

Digital State Capacity and Contract Enforcement: Evidence from Court E-Filing in Chile

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Abstract

Courts enforce contracts, but invoking them is costly. We study how digitizing the interface between litigants and courts changes both the demand for and the production of formal contract enforcement. Chile’s Electronic Processing Law replaced in-person filing and paper-based case processing with mandatory electronic filing, electronic signatures, and digital court workflow, rolled out across jurisdictions in two waves in 2016. Using high-frequency administrative data on more than five million civil cases and an event-study design, we find that monthly case filings rose by 28 percent, dispositions increased, median case duration fell by roughly 25 percent, and procedural writings per case declined by 6.5 percent. The response is concentrated in standardized, low-complexity enforcement matters—executive debt-collection procedures and filings that end deemed not presented—rather than in contested litigation. Lower-profit firms entered the court system after the reform, while high-volume repeat claimants scaled up their filings and expanded across courts. The results show that digital legal infrastructure expands state capacity not only by improving adjudication but, above all, by lowering the fixed cost of invoking routine enforcement. The welfare consequences turn on whether cheaper access improves debt recovery, credit allocation, and effective access to justice for smaller firms and individuals.

Keywords: digital state capacity; contract enforcement; courts; e-filing; access to justice; debt collection; firms.

JEL codes: K41, K42, O16, O17, H11, G21.

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1 Introduction

Courts are a core technology of the state. By making contracts enforceable, they shape the willingness of firms and households to transact, lend, borrow, invest, and enter new markets. Yet formal enforcement is costly to invoke. Litigants must prepare documents, travel to court, submit filings, monitor case status, sign and serve documents, and wait for procedural action; courts, in turn, must receive filings, assign work, process writings, issue resolutions, and maintain reliable records. These costs act as a screen on the demand for justice: they determine which claims are worth bringing into the formal legal system and which remain unfiled, informally enforced, or written off.

This paper studies how digital legal infrastructure changes both sides of this market for justice—the private demand for formal enforcement and the public production of court services. We examine Chile’s Electronic Processing Law (*Ley de Tramitación Electrónica*, henceforth LTE), a national reform that replaced physical filing and paper-based processing with mandatory electronic processing in the courts. The reform required all new filings and writings to be submitted online through a Virtual Judicial Office, introduced advanced electronic signatures, and placed electronic workload assignment at the center of internal court operations. In the civil courts, implementation was staggered: thirteen of Chile’s seventeen jurisdictions adopted the LTE in July 2016, and the four largest—Valparaíso, Santiago, San Miguel, and Concepción—followed in December 2016.

The Chilean setting has a feature that makes it unusually informative. The reform changed the procedural cost of using an existing enforcement system while leaving the substantive content of contract law untouched: it created no new creditor rights, altered no legal standard for civil claims, and established no new specialized tribunal. It lowered the fixed cost of invoking the courts and digitized the workflow through which courts process filings. This distinction generates sharp predictions. If electronic processing primarily accelerates adjudication, improvements should appear broadly across dispute types. If, instead, e-filing primarily lowers the cost of access, the strongest response should arise in standardized, high-volume matters for which the filing cost was large relative to the procedural complexity of the case.

The evidence supports the second view. Using high-frequency administrative data on more than five million civil cases filed between January 2015 and October 2019, together with an event-study design built on the staggered rollout, we document three sets of facts. First, the use of formal enforcement expanded sharply. Monthly case filings rose by 28 percent; at the tribunal level, incoming cases increased by 22.3 percent and closed cases by 25 percent. The increase is concentrated in executive and collection-of-payments procedures—matters closely tied to debt

collection and the enforcement of existing obligations. A substantial share of the response consists of cases that the administrative records close as *téngase por no presentada la demanda* (“the complaint is deemed not presented”), a procedural disposition that we call deemed-not-filed. Many of these are “massive” filings in the Chilean administrative classification: standardized, small-value debt claims for which the plaintiff declares at filing that it will not pursue the case, typically to document the non-collectability of a credit.

This composition is central to the economic interpretation of the reform. The deemed-not-filed label records how a case ends procedurally; it does not imply that the underlying claim was frivolous, false, or legally meritless. The concentration of the filing response on this margin should therefore not be read as evidence that digitization generated wasteful litigation. It indicates, instead, that electronic filing lowered the transaction cost of accessing a legally meaningful administrative and enforcement channel—and, in doing so, revealed which parts of the enforcement system had been most constrained by paper-based filing costs.

Second, measured court production changed. Median case duration fell by roughly 25 percent for incoming cases and 26 percent for closed cases, the share of cases resolved within short horizons rose, and the average number of procedural writings per case declined by 6.5 percent. These effects are economically meaningful, but part of the decline in duration reflects composition: after the reform, more low-complexity cases enter the system, and such cases close quickly. Consistent with this interpretation, the duration decline is most visible among deemed-not-filed and procedurally similar ending types and in collection-of-payments matters, whereas the evidence of broad speed gains in fully contested litigation is more limited. On this evidence, digitization reduces procedural frictions most powerfully in routine enforcement.

Third, the reform changed who uses the courts and how. Firms account for more than 60 percent of civil filings during our sample period. After the LTE, firms filed more cases, filed in more tribunals and courts, and diversified across procedure and matter types. Lower-profit firms became more likely to appear among filers, consistent with reduced access costs for marginal users. At the same time, high-volume repeat claimants scaled up dramatically—especially on the deemed-not-filed margin—and the gap between large and small filers widened. Digital courts thus operate on two margins at once: an extensive access margin for smaller users and a scale margin for sophisticated repeat players. The distinction matters for any distributional assessment of digitization, because the same technology that lowers barriers for marginal claimants also raises the returns to organizational legal capacity.

These results contribute, first, to the literature on courts, contract enforcement, and economic activity. A long tradition links the quality of legal institutions to investment, growth, and

development (Rodrik, 2000, 2005; Djankov, La Porta, López-de-Silanes, and Shleifer, 2003; Pande and Udry, 2005), and empirical work finds that firms are larger and more productive where legal systems are more effective, proceedings shorter, and contracts more enforceable (Laeven and Woodruff, 2007; Giacomelli and Menon, 2013; Dougherty, 2014). That literature typically studies broad measures of legal quality, congestion, or local judicial efficiency. We isolate a narrower and policy-relevant margin—the fixed cost of invoking the enforcement system—and show that it is quantitatively important: reducing it reallocates enforcement activity toward the formal sector even though nothing about substantive rights changes.

Second, we speak to work connecting judicial enforcement to credit markets. Credit contracts depend not only on creditor rights as written, but on the expected cost, speed, and reliability of enforcement (Jappelli, Pagano, and Bianco, 2005; Visaria, 2009; Ponticelli and Alencar, 2016). The first-order response to the LTE occurs precisely in executive and collection-of-payments procedures—the upstream infrastructure of debt enforcement. Because we do not observe loan-level, recovery, or credit-registry outcomes, we do not estimate equilibrium effects on credit supply or borrowing terms; what we document is the enforcement channel through which such effects would operate.

Third, we contribute to a growing literature on digital state capacity. Digital public infrastructure has been shown to improve the state’s ability to deliver payments (Muralidharan, Niehaus, and Sukhtankar, 2016) and to procure public works (Lewis-Faupel, Neggers, Olken, and Pande, 2016), altering both public-sector production and private participation. Courts are a distinct arm of the state: their output consists of enforceable legal acts that structure private exchange. We show that digitizing this arm changes both the state’s production function and the private decision to use public enforcement. Whereas much prior evidence on court technology is descriptive or survey-based (Reiling, 2006; Rabinovich-Einy, 2008; Van Dijk and Dumbrava, 2013; Louro, Santos, and Zanquetto Filho, 2017; Gomes, Alves, and Silva, 2018), we provide estimates from high-frequency administrative records and a national, staggered reform. Finally, our findings bear on research on access to justice and unequal legal capacity (Lichand and Soares, 2014): the dual response we document—entry by marginal users alongside expansion by repeat players—implies that the distributional consequences of court digitization depend on which margin dominates.

The remainder of the paper proceeds as follows. Section 2 describes civil justice in Chile and the LTE reform. Section 3 presents the data. Section 4 lays out the empirical strategy. Section 5 reports the results, first for court use and production and then for firm and individual claimants. Section 6 concludes.

2 Institutional Background

2.1 Civil Justice in Chile

Chile’s courts perform reasonably well by international standards, but using them is costly. In 2020, Chile ranked 54th out of 190 economies on the Doing Business “Enforcing Contracts” indicator, which measures the time and cost of resolving a commercial dispute and the quality of the judicial process (World Bank, 2015), and 26th out of 119 economies on the Civil Justice indicator of the World Justice Project’s Rule of Law Index.

Civil cases are processed in 221 courts distributed across the country’s seventeen jurisdictions: 100 specialized civil courts and 121 mixed courts with civil jurisdiction. The most common civil matters are contentious cases—above all, executive cases, in which a plaintiff, typically a firm, seeks enforcement of an existing obligation against a natural or legal person who owes money. Executive cases matter for our setting because they include high-volume debt-collection procedures whose trajectory differs sharply from that of ordinary contested litigation.

The administrative data divide civil cases into “massive” and “non-massive” categories. The terminology is Chile-specific and should not be read as analogous to U.S.-style mass torts, class actions, or complex multi-party litigation. Massive cases are standardized, high-volume filings, commonly associated with debt collection, in which the plaintiff declares at the outset that it does not intend to give the case a progressive course. Under Act 34-2011, such cases are treated procedurally as not submitted; to qualify, a filing must also satisfy documentation requirements set by the Internal Revenue Service, and the amount claimed may not exceed CLP 1,380,000.¹ The institutional purpose of these filings is thus closer to documenting and regularizing the non-collectability of a credit than to initiating contested adjudication. Massive cases account for a large share of incoming civil cases and are processed in a matter of days; non-massive cases are more complex, last longer, and involve more filings, procedural steps, and judicial resolutions.

