> Marc Sangnier marc.sangnier@univ-amu.fr

> 2015-2016, Fall semester Aix Marseille School of Economics

1 Introduction

2 Why are some dictators better than others?

3 Revolutions



-Introduction



Do leaders and political regimes matter? How much do leaders matter?

-Introduction

Do leaders and political regimes matter?

Do leaders and political regimes matter?

- Autocracy (dictatorship) is a political regime among others.
- Main difference between autocracies and democracies is leaders' accountability.
- Both the political regime and who the leader is matter!

Introduction

- Do leaders and political regimes matter?

"One-party autocracy certainly has its drawbacks. But when it is led by a reasonably enlightened group of people, as China is today, it can also have great advantages. That one party can just impose the politically difficult but critically important policies needed to move a society forward in the 21st century."

Thomas L. Friedman (The New York Times, September 8, 2009) Introduction

- Do leaders and political regimes matter?

"Visionary leaders can accomplish more in autocratic than democratic governments because they need not heed legislative, judicial, or media constraints in promoting their agenda. In the late 1970s, Deng Xiaoping made the decision to open communist China to private incentives in agriculture, and in a remarkably short time farm output increased dramatically. [...]

Of course, the other side of autocratic rule is that badly misguided strong leaders can cause major damage. Mao's Great Leap Forward is one prominent and terrible example [...]. The overall effect of autocratic governments is some average of the good results produced by visionaries, and the bad results produced by deluded leaders."

> Gary Becker and Richard Posner (The Becker-Posner Blog, October 10, 2010)

-Introduction

Do leaders and political regimes matter?

"Democracies help control the range of outcomes. Visionaries in democracies can accomplish much sometimes, as did Manmohan Singh when Finance Minister of India from 1991-1996, Margaret Thatcher after she became Prime Minister of Britain in 1979, Ronald Reagan as US president during the 1980s, and Japan's leaders after World War II. However, their accomplishments are usually constrained by due process that includes legislative, judicial, and interest group constraints.

[...] What is clearer is that democracies produce less variable results: not as many great successes, but also fewer prolonged disasters."

Gary Becker and Richard Posner (The Becker-Posner Blog, October 10, 2010)

-Introduction

└─ Do leaders and political regimes matter?



1960-2008 growth rate and democracy score. Source: Easterly (2011)

Political Economy - Lecture 5: Dictatorships (and revolutions)

-Introduction

└─ Do leaders and political regimes matter?



Standard deviation of 1960-2008 growth rate and democracy score. Source: Easterly (2011)

-Introduction

How much do leaders matter?

How much do leaders matter?

- How much of the variance in growth is due to leaders?
 - **1** Estimate the following equation:

$$\mathsf{Growth}_{ct} = \alpha_c + \alpha_t + \gamma_{L(c,t)} + \varepsilon_c t,$$

where $\gamma_{L(c,t)} \in \{0,1\}$ is a dummy variable for some specific leader in charge a time t in country c.

- 2 Compute share of variance explained by leader effects relatively to country fixed effects.
- **3** Compare shares of variance explained by leader between autocracies and democracies:
 - Democracies: 49-55%.
 - Autocracies: 23-29%.
 - Leaders matter more in democracies!
 - Results might be reversed depending on data used.
- Main issue: leader changes are not random (e.g. elections, revolutions, etc.).

-Introduction

└─ How much do leaders matter?

Benjamin F. Jones & Benjamin A. Olken, 2005. "Do Leaders Matter? National Leadership and Growth Since World War II," The Quarterly Journal of Economics, Oxford University Press, vol. 120(3), pages 835-864.

• Empirical strategy:

- Use random deaths of leaders while in office as a source of exogenous variation in the timing of leader transitions;
- Compare *T* years before each death with the *T* years after each death, excluding transition years;
- Test across set of leader deaths whether changes in growth are unusual given underlying growth processes in their countries.

-Introduction

└─ How much do leaders matter?

	J- statistic	Wald <i>P-</i> value	Rank <i>P-</i> value
Treatment timings			
t	1.312	$.0573^{*}$	0.017^{**}
t + 1	1.272	.0845*	0.075^{*}
t + 2	1.308	$.0669^{*}$	0.172
Control timings			
t - 5	0.841	.7953	0.446
t - 6	0.986	.5026	0.806
Number of leaders (t)	57	57	57
Number of			
observations (t)	5567	5567	5567

Under the null hypothesis, growth is similar before and after randomly timed leader transitions.

Source: Jones and Olken (2005)

-Introduction

How much do leaders matter?

