### **Pillars of Prosperity**

#### **State Capacity in Economic Development**

2010 Yrjö Jahnsson Lectures

Lecture 4, June 16

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### The Story so Far

We have so far developed an approach for thinking about how state capacities are chosen (parts A, B and C).

- this has highlighted the role of political institutions in shaping incentives

We then explored the phenomenon of political violence and related this to development and politics (part D).

# This Lecture

State capacity and conflict – building on yesterday's lecture

Changes in political institutions – in the face of conflict but also more generally

Implications for development policy – looking at implications for state building and political institutions

# Agenda for part D

- 1. A model of political violence
- 2. From theory to evidence
- 3. Data and empirical results
- 4. Investments in state capacity revisited
- 5. Summary of argument so far

### 4. Investments in state capacity reconsidered

Yesterday, we studied how the model could be extended to think about onesided and two-sided political violence

We will now look at this possibility affects investments in fiscal and legal capacity

#### Preliminaries

Our conflict model allows us to endogenise turnover and has a convenient recursive structure.

 The effect of violence on incentives to invest operates entirelt through its impact on political stability.

So let

$$\mathsf{\Gamma}(Z,\nu) = \begin{cases} \gamma\left(\hat{L}^O,\hat{L}^I,\boldsymbol{\xi}\right) & Z > Z^O(\theta;\boldsymbol{\xi}) \\ \gamma\left(0,\hat{L}^I,\boldsymbol{\xi}\right) & Z^O(\theta;\boldsymbol{\xi}) \ge Z > Z^I(\theta;\boldsymbol{\xi}) \\ \gamma\left(0,0,\boldsymbol{\xi}\right) & Z^I(\theta;\boldsymbol{\xi}) \ge Z \end{cases}$$

be the equilibrium probability that the incumbent loses office.

### **Comparative Statics I**

**Proposition 1** An increase in Z reduces political instability when there is repression or conflict

- As Z increases:

$$\Gamma_{Z}(Z,\nu) = \gamma_{I} \frac{dL^{I}}{dZ} + \gamma_{O} \frac{dL^{O}}{dZ}$$

$$= \frac{\left[ (\gamma_{I})^{2} \gamma_{OO} + (\gamma_{O})^{2} \gamma_{II} - 2\gamma_{I} \gamma_{O} \gamma_{IO} \right]}{\left[ -\gamma_{II} \gamma_{OO} + (\gamma_{IO})^{2} \right] Z}$$

$$< 0 \text{ for all } Z \ge Z^{I}(\theta; \boldsymbol{\xi})$$

since  $\gamma\left(L^{O},L^{I};\xi\right)$  is quasi-concave under our assumptions.

 The incumbent fights relatively harder than the opposition when there is more at stake.

### **Comparative Statics II**

**Proposition 2** An increase in  $\nu$  reduces political instability when there is conflict

– As  $\nu$  increases

$$\begin{aligned} \Gamma_{\nu} \left( Z, \nu \right) &= \gamma_{I} \frac{dL^{I}}{d\nu} + \gamma_{O} \frac{dL^{O}}{d\nu} \\ &= \frac{\left[ -\gamma_{II} \gamma_{O} + \gamma_{I} \gamma_{IO} \right]}{\left[ -\gamma_{II} \gamma_{OO} + (\gamma_{IO})^{2} \right] 2 \left( 1 - \phi \right) \left( 1 - 2\theta \right) Z^{2}} \\ &< 0 \text{ for all } Z \geq Z^{O}(\theta; \boldsymbol{\xi}) \end{aligned}$$

So things which make it more expensive to fight increase the government hold over power.

