Illuminating Judicial Productivity in India's District Courts: An Empirical Analysis*

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Abstract

Studies on court administration in India have so far focussed their attention largely on caseload management and judge strength of the higher judiciary. An in-depth investigation of the productivity of India's lower courts, the primary loci of a citizen's contact with the judiciary, remains missing. We conduct a novel, quantitative analysis of a large dataset of more than 1700 district courts across India between 2010 and 2018, to measure court productivity through the

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metric of case disposal. We specifically took Median Days to Decision ('MDD') — the number of days it takes for a district court in India to decide a case. We aim to understand the impact of well-established factors - working strength and tenure of judges, case administration, age distribution of cases, and category or case type - on this measure of district court productivity.

Our overall results show that there is a huge variation in productivity across district courts in the country. We find that court type and nature of cases are important predictors of a district court's productivity. Specifically, (1) the nature of cases filed before the courts bears a stronger impact on a district court's productivity than the total number of cases adjudicated before that court - this includes the informal categorisation of cases by judges as an 'easy' or hard case', and the case management process used by a district court. Quality, not the extent of judicial time spent, is an important marker of court productivity; (2) Indian district courts, regardless of productivity levels, are characterised by a significantly low number of judges; (3) total number of judge working days and average bench strength are *not* good indicators of court productivity- the workload per judge being actually *lower* in district courts with lower productivity, compared to those with higher productivity; (4) applying the MDD test, overall, the principal district and sessions courts are more productive than the chief judicial magistrate courts.

Keywords: Subordinate Courts, Pendency, Judicial Productivity and Performance, Workload, Case Administration, Judicial Vacancy, Judge Working Strength, Legal Reform, India

I. Introduction

Since the early 20th century, efforts have been made to address the issues of pendency and delays that have plagued Indian courts. A core pillar of access to justice is the equal accessibility of judicial systems, in order to deliver individually and socially just results. Currently, huge backlogs and pendency continue to deter litigants from approaching law courts, militating against equitable access.

Much of the literature on the functioning of the judiciary and caseload management focuses on the appellate courts of India, the Supreme Court and state High Courts, leaving out the lower judiciary, the very first point of institutional contact with the judiciary for a majority of Indians.

According to the Supreme Court's "National Policy and Action Plan for Implementation of Information and Communication Technology in the Indian Judiciary" (2005), India tentatively has around 2066 courts that makes up the lower judiciary, spanning 746 districts. The lower judiciary encompasses a wide variety of courts (see **Figure 1**), and this structure varies from one state to another. As of March 2023, a total of 42,655,064 cases are pending in these courts of which

10,853,145 are civil cases and 31,801,919 are criminal cases; and 1,01,89,064 cases remain pending for over three years. (National Judicial Data Grid).

Detailed, nation-wide, empirically driven studies of India's lower judiciary are lacking. Where district courts have formed the subject of studies, they have tended to focus on specific court complexes or regions (Krishnan, et al., 2014; Jha, 2012; Mahadik, 2018). A chief reason for this gap remains the significant challenges faced in accessing data on functioning of the lower courts and on factors contributing to delay in case resolution. Without such data, a tailored judicial policy framework for India that focuses attention on factors such as the lower courts' location, scope and jurisdiction, allocation of resources and related factors remains a challenge.

Figure 1. Hierarchy of courts in India.

Supreme Court of India High Court(s) of India **Metropolitan Courts Districts and Sessions Courts** Civil Criminal Civil Criminal DISTRICT JUDGE City Civil Courts District Court Sessions Court Sessions Court Courts of Smaller Sub Court Chief Metropolitan Judicial Magistrate Causes Court PRINCIPAL JUNIOR CIVIL JUDGE Court (First Class) Principal Junior Civil Judge Court Metropolitan Judicial Magistrate Magistrate Courts Court (Second Munsif Court Class)

Hierarchy of Courts in India

II. Understanding Judicial Productivity

Several attempts have been made to determine factors for heavy caseloads and slower case disposals in Indian courts. Delays in decision-making in district courts have been attributed to the uneven workload of the judiciary, the uneven demand and supply side of the litigation process, vacancies, and inadequate case management systems (NCMS Baseline Report, 2015). Much of the Indian State's response to addressing questions of efficiency of judicial systems has been directed at increasing the number of judges and improving the judicial infrastructure (Rankin, 1925; NCMS

Baseline Report, 2015; McCree, 1981; Gabrys, 1998), thereby, concentrating on the supply side of the issue, critiquing that bench strength has not been commensurate with the cases to be dealt with. From as early as 1925, in the Report of the Civil Justice Committee (Rankin Committee), up to the implementation of National Court Management System's unit system-based model backed by the Supreme Court, all official reports emphasise on improving or gauging the required judge strength to improve court productivity.

While constant deliberations and attempted reforms have led to an increase in the number of judges, the problems of delay and congested courts remain. Evidence from the courts of Latin America and Israel show that institutionalised remedies of increasing the judge strength do little, if anything, in increasing the productivity of courts. In fact, conversely, increasing the number of judges in a court may lead to reduction in backlog of cases which might give rise to the incentives to the litigating parties, causing congestion in courts (Beenstock, 2001; Rosales-LoPez 2008).

In parallel, much work has been done to understand the development and growth of society through the efficiency of judicial institutions. Our paper is strongly influenced by methodological literature assessing case dispositions. To this end, Amirapu (2021) and Ahsan (2013) used the fraction of district and sessions court cases resolved within one year, and Chemin (2012), Boehm and Oberfield (2020) use congestion as a marker for efficiency of the court and assess it against the pending cases in the High Courts. This paper is therefore informed by the importance of studying the 'pendency problem' which has strong implications on the judicial productivity of India's subordinate courts.

Historically, it is believed that judicial productivity can be managed by increasing the number of judges, consequently increasing case disposal rates (Law Commission of India, 1987, 2014). In our study, we interrogate this assumption, and look at other less-studied factors relating to court administration and the composition of cases in a court (Manivannan et. al, 2023), which cannot be studied using purely qualitative methods. Drawing from Micevska and Hazra's (2004) measures for determining court congestion, we design our own metrics to understand the systemic factors or constraints that affect the time taken to dispose a case in a district court in India. More recently, Niti Aayog, the Indian government's policy think tank, suggested the introduction of a 'judicial performance index' to help state high courts as well as chief justices of high courts in India for tracking the performance of district courts and for suggesting process improvements for reducing delay in subordinate courts (NITI Aayog, 2017). In our study, we choose district courts because of their unique position in the judicial hierarchy, and as they hear most cases by number and volume (Sathe, 2002; Dhavan, 1977).

Our metrics include administrative indicators such as the time taken between hearings, and factors related to the type of case being heard. An effective way of examining this is through a detailed empirical analysis of case related time series data of district courts, as we have done. While judicial

productivity as a concept has been mentioned in conjunction with others like pendency and delay, no study so far has focussed on a systematic understanding of the interactions between various factors determining productivity of the lower judiciary across the country, and so, the Indian legal system's challenges remain unresolved.

Our main hypothesis is that while the policy narrative focuses significantly on addressing delays by adding more judges, this metric does not explain the variation in productivity of the courts in terms of time to decision, i.e., comparable courts with more judges or with higher judge days, do not decide cases faster. Other metrics we study in this paper point to significant factors that may explain variation in productivity instead, such as judge term and working strength, the administrative categorisation of the court, case management practices and the types of cases filed before district courts.

III. Methodology

To better address the gaps in understanding judicial productivity identified in Section II, we propose a single measure for judicial productivity and test probable factors that affect case pendency against this metric. The aim is to explore the main factors that may have an impact on court productivity and reveal underlying causes for delays that are not addressed through current policy prescriptions. While productivity is a complex concept with several meanings depending on the context and jurisdiction, our focus is on 'court productivity', defined as the time taken by a district court to decide a case. We rely on historical data to make this determination and use Median Days to Decision ('MDD') of all cases available in the judicial dataset that we created for this purpose. MDD is the time taken to arrive at a decision for 50% of these cases. We do not use the arithmetic mean number of days to decide a case, as it heavily affected by outliers. The MDD is a reliable measure of court performance as we have considered both demand (filing) and supply (judge strength, caseload, court administration) factors of case pendency in its design (Micevska and Hazra, 2004; Voigt 2016).

