Key Concepts in Macro-development
Political Institutions and Development - STEG-CEPR

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Road Map

Introduction

Prior Lectures: Takeaways and Context (1)

Some key take-aways from previous lectures.

- Differences in living standards across countries are large and persistent, linked to different growth trajectories.
- Differences also driven by productivity gap and misallocation.
- Growth (or development) accounting is determined by factors of production and their efficient use.
- **Stylized fact:** Disparities in capital and labor account for at most 50% of the differences in income-per-capita

Prior Lectures: Takeaways and Context (2)

So far we have mainly focused on "market" sources of differentials in productivity

- For instance, M. Rosenzweig's lecture provides details on labour market frictions and their effects on development
  - Frictions in agriculture markets: autarchic farms, differences in hiring costs across farms and in technology adoption, etc.
- In this session we are interested political mechanisms for...
  - Human capital formation and innovation
  - capital investment
  - spatial frictions and misallocation.

Prior Lectures: Takeaways and Context (3)

Policy decisions can impact resource allocation and investments

- In the first lecture by R. Rogerson, we incorporated differences in TFP in a one-sector growth model as $\hat{A}_{i,t}$.
- $\hat{A}_{i,t}$ is the relative position of a country to the technological frontier, **and is shaped by country specific policies/institutions.**
- For instance, changes in:
  - K_t with infrastructure investments (roads for example)
  - L_t with subsidizing public education.

Prior Lectures: Takeaways and Context (4)

With a role for policy, one sees a role for politics and political institutions to impact development

- Restuccia and Rogerson (2008) show that differences in the allocation of resources across heterogeneous plants are an important factor in accounting for cross-country differences in output per capita.
  - In their model, τ_i is an allocation of taxes or subsidies that is assigned to firms.
  - Moreover, τ_i **could be correlated with firms' political connections**, which may benefit a certain group of firms.
- Thus, political connections might drive misallocation and affect growth rates.

What are Political Institutions? (1)

Several definitions have been proposed...

- North (1992): "rules of the game in a society; more formally, they are the humanly devised constraints that shape human interactions"
- Myerson (1995): complex incentive system for politicians, determining what kinds of political decisions and strategies will be rewarded.
- Acemoglu, Johnson and Robinson (2001, 2002): social organization that provides incentives for investment (e.g., property rights, contract enforcement)
- Przeworski (2004): political checks and balances (e.g., independence of the judiciary or of central banks, procedures for electing rulers)

What are Political Institutions? (2)

In a nutshell, institutions are:

- Mechanisms for making policy decisions
- (Contract) Enforcement mechanisms
- Mechanisms for selecting public office holders.

Institutions make rules, enforce rules, and are the way we decide who makes rules.

This Lecture

- We will briefly present benchmark growth models which allow for a role of politicians and government, with:
  - Public investment (Barro, 1990)
  - Contract enforcement (Aguiar and Amador, 2011)
  - Innovation and technological change (Aghion et al., 2015; Acemoglu and Robinson, 2006)
- We will then present departures from those benchmarks (political distortions).
- We then document how institutions lead to political distortions:
  - Misallocation of public investment and patronage
  - Political connections and state capture
  - Lobbying and misallocation

Theoretical Background

Benchmark 1: Models with public services and taxes.

- Barro (1990) constructs a growth model that includes public services as a productive input for private producers.
- Three types of public services:
  - publicly-provided private goods which are rival and excludable;
  - publicly-provided public goods, which are non-rival and non-excludable;
  - publicly-provided goods that are subject to congestion which are rival but to some extent non-excludable (includes highways, water and sewer systems, courts, and so on).

Benchmark 1.1: Models with publicly-provided private goods and taxes (1)

- Representative household chooses consumption and saving to maximize his utility.

- There are n producers (firms) in the economy.
- Firm uses two main factors of production: capital and **government spending** g.
- Each firm chooses capital k to maximize its profits given g.
- Production function depends on individual government purchase g not the aggregate $G = ng$.
- Cobb-Douglas production function exhibits constant return to scale in k and g together.
- Government finances its spending via taxes on production.

Benchmark 1.1: Models with publicly-provided private goods and taxes (2)

- Standard household optimality condition (Euler equation):

$$\gamma_c = \frac{1}{\theta}(r - \rho), \tag{1}$$

where γ_c is the growth rate of consumption; θ is the elasticity; r is the real rate of return on assets; and ρ is the time preference.

- Production function for each producer is given by

$$y = Ak^{1-\alpha}g^{\alpha}. \tag{2}$$

- The marginal product of capital is given by

$$\frac{\partial y}{\partial k} = (1-\alpha)A^{\frac{1}{(1-\alpha)}}\left(\frac{g}{y}\right)^{\frac{\alpha}{(1-\alpha)}}. \tag{3}$$

- Let τ be the tax rate such that $g = \tau y$.

Benchmark 1.1: Models with publicly-provided private goods and taxes (3)

- By substituting the private return in equation 1 yields:

$$\gamma_c = \frac{1}{\theta}\left(\frac{\partial y}{\partial k}\left(\frac{1-\tau}{\eta}\right) - \rho\right). \tag{4}$$

- Recall that $\frac{\partial y}{\partial k}$ depends on $\frac{g}{y}$ which is endogenous. The growth rate depends on government's productive services.
- Hence the growth rate in equation 4 is **endogenous.**
- If $\tau > 0$ the growth rate in a decentralized economy is too low from a social perspective.
- **Conclusion**: growth is endogenous and distortionary tax on production is not desirable. Lump-sum tax if feasible, should be used.

Benchmark 1.2: Models with publicly-provided public goods and taxes

- Same as model 1 except the production function.
- Since goods are not rival and non-excludable, the production function of each producer depends on aggregate government spending G and not g.
- Production function for each producer is given by

$$y = Ak^{1-\alpha}G^{\alpha}. \tag{5}$$

- **Conclusion (same as in model 1)**: growth is endogenous and distortionary tax on production is not desirable. Lump-sum tax if feasible, should be used.

Benchmark 1.3: Models publicly-provided goods subject to congestion (1)

- Same as model 1 except the production function.
- Goods are rival but to some extent. non-excludable.
- The production function of each producer depends on k, $K = nk$ and G.
- Production function for each producer is given by

$$y = Ak\left(\frac{G}{K}\right)^{\alpha}. \tag{6}$$

- The congestion is given by $\frac{G}{K}$.

Benchmark 1.3: Models publicly-provided goods subject to congestion (2)

- **Main difference with model 1 and 2:** individual's decision to expand own capital, k, and hence output, y, congests the facilities available for other producers because $K = nk$ is affected.
- In this model, the growth rate in a decentralized economy is too high from a social perspective. So the model favour income taxation over lump-sum taxation.

- **Conclusion**: growth is endogenous and distortionary tax on production is desirable.

⏩ Alt. Slides on Barro 1990

Benchmark 2: Contract enforcement

Aguiar and Amador (2011): Growth in the Shadow of Expropriation

- Lack of commitment: party in power cannot commit.
  - it can expropriate, and
  - it can default on the debt.
- It overvalues present consumption (as it is unsure of being in power in the future)

- Limited commitment links investment and debt:
  - a government deep into debt cannot credibly promise to respect property rights of capitalists
- With political frictions: current incumbent is unwilling to trade-off consumption today versus tomorrow at the interest rate (desires more consumption in power).
- Speed of convergence and steady states depend on political disagreement (slower convergence with more disagreement)

▸ More Theory Details

Benchmark 3: Schumpeterian Growth

- Does democracy hamper or enhance growth?
  - **Decreased growth:** Greater pressure to redistribute decreases incentives for capital formation (Persson and Tabellini, 1994; Alesina and Rodrik, 1994)
  - **Increased growth:** Protection of property rights implies lower ability of incumbents to block new entrants and innovation
- If innovation matters more for countries closer to the technological frontier, we should expect the correlation between democracy and growth to be more positive and growing with proximity to the technological frontier.

- Let final output $Y_t = A_t$, where A_t is the technology.
- There are advanced sectors, where innovation may happen; and backwards sectors (where $A_t = A_{t-1}$).
- In each advanced sector j only one incumbent I_j and one potential entrant E_j are active in each period.
  - Only the potential entrant innovates.
  - Before production, potential entrant E_j invests in R&D in order to replace the incumbent I_j.
  - If successful, productivity of sector j increases by factor γ and new entrant is monopolist.
  - Otherwise, the current incumbent remains monopolist at productivity $A_{j,t} = A_{j,t-1}$.

