Pillars of Prosperity

The Political Economics of Development Clusters

Lecture III

Development Assistance, Political Reform, Lessons Learned

Tim Besley Torsten Persson

STICERD and Department of Economics
London School of Economics

Institute for International Economic Studies
Stockholm University

September 26, 2011

This Lecture Series

- Try to tell the major story
- describe overall approach and main messages of book
  - use our core, macroeconomic and macropolitical, model
  - omit details, extensions, microfoundations, and references
  - look at data in more or less depth
- Road map
  - **Lecture I**: Overview, The Core Model of State Capacity, Partial Correlations
    summarizes chapters 1, 2, 3
  - **Lecture II**: Political Violence, Putting Pieces Together
    summarizes chapters 4, 5
  - **Lecture III**: Development Assistance, Political Reform, Lessons Learned
    summarizes chapters 6, 7, 8

The story so far

- **Lectures I** and **II**: Developed comprehensive core model
  - with determinants of investments in different aspects of state and in political violence – resulting typologies of investment and violence states summarized in Anna Karenina matrix
- **Lecture III**:
  - Implications for development policy – theme of **section 1**
    - ★ how can we think about the effects of different types of foreign intervention, in different types of states, taking into account effects on policy plus investments in state capacity and violence?
  - Endogenous political institutions – theme of **section 2**
    - ★ given the importance of cohesiveness, what are the most important forces that may shape it?
  - What have we learned more generally? – theme **section 3**

Outline - Lecture III

1. Development Assistance
   - Motivation
   - The Core Model with Aid
   - Other Forms of Aid
2. Political Reform
   - Motivation
   - The Core Model and Political Reform
   - Political Reform in Practice
3. Lessons Learned
   - Three Main Questions
   - The Pillars of Prosperity Index
   - Where Next?

Development Assistance

Motivation

- Foreign aid flows
  - in post-war period, foreign aid seen as main vehicle for improving the situation of poor and violence-stricken countries with badly functioning states
  - rising in real terms to local peak around end of cold war then falling but increasing again – 2009 value of ODA (USD 123 billion) is highest figure ever recorded
  - less impressive trends as share of donor countries' GDP, or per capita in receiving countries
  - largest receiving regions: Sub-Saharan Africa (33%), Middle East/North Africa (21%), South/Central Asia (15%)
  - many different types: budgetary support, project aid, technical assistance, post-conflict assistance, military aid...

Aid and other outcomes – Figures 6.1-2

- Aid and income
  - (obviously) negatively correlated
- Aid and violence
  - positively correlated – could reflect correlation with income but results in **Lecture II** suggest possible link from aid to violence
- Aid and state capacity
  - negatively correlated with both fiscal and legal capacity
  - could reflect omitted income, but theory suggests a likely negative link from aid to state capacity

