

# 1 Determining the effect of institutions on growth

Now empirical part: we want the causal effect of institutions X on growth y.

## 2 Measures for the quality of institutions

First of all, to perform an empirical analysis you need a proxy for the quality of institutions (x) in order to:

- Run analysis of institutional evolution over time
- **Do cross-country comparisons**
- Help NGOs, international organizations, investors

To measure the quality of institutions:

- Requires a theory (typically a mainstream economic model)
- You often aggregate the indicators to 1) simplify the analysis, 2) compensate uncorrelated measurement errors. But this is an oversimplification: 1) lose specificity, 2) Parametric assumptions on substitutability/complementarity between institutions.

### 2.1 Rules-based Indicators

- **Definition:** Quantification of formal rules (*de jure*)—evaluation of formal legislation
- **Main Limitations:**
  - **Quantification** of formal legislation is difficult
  - Requires a **narrow case** definition for comparability
  - **Wedge** between formal and substantive legislation:
    - \* **Enforcement issues**
    - \* **Form vs. function distinction**
    - \* **“Declarative and procedural knowledge structures”**: institutions are a piece of paper + an history of application (riding the bicycle)
    - \* **resources available**
  - Indicators can be **manipulated** (e.g., specific legal items)

### 2.2 Outcome-based Indicators

- **Definition:** Evaluate perceptions on the practical consequences of rules (*de facto*) from relevant stakeholders (voters, firms, investors, etc.), usually through surveys
- **Challenges:**
  - **Hard to link perceptions to specific policies/institutions**
  - **Measurement problems:**
    - \* **Scale** used
    - \* **Difficulty in international comparisons** (Subjectivity: people have different perceptions)
  - Preference for precise and quantifiable survey questions
- **Sources:**
  - **Experts:**
    - \* Lower cost
    - \* Easier for cross-country comparison
    - \* Risk of excessive homogeneity (correlated errors)

- \* Possible bias (e.g., pro-business)
- **Broad samples (individuals, firms):**
  - \* Final beneficiaries of institutions
  - \* Higher political acceptance (if you have to modify legislation this is more acceptable)
  - \* Typical survey problems:
    - Costly
    - Sample selection bias and missing data
    - Cultural bias (e.g., trust questions), solution: 'area fixed effect'

## 2.3 Case Study: The Regulation of Entry, Djankov et al. (2002)

- **Context:**
  - Part of the “Ease of Doing Business” project (World Bank)
  - 85 countries in original study; later extended to 190
  - *Rules-based indicator:* Based on **official documents, agency reports, and expert input** that Measures (unit of analysis is a standardized firm)
    - \* **Number of procedures to open a firm:** All legally required steps an entrepreneur must complete to start operating a business (e.g., registration, licenses, notifications).
    - \* **Time required:** Minimum number of business days required to complete the procedures under normal conditions, assuming efficient government and no corruption.
    - \* **Monetary costs:** Sum of all official fees, including charges for registration, licenses, notarizations, legal forms, etc.
- **Theoretical framework: Why regulate entry?**
  1. **Public Interest (PI) theory of regulation** (Pigou, 1938):
    - Regulation to correct market failures (externalities, quality of products, info asymmetries)
    - Inefficiencies  $\Rightarrow$  Regulation
  2. **Public Choice (PC) theory of regulation** (Tullock, 1967):
    - Regulation favors private interests (“regulation is acquired by the industry and is designed and operated primarily for its benefit”, eg. firms reduce competition = theory of regulatory capture by Stigler), bureaucrats extract rents and bribes (Tollbooth theory)
    - Regulation  $\Rightarrow$  Inefficiencies
- **Empirical implications: If PI theory holds, regulation should**
  - Be **positively** correlated with:
    - \* Product quality, health, environmental protection, competition (“social outcomes”)
  - Be **negatively** correlated with:
    - \* Corruption
  - Be **higher** where political conditions align with consumer interests (e.g. executive constraints, political rights)
- **Empirical strategy: 3 regressions using OLS**
  1. **Regulation and social outcomes:**
    - **y:** 7 measures of “public goods”; quality standards, death from intestinal infection
    - Explanatory variable:  $\text{Log}(\# \text{ of procedures})$ ,  $\text{Log}(\text{GDP per capita})$
    - **Result:** no evidence that stricter regulation of entry is associated with higher quality products, better pollution records or health outcomes, or keener competition.
  2. **Regulation and corruption:**

- **y**: Index of (absence of) corruption
  - Explanatory variables: Same as above
  - **Result**: more regulation more corruption
3. **Regulation and political conditions:**
- **y**: Entry regulation (Log(# of procedures))
  - Explanatory variable: Political climate indicators (distance between politicians and consumers), Log(GDP per capita)
  - **Result**: better political climate less regulation
- **Conclusions:**
    - Results contradict PI theory predictions → Entry is regulated because doing so benefits regulators (support PC theory)
    - Implication: Entry barriers harm growth, don't serve public interest
    - Autocratic government, with less constraints on executive power and weaker legislatures are those who regulate more!
    - WB: The 20 worst-scoring economies on Corruption Perceptions Index average longer procedures to start a business and 15 to obtain a building permit.
    - Huge policy impact!
  - **BUT:** Caution: OLS limitations (e.g., reverse causality, omitted variables), example of reverse causality: Anti-mafia laws where mafia is present ⇒ correlation does not imply causation.

WE NEED AN INSTRUMENT