Enforcement, Courts, and Informal Labor: Capacity and Choice Across Countries

Daniel L. Chen, Jean N. Lee & Peter Neis*

November 14, 2026

Abstract

We ask whether court performance is associated with labor informality and whether the association looks similar across institutional settings. We compare informal employment with contract-enforcement time across 118 countries and in pooled firm-level data, then examine administrative court records and household surveys in Chile, Croatia, India, Kenya, and Peru, including comparisons across Indian states. In the cross-country sample, longer contract-enforcement times coincide with higher informality, even after accounting for income. Across Indian states, by contrast, the association is accounted for by income. The detailed data reveal distinct dimensions of court performance, including case age, clearance, and backlog trajectories, that broad measures can obscure. These descriptive comparisons leave open whether courts affect informality and whether weak enforcement reflects limited capacity or deliberate forbearance. Separating those mechanisms will require evidence on enforcement choices as well as court capacity.

JEL Codes: P48, K41, O17, D73

Keywords: Court performance, Informality, Enforcement, Forbearance

1 Introduction

Informal employment remains widespread in developing and middle-income economies and declines only gradually as countries grow richer (La Porta and Shleifer 2014). Large shares of workers remain outside the reach of labor regulation, social insurance, and income taxation. A large literature studies the determinants of informality, from regulation and tax burdens to

*Chen: Toulouse School of Economics, Université Toulouse Capitole, Toulouse, France (e-mail: daniel.chen@iast.fr); Lee: World Bank, Washington, DC 20006, United States (e-mail: jlee20@worldbankgroup.org); Neis: (e-mail: peter.neis@outlook.com). Daniel L. Chen acknowledges IAST, TSE-Partnership, and ANITI funding from the French National Research Agency (ANR) under the Investments for the Future (Investissements d'Avenir) program, grant ANR-17-EUR-0010. Peter Neis gratefully acknowledges the support received from the *Agence Nationale de la Recherche* of the French government through the program "*Investissements d'avenir*" (ANR-10-LABX-14-01). The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the World Bank, its Board of Executive Directors, or the governments they represent.

compliance costs and firm productivity (e.g. Perry et al. 2007; Ulyssea 2020). The courts that enforce contracts and employment law have received less attention, although formal contracts and labor protections are only as credible as the institutions that enforce them.

How does court performance relate to labor informality, and how does this relationship vary across measures and institutional settings? We begin with a 118-country comparison of contract-enforcement time and informal employment, then use administrative court records and household surveys from Chile, Croatia, India, Kenya, and Peru to examine case age, clearance, and backlog dynamics. Indian state data provide an additional subnational comparison. The cross-country association persists after accounting for income, while the detailed records reveal why a single court-efficiency index can obscure important differences. Because these comparisons are descriptive, they leave the effects of court performance and the motives behind weak enforcement unresolved. We treat limited capacity and deliberate forbearance as competing interpretations to test with more specific evidence.

Two accounts motivate the analysis. In a capacity account, delays and backlogs weaken the credibility of formal contracts and labor protections. A forbearance account, following Holland (2016), emphasizes that governments may tolerate noncompliance even when enforcement is feasible. Both accounts predict the same aggregate pattern: weak enforcement coinciding with high informality. They call for different evidence: a capacity explanation should track court resources and case-processing measures, whereas a forbearance explanation requires direct evidence on enforcement choices and political incentives. Political intent remains unobserved in our data. We use the two accounts to interpret heterogeneity and to define tests for future work.

The analysis combines two layers of data. For the global comparison, we use the ILO's harmonized estimates of informal employment (SDG indicator 8.3.1) for 118 countries and the World Bank Doing Business measure of the time needed to enforce a commercial contract, with alternative court measures from the World Justice Project and the World Bank Enterprise Surveys. For the case countries, we assemble administrative records covering millions of civil, commercial, and labor cases. These records allow us to construct clearance rates, backlogs, the average age of pending and disposed cases, disposition times, and the share of cases resolved within one to four years. We study Chile, Croatia, India, Kenya, and Peru because case-level court records are available for them; they span four continents, both civil- and common-law traditions, and a wide range of incomes. Section 3 shows where they lie in the global distribution. Informality in the case countries is measured from national household surveys, following the ILO definition as closely as each survey allows. Because the available questions differ, for example social security contributions in Chile and business registration in Peru, we treat differences in these levels with caution and rely on the harmonized ILO series for the global comparison.

The evidence yields three descriptive patterns. First, across 118 countries, informal employment is higher where contract enforcement takes longer. Income accounts for most of this association, but not all of it: net of log GDP per capita, a 10 percent longer enforcement time coincides with about 0.8 percentage points more informal employment. The association holds, with varying precision, across alternative court measures and when proxy-based European informality estimates are excluded. Second, in the five case countries, the dimensions of court performance do not move together. Chile resolves cases quickly but accumulates a backlog,

whereas Croatia's cases are older but its backlog is shrinking, a difference that a single efficiency index would hide. Third, across Indian states, slower courts coincide with higher informality, but this association disappears once state income is taken into account. In pooled Enterprise Survey data, comparing firms within the same country and survey round, firms that rate the courts as a greater obstacle are somewhat more likely to report competing against informal firms. These patterns are compatible with several mechanisms, including limited court capacity and selective non-enforcement, which the current data do not distinguish.

The paper provides a descriptive map of the court-performance-informality relationship across measures and settings. Capacity constraints and political forbearance remain alternative explanations pending direct evidence on enforcement decisions. Collecting such evidence alongside court-level performance would allow future work to test these accounts and assess when judicial reform might affect formal employment.

The rest of the paper proceeds as follows. Section 2 reviews related literature on courts, labor markets, informality, and enforcement. Section 3 presents the global pattern. Section 4 describes the court and informality data for the five case countries. Section 5 compares court performance across them. Section 6 relates court performance to informality across the five countries and Indian states. Section 7 discusses capacity and forbearance as interpretations, and Section 8 concludes.

2 Related Literature

The paper relates to four strands of work: on courts and economic outcomes, on courts and labor markets, on informality and the enforcement of labor law, and on the political economy of enforcement.

Courts and economic outcomes. Across countries, more timely justice is associated with higher growth (Djankov, Melcarne, and Ramello 2025). Within countries, studies using variation across courts and regions show that contract enforcement matters for how firms organize production, which inputs they source, and their access to credit (Klein, Crawford, and Alchian 1978; Boehm and Oberfield 2020; Amirapu 2021; Visaria 2009; Lilienfeld-Toal, Mookherjee, and Visaria 2012). Several of these studies exploit variation across Indian states, which also motivates our state-level comparisons, and Rao (2024) treats front-line courts in India as a component of state capacity. A related literature asks how judicial performance should be conceptualized and measured (Marciano, Melcarne, and Ramello 2019), a question made more pressing as administrative court data become available for more countries (Ramos-Maqueda and Chen 2020). Our case-country analysis builds on this work by distinguishing measures of case-processing speed from measures of the stock of pending cases.

Courts and labor markets. Labor protections are enforced partly through litigation, so court performance matters for labor markets. In Italy, longer trials in labor courts raise effective firing costs and are associated with lower employment and less access to permanent contracts (Gianfreda and Vallanti 2020). Institutional inefficiencies have also been linked to worker turnover (Bamieh et al. 2025), and judicial enforcement can act as a worker-discipline device that affects

wage setting (Dughera and Melcarne 2025). Who benefits from better enforcement is not clear a priori: courts can strengthen workers' claims, but they have also been used to enforce contracts against workers (Naidu and Yuchtman 2013). In India, regulation of labor and of firm size has been linked to manufacturing performance, firm growth, and the use of contract labor (Besley and Burgess 2004; Martin, Nataraj, and Harrison 2017; Bertrand, Hsieh, and Tsivanidis 2021). Whether better courts go together with more or less formal employment is therefore an empirical question.

Informality and enforcement. Informality is high in poor countries and declines as they develop (La Porta and Shleifer 2014); for the forms it takes in India, see Abraham (2017). Beyond income, informality has been linked to the costs and benefits of formality, including regulation, taxation, and the legitimacy that registration confers (Perry et al. 2007; Ulyssea 2010; Ulyssea 2020; Loayza 2018; Assenova and Sorenson 2017). Cross-country studies associate unofficial activity with corruption, bureaucratic discretion, and a weak legal environment (Friedman et al. 2000; Johnson et al. 2000; Dabla-Norris, Gradstein, and Inchauste 2008). A smaller literature measures enforcement directly. In Brazil, where labor inspections are more frequent, mandated benefits are passed through to wages and low-paid formal jobs become more attractive to informal workers (Almeida and Carneiro 2012); across Argentine provinces, more enforcement raises compliance with labor regulation (Ronconi 2010). Kanbur and Ronconi (2018) construct cross-country measures of labor-law enforcement, including inspections, penalties, and the performance of the judiciary, and find that the stringency of labor regulation and the intensity of its enforcement are negatively correlated. Of these enforcement margins, courts have been studied least, particularly with case-level data.

The political economy of enforcement. Weak enforcement need not reflect weak capacity alone. Judges and court administrators respond to their own incentives (Posner 1993), and comparative research distinguishes institutions that are weak because their rules go unenforced from those that are weak because their rules are unstable (Levitsky and Murillo 2009). Holland (2016) defines forbearance as the intentional and revocable non-enforcement of law, and shows that enforcement against street vendors and squatters in Latin American cities varies with the share of poor voters and with electoral rules (Holland 2015). Similarly, Ronconi (2010) uses variation in labor inspections across electoral years. This literature also makes clear what separating forbearance from incapacity requires: evidence on enforcement decisions themselves, such as differences in sanctions across districts with similar capacity but different political incentives, or the sequence of decisions across bureaucracies (Holland 2016; Bozçağa and Holland 2018). It has focused on street-level enforcement by police, inspectors, and municipal agencies. Whether court performance is also shaped by forbearance has received little attention, and our data do not answer that question.

Contribution. The paper sits at the intersection of these strands of the literature. Studies of courts and informality typically rely either on aggregate cross-country indicators or on single-country designs that identify one channel. We combine a global comparison with case-level administrative records from five countries. This shows how much of the cross-country association

remains after accounting for income, and how the dimensions of court performance diverge across settings. The analysis is descriptive: it does not identify effects of court performance, and it does not adjudicate between capacity and forbearance. Instead, it maps the patterns that both accounts must explain and the evidence needed to tell them apart.

3 The Global Pattern

Before turning to the five case countries, we ask whether court performance and informality are related in a broad cross-section of countries, and how much of that relationship remains once income is taken into account. This comparison provides a benchmark for the case studies and allows statistical inference that five countries cannot support.