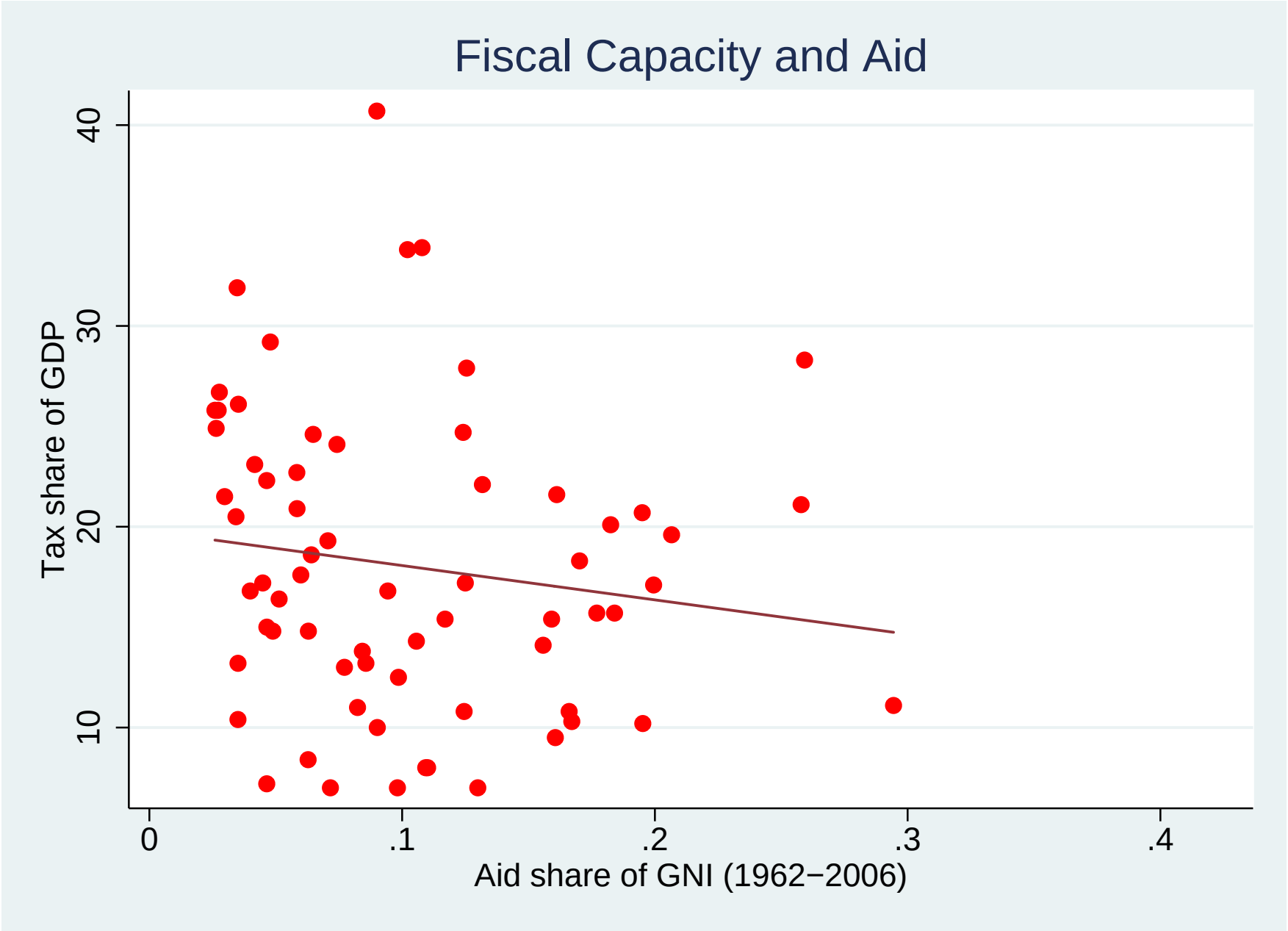


Figure 6.1 Tax share in GDP versus aid share in GDP

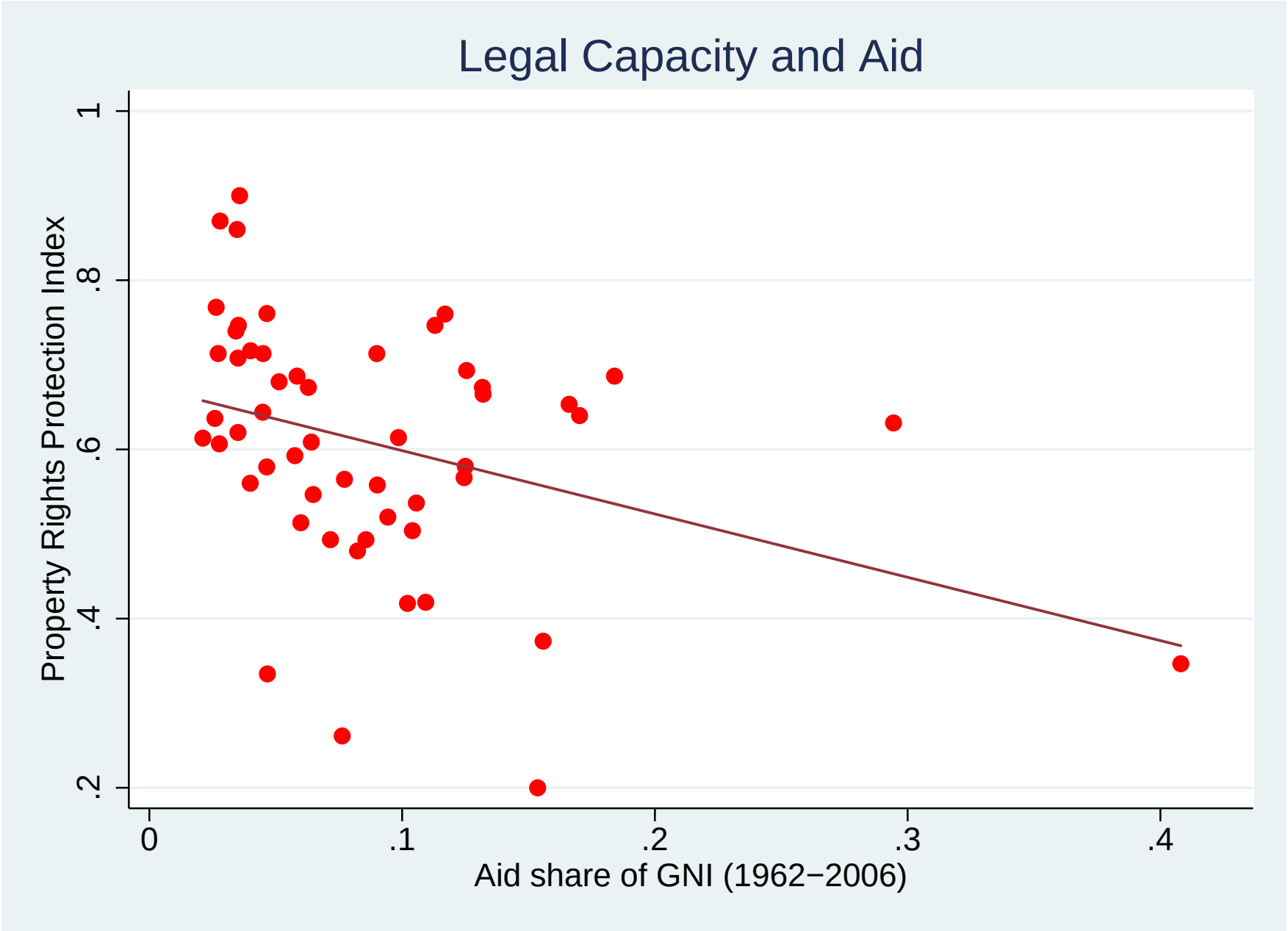


Figure 6.2 Property rights protection versus aid share in GDP

Different views on aid

- Aid is controversial
  - unclear which forms of aid effective in which environments
- Three stylized views of aid
  1. optimistic (traditional) view (Chenery/Sachs) – "aid helps"
     main problem is lack of resources and aid flows necessary to build public institutions and accumulation of capital
  2. pessimistic view (Bauer/Easterly) – "aid harms"
     pernicious effect on development and state building
  3. revisionist view (Collier/Rodrik) – "it all depends"
     institutional environment decisive for effectiveness and conditionality should be sought to reach it

The Core Model with Aid

Our (cost-benefit) approach

- Perspective
  - suppose a foreign government or multilateral organization makes a transfer of resources to a developing country – this money has shadow cost $\widehat{\lambda} \geq 1$
  - how will the transfer affect the behavior of the receiving government and the welfare of the citizens?
  - look at equilibrium responses of
    - ★ policy choices: g, r^I, r^O
    - ★ state capacity investments: π, τ
    - ★ investments in violence: L^I, L^O

Cash aid in core model

- Model as higher period-2 non-tax income
- new timing is:
  1. We begin with initial stocks of state capacities $\{\tau_1, \pi_1\}$ and an incumbent group I_1. Nature determines α_1 and R.
  2. The development assistance agency now considers whether to offer ΔR *to be paid in period 2.*
  3. I_1 chooses a set of period-1 policies $\{t_1, r_1^I, r_1^O, p_1^I, p_2^O, g_1\}$ and determines (through investments) the period-2 stocks of fiscal and legal capacity $\{\tau_2, \pi_2\}$. I_1 and O_1 simultaneously invest in violence levels L^I and L^O.
  4. I_1 remains in power with probability $1 - \gamma(L^O, L^I, \xi)$, and nature determines α_2.
  5. I_2 chooses period-2 policy $\{t_2, r_2^I, r_2^O, p_2^I, p_2^O, g_2\}$.

Aid effects in peaceful states

- We have a benchmark result

Proposition 6.1

In a common interest state with linear demand for public goods, cash aid is worthwhile if and only if $\phi\alpha_H + (1-\phi)\,\alpha_L > \hat{\lambda}$.

- return to public goods needs to be high enough

- If Cohesiveness fails

Proposition 6.2

In a weak or redistributive state with linear demand for public goods, cash aid is worthwhile if and only if $\phi\alpha_H + (1-\phi) > \hat{\lambda}$.

- i.e, the criterion for worthwhile aid is stronger in non common-interest states

The Bauer paradox

"A government unable to identify ... projects or collect taxes is unable to be able to use aid productively"
(Bauer, 1975, page 400).