A closely related administrative category is the ending type *téngase por no presentada la demanda* (“the complaint is deemed not presented”), which we translate as deemed not filed.² The label records a procedural disposition—the complaint is treated as never having been presented—and does not by itself imply that the claim was frivolous, false, or legally meritless. Because many massive cases end with this disposition, the deemed-not-filed margin is precisely where a reduction

¹Approximately US\$2,000 at 2016 exchange rates.

²In the administrative data the ending type appears in abbreviated form as *TÉNGASE POR NO PRESEN. LA. DDA*. Some figures retain the legacy label “spurious” for this category, used in earlier data extracts; we avoid the term in the text because the disposition is procedural and carries no implication about the merits of the underlying claim.

in filing costs should appear first: these are the filings for which the fixed cost of paper-based submission loomed largest relative to the value at stake.

2.2 The Electronic Processing Law

Before the LTE, most cases in Chilean courts were processed physically, although some courts had operated optional electronic procedures since the early 2000s. The judiciary had implemented multiple improvements aimed at electronic processing, but a regulatory framework was needed to provide legal certainty in an environment where paper remained a valid medium for recording judicial proceedings. The LTE covers the entire court system—civil, labor, criminal, and family courts, together with the Courts of Appeal and the Supreme Court. We focus on the civil courts because commercial and contract-enforcement cases are processed there and because civil justice had not recently undergone any broader procedural reform that could confound the analysis.

The LTE took effect on July 18, 2016 in thirteen of the seventeen jurisdictions. The second stage began on December 18, 2016, when the four largest jurisdictions—Valparaíso, Santiago, San Miguel, and Concepción—were added. Implementation was immediate: all cases entered as of the implementation dates were processed exclusively electronically. The reform created the Virtual Judicial Office, a website through which parties, lawyers, and prosecutors enter lawsuits and documents associated with ongoing cases, and introduced the advanced electronic signature, which removed the need for judges and users to sign many documents by hand. Table 1 summarizes the main changes to civil procedure.

Table 1. Main changes to civil procedure under the Electronic Processing Law

Item	Definition	Before the LTE	After the LTE
Electronic processing	Processing of cases electronically rather than manually.	Hybrid system combining physical and electronic files. Some procedures could be completed online, but all had a physical counterpart; files were published online for consultation.	New cases are processed exclusively electronically; only cases entered before the LTE retain physical records.
Electronic filing	The ability to file a case online.	Did not exist; cases had to be filed in person at the courthouse.	All cases and writings must be entered online through the Virtual Judicial Office (<i>Oficina Judicial Virtual</i>).
Electronic signature	The ability to sign documents electronically.	A hybrid procedure (<i>Firma Electrónica Simple</i>) that still required a manual signature.	An advanced electronic signature (<i>Firma Electrónica Avanzada</i>) replaced the manual signature. It is mandatory for judges; users may still sign manually.

Item	Definition	Before the LTE	After the LTE
Electronic workload assignment (virtual tray)	System used to assign tasks electronically within a court.	Existed since 2015, but not all tasks were registered in it.	The center of work within a court: managers use it to distribute incoming cases and writings among personnel, and resolutions are submitted through it. Registry quality improved with the LTE.
In-person customer service	In-person attention to court users.	Widely used to view records, make inquiries, and file new cases or writings in open cases.	Greatly reduced: there are no physical files to consult, and cases and writings can no longer be filed in person.

These changes eased access to online case information, expedited procedures that previously required physical submission of the case file, and made case status observable from anywhere at any time. Between June 2016 and August 2019, more than 4.5 million lawsuits—about 85 percent of all cases filed—entered through the Virtual Judicial Office alone (Valdés and Montero, 2019). The COVID-19 pandemic later accelerated the judiciary’s reliance on digital tools, including remote hearings and electronic notifications. The LTE also preceded the broader Civil Procedural Reform presented to Congress, which aims to expedite processes, reduce litigation costs, strengthen lawyers’ professional responsibility, and improve access to justice. Evidence on the LTE therefore informs a wider debate about how digital legal infrastructure shapes contract enforcement and access to formal institutions.

3 Data

We use high-frequency administrative data on civil cases filed in every tribunal between January 2015 and October 2019. The data cover more than five million filed civil cases, of which roughly three million are closed, and were obtained through a collaboration with the Institutional Development Department (DDI) of Chile’s Administrative Corporation of the Judicial Branch (CAPJ).

The DDI databases contain detailed information on civil cases, on courts’ human resources, and on courts’ locations. The case-level data include the filing date, court and jurisdiction, case identifiers, matter type, procedure type, massive status, and ending type. With these data we construct our measures of court use and production: the number of incoming and closed cases, the duration of incoming and closed cases, and the number of writings per case. For the analysis of incoming cases we use case-flow data with each case’s admission date and massive classification; for duration we use information on the number of terms per day and the duration of civil cases; for procedural intensity we use aggregate data on the number of documents submitted in each non-

massive case. The human-resources data record the age, experience, and position of court personnel, which we use to study heterogeneous effects where feasible. Finally, we combine courts' locations with the Google Maps API to geolocate courts and firms³ and to build a distance matrix between them; the distance from a firm to its nearest civil or mixed court measures the physical cost of accessing the justice system before digitization.

We complement the judicial records with publicly available data from Chile's Internal Revenue Service covering approximately two million firms that filed cases between 2015 and 2019. We use four variables—number of employees, sales rank, profit category, and economic activity—to characterize firm claimants and to examine whether the composition of firms using the courts changed after the reform. These data support an analysis of firm access and legal behavior; identifying downstream effects on firm performance would additionally require a panel including firms that never file and administrative outcomes linkable to ex ante exposure to the reform. Information on individual plaintiffs' gender, age, and economic circumstances is likewise unavailable, which bounds what we can say about the individual-claimant margin.

4 Empirical Strategy

Estimating the effect of technology on court productivity and access confronts a familiar challenge: unobserved heterogeneity. Wealthier and more dynamic areas may demand better justice systems and may follow different litigation trends (Lichand and Soares, 2014), and the effect of the LTE could be confounded by other events affecting courts over time—economic cycles, other legislation, or political shocks.

We exploit the staggered implementation of the LTE and estimate event-study specifications within a twelve-month window around each unit's adoption date, with an eighteen-month window as a robustness check. Our baseline specification is

$$Y_{i,t} = \alpha_1 + \alpha_2 T_{i,t} + \xi_i + \zeta_t + \varepsilon_{i,t},$$

where Y is the outcome of interest for unit i —a tribunal or a firm, depending on the analysis—in month t ; skewed outcomes enter in logarithms. The vector T collects event-time indicators for the number of months before and after the introduction of the LTE, normalized to the month before implementation, so that the coefficients in α_2 trace how the outcome evolves in each event month relative to that baseline. Unit fixed effects ξ absorb permanent differences across tribunals or firms, and calendar-month fixed effects ζ absorb aggregate shocks. The identifying assumption is that, absent the LTE, treated courts would have followed parallel trends in the relevant outcomes.

³Firms' address information is retrieved from Orbis.

Because the reform was implemented in only two waves, and because its effects need not have been immediate, we read the event-study estimates jointly with pre-trends, composition decompositions, and heterogeneity by case type.

To ask whether the reform reduced the importance of physical proximity to courts, we also estimate

$$Y_{i,t} = \beta_1 + \beta_2 I_{i,t} + \beta_3 I_{i,t} \times Distance_i + \zeta_i + \zeta_t + \varepsilon_{i,t},$$

where Y denotes filing outcomes—the number of cases filed by a firm and an indicator for whether the firm filed in a given month, including versions that exclude executive and preparatory-proceedings cases— I is a post-LTE indicator, and $Distance$ is the distance from firm i to its nearest tribunal. The coefficient of interest is β_3 : a positive estimate indicates that the LTE raised filing by more among firms located farther from the courts.

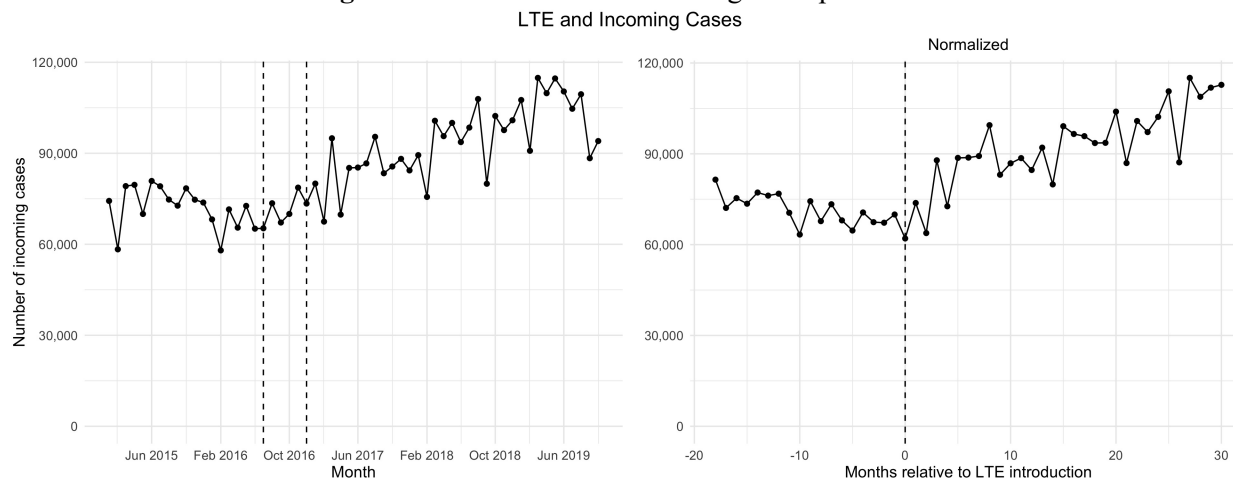
5 Results

We first evaluate the impact of the LTE on court use and production—cases filed and closed, the duration of incoming and closed cases, and the number of writings per case—and then turn to how firm and individual claimants responded to the reform.

