Creative Destruction and Persistence of Inefficent Institutions in Democracies

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Introduction

Economic environment

Agents' preferences

Political equilibrium

Conclusion

Motivation

- Many countries in Asia, Latin America and Eastern Europe have democratized their political regime (Huntington, 1993).
- A few of them achieved high rates of growth and created open access societies (rule of law, absence of barriers to entry for outsiders, a low level of corruption). (North, Wallis, Weingast (2009))
- Even in "old"democracies high barriers to entry persist.

Basic problem

To find conditions, for which political liberalization leads to creation of "open access"societies

Summary

- A simple quality-ladders model with heterogenous agents
- The policy space is two-dimensional. Redistribution and barriers for entry are policy variables
- Political equilibrium is a Majority core voting equilibria
- Political regimes differ in distribution of votes between agents
- I analyse conditions in which democratization leads to the elimination of barriers to entry (liberal democracy)

Related literature

- The effect of political regimes on barriers to entry, redistribution and growth (Alesina et al. 1994, Aghion et al. 2007, Acemoglu, 2008, Acemoglu, Robinson, 2008)
- Barriers to entry as a majority voting outcome (Krussell, Rios-Rull, 1995, Parente, Zao, 2006)
- Two-dimensional political economy models (Levy, 2004, Fernández, Levy, 2008, Bernaskoni, Profeta, 2012)
- The origins of populist policies (Acemoglu et al. 2013, Mejia and Posada, 2007)

Basic assumptions

- A society consists of N capitalists (an elite) and L workers, agents maximize one-period pay-off.
- Each capitalist have a firm, which is a monopolist on its own market and gets a profit π.
- Workers differ in the level of skills, h_k. Wages are proportional to the level of skills, wh_k. Distribution of skills is exogenous.
- There are two policy parameters: the level of barriers to entry (B, NB) and the profit tax rate (τ). All collected taxes are distributed to workers as lump-sum transfers.
- Economic growth is driven by investment in R&D. If projects are realized all income increases by γ

Production side

- The basic structure is similar to Howitt, Mayer-Foulke (2005), Aghion et al. (2007) quality-ladders models
- There is one final good and N intermediate goods
- A final good production function is $Y = (H/N)^{1-\alpha} \sum_0^N A(i)^{1-\alpha} x(i)^{\alpha}$
  - Y - final good
  - N - number of intermediate inputs
  - A(i) - quality level of i-type input
  - x(i) - quantity of i-type input
  - $H = \sum_{j=0}^{L} h(j)$ - sum of skills.
- The final good can be used interchangeably as consumption or an input in intermediate goods production or R&D input
- Each variety of intermediate input is produced by monopolistic firm owned by a capitalist with a simple one for one production function

Production side

- Each monopolist sets a price $1/\alpha$ and gets a profit $\pi(i) = \bar{\pi} A(i) H$.
- In equilibrium the output of the final good is strictly determined by the level of technology and skills. $Y = (\alpha)^{2\alpha/1-\alpha} \bar{A} H$
  - $\bar{A}$ is the average level of $A(i)$
- Wage rate per unit of skills is proportional to the level of technology.

$$w = (\alpha)^{2\alpha/1-\alpha} \bar{A}$$

- All value added are distributed between wages and profits

$$Y - \sum_{0}^{N} x(i) = \sum_{0}^{N} \pi(i) + wH$$

- The shares of intermediate inputs, wages and profits in total output are constant

Timing

1. A policy chooses the entry regime (B, NB) and a tax rate τ. This decision is not renegotiable;
2. Firms make investment decision. In the NB-regime a patent race between incumbents and new entrants occurs;
3. Firms produce goods and pay wages;
4. All producers make a decision whether to hide profits $(\tau \leq \delta)$;
5. The redistribution and consumption occurs.