#### Implications for investment

The conditions for the determination of state capacity investments are now:

$$\begin{split} \omega_{\pi}(\pi_{2})[1+(E(\lambda_{2};Z,\nu,\theta)-1)\tau_{2}] &\leqslant \lambda_{1}L_{\pi}(\pi_{2}-\pi_{1})\\ \text{c.s.} \ \pi_{2}-\pi_{1} &\geqslant 0\\ \omega(\pi_{2})[(E(\lambda_{2};Z,\nu,\theta)-1] &\leqslant \lambda_{1}F_{\tau}(\tau_{2}-\tau_{1})\\ \text{c.s.} \ \tau_{2}-\tau_{1} &\geqslant 0 \end{split}$$

where

$$E(\lambda_2; Z, \nu, \theta) = \phi \alpha_H + (1 - \phi) E(\lambda_2 | \alpha_L; Z, \nu, \theta)$$

is the *expected* value of public funds in future with

$$E(\lambda_2 | \alpha_L; Z, \nu, \theta) = \begin{cases} \alpha_L & \text{if } \alpha_L \ge 2(1 - \theta)(1 - \Gamma(Z, \nu)) + \Gamma(Z, \nu) \theta \\ 2[(1 - \theta)(1 - \Gamma(Z, \nu)) + \Gamma(Z, \nu) \theta] & \text{otherwise.} \end{cases}$$

# **Types of State**

Again, this depends on the two conditions.

The cohesive condition is unaffected by allowing for conflict.

The stability condition is now:

**Stability:** 
$$\phi \alpha_H + (1 - \phi) 2 \left[ (1 - \Gamma(Z, \nu)) (1 - \theta) + \Gamma(Z, \nu) \theta \right] \ge 1.$$

Since the left hand side of this expression is increasing in Z, there is a complementarity between stability and violence within a repressive/conflict regime.

#### The Role of Cohesive Institutions

The key parameter tha binds things together is  $\theta$ .

- High  $\theta$  high investments in fiscal and legal capacity and low violence
- Low  $\theta$  low investments in fiscal and legal capacity and repression or conflict
- Within the repression and conflict regime, the feedback mechanism actually means that lower  $\theta$  increases investment in state capacity
- it increases the incentive to fight and hence reduces instability.

# The State Space

	Common interest	Redistributive	Weak
Peaceful	high $ heta$		
Repressive		low $ heta$ , high $ u$	
Conflictual			low $ heta$ , low $ u$

#### Interpreting the relationship between poverty and civil conflict

This is an extremelt robust correlation.

BUT, there is a need for caution:

It hazardous to consider a correlation between poverty and civil war as causal effect from poverty to conflict.

- Our approach suggests that  $\theta$  is a common omitted factor in violence and low state capacity investment

Shocks to  $\omega(\pi_1)$  could be important as they change Z:

- a lower  $\omega(\pi_1)$  increases Z and increases violence but also increase stability
- (and hence state capacity investment)

Shocks to the cost to the incumbent of fighting  $(\nu)$  could be important.

– a lower  $\nu$  encourages conflict relative to repression increase  $\gamma$  (all else equal) and hence reduces investment in state capacity.

### Correlations

Our model can rationalize a negative correlation between the prevalence of civil war (or repression) and fiscal and legal capacity

but this reflects a set of ultimate determinants, which drive up the risk of conflict and down the incentives to invest

partial correlations in the data are consistent with this prediction, i.e., they have the opposite sign to the correlations with external conflict

# Agenda for part D

- 1. A model of political violence
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# 5. Summary of arguments so far

There are good reasons to view low investment states and violent states to be clustered.

Our model has allowed us to think about political violence in all its manifestations.

It has reinforced the need to understand the determinants of  $\theta$  as these are now exposed as a key variable lying behind both violence and low levels of investment in state capacity.

### E. The Choice of Political Institutions

We have so far taken  $\theta$  as given.

The conflict model allows us to endogenize  $\gamma$  given  $\theta$ .

In this section of lectures we will think about how  $\theta$  is determined and the forces that shape whether we are likely to see  $\theta$  close to one half which is required for common interest states to emerge.