Informal employment is the ILO's harmonized estimate of informal employment as a share of non-agricultural employment (SDG indicator 8.3.1), taken from ILOSTAT for the latest available year between 2015 and 2019. Court performance is measured by the World Bank Doing Business indicator of the time needed to enforce a contract: the number of days from filing a standardized commercial claim in a first-instance court of the largest business city to payment, based on assessments by local litigation lawyers.[1] We also use GDP per capita (PPP, constant international dollars). The sample comprises the 118 countries with all three measures.

Figure 1a shows the raw relationship. Informal employment is higher where contract enforcement takes longer: a doubling of enforcement time coincides with about 11 percentage points more informal employment (Table 1, column 1). The relationship is noisy, however, and time to enforce alone accounts for only 5 percent of the cross-country variation in informality. The broader Doing Business enforcing-contracts score, which also reflects cost and procedural quality, is more closely related to informality (Panel B, $R^2 = 0.42$).

Income accounts for most of this association. Controlling for log GDP per capita raises the explained variation from 5 to 71 percent and roughly halves the coefficient on enforcement time (Table 1, column 2). The association does not disappear, however. Net of income and of an indicator for informality estimates derived from EU-SILC (discussed below), a 10 percent longer enforcement time coincides with about 0.8 percentage points more informal employment (column 3; Figure 1b). Adding the Worldwide Governance Indicators for rule of law and regulatory quality leaves the coefficient essentially unchanged (column 4). These indices are perception based and overlap conceptually with the court measure, so we do not interpret their individual coefficients. The association remains descriptive: richer and better-governed countries differ in many ways not captured here, and causality may run in both directions, for instance if a large informal sector narrows the tax base that funds the courts.

Two measurement issues deserve attention. First, for 28 European countries, including Croatia, ILOSTAT derives informality from EU-SILC, which contains no direct question on social security registration. These proxy-based estimates lie about 20 percentage points below what income would predict, which is why we include an indicator for them. Excluding these countries

[1] We use the Doing Business report published in the year after the informality year, since each report measures the previous calendar year. The World Bank discontinued Doing Business in 2021 after a review of data irregularities in earlier editions. We therefore also report results for court measures from the World Justice Project and the World Bank Enterprise Surveys.

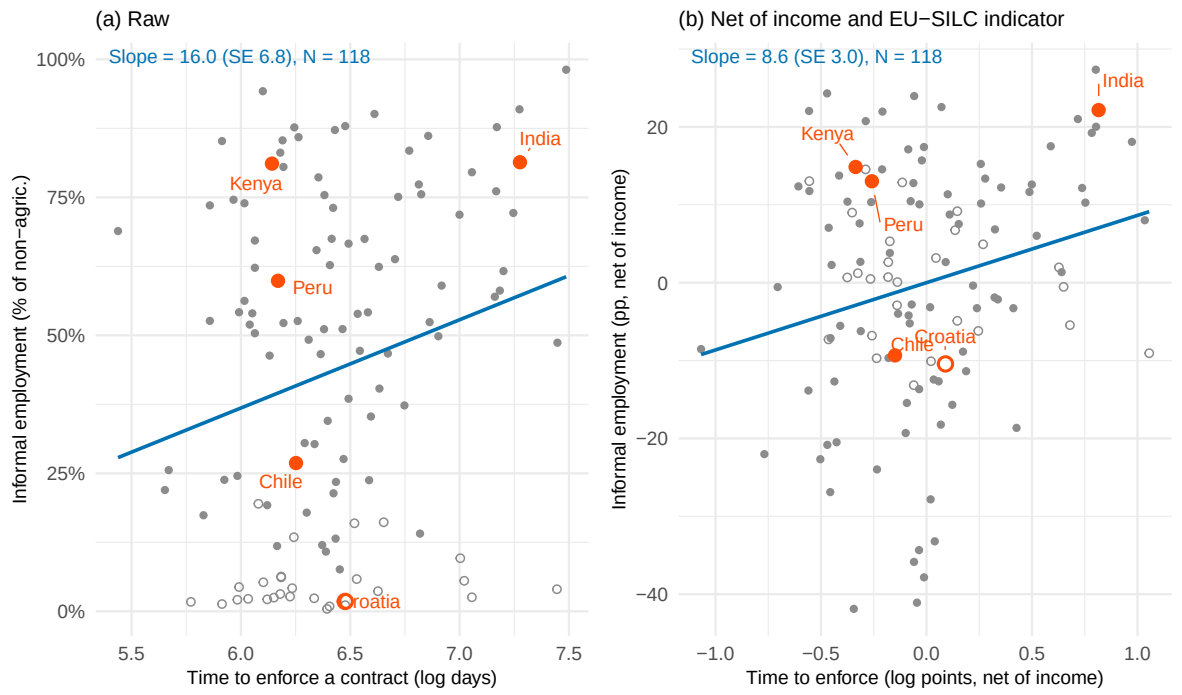


Figure 1: Informal employment and time to enforce a contract across countries

Note: Each point is a country (N = 118); the five case countries are highlighted. Informal employment is the share of non-agricultural employment that is informal (ILOSTAT, SDG indicator 8.3.1), latest year available in 2015-2019. Time to enforce a contract is from the World Bank Doing Business report published the following year. Hollow markers are European countries whose ILOSTAT estimate is derived from EU-SILC, which lacks direct questions on social security registration and yields systematically lower values. Panel (a) shows the raw relationship. Panel (b) plots both variables net of log GDP per capita (PPP) and an indicator for EU-SILC-based estimates, so its slope equals the coefficient in column (3) of Table 1. Lines are OLS fits; robust standard errors in parentheses.

Table 1: Informal employment and contract enforcement across countries

	(1)	(2)	(3)	(4)
Panel A: Time to enforce a contract				
Time to enforce (log days)	15.99**	8.69**	8.64***	9.03***
	(6.79)	(3.55)	(2.95)	(3.33)
Log GDP per capita		−22.54***	−17.32***	−19.14***
		(1.26)	(1.60)	(2.12)
EU-SILC estimate			−20.07***	−19.66***
			(3.74)	(4.75)
Rule of law (WGI)				−12.02***
				(4.09)
Regulatory quality (WGI)				13.90**
				(5.42)
Observations	118	118	118	118
R^2	0.05	0.71	0.76	0.78
Panel B: Enforcing-contracts score				
Enforcing-contracts score	−1.56***	−0.66***	−0.58***	−0.60***
	(0.14)	(0.12)	(0.11)	(0.12)
Log GDP per capita		−18.81***	−14.82***	−17.38***
		(1.46)	(1.59)	(1.95)
EU-SILC estimate			−17.26***	−18.17***
			(3.71)	(4.32)
Rule of law (WGI)				−11.39***
				(3.85)
Regulatory quality (WGI)				15.19***
				(5.05)
Observations	118	118	118	118
R^2	0.42	0.75	0.78	0.80

OLS across 118 countries. The dependent variable is informal employment as a percentage of non-agricultural employment (ILOSTAT, SDG indicator 8.3.1, survey based), latest year available in 2015–2019 (88 countries in 2019). Court measures are from the World Bank Doing Business report published the following year (a report year measures the previous calendar year). GDP per capita (PPP, constant international dollars) and the Worldwide Governance Indicators are for the informality year. For 28 European countries ILOSTAT derives informality from EU-SILC, which has no direct questions on social security registration; these proxy-based values are systematically lower, so columns (3) and (4) add an indicator for EU-SILC-based estimates (Appendix Table A1 reports the excluded-sample results). The WGI indices are perception based and partly overlap with the court measure, so column (4) compares measures rather than adding a clean control. 18 countries carry an ILO series-break flag in their informality year. Heteroskedasticity-robust (HC1) standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: The five case countries on each court measure

	DB Time to enforce	WJP 7.5 No undue delay	WJP 7.6 Effective enforcement	ES Courts a constraint
Chile	519 days (37)	0.44 (46)	0.62 (23)	12.5% (51)
Croatia	650 days (61)	0.30 (79)	0.52 (44)	12.9% (52)
India	1445 days (97)	0.18 (97)	0.39 (81)	8.7% (39)
Kenya	465 days (25)	0.31 (78)	0.47 (57)	9.4% (40)
Peru	478 days (27)	0.19 (96)	0.45 (64)	25.5% (84)

Raw values, with the percentile among sample countries with the measure in parentheses, oriented so that 100 is the slowest or worst court system. WJP scores range from 0 to 1 (higher is better). Enterprise Survey years: Chile 2010, Croatia 2019, India 2014, Kenya 2018, Peru 2017. Doing Business ranks Peru among the faster systems, while both perception measures place it among the slow ones, in line with Peru's administrative case data. The measures do not agree in general: India, slowest on the other measures, is below the median on the Enterprise Survey measure.

instead strengthens the association (12.2 rather than 8.6), and restricting the sample to estimates based on labor force surveys strengthens it further (14.7; Appendix Table A1). Second, the association does not depend on the Doing Business measure. Replacing it with the World Justice Project's indicators of civil-justice delay (7.5) and enforcement (7.6), or with the share of firms in the Enterprise Surveys that identify the courts as a major constraint, gives associations of similar size once income is controlled for: 3.6 to 4.5 percentage points of informality per standard deviation of worse court performance, all significant at the 5 percent level (Appendix Table A2 and Figure A2). The same holds on the common sample of 80 countries covered by all four measures (4.2 to 6.3). When the EU-SILC indicator is added, the Doing Business and Enterprise Survey coefficients remain significant, whereas the two World Justice Project coefficients fall to about 2.2 and lose precision: the World Justice Project covers most European countries, where court scores are high, so the indicator absorbs much of its variation. Excluding the EU-SILC estimates instead, all four measures are significant (3.8 to 5.3).

The five case countries are highlighted in Figure 1, and Table 2 reports their position on each court measure. They span the range of informality, from Croatia's low EU-SILC-based estimate to India and Kenya. Their ranking, however, depends on how court performance is measured. On Doing Business enforcement time, India is among the slowest countries in the sample (97th percentile, where 100 is slowest), Croatia lies somewhat above the median, and Chile, Kenya, and Peru are in the faster half. On the World Justice Project's delay indicator, by contrast, India, Peru, Croatia, and Kenya all rank in the slowest quarter, and Chile near the median.[2] The measures also disagree elsewhere: India, the slowest case country on the other measures, lies below the median on the Enterprise Survey measure.

[2]The largest discrepancy concerns Peru. Doing Business ranks its courts among the faster ones (478 days, 27th percentile), which contrasts with the very low recorded disposal shares in Peru's administrative case data (Section 5). The other measures agree with the administrative data: Peru is at the 96th percentile on the World Justice Project's delay indicator, the 64th on its enforcement indicator, and the 84th on the share of firms citing the courts as a major constraint. Doing Business measures the time for a single standardized commercial case in the largest business city, as estimated by local lawyers, which need not reflect congestion across the court system.