A. Determining Judicial Productivity

As we describe earlier, our aim is to understand the main challenges to judicial productivity quantitatively by studying the following factors in relation to the MDD of cases across district courts in India.

1. Does productivity depend upon the administrative categories of courts of first instance?

Is there a difference in productivity between district courts with different administrative jurisdictions?

2. Does court productivity depend on judges' working strength and workload?

A common policy prescription to address judicial delay has been to increase the number of judges. (Rankin, 1925; McCree, 1981; Gabrys 1998). This question looks at the relationship between the working strength of judges in a court, the workload per judge, and the courts' productivity.

3. Is court productivity dependent on the term of judges?

Is there a relationship between the median tenure of judges in a district court and its productivity?

4. Is district court productivity affected by case management practices?

Using the metric of 'days from case filing to first hearing' as a proxy for case management, we study how this impacts court productivity.

5. How does the distribution of age of cases impact judicial productivity?

We look at disposed cases and calculate the number of days between their filing and disposal. This aims to understand how new and delayed cases may be dealt with differently in courts with high median days to decision and courts with low median days to decision.

6. Does courts' productivity vary depending on the type of case filed?

Do the type and the number of cases filed in a court have an impact on the outcome delivered by the court?

B. Data Source

To understand the various factors related to court productivity that we analyse in this paper, we required a data repository containing large scale, longer time series data on all district courts in the country. We began with the judicial data repository created by the Development Data Lab ('DDL'), which is India's largest open judicial data repository available under their Open Data License. The DDL judicial data repository houses case data scraped from the government's ecurts platform (the 'National Judicial Data Grid' or 'NJDG') with case log entries from the lower courts. This includes dates of case registration, filings, and hearings. It also contains details of the litigating parties, case disposition and final decision. Apart from this, DDL also has data on the judges deciding these cases such as their official designation and tenure, as available on the ecourts platform. (Development Data Lab, n.d.)

District Judicial Productivity Dataset

The DDL repository contains data from 7,253 unique courts that represent the totality of the lower judiciary in India. To study court productivity, we focus on courts of comparable jurisdiction, with similar powers and functions. Using the DDL repository, we created the 'District Judicial Productivity Dataset' ('DJPD') consisting of all Courts of the Chief Metropolitan Magistrate and

the Chief Judicial Magistrate and the District and Sessions Courts in India (refer **Figure 1**), numbering 1,775 courts, and the cases filed in these courts for the period 2010-2018.

We then calculated 'MDD' for each of these 1,775 courts as a preliminary indicator of their productivity. Only those cases were considered where date of filing and date of decision were valid, and date of decision was on or before date of filing. For each court using the cases filtered as described above, Median Days to Decision is defined as:

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MDD = Median([Date of decision for case - Date of filing for case])
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The DJPD comprises all categories of cases adjudicated in that district, whether civil or criminal. For each district court, we considered only decided cases with valid filing and decision dates. We then statistically derived our identified factors for the caseload and judgeship of these courts, to study the impact of these factors on judicial productivity, as set out in **Table 1**.

C. Table 1 Factors of Judicial Productivity

| Factors | Definitions |
|------------------------|--|
| Case Category | The procedural category that a case is allocated on registration in the |
| | district court, which is set out under a state's rules of practice for |
| | courts |
| Case Disposal Time | Difference between case filing date and decision date |
| Court Workload | Total number of cases decided in a district court against average |
| | number of judges serving in that court for each year |
| Judge Tenure | Total number of days that a judge serves in a district court |
| Judge Working Days | Total number of days in a calendar year that a judge works in a district |
| | court, for each year |
| Judge Working Strength | Number of judges appointed in a district court at a given time against |
| | the number of vacancies filled. This is an important marker to show |
| | the number of judges present in a district court on a daily basis. |
| Judge Workload | Assessed for the number of Judge Working Days, as the ratio of total |
| | number of judges in a district court, to the total number of cases |
| | disposed per judge for each year |

To explain these factors, we need to understand the following related concepts:

- Caseload is the total number of cases a judge in a district court adjudicates on, on a daily basis. This further aids in the calculation of congestion and case clearance rates.
- Congestion rate is calculated as the ratio of cases older than a year to cases disposed. Standard indicators being caseload per capita and caseload per judge.

To best assess the impact of the factors identified in our research questions on the productivity of these courts, we then took the top and bottom ~1% percentile of district courts in terms of their MDD, and labelled them as 'High Median Days' courts ('HMD courts') and 'Low Median Days' courts ('LMD courts'). A total of 15 HMD courts and 15 LMD courts were thus identified.

D. Limitations

As we explain earlier, we borrow from Micevska and Hazra's (2004) study on court congestion in India, and design our own method to explain the constraints to case disposal that district courts in India face. We recognise that such an approach at generalisation is quite reductionist and may serve a limited role in understanding complex cultural legal problems (de Souza, 2022). We acknowledge that quantifying court performance and applying judicial indices must be done in a more pluralist manner, grounded in the local cultural context.

Our study makes certain basic assumptions. First, we assume that each district court judge covered in our sample is working at the same level of efficiency as the others. We also limit our analysis of court productivity to the working of judges and the processing of cases. However, in practice, other aspects such as court staff, infrastructure and budgets are equally important to consider.

Second, to paint a holistic picture of how productive district courts in India are, it is important to consider judges' work not in silos but through factors that affect the filing and disposal of the cases overall. In this paper, we do not seek to divide judges' workload by case type or the number of cases assigned to them in a day. Instead, we consider the daily working strength of judges present in district courts for our analysis. The workload of a judge is defined as the overall time taken to dispose of a case – this has been done because we do not have the data to gauge the amount of time a judge takes to prepare a case outside of court, or the amount of time it takes for the registration and preparation of cases before they are heard. As such, an important caveat in our study is that we do not draw conclusions about the quality of judicial decision making.

Finally, as we explain in Section IIIB, the study is entirely based on the data gathered by DDL from the NJDG. As earlier Indian studies point out, in the absence of a "coherent centralised approach to judicial data collection and dissemination" in the country, there is "widespread variation in the quality and quantity of accessible court data across the different states in India, especially at the district level" and "...basic measures of court performance and of the state of litigation, such as institution rates, disposal rates, and pendency rates, are not easily available for several districts in India" (Krishnaswamy, Sivakumar and Bail, 2018). Inter- and intra-state variations in data entry practices followed by court administrators (Daksh, 2020) have resulted in cases being counted separately even if, for instance, they are at the 'summons' or 'hearing' stages, without providing information on whether they have been decided or disposed of. The DJPD, sourced from the national e-courts platform therefore suffers from issues of incomplete and inconsistent entries.

IV. Empirical Analysis

This section looks at each of the factors identified in the research questions, and assesses its impact on judicial productivity, by studying the operation of each factor on HMD and LMD courts.

1. Administrative categories of courts and impact on judicial productivity

Articles 233- 237 of the Constitution of India lays down the provisions for the setting up of the subordinate judiciary in India. These courts form a part of India's lower level of judiciary which ascends to the High Courts and the Supreme Court, administratively laying out the levels of powers which the judiciary exercises.

In this paper, we analyse the main factors impacting court productivity of India's district courts. For this, we built the DJPD from 1775 courts considering the courts of the District and Sessions judges ('**DJ**'), additional district courts, courts of Chief Judicial Magistrate ('**CJM**') and additional Chief Judicial Magistrates, courts of the Chief Metropolitan Magistrate ('**CMM**') and additional chief metropolitan judge as functionally equivalent.

The highest court in every district is the District and Sessions courts - 'district' court for civil cases, acting as the 'sessions' court for its criminal jurisdiction. At this level, there may be one or more courts of additional district and session's judge with the same judicial power as that of the District and Sessions judge. Under the civil jurisdiction, the civil courts take on cases divided into three jurisdictions, namely, pecuniary, territorial, and subject-matter jurisdiction. This has been discussed under section 15-20 of the Code of Civil Procedure ('CPC'). Class action suits, injunctions, recovery suits, cases related to family, property and likes are heard by the civil courts. Similarly, sections 177-188 of the Criminal Procedure Code ('CrPC') lays down the jurisdictions exercised by the criminal courts. Bailable and non-bailable offences such as public nuisance and terrorism respectively; and cognizable and non-cognizable offences are heard by the criminal courts.

