

Front-line Courts as State Capacity

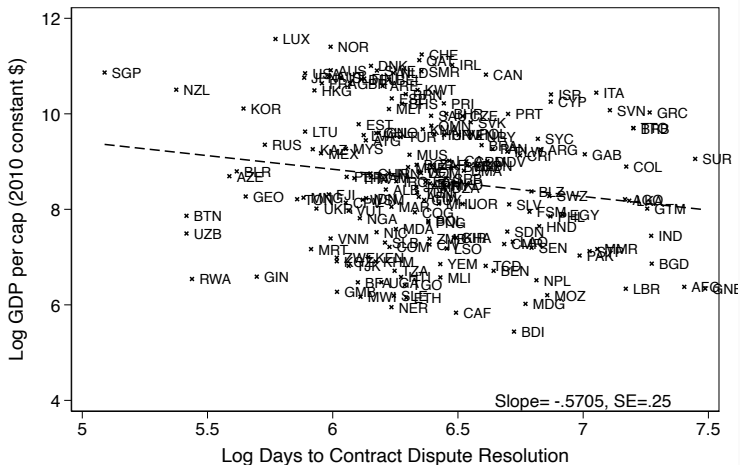
Micro-Evidence from India

Manaswini Rao

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University of California, San Diego

Judicial Delays Are Costly



Source: World Development Indicators, The World Bank

Rich Theory on the Role of Courts

- **Expectation Effects:** contract enforcement \rightarrow \downarrow transaction costs and uncertainty \rightarrow stronger financial sector \rightarrow firm growth
- **Liquidity Effects:** Free tied-up factors of production involved in litigation

Empirical Contribution: Effects of Judicial Incapacity

- Examine **staffing constraints** (judge vacancies) in local (district) courts and its consequences on **court performance** and **local firm production**
- Use a novel **trial-level** dataset across a quarter district courts in **India**
- Exploit judicial staffing changes that **exogenous varies vacancies** for causal identification
- **Take-away:**
 - Adding judges increases resolution of pending case
 - Increases access to operating capital for local firms, and improves firm profitability, generating on average
 - **Mechanism:** Local credit markets (bank branches) play an important role
 - **> 3X returns** to public investment in the judiciary

Three Key Contributions

- Causal effects of local courts - **using exogenous variation in persistent judge vacancies** Djankov, et al, 2003; Chemin (2009a, 2009b, 2012, 2020); Visaria (2009); Coviello, et al (2016, 2018); Ponticelli and Alencar (2016); Amirapu (2017); Kondylis and Stein (2018).
- Contract enforcement in credit markets - **a lot of lent capital is stuck in litigation** - and economic development Rajan and Zingales (1998), Banerjee (2001), Besley and Burgess, 2004, Acemoglu and Johnson, 2005, Burgess and Pande (2005), Banerjee and Duflo (2014)
- Judicial capacity as state capacity - **high returns on public expenditure** Muralidharan, et al, 2016; Dal Bo and Finan, 2016; Dhaliwal and Hanna, 2017; Finan et al, 2017, Kapur 2020

Indian Judiciary Is Severely Constrained

- Unitary structure of the Indian Judiciary Judiciary, with district and sub-district judiciary facing bulk of the workload:
 - 1 Supreme Court: 70,000 cases
 - 39 High Courts (state-level): \approx 5 million cases
 - 3389 District and Sub-District Courts (district-level): >40 million cases
- High vacancies: 12% in the Supreme Court, $>35\%$ in High Courts, $\approx 25\%$ in district and subordinate courts
- Large backlog in courts: 11% trials require more than 10 years to be resolved

Novel Data on Courts

- Universe of **trials** (≈ 6 million) in 195 district courts of between 2010 and 2018
- **Generate** court-level annual variables - number of judges, litigation filings, resolutions, backlog resolution rate
($\frac{\#disposed \times 100}{total\ workload}$)
- Observe **changes** in judge staffing levels in data
- Merge with balance sheet data of **local formal sector firms**
 - Single plant
 - Local credit (through bank branches)
 - Location of litigation in debt recovery

Causal Identification

- Exogenous timing of addition and removal of judges from courts that varies staffing levels, i.e., the number of judges and vacancy rate
- Vacancies are persistent and are only addressed sporadically
- District judges are mid-career judicial officers, with career length 15-20 years, and retire at 60
- High Courts hire and assign judges to district courts:
 - Substantial recruitment challenges - budgetary, lack of appropriate candidates, etc.
 - Short tenure and frequently rotated without repetition

