

# Court Backlogs and Crime in India

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## Abstract

We analyze the relationship between a ‘weak judiciary’, as measured by the percentage of pending trials, and the propensity to engage in criminal activities. Using state-level panel data for India from 1995 to 2007, we look at the relationship between crime and court backlogs. Our estimations show that there is a positive relationship between backlogs of cases in state High Courts and property crimes but not violent crimes. We argue that policies that increase the number of judges and justice and policing staff per capita are likely to reduce case backlogs by increasing the speed of investigations and case procedures. This in turn would reduce certain categories of crime.

## Keywords

Crime, Violence, Court Backlogs, Weak Judiciary

## Introduction

In this article, we consider the extent to which lengthy delays in access to justice affect crime across Indian states. India has a shortage of legal and police staff. In 2013, India had roughly 15 judges per million people which falls short of the ‘50 judges per million’ recommended by the Law Commission in 2008. In terms of police force, India has 129 per 100,000 people, which is below the average of police per capita in comparison to other countries<sup>1</sup>. These shortages, along with a dynamic developing economy, fuelled with economic and financial alterations and high levels of internal conflicts and crime, lead to bottlenecks in the administration of the justice system. These in turn have been shown to deeply affect businesses, economic development and ultimately growth (Djankov, La Porta, Lopez-de-Silanes & Shleifer, 2003).

There are good reasons to believe that delays in justice due to court congestion may affect crime. In standard economic models of crime (see Becker, 1968), potential criminals take decisions on whether to engage in illegal activities after weighing the costs (expected punishment) and benefits (value of the proceeds from crime) of committing crime. Empirical evidence on the validity of this

model is wide and shows that the willingness to commit a crime (proxied by crime rates) is inversely related to the probability of detection, conviction and punishment. What is more, this relationship holds in empirical work across a range of countries (Amaral, Bandyopadhyay, Bhattacharya & Sensarma, 2013 for India; Gould, Weinberg & Mustard, 2002; Chalfin & McCracy, 2013 for the US; Di Tella & Schargrodsky, 2004 for Argentina; Doyle, Ahmed & Horn, 1999; Draca & Machin, 2011; Han, Bandyopadhyay & Bhattacharya, 2013 for the UK). Similarly, factors that increase the benefits of legal activities are inversely related to the probability of engaging in crime.

We identify two channels through which lengthy trials may increase crime rates: deterrence and economic effect. First, a weak judiciary signals low deterrence to potential criminals via a lowered chance of conviction because of delays. Even with no changes in conviction probability, its deterrence effect may be diminished by decreasing the cost of punishments imposed by courts as delayed conviction acts as a discount factor, lowering the costs of punishment. Indeed the criminology literature refers to celerity as one of the three key factors deterring crime (with severity and certainty being the other two).

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Secondly, delays in the justice system have a dampening effect on the economy and this in turn is likely to affect crime rates. Chemin (2009) considers the effect of red tape on economic activities in India. The article shows that the increased duration in trials reduces farmers' access to credit markets (which is necessary for financing production) and this in turn negatively affects agricultural development. Thus, judicial backlogs affect production in the economy. A number of studies have addressed the relation between economic conditions and crime to test the theoretical predictions posited in Becker (1968).

Prasad (2012) finds that following the 1991 economic reforms in India, murders decreased. Blakeslee and Fishman (2014) take adverse rainfall in Indian districts as an exogenous proxy for negative income shocks,<sup>2</sup> and test its effect on crime rates. They find that perverse effects on income affect property crimes and violent crimes with more pronounced effects on the former. They show that while negative shocks increase crime rates, positive shocks do not decrease crime. Similarly, Iyer and Topalova (2014) examine the link between poverty and crime by also considering the effects on crime of the reduction in import tariffs after the trade liberalization reforms of 1991 in India. They find that both violent and property crimes increase. As a result, we expect higher court backlogs (which negatively impinge on the economy) to increase crime rates. However, this relationship has not been formally analyzed before, a gap which we attempt to address.

We look at the relationship between lengthy trials and the criminal justice system in India using state-year panel data from the period 1995–2007. We estimate the relation between the previous period's case backlogs in state High Courts and the willingness to commit crimes. In our specifications, we disaggregate total crime by violent and property crime and also consider murder as a separate category to investigate whether lengthy trials are more likely to affect what may be considered rational type of crimes (property crime as opposed to violent crime/murder). Our intuition is derived from the fact that if individuals internalize the fact that the justice system has long lags, the choice of committing a crime based on this information is more likely to be taken by rational decision-makers, rather than those committing crimes which may be less rationally motivated.