In our analysis, we have considered district courts and additional district courts as equivalent; accordingly, CJMs and Additional CJMs as well as the Principal DJ and Additional DJs are included in the DJPD. The productivity of these courts is determined as the number of days that the court takes to decide a case. To arrive at our productivity metric, we first calculated the total number of days between the date of filing and the decision date (ignoring pending cases or those with invalid dates - for instance where the dates where the year does not begin with '20XX' and or incomplete entries). We then determined the time taken to dispose of 50% of the cases being considered and termed this as "median decision days" in column 1 at **Table 2**. The "mean decision

days" refers to the sum of decision days for each year in each of the 30 selected courts, divided by the total number of years under review i.e., 2010-2018. The MDD for the entire set of courts in the DJPD was determined to be 190 days. We then identified the top and bottom 1% percentile of these 1775 courts in terms of their MDD (**Table 2**). The 15 courts comprising the top ~1 percentile, with the lowest median days to decision, are termed 'Low Median Days' courts ('**LMD courts**'), and correspondingly, the 15 courts comprising the lowest percentile are termed the 'High Median Days' ('HMD Courts'). From **Table 2**, it is clear that the MDD is much lower than the mean decision days. The MDD is thus a more reliable indicator of district court productivity than mean decision days.

Table 2. All-India List of HMD and LMD courts

| HMD courts | Mean Decision | State Name | District Name | Court Name |
|----------------------------|--------------------|---------------|-----------------|---|
| 8 | 103.65 | Tamil Nadu | Thanjavur | Principal District Court, Thanjavu |
| 8 | 115.3 | Rajasthan | Jaipur Metro | ACMM Railway, Jaipur Metro |
| 8 | 175.25 | Rajasthan | Bundi | DJ ADJ, Bundi HQ |
| 8 | 181.56 | Rajasthan | Dungarpur | DJ ADJ Dungarpur District HQ |
| 7 | 120.16 | Tamil Nadu | Madurai | Principal District Judge |
| 7 | 185.87 | Rajasthan | Kota | DJ ADJ, Kota HQ |
| 6 | 204.23 | Gujarat | Porbandar | District and Sessions Court, Porbandar |
| 6 | 209.77 | Gujarat | Valsad | District Court, Valsad |
| 6 | 70.71 | Tamil Nadu | Tirunelveli | PDJ, I ADJ, Mahila, III ADJ, IV ADJ Tirunelveli |
| 6 | 116.55 | Tamil Nadu | Tiruchirappalli | Principal District and Session Court Establishment |
| 5 | 115.03 | Gujarat | SURAT | Addl DJ Court, Bardoli |
| 5 | 247.58 | Uttar Pradesh | Bareilly | ACJM Bareilly |
| 5 | 75.92 | Tamil Nadu | Thoothukudi | Principal District court complex, Thoothukudi |
| 5 | 135.14 | Tamil Nadu | Kanniyakumari | Principal District and Sessions Court |
| 5 | 195.57 | Rajasthan | Banswara | DJ ADJ, Banswara District HQ |
| Median Decision Days | Mean Decision Days | State Name | District Name | Court Name |
| | | | | |

| Median Decision | Days | | | |
|-----------------|---------|--------------|--------------------|--|
| Days | | | | |
| 1110 | 1262.84 | Bihar | Muzaffarpur | CJM Division (West) |
| 1112 | 1251.37 | Kerala | Thiruvananthapuram | Addl CJM, Trivandrum |
| 1117 | 1259.21 | Bihar | Aurangabad | CJM Division |
| 1260 | 1396.46 | Rajasthan | Jhalawar | ACJM GN, Jhalarapatan Jhalawar District |
| 1295 | 1431.39 | Bihar | Bhojpur | CJM Division |
| 1311 | 1448.54 | Bihar | Madhubani | CJM Division, Benipatti |
| 1313.5 | 1462.36 | Bihar | Muzaffarpur | CJM Division |
| 1329 | 1430.23 | Bihar | Madhepura | CJM Division,Uda-Kishunganj |
| 1388 | 1187.52 | Bihar | Sitamarhi | CJM Division, Pupri |
| 1391 | 1566.07 | Bihar | Jehanabad | CJM Division, Arwal |
| 1414 | 1470 | Bihar | Sheohar | CJM Division, Sheohar |
| 1428 | 1402.76 | Rajasthan | Jodhpur District | CJM ACJM JM, Jodhpur District HQ |
| 1554 | 1516.11 | Chhattisgarh | Surajpur | CJM, Surajpur |
| 1569 | 1591.65 | Orissa | Anugul | CJM, Anugul |
| 1629 | 1659.07 | Bihar | Darbhanga | CJM Division, Biraul |

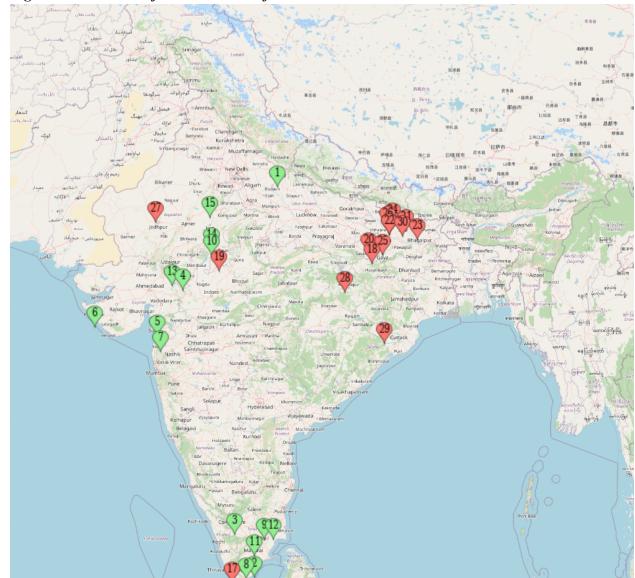


Figure 2: Locations of 30 courts identified above.

NOTE: The markers represent each court's corresponding rank when sorted by median days to decision with 1 to 15 representing the highest performing courts and 16-30 representing the lowest performing courts.

Table 2 lists out the 15 LMD and 15 HMD courts we have selected from the DJPD, their geographic location and their MDD and mean decision days. We note that there is a huge difference in productivity between the district courts considered, taking anywhere between 5 to ~1600 days to decide 50% or more of their cases. Of these 30 courts, all, except one, performing better on our metric of productivity - the MDD, are the courts of the District and Sessions judges, while the CJM and CMM courts show low productivity with high MDD. This result could perhaps be owing to the obvious procedural complexities and stringent evidentiary requirements of a

criminal trial, and the significant differences in procedures for administrative handling of cases at different court complexes across the country.

Overall, the LMD courts show a low 5-8 median days to decision. 1/3rd of the LMD courts are located in Rajasthan. 40% of the LMD courts are district courts located in Tamil Nadu with an MDD of 5-6 days. Within the 30 courts selected for study, the district court complex at Tirunelveli in Tamil Nadu has the lowest mean decision days of 71 days.

In contrast, the courts performing low on our productivity measure show a high MDD ranging from 1110 to 1600 days. The district courts in Bihar, particularly the geographically contiguous courts at Muzaffarpur, Sitamarhi, Madhubani, Madhepura, Sheohar, Darbhanga and those close to the state capital Patna, namely, Aurangabad, Bhojpur and Jehanabad show very high median days to arrive at decisions of cases.

Observations:

Across Indian states, district courts at Tamil Nadu and Rajasthan (and Gujarat at a distant third) have been more productive in deciding both civil and criminal matters in the period between 2010 and 2018. Of the HMD courts, we observe that district courts in Bihar took, on an average, more than 1100 days to decide 50% of the cases listed before them. This pattern of low court productivity is seen across geographically contiguous courts, of which three (Sitamarhi, Muzaffarpur and Aurangabad), are some of India's most under-developed districts, the "aspirational districts".

An interesting observation from **Table 2** read with **Appendix A** (annexed) is that the LMD courts with fewer days to decision actually face a higher caseload, ranging from 674 to 71,000 cases. They also tend to have fewer judges on the bench overall. For instance, the Principal District court at Tirunelveli, Tamil Nadu has 4 judges with 622 judge days in a year, who are handling a high workload of 71,000 cases. The average number of judges in LMD courts is low, ranging from only 2 at the court of the Principal District Judge in Madurai and the District Judge, Kota to 35 in the Additional DJ court at Bardoli in Surat district. Within the more productive district courts, we note a wide variance in judge days from 622 in Tirunelveli PDJ to 11,026 in Valsad, Gujarat. Only one of the LMD courts is a Chief Judicial Magistrate's court, with the others mostly being District and Sessions Courts.