- Political Economy: democracy level $\beta \in [0,1]$ equals probability that successful innovation leads to successful entry.
- If a potential entrant E_j spends $A_t \lambda z_{jt}^2/2$ in R&D in terms of the final good, then she innovates with probability z_{jt}.
- The joint probability of an an unblocked entry is βz_j

- The entrant picks innovation effort (probability) to maximize expected profits:

$$\max_{z_{jt}} \quad \left\{ z_{jt}\beta\pi Y_t - A_t\lambda\frac{z_{jt}^2}{2} \right\}$$

where π represents per unit monopoly profits.

- In equilibrium

$$z_{jt} = \bar{z} = \frac{\beta\pi}{\lambda}$$

- Thus the aggregate equilibrium innovation effort is increasing in democracy β and profit π and decreasing in R&D cost λ.

- Let μ be the share of advanced sectors. The average productivity of a country at the end of t is:

$$A_t = \mu\left[\beta z \gamma \bar{A}_{t-1} + (1 - \beta z)\bar{A}_{t-1}\right] + (1 - \mu)\bar{A}_{t-1}$$

- So average productivity growth is

$$\frac{A_t - A_{t-1}}{A_{t-1}} = \gamma \frac{\mu\beta z(\gamma - 1) + 1}{\mu(\gamma - 1) + 1},$$

  which is increasing with democracy and democracy is more growth-enhancing closer to the frontier

- See Aghion, Alesina and Trebbi (2007) for explicit cross-country empirical evidence on this (we will cover more evidence in this talk)

Benchmark 3.1: "Tyranny" of Political Winners

Acemoglu and Robinson (2006) - Economic backwardness in political perspective

- A model of an incumbent who may choose economic innovation, or block it.
- After observing technological innovation choice, population may choose to keep or replace the incumbent.
- Technological innovation may change political competition and the costs of replacement.
- Bottomline (one of their results in MPE): political elites may block technological innovation, for fear they will reduce their terms in power.
- By blocking technological innovation, entrench politicians and keep less productive firms in power $\Rightarrow$ welfare losses.

Taking Stock of the Theoretical Benchmarks

- The previous models showcase that such political economy incentives can meaningfully distort outcomes and welfare.
- Even in these simple environments, effects on:
  - Economic growth and consumption.
  - Debt profiles.
  - Technological innovation.
  - Firm productivity

Empirical Questions from these benchmarks

- How big are these welfare effects? Are they observed empirically?
- Which firms benefit/lose (in a world with heterogeneous firms)?
- And how should we think about the choice of political connections in this context.
- And what type of policies should we consider to improve welfare?

Patronage and Targeted Redistribution

Patronage and Targeted Redistribution

- How does democracy affect targeted redistribution to co-ethnics?
  - We will study Burgess et al. (2015) as an example: transitions of democracy and autocracy in Kenya.
  - Effects on road expenditure on co-ethnic districts.
  - The effects are present in autocracy (1969-1992), but disappear in democratic times.
  - In other contexts - e.g. Anderson et al. (2015), Bobonis et al. (2017) Beg (2021), evidence of political redistribution as insurance to vulnerable clients for political favours.
  - Evidence in the US on political allocation of benefits to winners/access etc.

Burgess et al. (2015): Distortions of public investment (1)

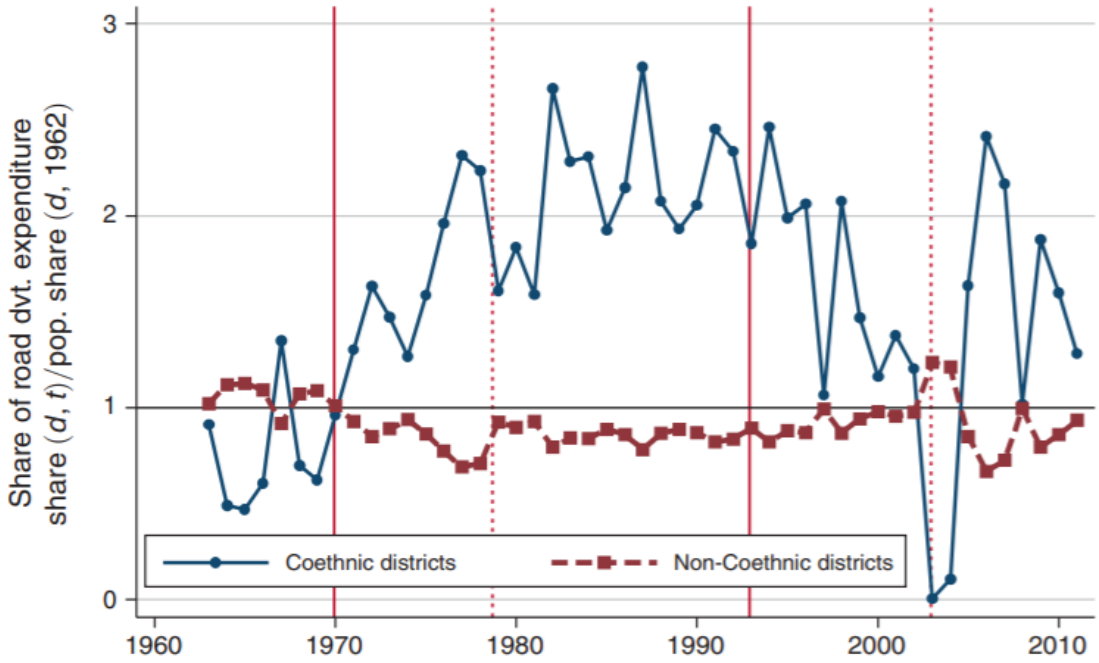


FIGURE 4. ROAD EXPENDITURE IN PRESIDENTIAL COETHNIC AND NON-COETHNIC DISTRICTS, 1963–2011

Notes: This figure plots the ratio between the share of road development expenditure in district d in year t to the share of population in 1962 for district d for coethnic and non-coethnic districts. A district d is defined as coethnic if ≥ 50 percent of the district's population is coethnic to the president in year t. The two vertical solid lines represent political transitions: December 1969 is the transition from democracy to autocracy, while December 1992 is the return of democracy. The two vertical dotted lines represent leadership transitions: from Kenyatta (Kikuyu) to Moi (Kalenjin) in August 1978, and from Moi (Kalenjin) to Kibaki (Kikuyu) in December 2002. Data sources and construction are described in online Appendix A and Table A2 of online Appendix E.

Burgess et al. (2015): Distortions of public investment (2)