Our results suggest that a high percentage of pending trials in state High Courts is positively correlated with crimes against property rather than violent criminal activity. In our empirical specification, we consider the potential endogeneity of a judicial backlog and crime and to partially control for that, our main independent variable of interest is lagged one year. In addition, our specifications

include year- and state-fixed effects and standard factors considered in the economics of crime literature (see the literature referred to earlier), such as income per capita, percentage of young males in the population, population diversity, literacy rates, police strength and electoral cycles.

In the next section, we provide a brief description of the justice system in India and an overview of the literature between legal conditions in courts and crime. 'Backlogs and crime in India' explains our data and presents results, and the section 'Discussion' discusses the policy implications and concludes the article.

## Justice System and Backlogs in India

India has an extensive justice system with a tiered system of courts that operates a common law system of jurisdiction. While the structure of the justice system is commendable, it suffers from an enormous backlog of cases running to several millions<sup>3</sup>. Indeed, with over 31 million open cases in India in 2013, cases can run into decades to be resolved.

There are several reasons why the justice system may be slow: lengthy trials and settlements, increase in the duration of investigations, increase in the duration of the already understaffed police investigations, the presence of a complex legislation and as recently pointed out, the absence of any time ceiling to conclude cases<sup>4</sup>.

However, several measures have led to some progress and proved to be effective in addressing some of the inefficiencies of the justice system. Visaria (2009) shows that the introduction of debt recovery courts in India was effective in increasing debt recovery and contract enforcement. Chemin (2012) looks at the effect of speedy trials on the contracting behaviour of firms. The author uses the introduction of the 2002 Code of Civil Procedure Amendment Act that increased the disposal of civil suits as a natural experiment and shows that for small firms, increases in the effectiveness of the judiciary increased contract enforcement, investment and access to finance. Several other initiatives were introduced over the years with the aim of improving the justice system, including the introduction of fast track courts which are likely to produce positive effects on the economy.

In this article, we look at the relation of a lengthy judicial process with criminal activity and find evidence that High Court backlogs are likely to increase the propensity to commit crime. Our study is related to Dalla Pellegrina (2008) which shows that in areas with less efficient courts, the number of lengthy trials increase and this raises the probability of individuals engaging in criminal activities in comparison to those in areas with more efficient courts.

## Backlogs and Crime in India

We use a state-year panel data of 16 major states of India from 1995 to 2007 and estimate a typical empirical criminology function (Becker, 1968). In our specification, we look at the relationship between case backlogs and crime. We measure case backlogs by the percentage of total cases that are pending in court in a given state-year. We test the relationship of this variable on total crime as well as separately for violent, property and murder crimes per 100,000 people. This data was collected from the yearly publications of the National Crime Records Bureau (NCRB) and from the High Court's statistics. In addition, we include in our specifications several socio-economic variables to account for any confounding factors such as state GDP per capita, share of potential criminals in the population (i.e., young males), literacy rates, urbanization, share of SC/ST population, police strength and a dummy variable of the lagged state election year. This information was collected from the census publications of 1991 and 2001, Electoral Commission, the Reserve Bank of India and the NCRB publications. Descriptive statistics of major variables are presented in Table 1. Our estimated model looks like:

$$Crime_{st} = \beta_0 + \alpha_s + \gamma_t + \theta Pending_{s(t-1)} + \beta X + \varepsilon_{st}$$

where  $Crime_{st}$  is the log of incidents per 100,000 population in a state  $s$  at time  $t$ ,  $\alpha_s$  are state-fixed effects and  $\gamma_t$  are year dummies. We are interested in the coefficient  $\theta$  which captures the relationship between crime rates and our main variable of interest, that is, the share of pending cases in High Courts in the previous period,  $Pending_{s(t-1)}$ . We also include a vector of several socio-economic and public order control variables  $\beta X$ . The standard-errors are clustered at the state level.

Measuring the relation between the effectiveness of the judiciary and crime poses the question as to the best measure of judicial effectiveness. In this article, we focus on case backlogs as our preferred measure. Case backlogs

**Table 1.** Summary Statistics

	Mean	Standard Deviation
Young Males	0.112	0.030
Literacy	0.560	0.100
SC	0.166	0.060
Urbanization	0.262	0.100
Election Year	0.216	0.413
p.c. Income	2.013	0.794
Police p.c.	1.442	0.567
ST	0.082	0.073
Property Crime Rate	0.319	0.134
Economic Crime Rate	0.057	0.037
Violent Crime Rate	0.325	0.166
Total Crime Rate	0.887	0.343