We will consider this both for the case where  $\gamma$  is exogenous and endogenous

# Road Map for part E

- 1. Motivation
- 2. Optimal institutions
- 3. Equilibrium institutions
- 4. Summary of argument so far

### 1. Motivation

#### How to think about $\theta$ in practice

We have measured this empirically be looking at constraints on the executive so measures that increase this will raise  $\theta$ 

Parliamentary democracy – the Polity variable puts most weight on the role of the legislature

"Accountability groups have effective authority equal to or greater than the executive in most areas of activity."

The exact procedures for legislative bargaining and policy making may also be important.

But other institutions may also be important in constraining authority and making political outcomes more consensual:

- Judicial oversight and a bill of rights for citizens
- Status quo or allocation rule with a supermajority requirement

### 1. Motivation

#### How to think about $\gamma$ in practice

The Polity IV dataset contains three indicators of the structural characteristics by which chief executives are recruited:

(1) the extent of institutionalization of executive transfers

(2) the competitiveness of executive selection

(3) the openness of executive recruitment.

These are aggregated to an 8 point score ranging from "succession by birthright" to "formal competition between publicly supported candidates".

The conflict model provides an interpretation of  $\gamma$  as an equilibrium outcome of a game played between the incumbent and opposition

We can interpret  $\gamma(0, 0, \xi)$  as a reflection of formal political institutions such as the extent to which supporters from each group are enfranchised.

In a standard probabilistic voting model suppose that a fraction of  $\mu^{I}$  of group I is enfranchised and fraction  $\mu^{O}$  is enfranchised with  $\mu^{I} \ge \mu^{O}$ .

- suppose that there is a uniformly distributed popularity or turnout shock on  $\begin{bmatrix} -\frac{1}{2\chi}, \frac{1}{2\chi} \end{bmatrix} \text{ with } \frac{1}{2\chi} \ge \begin{bmatrix} \mu^I - \mu^O \end{bmatrix}.$  Then:  $\gamma(0, 0, \xi) = \frac{1}{2} - \chi \begin{bmatrix} \mu^I - \mu^O \end{bmatrix}$  Incumbency bias could also come from giving the incumbent a persistent popularity shock.

# 2. Optimal Institutions

# **A** Constitutional Convention

- Consider what would happen if the choice of  $\theta$  was made at date 0 behind the veil of ignorance, i.e. before any decisions on state capacity have been made.
- This could be thought of as what happened when a country was decolonized or when the constitution is written by some founding fathers.
- We will assume that the constitutional designers do not know their own positions in the polity, e.g. whether they will have more or less political power.

Let  $U_s^J(\tau_s, \pi_s; \theta)$  for  $J \in \{I, O\}$  be the value of entering period s with state capacity vector  $\{\tau_s, \pi_s\}$  and institutions  $\theta$ . The state capacity choices from above are summarized in

$$\tau_2 = T(\tau_1, \pi_1; \theta)$$
  
$$\pi_2 = P(\tau_1, \pi_1, \theta)$$

These are taken as constraints on the problem

- they will be chosen in political equilibrium.

Now we have that:

$$U^{I}(\tau_{1}, \pi_{1}; \theta) = W(\alpha_{1}, \tau_{1}, \pi_{1}, m_{1}, 2(1-\theta)) + (1-\gamma)\hat{U}^{I}(\tau_{1}, \pi_{1}; \theta) + \gamma \hat{U}^{O}(\tau_{1}, \pi_{1}; \theta)$$

 $\quad \text{and} \quad$ 

$$U^{O}(\tau_{1}, \pi_{1}; \theta) = W(\alpha_{1}, \tau_{1}, \pi_{1}, m_{1}, 2(1 - \theta)) + \gamma \hat{U}^{I}(\tau_{1}, \pi_{1}; \theta) + (1 - \gamma) \hat{U}^{O}(\tau_{1}, \pi_{1}; \theta)$$
  
with  $m_{1} = F(T(\tau_{1}, \pi_{1}; \theta) - \tau_{1}) + L(P(\tau_{1}, \pi_{1}; \theta) - \pi_{1})$  and where  
 $\hat{U}^{J}(\tau_{1}, \pi_{1}; \theta) = U^{J}(T(\tau_{1}, \pi_{1}; \theta), P(\tau_{1}, \pi_{1}; \theta))$ 