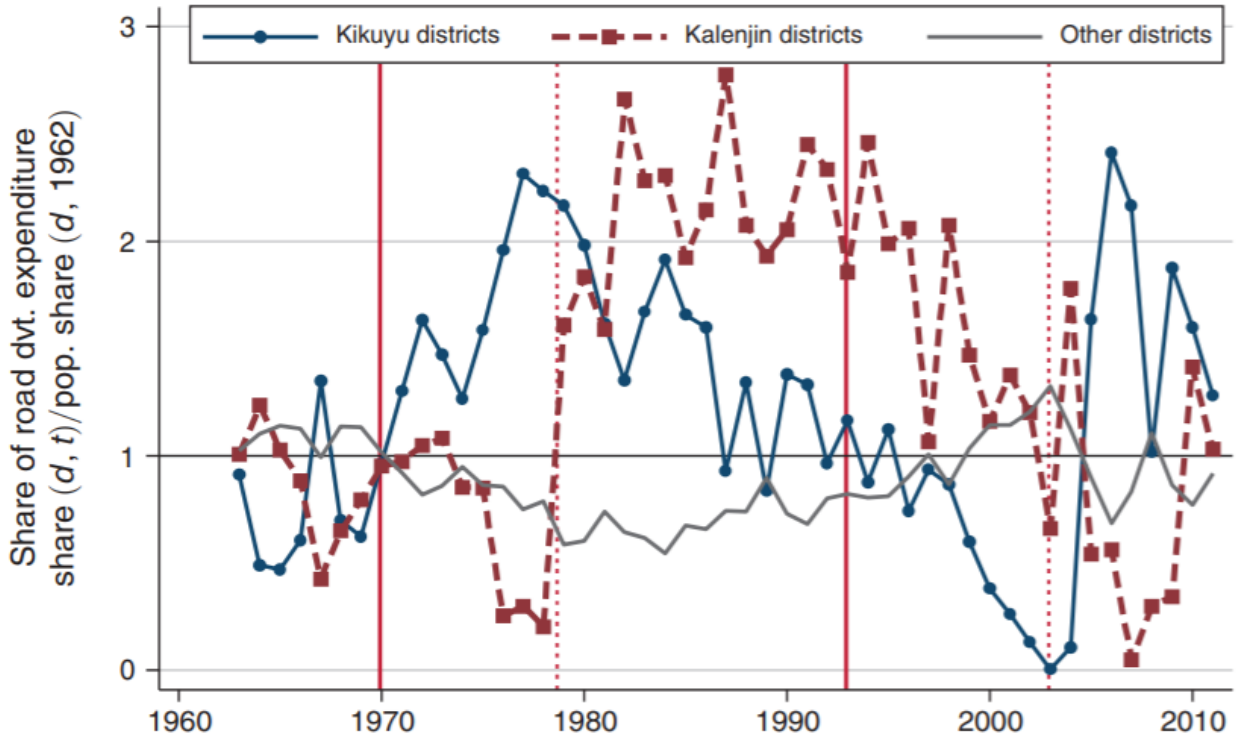


FIGURE 5. ROAD EXPENDITURE IN KIKUYU, KALENJIN, AND OTHER DISTRICTS, 1963–2011

Decomposing into ethnicities: benefits to co-ethnics mostly in dictatorship (between solid red lines)

Burgess et al. (2015): Distortions of public investment (3)

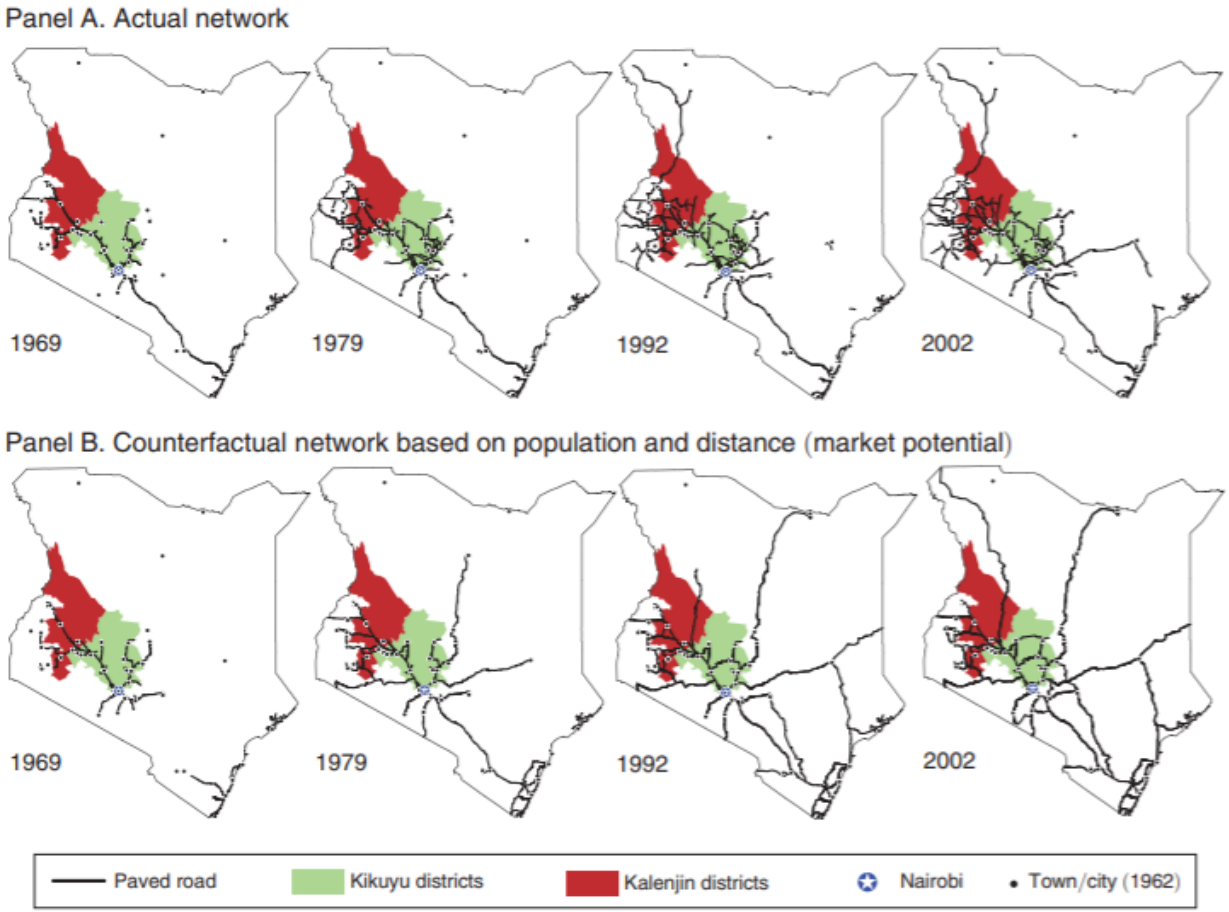


FIGURE 3. EVOLUTION OF KENYA'S PAVED ROAD NETWORK

Welfare: public investment would have been different absent distortions.

Patronage

- **Patronage:** Discretionary appointment of individuals to government/political positions.
- Usually thought of as negative, but could be beneficial if private information on types/quality is well used.
- Close connections of firms and state in hiring practices affects:
  - Who gets hired
  - Quality of bureaucracy and policy implementation
  - Which policies get implemented.
- We will overview the results in Xu (2018) for the British Empire case, as an example.

Xu (2018): Patronage sources/effects, policy responses (1)

- **Context:** British Empire 1854-1966 with newly digitized data (fundamental importance of the bureaucracy!)
- Studies the effects of patronage on:
  - Promotions to higher salaried positions.
  - Outcomes: Tax Revenue, Tax Exemptions, Investments
- **Variation:**
  - Electoral shocks in London induced turnover of governors in colonies (and hence, fortunes of its appointed members).
  - From 1854-1930, fully discretionary appointing of governors.
    In 1930, Warren Fisher Reform makes these appointments overseen by independent Civil Service body.

Xu (2018): Patronage sources/effects, policy responses (2)

- Connections measured by: (i) family ties, (ii) membership in the aristocracy, (iii) shared attendance of elite education institutions (e.g. Eton, Oxbridge)