Summary Statistics

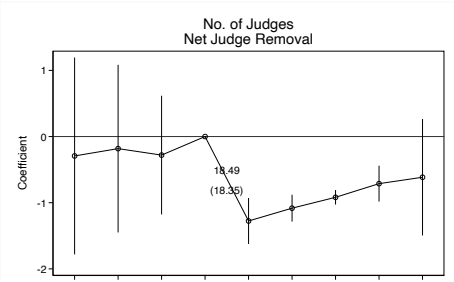
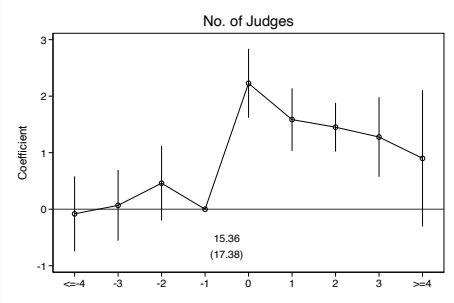
(1)

	No. of Units	Observations	Mean	Std Dev	Min	Max
Panel A: Court Variables						
Total Judge Posts	195	1755	18	19	1	108
100-Vacancy(%)	195	1723	77	21	10	100
No. Net Judge Increases	195	195	1.621	1.153	0	6
Δ Judge (+ve) (per event)	158	158	2.31	2.54	1	24
No. Net Judge Decreases	195	195	3.6	1.66	1	8
Δ Judge (-ve) (per event)	195	195	3.67	3.97	1	33
Disposal Rate (%)	195	1755	14	12	0	86
Case Duration (days)	195	5706852	420	570	0	4022
Panel B: Bank Variables						
No. Industry Loans	192	1719	9188.2	15602.58	30	188456
Outstanding Amount (real terms, million INR)	192	1719	310.3	1130.19	0.023	15569.2
Panel C: Firm Variables						
Wage Bill (in real terms, million INR)	391	3440	844.32	1832.1	0	23192.5
Plant value (real terms, million INR)	376	3276	6787.64	23546.64	0	335031
Revenue from Sales (real terms, million INR)	393	3471	13470.21	45468.43	0.1	796687.8
Accounting Profits (in real terms, million INR)	393	3517	739.69	5322.77	-88513.98	109993.2
Raw Mat Exp (real terms, million INR)	325	2786	7764.64	33368.59	-63.21	750132.8

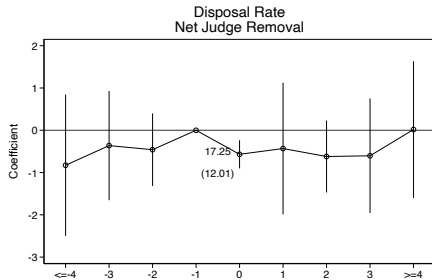
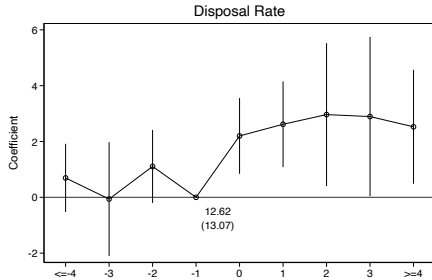
Empirical Strategy: Multiple Events Study Design

$$\begin{aligned} y_{it} = & \sum_{j=-4-j \neq -1}^{4+} \beta_j^+ \mathbb{1}\{|t - T_{d,e}| = j\} \times Pos_{d,e} \\ & + \sum_{j=-4-j \neq -1}^{4+} \beta_j^- \mathbb{1}\{|t - T_{d,e}| = j\} \times Neg_{d,e} \\ & + \alpha_i + \alpha_e + \alpha_{st} + \epsilon_{it} \end{aligned}$$

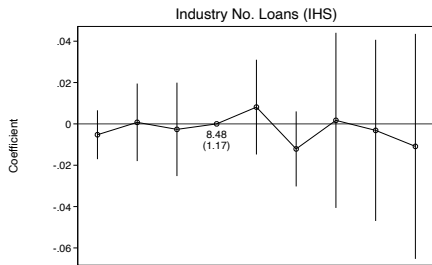
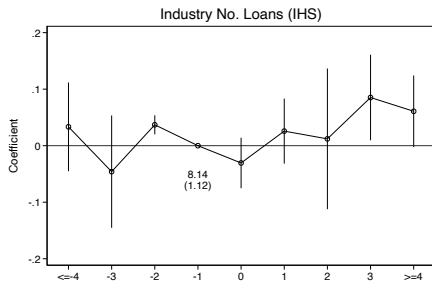
Judge Transfers Generate Sharp Discontinuity In Staffing Unexpectedly