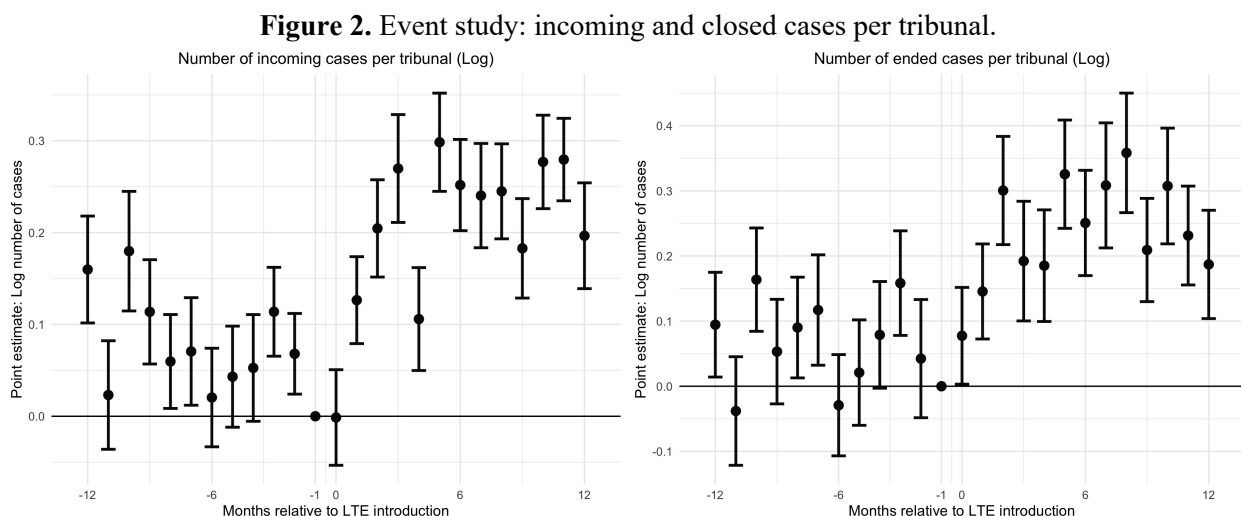
5.1 The Use of Formal Enforcement Institutions

Figure 1 plots the total number of incoming civil cases per month. By October 2019—roughly three years after implementation—monthly filings had risen by 28 percent. The composition of this increase is central for interpretation: 65 percent of incoming cases were executive procedures, and 57.86 percent had collection of payments as the matter type. The reform primarily expanded the use of standardized enforcement channels rather than fully contested civil litigation.

Figure 1. Total number of incoming cases per month.



Because most filings originate in the largest jurisdictions treated in the second wave—47.62 percent in Santiago, 7.77 percent in San Miguel, and 7.76 percent in Valparaíso—one might worry that the aggregate trend reflects those jurisdictions alone. Figure 2 therefore reports event-study estimates at the tribunal level. The increase is not confined to the major jurisdictions: after the reform, the tribunal-by-month average rises by 22.3 percent for incoming cases and by 25 percent for closed cases. Figure 2 also shows that, relative to the pre-LTE trend, the totals begin a steady decline roughly six months after implementation for incoming cases and nine months for closed cases.



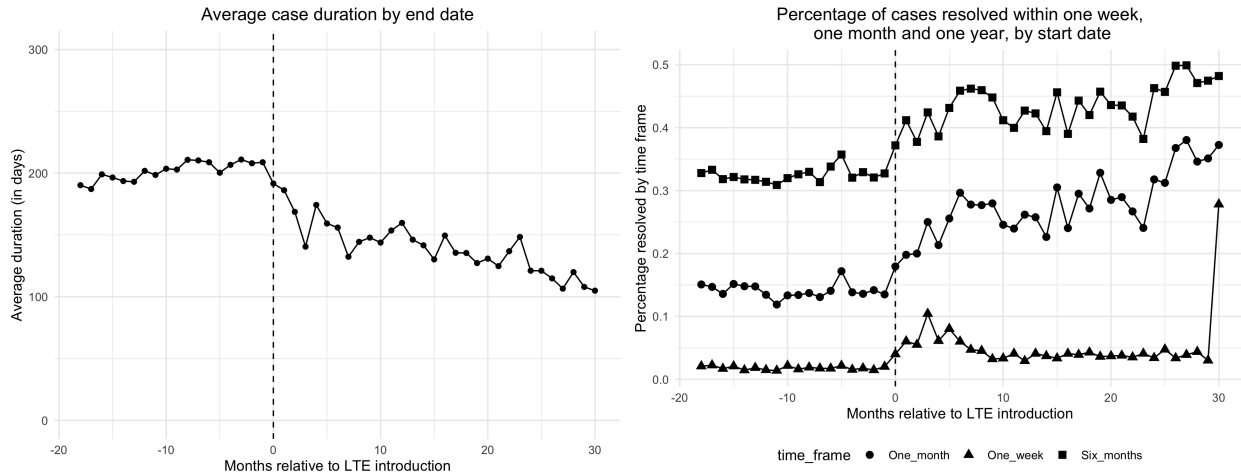
The increase in filed and closed cases is driven mainly by deemed-not-filed cases—those ending in *téngase por no presentada la demanda*, our definition throughout unless noted otherwise. Many are massive cases, in which the plaintiff has declared that it will not give the case a progressive course and the case is accordingly treated as not submitted. The number of other cases filed and closed is largely unchanged during the twelve months after implementation.

The rise in incoming cases is consistent with the LTE improving access to formal enforcement institutions: by eliminating in-person filing, the reform made filing easier, cheaper, and more convenient. That the increase is concentrated in deemed-not-filed cases should not be read as evidence that the LTE generated frivolous litigation. Rather, much of the access margin that the reform relaxed is a low-complexity procedural and administrative margin—standardized debt-collection filings that terminate without a full merits process. To understand which users respond on this margin, Sections 5.4 through 5.6 examine the characteristics of firm and individual claimants.

5.2 The Duration of Cases

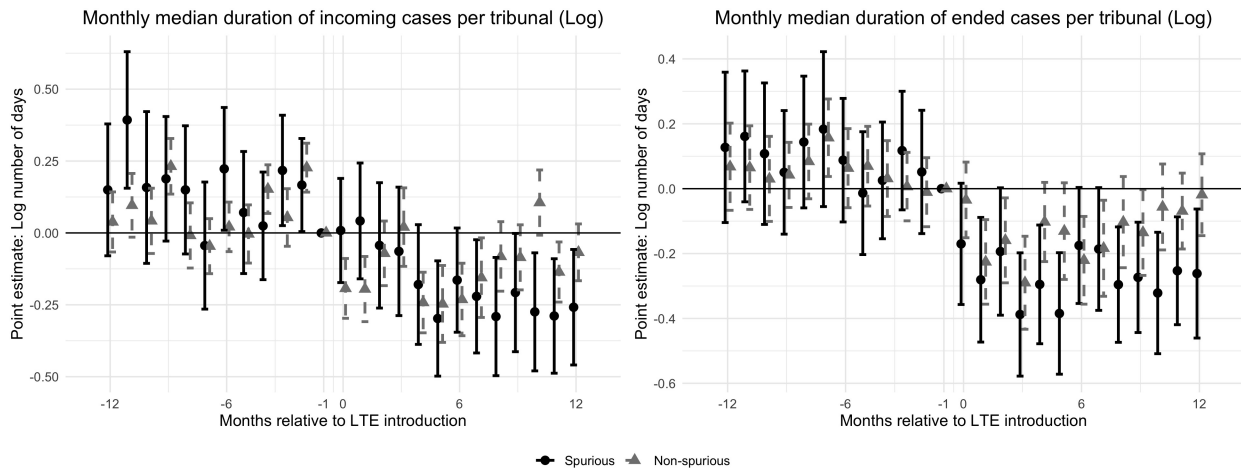
The raw data show that the duration of incoming cases shortens after the LTE (Figure 3, left panel). Two mechanisms could drive this pattern. First, composition: more deemed-not-filed and otherwise simple cases enter after the reform, mechanically reducing median duration. Second, production: the LTE may allow courts to process comparable cases faster. The share of cases resolved within a week, a month, and a year also increases significantly after the reform (Figure 3, right panel)—a pattern consistent with improved throughput but equally compatible with a change in the mix of entering cases.

Figure 3. Median case duration by end date and percentage of cases resolved within fixed horizons.



To separate the effect associated with the LTE from unit and calendar-time effects, we estimate event studies for the median duration of incoming and closed cases. Median duration falls by an average of 25 percent for incoming cases and 26 percent for closed cases (Figure 4). The decline is present for both deemed-not-filed and other cases: median duration falls by 11.6 percent for other incoming cases and by 13.3 percent for other closed cases.

Figure 4. Event study: monthly median duration of incoming and closed cases. Figure labels retain the legacy “spurious/non-spurious” terminology for deemed-not-filed and other cases.



The heterogeneity results nonetheless counsel caution. When we examine trends by ending type, only cases ending as *consider the lawsuit not filed* and *the lawsuit does not proceed*—the latter procedurally similar to the deemed-not-filed margin—show clear duration declines after the LTE (Appendix Figure 15). Similarly, among the top four matter types, only collection-of-payments cases display a clear shortening of duration (Appendix Figure 16). Both patterns align with the hypothesis that composition is an important driver of the aggregate decline.