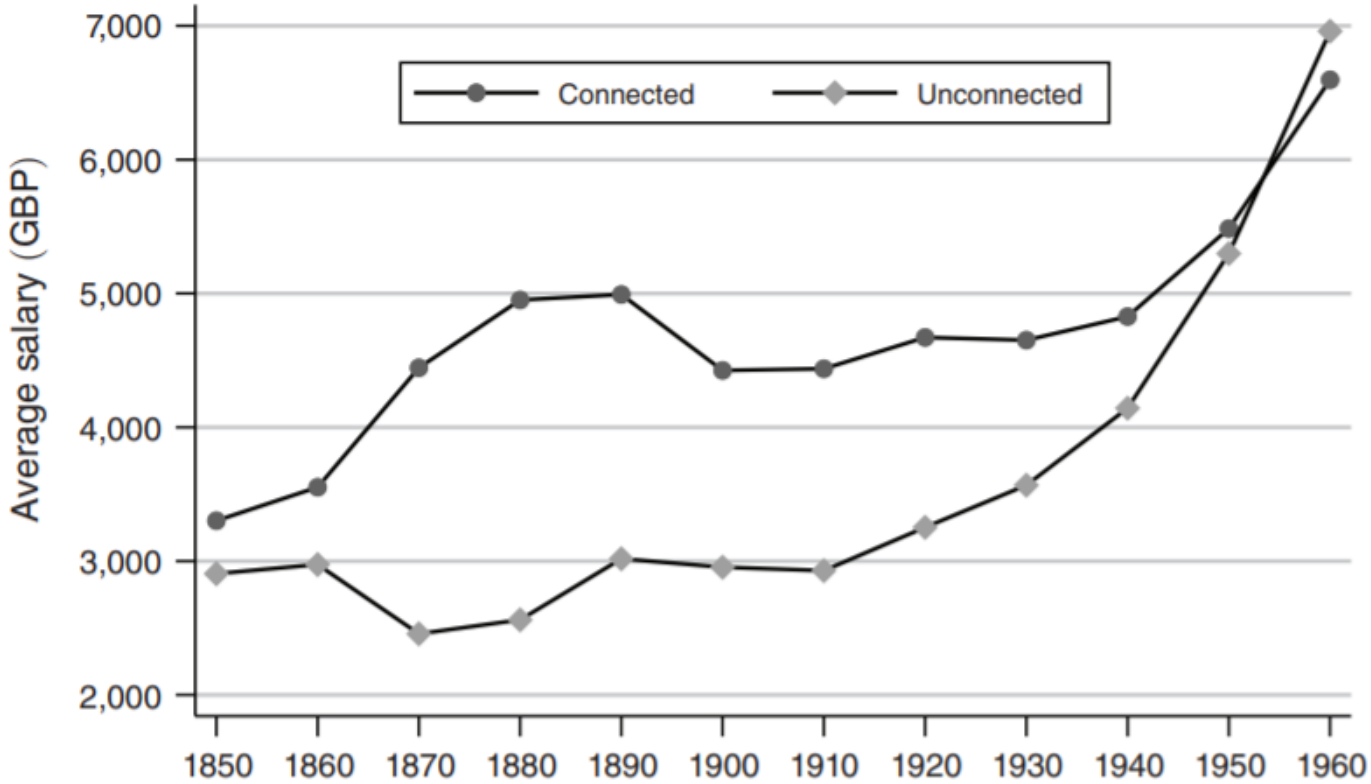


FIGURE 3. AVERAGE SALARY CONNECTED VERSUS UNCONNECTED OVER TIME

Xu (2018): Patronage sources/effects, policy responses (3)

Results on outcomes

TABLE 5—FISCAL PERFORMANCE AND CONNECTEDNESS TO SECRETARY OF STATE

	Colony-level			
	Public review		Public expenditures	
	Overall		Trade	Internal
	(1)	(2)	(3)	(4)
Panel A. Revenue				
Mean of dep. var.	12.31	12.31	11.47	11.59
Connected	−0.040	−0.055	−0.053	−0.043
	(0.017)	(0.021)	(0.026)	(0.032)
Connected × reform dummy		0.061		
		(0.033)		
Connected + connected × reform dummy	–	0.005	–	–
		(0.026)		
Year FEs	Yes	Yes	Yes	Yes
Governor-Colony FEs	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes
Time-varying controls	Yes	Yes	Yes	Yes
Observations	3,510	3,510	2,670	2,657

Xu (2018): Patronage sources/effects, policy responses (4)

Results on outcomes, cont.

	Public expenditure			
	Overall		Tax	Works
	(5)	(6)	(7)	(8)
Panel B. Expenditure				
Mean of dep. var.	12.33	12.37	9.015	10.32
Connected	−0.029	−0.042	−0.089	−0.107
	(0.019)	(0.023)	(0.053)	(0.062)
Connected × reform dummy		0.053		
		(0.034)		
Connected + connected × reform dummy	–	0.010	–	–
		(0.025)		
Year FEs	Yes	Yes	Yes	Yes
Governor-colony FEs	Yes	Yes	Yes	Yes
Spell length FEs	Yes	Yes	Yes	Yes
Time-varying controls	Yes	Yes	Yes	Yes
Observations	3,510	3,510	1,742	2,588

Notes: Unit of observation is the governor-year. Sample period 1854–1966. The dependent variable in panel A is the (log) total revenue (column 1–2), trade (customs) revenue (column 3), and internal revenue (column 4). Panel B reports the overall expenditure (column 5–6), expenditures for tax/revenue services (column 7), and public works (column 8). Columns 2 and 6 interact connectedness with a reform dummy that is 1 after 1930. Connected is a dummy that is 1 if the governor is connected to the secretary of state. Time-varying controls comprise the number of colonies the governor has served in. Spell length FEs are dummies for each year of the term. Standard errors in parentheses, clustered at the dyadic governor-secretary of state level.

Contract Enforcement

Boehm, Oberfield (2020): Contract Enforcement (1)

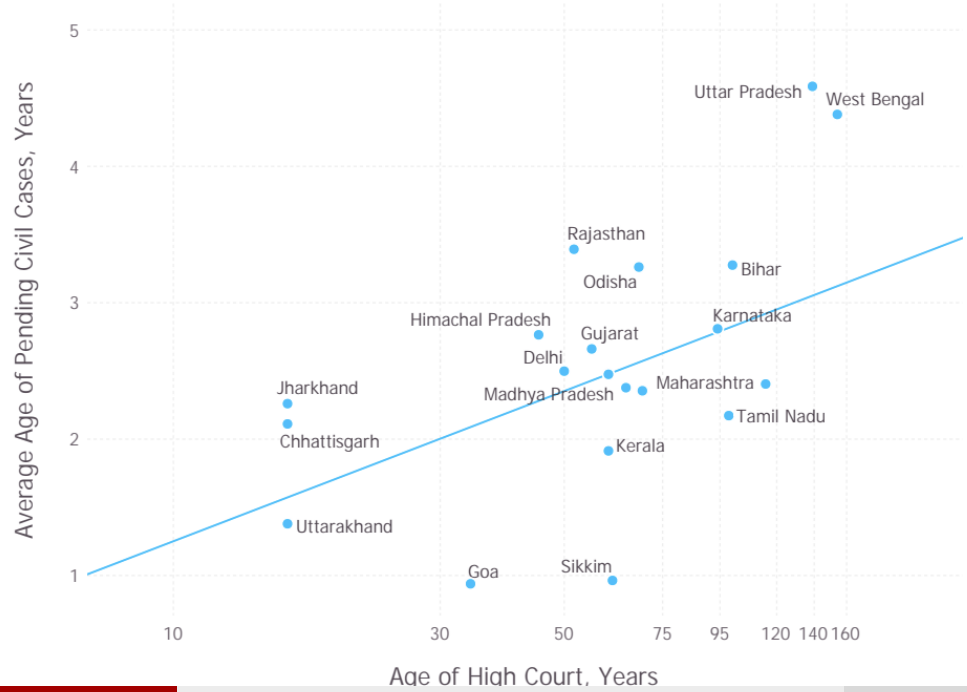
- **Context**: Indian manufacturing sector
  - India has infamously congested courts (172/190th in contract enforcement according to World Bank)
  - Weak courts $\Longrightarrow$ Weak contract enforcement
- Studies the effect of court congestion on:
  - Firm structure, productivity and expenditures
  - What would happen if congestion were to be reduced?
- **Identification and Analysis**:
  - Reduced-Form Analysis: Fixed effects, instrumental variables (origins/structure of judiciary)
  - Structural Model: Parameters governing frictions

▸ Details on "Unbundling Institutions" - Acemoglu and Johnson (2005)

Boehm, Oberfield (2020): Contract Enforcement (2)

Court quality measure: average age of pending civil cases in each court

- Impacts on plant material cost, input bundles, vertical integration?
- Instrument to Factor Reverse Causality:
  - Speed of enforcement: ln(*court age*)
  - instrument for industry-level variable and court speed is industry-level variable $\times$ ln(*court age*)



Boehm, Oberfield (2020): Contract Enforcement (3)

Results on Outcomes

Table I Materials Shares and Court Quality (Fact 1)

	Dependent variable: Materials Expenditure in Total Cost					
	(1)	(2)	(3)	(4)	(5)	(6)
Avg Age Of Civil Cases * Rel. Spec.	-0.0167**	-0.0129*	-0.0118*	-0.0156+	-0.0201*	-0.0212**
	(0.0046)	(0.0051)	(0.0053)	(0.0085)	(0.0082)	(0.0078)
LogGDPC * Rel. Spec.		0.0114	0.0102		0.00710	0.00556
		(0.0086)	(0.0091)		(0.0095)	(0.0096)
Rel. Spec. × State Controls			Yes			Yes
5-digit Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Estimator	OLS	OLS	OLS	IV	IV	IV
R^2	0.480	0.482	0.484	0.480	0.482	0.484
Observations	208527	199544	196748	208527	199544	196748

Standard errors in parentheses, clustered at the state × industry level.
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
"Rel. Spec. × State Controls" are interactions of trust, language herfindahl, caste herfindahl, and corruption with relationship-specificity.