All the HMD courts are CJM or ACJM courts. They show a wide variance in the workload from a low value of 81 a very high value of 3,400. Like the LMD Courts, they also have an overall low judge number, between 3-19. Broadly similar to LMD courts, the total number of judge days also varies – the highest being ~8000 days in CJM, Anugul in Orissa, and the lowest being 444 days in CJM Sheohar. An interesting observation in this context is that despite the maximum number of

judges (19) among the HMD courts and higher judge days of nearly 5000 days, some CJM courts only handled average workloads of less than 157 cases.

From this description, it becomes clear that the administrative categorisation of a court - as a district or sessions court, or a magistrate's or sessions' court, seems to have greater impact on that court's productivity rather than the number of cases adjudicated before that court. This has clear and important policy lessons for resourcing and budgeting of district courts in India.

In the next two sections of this paper, we look at whether the allocation of judges and their term can explain the differences in productivity observed in the identified district courts.

2. Court's Productivity and Judge's Working Strength and Workload

Both policy measures and scholarly work have emphasised the importance of judges' working strength, given its importance in the planning of resources required for any judiciary (Beenstock and Haitovsky, 2004), as well as its impact on access to justice, since it can "capture the extent to which disputes can be resolved at a relatively low cost, without dysfunctional delays and discrimination" (Deseau et al., 2019). For our analysis, the judge's working strength indicates the number of judges in a court in a given year, assumed to be working at optimum productivity.

Figure 3A: Judge Working Strength in HMD and LMD courts. Both HMD and LMD courts show a similar range of judge strength.

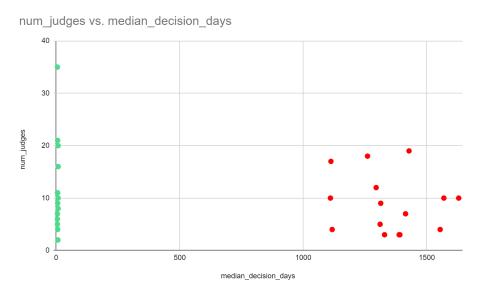
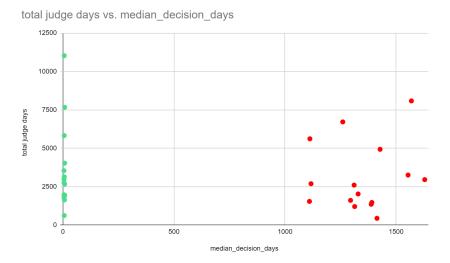


Figure 3B: Total Judge Working Days in HMD and LMD courts.



Index: Green dots represent LMD courts, red dots represent HMD courts. Refer Appendix A for detailed tables.

Figure 3A, which describes the total number of judges in a district court over a year and its productivity, finds that the LMD courts with between 2 and 21 judges, have decided cases much faster than HMD courts with a similar range of judge strength have been of a similar range, between 3 and 19. HMD courts have taken more than 1000 MDD to decide their cases with this bench strength. This is confirmed in **Figure 3B**, which compares total judge days and MDD. It appears that the LMD courts have mostly observed a higher number of total judge days, with a concentration seen around the 1,600 - 4,000 range. HMD courts show a scattered distribution of total judge days, which is slightly lower than the LMD courts, clustering in the 1,200 – 3,200 range. Neither the total number of judges, nor judge working days in each court explains well the large difference in productivity observed in HMD and LMD courts.

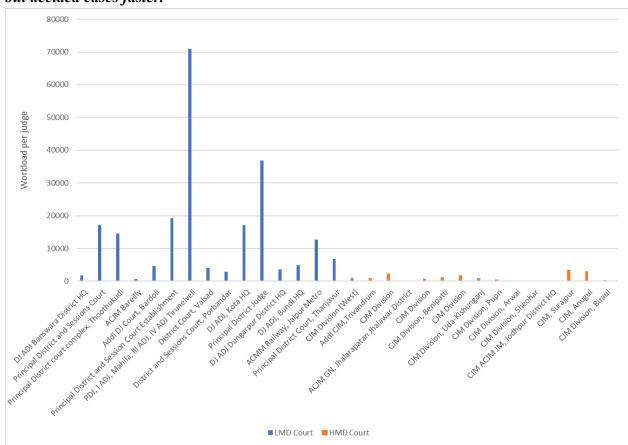


Figure 3C: Judge Workload in HMD and LMD Courts. LMD courts seem to have larger dockets but decided cases faster.

Figure 3C compares HMD and LMD courts' workload with its productivity expressed as MDD, and shows some interesting results. The formula we use for arriving at judge' annual workload is *Workload* = *Total cases* / *Average judge count*. The median workload for courts in the complete DJPD is 4270 cases per judge.

There is a striking contrast between the workload of the 15 selected district courts with higher productivity - the LMD courts, and the low productive HMD courts, that runs counter to expectations. HMD courts appear to have much lower workloads per judge than LMD courts, or in other words, courts where each judge has a heavy docket, seem to decide cases faster. Further, from **Appendix A**, we note that the average workload of the highly productive LMD court is more than 200 times that of the low productive HMD court.

Observations:

As we explained in the earlier section, our analysis of the LMD courts reveals that across Indian states, district courts at Tamil Nadu and Rajasthan have performed better in deciding all categories of cases with less than 20 judges adjudicating a high caseload (ranging from 2,000 to 40,000 cases)

in these states between 2010-2018. From this, it is safe to assume that across LMD and HMD courts, regardless of the time to decide cases, judges seem to be working at the same level of productivity as their peer judges and spending their judge days effectively. However, this does not reflect on that district court's productivity.

The DJPD clearly points to a lack of policy attention to targeted manpower requirements and extent of judicial vacancies at the district courts, the first point of contact with the judiciary for a citizen, which therefore forms critical judicial infrastructure to enable access to justice. The Indian Supreme Court observed in the seminal case of Malik Mazhar Sultan & Anr v. U.P. Public Service Commission (2006), that "The non-filling of vacancies for long not only results in avoidable litigation but also results in creeping frustration in the candidates. Further, non-filling of vacancies for a long time, deprives the people of the services of the Judicial Officers. This is one of the reasons for the huge pendency of cases in the courts. It is absolutely necessary to evolve a mechanism to speedily determine and fill vacancies of Judges at all levels. For this purpose, timely steps are required to be taken for determination of vacancies, issue of advertisement, conducting examinations, interviews, declaration of the final results and issue of orders of appointment".

While it may seem normal to assume, as existing policy does, that by appointing more judges to a court, the demand for judicial services is matched with its supply, since this means that more cases are decided and pendency is reduced. However, we observe different results. The total number of judge days and average number of judges are not good indicators of whether a court will demonstrate 'high' or 'low' MDD in terms of decisions. The number of judges actually posted to the court, as well as the active number of days the judge heard cases in the time period of our interest are similar across the HMD and LMD courts. This ties in with observations of other Indian scholars that 'there is no evidence that previous increases in judicial strength by themselves have indeed reduced backlog' (Krishnaswamy, Sivakumar and Bail, 2018).

A counter-intuitive result from our study is also is that the workload per judge seems actually *lower* in LMD courts - counter to the common understanding that district courts are slow due to overburdened judges, which understanding is also historical - in the 1980s, McCree (1981), Posner (1985) and Gabrys (1998) assumed that the number of judges determine a court's output, and so, it was argued that to solve the caseload problem in US courts, the judiciary should be expanded. In fact, as Beenstock and Haitovsky (2004) note, only adding more judges will make existing judges adapt their behaviour and reduce their case disposal numbers. They therefore conclude that the case backlog does not depend on the working strength of the court (p. 366).