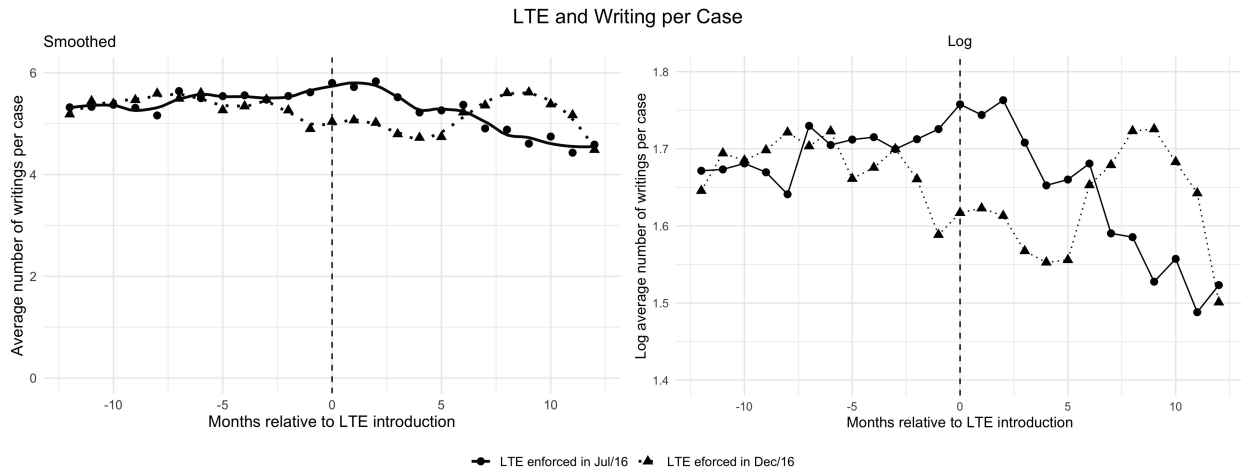
Although similar on average, the trends for incoming and closed cases differ substantially. As Figure 4 shows, the duration of incoming cases is flat until the fourth month after implementation and then falls steadily, whereas the duration of closed cases drops immediately but reverses after six months—an upward drift especially pronounced among non-deemed-not-filed cases. We therefore interpret the duration results as evidence that the LTE reduced procedural frictions most clearly in standardized enforcement matters; the evidence of broad speed gains in more complex litigation is weaker.

5.3 The Number of Writings per Case

We next examine a more granular measure of procedural intensity: the number of writings per case. Writing records are collected by the DDI and merged with the case-level data. Because of data-availability constraints, this analysis covers non-massive civil cases filed from 2015 to 2017. The merged data comprise 2,108,828 distinct cases and 8,264,063 requests; after excluding outlier requests with more than ten writings, 2,108,800 cases and 8,254,975 requests remain. The average number of requests per case is 3.915, with a standard deviation of 3.181.

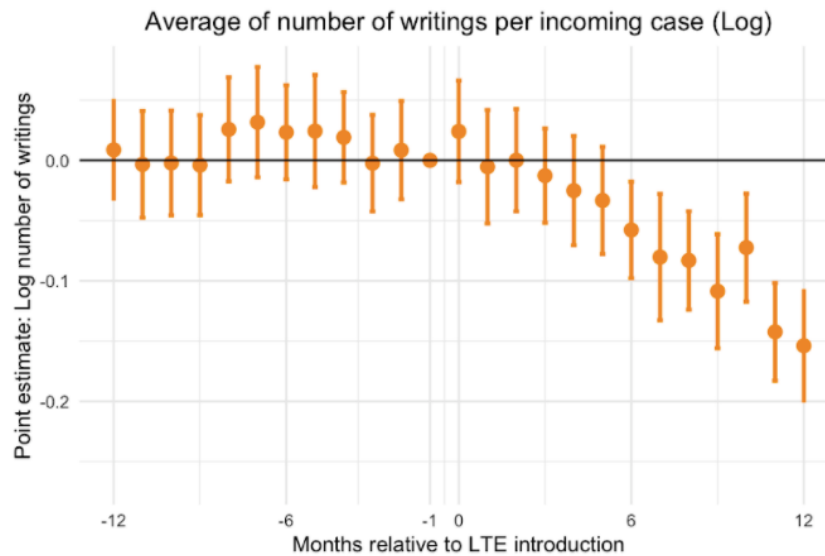
Because the LTE increases the number of incoming cases, one might expect writings per case to rise as well. Instead, the average number of writings per case falls after the reform. The decline is most pronounced in the first-wave jurisdictions; in the remaining jurisdictions, the downward trend reverses after five months (Figure 5).

Figure 5. Average number of writings per case, by LTE wave.



Event-study estimates isolate the effect associated with the reform: the number of writings per incoming case falls significantly, by 6.5 percent on average, within twelve months of the LTE, and remains below the pre-reform trend thereafter (Figure 6).

Figure 6. Event study: average number of writings per case.

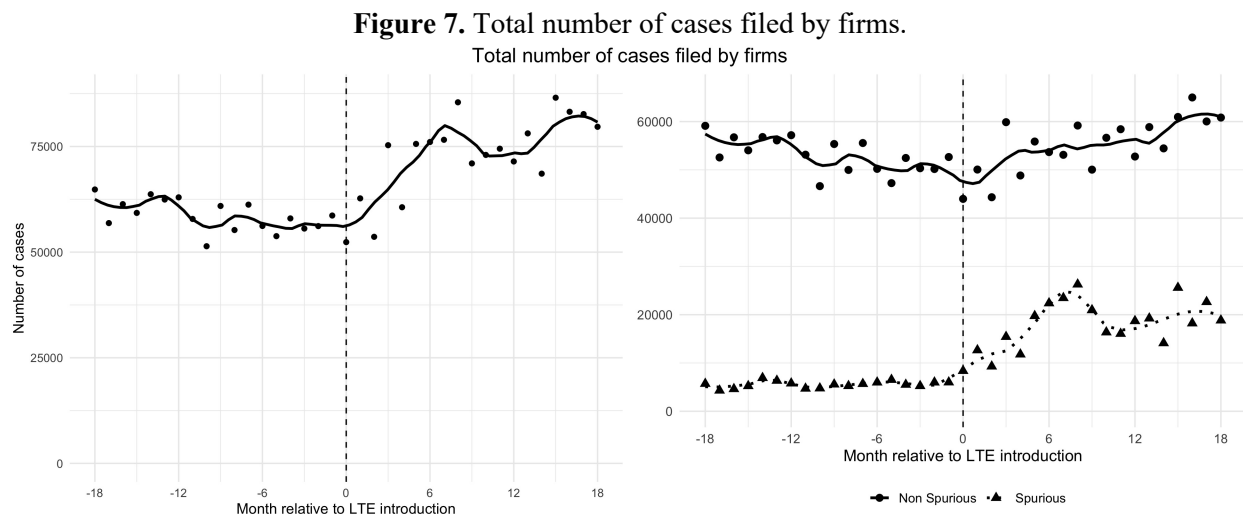


As with duration, we explore heterogeneity by procedure and matter type. Among the top six procedure types, *voluntary* cases—matters with no contentious litigation between parties, in which a legal entity requests that a situation be examined, certified, qualified, or attested—experience the largest decline in writings per case (Appendix Figure 17). A reduction in writings per voluntary case suggests the simplification of a low-conflict procedural channel. Among the five most common matter types, by contrast, none shows a strong change in writings after the reform.

Summarizing the court-level results: the LTE significantly increased filings and dispositions, reduced measured case duration, and reduced the number of writings per case, with effects concentrated in cases that resolve quickly and require few procedural steps. The pattern supports the interpretation that court digitization relieves frictions most strongly in routine enforcement and administrative procedures.

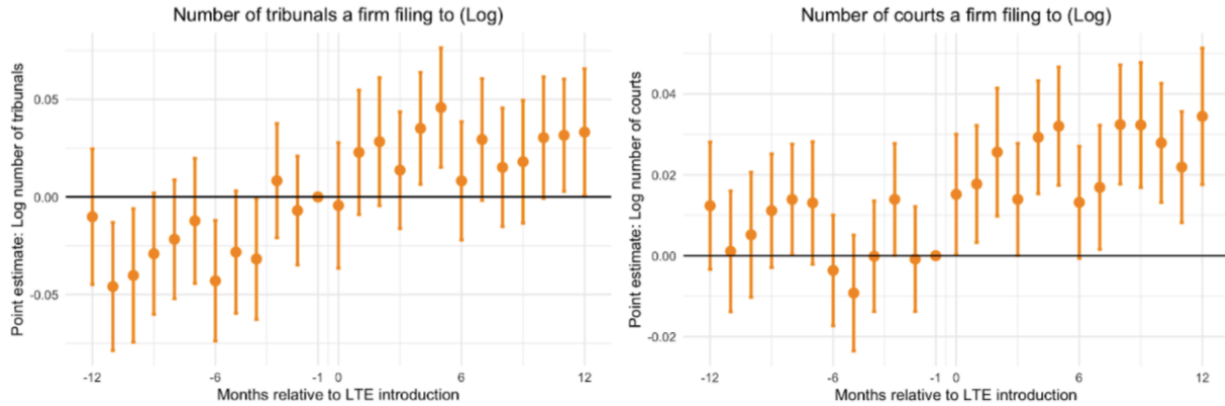
5.4 Firm Demand for Formal Enforcement

We now turn to firms' use of the courts. During the sample period, firms filed more than 60 percent of all civil cases. The raw data show that the number of cases filed by firms increased after the LTE (Figure 7, left panel), and that the increase was driven predominantly by deemed-not-filed cases (right panel).