▸ More Results

Boehm, Oberfield (2020): Contract Enforcement (4)

- Production and sourcing decisions appear systematically distorted in states with weaker enforcement as in Goldstein and Udry (2008)
- Plants in states with more congested courts shift their expenditures away from intermediate inputs and have a greater vertical span of production.
- Structural Model:
  - Weak enforcement exacerbates a holdup problem when using inputs that require customization, distorting both the intensive and extensive margins of input use
  - Equilibrium organization of production and the network structure of input-output linkages arise endogenously from the producers' simultaneous cost minimization decisions
  - Counterfactuals show that enforcement frictions lower aggregate productivity to an extent that is relevant on the macro scale

Political Connections and State Capture

Political Connections: Capture (1)

- Leaders can allocate and target benefits if they win. How to measure?
- Fisman (2001) is a first and salient approach:
  - Focus on Indonesia, and the effect of events of Suharto's poor health on connected firm's stock/security prices (dependent variable).
  - Measure connections based on specialist's "index" of firm's reliance on political connections (independent variable).

TABLE 2—EFFECT OF POLITICAL CONNECTIONS ON CHANGES IN SHARE PRICE, SEPARATE ESTIMATION FOR EACH EVENT

	Jan. 30–Feb. 1, 1995	April 27, 1995	April 29, 1996	July 4–9, 1996	July 26, 1996	April 1–3, 1997
POL	−0.58* (0.34)	−0.31 (0.18)	−0.24* (0.15)	−0.95*** (0.27)	−0.57*** (0.22)	−0.90** (0.35)
Constant	1.29 (0.79)	0.21 (0.32)	0.12 (0.46)	0.83 (0.64)	−0.07 (0.41)	0.77 (0.97)
R^2	0.037	0.043	0.025	0.147	0.078	0.075
Observations	70	70	78	79	79	79

Note: Robust standard errors are in parentheses.
* Significantly different from 0 at the 10-percent level.
** Significantly different from 0 at the 5-percent level.
*** Significantly different from 0 at the 1-percent level.

Political Connections: Capture (2)

- The previous results are actually widespread - see Faccio (2006).
- New dataset on 20000+ publicly traded firms across 47 countries.
- Connections with a politician measured by:
  - One of its largest shareholders ($\geq$ 10% control) or top officers (e.g. CEO) is an MP, minister or closely related to one (e.g. family ties, previous experience in that firm).

Political Connections: Capture (3)

TABLE 2—COUNTRY DISTRIBUTION OF FIRMS WITH POLITICAL CONNECTIONS

	No. of firms with available data	No. of firms connected with a minister or MP	% of firms connected with a minister or MP	No. of firms connected through close relationships	% of firms connected with a minister or MP, or a close relationship	% of top 50 firms connected with a minister or MP, or a close relationship	Connected firms as % of market capitalization
Argentina	38	0	0.00	0	0.00	0.00	0.00
Australia	287	2	0.70	0	0.70	0.00	0.32
Austria	110	1	0.91	0	0.91	2.00	0.25
Belgium	157	6	3.82	0	3.82	8.00	18.77
Brazil	167	0	0.00	0	0.00	0.00	0.00
Canada	534	7	1.31	0	1.31	2.00	2.53
Chile	89	2	2.25	0	2.25	4.00	1.43
Colombia	32	0	0.00	0	0.00	0.00	0.00
Czech Rep.	63	0	0.00	0	0.00	0.00	0.00
Denmark	228	7	3.07	0	3.07	6.00	2.52
Finland	132	2	1.52	0	1.52	0.00	0.14
France	914	16	1.75	4	2.19	10.00	8.03
Germany	840	11	1.31	2	1.55	2.00	1.20
Greece	153	1	0.65	0	0.65	0.00	0.09
Hong Kong	405	3	0.74	5	1.98	6.00	2.33
Hungary	27	1	3.70	0	3.70	3.85	2.81
India	323	9	2.79	0	2.79	2.00	1.83
Indonesia	154	12	7.79	22	22.08	24.00	12.76
Ireland	82	2	2.44	0	2.44	4.00	22.83
Israel	55	2	3.64	0	3.64	4.26	8.13
Italy	233	24	10.30	0	10.30	16.00	11.27
Japan	2,395	31	1.29	1	1.34	2.00	1.34
Luxembourg	23	1	4.35	0	4.35	4.55	10.48

Political Connections: Capture (4)

Malaysia	445	23	5.17	65	19.78	44.00	28.24
Mexico	94	6	6.38	2	8.51	12.00	8.14
Netherlands	238	1	0.42	0	0.42	0.00	0.01
New Zealand	50	0	0.00	0	0.00	0.00	0.00
Norway	206	0	0.00	0	0.00	0.00	0.00
Peru	37	0	0.00	0	0.00	0.00	0.00
Philippines	114	1	0.88	4	4.39	8.00	16.16
Poland	57	0	0.00	0	0.00	0.00	0.00
Portugal	101	3	2.97	0	2.97	4.00	2.00
Russia	25	3	12.00	2	20.00	36.36	86.75
Singapore	229	18	7.86	0	7.86	4.00	2.59
South Africa	212	0	0.00	0	0.00	0.00	0.00
South Korea	313	7	2.24	1	2.56	4.00	8.95
Spain	200	3	1.50	0	1.50	0.00	0.82
Sri Lanka	18	0	0.00	0	0.00	0.00	0.00
Sweden	280	3	1.07	0	1.07	4.00	1.02
Switzerland	243	6	2.47	0	2.47	4.00	0.69
Taiwan	237	2	0.84	6	3.38	10.00	12.74
Thailand	279	23	8.24	19	15.05	34.00	41.62
Turkey	84	1	1.19	0	1.19	0.00	0.14
UK	2,149	154	7.17	0	7.17	46.00	39.02
US	7,124	6	0.08	8	0.20	6.00	4.94
Venezuela	18	0	0.00	0	0.00	0.00	0.00
Zimbabwe	8	0	0.00	0	0.00	0.00	0.00
All countries	20,202	400	1.98	141	2.68	6.92	7.72

Political Connections: Effects on Firm Outcomes

TABLE 6—THE VALUE OF CONNECTIONS

	N. Obs.	Average CAR (%)	(*p*-value)
Panel A: Overall results			
Full sample	157	1.43	(0.09)
Panel B: Results by the way the connection is established			
Appointments of politicians on corporate boards	48	−0.53	(0.27)
Company large shareholders and officers entering politics	109	2.29	(0.05)
Panel C: Officers versus large shareholders entering politics			
Large shareholders entering politics	15	4.47	(0.02)
Officers entering politics	94	1.94	(0.15)
Panel D: Officers and large shareholders taking on higher versus lower political office			
Appointment or election as a minister (either directly or through a close relationship)	10	12.31	(0.32)
Appointment or election as an MP	99	1.28	(0.02)
Panel E: Results by level of corruption (Kaufmann et al. corruption measure)			
Countries with corruption ≥ sample median	58	4.32	(0.08)
Countries with corruption < sample median	51	−0.02	(0.97)

Notes: Abnormal (%) returns are computed using a standard market-adjusted approach. The event window goes from day −2 to day +2. The event date is defined as the election date (or date of appointment of the politician, if different) in the case of officers/large shareholders elected as politicians, and as the date the appointment was announced, in the case of appointment of politicians to the board. Datastream's index for the connected company's home country is used as the measure of market returns. Panels C through E focus on the subsample of 109 elections (of large shareholders and/or officers to political office). Standard errors are corrected for clustering in the election dates.