Table 3: General Overview of Countries in Sample

	Chile	Croatia	India	Kenya	Peru
GDP (bil. US$)[a]	297.57	61.38	2,701.11	87.78	222.57
GDP growth (%)[a]	3.71	2.81	6.53	6.32	3.97
GDP per capita (US$)[a]	15,888.14	15,014.09	1,996.92	1,708.00	6,957.79
Population (mil.)[b]	18.73	4.09	1,352.64	51.39	31.99
Population growth (%)[b]	1.39	−0.89	1.04	2.34	1.72
Undernourished (%)[b]	3.5	2.5	14	23	6.7
Legal tradition	Civil	Civil	Common	Common	Civil

This table displays aggregate country-wide statistics for 2018. Data sources are indicated by the following superscripts:
[a] World Development Indicators (current US$).
[b] Health Nutrition and Population Statistics.

The cross-country comparison therefore establishes a robust but modest association that remains after accounting for income. It cannot show which aspects of court performance matter, and the disagreement among aggregate measures shows how much depends on what is measured. A single number of days for a standardized commercial claim does not distinguish courts that resolve individual cases slowly from courts that resolve them quickly but cannot keep up with new filings, nor does it capture labor disputes. The case countries, for which we observe the full caseload, allow us to separate these dimensions.

4 Data for the Five Case Studies

This section describes the five case countries, the court records we use, and our measures of informality. The countries differ widely in income, size, and legal tradition, and the court records differ in the courts and case types they cover. We therefore use them to compare patterns across dimensions of court performance within and across countries, rather than to rank countries on a single scale.

4.1 Country context

Table 3 summarizes the five countries. Chile and Croatia are upper-middle- to high-income economies with GDP per capita of about US$15,000-16,000 in 2018; Peru lies in between at about US$7,000; India and Kenya are lower-middle-income countries at about US$2,000. India is by far the largest, with a population about 70 times that of Chile, and several Indian states are more populous than Kenya, the largest of the other four countries, which motivates our state-level comparisons. Chile, Croatia, and Peru have civil-law systems, and India and Kenya common-law systems.

4.2 Court records

Chile. Firms typically litigate in the civil courts, while workers bring claims mainly before specialized labor courts. Our data cover the universe of civil cases filed between January 2015 and October 2019, together with earlier cases disposed during this period.

Table 4: Coverage of the court records

	Courts	Case types	Period	Main limitation
Chile	Civil courts	Civil	Filed 2015-Oct. 2019	Earlier filings only if disposed in period
Croatia	Commercial courts	Commercial	2010-2016	Earlier filings only if disposed in period
India	District and Sessions Courts (eCourts)	Civil and criminal	2012	Labor courts not covered
Kenya	Higher courts, incl. Employment and Labour Relations Court	All	Mostly decided 2010-2020	Disposed cases only; filing year only
Peru	Labor, civil, mixed, and Paz Letrado courts	Labor, civil, other	Filed Jan 2018-Feb 2021	Cases pending at end of period not resolved

Croatia. Commercial disputes are heard by nine specialized commercial courts, with the Zagreb Commercial Court accounting for about half of all cases; appeals go to the High Commercial Court and the Supreme Court. Our data cover all cases in these courts from 2010 to 2016, together with earlier cases disposed during this period. The period coincides with Croatia's accession to the European Union in 2013 and with unusually high caseloads in commercial matters.

India. Most civil and criminal disputes are filed in the District and Sessions Courts. Our data come from the eCourts platform, introduced in 2007 as part of a nationwide computerization of the lower judiciary, and contain more than 70 million pending and disposed cases. Labor disputes are largely handled by separate labor courts and industrial tribunals, which these data do not cover.

Kenya. The Employment and Labour Relations Court is the first-instance forum for disputes between employers and employees. Our data cover cases in the higher courts, mostly decided between 2010 and 2020 (filings go back to the 1970s), but only cases that were fully disposed, and filing dates are recorded by year only (we set them to 1 July). Because cases still pending are missing, the data understate delays, particularly for recent filing cohorts (Appendix Figure A4).

Peru. Cases are heard by specialized labor, civil, and mixed courts and by the *Juzgados de Paz Letrados*. Our data cover all cases filed between January 2018 and February 2021, with filing dates, area of law, parties, and decisions. Because many of these cases were still pending at the end of the observation period, we can compute disposal shares but not clearance rates or backlogs (Appendix Figure A5).

Table 4 summarizes the coverage. The records differ in the courts, case types, and periods they cover, and the Kenyan and Peruvian records are truncated. Levels of court performance are therefore not strictly comparable across countries. What the records do allow is a comparison of how the different dimensions of performance relate to one another in each country, which is the focus of Section 5.

Table 5: Informality in the case countries

	Survey	Year	Criterion	Our estimate	ILOSTAT
Chile	Encuesta Nacional de Empleo	2019	Social security contributions	26%	27%
Croatia	– (no microdata)	–	–	–	2%[b]
India	NSS Employment-Unemployment	2011/12	Employment status[a]	65%	81%
Kenya	Continuous Household Survey	2019	Employer allowances, income tax	75%	81%
Peru	ENAHO	2016	Business registration	48%	60%

Share of informal workers in non-agricultural employment. "Our estimate" is computed from the survey shown using the criterion shown; ILOSTAT: harmonized estimate of informal employment (SDG indicator 8.3.1) used in Section 3, for the year used there. For India, agricultural employment excludes crop and animal production (NIC division 01) only.
[a] regular employee = formal
[b] ILOSTAT estimate for 2019, based on EU-SILC proxies. Figure 2 uses the ILOSTAT estimate for 2016 (3%), the year of the Croatian court data.

4.3 Informality

For the case countries we compute informality from national household surveys. We follow the ILO definition, under which a job is informal if it is not, in law or in practice, subject to national labor legislation, income taxation, social protection, or entitlement to employment benefits (International Labour Organization 2018). Each survey allows us to implement this definition only partially, and the criteria differ (Table 5): social security contributions in Chile, employer allowances and income-tax deductions in Kenya, business registration in Peru, and employment status in India, where we count regular salaried and wage employees as formal and the self-employed and casual workers as informal. The Peruvian measure therefore captures employment in unregistered businesses rather than informal jobs, and the Indian measure counts regular employees without social protection as formal. For Croatia, where we could not obtain suitable microdata, we use the ILOSTAT estimate, which is itself derived from EU-SILC proxies (Section 3). Following the ILO's headline indicator, we exclude agricultural employment. Appendix B gives details for each survey.

Our estimates range from 26 percent in Chile to 75 percent in Kenya; for Croatia, for which we have no microdata, ILOSTAT reports 2 percent. Because the criteria differ, these levels are not strictly comparable, and some differ from the ILO's harmonized estimates: ILOSTAT reports 81 percent for both India and Kenya, against our 65 and 75 percent. For India, much of the gap reflects regular employees without social protection, whom the ILO counts as informal and our status-based measure does not. We therefore use the harmonized series for cross-country comparisons (Section 3) and the survey-based estimates mainly for comparisons across Indian states and over time in Peru.

5 Court Performance in the Five Case Studies

This section describes court performance in the five countries along several dimensions. We first define the measures and show how they are related, then compare them across countries. The aim is descriptive: to show which dimensions move together and which do not, before relating them to informality in Section 6.

5.1 Measures of court performance

We use standard measures of court performance (European Commission 2020; Glanfield, Hall, and Keilitz 2018). Two describe the stock of pending cases at a point in time:

- *Backlog*: the number of pending cases older than one year.
- *Average age of pending cases*: the mean time since filing of cases pending at the end of a year.

Three describe the flow of cases through the courts during a year:

- *Clearance rate*: the number of cases resolved divided by the number of new filings.
- *Average age of disposed cases*: the mean time from filing to resolution of cases resolved during the year.
- *Disposal shares*: the share of cases filed in a given year that are resolved within one to four years.

Disposition time, the number of pending cases at the end of the year divided by the number resolved during it, combines the two: it is the number of years the courts would need to clear the existing stock at their current pace.

These measures are linked by an accounting identity. If P_t denotes pending cases at the end of year t, F_t new filings, and D_t dispositions, then

$$P_t = P_{t-1} + F_t - D_t, \qquad CR_t = \frac{D_t}{F_t}, \qquad DT_t = \frac{P_t}{D_t}, \tag{1}$$

so that the pending stock changes by $F_t(1 - CR_t)$: it grows whenever the clearance rate is below one, whatever the speed at which individual cases are resolved. The age measures depend in addition on which cases are resolved. A court that resolves new and simple cases quickly while older ones remain pending will show a low average age of disposed cases together with an ageing stock. A court that works through an old backlog will show the reverse: old disposed cases, but a pending stock that becomes younger as it shrinks. Speed measures and stock measures can therefore move in opposite directions even when overall capacity is unchanged.

All of these measures also depend on the demand for litigation. Filings reflect economic activity, legal changes, and the mix of case types, which differs across our data sets (Table 4). A court whose caseload is dominated by routine claims will look faster than one handling complex disputes with the same resources. Demand is also shaped by expected delay: where courts are slow, fewer disputes may be filed, so low inflows can signal congestion rather than its absence. Because we do not observe the determinants of filings, differences in these measures across countries cannot be attributed to differences in court capacity, let alone to deliberate choices about enforcement. We use them to describe how performance differs along each dimension.

5.2 Comparison across countries

Table 6 reports the share of cases resolved within one to four years after filing, while Table 7 summarizes aggregate efficiency metrics. Several key patterns emerge.

Table 6: Share of cases disposed within the first years after filing

Panel A: Disposed within X years of filing				
	< 1 year	< 2 years	< 3 years	< 4 years
Chile (2015)	39.43%	43.14%	44.28%	44.79%
Croatia (2010)	70.21%	81.90%	88.94%	93.36%
India (2010)	25.42%	40.60%	53.66%	63.20%
Peru (2018)	1.10%	1.52%	–	–
Panel B: Disposed by the end of the filing year and of the following years				
	Filing year	+1	+2	+3
Chile (2015)	29.15%	41.62%	43.76%	44.55%
Croatia (2010)	54.08%	76.74%	85.69%	91.25%
India (2010)	16.97%	32.65%	47.81%	59.40%
Kenya (2010)	9.22%	27.36%	42.87%	55.70%
Peru (2018)	0.68%	1.34%	1.67%	–

Cumulative share of cases filed in the year in parentheses that were disposed within one to four years of filing (Panel A) or by the end of the filing year and of each following calendar year (Panel B). Kenya records filing years only, so Panel A cannot be computed. Kenyan shares are based on cases disposed by 2020 and exclude cases still pending, so they overstate the share disposed. Peruvian shares are based on cases filed in 2018 and observed through February 2021, so disposal within three years of filing is not fully observed; they are lower bounds if disposals are incompletely recorded.

In Chile, cases that are resolved are resolved quickly: the average age of disposed cases is about four months. Yet fewer than half of the cases filed in 2015 were resolved within four years, and the clearance rate of 0.59 means that the pending stock grows each year by about 40 percent of new filings. Pending cases are on average almost three years old, and at current rates clearing the stock would take more than four years. This is the first pattern described above: rapid disposal of part of the caseload alongside a growing and ageing stock.