Innovations

- Given the political choice each incumbent firm is capable to invest in the project (I) to increase the quality of products (A) by γ. The costs of project is $c_p A$.
- The expected profits from the project equal to

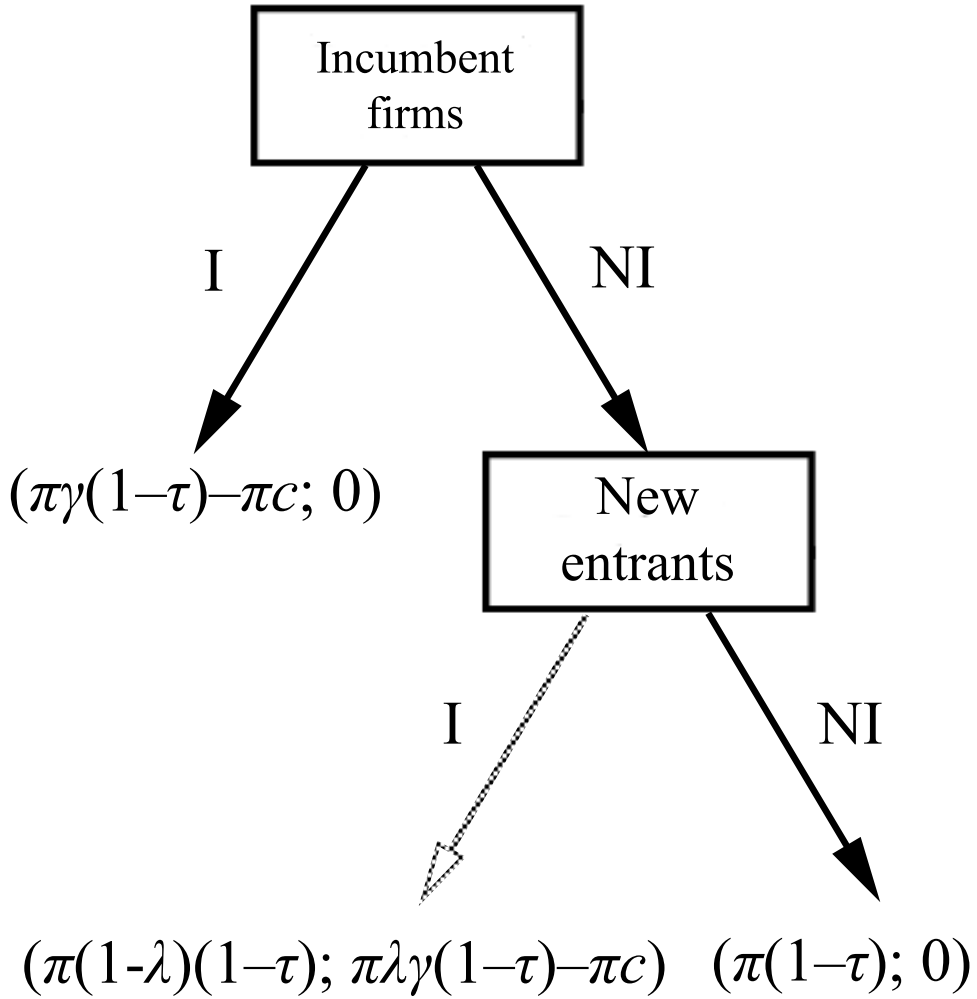
$$\gamma\pi(1-\tau) - c\pi$$

, where c'(H)<0.

$$c = c_p N/(H(1-\alpha)\alpha^{1+\alpha/(1-\alpha)})$$

- In the NB-regime for each industry there is a new entrant from the class of workers, who is capable to invest in the same project with a probability of success $\lambda \in (0, 1]$.
- Incumbents have the first-mover advantage. If they invest, they are immune to entry
- If investment projects are realized wages, tax payments and lump-sum transfers also increase by