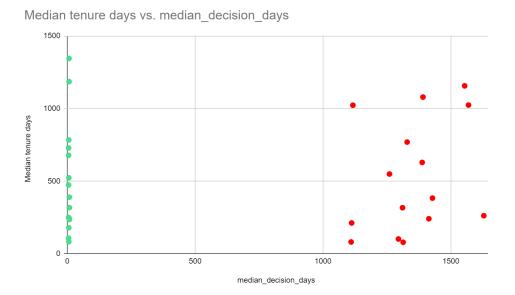
One explanation for the result of our analysis could be owing to the use of a fixed "input-output" method, as practised in India, as well as in American and English courts. Usually, this occurs where the size of a court bench is decided on the basis of the amount of "judge time" required for a specific category of case, and so, a set number of judges (input) is fixed, based on the number of

cases disposed (output). Following the approach suggested by Cooter (1983) and Posner (1993), Beenstock and Haitovsky (2004) find that this may not be appropriate as these 'input' and 'output' coefficients of bench strength are not fixed but vary based on the caseload. This suggests that judges value leisure and dislike effort in judging. The trade-off between deciding more cases (and so, exerting more effort) or underperformance, as measured by case backlog, results in optimising behaviour by judges. Similar to other service providers, where the caseload of a court is high, judges dispose of more cases when under pressure, and so the overall productivity of their court increases (p. 352).

3. Courts' Productivity and the Term of Judges

In addition to the commonly studied metrics on number of judges and caseload, we also looked at the term of a judge in a particular court to see if it has an impact on productivity — whether courts with judges remaining in the same court for a longer term perform better.

Figure 4: Median Judge Tenure vs Median Days to Decision for each court, with similar judge tenures for HMD and LMD courts.



Index: Green dots represent LMD courts, red dots represent HMD courts. Refer Appendix B for a detailed table.

Observations:

The median tenure of judges in the entire DJPD dataset is 625.5 days, or slightly more than one year. Our findings suggest that, within our selected sample of 30 courts, the median term of a judge at a particular district court is between 79 and 1345 days. Clearly, there is significant variation in judge terms in India's lower courts. Both HMD courts and LMD courts in our analysis show a

similar wide variation in judge term. On an average, during the years examined, a judge remained in the same district court for nearly 1.4 years (527 days for HMD courts and 501 days for LMD courts). Our results do not help in drawing general observations of the administrative characterisation of courts and their performance- since both a high productivity court of the District and Sessions judge and a low productivity court of the Chief Judicial/Metropolitan Magistrate have similar average judge tenures.

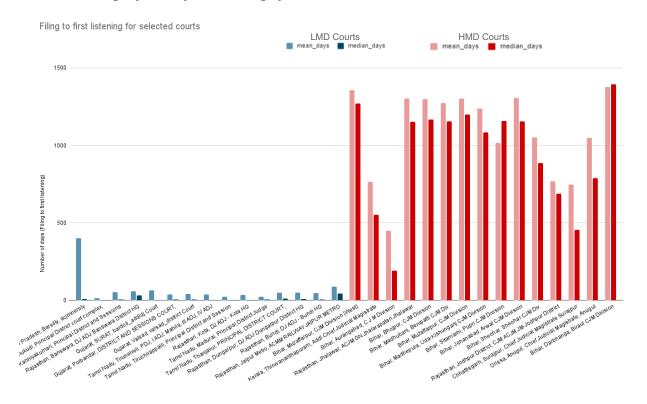
A simple explanation for this result could be, as the NCMS (2015) report observes, in the long term, the total number of "judicial hours" required for disposing a court's caseload is an important metric to target for case pendency management. We extend this observation to suggest that the quality of judicial time spent is critical, and not the total number of days that a judge spends at a court to ensure that the backlog of cases is cleared and that backlog is not continuously extended.

4. Case Management Practices and Courts' Productivity

From an analysis of judges of the district courts, we turn to query available data on the administrative side of these courts. Caseload management is an essential part of the functioning of the courts. An efficient management of cases guarantees adjudication and speedy disposal of cases, and therefore aiding in prevention of delays and pendency of cases (Amirapu, 2021). It may also help in allocation of judicial resources, and judges to specific courts or cases. The objective of a well-functioning caseload management system is essentially to put the court's cognitive ability to best use by reducing the time it takes for preparation of cases ("homework") before it is heard by the judges.

In the DJPD, we calculate the mean and median days between the date a case is first filed, and the date of its first hearing, as an indication of the administrative efficiency of the courts. (**Figure 5**).

Figure 5: Mean and median days between case filing date and first hearing date. HMD courts take much longer for the first hearing after a case is instituted.



Observations:

High productivity courts show better administrative efficiency in case management. On average these courts take less than 100 days from filing, for listing a matter for the first hearing. Contrary to these findings, low productivity district courts take more than 800 (median) days to list matters for first hearing. This points to the fact that administrative processes and structures play a key role in court productivity. Moreover, a majority of cases heard by both HMD and LMD courts are criminal cases, and this result goes against official strictures regularly issued by the Supreme Court to subordinate courts to ensure that criminal trials do not prolong unreasonably, and in no case, more than six months, to maintain "people's faith in the rule of law and efficacy of the legal system" (Choudhary, 2018). The Civil Rules of Practice issued by various state High Courts also mandate that disposal of criminal matters should be preferred amongst those cases ready for hearing.¹

5. Court productivity and distribution of age of cases

¹ See for instance, The Karnataka Civil Rules Of Practice, 1967, Rule 35; Delhi Court Rules (Practice in the trial of civil suits) Part K(a) Rule 2.

In addition to the time taken till first hearing, we also look at the distribution of the age of cases in LMD courts and HMD courts, following the categorisation adopted by the National Judicial Data Grid (**Figure 6A and 6B**). In our selected courts, LMD courts decided a majority of cases within the first year from filing date. In HMD courts, a substantial proportion of cases (nearly 65%) have taken between 3 years to 10 years for disposal.

There could be various explanations to this result. HMD courts may mainly be deciding 'hard' cases, which engage with difficult questions of law substantively, and require high investment of time and resources of the court in decision making. The nature of a case is determined by its subject matter, and by whether judges classify that as a 'hard' or an 'easy' case. These terms are not defined and could have different meanings among courts. It is observed that the caseload pressure on judges ensures that judges manage court time efficiently by applying case management techniques (Rao, 2022). This requires judges to put in effort by being better prepared for cases or, most likely, use what Beenstock and Haitovsky (2004) refer to as "homework" cases, 'that do not strictly require court-time' (p. 354).

Figure 6A: Distribution of age of cases for HMD and LMD courts. Cases taking more than 5 years to decide constitute over 30% of HMD court cases.

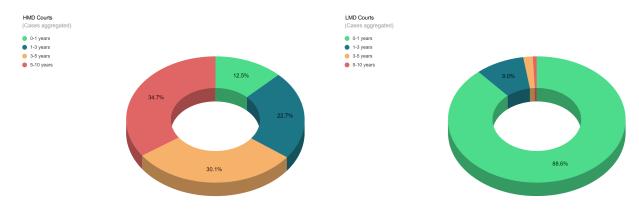
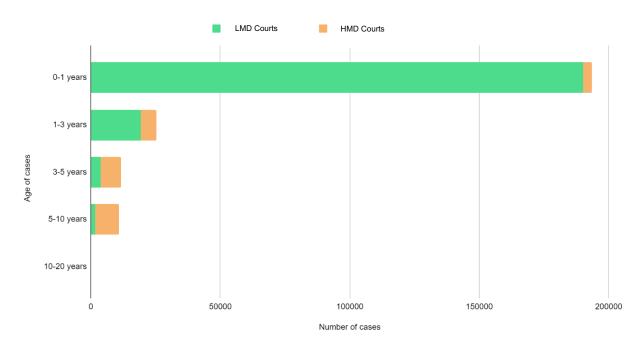


Figure 6B: Number of cases in HMD and LMD courts based on years taken to decide.

Case age distribution



6. Courts' Productivity and the Significance of Type of Cases

To determine the significance of the type of case, to court productivity, we took all cases instituted in 2017 in our compiled list of 30 courts, and classified the cases filed under them into the following categories: Civil, Criminal, Commercial, Property, and Motor Vehicles Act. A total of 104,602 cases were filed in the concerned 30 courts over a period of one year, which we categorised into these five major classifications. We then queried whether there is a difference in the type of cases instituted in HMD and LMD courts that may have an impact on their productivity.

