Judicial Capacity Increases Firm Growth Through Credit Access: Evidence from Clogged Courts of India

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Abstract

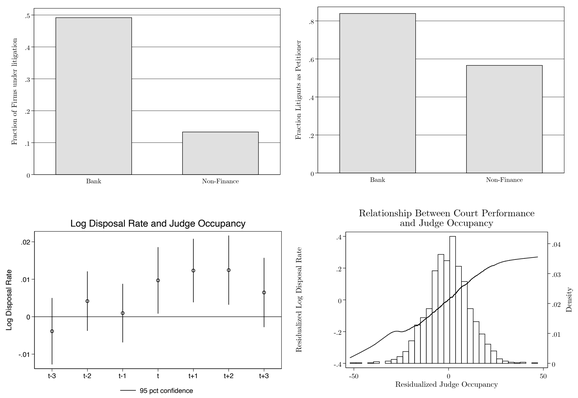
In this paper, I examine the **effects of trial court capacity** on local firms' production decisions by exploiting **quasi-random variation in judge vacancies**

- Use **trial records** for a third of district courts in India to construct annual court-level performance measures and summarize types of firm-level litigants.
- Merge court records with district-level lending and by firms' registered office location
- Find reducing judge vacancy **increases repayment of outstanding loans** in local credit markets, bringing back millions of $ for credit recirculation
- This increases **local firms' labor use**, production, and profitability through improved access to bank credit
- Fixing judge vacancy generates between **2.7-20 times benefit** relative to the cost

Motivation

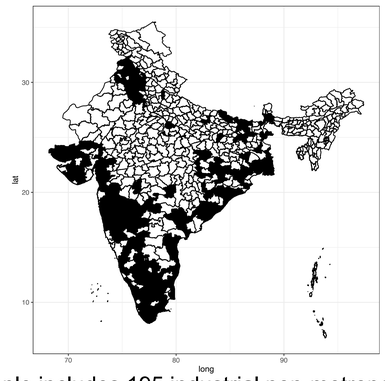
- Timely enforcement of contracts and rights by courts:
  - **Liquidity** Effects: Free tied-up capital
  - **Expectation** Effects: Reduce transaction costs and uncertainty
- Gap in literature using **microdata from the judiciary** in developing countries to examine the role of courts in facilitating day-to-day economic activities
- This paper:
  - Provides **a well-identified estimate** of this relationship
  - Highlights the role of judge vacancy as a **state capacity constraint**
  - Illustrates the role of **liquidity effects in local financial markets** as an important mechanism behind the effects on local firms

Court-level Outcomes



- Banks are the biggest litigators in courts
- First Stage: Lower vacancy increases the rate of trial resolution
- Occupancy uncorrelated with past trial resolution

Sample



- Sample includes 195 industrial non-metropolitan court districts and all 6 million trial metadata from 2010-2018
- Credit market: RBI district-level credit summary data
- Firm-level: CMIE Prowess dataset on formal sector firms (annual balance sheet data)

Estimation Strategy

- Structural vacancies in Indian judiciary
- Short tenure of judges (1-2 years)
- Centralized judge rotation with a non-repeat constraint, no home-town, no past workplace as a legal professional
- IV using judge occupancy as an instrument for court-level rate of trial resolution

$$D_{dt} = \varphi_d + \varphi_{st} + \pi J_{dt} + \boldsymbol{X_f'\Theta} + \epsilon_{\boldsymbol{fdt+k}}$$

$$Y_{fdt+k} = \phi_d + \phi_{st} + \theta \widehat{D}_{dt} + \boldsymbol{X_f'}\Delta + \varepsilon_{\boldsymbol{fdt+k}}$$