Patent race



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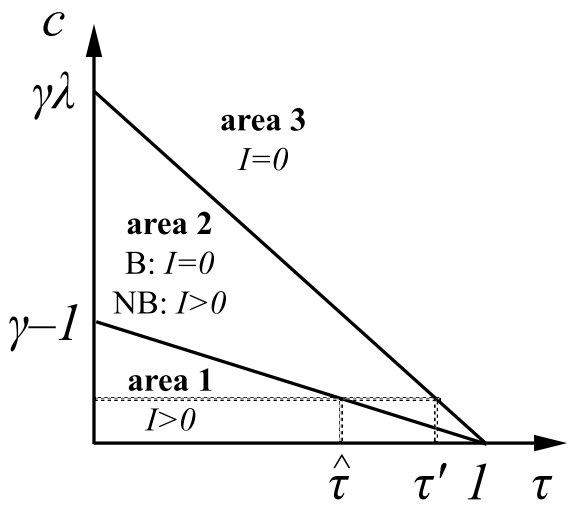
Types of economic equilibria

Incumbents invest in new projects even in the B-regime if

$$\gamma(1-\tau)-c\geq 1-\tau, \tag{1}$$

New entrants invest in new projects in the NB-regime if incumbents do not invest and if

$$\lambda\gamma(1-\tau)-c\geq 0 \tag{2}$$



c measures the costs of innovation (inverse to the rate of return on projects and the average level of skills)

Threshold tax levels

For $\tau < \widehat{\tau}$ the investment is positive even in the B-regime

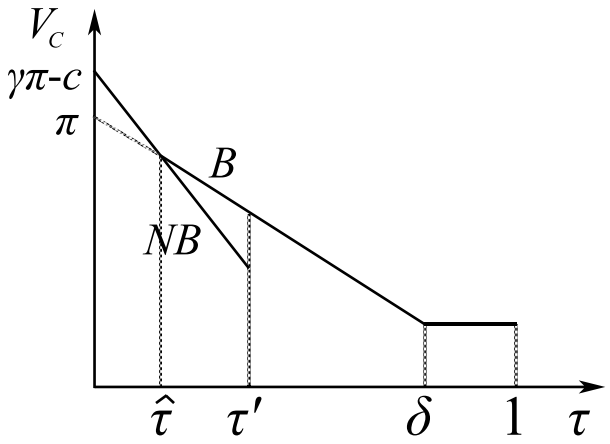
$$\widehat{\tau} = 1 - c/(\gamma - 1). \tag{3}$$

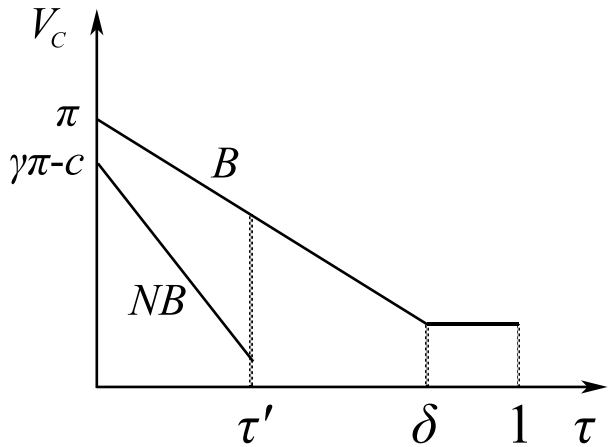
For $\widehat{\tau} < \tau < \tau'$ the entry threat is credible in the NB-regime

$$\tau' = 1 - c/\lambda\gamma. \tag{4}$$

Capitalists' political preferences

- Capitalists maximize their current pay-off (expected profits of incumbent firms).
- Capitalists prefer to pay more taxes to escape competition with new entrants.