Let

$$\theta^* = \arg \max \left\{ \frac{1}{2} U^I \left( \tau_1, \pi_1; \theta \right) + \frac{1}{2} U^O \left( \tau_1, \pi_1; \theta \right) \right\}$$

We have the following benchmark result:

**Proposition 3** For all  $\{\tau_1, \pi_1\}$ , the optimal choice of institutions  $\theta^* \geq 1 - \frac{\alpha_L}{2}$ .

In effect, we have a single unitary actor making all decisions and the social planner's level of state capacity investments is chosen.

### **Equilibrium Institutions**

Suppose now that in period 1, the incumbent can choose  $\theta_2$ .

Suppose that there is a cost of changing institutions denoted by  $C(\theta_2 - \theta_1)$ .

We allow  $\theta_1$  that the incumbent inherits to be arbitrary (does not have to be optimal)

Now we are interested in studying:

$$\begin{array}{ll} H\left(\theta_{1},\tau_{1},\pi_{1}\right) &=& \arg\max_{\theta}\{W(\alpha_{1},\tau_{1},\pi_{1},m_{1},2\left(1-\theta_{1}\right))\\ &\quad \gamma U^{I}\left(\tau_{2},\pi_{2},\theta\right)+\left(1-\gamma\right)U^{I}\left(\tau_{2},\pi_{2},\theta\right)\}\end{array}$$

alongside the investment decisions in state capacity.

There are now three Euler equations:

$$\omega_{\pi}(\pi_{2})[1 + \tau_{2}(E(\lambda_{2}(\theta_{2})) - 1)] \leqslant \lambda_{1}(\theta_{1})L_{\pi}(\pi_{2} - \pi_{1})$$
$$\omega(\pi_{2})[(E(\lambda_{2}(\theta_{2})) - 1] \leqslant \lambda_{1}(\theta_{1})F_{\tau}(\tau_{2} - \tau_{1})$$
$$\omega(\pi_{2})\tau_{2}\frac{dE(\lambda_{2}(\theta_{2}))}{d\theta_{2}} \leqslant \lambda_{1}(\theta_{1})C_{\theta}(\theta_{2} - \theta_{1})$$

where

$$\frac{dE(\lambda_2(\theta))}{d\theta} = \begin{cases} 0 & \text{if } \alpha_L \ge 2(1-\theta)\\ 2(1-\phi)(2\gamma-1) & \text{otherwise.} \end{cases}$$

is the effect on the future marginal value of public goods of changing political institutions.

#### **General Observations**

The first two equations are our standard state capacity investment equations and are basically as we normally find them.

There is no (marginal) effect of changing  $\theta$  in a common-interest state

Even when  $\alpha_L < 2(1 - \theta)$ , then there is incentive to change institutions if  $\gamma = 1/2$  (equal political power).

– so key effect on changing institutions comes from  $\gamma 
eq 1/2$ 

- In all cases, the marginal effect of changing  $\theta$  is greater when  $\tau_2 \omega(\pi_2)$  is larger
- there is more at stake in terms of holding power in future.

# Hysteresis?

We are associating costs of reforming institutions as relative to the status quo.

- this means that the direction of change will be influenced by the existing institutions
- also marginal cost of change  $\lambda_1$  depends on institutions

We will study two polar opposite cases as the starting point:  $\theta_1 = 1/2$  and  $\theta_1 = 0$ .

Is  $\theta_1 = 1/2$  sustainable?

For this, we have:

**Proposition 4** Suppose that  $C_{\theta}(0) > 0$ , then for  $\gamma$  close enough to 1/2,  $\theta_2 = \theta_1 = 1/2$ .

This follows since:

$$\frac{dE(\lambda_2(\theta)}{d\theta}\approx 0.$$

which will be the case if there is a sufficiently equal distribution of political power.