Croatia shows the reverse. Disposed cases are older, at about 18 months, and pending cases are on average three and a half years old. But the clearance rate is 1.44, so the courts resolve more cases than are filed and the stock is shrinking, and more than 90 percent of cases filed in 2010 were resolved within four years. Working through an old backlog raises the age of disposed cases while the stock declines.

India's district courts are slow on every measure. Pending cases are on average more than four years old and disposed cases more than five, only about a quarter of cases are resolved within a year of filing, and with a clearance rate slightly below one the stock continues to grow.

For Kenya we observe only disposed cases. Even these, which overstate the speed of resolution, show slow disposal: about 9 percent of cases filed in 2010 were resolved in the filing year and 56 percent by the end of the third year after it.

For Peru, recorded disposal shares are very low: under 2 percent of cases filed in 2018 were recorded as resolved within two years. Because the data cover a single filing cohort observed for a limited period, we cannot compute clearance rates or backlogs, and if decisions are incompletely recorded these shares understate disposal. They are nonetheless consistent with the World Justice Project and Enterprise Survey assessments of Peru's courts as among the slowest in the

Table 7: Aggregate court performance measures by country

	Backlog	Avg. Age of Pending C.	Avg. Age of Disposed C.	Clearance Rate	Disposition Time
India (2012)	8,713,822	4.40	5.60	0.95	3.31
Croatia (2016)	309,604*	3.54*	1.52	1.44	1.67*
Chile (2019)	1,970,979*	2.92*	0.33	0.59	4.12*
Kenya (2018)			3.42*		

Backlog: pending cases older than one year at the end of the year. *Average age*: mean years since filing of cases pending at the end of the year, or from filing to disposal of cases disposed during the year. *Clearance rate*: cases resolved divided by new filings during the year. *Disposition time*: pending cases at the end of the year divided by cases resolved during the year, in years. Data: India, District and Sessions Courts; Chile, civil courts, data through October 2019; Croatia, commercial courts; Kenya, higher courts, disposed cases only. Peru is omitted because only one filing cohort is observed (Table 6). * Cases filed before the observation window are observed only if disposed within it, so pending stocks and ages are understated; for Kenya, the omission of pending cases understates the age of disposed cases. Backlogs are counts and reflect the size of each court system.

global sample (Section 3).

The five systems therefore differ not only in how slow they are but in which dimension is weak. Chile combines fast disposal with a growing stock, Croatia slower disposal with a shrinking stock, and India slow disposal with a stock that is still growing; Kenya and Peru show slow recorded disposal on the measures available. As the accounting above implies, these combinations can arise from differences in case mix and in which cases courts prioritize, as well as from differences in resources. They show that no single measure summarizes court performance.

For the relationship with informality, this raises the question of which dimension matters. If firms and workers judge formal protections by how long a typical dispute takes, measures of disposal speed should be the relevant ones; if they judge them by whether disputes are resolved at all, the size and growth of the stock may matter more. The data in this paper cannot settle this, but they show that the answer affects how countries compare. Chile, for instance, looks fast on disposal age and slow on disposition time. Section 6 therefore reports the relationship for several measures.

6 Court Performance and Informality in the Five Case Studies

We now relate court performance to informality, first across the case countries and then across Indian states, where both are measured in the same way. A final subsection uses firm-level survey data.

6.1 Across the case countries

Figure 2 plots informality against the average age of disposed and pending cases. With four countries for which these measures are available, and informality measures that differ in definition (Table 5), the comparison allows no statistical inference; we read it descriptively. The measures of disposal speed order the countries broadly as informality does: disposed cases are youngest in Chile and Croatia, which have the lowest informality, and oldest in India and Kenya, which

Table 8: Informality and court delay across Indian states, with and without income

	All states		Excluding Bihar	
	(1)	(2)	(3)	(4)
Avg. age of pending cases (years)	3.96**	0.07	3.37*	0.15
	(1.68)	(1.21)	(1.74)	(1.24)
Avg. age of disposed cases (years)	3.57***	0.19	3.31**	0.32
	(1.14)	(1.03)	(1.42)	(1.10)
Control: log GSDP per capita	No	Yes	No	Yes
Indian states	28	28	27	27

Each cell is a separate OLS regression of the state share of informal workers (NSS round 68, 2011/12, in percentage points) on one court measure (eCourt, 2012), optionally controlling for log state GDP per capita in 2011–12 (current prices, Census 2011 population). Coefficients are percentage points of informality per additional year of average case age. Heteroskedasticity-robust (HC1) standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

have the highest. The stock measures order them differently. Chile has the lowest clearance rate (0.59) and the longest disposition time (4.1 years) among the countries with these measures, yet its informality share (26 percent) is far below that of India (65 percent), whose clearance rate is close to one. The ordering on speed also coincides with the ordering on income: Chile and Croatia are the two richest countries in the sample, India and Kenya the two poorest. The case countries therefore show that how court performance relates to informality depends on the dimension considered, but they cannot separate court performance from income.

6.2 Across Indian states

Indian states offer a comparison in which court performance and informality are measured in the same way. Across 28 states, informality is higher where cases are older: an additional year in the average age of pending cases coincides with about 4 percentage points more informal employment, and an additional year in the average age of disposed cases with about 3.6 percentage points (Table 8, column 1; Appendix Figure A6 shows these and other measures). Bihar, an outlier on several measures, does not drive these associations (column 3). Once state income is controlled for, however, both disappear: the coefficients fall to 0.07 and 0.19, with standard errors above one (column 2; Figure 3). Within India, the association between court delay and informality is accounted for by income differences across states. This contrasts with the cross-country pattern in Section 3, where an association remains net of income. The small number of states, the status-based informality measure, and the coverage of district rather than labor courts may all contribute to the difference; we cannot distinguish among them.

6.3 Firm-level evidence

The World Bank Enterprise Surveys allow a complementary comparison across firms within the same country and survey round. Table 9 relates firms' rating of the courts as an obstacle to their operations to whether they report competing against unregistered or informal firms, controlling

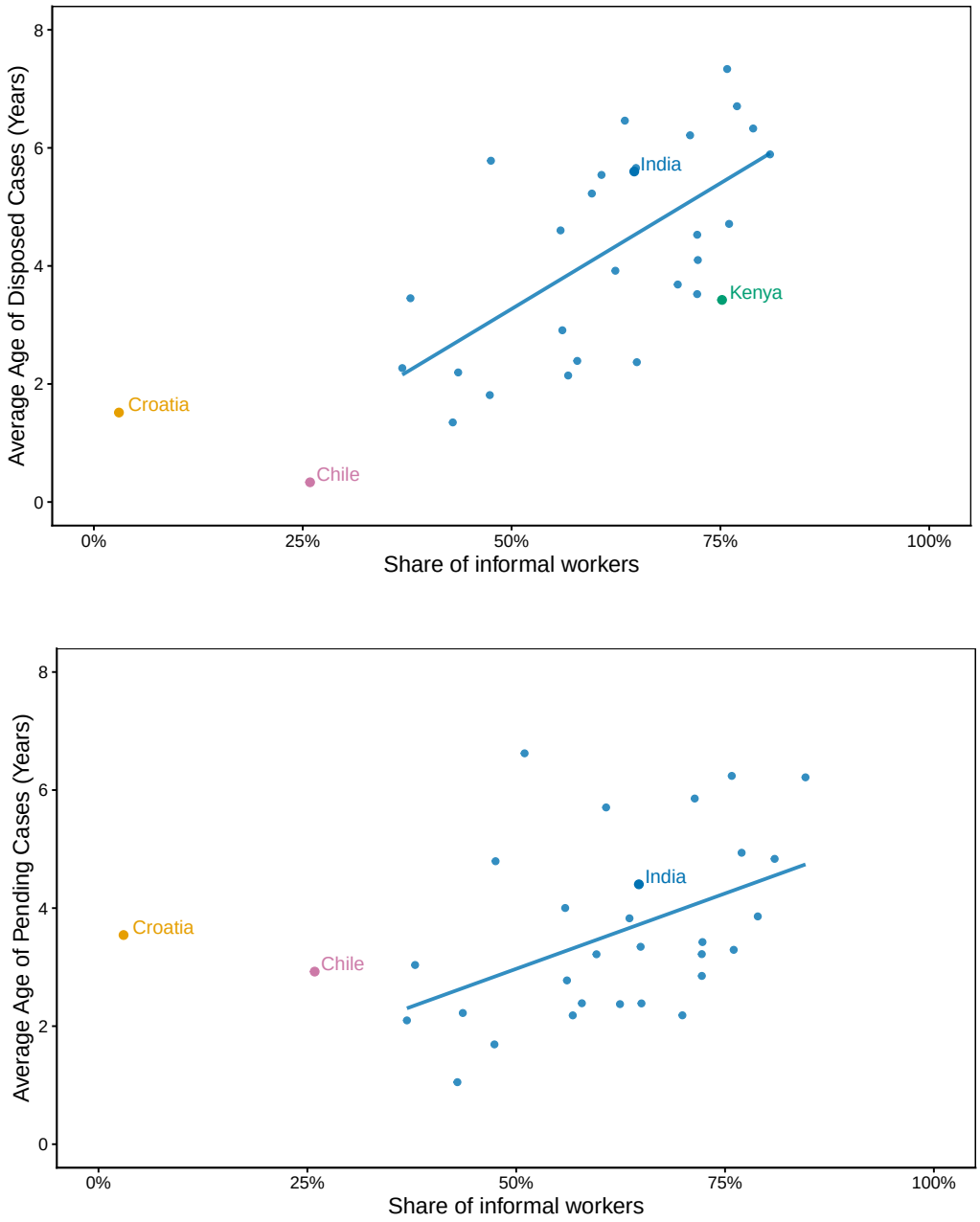


Figure 2: Correlation between court performance and share of informal workers across countries and Indian states.

Note: Share of informal workers (survey-based estimates, Table 5; for Croatia the ILOSTAT estimate for 2016) against the average age of disposed cases (top) and pending cases (bottom), in years (Table 7). Labeled points are case countries; unlabeled points are Indian states. Peru is not shown because case ages cannot be computed from a single filing cohort; Kenya appears only in the top panel because pending cases are not observed. Informality measures differ across countries (Section 4).