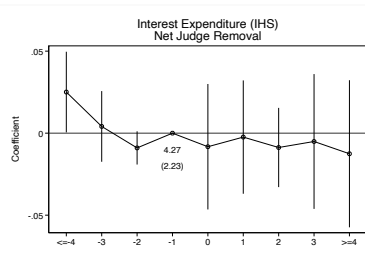
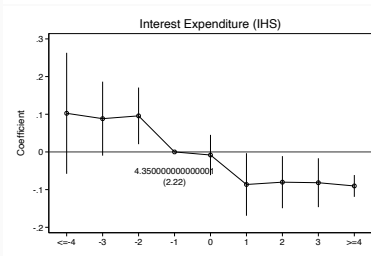
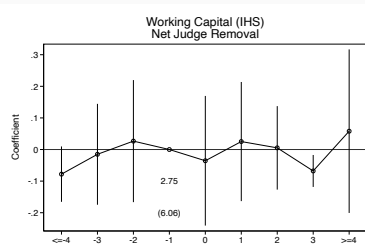
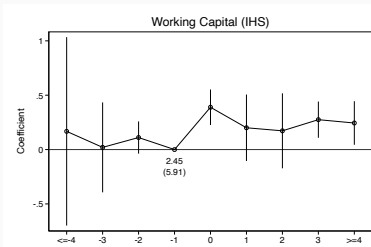
(Increase in) Staffing Affects Court Performance



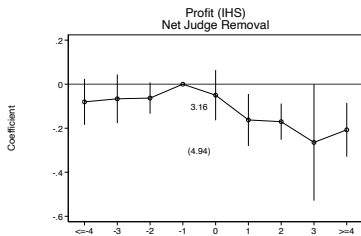
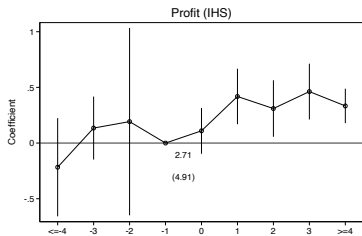
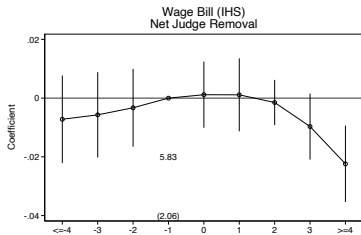
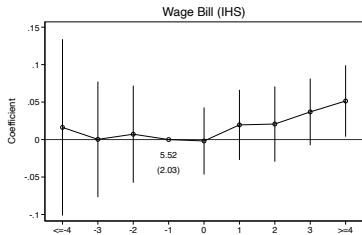
(One-Sided) Credit Market Effects: Affects Bank Lending Locally



Affects Local Firms' Operating Capital (One-Sided)



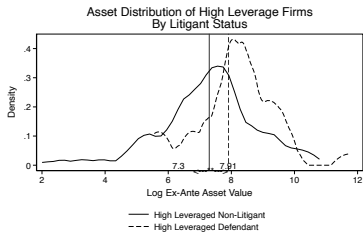
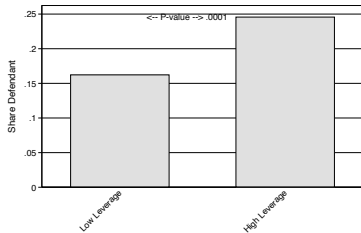
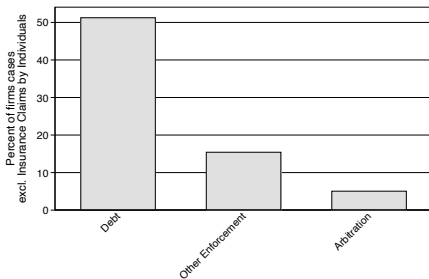
Affects Local Firms Production (Symmetrically)



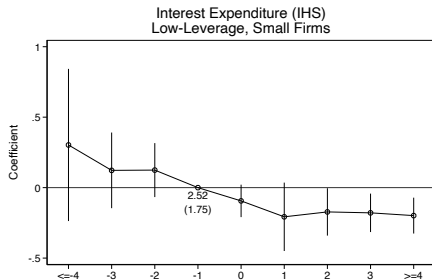
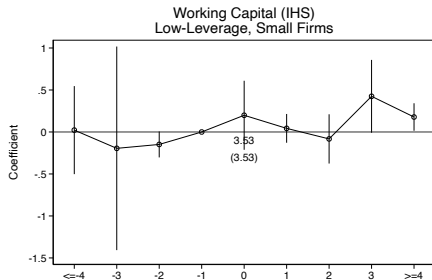
Conceptual Framework