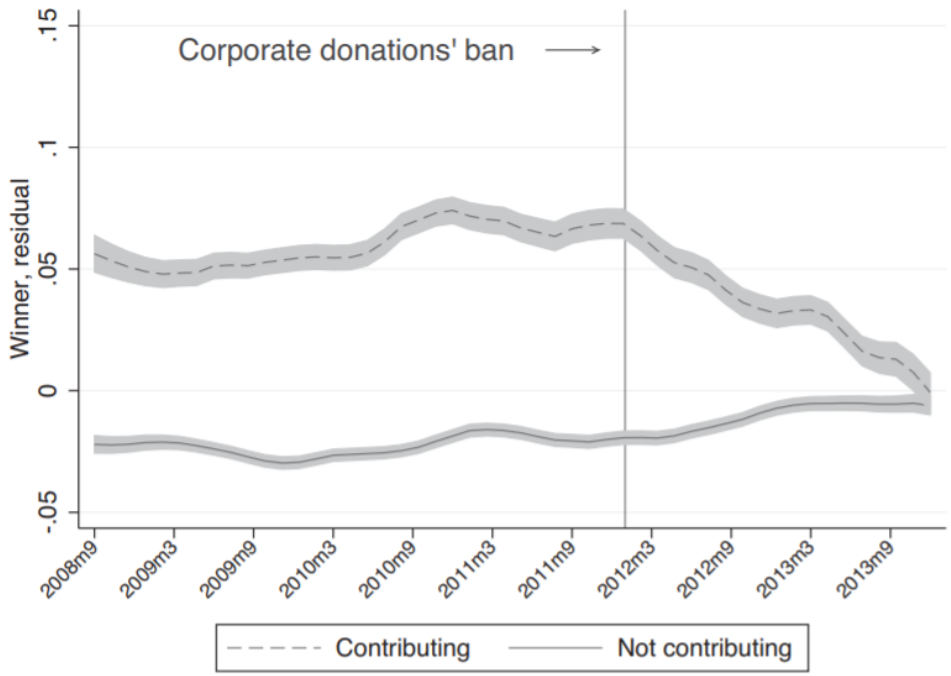
How do political connections generate distortions?

- The previous slides suggest firms benefit from connections.
- The recent literature has gone further: how do those benefits come about?
- Let us first overview that one mechanism is through public procurement.
  - Possibly large welfare costs: government spending more for the same (or poorer quality) of services.
  - It has been shown in many contexts (e.g. US - Jayachandran, 2006, Russia, Brazil - e.g. Arvarte et al (2019), etc.). Today we will focus on Lithuania following Baltrunaite et al. (2020).

Baltrunaite (2020): An example of measuring connections and its effects using campaign contributions (1)

- A campaign contribution ban was implemented in Lithuania in 2012.
- Contrast contributors' bidding behavior and prob. of winning contracts to noncontributors.

Baltrunaite Political Contributions and Public Procurement: Evidence from Lithuania 543



Baltrunaite (2020): Measuring connections/effects (2)

- **Empirical Strategy:** Difference-in-differences design.
- **Identifying Assumption**: Contributing and non-contributing firms would have had the same change in procurement behavior absent the ban.

TABLE 3. Main results.

	Winner					
Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)
Contribute	0.094*	0.065**	0.066**			
	(0.048)	(0.028)	(0.028)			
Contribute × Ban	−0.041*	−0.044***	−0.051***	−0.042***	−0.048***	−0.056**
	(0.021)	(0.017)	(0.017)	(0.014)	(0.015)	(0.022)
Contribute × Placebo						0.021
						(0.029)
Procurement controls	X	X	X	X	X	X
Firm controls		X	X			
Industry FE × Year FE			X		X	X
Firm FE				X	X	X
R^2	0.08	0.09	0.09	0.16	0.15	0.15
N	596,039	575,835	575,835	593,477	575,527	575,527

Notes: The table reports the difference-in-differences coefficients from OLS regressions. The dependent variable is *Winner* defined as an indicator variable for firms that win a contract. *Contribute* is an indicator variable for firms that have donated to a political party or to a political campaign. *Ban* is an indicator variable for contracts signed after January 1, 2012. *Placebo* is an indicator variable for contracts awarded after a placebo reform on January 1, 2010. Procurement controls are year, CPV 4-digit code, contracting organization type and procurement procedure type indicators and indicators for goods, services and works procured. Firm controls are size categories, NACE main industry fixed effects, and firm age. Standard errors clustered at the firm level are shown in parentheses

Akcigit et al. (2018)

- Firm level data from Italy with firm connections to politicians (i.e. local politicians working at a specific firm)
- Model with similar considerations as the Schumpeterian ones above, but firm heterogeneity etc.
  - Larger firms are more likely to be connected (as it is costly), older (since they are less likely to exit), but less innovative.
  - Less innovative even though connections reduce their costs.
  - Supporting evidence using micro-level admin data on firms and politicians in Italy, exploiting an RDD on close elections (i.e. comparing connected firms who barely won vs. those who barely lost).

Key mechanism: An incumbent firm can choose to entrench itself by investing in political connections to deter the innovators' entry. Industries with more political connection have less innovation, older firms and less productivity growth.

Effects of political connections on other outcomes

Access to credit/finance.

- Khwaja and Mian (2005) find preferrential lending to politically connected firms in Pakistan.
- Increase in probability of bailouts in the U.S. (Faccio et al., 2006).
- Increase in loans from state banks in Brazil (e.g. Claessens et al., 2008), among many other effects.

Returns:

- Lower taxation.
- Easier access to import licenses (Mobarak and Purbasari, 2006).
- Regulatory capture and effects on energy subsidies, among others (see Dal Bo et al., 2006)

Typically, one can measure such connections either through hiring practices, or campaign contributions. For the latter, beyond Baltrunaite (2020), see also Boas et al. (2014) in Brazil.

Lobbying

Lobbying

- **Lobbying:** Communication with an official for the purposes of influencing an issue.
- In the U.S., lobbyist activities can be observed since the Lobbying Disclosure Act of 1995.

Bombardini et al. (2011): Is it who you know or what you know?

- Lobbying could be simply information transmission. Or it could be for access and distortionary. Hard to separate the two.
- Shows that connections matter: lobbyists "follow" politicians they were originally assigned to, when those politicians switch committees/expertise.
- But expertise also at play.
- As a result, one must think carefully about incentives and mechanisms when discussing banning such policies.

Effects on welfare - quantifying how this matters

- So far, comprehensive evidence of the existence of many ways in which firms and state relate to each other, and smoking guns that these are welfare-harming.
- But how to think about the effects of these on aggregate production and welfare?
- Let us start with a simple set-up, that already clarifies this.

Misallocation induced by lobbying

- The source of connections as politicians working in firms might be context specific or hard to observe.
- In the US and other countries, much of the influence of firms comes "indirectly" (through intermediaries) to obtain policy influence.
- Huneeus and Kim (2019) study misallocation in a model that extends Hsieh and Klenow (2009), allowing endogenous production and entry into sectors (Melitz, 2003).
- Lobbying is an additional "sector" which firms can enter. Costly to enter, but can distort allocation.

- In equilibrium firm sizes are distorted to the optimum through lobbying: firms who lobby more, have lower marginal revenue products, lower revenue productivity than the average of the sector they belong and, hence, induce misallocation on the aggregate.

- Using the structural model and an IV based on committee assignment, they find that lobbying incentives induce a 11% decrease in aggregate productivity in the US.

Policy Implications (1)

A simple implication from these results would be that banning political connections, or lobbying, would be beneficial.

- This is not straightforward, since lobbying/patronage could be benficial through information.
- In fact, Canen et al. (2021) show that simple policies banning one form of capture might not be helpful in terms of market structure & welfare.
- When firms can choose among different forms of engaging with politicians (e.g. patronage, lobbying etc.) they can reoptimize and neutralize its effects.
- Political competition actually implies increased uncertainty for the firm, which becomes more aggressive at insuring its gains through capture.

Policy Implications (2)

Instead, policy benefits that have been found to be welfare improving theoretically and empirically include:

- Increased Transparency.
  - Includes audits on government contracts (e.g. Ferraz and Finan, 2008, 2011) and taxes (e.g. Shimales et al., 2017), disclosing losses to consumers/politicians' behavior.
  - Implies improved politician selection. Also achievable through increased civic engagement and communication (e.g. Fujiwara and Wantchekon, 2013).
- Technology.
  - E.g. ID Cards (Muralidharan et al., 2016; Banerjee et al., 2018), Digital collection (Ali et al., 2014).

Policy Implications (3)

- Banning corporate contributions has been shown effective in theoretical models too (Coate, 2004; Prat, 2006, Ashworth, 2006).
  - Also improves politician selection (e.g. Avis et al., 2020)
  - One concern is if firms can donate through dark money (Meyer, 2007) or unobservable ways.
- Regulatory reform (as in Laffont and Tirole, 1993)
  - Care must be taken of the risk of collusion between regulator and firm. See Carpenter (2010) for an example.