To examine whether the LTE changed the reach of firms' legal activity, we estimate event studies on the number of tribunals and courts in which firms file. After the reform, firms filed not only more cases but in more tribunals and more courts (Figure 8). One interpretation is that digitization made geographic location and branch structure less binding for plaintiffs, allowing firms to centralize or scale legal activity across jurisdictions; distinguishing increased access by marginal firms from automation or centralization by repeat claimants would require more detailed party-level data.

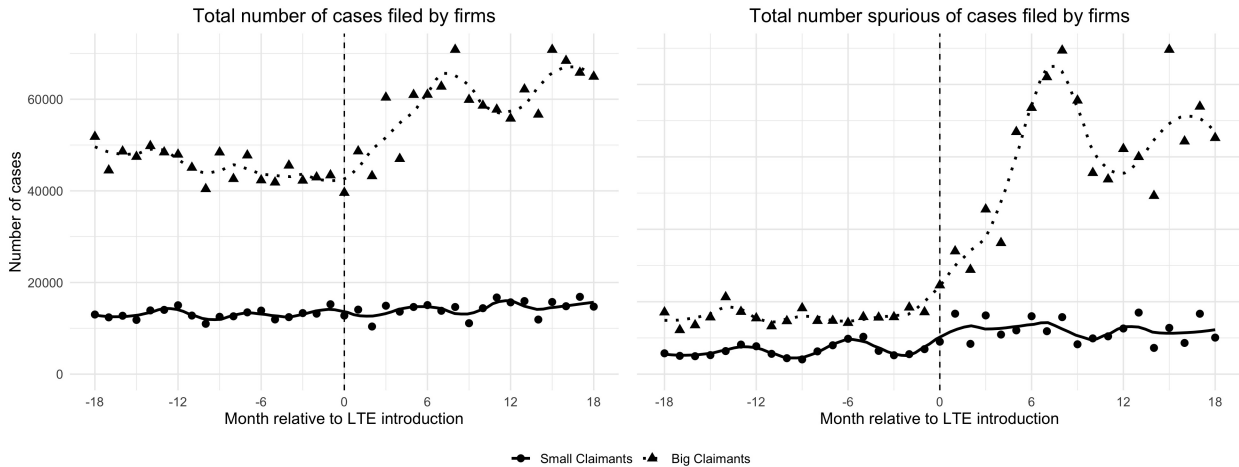
Figure 8. Event study: number of distinct tribunals and courts to which firms file.



To characterize firms’ filing behavior, we examine heterogeneity by sector, filing volume, and profit level. Across sectors, the number of cases filed rises after the LTE in every sector except extraterritorial bodies and organizations, and firms in the household-activities sector begin filing only after the reform (Appendix Figure 18).

Filing volume reveals the scale margin. Firms that filed large numbers of cases before the reform—“big claimants,” defined as firms filing more than 10,000 cases in the sample window—filed even more afterward, and the gap between big claimants and other firms widened (Figure 9). As before, the divergence is driven specifically by deemed-not-filed cases. Digitization thus appears to raise the returns to organizational legal capacity and automated high-volume filing, not merely to expand access for marginal users.

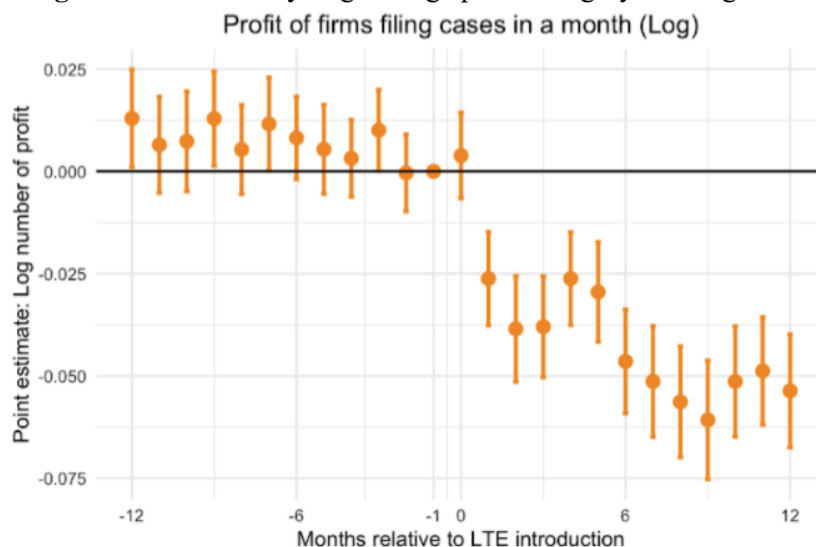
Figure 9. Number of cases filed by firms: big versus small filers.



Finally, we examine filing across the thirteen profit categories in the Chilean tax data. Filings increase in all thirteen categories (Appendix Figure 19). An event study on the profit category of firms filing at least one case per month shows that, after the LTE, lower-profit firms became more likely to file (Figure 10). This pattern is consistent with reduced procedural access costs. Because

the sample conditions on filing, we interpret it as a shift in the composition of court users, not as a causal effect of the reform on firm profits.

Figure 10. Event study: log average profit category of filing firms.



5.5 Geographic and Legal Reach

We next ask whether the LTE changed firms' access to the justice system by reducing the importance of physical proximity to courts, using the distance specification of Section 4. The estimates appear in Appendix B. The LTE increases the number of cases filed by firms, with the effect most pronounced for firms physically close to a court; when the outcome is the log of cases filed, however, the differential effect by distance is no longer significant (Table 2). The reform also raises a firm's probability of filing a case at all (Table 3). That effect is larger for firms farther from tribunals in first-wave jurisdictions, but the geographic gradient disappears in the second wave and weakens when distance enters in logs. The evidence is therefore suggestive, though not definitive, that the LTE reduced the role of physical distance in firm access.

Restricting attention to cases that are neither executive nor preparatory proceedings, firms filed fewer such cases in the first wave and more in the second, with smaller effects for firms farther from a court (Table 4); these estimates are harder to interpret but may reflect changes in how firms allocate legal resources across procedure types. The probability of filing a non-executive, non-preparatory case rises after the reform, though only marginally significantly (Table 5). Firms also shifted filings from mixed to civil tribunals: the LTE raises filings in civil tribunals and lowers them in mixed tribunals, with distance to the relevant tribunal shaping both flows (Table 6). Finally, the reform led firms to file in a more diversified fashion across both procedure and matter types, with no significant geographic heterogeneity (Table 7).

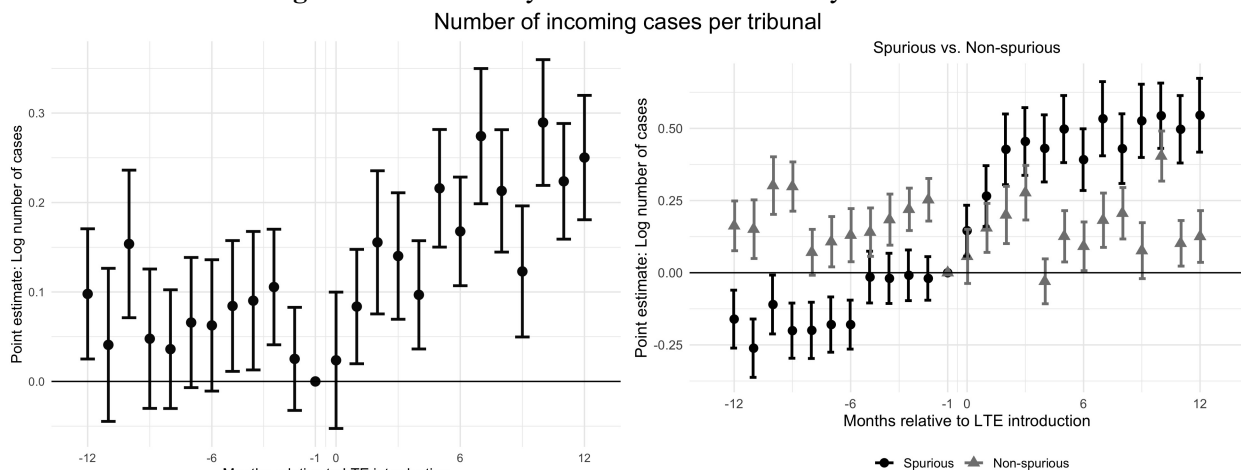
Taken together, the firm-level evidence indicates that the LTE changed the scale, reach, and composition of firms' legal activity. It does not yet establish whether cheaper enforcement improved firm performance, debt recovery, or credit access—questions we return to in the conclusion.

5.6 Individual Claimants

We conclude the analysis with individual claimants' filing behavior, case duration, and outcomes relative to firms. We classify a claimant as an individual when the claimant's RUT number lies below 50,000,000, which identifies 585,007 cases very likely filed by individuals. The raw data show an increase in cases filed by individuals after the LTE, echoing the aggregate trend, and a decomposition by procedure type shows the increase is driven mainly by voluntary cases (Appendix Figure 20).