**Note:** Young Males, SC and ST refer to share of young males, SCs and STs in the population; p.c. is per capita.

are likely to be a function of the within-state capacity of the justice system, the judge's ability and crime itself making it difficult to establish a causal crime-backlogs relationship. For example, there may be reverse causality as case backlogs and the length of trials may be itself determined by the number of crimes in a given state. While we do not fully resolve concerns over endogeneity between crime and pending trials, we do however take some precautionary steps. In our estimations, we look at the lag of pending trials and control for state- and year-fixed effects to remove the effect deriving from unobservable factors (e.g., judges' ability) and general macroeconomic time effects. In addition, we also include in our specifications a lagged state election year dummy to account for the fact that there may exist a crime-electoral cycle (Ghosh, 2006).

Table 2 presents the results from linear fixed-effect (FE) estimations with year dummies. As expected, there is a positive correlation between the percentage of pending cases in the previous year and contemporaneous total crime. However, we would like to understand whether this effect is present across all crime types or present only in

**Table 2.** Linear FE Estimation with Year Dummies

	Total	Murder	Violent	Economic	Property
<b>Pending<sub>t-1</sub></b>	0.691** (0.282)	-0.017 (0.202)	-0.236 (0.458)	0.238 (0.431)	0.614** (0.305)
Young males	-1.119 (2.829)	1.445 (1.586)	-0.179 (3.063)	9.529** (3.793)	2.796 (2.895)
Literacy	-1.193 (1.241)	-1.707** (0.799)	1.438 (1.022)	-2.644 (1.952)	-1.704 (1.054)
Urban population	0.399 (0.674)	-0.074 (0.291)	0.370 (0.496)	1.445 (1.429)	0.973 (0.771)
<b>Electoral Year<sub>t-1</sub></b>	0.007 (0.022)	-0.002 (0.012)	-0.006 (0.028)	0.063 (0.039)	0.018 (0.020)

(Table 2 continued)

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	Total	Murder	Violent	Economic	Property
p.c. income	-0.088 (0.164)	0.332** (0.169)	-0.107 (0.258)	0.195 (0.210)	0.234 (0.189)
<b>Police strenght<sub>t-1</sub></b>	-0.184 (0.145)	0.129 (0.090)	0.185 (0.241)	0.023 (0.160)	-0.026 (0.084)
ST	-0.186 (2.271)	2.155 (1.481)	0.633 (1.583)	-2.432 (3.299)	1.348 (1.813)
SC	-0.452 (2.376)	2.241* (1.199)	-2.081 (2.585)	0.033 (6.104)	0.133 (1.840)
Constant	10.551*** (0.925)	-3.561*** (0.656)	-1.657* (0.891)	-3.321** (1.334)	-1.577** (0.790)
N	191	191	191	191	191
Number of states	16	16	16	16	16
State FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

Source: Author’s own calculations.

Note: Dependent variables are the log of incidents per population. ‘Pending’ is the log of cases pending year per total cases. ‘Police strength’ is the log of actual police force deployed per capita. Standard errors in all regressions are clustered at the state level. Significant values are denoted with \*\*\*, \*\* or \* if significant at the 1 per cent, 5 per cent or 10 per cent level.

crimes which may be more an outcome of rational choice. When disaggregating the total crime rate, we run separate regressions for murder, violent, economic and property crime. The positive correlation is only statistically significant for property crimes (i.e., the sum of theft, robberies and burglary) and the coefficients are very similar in

magnitude and direction to the non-disaggregated model. There is no consensus in the literature on the sign of the control variables; thus, it is no surprise that they are not consistent or significant across all crime categories.

In Figure 1, we highlight this relationship between property crime and case backlogs, and show that while this