	J- statistic	Wald <i>P</i> -value	Rank <i>P</i> -value	J- statistic	Wald <i>P</i> -value	Rank <i>P-</i> value
	Autocrats (Polity IV)			Democrats (Polity IV)		
Treatment timings						•
t	1.621	0.019^{**}	0.040^{**}	1.000	0.460	0.106
t + 1	1.672	0.016^{**}	0.017^{**}	0.932	0.552	0.712
t + 2	1.592	0.028^{**}	0.051*	1.021	0.432	0.636
Control timings						
t - 5	0.849	0.698	0.837	0.866	0.632	0.075^{*}
t - 6	1.094	0.334	0.977	0.647	0.873	0.191
Number of leaders (t)	29	29	29	22	22	22

Under the null hypothesis, growth is similar before and after randomly timed leader transitions.

Source: Jones and Olken (2005)

Why are some dictators better than others?

Why are some dictators better than others? The stationary bandit idea Empirical evidence -Why are some dictators better than others?

Why are some dictators better than others?

Mancur Olson, 1993. "Dictatorship, Democracy, and Development," The American Political Science Review, vol. 87(3), pages 567-576, September.

- The stationary bandit versus the roving bandit.
- Continuing taxation versus occasional plunder.
- The stationary bandit is better for the society than the roving bandit because she has interest to take only a part of wealth at each point it time as she will be able to extract a higher total amount over time if her subjects keep an incentive to generate income (that will be taxed).
- The roving stationary even has incentives to provide public goods etc.

-Why are some dictators better than others?

└─ The stationary bandit idea

The stationary bandit idea

• A simple aggregate production function:

$$y_t = k_t$$
.

• The government levies taxes at rate τ . So, after-tax income is:

$$x_t = y_t(1-\tau) = k_t(1-\tau).$$

• Each year, the society invests a fixed share α of after-tax income and consumes the rest. So, investment is:

$$i_t = \alpha k_t (1 - \tau).$$

 Assume there is no capital depreciation, such that the stock of capital evolves as:

$$k_{t+1} = k_t + \alpha k_t (1-\tau) = k_t (1+\alpha(1-\tau)).$$

Political Economy - Lecture 5: Dictatorships (and revolutions)
Why are some dictators better than others?
The stationary bandit idea

- Assume there are two periods, 1 and 2. The dictator in place in period 1 survives to period 2 with probability *p*.
- All tax revenues benefit the dictator. She has to set a constant tax rate for both periods.
- The dictator's optimization problem is:

$$\max_{\tau} \tau k_1 + p\tau k_1(1 + \alpha(1 - \tau)).$$

• We get:

$$\tau^* = \frac{1 + \alpha + \frac{1}{p}}{2\alpha}.$$

- τ^* decreases with α : higher period 2 production.
- τ^* decreases with *p*: more stationary bandit!

-Why are some dictators better than others?

Empirical evidence

Testing the stationary bandit idea

- Suppose you regressed economic growth on a leader's tenure in office.
- What's the problem with this approach?
- What we need is an instrument for a leader's expected time in office that is uncorrelated with economic performance?

-Why are some dictators better than others?

Empirical evidence

Mircea Popa, 2012. "Political Leadership Time Horizons and Economic Growth," Unpublished manuscript.

- Uses leader's age when taking power as an instrument for leader's time horizon.
- Idea that leaders who are younger when they come to power will live longer (in the country).

Why are some dictators better than others?

Empirical evidence

$\log(\text{growth}+1)$	Model 6	Model 7	Model 8	Model 9		
$\log(\text{tenure})$.4765	.5322	.5266	.5254		
	(.089)	(0.037)	(0.040)	(.049)		
Polity score				0068		
				(.541)		
$\log(\text{GDP}/\text{cap})$.1375	.0639		
			(.466)	(.717)		
$\log(\text{tenure})$	First stage results					
$\log(Age 0)$	8985	-7.6935	-7.6665	-7.5473		
	(.000)	(.009)	(.014)	(.009)		
$[\log(Age \ 0)]^2$.8801	.8791	.8683		
		(.019)	(.006)	(.018)		
Polity score				.0110		
				(.249)		
$\log(\text{GDP}/\text{cap})$.2483	.2810		
			(.034)	(.023)		
Country f.e.	Yes	Yes	Yes	Yes		
Decade f.e.	Yes	Yes	Yes	Yes		
First stage F-stat	7.26	8.41	8.30	7.42		

Regressions of growth on tenure in office (p-values in parentheses). Source: Popa (2012)

- Revolutions



3 Revolutions

A simple model of revolutions Starting a revolution

– Revolutions

A simple model of revolutions

A simple model of revolutions

- The society is made of two groups: rich (R) and poor (P).
- A share $\delta < \frac{1}{2}$ of the population is rich and $1 \delta > \frac{1}{2}$ is poor.
- A share $\theta > \delta$ of total income goes to the rich;
- Average income is \bar{y} .
- Pre-tax individual incomes are:

$$y^R = rac{ heta}{\delta}ar{y}, ext{ and } y^P = rac{1- heta}{1-\delta}ar{y}.$$

• θ and δ capture inequality within the society.