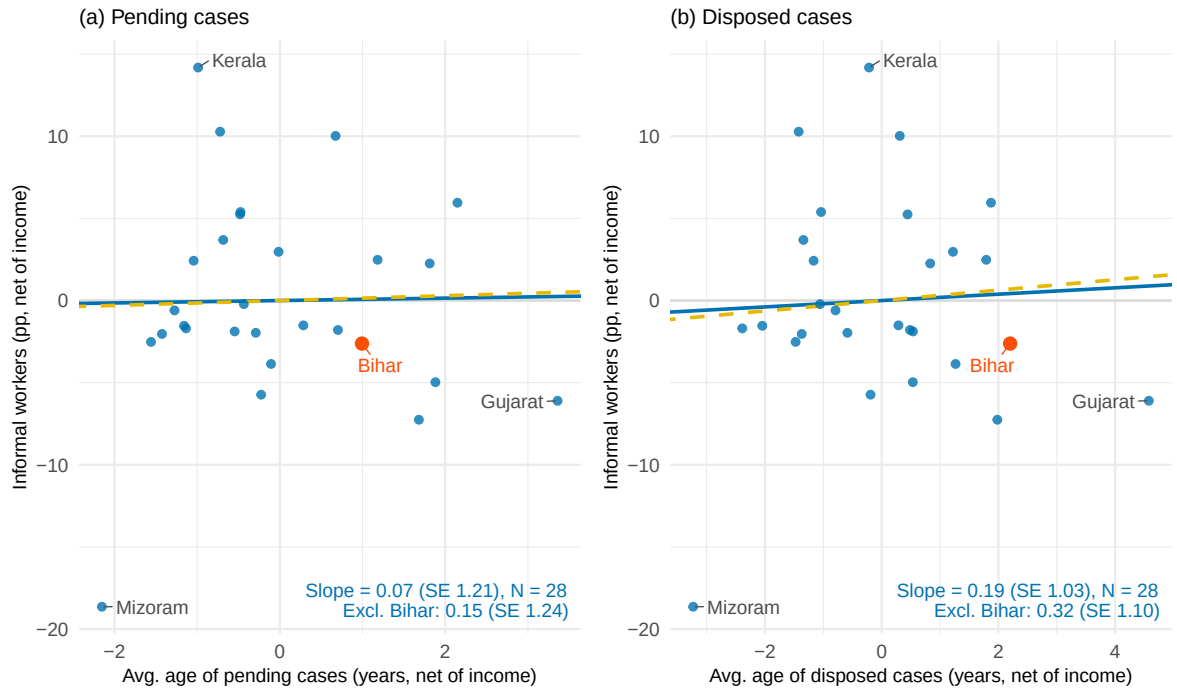


Figure 3: Informality and court delay across Indian states, net of income

Note: Each point is an Indian state (N = 28). Both axes are residuals from a regression on log state GDP per capita in 2011-12. Informality is the state share of informal workers (NSS round 68, 2011/12), in percentage points; court delay is the average age of pending (panel a) or disposed (panel b) cases in 2012 (eCourts), in years. The solid line is the OLS slope on all states; the dashed line is the slope excluding Bihar (highlighted). Robust standard errors in parentheses. See Table 8.

for country-survey-round fixed effects. Firms that rate the courts as a greater obstacle are more likely to report such competition. In the full sample, a one-point higher rating on the 0-4 scale coincides with a 2.8 percentage point higher probability (column 1), and adding firm size and sector leaves this unchanged (column 2). In the smaller sample with information on labor disputes, crime, and inspections, the coefficient falls to about 1.1 percentage points (columns 3 and 4). Because these specifications use about 87,000 rather than 249,000 observations, the difference may reflect sample composition as well as the added controls. Firms that regard the courts as independent and impartial are less likely to report competing with informal firms (column 5).[3]

Three features limit the interpretation. First, the surveys sample registered firms, so the results describe how formal firms perceive informal competition, not the extent of informality. Second, both variables are ratings by the same respondent, and firms that report one obstacle may tend to report others. Crime as an obstacle has a larger coefficient than the courts, so a general tendency to report obstacles may account for part of the association. Third, firms visited by health and safety inspectors in the last fiscal year are more likely to report informal competitors, perhaps because inspections are targeted where informal competition is common. Inspections, however, measure enforcement activity, which limited capacity and deliberate forbearance would both reduce, so they do not distinguish between the two.

7 Interpreting the Pattern: Capacity or Forbearance?

The evidence so far yields a set of descriptive facts. Across countries, slower contract enforcement coincides with higher informality, and part of this association remains after accounting for income. Within the case countries, court performance has several dimensions that do not move together, and the measures of disposal speed track informality more closely than the measures of the case stock. Across Indian states, the association is accounted for by income. This section asks what these facts can and cannot tell us about the two accounts introduced in Section 1.

In a capacity account, courts are slow because they lack judges, staff, or case-management systems relative to the disputes brought before them. Slow courts make formal contracts and labor protections less valuable to the parties who rely on them, which lowers the return to operating formally. This account predicts that informality should be higher where case processing is slower, and that expanding court capacity should, with time, reduce delays and raise formal employment.

In a forbearance account (Holland 2015; Holland 2016), governments choose not to enforce labor or tax law against informal workers and firms even when they could, because enforcement would be politically costly. Forbearance of this kind operates mainly before disputes reach the courts: inspectors do not inspect, sanctions are not imposed, and cases are not brought. Slowing the courts would be a blunt instrument of forbearance, since it would delay civil, commercial, and criminal cases alike. In this account, slow courts and high informality would coincide not because one produces the other, but because both reflect a state that does not, or chooses not

[3]The pooled survey weights are not comparable across rounds, since each sums to its own round's firm population; with unadjusted weights, a single large round (India, 2025) carries most of the weight and reverses the sign of the courts coefficient.

Table 9: Courts as an obstacle and competition with informal firms: WB Enterprise Surveys

	(1)	(2)	(3)	(4)	(5)
Courts as an obstacle	0.028***	0.029***	0.011**	0.012***	
	(0.002)	(0.002)	(0.005)	(0.005)	
Courts are impartial					-0.028***
					(0.005)
Labor dispute in last 3 years			0.049***	0.071***	0.063***
			(0.013)	(0.013)	(0.013)
Crime as an obstacle			0.027***	0.027***	0.029***
			(0.004)	(0.004)	(0.005)
Health and safety inspection			0.030***	0.042***	0.045***
			(0.011)	(0.011)	(0.011)
Small firm (<20 employees)		0.120***		0.164***	0.161***
		(0.009)		(0.016)	(0.015)
Medium firm (20–99 employees)		0.073***		0.099***	0.098***
		(0.008)		(0.015)	(0.015)
Manufacturing		-0.002		0.012	0.014*
		(0.005)		(0.008)	(0.008)
Country–survey rounds (clusters)	467	467	158	158	158
Observations	248,877	248,877	87,412	87,412	82,709
R^2	0.17	0.17	0.16	0.17	0.17

Note: Pooled World Bank Enterprise Surveys. Dependent variable: indicator equal to 1 if the establishment reports competing against unregistered or informal firms and 0 if not. *Courts as an obstacle* and *Crime as an obstacle*: firm's rating of each as an obstacle to its current operations, from 0 (no obstacle) to 4 (very severe obstacle). *Courts are impartial*: firm's agreement that the court system is independent and impartial, from 1 (strongly disagree) to 4 (strongly agree). *Labor dispute in last 3 years*: indicator. *Health and safety inspection*: indicator for a visit by health and safety inspectors in the last fiscal year. Omitted categories: large firms (100 or more employees) and services. Responses coded as "don't know", "refused" or "not applicable" are excluded. All columns are OLS with country-survey-round fixed effects. Observations are weighted by survey weights rescaled to sum to one within each country-survey round, so that each round counts equally. Standard errors clustered by country-survey round in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

to, enforce the law.

Both accounts predict the association documented in Section 3, and so does a third explanation that involves neither: richer countries have both better-resourced courts and more formal employment, and a large informal sector may itself limit the tax revenue available to fund the courts. Controlling for income narrows but does not resolve this ambiguity, since capacity and the political incentives behind forbearance both vary with income. None of the evidence in this paper separates the accounts. The Indian state comparison shows that the association is accounted for by income, which is consistent with all three explanations. The Enterprise Survey association with inspections concerns enforcement activity, which both limited capacity and deliberate forbearance would reduce. The World Justice Project indicators of regulatory enforcement measure its perceived quality, not the reasons for its absence (Appendix A). And the contrasts between court systems in Section 5, such as fast disposal alongside a growing stock in Chile, can arise from case mix and prioritization within the courts and do not, by themselves, indicate political choices about enforcement.

Separating the accounts requires evidence on enforcement decisions, not only on outcomes. Three kinds of evidence would help. First, variation in enforcement that follows political incentives while capacity is held fixed, such as differences across districts with similar resources but different electorates, or changes around elections, would point to forbearance (Holland 2015; Ronconi 2010). Second, following enforcement through its stages, from inspection to sanction to court proceedings, can show where it stops and whether the pattern matches resource constraints or political discretion (Bozçağa and Holland 2018). Case-level court records of the kind used here, which identify the parties and the area of law, could support such an analysis for labor cases brought by enforcement agencies. Third, changes in court capacity that are unrelated to local political incentives, such as the creation of new courts or the reorganization of judicial districts, would show whether capacity alone moves formal employment. Under a capacity account it should; where enforcement is withheld for political reasons, added capacity should have little effect.

The facts in this paper are therefore best read as constraints that any explanation must meet: an association between court performance and informality that is modest once income is accounted for, that depends on which dimension of court performance is measured, and that disappears within India. Whether that association reflects capacity, choice, or their common roots in development remains open.

8 Conclusion

This paper has described how court performance relates to labor informality across countries, measures, and settings. Three patterns stand out. First, across 118 countries, informal employment is higher where contract enforcement takes longer. Income accounts for most of this association, but a modest part remains after accounting for it, and this holds across several measures of court performance and of informality. Second, administrative records from Chile, Croatia, India, Kenya, and Peru show that court performance has distinct dimensions: courts can resolve individual cases quickly while their stock of pending cases grows, or work through

an old backlog while their disposed cases look slow. Measures of disposal speed track informality across these countries more closely than measures of the case stock. Third, across Indian states, where both court performance and informality are measured consistently, the association between court delay and informality is accounted for by income.

These patterns are descriptive. They are consistent with a capacity account, in which slow courts reduce the value of formal contracts and labor protections; with a forbearance account, in which governments choose not to enforce the law against informal workers and firms; and with explanations in which both court performance and informality reflect the level of development. The public choice perspective adds a question that the law-and-economics view of courts tends to leave aside: whether weak enforcement reflects inability or unwillingness. Our data show why this question matters for interpreting the evidence on courts and informality, but they cannot answer it.

The distinction matters for policy. If informality reflects limited capacity, investments in court resources and case management could make formal employment more attractive. If it reflects forbearance, added capacity would have little effect unless the political incentives behind non-enforcement change. Because the evidence here does not distinguish these cases, it does not by itself support a recommendation for judicial reform as a means of reducing informality. It does suggest that reforms should be evaluated with attention to which dimension of court performance they change, and to whether enforcement decisions change with them.