- "being unable to identify projects"
  - this is like having low α_H and/or low ϕ
- "being unable to collect taxes"
  - having less cohesive political institutions (low θ) hampers ability to collect taxes (low endogenous fiscal capacity, τ)
- these are the governments where Proposition 6.2 applies

Crowding out of state capacity?

- Alternative preferences for public goods
  - suppose α_s non-stochastic but utility concave, and we have only investment in fiscal capacity (one of extensions in Chapter 2)
  - optimal fiscal-capacity investment in common-interest state is denoted by $\hat{\tau}_2$ and determined by:

$$\alpha V_g\left(R+\Delta R+\hat{\tau}_2\omega\right)-1=\frac{\mathcal{F}_\tau\left(\hat{\tau}_2-\tau_1\right)}{\omega}$$

  now, fiscal capacity does depend on the extent of aid $\frac{\partial\hat{\tau}_2}{\partial\Delta R}<0$

- New form of Cohesiveness condition

$$\alpha V_g\left(R+\Delta R+\hat{\tau}_2\omega\right)\geq 2\left(1-\theta\right)$$

Crowding out of public goods?

- Effect of aid on public-goods provision depends on type of state
  - we have $\frac{dg_2}{d\Delta R} \in [0, 1]$

Proposition 6.3

Suppose that the government is investing only in fiscal capacity and that there is curvature in the demand for public goods. Then

1. *In a common-interest state, cash aid is worthwhile if and only if* $\alpha V_g \left(R + \Delta R + \hat{\tau}_2 \omega\right) > \hat{\lambda}$.
2. *In a redistributive or weak state, aid has no impact on the provision of public goods and state-capacity investments, so that cash aid is never worthwhile.*

Aid effects in the presence of violence

- Back to core model (linear demand for public goods)
  - consider θ low enough that Cohesiveness does not hold, and ϕ low enough that state is prone to political violence

Proposition 6.4

In a weak or redistributive state, which is prone to political violence, a small increase in cash aid is welfare improving if

$$\phi\alpha_H + (1-\phi) - \omega(\pi_1)\frac{dL}{dZ} > \hat{\lambda}$$

where

$$\frac{dL}{dZ} = \begin{cases} \left[\lambda_1 \frac{dL^I}{dZ} + \nu \frac{dL^O}{dZ}\right] & \text{if } Z > Z^O(\theta;\nu,\xi) \\ \lambda_1 \frac{dL^I}{dZ} & \text{if } Z^O(\theta;\nu,\xi) \geq Z > Z^I(\theta,\lambda_1;\xi) \end{cases}$$

- Third term above shows impact of aid on equilibrium violence.

Conditionality

- Prospective gains exist
  - Propositions 6.2 and 6.3 highlight possibility that conditioning aid to be spent on public goods could be valuable.
  - Propositions 6.3 and 6.4 open the door for conditionality to influence the investment decisions
  - but how can such conditionality be made credible?
- View conditionality as a contracting problem
  - to what extent can a donor specify an array of *verifiable* and *enforceable* decisions by recipient in exchange for ΔR?

Other Forms of Aid

- Aid in other forms than budgetary support
  - technical assistance
  - assistance in building state capabilities
  - military aid
  - post-conflict assistance
- How represent in core model
  - can be approximated via other parameters

Technical assistance

- Examples
  - work by J-PAL (or various NGOs) to identify high-value public interventions, sometimes with Randomized Controlled Trials
  - can think about these in core model as attempts of raising α_s or ϕ

Proposition 6.6

Technical assistance that increases α_H or ϕ increases welfare and investment in state capacity. It also reduces the likelihood of political violence.

- interventions that help raise α_L may even help raise the probability of a common-interest state
- But important challenges remain
  - scaling-up from small monitored trials to system-wide levels
  - issues of predation and corruption (extensions in chapters 3 and 4)

Improving state capabilities

- Examples
  - assistance with tax administration and law enforcement
  - can think about these in core model as lowering the costs of state building $\mathcal{F}(\cdot)$ and $\mathcal{L}(\cdot)$

Proposition 6.7

Technical assistance that reduces the cost of investing in state capacity, $\mathcal{F}(\cdot)$ and $\mathcal{L}(\cdot)$, *increases welfare and investment in state capacity. Such assistance will raise the likelihood of political violence, all else being equal.*

- the violence effect arises as the redistributive pie grows and hence the value of holding office

Military assistance (to incumbent)

- Examples
  - provision of weapons, training, or intelligence
  - can think about these in core model as an increase in the relative productivity of incumbent's investments ξ

Proposition 6.8

Military assistance that increases ξ, augmenting the military capacity of government, increases the parameter range in which there is repression. This increases political stability and investments in fiscal and legal capacity

- higher stability may come at price of entrenched incumbent, with opposition frozen out of power, in redistributive "rentier" state

Post-conflict assistance

- Examples
  - peace-keeping, disarming rebels – like raising ν
  - settlements between fighting parties – like raising θ

Proposition 6.9

Post conflict assistance that raises ν or θ will lead to greater investments in state capacities and reduce the parameter range in which there is violence.

- but permanently changing θ requires durable reforms of political institutions, so we have to think about the incentive compatibility of such reform – indeed, the topic of **chapter 7**.

Outline

1 Development Assistance

2 Political Reform
- Motivation
- The Core Model and Political Reform
- Political Reform in Practice

3 Lessons Learned

Motivation

- Broad theme of the modeling so far
  - cohesive institutions are vital for maintaining peace, as well as for generating investments in state capacity
  - but then, why are such institutions not universally adopted?
  - given the importance of cohesiveness, how can we think about forces that may shape it?