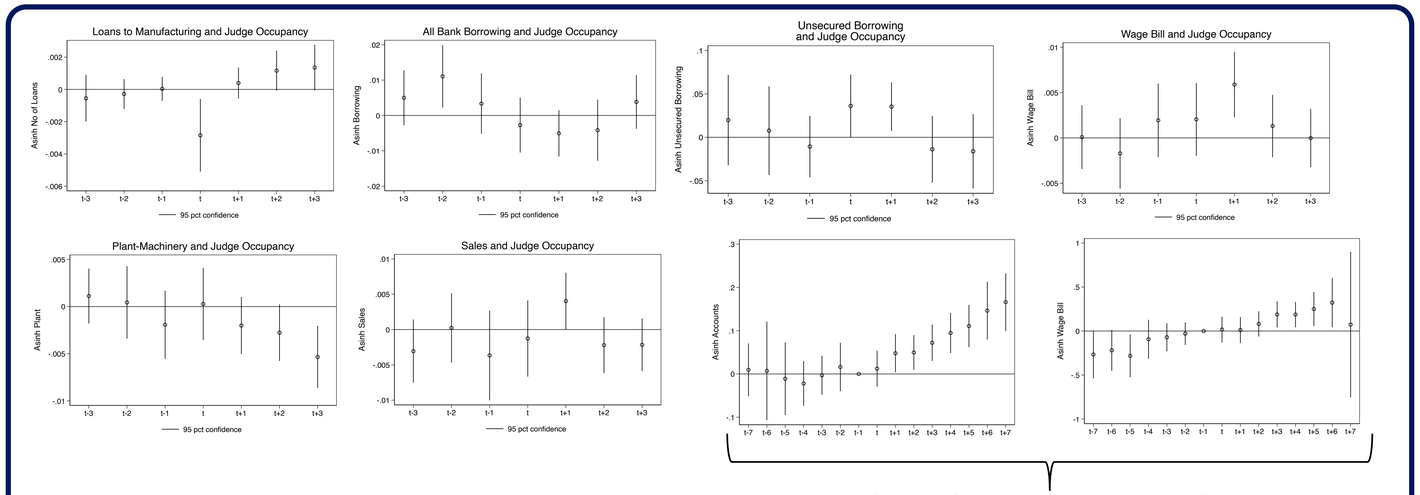
- Event-study with distributed lags

$$D_{dt} = \gamma_d + \gamma_{st} + \sum_{s=-3}^{s=3} \psi_s J_{dt+s} + \upsilon_{\boldsymbol{dt}}$$

$$Y_{fdt} = \delta_d + \delta_{st} + \sum_{s=-3}^{s=3} \Omega_s J_{dt+s} + \mu_{\boldsymbol{dt}}$$

- Cluster by district-year

Key Reduced Form Results



IV approach also presents qualitatively similar results as the above event-study results, and provides estimates of elasticities with respect to rate of trial resolution

Alternate Identification Strategy: Stacked Event-Study using event dummy for 10% increase in judge occupancy

Back of the envelope benefit-cost

	Parameter values	Units	Source
Judges	▪ 18 ▪ 77% ▪ 1/(0.77 x 18) = 7.2 ▪ 0.035	▪ Average posts per court ▪ Average Occupancy ▪ % increase in occupancy ▪ Million USD cost per judge	▪ Calculated from trial meta-data ▪ Calculated from trial meta-data ▪ Calculation ▪ Interviews
Profit	▪ IQR: (-9.9, 51.5) ▪ 0.96 ▪ 0.96 x 7.2 = 6.9	▪ Million USD ▪ Reduced form estimate ▪ % change per judge	▪ CMIE Prowess data ▪ Estimation ▪ Calculation
Wage Bill	▪ IQR: (6.4, 158.5) ▪ 0.37 ▪ 0.37 x 7.2 = 2.66	▪ Million USD ▪ Reduced form estimate ▪ % change per judge	▪ CMIE Prowess data ▪ Estimation ▪ Calculation
Benefit-cost range	▪ Tax: 15%, 7.3% ▪ IQR: (20,184) ▪ IQR: (2.7, 20)	▪ Corporate tax, income tax ▪ Social benefit-cost ▪ Tax revenue-cost	▪ Government of India and LiveMint (Hindustan Times) ▪ Discounted NPV of lagged benefits using 10% discount rate

Robustness

- No correlation between district population and judge vacancy over time
- Different constructions of court performance measures and judge vacancy
- Alternate Identification using standard event-dummy similar qualitative results
- Two-way fixed effects correction
- Clustering standard errors at different levels

Conclusions

- Day to day functioning of trial courts, irrespective of changes in laws, matter for the economy
- Banks are the biggest litigators in trial courts, engaged in debt recovery
- An additional judge resolves 200 registered cases (including dismissals before trial)
- Local manufacturing and formal sector firms increase repayment leading to credit recirculation
- Wage bill, sales, and profit increases on average
- Addressing judge vacancy generates large benefit-cost ratio

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