Progress requires combining the kind of court records used here with evidence on enforcement decisions: whether inspections, sanctions, and court proceedings vary with political incentives when capacity is held fixed, and whether changes in court capacity are followed by changes in formal employment. As administrative court data become available for more countries, and as harmonized measures of informality improve, such analyses become feasible. They would make it possible to ask not only whether slow courts and informality go together, but why.

Funding

Daniel L. Chen acknowledges IAST, TSE-Partnership, and ANITI funding from the French National Research Agency (ANR) under the *Investissements d'Avenir* program (grant ANR-17-EUR-0010). Peter Neis gratefully acknowledges support from the French National Research Agency (ANR) through the *Investissements d'avenir* program (grant ANR-10-LABX-14-01). Jean N. Lee received no specific grant from any funding agency, commercial or not-for-profit sectors.

References

Abraham, Rosa (2017). "Informality in the Indian labour market: An analysis of forms and determinants". In: *The Indian Journal of Labour Economics* 60.2, pp. 191–215.

Almeida, Rita and Pedro Carneiro (2012). "Enforcement of labor regulation and informality". In: *American Economic Journal: Applied Economics* 4.3, pp. 64–89.

Amirapu, Amrit (2021). "Justice delayed is growth denied: The effect of slow courts on relationship-specific industries in India". In: *Economic Development and Cultural Change* 70.1, pp. 415–451.

Assenova, Valentina A and Olav Sorenson (2017). "Legitimacy and the benefits of firm formalization". In: *Organization Science* 28.5, pp. 804–818.

Bamieh, Omar et al. (2025). "Effect of business uncertainty on turnover". In: *Journal of Labor Economics* 43.2, pp. 319–348.

Bertrand, Marianne, Chang-Tai Hsieh, and Nick Tsivanidis (2021). *Contract labor and firm growth in india*. Tech. rep. National Bureau of Economic Research.

Besley, Timothy and Robin Burgess (2004). "Can labor regulation hinder economic performance? Evidence from India". In: *The Quarterly journal of economics* 119.1, pp. 91–134.

Boehm, Johannes and Ezra Oberfield (2020). "Misallocation in the Market for Inputs: Enforcement and the Organization of Production". In: *The Quarterly Journal of Economics* 135.4, pp. 2007–2058.

Bozçağa, Tugba and Alisha C Holland (2018). "Enforcement process tracing: Forbearance and dilution in urban Colombia and Turkey". In: *Studies in Comparative International Development* 53.3, pp. 300–323.

Dabla-Norris, Era, Mark Gradstein, and Gabriela Inchauste (2008). "What causes firms to hide output? The determinants of informality". In: *Journal of development economics* 85.1-2, pp. 1–27.

Djankov, Simeon, Alessandro Melcarne, and Giovanni B Ramello (2025). "Timely justice as a determinant of economic growth". In: *Journal of Economic Behavior & Organization* 238, p. 107235.

Dughera, Stefano and Alessandro Melcarne (2025). "Judicial enforcement as a worker discipline device". In: *European Journal of Law and Economics* 60.2, pp. 227–247.

European Commission (2020). "The 2020 EU Justice Scoreboard". In: *COM (2020), 306 final*.

Friedman, Eric et al. (2000). "Dodging the grabbing hand: the determinants of unofficial activity in 69 countries". In: *Journal of public economics* 76.3, pp. 459–493.

Gianfreda, Giuseppina and Giovanna Vallanti (2020). "Labor Courts and Firing Costs: The Labor-Market Effects of Trial Delays". In: *Industrial Relations: A Journal of Economy and Society* 59.1, pp. 40–84.

Glanfield, Laurie, Dan Hall, and Ingo Keilitz (2018). *Global Measures of Court Performance*. International Consortium for Court Excellence (ICCE).

Holland, Alisha C (2015). "The distributive politics of enforcement". In: *American Journal of Political Science* 59.2, pp. 357–371.

— (2016). "Forbearance". In: *American political science review* 110.2, pp. 232–246.

International Labour Organization (2018). *Women and men in the informal economy: A statistical picture*. Geneva: International Labour Office. URL: https://www.ilo.org/publications/women-and-men-informal-economy-statistical-picture-third-edition.

Johnson, Simon et al. (2000). "Why do firms hide? Bribes and unofficial activity after communism". In: *Journal of Public Economics* 76.3, pp. 495–520.

Kanbur, Ravi and Lucas Ronconi (2018). "Enforcement matters: The effective regulation of labour". In: *International Labour Review* 157.3, pp. 331–356.

Klein, Benjamin, Robert G Crawford, and Armen A Alchian (1978). "Vertical integration, appropriable rents, and the competitive contracting process". In: *The journal of Law and Economics* 21.2, pp. 297–326.

La Porta, Rafael and Andrei Shleifer (2014). "Informality and development". In: *Journal of economic perspectives* 28.3, pp. 109–126.

Levitsky, Steven and Maria Victoria Murillo (2009). "Variation in institutional strength". In: *Annual Review of Political Science* 12.1, pp. 115–133.

Lilienfeld-Toal, Ulf von, Dilip Mookherjee, and Sujata Visaria (2012). "The distributive impact of reforms in credit enforcement: Evidence from Indian debt recovery tribunals". In: *Econometrica* 80.2, pp. 497–558.

Loayza, Norman (2018). "Informality: Why Is It So Widespread and How Can It Be Reduced?" In: *World Bank Research and Policy Briefs* 133110.

Marciano, Alain, Alessandro Melcarne, and Giovanni B Ramello (2019). "The economic importance of judicial institutions, their performance and the proper way to measure them". In: *Journal of Institutional Economics* 15.1, pp. 81–98.

Martin, Leslie A, Shanthi Nataraj, and Ann E Harrison (2017). "In with the big, out with the small: Removing small-scale reservations in India". In: *American Economic Review* 107.2, pp. 354–86.

Naidu, Suresh and Noam Yuchtman (2013). "Coercive contract enforcement: law and the labor market in nineteenth century industrial Britain". In: *American Economic Review* 103.1, pp. 107–44.

Perry, Guillermo et al. (2007). *Informality: Exit and exclusion*. Vol. 6730. World Bank Washington, DC.

Posner, Richard A (1993). "What do judges and justices maximize?(The same thing everybody else does)". In: *Supreme Court Economic Review* 3, pp. 1–41.

Ramos-Maqueda, Manuel and Daniel L. Chen (2020). "The Role of Justice in Development: The Data Revolution". Draft.

Rao, Manaswini (2024). "Front-line courts as state capacity: Evidence from India". In: *Available at SSRN 4854161*.

Ronconi, Lucas (2010). "Enforcement and compliance with labor regulations in Argentina". In: *Ilr Review* 63.4, pp. 719–736.

Ulyssea, Gabriel (2010). "Regulation of entry, labor market institutions and the informal sector". In: *Journal of Development Economics* 91.1, pp. 87–99.

— (2020). "Informality: Causes and consequences for development". In: *Annual Review of Economics* 12.1, pp. 525–546.

Visaria, Sujata (2009). “Legal reform and loan repayment: The microeconomic impact of debt recovery tribunals in India”. In: *American Economic Journal: Applied Economics* 1.3, pp. 59–81.

A Regulatory enforcement in the case countries

Figure A1 shows two indicators of regulatory enforcement from the World Justice Project's Rule of Law Index for the five countries, 2013-2024: whether government regulations are effectively enforced (sub-factor 6.1) and whether due process is respected in administrative proceedings (6.4).[4] Both range from 0 to 1, with higher values indicating better enforcement. Chile and Croatia score highest on effective enforcement (about 0.6), followed by Peru (about 0.5), with India and Kenya at about 0.4. On due process, the countries started at similar levels in 2013 and had separated by 2024 into a higher group (Chile, Croatia, and India, about 0.5) and a lower group (Kenya and Peru, about 0.35). These indicators measure the perceived quality of enforcement. They do not distinguish limited capacity from deliberate non-enforcement, and we do not use them as measures of forbearance.

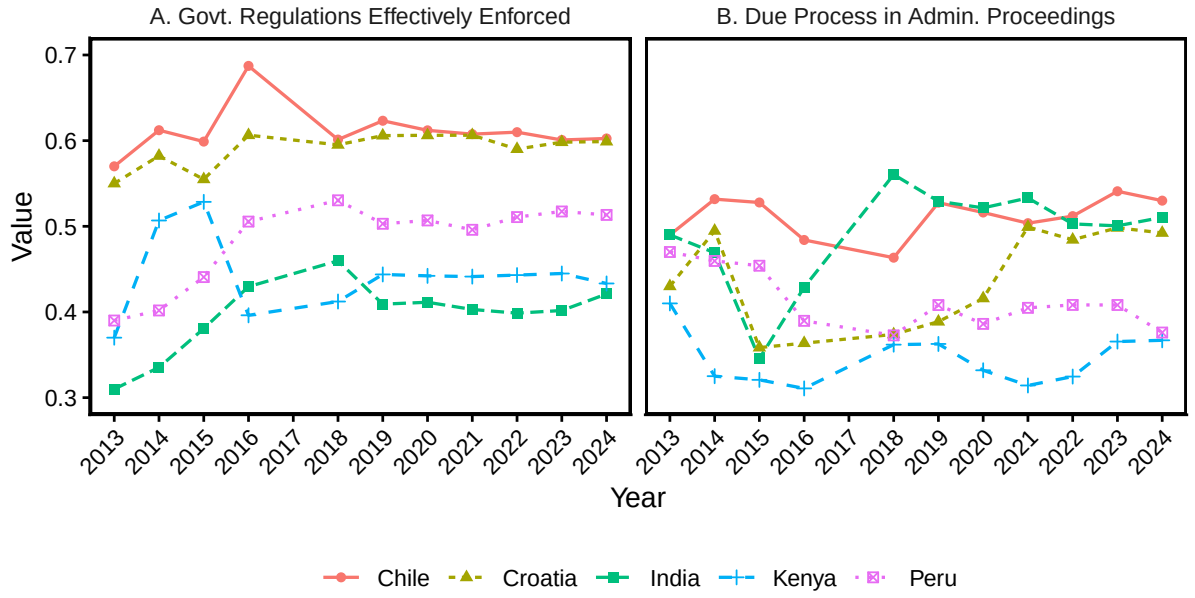


Figure A1: Regulatory enforcement in the case countries, 2013-2024

Note: World Justice Project, Rule of Law Index. Panel A: sub-factor 6.1, whether "government regulations, such as labor, environmental, public health, commercial, and consumer protection regulations are effectively enforced." Panel B: sub-factor 6.4, whether "the due process of law is respected in administrative proceedings conducted by national and local authorities in issue areas such as the environment, taxes, and labor." Scores range from 0 to 1; higher is better.

B Survey data

Chile. We use the Encuesta Nacional de Empleo for December 2018-February 2019 (105,264 individuals in 35,273 households).[5] We keep individuals aged 16-100 with an ISCO occupation code and drop agricultural workers, leaving 40,475 individuals. A worker is informal if the employer makes no social security contributions; for the self-employed, if they are not registered

[4] See World Justice Project, Regulatory Enforcement (accessed September 2025).
[5] INE, accessed October 2023.

with the tax authority. This gives an informality share of 26 percent; the survey's own formality indicator gives 27 percent.