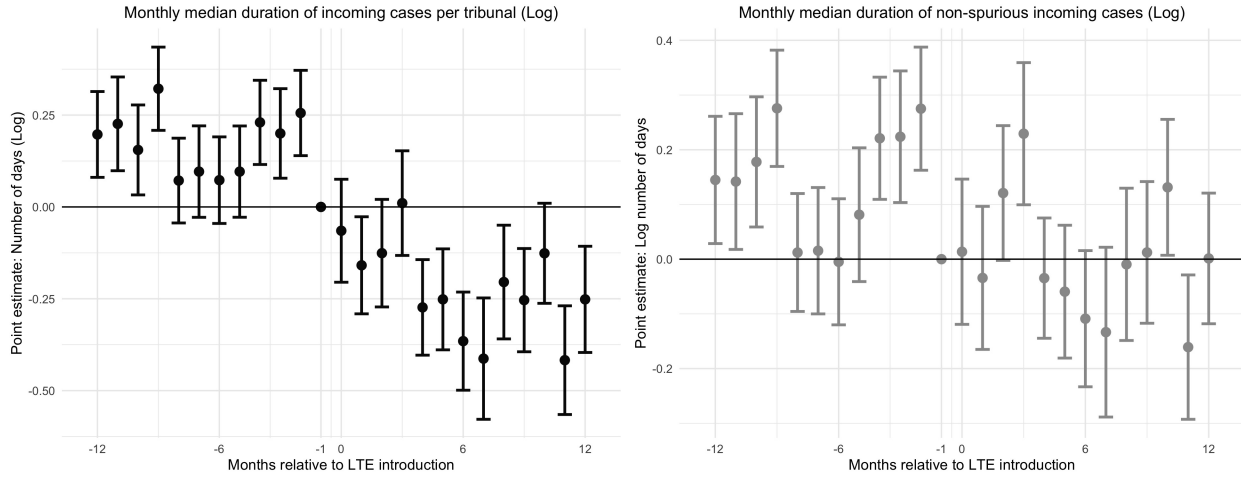
Event-study estimates confirm that filings by individuals rose after the reform, driven mainly by deemed-not-filed cases (Figure 11). The increase is nonetheless larger for firms than for individuals (Appendix Figure 21).

Figure 11. Event study: number of cases filed by individuals.



The median duration of cases filed by individuals falls significantly after the LTE (Figure 12). Separating deemed-not-filed from other cases, both groups experience shorter durations, though the decline is smaller and less precisely estimated for deemed-not-filed cases.

Figure 12. Event study: duration of cases filed by individuals.



The percentage of individuals' cases closed within six months also rises after the reform (Figure 13); as with duration, the share of quickly resolved cases increases among non-deemed-not-filed cases, but by less than among other cases.

Figure 13. Event study: percentage of individuals' cases closed within six months.

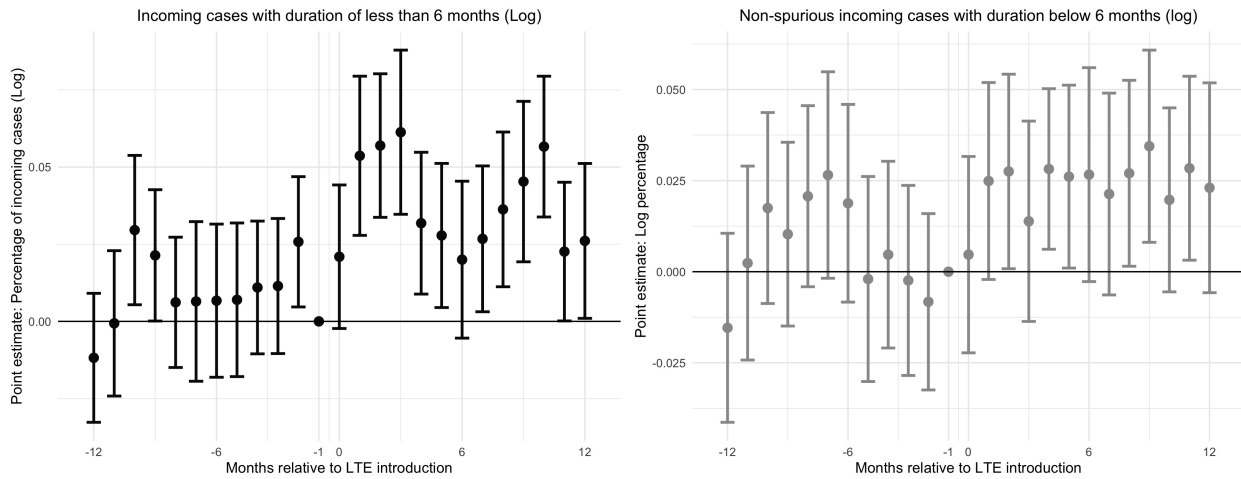
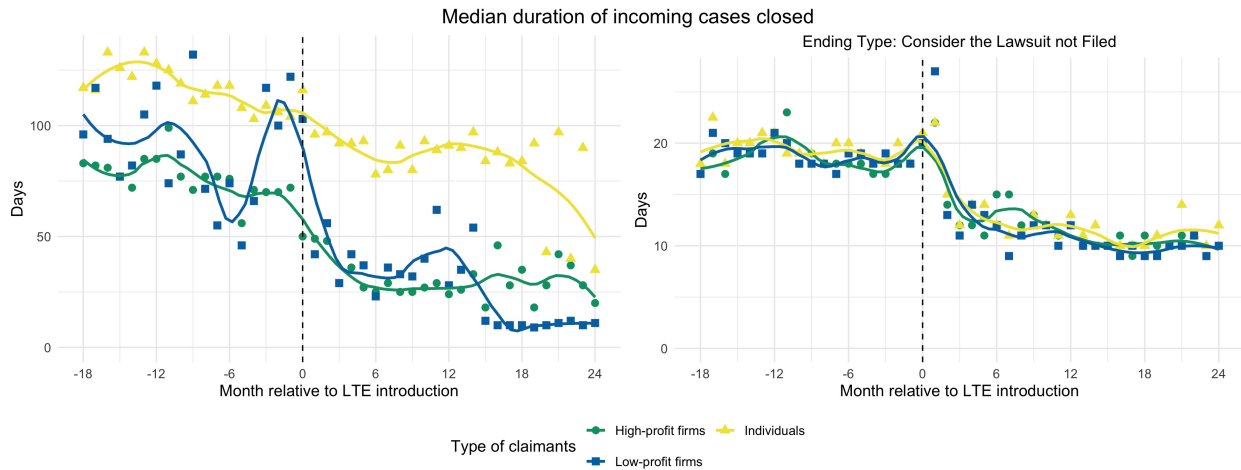


Figure 14 compares the duration of cases filed by three types of claimants: individuals, high-profit firms, and low-profit firms. Duration declines for all three groups after the LTE. Cases filed by individuals generally last longest and cases filed by high-profit firms are shortest; cases filed by low-profit firms initially lie between the two, but after the reform their duration falls substantially and converges toward that of high-profit firms. These patterns are not driven solely by non-deemed-not-filed cases, as all three claimant types filed similar deemed-not-filed cases.

Figure 14. Median duration of cases for three types of claimants.



6 Conclusion

This paper studies how court e-filing changes the demand for and production of formal contract enforcement. Chile's Electronic Processing Law replaced in-person filing and paper-based workflow with electronic filing, digital signatures, and electronic workload assignment. The reform increased case filings and dispositions, shortened measured duration, and reduced the number of writings per case. Digital legal infrastructure, these results show, can expand state capacity both by changing the court production process and by reducing the transaction cost of invoking the courts.

The central finding is that the effects are concentrated in standardized, low-complexity enforcement matters. The reform is associated most strongly with changes in executive and collection-of-payments cases, and the increase in incoming and closed cases is driven heavily by cases ending as *téngase por no presentada la demanda*—deemed-not-filed cases. This pattern need not imply frivolous litigation, false claims, or filing mistakes. In the Chilean institutional context, many such cases are low-complexity, administrative debt-collection matters—including massive cases—that plaintiffs file to document non-collectability rather than to litigate through a full merits process. The LTE, in short, lowered the cost of invoking the court system for standardized enforcement and documentation filings.

The distinction matters for policy. If the objective is to improve administrative throughput and reduce the cost of standardized debt collection, the LTE appears highly effective. If the objective is to expand effective access for individuals and smaller firms in contested civil disputes, electronic processing likely needs complements: clearer filing guidance, user-facing forms, legal information, and outreach. The evidence is consistent with the LTE improving formal access and procedural efficiency, but the welfare interpretation depends on the case types and user groups in

view. The firm-level results sharpen the point: lower-profit firms begin filing after the reform, consistent with reduced access costs, while high-volume repeat claimants scale up substantially on the deemed-not-filed margin. Digital courts may simultaneously broaden access for marginal users and raise the returns to legal scale among sophisticated repeat players; assessing the distributional consequences of digitization requires keeping these margins distinct.

Our results document the upstream enforcement channel; the natural next step is to trace its downstream consequences. Linking court records to claim amounts, party identities, recovery and payment outcomes, tax write-off records, and credit-registry or bank-lending data would make it possible to ask whether cheaper formal enforcement changes recovery rates, borrowing terms, credit supply, firm investment, employment, or survival. Answering those questions would show how digital state capacity reshapes the institutional foundations of credit markets. What the Chilean reform already establishes is that e-filing changed the cost and the use of formal contract enforcement—above all on the standardized debt-enforcement margin where paper had been most binding.

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Appendix A Additional Figures

Figure 15. Median duration of cases, by ending type.