- Begin analyzing the choice of political institutions
  - when political reform is costless and enforceable, but may be chosen strategically or under a veil of ignorance
  - start with case when there is no political violence
  - mention results with institutional inertia, or endogenous violence

A few basic facts – Figure 7.1, Table 7.1

- Binary classification for cohesive institutions
  - top score (on 1 to 7 scale) for Polity IV "constraints on the executive" variable
- Old states
  - of the 51 states that have continuous data, only about 30% had cohesive institutions in 1900, and 55% 100 years later
- New states
  - of 112 states created in 1945-1995, only 22 had cohesive institutions at outset, only 4 clean streak over first 30 years

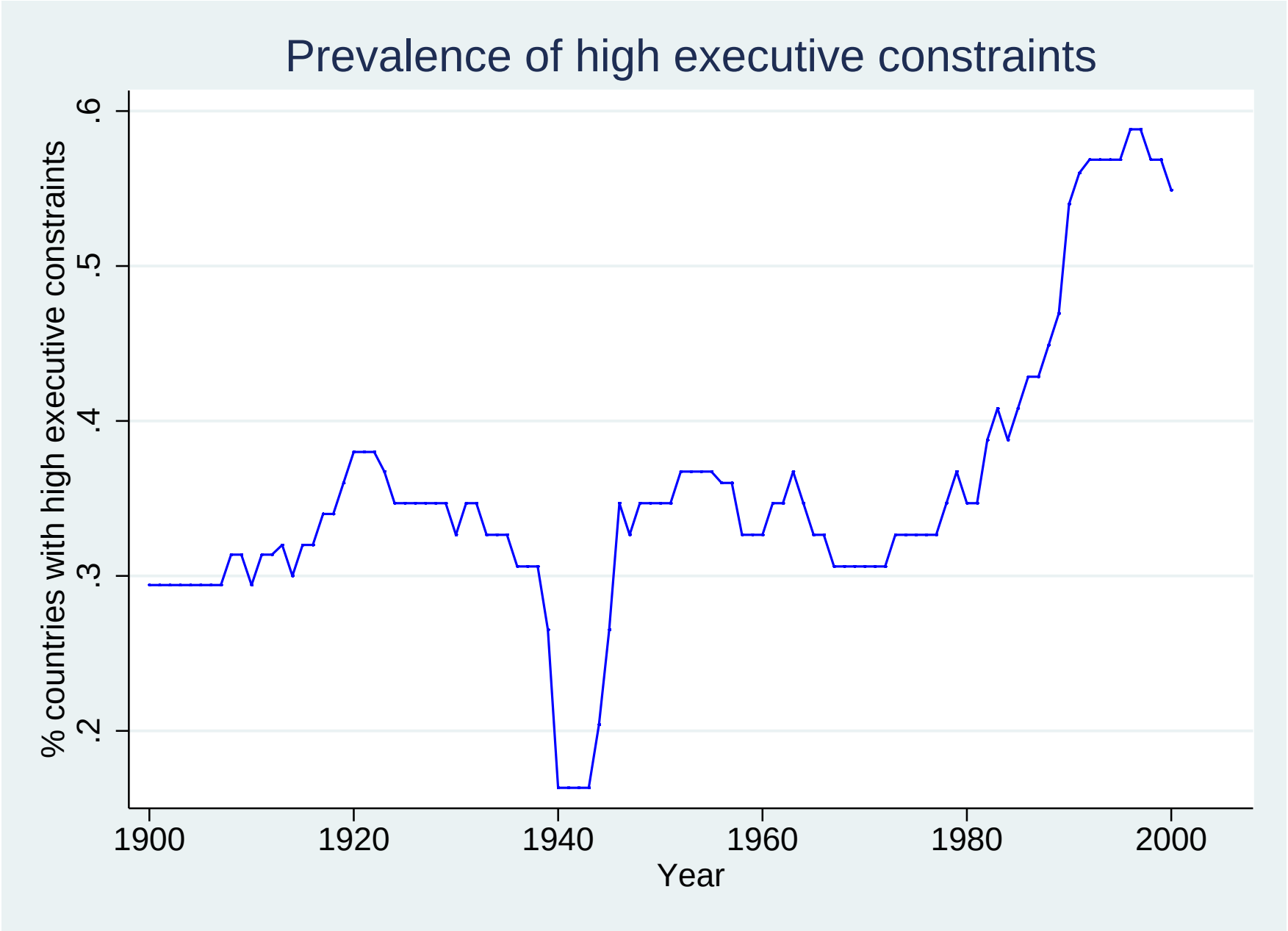


Figure 7.1 Prevalence of high executive constraints among 51 countries

Table 7.1 Persistence of high executive constraints

At independence	5 years after	10 years after	15 years after	20 years after	30 years after
Belarus (1991) *	Botswana (1966)	Botswana	Botswana	Botswana	Botswana
Cyprus (1960)	Czech Republic |	Fiji	*Cyprus*	Cyprus	Cyprus
Czech Republic (1993)	Estonia |	India	Fiji *	India	India
Estonia (1991)	Fiji	Israel	India	Israel	**Israel**
Fiji (1970)	India (1947)	Jamaica	Israel	Jamaica	**Jamaica**
Guyana (1966) *	Israel	Myanmar *	Jamaica	Mauritius	*Lesotho*
Israel (1948)	Jamaica	Mauritius	Mauritius	*Nigeria*	**Mauritius**
Jamaica (1962)	Latvia |	Malaysia *	Pap. New Guin.	Pap. New Guin.*	*Sudan*
Latvia (1991)	Lithuania |	Pakistan (1947)*	Sri Lanka	Sri Lanka *	**Trinidad&Tob.**
Lesotho (1966)	Moldova (1991) |	Pap. New Guin.	Trinidad&Tob.	Trinidad&Tob.	
Lithuania (1991)	Myanmar	Sri Lanka			
Myanmar (1948)	Mauritius	*Sudan*			
Mauritius (1968)	Malaysia	Syria			
Malaysia (1957)	Nigeria	Trinidad&Tob.			
Nigeria (1960)	Pap. New Guin.				
Papua New Guinea (1975)	Somalia *				
Sudan (1956)	Slovak Rep (1993) |				
Somalia (1960)	Slovenia |				
Slovenia (1991)	Sri Lanka				
Sri Lanka (1948)	Trinidad&Tob.				
Trinidad & Tobago (1962)					
Uganda (1962)*					

Notes: The table lists all countries coming into existence as independent states after 1945, if they score the highest value of 7 for the Polity score on executive constraints at one of the time horizons listed in the table. The independence year is given (in brackets) for the first entry in the table. Countries are marked with "|" in the last column they can appear, due to right censoring of the data (last entries in the Polity IV data in 2000). Countries are marked with "*" the last time they appear in the table (except in the last column). Countries are printed in *italics* if they re-enter the table after a period with less than the highest score on executive constraints. Countries are printed in **bold** in the last column of the table if they have a full 30-year history of high executive constraints.

The Core Model and Political Reform

Reformulation of model

- Reform of political institutions
  - happens ex ante under a veil of ignorance, or ex post in a strategic manner
- new timing
  1. We begin with initial stocks of state capacities $\{\tau_1, \pi_1\}$.
  2. Period-1 political institutions, θ_1, are chosen.
  3. Nature determines the incumbent group I_1, α_1, and R.
  4. I_1 chooses policies $\{t_1, r_1^I, r_1^O, p_1^I, p_1^O, g_1\}$ and determines (through investments) the period-2 stocks of fiscal and legal capacity $\{\tau_2, \pi_2\}$. (If political violence is modeled, I_1 and O_1 simultaneously invest in violence levels L^I and L^O.) If permitted, I_1 also chooses period-2 political institutions, θ_2.
  5. I_1 remains in power with probability $1-\gamma$ (or $1-\Gamma(Z,\nu,\xi)$ if political violence is modeled), and nature determines α_2.
  6. I_2 chooses period-2 policies $\{t_2, r_2^I, r_2^O, p_2^I, p_2^O, g_2\}$.