Croatia. We could not obtain microdata suitable for computing a comparable measure and use the ILOSTAT estimate, which fluctuates between 1.6 and 3.4 percent in 2015-2019.[6]

India. We use the Employment and Unemployment Survey of the 68th round of the National Sample Survey (July 2011-June 2012) and compute informality shares for each state and for the country as a whole, using survey weights. We keep working individuals by usual principal activity status and drop workers in crop and animal production (NIC 2008 division 01). Regular salaried and wage employees are classified as formal; the self-employed, employers, unpaid family workers, and casual wage laborers as informal. Because the survey's social security information is not used, regular employees without social protection are counted as formal, so the measure is a lower bound relative to the ILO definition. The national share is 65 percent.

Kenya. The Kenya Continuous Household Survey Programme 2019 covers 20,691 households and 86,647 individuals, with modules on the labor force and household consumption. We keep individuals aged 16-100 with an ISIC code for their main job and drop agriculture and mining (ISIC sections A and B), leaving 19,859 individuals. A worker is formal if the employer contributes to allowances or deducts income tax; where this information is missing, we use the type of employer in the main job. The informality share is 75 percent.

Peru. The Encuesta Nacional de Hogares (ENAHO) has been conducted continuously since 2003 and codes economic activity by ISIC since 2009.[7] For 2001-2019 we keep working individuals aged 16-100 outside agriculture and mining (615,891 observations). A worker is informal if the business is not registered (2002-2011) or not registered with the tax authority SUNAT (2012-2019). The share falls from 77 percent in 2004 to 48 percent in 2016. Affiliation with a pension system gives a similar series (Appendix Figure A3).

C Appendix Tables and Figures

[6] See ILOSTAT. This estimate is derived from EU-SILC, which has no direct question on social security registration; the ILO constructs it from proxy variables, so it is not directly comparable with survey-based estimates for other countries and is likely a lower bound.

[7] INEI, accessed November 2024. We adapted Sebastian Sardon's cleaning code (github.com/PeruData/ENAHO).

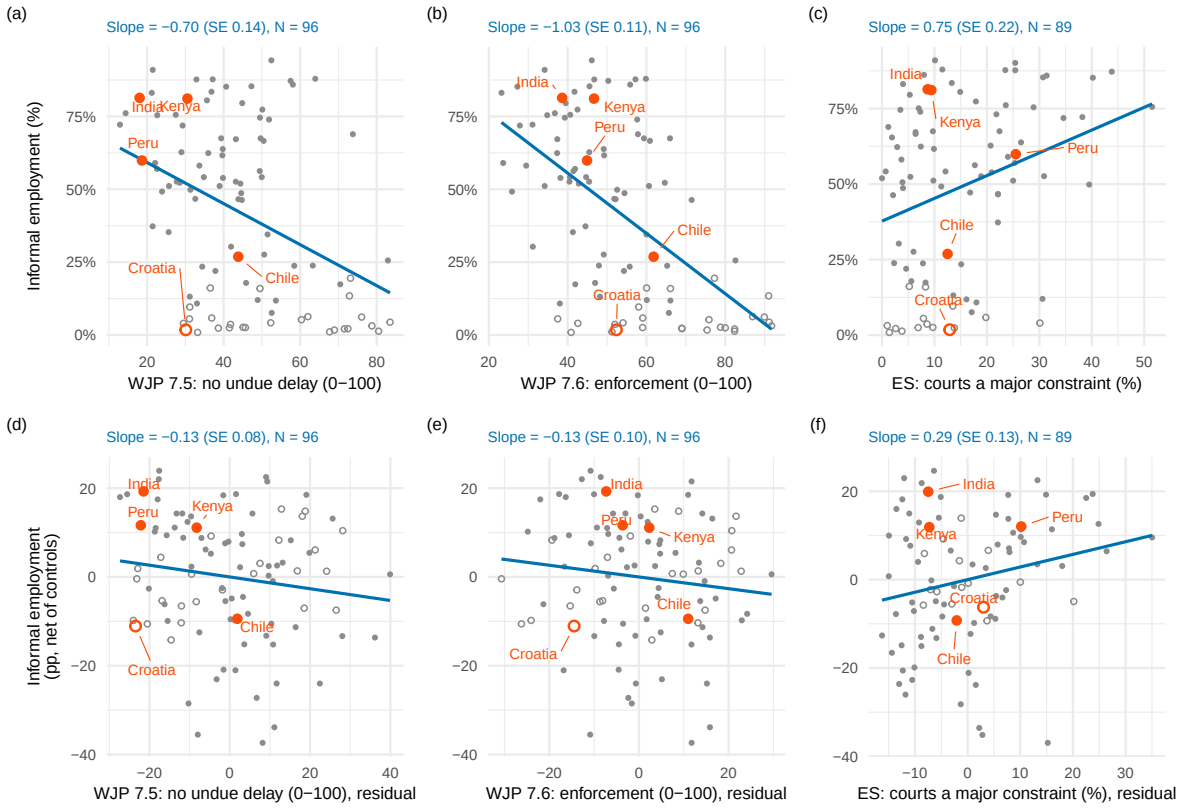


Figure A2: Informal employment and alternative court measures across countries

Note: Each point is a country; the five case countries are highlighted. Hollow markers are EU-SILC-based informality estimates. Top row: raw relationship. Bottom row: both variables net of log GDP per capita (PPP) and an indicator for EU-SILC-based estimates (Panel C of Table A2); the indicator absorbs much of the WJP variation among European countries, and the WJP slopes are larger and significant when those countries are dropped instead (Panel D). Court measures: World Justice Project Rule of Law Index sub-factors 7.5 (civil justice is not subject to unreasonable delay) and 7.6 (civil justice is effectively enforced), rescaled to 0-100, higher is better; World Bank Enterprise Surveys share of firms identifying the court system as a major constraint, latest survey in 2010-2019, higher is worse. Informal employment as in Figure 1. Slopes are in the units shown on the axes; robust standard errors in parentheses.

Table A1: Informal employment and contract enforcement, by informality data source

	All countries (1)	Excluding EU-SILC (2)	LFS and HH surveys (3)	LFS only (4)
Panel A: Time to enforce a contract				
Time to enforce (log days)	8.64***	12.22***	13.32***	14.74***
	(2.95)	(3.16)	(3.39)	(3.52)
Observations	118	90	79	69
R^2	0.76	0.54	0.58	0.62
Panel B: Enforcing-contracts score				
Enforcing-contracts score	−0.58***	−0.66***	−0.75***	−0.84***
	(0.11)	(0.12)	(0.12)	(0.12)
Observations	118	90	79	69
R^2	0.78	0.59	0.64	0.68

OLS across countries; all columns control for log GDP per capita (PPP). Variables as in Table 1. Samples by the type of survey ILOSTAT uses for the informality estimate: (1) all countries, with an indicator for the 28 EU-SILC-based European estimates; (2) excluding them; (3) labour force surveys and general household surveys (the latter include Kenya's KCHSP and Peru's ENAHO); (4) labour force surveys only. Croatia's estimate is EU-SILC based, so it is not in columns (2)–(4); Kenya and Peru are not in column (4). Heteroskedasticity-robust (HC1) standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

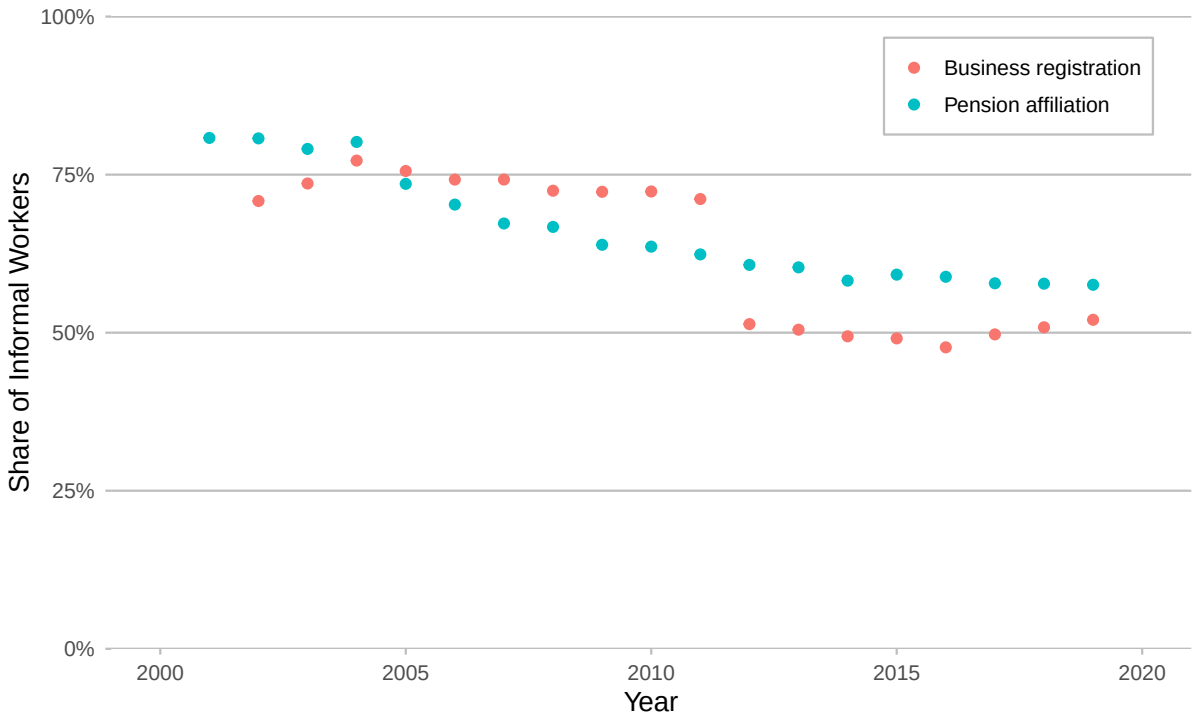


Figure A3: Share of informal workers in Peru for years 2001–2019.

Note: ENAHO, non-agricultural workers aged 16-100. Informality by business registration (not registered, or not registered with SUNAT from 2012) and by pension affiliation (not affiliated with a pension system).