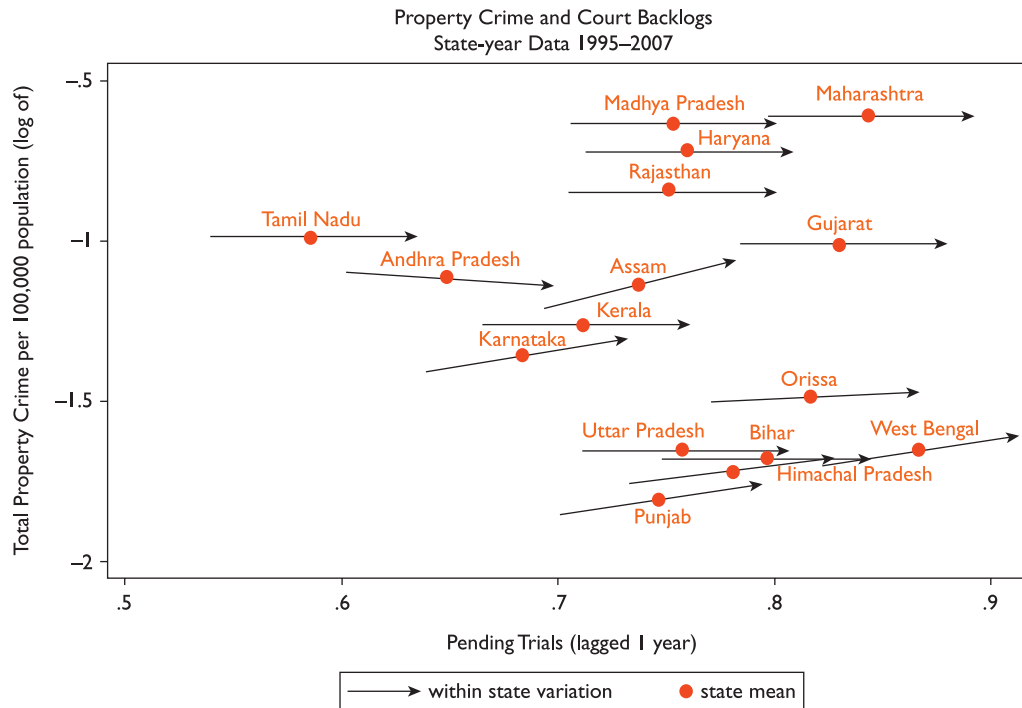


Figure 1. Relationship between Property Crime and Pending Trials

Source: Author’s own calculations.

Note: Bivariate relationship plot intra- and inter-state variation, based on regressions with state and year dummies and state-year controls. Standard errors are clustered at the state level.

holds true for the mean, there is considerable variation across states, specifically the states of West Bengal, Punjab, Himachal Pradesh, Karnataka, Assam have a positive correlation between both variables.

This is in line with our initial intuition that points to the fact that a weak judiciary is more likely to influence the economy and illegal economic activities rather than affect every crime category. It is worth noticing that the coefficient on pending trials for economic crimes is also positive (although not significant), whereas for murder and violent crimes, the coefficient is negative and insignificant.

## Discussion

The empirical work presented points to the negative consequences of lengthy trials for encouraging criminal activity. We find that a weak judiciary, measured by court backlogs, is positively associated with property crimes. This has a number of policy consequences and indeed the growing economy in India itself has consequences for judicial backlogs since economic development raises the probability that victims report a crime (Soares, 2004). This can already be observed by the recent upward trend in reported violent crime.<sup>5</sup> Thus, it is expected that in the foreseeable future, court backlogs will increase further. Preventive measures to circumvent these problems can include a much needed police reform and judicial reforms. This includes the adoption of alternative dispute resolution mechanisms that can affect access to justice for the poor and increased funding for fast track courts. Equity in justice demands that this is not achieved via more costly access to courts. For example, states with higher court fees, such as Tamil Nadu, are expected to have lower case backlogs (Vereeck & Mühl, 2000). But this favours rich plaintiffs and while this discourages frivolous litigation, it may make justice out of reach for the poor. Instead, recommendations made by the Law Commission around alternate dispute settlement mechanisms, simplifying laws (e.g., motor Vehicles Act to simplify settlement of traffic fine) and filling of open vacancies in courts remain promising avenues of reform. This will require considerable investment by the government but the benefits go beyond the direct benefits of improved welfare from lowered wait. As the article argues, an important secondary benefit is reduction in property and economic crime that is likely to result from lowered backlogs.

## Notes

1. For a cross-country comparison of statistics, please consult the UNODC Statistics available at [www.unodc.org](http://www.unodc.org).
2. This is done as there may be an endogeneity problem in the crime–income relationship. Rainfall shocks are highly

correlated with income but not with crime rates and, thus, can instrument for income.

3. ‘Report No. 245 (July 2014)—Arrears and Backlog: Creating Additional Judicial (Wo) manpower’ Law Commission of India.
4. Raghuram Rajan, the Governor of Reserve Bank recently emphasized this point ‘Let me emphasize, we need “checks and balance”, but we should ensure a balance of checks. We cannot have escaped from the License Permit Raj only to end up in the Appellate Raj!’. See: <http://economictimes.india.com/news/economy/policy/rbi-governor-raghuram-raj-an-cautions-against-appellate-raj-in-financial-regulation/articleshow/46315283.cms>
5. We do not argue that the upward trend in violent crime in India is solely due to increased reporting. However, others have pointed to the fact that reforms that increase political participation increase crime reporting (Iyer & Topalova, 2011).

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