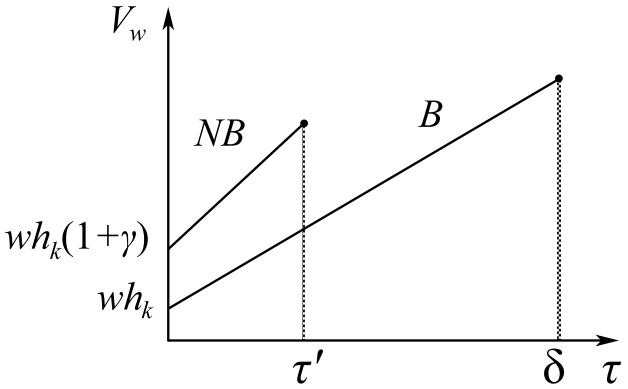


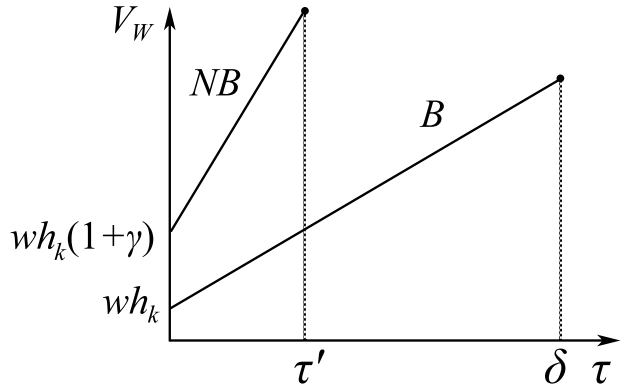


Workers' political preferences

$$V_k^{NI} = wh_k + \tau\pi N/L. \quad (5)$$

$$V_k^{I} = \gamma[wh_k + \tau\pi N/L]. \quad (6)$$





- Net gains from technological progress concentrate mostly in the hands of firm-owners and high-skilled workers
- the group of relatively low-skilled workers (L_1) with $h \geq h'$ prefers the B-regime with the maximum redistribution rate. The opposite group (L_2), $h < h'$ prefer (NB, τ') policy.

Definition of political equilibrium

Political outcome is determined by a majority of voters.

Definition

Majority core voting equilibrium A political equilibrium J^* is a combination of policy variables, such that there is no a strict majority of voters, who prefers another feasible combination J to the J^*

- Political regimes differ in the distribution of votes between agents. Total votes are $N\beta + L$
- Let β measures the number of votes of each capitalist. If $\beta = 1$ each agent has one vote, that is the perfect democracy case.
- For $\beta > L/N$ capitalists are decisive voters, we interpret this case as the oligarchy.

A case of simple majority

1. If $\beta < L/N$ and if $h_{(L-\beta N)/2} < h' < h_{(L+\beta N)/2}$ there is no a group of agents with identical bliss points which hold a majority of votes
2. If $\beta < L/N$ and $h' < h_{(L-\beta N)/2}$ a majority of votes belongs to workers with a bliss point (NB, τ').
3. If $\beta < L/N$ and $h' > h_{(L+\beta N)/2}$, a majority of votes belongs to workers with a bliss point (B, δ).