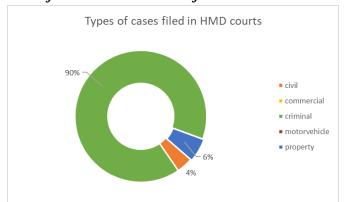
Case types and their meaning:

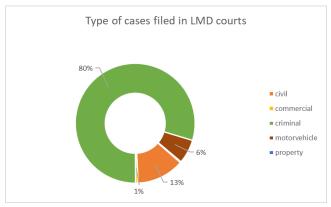
- (i) Civil Cases: A civil case is instituted under the Code of Civil Procedure, 1908 ('CPC') when there has been a conflict between institutions or people, generally of a monetary nature. A person makes their grievances known to the court by filing a "complaint" of being harmed by the actions of a natural or legal person. For the purposes of this classification, 'Family' cases, dealing with issues of divorce, child custody, maintenance, and the like have been included in the civil case categorisation.
- (ii) Criminal Cases: The Code of Criminal Procedure, 1973 ('CrPC') establishes the process for submitting a Report or Complaint, the ensuing trial, and other elements of criminal law related to

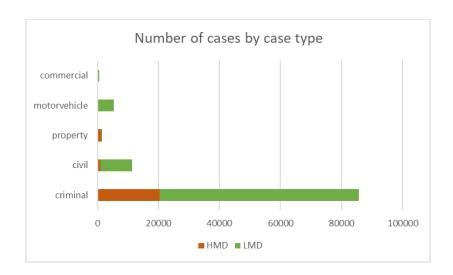
an investigation, bail, etc. A criminal case originates when a person is convicted of committing an offence under the Indian Penal Code ('IPC').

- (iii) **Commercial Cases**: Any case involving matters of commercial significance is categorised as "commercial". We have identified Trademark applications, Trust Original Petitions, Company Miscellaneous Applications and other financial suits under this broad category.
- (iv) **Property Cases**: There are roughly 18 statutes which concern themselves with property matters in India. They range from those relating to registration, transfer and sale of property, to limitation, succession, and partition matters. The bulk of cases in the DJPD fall under the Transfer of Property Act, 1882, the Rent Control Act, 1948, and the Registration Act, 1908.
- (v) **Motor Vehicle Cases**: The Motor Vehicles Act, 1988 provides for legislative provisions dealing with the licensing, registration, offences, penalties etc. related to motor vehicles. Most cases under the DJPD relate to accident claims in the form of revision petitions or execution thereof.

Figure 7: Difference in case types in HMD and LMD Courts. Criminal matters constitute the bulk of cases in both kinds of courts.







Observations:

In keeping with the findings in Question 4 above, we observe that LMD courts hear a much larger number of cases overall than HMD courts, counter to the expectation that slower courts would be the ones overburdened by a high number of cases. In 2017, HMD courts heard a total of 22,690 cases, while LMD courts heard 81,912 cases. Of these, the majority of cases in both kinds of courts were criminal cases, comprising 80% of LMD and 90% of HMD court caseloads. There are some other differences in the case mix, with 'property' cases, commonly believed to take longer to decide, being a more significant presence in HMD courts (6%) in contrast with LMD courts (0.2%). But with the overall numbers of property cases being low (1% of the total set), we do not believe that case type analysis is sufficient to account for the differences in productivity observed in LMD courts and HMD courts.

Of course, while this set of cases is labelled overall as 'criminal', 'civil', etc., there are clear differences in the way they move through the LMD courts and HMD courts - the MDD of criminal cases in LMD courts was only 2 days in 2018, while the same metric stands at 541 days in the HMD courts. So, 'criminal' or 'civil' cases encompass a wide range of asks from these district courts.

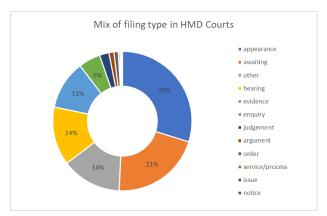
Another indication of the difference in types of cases in the DJPD is in the procedural category that each case is allocated on registration. In addition to their subject matter, they also have a procedural designation based on the stage of proceedings, such as an 'appearance' case or a 'hearing' case. While these terms, in keeping with the Civil and Criminal Procedure Codes, usually indicate different stages of a single case, it has been observed that on the e-courts platform, from which the DJPD is constructed, these stages have been listed with several variations, the stages of a criminal case have been mixed up with that of a civil case, and, most relevant to our findings, and similar to our observation, entire 'cases' are labelled as a particular stage of the proceedings (Daksh, 2020). Further, earlier reports have noted that the stages of proceedings have

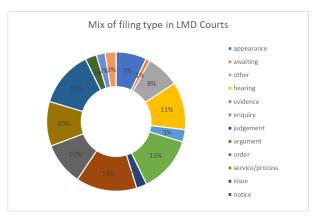
been described too broadly, written in free text or with several typographical errors, making it difficult to interpret and analyse (Daksh, 2016, 2020).

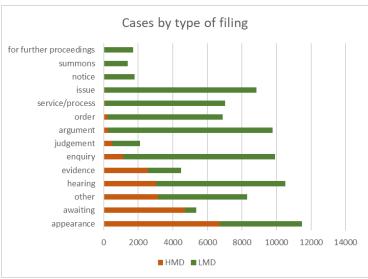
In the DJPD, similarly, entire 'cases', with a date in which it was introduced and a date on which a decision was made, is labelled in its entirety as a 'hearing' or a 'evidence' case - one would expect from a standard understanding of a 'case' that it encompasses many such stages. The ecourts platform however, seems to treat each such procedural stage as a 'case'. This raises significant questions on how the overall caseload in district courts is counted, and whether aggregate statistics based on these methods reflect the true picture on the ground.

For the purposes of this paper, we study this procedural designation as the 'type of filing' in LMD and HMD courts, and find notable differences in the composition of the two. (**Figure 8**).

Figure 8: Difference in case filings in HMD courts and LMD courts. Cases classified at the earlier stages of proceedings are a significantly higher percentage of cases in HMD courts.







Observations:

'Appearance' and 'awaiting' cases, that do not necessarily move a case forward (Daksh, 2020), make up over 50% of the cases in HMD courts, while they constitute only 8% of cases in LMD courts. LMD courts, by contrast, hear cases with procedural designations across the lifecycle of a trial, including more cases labelled 'argument' (14% in LMD v. 1% in HMD courts) and 'order' (10% in LMD v. 1% in HMD courts). 'Awaiting' cases across both types of courts take longer to decide (161 median days) than 'argument' (3 median days) or 'order' (4 median days) cases. Interestingly, 'appearance' cases seem to behave very differently in the two kinds of courts, with appearance cases in HMD courts taking 394 median days to decide, while they take only 3 days to decide in LMD courts.

Two important factors impacting productivity emerge from this analysis. First is the nature of the cases that the HMD and LMD courts hear, not just in their subject matter but in the nature of the dispute itself, and of the litigants and lawyers appearing before these courts, consistent with Galanter's classic "party capability" theory (Galanter, 1975).² Second, this analysis indicates that the administrative wherewithal of the court, that is, its ability to ensure parties appear and move forward through the stages of trial has a significant impact on its productivity. This is a significant observation, given our findings that between 80% to 90% of cases are criminal matters, where, in contrast to civil matters, there are multiple stages of the trial, between the initial "Filing of First Information Report" to the "Framing of Charges", "Evidence" and "Arguments", "Judgement" and "Sentencing" stages. Civil matters are also characterised by several procedural stages. All these very often involve a back and forth movement of cases at different stages, and can result in matters getting stalled at each main stage of the trial.

V. Summary Findings

Our study departs from the general understanding by showing that in a district court in India, the total number of days when a judge is involved in adjudicating cases and the number of judges in that court do not influence the productivity of that court in terms of time taken by the court to decide cases, without regard to the nature of cases adjudicated by that court. In fact, the number of judges in a court at a given day as well as the number of days that each judge of a district court actively hears cases remain similar across LMD and HMD courts. Further, despite a much lower than average caseload per judge, several district courts remain low productive. This indicates that the nature of cases filed before a district court has a stronger impact on that court's productivity rather than the number of cases adjudicated before that court. In fact, our

²Galanter explains that there is an important distinction between 'repeat players', namely, organisations whose activities frequently involve litigation, and 'one-shotters', individuals who have rare encounters with courts, and lack the superior material resources and strategies deployed by repeat players including the best lawyers and ability to pay for extensive legal research and case preparation, which equips them to better absorb costs of delayed litigation.

results can support a conclusion that caseload pressure improves productivity, and merely increasing the number of judges may be self-defeating since it could lead to the existing judges reducing their work, by putting in less effort at case disposals. Administratively, the courts of the **principal district and sessions judge** are **more productive** than the Chief Judicial Magistrate and Chief Metropolitan Magistrate courts. Our findings on the importance of administrative factors is confirmed when we find that the procedural stage of a case in the life-cycle of decision-making has a higher impact on the days to decision, than the subject matter of the case.