Binding ex ante choice of cohesiveness

- State-capacity decisions
  - always made by period-1 incumbent, and given by

$$\tau_2 = T(\tau_1, \pi_1; \theta, \alpha_1) \text{ and } \pi_2 = P(\tau_1, \pi_1; \theta, \alpha_1)$$

  the same outcomes as in **Lecture I** with given γ

- Expected payoff in s, to any group, under veil of ignorance

$$\frac{U^I(\tau_s, \pi_s; \theta) + U^O(\tau_s, \pi_s; \theta)}{2} = (1 + \tau_s[E(\lambda_s; \theta) - 1]) y(\pi_s) - E[\lambda_s m_s]$$

where the expectation is taken over α_s, $\lambda_s = \max\{\alpha_s, 2(1-\theta)\}$ and

$$E(\lambda_s; \theta) = \begin{cases} \phi\alpha_H + (1-\phi)\alpha_L & \text{if } \alpha_L \geq 2(1-\theta) \\ \phi\alpha_H + (1-\phi) & \text{otherwise} \end{cases}$$

A (normative) benchmark result

- Ex ante payoff is

$$\begin{aligned}\hat{U}(\theta;\tau_2,\pi_2) &= (1+\tau_1[E(\lambda_1;\theta)-1])\,y(\pi_1)-E[\lambda_1 m_1]\\ &\quad +(1+\tau_2[E(\lambda_2;\theta)-1])\,y(\pi_2)+E(\lambda_2;\theta)R\end{aligned}$$

Proposition 7.1

Under a veil of ignorance, citizens choose cohesive institutions with $\alpha_L \geq 2(1-\theta)$.

- Intuition
  - ex ante, redistributive concerns wash out in the objective $\widehat{U}$ we see that γ drops out of expressions above
  - a common-interest state implements efficient investments in state capacity

Strategic ex post choice of cohesiveness

- Expected period-2 payoff to period-1 incumbent

$$\begin{aligned} & (1-\gamma)\, U^I(\tau_2, \pi_2; \theta) + \gamma U^O(\tau_2, \pi_2; \theta) \\ = \quad & (1 + \tau_2 [E(\lambda_2) - 1])\, y(\pi_2) + E(\lambda_2) R \end{aligned}$$

where, as in **Lecture I**,

$$E(\lambda_2) = \phi \alpha_H + (1-\phi)\lambda_2^L$$

is the *expected* value of period 2 public funds with

$$\lambda_2^L(\theta) = \begin{cases} \alpha_L & \text{if } \alpha_L \geq 2(1-\theta) \\ 2[(1-\theta)(1-\gamma) + \gamma\theta] & \text{otherwise} \end{cases}$$

so now γ plays an important role

A (positive) predictive result

$$\frac{\partial\left[(1-\gamma)\,U^{I}\left(\tau_2,\pi_2;\theta\right)+\gamma U^{O}\left(\tau_2,\pi_2;\theta\right)\right]}{\partial\theta}$$

$$= \begin{cases} (1-\phi)\,2\left[2\gamma-1\right]\left[\tau_2 y\left(\pi_2\right)+R\right] & \text{if } 2\left(1-\theta\right)>\alpha_L \\ 0 & \text{otherwise} \end{cases}$$

Proposition 7.2

A period-1 incumbent chooses cohesive institutions with $\alpha_L \geq 2\left(1-\theta\right)$ *when the prospect of replacement is high* $(\gamma \geq 1/2)$ *and noncohesive institutions* with$\theta = 0$ *when the prospect of replacement is low* $(\gamma < 1/2)$.

- Intuition
  - when perceived turnover is high, redistribution appears fearsome and the incumbent buys insurance by cohesive institutions
  - an entrenched incumbent wishes to remove constraints on her own future redistribution when public goods not very valuable
  - reform motive up with τ_2, π_2, R down with ϕ

Extensions

- Endogenous entrenchment
  - if incumbents can also pick γ, preferred choice is $\theta = \gamma = 0$.
- Micropolitical foundations for θ and γ
  - can analyze how these parameters might reflect details in rules e.g., for elections and legislative decision-making
- Inertia in political institutions
  - might be upheld by supermajority rules

Extensions (continued)

- Reintroducing political violence
  - incumbents may now choose cohesive institutions to avoid the resource costs associated with violence
- Trust
  - alternative enforcement of cohesive politics, can model trust as behavior (reputation) or trait (culture)
- Predation and governance
  - entrenched and small elites are likely to raise higher hurdles for good-governance reforms

Political Reform in Practice

Anecdotal evidence

Can model shed light on historical waves of reform?

- Introduction of cohesive institutions – after high-γ shock
  - reforms by center-right majorities threatened by labor movement in early 1900s Europe – cf. Rokkan hypothesis
  - (current events in Arab world?)
- Repeal of cohesive institutions – after low-γ shock
  - reform from European-style institutions to presidential regimes without checks and balances by unchallenged independence movements in 1960s post-colonial Africa
- Careful empirical work necessary
  - approach (i) and (ii) with theory-guided historical case studies, or turn to well-identified econometric analysis.

Outline

1 Development Assistance

2 Political Reform

3 Lessons Learned
- Three Main Questions
- The Pillars of Prosperity Index
- Where Next?

Answers to the Three Main Questions

1. What forces shape the building of different state capacities, and why do these capacities vary together?
2. What factors drive political violence in its different forms?
3. What explains the clustering of state institutions, violence, and income?