Political Economy - Lecture 5: Dictatorships (and revolutions)
Revolutions
A simple model of revolutions

The revolution

- If the poor decide to launch a revolution, a fraction μ of society's resources destroys and remaining resources are shared equally among the poor (i.e. $\theta = 0$).
- So, the post-revolution income of a poor is:

$$y^{P}_{\mathsf{Post-rev.}} = rac{1-\mu}{1-\delta}ar{y}.$$

• The poor will launch a revolution if and only if:

$$y_{\text{Post-rev.}}^P > y^P.$$

• Which can be rewritten as:

$$\theta > \mu$$
.

• There will be no revolution as long as inequality is smaller than losses from revolution.

- Revolutions

A simple model of revolutions

The revolution constraint

- Question: Assume $\theta > \mu$, what can the elite do to avoid a revolution?
- Answer: Buy the continuation of non-democracy by making revolution less appealing thanks to some redistribution.
- Taxes can be levied at rate τ and equally redistributed to all citizens.

Political Economy - Lecture 5: Dictatorships (and revolutions)

Revolutions

A simple model of revolutions

• After-tax income of poor people under policy τ :

$$y^{P}(\tau) = rac{1- heta}{1-\delta}ar{y}(1- au) + auar{y}.$$

• After-tax income of rich people under policy τ :

$$y^{R}(\tau) = rac{ heta}{\delta} ar{y}(1- au) + au ar{y}.$$

- $y^{P}(\tau)$ is increasing with τ while $y^{R}(\tau)$ is decreasing with τ .
- So, the elites wants to set τ as small as possible, provided that poor people do not start a revolution.

Political Economy - Lecture 5: Dictatorships (and revolutions)

- Revolutions

A simple model of revolutions

• The poor will launch a revolution if and only if:

$$y_{\text{Post-rev.}}^P > y^P(\tau),$$

 $rac{1-\mu}{1-\delta}ar{y} > rac{1- heta}{1-\delta}ar{y}(1- au) + auar{y}.$

• Which gives:

 \Leftrightarrow

$$\tau < \frac{\theta - \mu}{\theta - \delta}.$$

- Revolutions

A simple model of revolutions

• Elite's optimal choice:

$$\tau^* = \begin{cases} 0 & \text{if } \mu > \theta, \\ \frac{\theta - \mu}{\theta - \delta} & \text{if } \mu < \theta. \end{cases}$$

• τ^* varies with:

- Cost of revolution (μ);
- Inequality (θ and δ).

Revolutions

└─A simple model of revolutions

Saudi Arabia began distributing \$37 billion in social benefits on Tuesday to ease the pain of inflation and unemployment in the world's top oil exporter and avert the popular unrest that has spread across the Arab world.

The OPEC producer has so far escaped the mass protests that have toppled entrenched leaders in Egypt and Tunisia, but the Saudi stock index posted its steepest drop in more than two years amid fears the turmoil could yet reach the kingdom.

"There will be immediate execution (of the king's measures)," Saudi Finance Minister Ibrahim Alassaf told repoters. "The ministry of finance transferred the relevant amounts today."

Reuters/Saudi Press Agency (March 1, 2011)

-Revolutions

A simple model of revolutions

Commitment issues

- Timing of the previous game:
 - 1 Elites choose the tax rate.
 - 2 The poor decide to have a revolution or not.
- What if we change the timing:
 - 1 The poor decide whether to have a revolution or not.
 - 2 Elites choose the tax rate (if still in power).
- Difference between models:
 - With the second timing, the elite **cannot credibly promise** redistribution.
 - If the poor decided not to have a revolution, elites are no longer threaten and will set $\tau = 0$.
 - So, as long as $\theta>\mu,$ there is nothing elites can do to prevent a revolution.