- Better courts enable **contract enforcement**: lender able to **recover unpaid debt** if chooses to litigate
- Lender-borrower bargaining game with
 - Lender's strategy set - ($\{\text{Lend}\}$, $\{\text{Lend, Litigate}\}$, $\{\text{Lend, Not Litigate}\}$, $\{\text{Not Lend}\}$)
 - Borrower's strategy set - ($\{\text{Default}\}$, $\{\text{Default, Accept Litigation}\}$, $\{\text{Default, Settle}\}$, $\{\text{Repay}\}$)
 - Payoffs a function of judicial capacity γ
- Lender **lends more** and lowers interest rates for all borrowers
- Effects **local firms'** value of production through credit markets as well as lower transaction costs

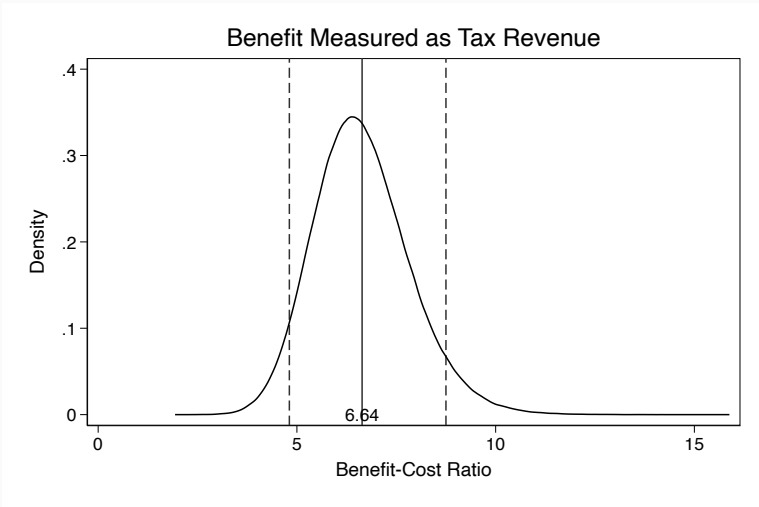
Credit Contracts Important Litigation Type



Heterogeneity By Leverage



3X Returns on Public Investment in Judicial Capacity



Robustness Checks

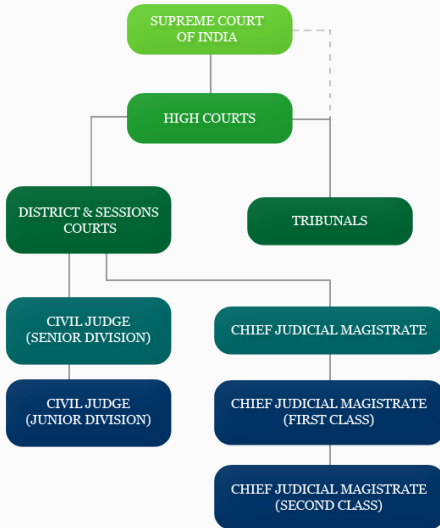
- Dynamic panel specification, generalized event study design with inverse vacancy rates as exp var Dynamic Panel
- Cluster standard errors by state (serial correlation between courts due to judge assignment) Cluster
- Dropping top industrial states and districts
- Dropping litigating firms
- Repeated cross-section of firms: To address concern about small sample of firms (due to balanced panel restriction)

Summary

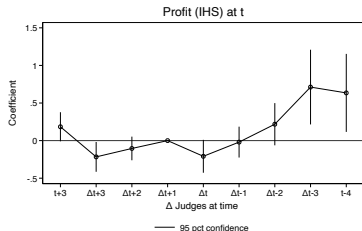
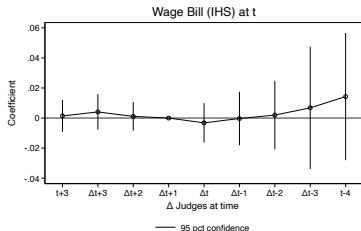
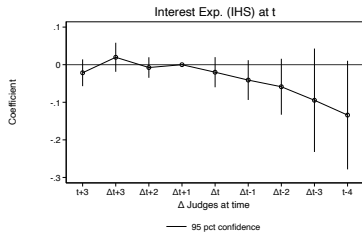
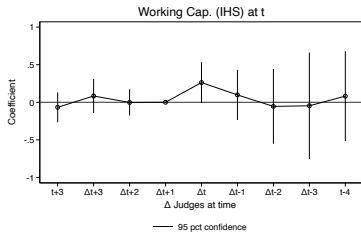
- Delays in lowering vacancy has huge implications for economic development
- When judges are added to courts, backlog reduces, more industrial loans, higher working capital for firms, higher wages and profits
- Effect of judge removal is not completely symmetric in mechanism
- Other explanation plausible, but sheds light on oft-neglected role of courts in circulation of capital

Appendix

Indian Judiciary Org-Chart



Dynamic Panel



Cluster by State: Court Outcomes