We observe that there is no difference between the productivity of the courts with high and low judge strength. The **term of a judge does not** appear to **influence the court's productivity** as we measure it. So, courts where judges remain in office in the same court for a longer term do not necessarily perform better than those where judges' term is less than one year (in some cases, between 3-4 months). The average term of a district court judge is **1.4 years**. Lower court judges **do not enjoy security of term**. There is a **wide variation in the median term** of a district court judge, ranging from 79 days to 1,345 days.

Between 2010 and 2018, across all categories of cases, there is a steady increase in the total number of cases decided within the first year from filing. Against this, the number of cases which have taken between 5 to 10 years for final judgement have also increased. Judges seem to take a clearly different approach deciding cases which are 'easy' where justice seems to be delivered quickly, and perceived as 'hard cases' which suffer inordinate delays in decision making. LMD courts have better managed case listing practices and take around three months to list matters for first hearing.

VI. Conclusion

District courts are the first point of institutional contact for the public with the judiciary. Their productivity therefore assumes high importance in the overall health of the judiciary. As Krishnan et.al (2014) poignantly observes, the lower tier of the Indian judiciary, just as the upper judiciary, adjudges on important issues of socio-economic relevance. Therefore, it becomes the primary protector of rights and an important starting point for enabling access to justice.

As we explain above, historically, several metrics to evaluate court productivity have been developed and used internationally. Our choice of using the number of median days for a court working at optimal capacity to decide a case is common practice across courts at the European Union³ (European Commission for the Efficiency of Justice, n.d.) and the United States, which metric has been independently verified in earlier studies and accepted as a valid measure of

³ A 2019 study by the Council of Europe Commission for the Evaluation of the Efficiency of Justice (CEPEJ) on the functioning of judicial systems in European Union, measured the length of court proceedings using disposal times and identified that a 1% increase in efficiency boosted the growth rate of the number of firms by 0.04%.

productivity across these jurisdictions. This has an important, positive economic impact (OECD, 2018).

Our detailed statistical analysis of publicly available case related data from district courts across the country between 2010 and 2018 reveals several surprising, and even counter intuitive findings. To explain the reasons for this will require a deeper analysis of the systemic and cultural factors affecting judicial decision making at India's lower courts, which we do not attempt here. Our analysis is also heavily impacted by the overall poor quality of data on the lower judiciary available in the public domain. Despite several authors pointing to the importance of well-functioning courts for economic development (Djankov et al. 2003; Chemin 2009; Visaria 2009; Chemin 2012; Ponticelli and Alencar 2016; Kondylis and Stein 2018; Boehm and Oberfield 2020, Amirapu 2021; Rao 2022), no significant efforts have been made to increase investment in this institution, and improve the overall quality of data that is available for research to inform better policy making in the country. This study therefore focuses on highlighting the key findings as revealed by the datasets, which can serve as useful pointers for future research on the topic and can provide important empirical evidence to assist policy makers in strengthening the case for urgent reform in this area.

In understanding the factors which determine the courts productivity, our findings paint an overall modest picture of India's district courts which is similar to lower courts in other countries - of high case backlog and increasing pressure on judges for matter disposals. We suggest that the dominant policy narrative where the focus remains concentrated on supply side solutions to reduce pendency and delays does not improve how the system actually functions.

We find that the nature of cases filed before a district court is an important determinant of court productivity, not so much its workload. Our findings that the number of judges or judge days remain similar across the HMD and LMD district courts runs counter to the dominant/official narrative that India's lower courts are unable to perform effectively and that they take an inordinate amount of time to decide cases due to overburdened judges. However, we should be cautious. Our findings cannot be interpreted to mean that the number of judges per court should be further reduced, or that the caseload per judge should be increased, further exhausting district judges, as there may be 'some unobserved tradeoff between quantity and quality' of cases disposed of. Our results seem to be consistent with recent acknowledgments by judges themselves that merely appointing more judges to a district court is *not* the solution to reduce court backlog. (Tripathi, 2022) Our analysis clearly shows that policy making for lower courts should keep in mind the contextual setting of the court, including geographic location, administrative nature of the cases they handle as well as caseload distribution. These should inform resource allocations for the district judiciary.

The project faces familiar challenges of lack of standardisation, large data gaps and incorrect classification associated with using case related public datasets *as is* without modifications. However, to ensure robustness of our analysis, we have undertaken substantial data verification checks and filtered the datasets to ensure that inaccuracies and incompleteness in the datasets is eliminated. The study's findings are therefore validated on this basis. We caution that measures to improve court productivity cannot work in isolation. These need to be supported by a major revamp of the provision of free legal aid programmes to reach the maximum number of people.

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Data Availability Statement

Data necessary to replicate the results of this article are available here: https://www.kaggle.com/datasets/himanshupayal/e-courts-judicial-data

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Appendices

Appendix A: Court Productivity and Judge Working Strength

| LMD courts | | | | | |
|--------------------|-----------------|--|-------------------------------|---------------------|---|
| State Name | District Name | Court Name | Total Number of Judge Days | Number of Judges | Work Load (total_cases/avg_judge count) |
| Rajasthan | Banswara | DJ ADJ Banswara District HQ | 2747 | 11 | 1726.3 |
| Tamil Nadu | Kanniyakumari | Principal District and Sessions Court | 1975 | 6 | 17086.43 |
| Tamil Nadu | Thoothukudi | Principal District court complex, Thoothukudi | 2975 | 7 | 14553.94 |
| Uttar | Bareilly | ACJM Bareilly | 1795 | 5 | 673.14 |
| Pradesh Gujarat | SURAT | Addl DJ Court, Bardoli | 3542 | 35 | 4584.81 |
| Tamil Nadu | Tiruchirappalli | Principal District and Session Court Establishment | 3141 | 9 | 19237.36 |
| Tamil Nadu | Tirunelveli | PDJ, I ADJ, Mahila, III ADJ, IV ADJ Tirunelveli | 622 | 4 | 70986.26 |
| Gujarat | Valsad | District Court, Valsad | 11026 | 21 | 4099.03 |
| Gujarat | Porbandar | District and Sessions Court, Porbandar | 5826 | 11 | 2960.85 |
| Rajasthan | Kota | DJ ADJ, Kota HQ | 1640 | 2 | 17032.72 |
| Tamil Nadu | Madurai | Principal District Judge | 1959 | 2 | 36890.04 |
| Rajasthan | Dungarpur | DJ ADJ Dungarpur District HQ | 2674 | 10 | 3627.63 |
| Rajasthan | Bundi | DJ ADJ, Bundi HQ | 4032 | 16 | 4946.69 |
| Rajasthan | Jaipur Metro | ACMM Railway, Jaipur Metro | 1935 | 8 | 12622.93 |
| Tamil Nadu | Thanjavur | Principal District Court, Thanjavur | 7664 | 20 | 6756.65 |
| | | | | | |

| HMD courts | | | | | |
|--------------|--------------------|---|-------------------------------|---------------------|--|
| State Name | District Name | Court Name | Total number of judge days | Number of judges | Work Load (total_cases/avg_judge_ count) |
| Bihar | Muzaffarpur | CJM Division (West) | 1543 | 10 | 1082.19 |
| Kerala | Thiruvananthapuram | Addl CJM,Trivandrum | 5617 | 17 | 941.57 |
| Bihar | Aurangabad | CJM Division | 2694 | 4 | 2257 |
| Rajasthan | Jhalawar | ACJM GN, Jhalarapatan Jhalawar District | 6716 | 18 | 81.3 |
| Bihar | Bhojpur | CJM Division | 1611 | 12 | 789.31 |
| Bihar | Madhubani | CJM Division, Benipatti | 2605 | 5 | 1120.05 |
| Bihar | Muzaffarpur | CJM Division | 1209 | 9 | 1734.35 |
| Bihar | Madhepura | CJM Division, Uda- Kishunganj | 2028 | 3 | 951.12 |
| Bihar | Sitamarhi | CJM Division, Pupri | 1357 | 3 | 505.67 |
| Bihar | Jehanabad | CJM Division, Arwal | 1474 | 3 | 226 |
| Bihar | Sheohar | CJM Division, Sheohar | 444 | 7 | 255.15 |
| Rajasthan | Jodhpur District | CJM ACJM JM, Jodhpur District HQ | 4932 | 19 | 157.04 |
| Chhattisgarh | Surajpur | CJM, Surajpur | 3259 | 4 | 3401.08 |
| Orissa | Anugul | CJM, Anugul | 8084 | 10 | 2976.62 |
| Bihar | Darbhanga | CJM Division, Biraul | 2960 | 10 | 315.3 |