State capacities

- Complementarities key feature of theoretical framework
  - countries where incumbents have strong motives to invest, e.g., due to strong common interests or cohesive political institutions will see a joint expansion of the two dimensions of the state
  - stagnant institutions where incumbents have feeble motives to build the state
  - possibility of such common roots clearly come out in typology with common-interest, redistributive, and weak states

Political violence

- Roots of violence
  - some coincide with weak motives for investing in the state
  - resource rents or aid can trigger of violence when political institutions are non-cohesive
  - predictions come clearly out in typology with peace, repression and civil war

Development clusters

- How is it that income, institutions and violence may cluster?
  - they have some determinants in common
    recall the Anna Karenina matrix
  - a set of positive feedback loops between central outcomes raise the possibility of virtuous and vicious circles
  - cf. Myrdal's conception of development

The Pillars of Prosperity Index

- Earlier summary theoretical and abstract
  - alternative empirical and concrete approach
  - define index to highlight central outcomes in analysis
  - predict index to highlight central determinants
  - exercise is alternative to initial indexes of weak/fragile states with unclear distinctions between causes and symptoms
  - needs to be interpreted properly – a simple illustration, no more
- Which outcomes?
  - our analysis has stressed
    - ★ building of extractive and productive parts of the state
    - ★ (absence of) political violence
    - ★ income

Measurement

- Fiscal and legal capacity.
  - revenue share of income tax in 1999;
    have (IMF) data for 129 countries – denote by τ_i
  - Doing Business rank of contract enforcement in 2006;
    have (World Bank) data for 173 countries – π_i
- Absence of government repression and civil war
  - share of years 1976 (independence, if later)-2006 in civil war;
    have (ACD) data for 170 countries – c_i
  - share of years with repression (purges) 1976-2005;
    have (Banks) data for 195 countries – r_i
- Income
  - (log of) GDP per capita (constant international prices) in 2006;
    have (PWT) data for 186 countries – y_i

Weighting

- Any weighting scheme arbitrary
  - use equal weights
  - state capacity $s_i = \frac{\tau_i + \pi_i}{2}$
    - ★ if missing, set $s_i = \tau_i$ or $s_i = \pi_i$
  - peacefulness $p_i = 1 - \frac{r_i}{2} - c_i$
- Pillars of prosperity index for country i

$$pop_i = \frac{s_i + p_i + y_i}{3}.$$

  - again, allow one item to be missing

The resulting index – Figure 8.1, Table 8.1

- Availability
  - can be defined for 184 countries – show results for 150 countries where our predictive variables exist (most excluded countries are small island states)
- Display
  - ranking from bottom to top in table format
  - deciles in "heat map" format

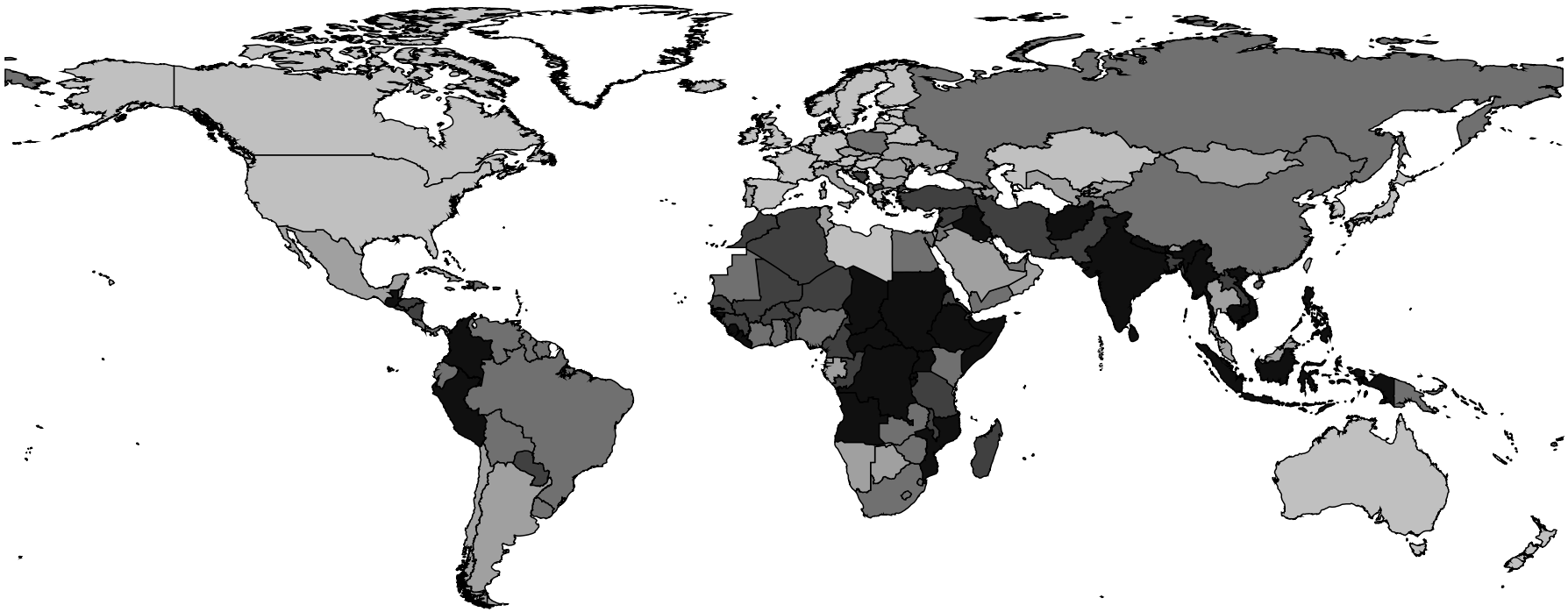


Figure 8.1 Pillars of Prosperity Index

Table: Table 8.1 Pillars of Prosperity Index and Components

country	Index Value	Peacefulness	State Capacity	Income
Zaire	0.010	N/A	0.017	0.004
Afghanistan	0.084	0.081	0.052	0.118
Sudan	0.204	0.194	0.092	0.326
India	0.236	0.065	0.216	0.426
Myanmar	0.240	0.032	0.447	N/A
Uganda	0.261	0.145	0.422	0.216
Somalia	0.263	0.484	N/A	0.042
Ethiopia	0.267	0.129	0.479	0.194
Angola	0.275	0.129	0.237	0.460
Burundi	0.298	0.516	0.278	0.100
Chad	0.303	0.323	0.232	0.354
Colombia	0.304	0.000	0.350	0.563
Mozambique	0.308	0.484	0.114	0.326
Liberia	0.315	0.629	N/A	0.000
Iraq	0.320	0.226	0.249	0.485
Cambodia	0.340	0.323	0.324	0.372
Guatemala	0.341	0.339	0.164	0.520
Philippines	0.356	0.000	0.603	0.464
Guinea-Bissau	0.375	0.919	0.116	0.089
Sri Lanka	0.386	0.290	0.351	0.516
Sierra Leone	0.386	0.677	0.189	0.293
Indonesia	0.403	0.226	0.495	0.490
Lebanon	0.412	0.516	0.150	0.569
Nepal	0.427	0.645	0.327	0.308
Peru	0.428	0.371	0.389	0.525