Political equilibrium in unconsolidated democracy

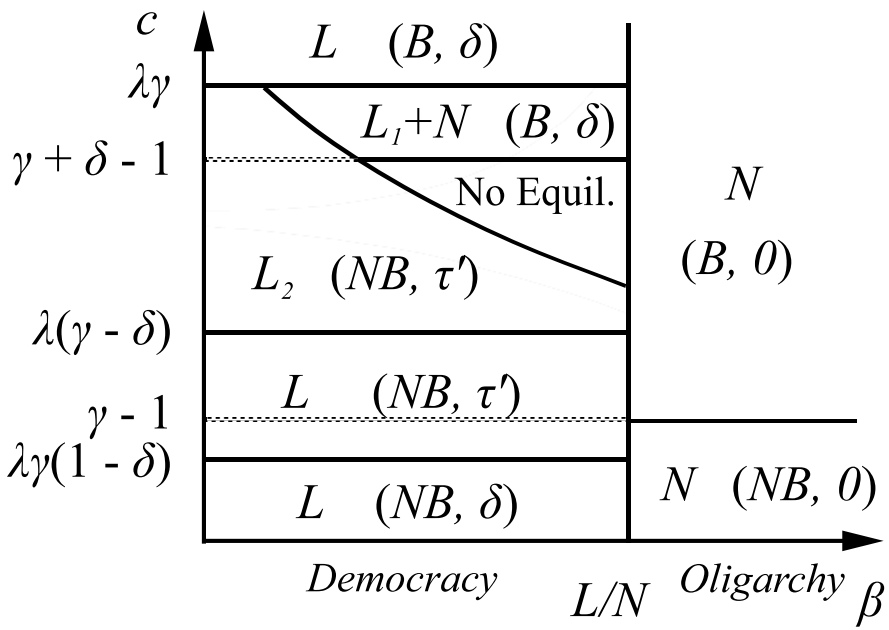
In the case, when a single group does not hold a majority of votes

- (NB, τ') is a majority core voting equilibrium supported by the coalition of capitalists and high-skilled workers. This is true if $V_c(B, \delta) < V_c(NB, \tau')$ and $h_{(L-\beta N)/2} > h''$, where

$$h'' = \overline{h}\alpha(1 + c - \gamma)/(\gamma - 1).$$

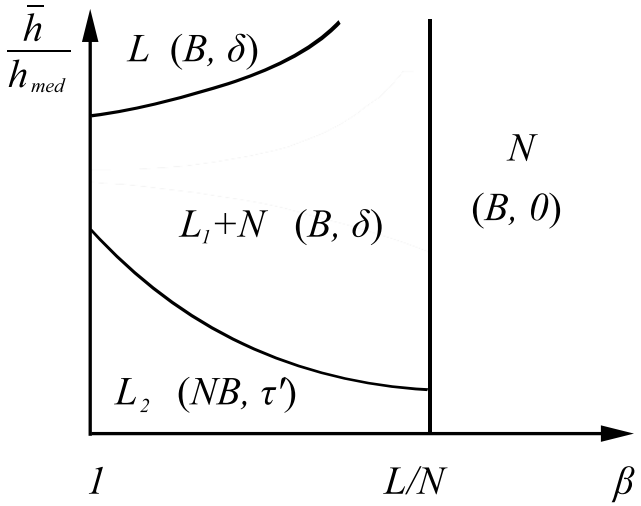
- $(B; \delta)$ is a majority core voting equilibrium, supported by the coalition of capitalists and low skilled workers. This is true if $V_c(B, \delta) > V_c(NB, \tau')$ and $h_{(L+\beta N)/2} < h''$ or $1 + c - \gamma > \delta$.
- In all other cases no stable majority core voting equilibrium exists.

Illustrative example



- For a high level of rate of return (average skills level) all workers prefer (NB, τ') policy.
- For a low level of rate of return no-entry equilibrium is possible.
- If the rate of return on projects is low and the probability of success for new entrants is high the coalition of capitalists and least-skilled workers is

Human capital inequality and populist politics



- Coalition of capitalists (N) and low-skilled workers (L_1) is stable.
- The middle class (L_2) become political outsiders.
- Redistribution rate is determined by the poorest voter.

Conclusion

- The persistence of inefficient institutions is possible if democracy is unconsolidated (preferences of poor and middle class are different).
- Democratization does not lead to the elimination of barriers to entry if
  - the average skills level and rate of return on projects is low
  - the inequality in skills is highly right-skewed
  - there is a large share of profits in total incomes
  - the elite has larger share in total votes (imperfect democracy)

Conclusion

- The effect of democratization on barriers to entry and growth is conditional to the average skills level, the level of inequality in skills and incomes.
- If the probability of success for new entrants is high and the average skills level is low the coalition between rich and poor is stable.
- In this case middle class become political outsider and the rate of return is determined from the preferences of least-skilled agents.