Appendix B: Court's Productivity and Term of Judges

| State Name | District Name | Court Name | Mean Tenure Days | Median Tenure Days |
|---------------|-----------------|---|------------------|-----------------------|
| Rajasthan | Banswara | DJ ADJ Banswara District HQ | 382.63 | 250 |
| Tamil Nadu | Kanniyakumari | Principal District and Sessions Court | 451 | 473.5 |
| Tamil Nadu | Thoothukudi | Principal District court complex, Thoothukudi | 633.85 | 729 |
| Uttar Pradesh | Bareilly | ACJM Bareilly | 505.2 | 678 |
| Gujarat | SURAT | Addl DJ Court, Bardoli | 159.37 | 107 |
| Tamil Nadu | Tiruchirappalli | Principal District and Session Court Establishment | 430.22 | 179 |
| Tamil Nadu | Tirunelveli | PDJ, I ADJ, Mahila, III ADJ, IV ADJ Tirunelveli | 155.5 | 82.5 |
| Gujarat | Valsad | District Court, Valsad | 629.47 | 523 |
| Gujarat | Porbandar | District and Sessions Court, Porbandar | 861.54 | 784 |
| Rajasthan | Kota | DJ ADJ, Kota HQ | 1185.5 | 1185.5 |
| Tamil Nadu | Madurai | Principal District Judge | 1345 | 1345 |
| Rajasthan | Dungarpur | DJ ADJ Dungarpur District HQ | 413.6 | 243 |
| Rajasthan | Bundi | DJ ADJ, Bundi HQ | 343.37 | 235.5 |
| Rajasthan | Jaipur Metro | ACMM Railway, Jaipur Metro | 424.62 | 389.5 |
| Tamil Nadu | Thanjavur | Principal District Court, Thanjavur | 602.5 | 317.5 |

HMD courts

| State Name | District Name | Court Name | Mean Tenure Days | Median Tenure Days | |
|--------------|--------------------|--|------------------|-----------------------|--|
| Bihar | Muzaffarpur | CJM Division (West) | 300.5 | 81 | |
| Kerala | Thiruvananthapuram | Addl CJM, Trivandrum | 416.41 | 212 | |
| Bihar | Aurangabad | CJM Division | 856.25 | 1023 | |
| Rajasthan | Jhalawar | ACJM GN, Jhalarapatan Jhalawar District | 535.55 | 549 | |
| Bihar | Bhojpur | CJM Division | 215.41 | 101.5 | |
| Bihar | Madhubani | CJM Division, Benipatti | 598.6 | 317 | |
| Bihar | Muzaffarpur | CJM Division | 274.77 | 79 | |
| Bihar | Madhepura | CJM Division, Uda- Kishunganj | 886 | 769 | |
| Bihar | Sitamarhi | CJM Division, Pupri | 696 | 629 | |
| Bihar | Jehanabad | CJM Division, Arwal | 962 | 1079 | |
| Bihar | Sheohar | CJM Division, Sheohar | 230.14 | 241 | |
| Rajasthan | Jodhpur District | CJM ACJM JM, Jodhpur District HQ | 413.47 | 383 | |
| Chhattisgarh | Surajpur | CJM, Surajpur | 1180.25 | 1156.5 | |
| Orissa | Anugul | CJM, Anugul | 1027.7 | 1024 | |
| Bihar | Darbhanga | CJM Division, Biraul | 369.1 | 262 | |

Appendix C: Court's Productivity and Age of Cases

| LMD courts | | | | | | | |
|---------------|-----------------|---|--------------|--------------|--------------|---------------|----------------|
| State Name | District Name | Court Name | 0-1 years | 1-3 years | 3-5 years | 5-10 years | 10-20 years |
| Rajasthan | Banswara | DJ ADJ, Banswara District HO | 2250 | 407 | 102 | 12 | 0 |
| Tamil Nadu | Kanniyakumari | Principal District and Sessions Court | 14376 | 1062 | 385 | 228 | 0 |
| Tamil Nadu | Thoothukudi | Principal District court complex, Thoothukudi | 18364 | 1251 | 151 | 23 | 0 |
| Jttar Pradesh | Bareilly | ACJM Bareilly | 456 | 28 | 25 | 30 | 0 |
| Gujarat | Surat | Addl DJ Court, Bardoli | 4404 | 321 | 135 | 22 | 0 |
| Гаmil Nadu | Tiruchirappalli | Principal District and Session | 16689 | 1940 | 238 | 36 | 0 |
| Γamil Nadu | Tirunelveli | Court Establishment PDJ, I ADJ, Mahila, III ADJ, IV ADJ Tirunelveli | 37666 | 2235 | 267 | 66 | 0 |
| Gujarat | Valsad | District Court, Valsad | 14692 | 1858 | 684 | 455 | 0 |
| Gujarat | Porbandar | District and Sessions Court, Porbandar | 8416 | 1025 | 360 | 236 | 0 |
| Rajasthan | Kota | DJ ADJ, Kota HQ | 11428 | 1907 | 368 | 161 | 1 |
| Гаmil Nadu | Madurai | Principal District Judge | 27447 | 3336 | 465 | 139 | 0 |
| Rajasthan | Dungarpur | DJ ADJ Dungarpur District HQ | 4361 | 899 | 134 | 10 | 0 |
| Rajasthan | Bundi | DJ ADJ, Bundi HQ | 6918 | 871 | 148 | 117 | 0 |
| Rajasthan | Jaipur Metro | ACMM Railway Jaipur Metro | 2791 | 248 | 47 | 12 | 0 |
| Гатіl Nadu | Thanjavur | Principal District Court, Thanjavur | 19925 | 1836 | 207 | 42 | 0 |

| HMD courts | | | | | | | |
|--------------|--------------------|--|--------------|--------------|--------------|---------------|----------------|
| State Name | District Name | Court Name | 0-1 vears | 1-3 years | 3-5 years | 5-10 years | 10-20 years |
| Bihar | Muzaffarpur | CJM Division (West) | 202 | 461 | 348 | 326 | 0 |
| Kerala | Thiruvananthapuram | Addl CJM, Trivandrum | 390 | 444 | 293 | 552 | 0 |
| Bihar | Aurangabad | CJM, Division | 460 | 651 | 527 | 617 | 0 |
| Rajasthan | Jhalawar | ACJM GN, Jhalarapatan Jhalawar District | 12 | 126 | 103 | 80 | 0 |
| Bihar | Bhojpur | CJM Division | 207 | 258 | 150 | 389 | 0 |
| Bihar | Madhubani | CJM Division, Benipatti | 126 | 355 | 210 | 370 | 0 |
| Bihar | Muzaffarpur | CJM Division | 404 | 724 | 426 | 1000 | 0 |
| Bihar | Madhepura | CJM Division, Uda Kishunganj | 54 | 207 | 129 | 197 | 0 |
| Bihar | Sitamarhi | CJM Division, Pupri | 40 | 118 | 161 | 46 | 0 |
| Bihar | Jehanabad | CJM Division, Arwal | 59 | 124 | 70 | 173 | 0 |
| Bihar | Sheohar | CJM Division, Sheohar | 53 | 159 | 88 | 175 | 1 |
| Rajasthan | Jodhpur | CJM ACJM JM, Jodhpur District HQ | 26 | 138 | 165 | 124 | 0 |
| Chhattisgarh | Surajpur | CJM, Surajpur | 681 | 1254 | 968 | 2202 | 0 |
| Orissa | Anugul | CJM, Anugul | 569 | 934 | 4281 | 2823 | 0 |
| Bihar | Darbhanga | Biraul CJM Division | 34 | 73 | 69 | 135 | 0 |