- Revolutions

A simple model of revolutions

Parameterizing commitment

- Timing:
 - **1** Elites set (i.e. announce) a tax rate $\hat{\tau}$.
 - 2 The poor decide whether to have a revolution or not.
 - 3 τ̂ is implemented with probability p, while the elite have the opportunity to implement another τ with probability 1 − p. p ∈ [0, 1] represents the strength of commitment.

Political Economy - Lecture 5: Dictatorships (and revolutions)

Revolutions

A simple model of revolutions

- If it is possible not to implement $\hat{\tau}$, elites will set $\tau = 0$.
- So, the poor will decide not to have a revolution if and only if:

$$y_{\mathsf{Post-rev.}}^{\mathsf{P}} < \mathsf{py}^{\mathsf{P}}(\tau), +(1-\mathsf{p})y^{\mathsf{P}},$$

that is:

$$rac{1-\mu}{1-\delta}ar{y} < p\left[rac{1- heta}{1-\delta}ar{y}(1- au)+ auar{y}
ight] + (1-p)rac{1- heta}{1-\delta}ar{y}.$$

Which gives:

$$au > \frac{1}{p} \frac{ heta - \mu}{ heta - \delta}.$$

- Revolutions

A simple model of revolutions

Limits to redistribution

- New τ is larger than before as it depends of the likelihood of promises being kept.
- Since τ ∈ [0, 1], nothing can be done to prevent a revolution if *p* is sufficiently small.



- Revolutions

A simple model of revolutions

- What determines *p*?
 - Time horizon (e.g. repeated interactions)?
 - Likelihood for population to efficiently protest against a forgotten promise?
 - Difficulty to protest.
 - Suppose a **few** protesters go to Tahrir Square in Egypt. What will happen?
 - Suppose a million protesters go to Tahrir Square. What will happen?
 - It's all about coordination and collective action...

- Revolutions
 - └─A simple model of revolutions



Tahrir Square (March 10, 2010)

- Revolutions
- **A** simple model of revolutions



Tahrir Square (February 4, 2011)

- Revolutions

Starting a revolution

Starting a revolution

- Starting a (successful) revolution is about coordination.
- Assume citizens can protest to overthrow an autocrat.
- The probability of overthrowing the dictator is:

$$s = \min\left\{1, \frac{N}{K}\right\},$$

where N is the number of protesters. Further assume that $N_{\max} \leq K$, such that $s = \frac{N}{K}$.

- If the protest is successful, every citizen gets benefit b.
- Every protester will be beaten up by the police and suffer a cost *c* with probability *f*:

$$f=\min\left\{1,\frac{Z}{N}\right\}.$$

Under what conditions will you protest?

- Revolutions

Starting a revolution

Optimal individual decision

- Suppose individual *i* thinks that N
 _i other people are going to protest.
- Individual *i* will protest if and only if:

$$s(\hat{N}_i+1) imes b - f(\hat{N}_i+1) imes c > s(\hat{N}_i) imes b,$$

 $\Leftrightarrow \frac{1}{K}b - \min\left\{1, \frac{Z}{\hat{N}_i + 1}\right\}c > 0,$

Individual utility is increasing in what other people do.

- Revolutions

Starting a revolution

• So, if $\hat{N}_i < Z$, the change in utility from protesting is:

$$\frac{1}{K}b-c<0,$$

and individuals do not protest unless b > Kc (assume it's not the case).

• If $\hat{N}_i \ge Z$, the change in utility from protesting is:

$$\frac{1}{K}b-\frac{Z}{\hat{N}_i+1}c.$$

and individuals protests if and only if:

$$\hat{N}_i > \frac{Kc}{bZ} - 1.$$

- Revolutions

Starting a revolution

Implications

- Revolutions require coordination.
 - Dictators try to suppress coordinating devices.

- Small protests might not grow.
 - Dictators try to repress protests as soon as possible.

- Revolutions

Starting a revolution

Linking models

- Coordination difficulty of revolutions \approx high μ in the previous model.
- But μ sometimes temporarily fall. This opens an opportunity window.
- The dictator needs to find more credible ways to make promises, i.e. to increase *p*.
 - Controlled progressive democratization.
 - This allow the dictator to stay in power while conditions are met to overthrow her.
 - This might explain why transitions toward democracy do exist.

Conclusion



- Conclusion

Conclusion

- Importance of leaders' time horizon for non-democracies:
 - Influences policies and reactions to revolution pressure.
- Importance of economic conditions, but also of information and coordination technologies:
 - Influence threats of revolutions.

End of lecture.

Lectures of this course are inspired from those taught by D. Acemoglu, Y. Algan, R. Durante, and B. Olken.