Elite Capture: Remark

Elite Capture and "Crony" Capitalism

- So far, we have focused on "short-term" and "micro"-level distortions.
- But such avenues can be entrenched and long-lasting, permeating the political system.
- **Crony capitalism** is a system of "structural" political distortions.
- Political connections are nearly universal. Firms are owned and/or managed by political or military elites.
- Legacy of the developmental states in Asia, North Africa (Egypt, Syria, Indonesia...). Hybrid systems such as China (Bai, Hsieh and Song, 2020)

Future Directions

Future Directions

- Development of a unified and yet flexible endogenous growth models with generic institutions, quantifiable with newly available data.
  - Would incorporate features of public finance, contract enforcement and democratic governance (e.g. political competition)
  - These models would generate socially optimal allocation of public investments, forms or levels of political connections or state capacity
  - Measuring political distortions/crony capitalism and their welfare effects. For instance, political connections might lead to misallocation of talent through aspiration failures.

Appendix

Aguiar and Amador (2011): Overview

- Small open economy with government, workers and firms
- Single, tradable good with price one
- Faces constant world interest rate: $R = (1 + r) > 1$

Workers:

- Supply labor inelastically
- Have preferences:

$$\sum_{t=0}^{\infty} \beta^t u(c_t)$$

Consumption decisions controlled by government: $c_t = w_t + T_t$

Firms

- Owned by capitalists and operate a deterministic, neoclassical production function $f(k, l)$
- Capital sunk within a period
- Hire workers in competitive labor market:

$$f_l(k_t, l_t) = w_t$$

- Face tax on capital income τ, opportunity cost of capital: $r + d$
- Firm's first order condition for capital:

$$(1 - \tau_t) f_k(k_t, l_t) = r + d$$

- First best capital k^*: $f_k(k^*, 1) = r + d$.

Political Economy in Aguiar and Amador (2011)

- N parties, probability $p = \frac{1}{N}$ of getting to power at any t
- Assumption:
  - $\tilde{\theta}u(c)$ when in power, $\tilde{\theta} > 1$
  - $u(c)$ when out of power
- Expected utility when in power (deterministic c_t) can be rescaled as:

$$W_t = \frac{\tilde{W}_t}{p\tilde{\theta} + 1 - p} = \theta u(c_t) + \beta \underbrace{\sum_{s=t+1}^{\infty} \beta^{s-t-1} u(c_s)}_{\equiv V_{t+1}}$$

- disagreement parameter: $\theta \equiv \tilde{\theta}/(p\tilde{\theta} + 1 - p) \in (1, \tilde{\theta})$

- Focus on self-enforcing, deterministic, "efficient", equilibrium of game between government and capitalists, solving for the equilibrium that:

$$V(b_0) = \max_{c_t, k_t} \sum_{t=0}^{\infty} \beta^t u(c_t)$$

subject to

$$b_0 \leq \sum_{t=0}^{\infty} R^{-t}(f(k_t) - (r+d)k_t - c_t)$$

$$\underline{W}(k_t) \leq W_t, \ \forall t$$

where $\underline{W}(k_t)$ is the "punishment" (payoff under financial autarky).

multipliers: μ_0 and $\lambda_t \mu_0 R^{-t}/\theta$.

First Order Conditions

$$1 = u'(c_t)\Big(\underbrace{\frac{(\beta R)^t}{\mu_0}}_{\text{impatience}} + \underbrace{\sum_{s=0}^{t} (\beta R)^{t-s} \frac{\lambda_s}{\theta}}_{\text{limited commitment}} + \underbrace{\left(\frac{\theta - 1}{\theta}\right) \lambda_t}_{\text{disagreement}} \Big)$$

- Limited commitment links investment and debt:
  - a government that is deep into debt cannot credibly promise to respect property rights of capitalists
- With standard discounting: current incumbent willing to trade-off consumption today versus tomorrow at the interest rate.
- With political frictions: current incumbent is unwilling to do so (desire consumption in power).
- Greater political disagreement $\Rightarrow$ slower convergence.

Back to Benchmarks

Acemoglu and Johnson (2005): Importance of property rights institutions to economic growth, investment, financial development?

- Studies effect of "property rights institutions" / "contracting institutions"

$$Y_c = \alpha \times F_c + \beta \times I_c + Z_c' \times \gamma_0 + \epsilon_c$$

- Variation: European Colonization
  - First stage relationship between Property rights institutions and determinants of colonization strategy resulting from disease environment, initial indigenous population (Mortality and Population Density)
  - L_c: British Legal origin

$$F_c = \delta_1 \times L_c + \eta_1 \times M_c + Z_c' + \gamma_1 + u_{1c}$$

$$I_c = \delta_2 \times L_c + \eta_2 \times M_c + Z_c' + \gamma_2 + u_{2c}$$

- Property rights institutions have a first-order effect on long-run economic growth, investment, and financial development.
- Contracting institutions appear to matter only for the form of financial intermediation.

Results

TABLE 4 Contracting vs. Property Rights Institutions: GDP per Capita and Investment-GDP Ratio (2SLS)

	Instrument for Property Rights Institutions					
	Log Settler Mortality (1)	Log Population Density (2)	Log Settler Mortality (3)	Log Settler Mortality (4)	Log Settler Mortality (5)	Log Settler Mortality (6)
	Panel A. Dependent Variable: Log GDP per Capita, Second Stage of 2SLS					
Legal formalism	.05	−.002			.35	.85
	(.24)	(.21)			(.15)	(.45)
Procedural complexity			.097			
			(.17)			
Number of procedures				.02		
				(.04)		
Constraint on executive	.99	.88	.84	.88		
	(.29)	(.27)	(.18)	(.23)		
Average protection against risk of expropriation					.99	
					(.16)	
Private property						2.45
						(.81)
	Results in Equivalent OLS Specification					
Measure of contracting institutions	−.16	−.13	−.050	−.013	.11	.01
	(.10)	(.10)	(.07)	(.009)	(.09)	(.10)
Measure of property rights institutions	.31	.29	.34	.32	.63	.74
	(.07)	(.07)	(.06)	(.06)	(.08)	(.14)
Observations	51	60	60	61	51	52
	Panel B. Dependent Variable: Investment-GDP Ratio, Second Stage of 2SLS					
Legal formalism	−.80	−1.34			.57	3.83
	(1.55)	(1.37)			(1.08)	(2.52)
Procedural complexity			−.60			
			(1.10)			
Number of procedures				−.08		
				(.23)		
Constraint on executive	4.70	4.24	4.21	4.06		
	(1.87)	(1.77)	(1.20)	(1.44)		
Average protection against risk of expropriation					4.68	
					(1.11)	
Private property						13.16
						(4.57)
	Results in Equivalent OLS Specification					
Measure of contracting institutions	−1.05	−.94	−.50	−.08	.67	.14
	(.83)	(.76)	(.60)	(.07)	(.71)	(.78)

TABLE 5 Contracting vs. Property Rights Institutions: Private Credit and Stock Market Capitalization (2SLS)

	Instrument for Property Rights Institutions					
	Log Settler Mortality (1)	Log Population Density (2)	Log Settler Mortality (3)	Log Settler Mortality (4)	Log Settler Mortality (5)	Log Settler Mortality (6)
	Panel A. Dependent Variable: Credit to Private Sector, Second Stage of 2SLS					
Legal formalism	−.08	−.08			−.01	.16
	(.08)	(.06)			(.07)	(.14)
Procedural complexity			−.05			
			(.06)			
Number of procedures				−.010		
				(.012)		
Constraint on executive	.27	.17	.24	.22		
	(.10)	(.07)	(.06)	(.07)		
Average protection against risk of expropriation					.28	
					(.07)	
Private property						.70
						(.25)
	Results in Equivalent OLS Specification					
Measure of contracting institutions	−.13	−.11	−.059	−.006	−.09	−.08
	(.04)	(.04)	(.030)	(.003)	(.04)	(.04)
Measure of property rights institutions	.06	.06	.08	.071	.13	.21
	(.03)	(.02)	(.02)	(.02)	(.04)	(.05)
Observations	51	60	60	61	51	52
	Panel B. Dependent Variable: Stock Market Capitalization, Second Stage of 2SLS					
Legal formalism	−.16	−.14			−.10	.04
	(.07)	(.05)			(.07)	(.10)
Procedural complexity			−.11			
			(.06)			
Number of procedures				−.022		
				(.013)		
Constraint on executive	.20	.13	.19	.14		
	(.09)	(.07)	(.06)	(.08)		
Average protection against risk of expropriation					.21	
					(.07)	
Private property						.54
						(.20)
	Results in Equivalent OLS Specification					
Measure of contracting institutions	−.17	−.15	−.08	−.006	−.15	−.08
	(.04)	(.04)	(.03)	(.004)	(.05)	(.04)