There also needs to be some cost to making changes in the constitution

- but this could be small.

The following result is the flip side of this result

**Proposition 5** For  $C_{\theta}(\cdot)$  small enough, there exists  $\hat{\gamma}$  such that for all  $\gamma \leq \hat{\gamma} < 1/2$ ,  $\theta_2 < \theta_1 = 1/2$ .

For 
$$\theta < 1 - \frac{\alpha_L}{2}$$
,  
 $\frac{dE(\lambda_2(\theta))}{d\theta} < 0$ 

so long as  $\gamma$  is close enough to zero.

So as long as costs of change are not prohibitive, uneven distribution of political power will lead to a deterioration in the quality of institutions.

#### Political Reform when $\theta_1 = 0$

Suppose now that we begin with non-conensual institutions, then a necessary condition for reform towards  $\theta_2 = 1/2$  is that

$$2(1-\phi)(2\gamma-1)>0$$

which requires that  $\gamma > 1/2$ .

This suggests that politica reform will come from groups who fear that their grip on power is weakening

- Europe in early 20th century with stronger labor movement

A higher war risk (higher  $\phi$ ) will work against political reform

$$rac{dE(\lambda_2( heta_2))}{d heta_2 d\phi} = -4(2\gamma-1) < 0$$

This is because state is used for common interests.

But since  $\tau$  and  $\pi$  are built up during war, this may lead to more political reform afterwards.

### The Persistence of Weak States

The analysis gives some insight into why weak states may persist

- Since weak states have low  $\theta$  and  $\gamma$ , we should expect an incentive to reform
- But incentives for reform depend on  $\tau_2 \omega(\pi_2)$  and benefits of reform are therefore low (for given costs).
- This suggests the possibility of a weak state trap where low state capacity inhibits political reform.

### **Endogenous** $\gamma$

Now suppose that  $\gamma$  depends on  $\theta$ 

Now we have that, for  $heta \leq \mathbf{1} - \frac{\alpha_L}{2}$ ,

$$\frac{dE(\lambda_2(\theta))}{d\theta} = 2(1-\phi)\left[(2\gamma-1) + (1-2\theta)\frac{\partial\gamma}{\partial\theta}\right]$$

Whether this enhances or reduces the incentive for political reform now depends on the sign of  $\partial \gamma / \partial \theta$ .

### Summary

The results suggest a (partial) complementarity between  $\gamma$  close one half and  $\theta$  close to one half.

- An even "balance of power" makes incentives for political reform weak leading to a tendency towards maintaining the status quo.
- To prevent deterioration in institutions requires that  $\gamma$  be high enough.

# E. Development Policy Reconsidered

Aid has been the main vechicle for improving the situation of poor countries with weak economies and institutions

Aid tends to be heterogeneous: project, budget support, technical assistance, military

There remains a huge controversy over which forms of aid are effective in which environments

# Three (Stylized) Views of Aid

#### Traditional view:

Aid helps: the main problem for many developing countries is lack of resources and hence aid flows are necessary to allow resources to build public institutions and accumulate private and public capital.

# **Revisionist view**

Aid can help in the right environment: Need to worry about the institutional environment when considering aid effectiveness

Pessimistic view

Aid harms: It has a perniscious effect on development.

# Our Approach

Provides a framework in which to think about these issues and to think about how the kind of development policy which makes sense and how it has an impact on state building

Our model differentiates three effects of development support:

- Direct, e.g. on public goods provision
- Policy, e.g. spending on transfers
- State building, e.g. on fiscal capacity

- (Also not highlighted in the model, there could be an impact on private sector accumulation decisions).
- It is generally believed that some direct provision of public goods has been successful around the world

Eridication of small pox and other public health measures are generally cited

Cash aid

– Can affect  $\gamma$  like aid

Identifying good projects (technical assistance)

– raising  $\alpha$ 

Military support

– changing  $\xi$ 

Coumter-insurgency

– raising  $\nu$