Table A2: Informal employment and alternative court measures

	DB Time to enforce (1)	WJP 7.5 No undue delay (2)	WJP 7.6 Effective enforcement (3)	ES Courts a constraint (4)
Panel A: No controls				
Court inefficiency (std.)	6.64**	11.71***	16.97***	8.51***
	(2.82)	(2.35)	(1.75)	(2.47)
Observations	118	96	96	89
R^2	0.05	0.15	0.31	0.09
Panel B: Log GDP per capita				
Court inefficiency (std.)	3.61**	3.62**	4.47***	4.09**
	(1.47)	(1.51)	(1.60)	(1.65)
Observations	118	96	96	89
R^2	0.71	0.76	0.76	0.71
Panel C: Log GDP per capita and EU-SILC indicator				
Court inefficiency (std.)	3.59***	2.20	2.16	3.23**
	(1.23)	(1.42)	(1.64)	(1.43)
Observations	118	96	96	89
R^2	0.76	0.79	0.79	0.76
Panel D: Log GDP per capita, excluding EU-SILC estimates				
Court inefficiency (std.)	5.18***	5.28***	4.41**	3.78**
	(1.34)	(1.63)	(1.74)	(1.56)
Observations	90	70	70	74
R^2	0.54	0.62	0.61	0.57

OLS across countries. The dependent variable is informal employment as a percentage of non-agricultural employment (ILOSTAT, SDG indicator 8.3.1), latest year available in 2015–2019. Each column uses a different court measure, standardized to mean zero and unit standard deviation within the column's sample and signed so that higher values mean worse courts; coefficients are percentage points of informality per standard deviation. (1) Doing Business time to enforce a contract (log days), report of the following year. (2) and (3) World Justice Project Rule of Law Index sub-factors 7.5 (civil justice is not subject to unreasonable delay) and 7.6 (civil justice is effectively enforced), closest wave to the informality year, at most two years apart. (4) World Bank Enterprise Surveys, percentage of firms identifying the court system as a major constraint, latest survey in 2010–2019 (median distance to the informality year 2 years, maximum 9; adequate for slow-moving institutions in a cross-section). Panel C adds an indicator for EU-SILC-based informality estimates; because WJP covers most European countries, where court scores are high, the indicator absorbs much of the WJP variation and those columns lose precision. Panel D instead drops the EU-SILC-based estimates. Samples differ across columns because of coverage, and each measure is standardized within its own sample, so the columns are on comparable but not identical scales. On the 80 countries covered by all four measures, standardized within that common sample, the Panel B coefficients range from 4.2 to 6.3 (all $p < 0.05$), and the Panel D coefficients from 3.9 to 6.0 (all $p < 0.05$). Heteroskedasticity-robust (HC1) standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

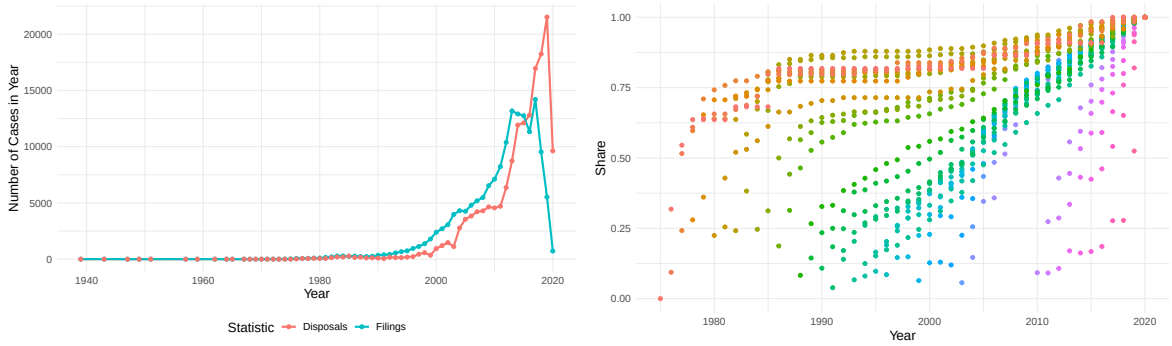


Figure A4: Judicial data quality in Kenya. The left panel shows the aggregate number of filings and disposals per year. The right panel plots the cumulative disposal shares per year and cohort.

Note: The data contain only fully disposed cases, scraped mostly from decisions in 2010-2020; older filings appear only if disposed in that window.

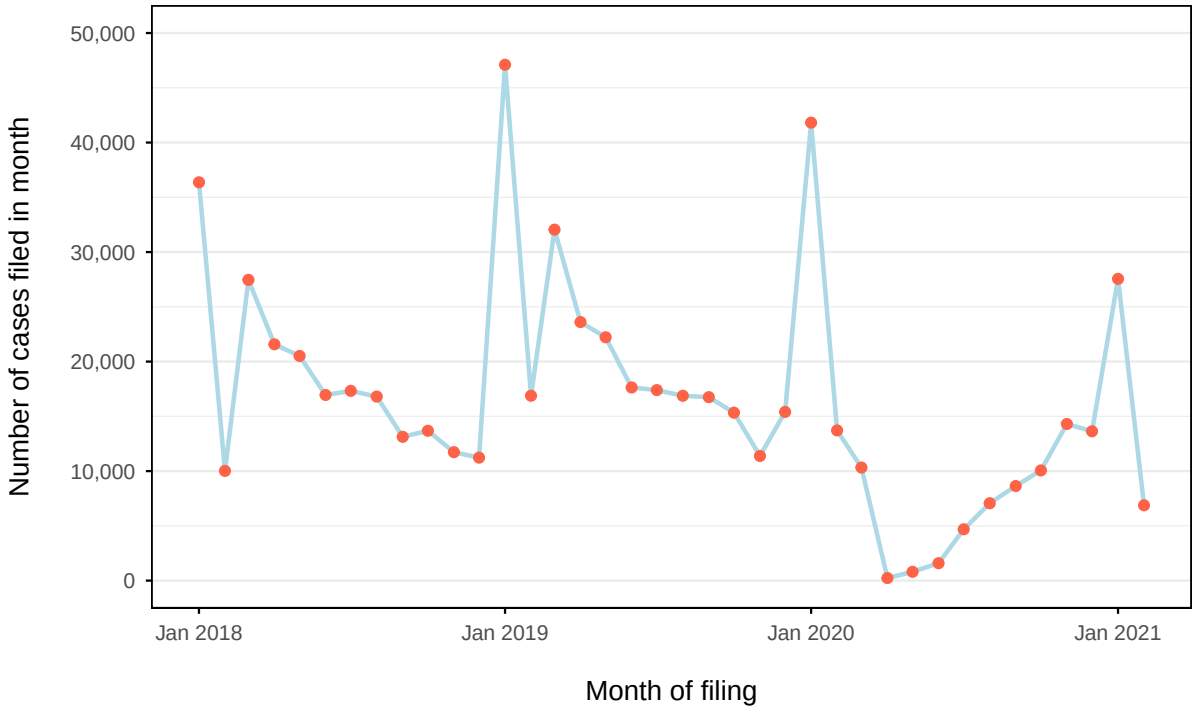


Figure A5: Judicial data in Peru. Filings per Month from January 2018 to February 2021.

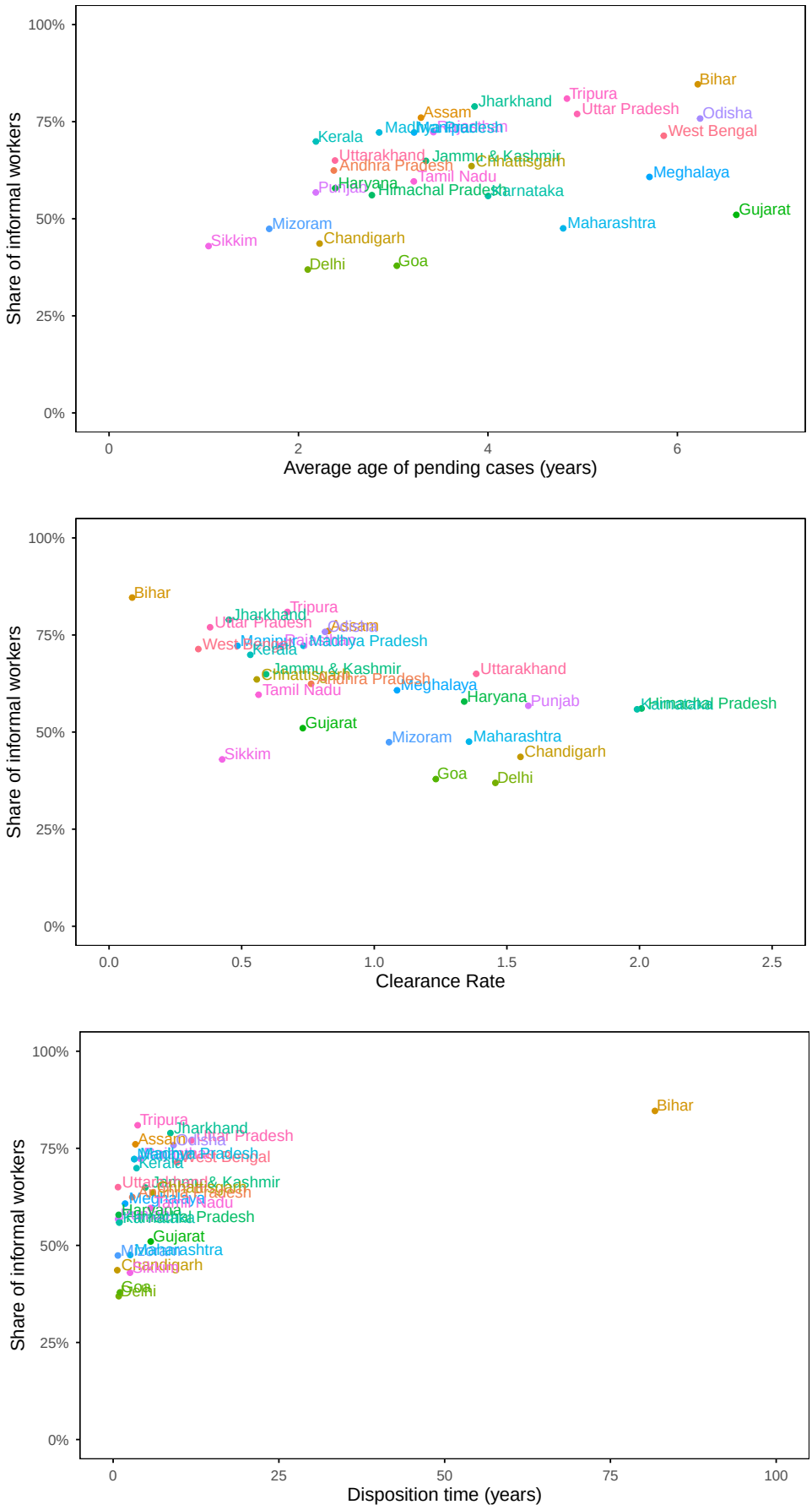


Figure A6: Correlation between court performance and Share of Informal Workers in Indian States.

Note: Share of informal workers against the average age of pending cases in years (top), the clearance rate (middle), and disposition time (bottom) across Indian states, 2012. Bihar is an outlier in the bottom panel; the associations in Table 8 are similar when it is excluded.