Table: Table 8.1 Pillars of Prosperity Index and Components (continued)

country	Index Value	Peacefulness	State Capacity	Income
Central African Republic	0.440	0.982	0.182	0.155
Rwanda	0.441	0.645	0.470	0.208
Vietnam	0.441	N/A	0.462	0.420
Morocco	0.450	0.548	0.299	0.504
Mali	0.465	0.968	0.192	0.234
Turkey	0.469	0.242	0.601	0.564
Bangladesh	0.472	0.984	0.094	0.339
El Salvador	0.476	0.565	0.361	0.504
Benin	0.480	1.000	0.192	0.248
Madagascar	0.485	1.000	0.295	0.159
Laos	0.487	0.968	0.162	0.331
Niger	0.495	1.000	0.325	0.159
Algeria	0.496	0.484	0.473	0.532
Togo	0.496	1.000	0.327	0.162
Cameroon	0.501	1.000	0.137	0.367
Burkina Faso	0.502	1.000	0.263	0.242
Pakistan	0.508	0.903	0.205	0.416
Haiti	0.510	0.952	0.314	0.266
Congo	0.511	0.903	0.205	0.425
Senegal	0.516	1.000	0.243	0.304
Lesotho	0.530	0.984	0.269	0.337
Djibouti	0.537	1.000	0.146	0.465
Malawi	0.541	0.984	0.408	0.230
Syria	0.543	0.871	0.369	0.389
Guinea	0.555	1.000	0.236	0.428

Table: Table 8.1 Pillars of Prosperity Index and Components (continued)

country	Index Value	Peacefulness	State Capacity	Income
Paraguay	0.556	0.984	0.209	0.474
Tanzania	0.557	1.000	0.504	0.166
Honduras	0.562	0.984	0.279	0.423
Eritrea	0.563	0.929	0.671	0.090
Nicaragua	0.566	0.645	0.723	0.329
Macedonia	0.566	N/A	0.590	0.543
Iran	0.566	0.532	0.549	0.617
Zimbabwe	0.582	0.855	0.574	0.318
Ivory Coast	0.584	1.000	0.416	0.337
Gambia	0.587	1.000	0.516	0.246
Tajikistan	0.590	0.625	0.780	0.366
Bolivia	0.592	1.000	0.345	0.432
Guyana	0.595	1.000	0.408	0.377
Ghana	0.595	0.968	0.550	0.269
Mauritania	0.600	1.000	0.457	0.344
Egypt	0.603	1.000	0.307	0.503
China	0.607	0.823	0.435	0.563
Kenya	0.612	0.984	0.531	0.321
Albania	0.623	0.968	0.434	0.467
Swaziland	0.623	1.000	0.309	0.560
Zambia	0.626	0.984	0.587	0.307
Jordan	0.628	1.000	0.396	0.486
Panama	0.628	1.000	0.296	0.589
Ecuador	0.629	0.952	0.417	0.519
Uruguay	0.635	0.984	0.266	0.654

Table: Table 8.1 Pillars of Prosperity Index and Components (continued)

country	Index Value	Peacefulness	State Capacity	Income
Dominican Republic	0.638	1.000	0.315	0.598
Brazil	0.639	1.000	0.312	0.605
Nigeria	0.640	0.968	0.620	0.333
South Africa	0.646	0.581	0.738	0.618
Venezuela	0.650	1.000	0.304	0.646
Papua New Guinea	0.657	1.000	0.642	0.330
Fiji	0.663	1.000	0.461	0.527
Costa Rica	0.665	1.000	0.353	0.643
Poland	0.667	0.968	0.358	0.675
Bahrain	0.667	1.000	0.201	0.800
Mauritius	0.672	1.000	0.276	0.739
Russia	0.673	0.498	0.861	0.659
Argentina	0.682	0.935	0.422	0.688
Namibia	0.691	1.000	0.541	0.530
Gabon	0.691	1.000	0.502	0.571
Chile	0.700	0.952	0.424	0.725
Azerbaijan	0.702	0.717	0.809	0.581
Moldova	0.703	1.000	0.688	0.421
Mongolia	0.704	0.984	0.769	0.359
Mexico	0.713	1.000	0.503	0.636
Uzbekistan	0.715	1.000	0.832	0.311
Israel	0.715	1.000	0.370	0.776
Bhutan	0.715	1.000	0.682	0.464
Trinidad & Tobago	0.721	1.000	0.378	0.784
Thailand	0.724	0.984	0.588	0.600

Table: Table 8.1 Pillars of Prosperity Index and Components (continued)

country	Index Value	Peacefulness	State Capacity	Income
Jamaica	0.728	0.984	0.616	0.584
Georgia	0.729	0.813	0.821	0.554
Saudi Arabia	0.732	1.000	0.445	0.752
Kyrgyzstan	0.736	1.000	0.786	0.423
Kuwait	0.738	1.000	0.327	0.888
Tunisia	0.755	1.000	0.654	0.611
Bulgaria	0.758	0.968	0.705	0.602
Italy	0.762	1.000	0.472	0.815
Romania	0.764	0.952	0.746	0.595
Slovenia	0.769	1.000	0.520	0.785
Malaysia	0.777	1.000	0.612	0.720
Botswana	0.785	1.000	0.759	0.595
Slovak Republic	0.790	1.000	0.665	0.706
Oman	0.803	1.000	0.631	0.777
Cuba	0.804	0.984	N/A	0.624
Czech Republic	0.810	1.000	0.676	0.755
Taiwan	0.814	1.000	0.647	0.795
Ukraine	0.819	1.000	0.855	0.603
Portugal	0.831	1.000	0.747	0.746
Armenia	0.832	1.000	0.902	0.593
Croatia	0.838	1.000	0.844	0.670
Germany	0.844	N/A	0.859	0.828
Kazakhstan	0.845	1.000	0.850	0.684
Greece	0.845	1.000	0.732	0.803
Belarus	0.849	1.000	0.798	0.750

Table: Table 8.1 Pillars of Prosperity Index and Components (continued)

country	Index Value	Peacefulness	State Capacity	Income
Libya	0.859	0.984	N/A	0.734
Spain	0.870	1.000	0.782	0.827
Estonia	0.870	1.000	0.890	0.721
Latvia	0.873	1.000	0.942	0.675
South Korea	0.873	0.935	0.908	0.775
New Zealand	0.873	1.000	0.829	0.789
Hungary	0.874	0.968	0.936	0.717
Singapore	0.874	1.000	0.738	0.884
United Kingdom	0.877	1.000	0.798	0.832
Austria	0.878	N/A	0.904	0.852
Lithuania	0.886	1.000	0.983	0.674
France	0.888	1.000	0.844	0.820
Ireland	0.889	1.000	0.787	0.881
Netherlands	0.891	1.000	0.829	0.845
Cyprus	0.892	1.000	N/A	0.784
United States	0.893	0.839	0.950	0.891
Belgium	0.905	0.984	0.890	0.842
Finland	0.907	1.000	0.888	0.831
Canada	0.908	1.000	0.869	0.856
Denmark	0.917	1.000	0.906	0.846
Japan	0.918	1.000	0.926	0.828
Australia	0.918	1.000	0.901	0.854
Norway	0.929	1.000	0.878	0.908
Switzerland	0.932	1.000	0.934	0.862
Sweden	0.936	1.000	0.972	0.837