- Contracting institutions and legal rules have some effect on stock market capitalization. Limited or no effects on major economic outcomes, including long-run growth, the investment to GDP ratio, and the overall amount of financial intermediation in the economy.
- Property rights institutions, which determine the degree to which the government, politicians, and elites are constrained in their relationships with the rest of the society, matter significantly for all these outcomes.
- Explanation: Individuals often find ways of altering the terms of their formal and informal contracts to avoid the adverse effects of weak contracting institutions but find it harder to mitigate the risk of expropriation

Back to Benchmarks

Table II Input Mix and Court Quality (Fact 2)

	Dependent variable: $X_j^R/(X_j^R + X_j^H)$					
	(1)	(2)	(3)	(4)	(5)	(6)
Avg age of Civil HC cases	-0.00547*	-0.00621**	-0.00530*	-0.0144**	-0.0146**	-0.0167**
	(0.0022)	(0.0023)	(0.0024)	(0.0044)	(0.0044)	(0.0045)
Log district GDP/capita		-0.00389	-0.00384		-0.00912+	-0.00980+
		(0.0045)	(0.0046)		(0.0051)	(0.0051)
State Controls			Yes			Yes
5-digit Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Estimator	OLS	OLS	OLS	IV	IV	IV
R^2	0.441	0.446	0.449	0.441	0.446	0.449
Observations	225590	204031	199339	225590	204031	199339

Standard errors in parentheses, clustered at the state × industry level.
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
"State Controls" are trust, language herfindahl, caste herfindahl, and corruption.

Table III Vertical Integration of Plants and Court Quality (Fact 3)

	Dependent variable: Vertical Integration					
	(1)	(2)	(3)	(4)	(5)	(6)
Avg Age Of Civil Cases * Rel. Spec.	0.0195^{+}	0.0269*	0.0280*	0.0292	0.0314^{+}	0.0368*
	(0.011)	(0.012)	(0.012)	(0.019)	(0.018)	(0.018)
LogGDPC * Rel. Spec.		0.0464*	0.0288		0.0491*	0.0330
		(0.022)	(0.024)		(0.023)	(0.024)
Rel. Spec. × State Controls			Yes			Yes
5-digit Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Estimator	OLS	OLS	OLS	IV	IV	IV
R^2	0.443	0.451	0.453	0.443	0.451	0.453
Observations	163334	156191	154021	163334	156191	154021

Standard errors in parentheses, clustered at the state × industry level.
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
"Rel. Spec. × State controls" are interactions of trust, language herfindahl, caste herfindahl, and corruption with relationship-specificity.

▸ More Results

Benchmark 1: Barro (1990)

[label=barro1990] Government services in an $A-K$ model:

- Under a standard $A-K$ framework with CARA preferences, ρ discount factor and A TFP, the growth rate of consumption is:

$$\frac{\dot{c}}{c} = \frac{1}{\sigma}(\underbrace{f'(k)}_{\substack{Maginal\ Return\ Capital}} -\rho)$$

- Suppose public services g are supplied to households and are an input to private production together with capital (k) - i.e.:

$$y = k\phi\left(\frac{g}{k}\right),$$

and government expenditure is financed through a flat income tax:

$$g = \tau y = \tau k\phi\left(\frac{g}{k}\right)$$

- The (second-best/decentralized) growth rate of consumption is then:

$$\frac{\dot{c}}{c} = \frac{1}{\sigma}(\underbrace{(1-\tau)\phi\left(\frac{g}{k}\right)(1-\eta(k))}_{\text{Private Marginal Return to Capital}} -\rho),$$

  where η is the elasticity of y relative to g, given k.

- In this framework, improved property rights or tax systems are interpreted by investors as a decrease in marginal tax rates.

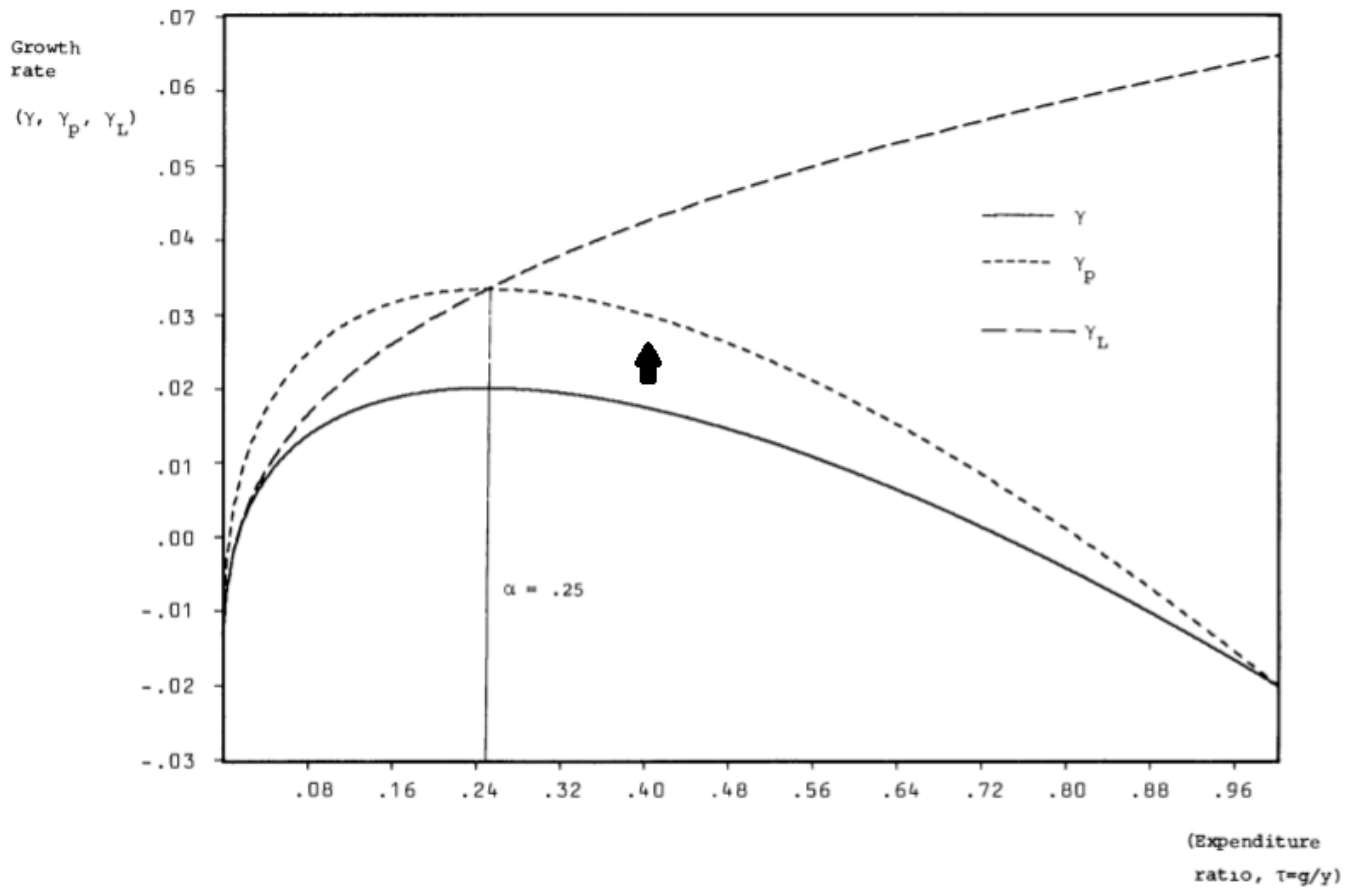


Figure 1: Effects of Improvement in Property Rights on Growth

Decrease in τ means shift of solid curve (γ) towards dashed (γ_L) curve.