With holdup, there is a unique political equilibrium with maximal tax $\tau_t^m = \bar{\tau}$ for all t

Economic institutions

- The elite like inefficient policies that transfer resources to their favor
- We argue that they also prefer inefficient economic institutions that enable and support these policies
- Two economic institutions
 1. Security of property rights: affect $\bar{\tau}$
 2. Regulation of technology: affect A^m

1. Inefficient economic institutions

- Economic institutions provide the framework for the determination of economic policy
 - Preferences over institutions are derived from preferences over policy
- Assume that at stage 0 the elite chooses $\bar{\tau} \in [0, \bar{\tau}^H]$
- Result 5: the elite sets $\bar{\tau} = \bar{\tau}^H$
- Notice: the result is different in presence of hold up

2. Inefficient economic institutions

- At stage 0 the elite chooses institutions that influence the technology of MC producers
- Assume the choice is between a bad and a good regulatory environment such that
$$g = \{0, 1\} \Rightarrow A^m(1) > A^m(0)$$
- Result 6: under RE, $g=1$; under FPM and PC, $g=0$
- The elite's desire for inefficient policy translates into preferences for inefficient economic institutions

Political institutions

- The previous analysis characterizes the dictatorship of the elite
- An alternative political environment is one where the MC has (*de facto* and *de jure*) political power: dictatorship of the MC
- Result 6: with the dictatorship of the MC, the MC substitutes the elite and the political equilibrium is identical
- Important: the dictatorship of the MC is more efficient than the dictatorship of the elite if and only if $A^e < A^m$
 - because it implies lower taxes on the more productive group (the MC), fewer distortions and larger output

Inefficient political institutions

- Assume that the elite is in power and initially more productive
 - Dictatorship of the elite is more efficient than dictatorship of the MC
- At time t , an exogenous shock raises the productivity of the MC so that $A^e < A^m$
- Would the efficient political transition take place? NO
 - Coasian political deals are not possible (i.e. there is no way the MC can credibly compensate the elite)
- Institutions that are initially appropriate might later cause lower economic growth

Summing up

- This section provides a simple approach to study:
 - the role of economic and political institutions in economic growth
 - to explain income differences across countries
 - the emergence and persistence of inefficient economic and political institutions
- This framework is extremely stylized, but can be extended in many directions:
 - For instance to investigate how inefficient institutions change (i.e. a theory of transition)
 - Or to capture more realistic details of the economic and political environment