Predicting the index

Figure 8.2, Table 8.3

- Use same predictors as in **chapter 2** and **3**
  - independent variables that appear in Tables 2.2 and 3.2
    proxies for past parameters ϕ, θ, $(1-\iota)$, γ and legal origins
  - predict about 50% of variation in actual index
    worst prediction of peacefulness part
  - map display suggests that these determinants predict much of variation in the data
- Outliers
  - some stark underperformers and overperformers
  - India, China – catch up with "institution possibility frontier"
  - but also signs of incomplete theory: use selected case studies to look for prospective improvements – e.g., a role for leader quality

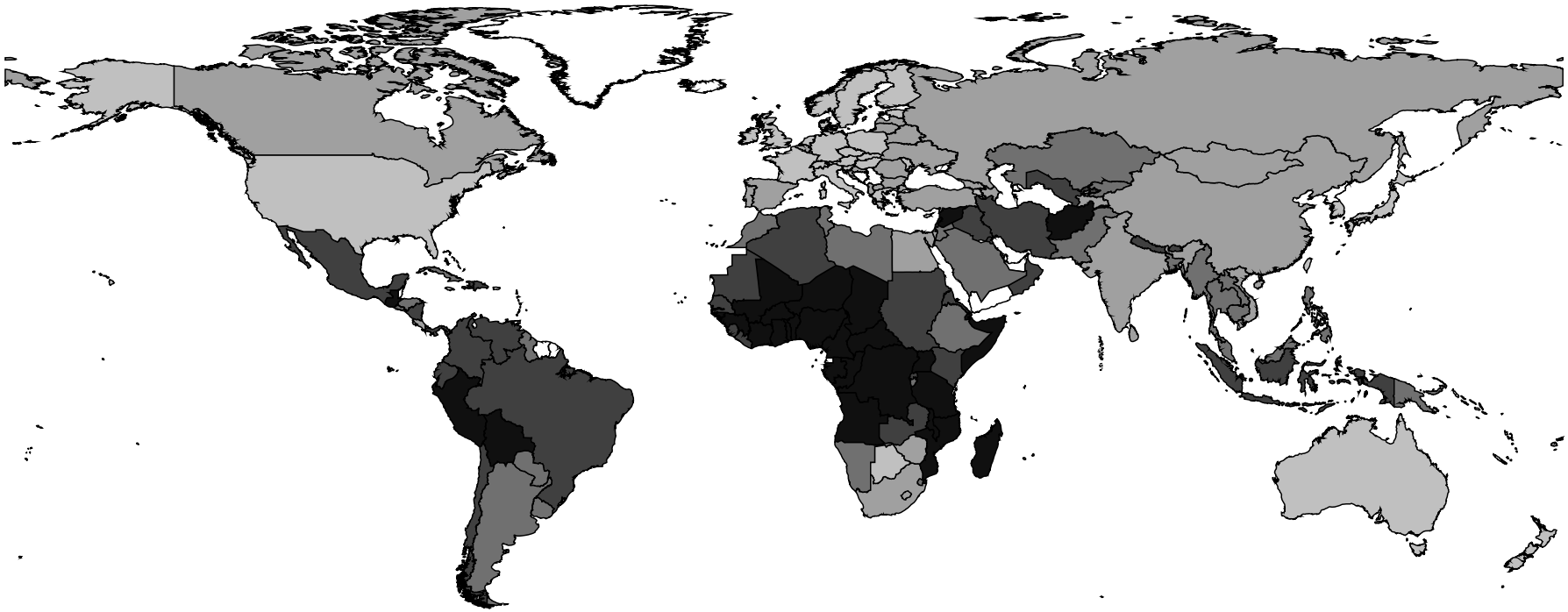


Figure 8.2 Predicted Pillars of Prosperity Index

Table: Table 8.3 Prediction errors on the Pillars of Prosperity Index

Country	Actual Rank	Predicted Rank	Actual minus predicted index value
Panel A: Largest underperformers (more than 50 steps off in ranking)			
India	4	93	-0.43
Myanmar	5	81	-0.39
Ethiopia	8	62	-0.31
Burundi	10	64	-0.28
Cambodia	16	88	-0.31
Philippines	18	87	-0.29
Sri Lanka	20	105	-0.32
Vietnam	28	115	-0.28
Turkey	31	96	-0.2
China	67	120	-0.13
Panel B: Largest overperformers (more than 50 steps off in ranking)			
Ivory Coast	59	6	0.17
Ghana	64	13	0.15
Nigeria	78	18	0.18
Gabon	90	4	0.29
Mexico	95	37	0.19
Kuwait	105	45	0.2
Oman	114	56	0.24
Kazakhstan	123	65	0.26
Singapore	133	74	0.27

Where Next?

- Model more carefully
  - simple models, but important to check theoretical robustness merge with traditional theories of growth and development
- Consider human capital
  - straightforward to introduce accumulation as physical capital more interesting to study consequences for politics and violence
- Disaggregate more
  - microeconomic and micropolitical foundations for economic and political reduced forms; microfoundations for violent behavior?
- Bridge micro and macro
  - to understand big picture in the data and come up with ideas for reform, have to view micro and macro approaches as complements

Where next (continued) ?

- Understand state legitimacy
  - norms of compliance and trust in the state important
    how do they interact with tangible institutions?
- Bring in social capital and identity
  - complementarity between state institutions and private networks
    can national identities which feed common interests be fostered?
- Deal with multiple countries
  - threats of war come from other similar interacting societies
    structural determinants of democratic peace?
- Distinguish centralized and decentralized states
  - models here of unitary states – can decentralization improve state performance? – raises questions about local state capacities

Where next (continued) ?

- Bridge theory and empirical work
  - more careful studies of state capacity building and political reform use theory as a guide, as in **Lecture II**
- Use theory and data to design case studies
  - well-specified theoretical models to search for exogenous variables; departures from statistical patterns to search for new mechanisms
- Understand the persistence of weak and violent states
  - how can one escape the lower left part of the Anna Karenina matrix? can foreign assistance in any form be helpful here?
  - probably, most important questions of all