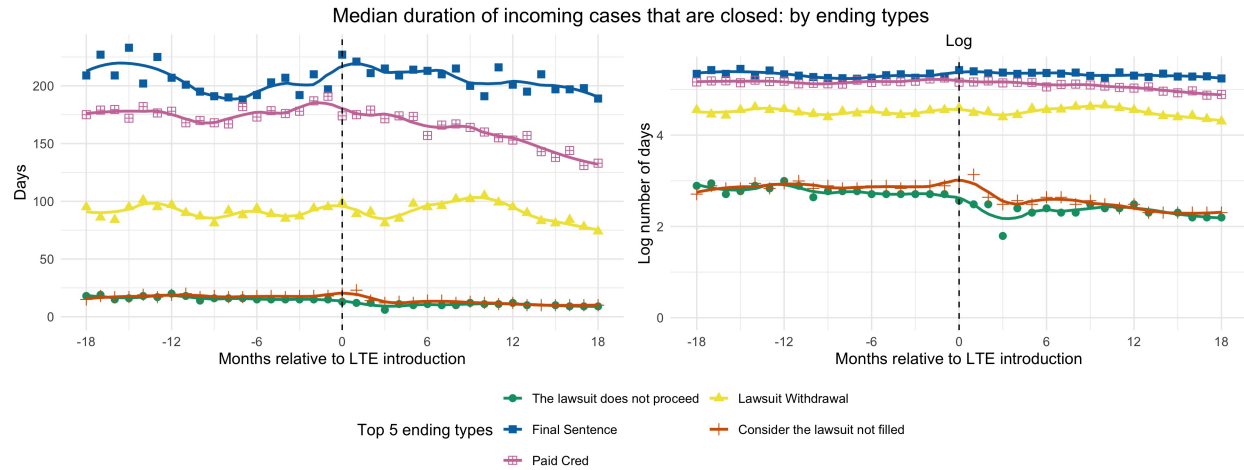


Figure 16. Median duration of cases, by procedure and matter type.

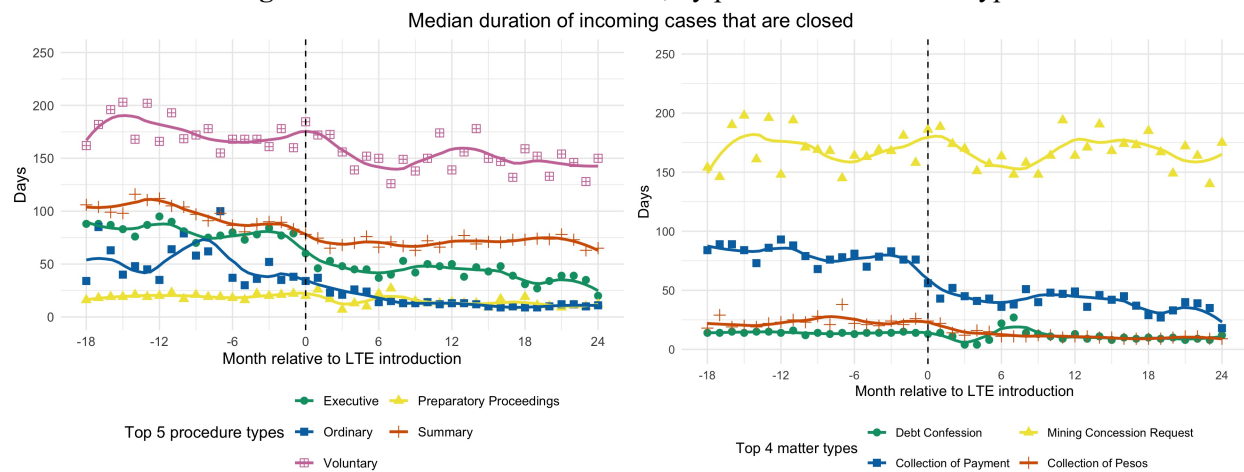
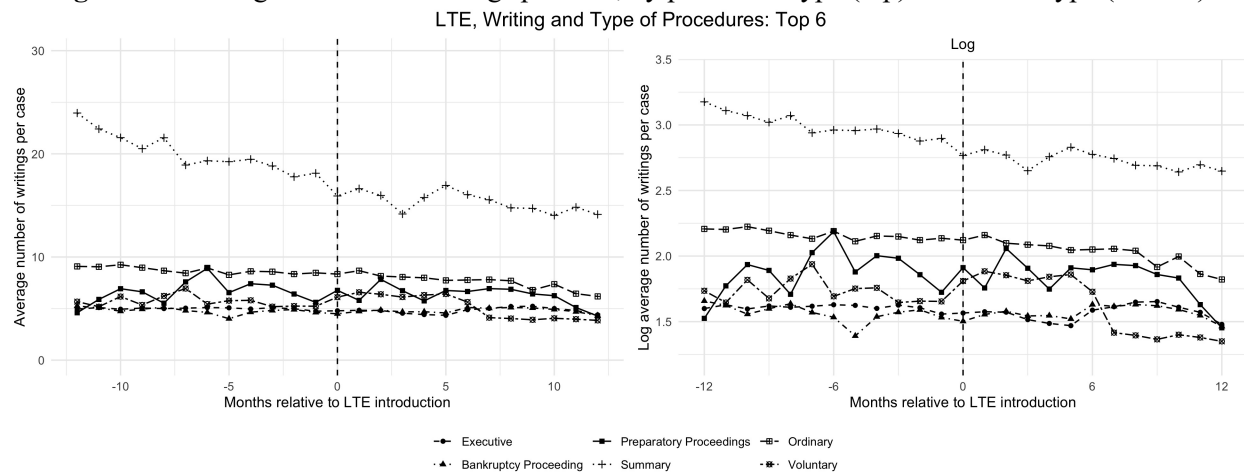


Figure 17. Average number of writings per case, by procedure type (top) and matter type (bottom).



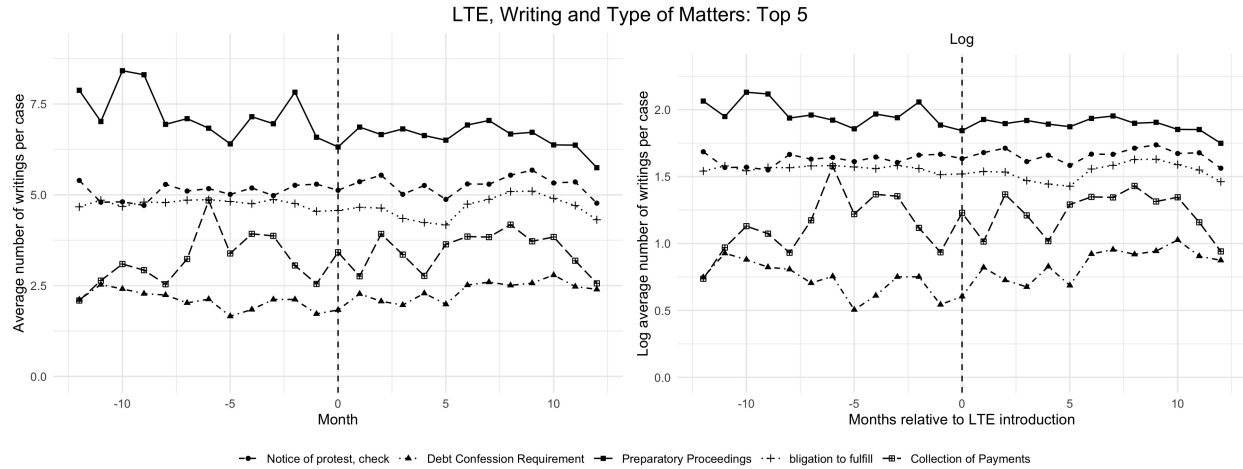


Figure 18. Number of cases (in logs) filed by firms, by industry sector.

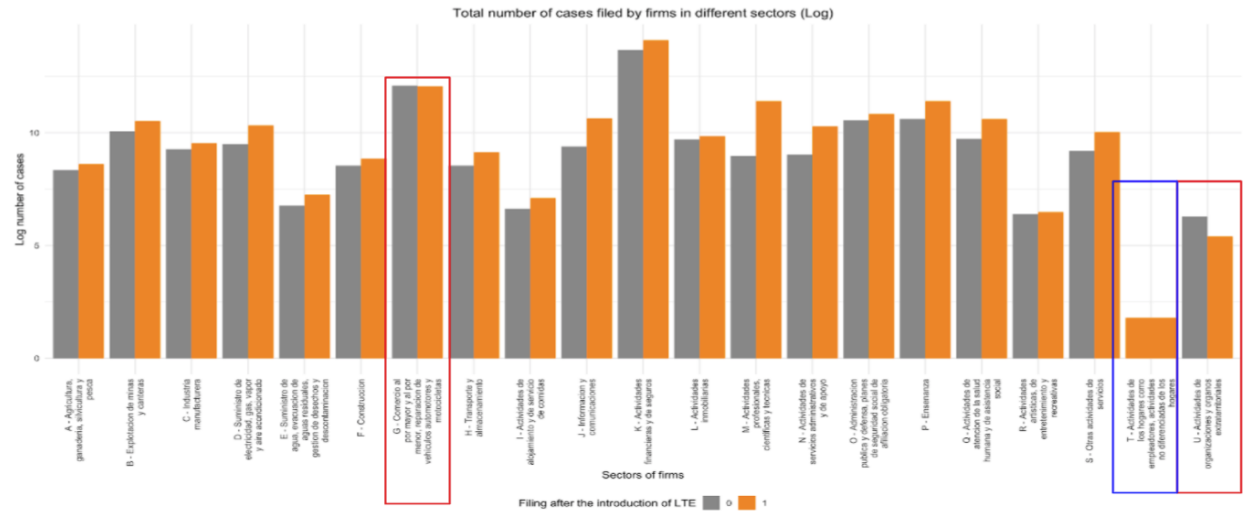


Figure 19. Number of cases (in logs) filed by firms, by profit category.



Figure 20. Number of cases filed by individuals.

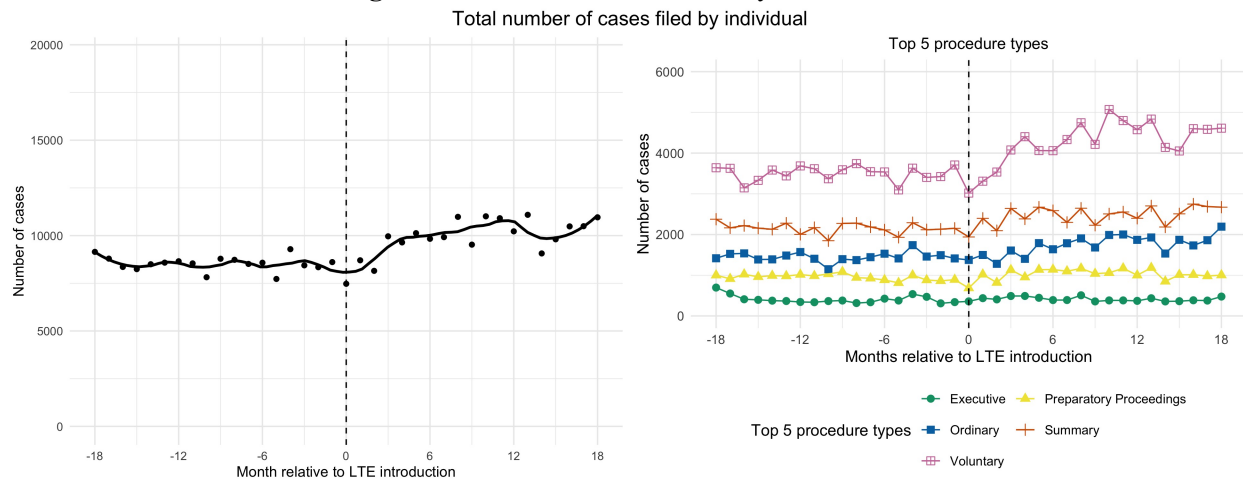
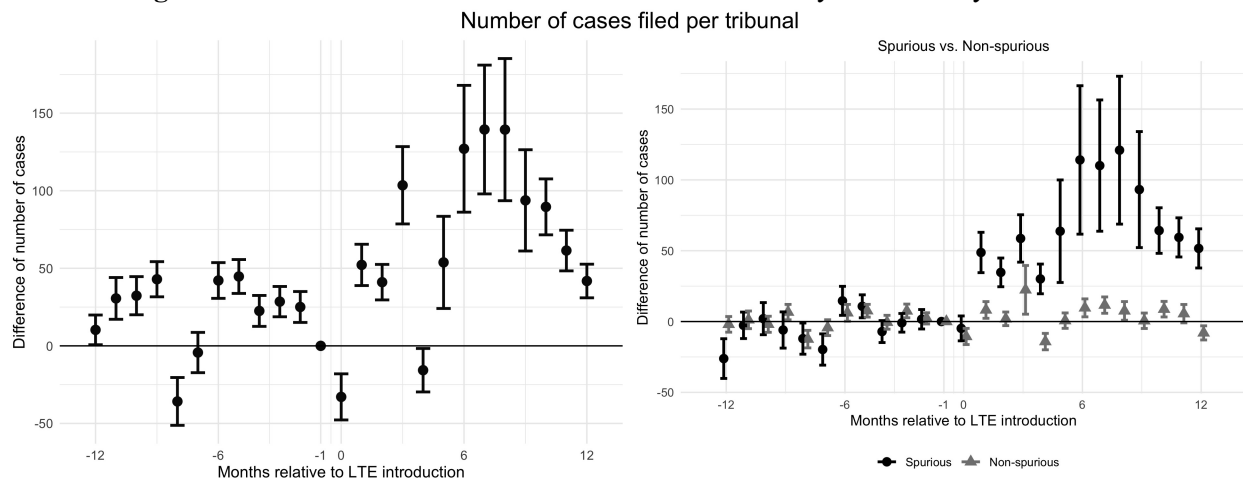


Figure 21. Difference between the number of cases filed by firms and by individuals.



Appendix B Additional Tables

Table 2. Number of cases filed by firm claimants

<i>Dep. var.</i>	No. cases filed by a firm			log(No. cases filed by a firm + 1)		
	All	Wave 1	Wave 2	All	Wave 1	Wave 2
	(1)	(2)	(3)	(4)	(5)	(6)
=1 if after LTE	0.0560*** (0.0211)	-0.0238 (0.0160)	0.0936*** (0.0007)	0.0038*** (0.0009)	0.0021 (0.0016)	0.0050*** (0.0016)
Interaction	-0.0027*** (0.0010)	0.0007 (0.0007)	-0.0047*** (0.0016)	-0.0002 (0.0006)	-1.36e-05 (0.0011)	-0.0006 (0.0007)
Constant	0.1583	0.2506	0.1187	0.0404	0.0496	0.0364
N	755,925	226,700	529,225	755,925	226,700	529,225

Notes: Firm and month fixed effects are included; robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels. In columns (4)–(6), the natural log of distance is used to generate the interaction term.

Table 3. Whether firm claimants have filed a case

<i>Dep. var.</i>	=1 if a firm has filed a case			=1 if a firm has filed a case		
	All	Wave 1	Wave 2	All	Wave 1	Wave 2
	(1)	(2)	(3)	(4)	(5)	(6)
=1 if after LTE	0.0029*** (0.0005)	0.0017* (0.0009)	0.0036*** (0.0007)	0.0021** (0.0008)	0.0010 (0.0013)	0.0030*** (0.0011)
Interaction	-8.09e-06 (0.0001)	0.0002* (0.0001)	-0.0001 (0.0001)	0.0006 (0.0005)	0.0012 (0.0009)	0.0001 (0.0007)
Constant	0.0403	0.0425	0.0392	0.0403	0.0425	0.0392
N	755,925	226,700	529,225	755,925	226,700	529,225

Notes: Firm and month fixed effects are included; robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels. In columns (4)–(6), the natural log of distance is used to generate the interaction term.

Table 4. Number of cases filed by firm claimants: excluding executive and preparatory proceedings

<i>Dep. var.</i>	No. cases filed by a firm			log(No. cases filed by a firm + 1)		
	All	Wave 1	Wave 2	All	Wave 1	Wave 2
	(1)	(2)	(3)	(4)	(5)	(6)
=1 if after LTE	-0.0031 (0.0049)	-0.0312*** (0.0109)	0.0103*** (0.0051)	0.0013* (0.0007)	0.0003 (0.0012)	0.0020** (0.0009)
Interaction	-0.0001 (0.0003)	0.0010** (0.0004)	-0.0008** (0.0004)	0.0003 (0.0004)	0.0006 (0.0007)	7.76e-06 (0.0005)
Constant	0.0853	0.1157	0.0722	0.0211	0.0224	0.0206
N	755,925	226,700	529,225	755,925	226,700	529,225

Notes: Firm and month fixed effects are included; robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels. In columns (4)–(6), the natural log of distance is used to generate the interaction term. Executive (Ejecutivo) and preparatory-proceedings (Gestiones Preparatorias) cases are excluded.

Table 5. Whether firm claimants have filed a case: excluding executive and preparatory proceedings

<i>Dep. var.</i>	=1 if a firm has filed a case	=1 if a firm has filed a case
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	All	Wave 1	Wave 2	All	Wave 1	Wave 2
	(1)	(2)	(3)	(4)	(5)	(6)
=1 if after LTE	0.0014*** (0.0005)	0.0007 (0.0006)	0.0018*** (0.0005)	0.0005 (0.0006)	0.0003 (0.0010)	0.0008 (0.0008)
Interaction	-1.85e-05 (0.0001)	7.97e-05 (6.26e-05)	-7.54e-05 (7.77e-05)	0.0006 (0.0004)	0.0007 (0.0007)	0.0004 (0.0005)
Constant	0.0217	0.0209	0.0220	0.0217	0.0209	0.0220
N	755,925	226,700	529,225	755,925	226,700	529,225

Notes: Firm and month fixed effects are included; robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels. In columns (4)–(6), the natural log of distance is used to generate the interaction term. Executive (Ejecutivo) and preparatory-proceedings (Gestiones Preparatorias) cases are excluded.

Table 6. Number of cases filed by firm claimants: civil versus mixed tribunals

Dep. var.	No. cases filed to civil tribunals			No. cases filed to mixed tribunals		
	All	Wave 1	Wave 2	All	Wave 1	Wave 2
	(1)	(2)	(3)	(4)	(5)	(6)
=1 if after LTE	0.0528*** (0.0180)	0.0089 (0.0071)	0.0678*** (0.0241)	-0.0165* (0.0091)	-0.0514** (0.0206)	0.0055 (0.0070)
Interaction	-0.0001*** (0.0000)	-2.81e-05** (1.41e-05)	-0.0001** (0.0001)	0.0008** (0.0003)	0.0014** (0.0005)	0.0001 (0.0003)
Constant	0.0842	0.0491	0.0991	0.0741	0.2015	0.1963
N	755,925	226,700	529,225	755,925	226,700	529,225

Notes: Firm and month fixed effects are included; robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels. In columns (1)–(3), the distance between a firm and its nearest civil tribunal is used to generate the interaction term; in columns (4)–(6), the distance to the nearest mixed tribunal is used.

Table 7. Diversity of firm claimants' filings

Dep. var.	No. unique procedure types			No. unique matter types		
	All	Wave 1	Wave 2	All	Wave 1	Wave 2
	(1)	(2)	(3)	(4)	(5)	(6)
=1 if after LTE	0.0047*** (0.0006)	0.0028*** (0.0010)	0.0059*** (0.0007)	0.0034*** (0.0006)	0.0021** (0.0010)	0.0042*** (0.0007)
Interaction	-1.07e-05 (0.0001)	0.0001 (0.0001)	-0.0001 (0.0001)	4.87e-07 (0.0001)	0.0001 (0.0001)	-7.87e-05 (8.71e-05)
Constant	0.0440	0.0463	0.0429	0.0448	0.0479	0.0434
N	755,925	226,700	529,225	755,925	226,700	529,225

Notes: Firm and month fixed effects are included; robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels.