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THE EFFECTS OF THE REFORM OF THE JUDICIAL MAP ON THE FUNCTIONING OF CIVIL JUSTICE

by Sauro Mocetti*, Ottavia Pesenti** and Giacomo Roma *

Abstract

The paper evaluates the impact of the reform of the judicial map on the functioning of Italian civil justice. Between 2013 and 2014, several small first-instance courts and all branch offices were abolished and merged, resulting in a significant increase in the size of the courts and the scale of civil justice provision. Our findings suggest that the reform caused a reduction in the demand for justice, likely due to the higher costs associated with the increased distance from the courts. This effect was concentrated in areas where the claimant has more discretion in deciding whether to proceed with a case or can easily use alternative dispute resolution procedures. On the supply side, the reform increased the number of resolved cases and shortened their length. These improvements affected more complex matters and the courts that were initially less efficient, which benefited most from the increases in scale and specialization.

JEL Classification: K4.

Keywords: civil justice, judicial map, access to justice, productivity of the courts, length of trials.

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1 Introduction¹

Defining the optimal scale for public service provision is challenging due to the complex underlying trade-offs. An extremely limited jurisdiction may prevent the realization of economies of scale and specialization, leading to inefficiencies in public service delivery. Conversely, overly large jurisdictions could cause congestion and reduce service accessibility for local communities. This study examines the provision of civil justice in Italy, analyzing the effects of a reform that increased the average size of first-instance courts by revising the judicial map. While this exercise is not aimed at defining the optimal scale of the judicial organization, it may offer some guidance in this regard.

Civil justice in Italy has long been characterized by historical dysfunctions, especially in pending proceedings and trial length. Since the last decade, numerous interventions have been implemented to reduce the judicial backlog and improve the system's efficiency. Among the measures taken, the one with the broadest scope and most profound organizational implications was the reform of the judicial map, implemented between 2013 and 2014, which led to the closure of 25 first-instance courts and 220 branch offices, centralizing their functions into the remaining 140 courts. The reform aimed to enhance the court's productivity by leveraging economies of scale and specialization among judges. Indirectly, it also increased the average distance from the reference court, raising the costs of access to justice for the users in the affected areas.

To assess the effects of the reform, homogeneous historical series on resolved, registered, and pending proceedings have been reconstructed at the court and subject-matter level, consolidating the data based on the new judicial geography.² The empirical strategy employs the differences-in-differences methodology, defining the trials affected by the reform as 'treated' and the others as 'controls' and comparing the evolution (before and after the reform) of the variable of interest between the two groups. More specifically, the treated trials are all that, following the reform, were subject to a reallocation to a new office. Therefore, all the trials from the closed courts and the merged branch offices on matters that could be dealt with in those *fora* are included in the treated groups. Instead,

¹We thank Paolo Angelini, Silvia Giacomelli, Giuliana Palumbo, and Lucia Rizzica for comments and discussions on the subject. The views expressed in this paper are those of the authors and do not involve the responsibility of the Bank of Italy.

²Namely, data from the closed offices were aggregated and consolidated according to the post-reform judicial map to ensure a consistent geographical unit for analysis.

the trials in matters that were under the responsibility of the chambers in the main seat of the district, even before the reform, are considered unaffected by the reform.

The results suggest that the reform led to a reduction in litigation in the first-instance courts. Due to the greater distance from courts, the increased costs of access to justice likely discouraged the initiation of new proceedings. Before the reform, the average distance to a branch office was 8 kilometers, and to a closed court, 13 kilometers. After the reform, the average distance rose to 14 kilometers. According to our estimates, a 5-kilometer increase in distance is associated with a 6 percent reduction in demand for justice. The drop in demand was more concentrated in subject matters such as tort liability (e.g. road accidents) and property rights (e.g. condominium cases). Instead, there were no significant effects on family law cases (e.g. divorces) or business crises (e.g. judicial liquidations). This difference could be attributed to the fact that in some areas, judicial redress is imposed by specific legal provisions (such as in judicial liquidation), that claims can be satisfied in different ways than judicial redress, or that the propensity to bring a new claim decreases as costs increase.

Regarding the justice supply, the reform improved the ability to resolve proceedings and reduced trial length. In the affected matters and courts, the number of resolved cases increased by 5 percent, and the average time expected to resolve proceedings (disposition time) decreased by a similar percentage. Efficiency gains were particularly high for complex cases, i.e. those with longer average settlement times. The reform's effect was also more pronounced in less ex-ante productive courts. These differences across courts and matters are plausibly attributable to efficiency gains from economies of scale and specialization induced by the reorganization of offices. The positive supply-side effects are driven by the centralization of branch offices, consistent with the idea that the centralization of closed courts presented greater organizational challenges than the centralization of branch offices.

The paper contributes to a broader literature on the optimal scale for public service provision by analyzing the trade-off between efficiency and specialization versus congestion and accessibility. Theoretical models suggest that economies of scale can reduce the average service costs as the service provider's size increases. Wider jurisdictions may also foster economies of specialization, enabling the development of specific skills that improve service quality. On the other hand, extremely large jurisdictions may face coordination, communication, and control problems, leading to inefficiency and congestion. Moreover, large

jurisdictions may have lower territorial coverage, making access more difficult or costly for those in peripheral or rural areas. In the justice context, this trade-off exists between the specialized skills of judges and administrative staff handling a high volume and variety of cases in wide jurisdictions and the drawbacks of increased distance from local communities and less knowledge of the social and economic context. The result is an inverted-U relationship: economies of scale and specialization generate benefits as jurisdiction size increases, but these advantages diminish once a certain threshold is exceeded due to prevailing congestion costs, equity, and accessibility concerns.

The empirical literature presents mixed results, with some studies showing that there are no efficiency gains (Blom-Hansen et al., 2016) as the size of the jurisdiction grows, while others highlight reductions in administrative costs (Duncombe et al., 1993; Reingewertz, 2012; Blesse et al., 2016). In terms of public service output, according to Narasimhan et al. (2024), smaller jurisdictions are associated with better access to public goods and services.³ In the justice sector, Espinosa et al. (2017) find that the reduction in the number of courts in France led to a drop in the demand for justice with negligible effects on other performance variables, while Canzian et al. (2024) observe negative effects on trial duration in Italy.⁴ Overall, this heterogeneity in results is likely to stem from differences in the scale of public service aggregation and the robustness of econometric techniques used.

The paper has two main elements of novelty with respect to the existing literature. First, and considering the empirical strategy, we exploit both the court and the subject as a source of variation, in addition to the longitudinal dimension. This allows for very saturated specifications, with the introduction of court-subject, subject-year, and court-year fixed effects. This allows us to control, for example, for potential unobservable local factors that may have influenced the decision to close or not a court – and therefore for potential sources of endogeneity – or for other time-varying unobservables affecting the outcome variable – for instance, changes in staff allocation following the reform. Second, we address a wider research question, going beyond mere cost savings – the most investigated topic in the empirical literature (Gómez-Reino et al., 2023) – and providing a broad assessment of the

³Rizzica (2013) shows that the increase in the supply of local university education in Italy led to a significant increase in female enrollment while leaving men’s enrollment rate unchanged.

⁴These findings differ from ours for two main reasons: first, and most importantly, Canzian et al. (2024) focus solely on the closure of 25 smaller courts, whereas we also consider the merging of 220 branch offices. In their analysis, the latter are included in the control group. Second, we examine a broader time frame and utilize more granular data, leveraging variability at both the court and subject levels.

reform. Indeed, we analyze the effects on access to the service (new cases), the functioning of offices in terms of output (resolved cases) and, importantly, also on the quality of the service (length of trials).

The paper is organized as follows. Section 2 provides some institutional and descriptive details on the judicial map reform. Section 3 outlines the data used and the empirical strategy adopted. Section 4 presents the results, distinguishing between the effects on demand and supply of justice. Section 5 provides concluding remarks.

2 The reform of the judicial map

Extensive empirical evidence shows that a well-functioning civil justice system is crucial to a territory's competitiveness and growth. Early empirical evidence leveraged institutional heterogeneity across countries, showing that contract enforcement and property rights positively impact investment and economic growth (Knack et al., 1995), and capital markets development (Porta et al., 1997). In Italy, several papers have shown the justice system's effects on firm size (Giacomelli and Menon, 2016), participation in global value chains (Accetturo et al., 2017), financing conditions (Jappelli et al., 2005; Rodano, 2021), firms' turnover growth (Bamieh et al., 2024) and overall productivity and economic growth (Ciapanna et al., 2023).

The Italian justice system has long suffered from chronic inefficiencies, prompting numerous legislative reforms over the past decade to enhance its efficiency.⁵ Among these measures, reorganizing the judicial districts was the most significant step in rationalizing the judicial system in Italy.

This reform concluded a long and complex historical process. Before Italy's unification, each independent state had its judicial system, with courts' boundaries reflecting historical and administrative divisions. With the unification and the enactment of the first Code of Civil Procedure of the Kingdom of Italy, the perimeters of the new judicial districts were established, partially preserving pre-unification boundaries while redesigning others to create a more uniform national system. Inspired by the Piedmontese model, the judicial

⁵On the demand side, the conditions for access to the system were modified in terms of rules and costs necessary to initiate proceedings, and alternative dispute resolution tools were introduced. On the supply side, in addition to reviewing the judicial map, investments were made, and the digitalization of trials was promoted. For a detailed discussion, see Giacomelli, Mocetti, et al. (2017). The interventions continued into the current decade with civil procedure reforms and strengthening the "Trial Office" to support judges' work (Cannella et al., 2024).

map ensured a dense distribution of courts, including many in medium and small towns. Rationalization measures were introduced during the Fascist era, while in the aftermath of World War II, expansions in the supply of justice accommodated population growth and rising litigation.

The reform examined in this study originated with Law No 148/2011, which delegated the government the responsibility to reorganize the judicial offices, setting the related criteria. It mandated the merger of courts and the closure of branch offices. The branch offices, created at the end of the last century (Legislative Decree No 51/1998), belonged to the court of first instance but were physically placed in a city other than its seat. They served to decongest the central offices and ensured that judicial offices were also present in peripheral and less populated areas. The criteria for reorganizing the judicial offices set by the delegation included the extent of the territory, the number of inhabitants, the extent of the workloads, the geographical characteristics of the area, the infrastructure situation, and the degree of penetration of organized crime. In addition, two constraints were imposed: the maintenance of courts in the provincial capitals and at least three courts for each appeal district.⁶ The Legislative Decree 155/2012 implemented the reform, guided by the recommendations of a ministerial working group and the delegation law criteria, redesigning the boundaries of the courts of first-instance districts.⁷

The reform, effective in September 2013, led to a significant rationalization of the presence of courts on the territory: the number of courts was reduced from 165 to 140, and all 220 branch offices were closed.⁸ Among the remaining courts after the reform, 23 absorbed one or two abolished courts (Figure 1, left-hand panel), while 107 centralized at least one branch office and 56 two or more (Figure 1, right-hand panel). This restructuring mechanically increased the average court size, primarily by reducing the number of smaller courts (Figure 2).⁹

⁶The districts of the courts of appeal essentially coincide with the regions, except for Lombardy (Brescia and Milan), Campania (Naples and Salerno), Calabria (Catanzaro and Reggio Calabria), Sicily (Caltanissetta, Catania, Messina and Palermo) and Apulia (Bari and Lecce), while Valle d'Aosta is part of the district of Turin.

⁷The decree's explanatory report provides detailed data and cartographic reproductions of the courts' distances illustrating the rationale behind court closures and mergers.

⁸At the same time of the revision of the judicial map, the court of first instance of Naples Nord, based in Aversa, was established. While this court formally preceded the reform of the judicial map, it had not previously existed as an ordinary court. The abolition of four courts in Abruzzo (Avezzano, Lanciano, Sulmona, and Vasto) and of the branch offices of the smaller islands (Ischia, Lipari, Portoferraio) has been postponed several times and not yet made effective.

⁹The courts which have centralized branch offices or merged other courts are those with a larger size:

The geographical reorganization also increased the distance between municipalities and their judicial offices (Figure 3). Before the reform, branch offices were, on average, 8 kilometers away from the municipalities they served (weighting these distances by the population of each municipality), while courts were 13 kilometers away. Post-reform, the average distance to a court increased to 14 kilometers. The proportion of the population living more than 20 (50) kilometers from their judicial office rose from 9 to 21 percent (from 3 to 9 percent).

To simplify, the reform created three distinct scenarios, illustrated in Figure 4. Case A includes the courts unaffected by the reform, which neither merged with other courts (or parts of them) nor had branch offices (e.g. Nola, Ferrara, and Lodi, the three most populous catchment areas). Case B includes a subset of the courts affected by the reform, which absorbed one or more branch offices but did not merge with other courts (e.g. Rome and Milan, which centralized the Ostia, Cassano d’Adda, and Rho branch offices, respectively). Finally, case C identifies courts that merged with other courts (e.g. Genoa, which absorbed the Chiavari court). Some courts experienced a combination of cases B and C, absorbing both branch offices and merging with other courts (e.g. Vicenza, which incorporated both the Schio branch office and the Bassano del Grappa court).¹⁰

The key difference between the court mergers and branch office closures lies in the jurisdictional scope of the reallocated cases. In a court merger, the merging court assumes jurisdiction over all litigation previously handled by the absorbed court. In a branch office closure, only the matters under the jurisdiction of the branch office are transferred. In contrast, cases already under the jurisdiction of the main seat remain unaffected (Figure 5). Before the reform, the courts’ main seats were responsible for labor and social security cases and all cases requiring a panel of judges (and not monocratic formation, that is to say, a single judge), such as family law, succession, and company litigation.¹¹

Thus, in courts classified under case B (e.g. Rome), family, labor, and social security

to date, the average catchment area of the courts unaffected by the reform is below 200,000 residents, while that of the courts expanded by the reform is nearly 500,000 on average.

¹⁰Another case observed includes courts which, net of any merger, transferred branch offices to other courts. For instance, before the reform, the Court of Venice had four branch offices, three of which it centralized, while the fourth one was merged with the Pordenone court. In our empirical analysis, we do not consider the branch office transferred since the geographical unit of reference is the post-reform courts, and the data have been reconstructed to be homogeneous in time with this partition of the territory.

¹¹Branch office jurisdiction was defined by Article 48-quarter of the judicial system law (R.D. 12/1941), repealed by Legislative Decree 155/2012; collegial matters are listed in Article 50-bis of the Code of Civil Procedure.

proceedings remained unaffected since they were already handled at the main seat. However, matters such as contracts, enforcement, and summary proceedings – previously managed by branch offices – were transferred to the main seat following the reform.

3 Data and empirical strategy

3.1 Data and variables

The paper uses data on the flows (new and resolved cases) and stocks (pending cases) of civil proceedings in first-instance offices (courts). These data are disaggregated by court, subject matter (with approximately 50 categories), and year.¹² Using these data, we calculate the disposition time, which estimates the expected average time required to settle proceedings, by comparing the stock of pending cases at the end of the year with the flow of cases settled within the year.¹³

Disaggregating data by subject matter, court, and year is crucial for identifying causal effects, as discussed in more detail in Section 3.2, and understanding case composition, given inherent differences in processing times across case types.¹⁴

The analysis covers the period from 2010 (the first available year for which it was possible to reconstruct the data series in a detailed and homogeneous manner) to 2019. While more recent data exist, this time window avoids external shocks such as the COVID-19 pandemic and subsequent judicial reforms.¹⁵

At the aggregate level, judicial efficiency improved considerably between 2010 and

¹²According to the Ministry of Justice classification, civil proceedings are categorized by source – SICID register of litigation and SIECIC register of enforcement and insolvency proceedings – and, within these, by subject matter. SICID refers to the Sistema Informativo Contenzioso Civile Distrettuale (District Civil Litigation Information System), while SIECIC denotes the Sistema Informativo Esecuzioni Civili Individuali e Concorsuali (Individual Civil Executions and Bankruptcy Information System). The cases involving the tutelary judge, preventive technical assessments, and the receipt and recording of sworn statements are excluded from the analysis.

¹³This measure approximated the case duration by assuming a constant resolution capacity and no new case filings. The disposition time is the primary indicator for international comparisons by the European Commission.

¹⁴For example, in 2019, the average case duration ranged from 2,750 days for bankruptcy cases to 860 days for ordinary civil cases, 360 days for employment cases, and 70 days for special summary procedures. Even within broad categories, processing times vary significantly: amongst ordinary civil cases, consensual separations lasted 130, judicial separations 650 days, while company law, industrial law, and contract disputes typically exceeded three years.

¹⁵The year 2020 was characterized by a significant drop in case inflow and resolutions due to lockdowns and reduced business and administrative activity. In 2022, significant investments were made in human resources, particularly through the expansion of the Trial Office. In 2023, civil procedure reforms introduced procedural simplifications and case management improvements.

2019. The number of pending cases fell by approximately 30 percent (Figure 6), primarily driven by the reduction in new case filings, which, in absolute terms, outpaced the decline in settled cases (Figure 7). In addition, the disposition time decreased from around 466 to 345 days, corresponding to a 26 percent drop (Figure 8), accompanied by a narrowing of disparities across courts (Figure 9).

When analyzing case resolution trends, it is important to recognize the mechanical relationship between new and resolved cases. A simple example illustrates this point. Suppose a judge works 200 days per year and receives 20 new cases during the year, half of which are “easy” (requiring 20 days each) and half are “difficult” (requiring 100 days each). If the judge aims to maximize the number of resolved cases, she will prioritize simple cases, resolving a total of 10 cases per year. If the case inflow is halved in the following year while maintaining the same ratio of easy to difficult cases, the judge, working at the same pace, will resolve six cases (100 days dedicated to 5 simple cases and another 100 days for difficult ones).

Appendix C formalizes this intuition and provides predictions our empirical analysis confirms. In particular, the model demonstrates that a reduction (increase) in the number of new cases corresponds to a reduction (increase) in the number of resolved cases, with an elasticity between 0 and 1. Furthermore, the model also shows that the greater the difference in complexity between cases, the higher the elasticity.

Based on these findings, the empirical analysis accounts for the new cases while examining the trends in the resolved cases.

3.2 The empirical strategy

This study employs the differences-in-differences method to assess the impact of judicial map reform. This approach measures the reform’s effects (the treatment) by comparing changes in the dynamics of the variable of interest between two groups: proceedings affected by the reform (treated) and those unaffected (controls).

The analysis considers both a binary treatment specification (whether the court was affected or not) and a treatment intensity measure approximated by the population size of the merged judicial basin. The equation to be estimated is the following:

$$y_{imt} = \alpha + \beta R_{imt} + \gamma_m + \delta_i + \epsilon_t + \zeta_{im} + \eta_{mt} + \theta_{it} + \mu_{imt} \quad (1)$$

where y_{imt} is the outcome variable for court i , subject matter m , and year t . We consider as proxies for performance the number of new cases, the number of resolved cases, and the disposition time to assess the effects of the reform on the demand for justice, the supply of justice, and the quality of justice, respectively.

The treatment variable, R_{imt} , captures the reform’s impact across courts, subject matters, and time. As discussed in Section 2, the treated cases include (i) all the proceedings in the merged courts and (ii) the proceedings previously under decentralized competence in branch offices that were absorbed. Table 1 presents descriptive statistics for the dependent variables, disaggregated by court type and subject matters.¹⁶

The specification includes fixed effects – γ_m , δ_i , and τ_t – to account for unobserved and time-invariant characteristics of courts and subject matters and shocks common to all courts. Additional specifications include more granular fixed effects – ζ_{mi} , η_{mt} and θ_{it} – controlling for factors such as subject-matter-specific shocks (e.g. regulatory interventions affecting only certain cases) or court-specific shocks (e.g. shifts in the level and composition of magistrates and administrative staff).

To analyze the reform’s effects on the demand for justice, we also consider an indicator measuring, for each court and subject matter, the average distance between citizens and their assigned judicial office. This distance is calculated at the municipality level before and after the judicial map reform. Average distances are then computed at the court level using the resident population as a weighting factor.

4 Results

4.1 The effects on the demand for justice

As anticipated in Section 2, the centralization of branch offices and the merger of the courts altered residents’ access to justice in the affected municipalities.

Table 2 presents the regression results, as described in Section 3, using the (log of) number of new cases as a performance measure y_{mit} . Overall, the reform led to a statistically significant decline of 6.4 percent in the demand for justice (column 1). When distinguishing

¹⁶The analysis consolidates pre-reform data to reflect post-reform structures. For example, if Tribunal B absorbed Tribunal A, the pre-reform case count for B includes both A and B, while A is excluded from the analysis. As a result, the larger size of the treated courts (in terms of flows of proceedings) reflects the merging of branch offices and/or courts, not necessarily a larger initial size of the individual unit.

between the two forms of territorial reorganization (column 3), the merger of courts had a slightly stronger negative effect (6.4 percent) than that of branch offices (5.1 percent), presumably because the increase in the distance from judicial offices was higher. A similar pattern emerges when we consider a continuous measure of treatment intensity (column 5), i.e. the population percentage affected by merged branch offices or courts.

Columns 2, 4, and 6 include court-year fixed effects, which allow us to control for other shocks to the courts, such as unobservable variations in the level and composition of magistrates (both permanent and honorary) and administrative staff. While this specification prevents us from distinguishing between the effects of merging courts and centralizing branch offices, the results remain robust, with relatively stable and highly significant coefficients.

To estimate the role of distance more directly, we introduce a continuous treatment variable for the distance from the judicial offices, obtained by population-weighting the distance between each municipality and the relevant judicial office (Table 3). Distance varies over time (increasing post-reform) across courts and subject matters. Pre-reform, it is calculated as the average distance between the municipalities and the relevant judicial office (branch office or the first-instance court). Post-reform, it refers to the weighted average distance from (new) courts. The distance (in kilometers) is included in the specification both in linear terms (columns 1 and 2) and in quadratic terms (columns 3 and 4). The most saturated specification reveals a negative and concave relationship between the litigation demand and the distance (column 4). In particular, a 5-kilometer increase in the distance is associated with a 6 percent drop in litigation, while 10- and 20- 20-kilometers correspond to declines of 10 and 14 percent, respectively.

The results discussed so far are based on the assumption of no pre-reform divergent trends between the treated and control groups and do not capture the dynamic effects of the reform. To explore this, we extend the model (1) to estimate yearly treatment effects in the spirit of Autor (2003). For the merged courts, the estimated coefficients remain close to zero before the reform but diverge afterward (Figure 10). In the case of the branch offices, there has been, if any, a reversal of the trend. The negative effect of the reform on the new proceedings appears immediately, consistent with the immediate increase in access costs due to the increased distance.

We also examine the reform's impact across different areas of civil litigation. Figure

11 replicates the analysis of the model (1), estimating the heterogeneous effects of the reform across groups of subject matters. The matters for which the effects have been most significant, in terms of the magnitude and precision of the estimate, are *contracts*, *property rights*, and *torts*. These areas include very diverse types of litigation, with claims that may have different levels of merit. This includes proceedings – such as condominium cases in the context of property rights and small contracts and torts cases – where even a slight increase in access costs may deter the plaintiffs. By contrast, the reform had no significant effect on *family*, *insolvency*, and *employment law* cases, due to lower elasticity of demand for access costs in these matters.

In conclusion, the judicial map reform reduced access to justice, presumably due to the increased access costs associated with greater distances from judicial offices. The most affected matters suggest that the reduction in new cases involve, at least in part, matters characterized by litigation, for which, under certain conditions, the applicant may decide to forgo legal action.

4.2 The effects on the supply of justice

The reform of the judicial map was introduced to enhance court productivity through economies of scale and specialization. This section aims to assess the reform’s impact on the justice supply.

Table 4 presents the regression results using the (log of) number of resolved cases as the dependent variable. Overall, the reform had a positive and significant effect on the justice supply, increasing the capacity to settle cases by 3.8 percent (column 1). If we distinguish between the two types of territorial reorganization, the merger of courts had no significant effect. In contrast, the merger of branch offices led to an increase of 9 percent in resolved cases (column 3). Similar results are obtained when using continuous measures of treatment intensity (column 5). The estimates are qualitatively confirmed when introducing court-year fixed effects (columns 2, 4, and 6). The centralization of the branch offices, which were already part of the main court, was probably easier to implement from an organizational and logistical standpoint compared to the merger of abolished courts.

To examine the reform’s dynamic effect and rule out pre-existing divergent trends, we replicate the analysis to estimate anticipated and lagged effects. Figure 12 confirms that the centralization of branch offices drives the increase in case resolution capacity.

No statistically significant differences existed between treated and control cases before the reform, but a positive gap emerged in subsequent years.

To better understand the benefits of economies of scale and specialization, we explore the heterogeneous effects of the reform based on court size and subject matter. First, we classify the 140 courts into three categories based on the number of magistrates before and after the reform: small courts (fewer than 20 magistrates), medium (20 to 50 magistrates), and large courts (more than 50 magistrates). Before the reform, magistrates were distributed across a larger number of courts and branch offices, resulting in smaller average court sizes. Following the reform, 88 courts increased in size classification – 69 transitioned from small to medium, and 19 from medium to large –. We then analyze the differential effects of the reform depending on the size change. Table 5 shows that the reform had a positive effect on courts of both size changes (column 1), suggesting widespread benefits from economies of scale without congestion costs for larger courts. Second, we examine whether the reform’s impact differed based on pre-existing court productivity. We classify courts into two groups according to their productivity levels at the beginning of the period. Specifically, we introduce a *High productivity* indicator, which equals one if a court resolved more cases per judge than the median in 2010 and zero otherwise. We then interact this indicator with the reform variable to assess whether the effects differed based on the initial efficiency levels. The results indicate that the reform increased case resolution across all courts, but the effect was smaller for those that were already more productive at the beginning of the period (column 2). This finding suggests that less efficient courts benefited the most from economies of scale and specialization following the merger.

Finally, we analyze whether the impact of the reform was heterogeneous across different subject matters. Figure 13 shows that the reform had positive effects on most matters, particularly on *torts* and *insolvency*, while the impact was negligible for *company law*, *civil enforcement*, and other *special summary proceedings*. This observed heterogeneity is significantly correlated with the proceedings’ length (correlation coefficient: 0.7), suggesting that the reform’s effects were greater for more complex matters that usually require longer resolution times.

In conclusion, the territorial reorganization and the size increase of judicial offices have significantly improved the courts’ ability to settle cases. The observed heterogeneity across courts and subjects suggests that these improvements stem from economies of scale

and specialization.

4.3 The effects on the length of trials

The available data allow us to analyze not only inflows – which approximate the demand for justice – and outflows – which reflect a court’s output – but also trial duration, which best approximates the quality of judicial services.¹⁷

Table 6 presents regression results using the (log of) disposition time – the estimated number of days required to resolve proceedings – as the dependent variable. Overall, the reform has a negative (i.e. reducing) effect on trial duration, though the effect is not statistically significant (column 1). This aggregate result masks two opposing effects: the centralization of branch offices is associated with a reduction in disposition time, while the merger of courts appears to increase it (column 3).¹⁸ Similar findings emerge when using continuous measures of treatment intensity (column 5). When introducing court-year fixed effects, the estimated reduction in disposition time becomes statistically significant across all specifications, with an estimated decrease of approximately 5 percent (columns 2, 4, and 6).

Figure 14 replicates the estimation exercise of anticipated and lagged effects for disposition time. The results confirm that the reduction in trial duration is mainly driven by the centralization of branch offices, with no evidence of pre-existing trends before the reform.

To further investigate the mechanisms behind the observed improvement in judicial quality, we analyze the heterogeneous effects across different subject matters (Figure 15). The results align closely with the estimated effects on settled cases (Figure 13), reinforcing the hypothesis that economies of scale and specialization played a role in enhancing the efficiency of the judicial system.

¹⁷Measuring the quality of the justice service is complex due to the multiple dimensions involved and the difficulty of quantifying them. The most widely used variable in the literature is trial duration, as it is easier to measure than other dimensions and because timely decisions are a prerequisite for effective legal protection.

¹⁸This result is consistent with that of Canzian et al. (2024).

5 Conclusions

The optimal scale for delivering judicial services is essential for ensuring a fair and efficient justice system. This decision directly impacts citizens' access to justice and the courts' overall functioning. Establishing a balance between the proximity to services and operational efficiency while maintaining service quality is a complex challenge. This study offers insights from evaluating the effects of the judicial map reform implemented in Italy between 2013 and 2014.

Our findings indicate that the increased distance to judicial offices from the reform raised access costs, discouraging the initiation of new proceedings. While this effect was observed only for a subset of the population and specific subject matters, its interpretation remains ambiguous. The decline in litigation could reflect a reduction in pretextual cases, but it could also signal that higher access costs deterred meritorious cases. However, the concentration of this effect in subject matters where claimants exercise greater discretion in filing lawsuits or where alternative dispute resolution is more feasible suggests that, at least in part, the decline in demand primarily affected less critical cases.

On the supply side, the territorial reorganization of judicial offices enhanced case resolution and reduced trial length. The results are heterogeneous across subject matters and are more pronounced for the more complex cases, suggesting that the impact has been driven by larger economies of scale and specialization. The positive effects were mainly related to the centralization of branch offices, while the merger of courts did not yield efficiency gains. The latter likely faced greater organizational challenges, making the transition to the new system more difficult.

Overall, the findings of this study suggest that the benefits of the reorganization outweigh the costs, although certain conditions are necessary for its full effects to materialize. For instance, the merger of courts requires integration and interoperability of systems to prevent delays in transferring case files from the merged court to the receiving court.

Appendix

A Figures

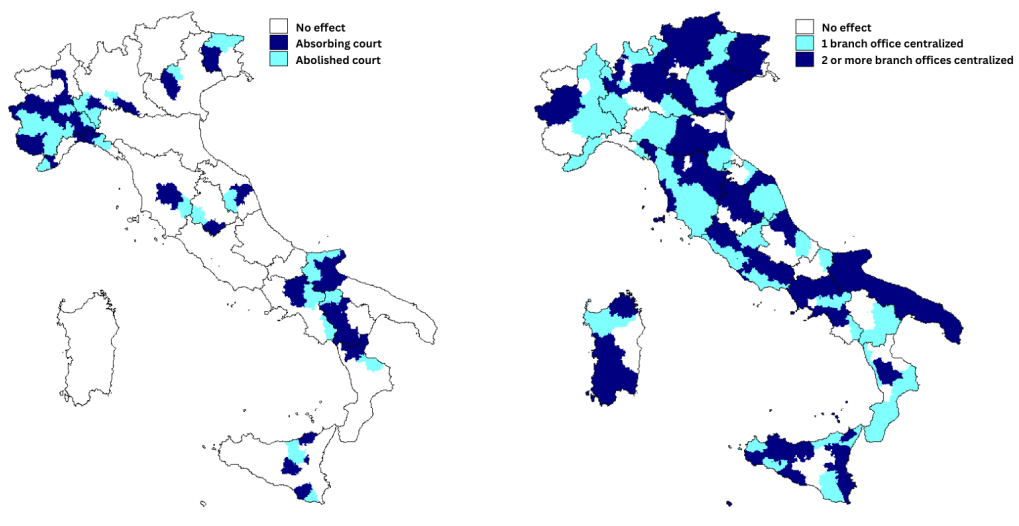


Figure 1: The reform of judicial map

Notes: In the left-hand panel, we distinguish between the courts that merged other courts (*absorbing court*), the courts that have been abolished (*abolished court*), and the courts that have remained unchanged (*no effect*). In the right-hand panel, we distinguish courts that have centralized a branch office (*1 branch office centralized*), two or more branch offices (*2 or more branch offices centralized*), and none (*no effect*).

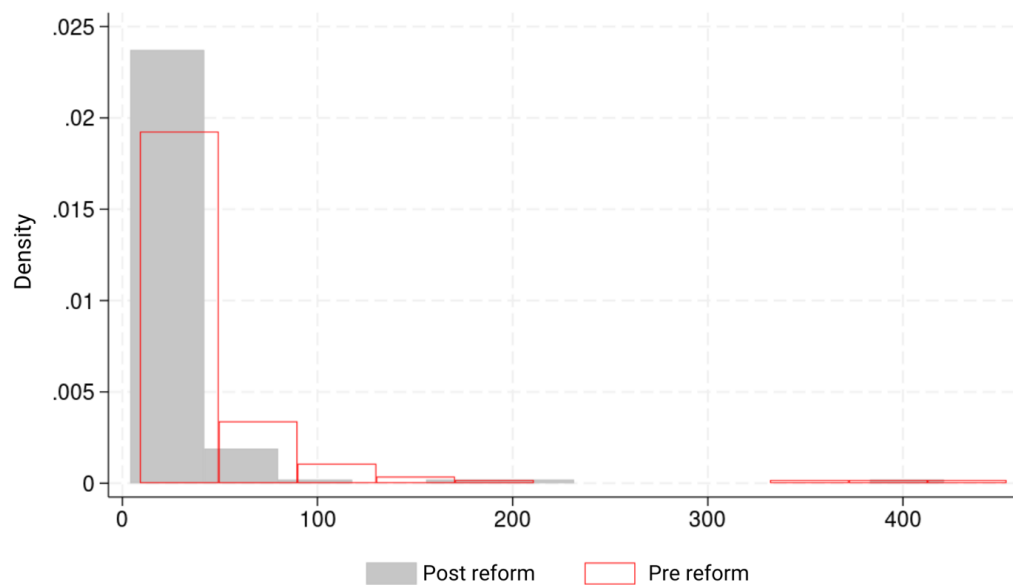


Figure 2: Number of judges per court, pre and post-reform

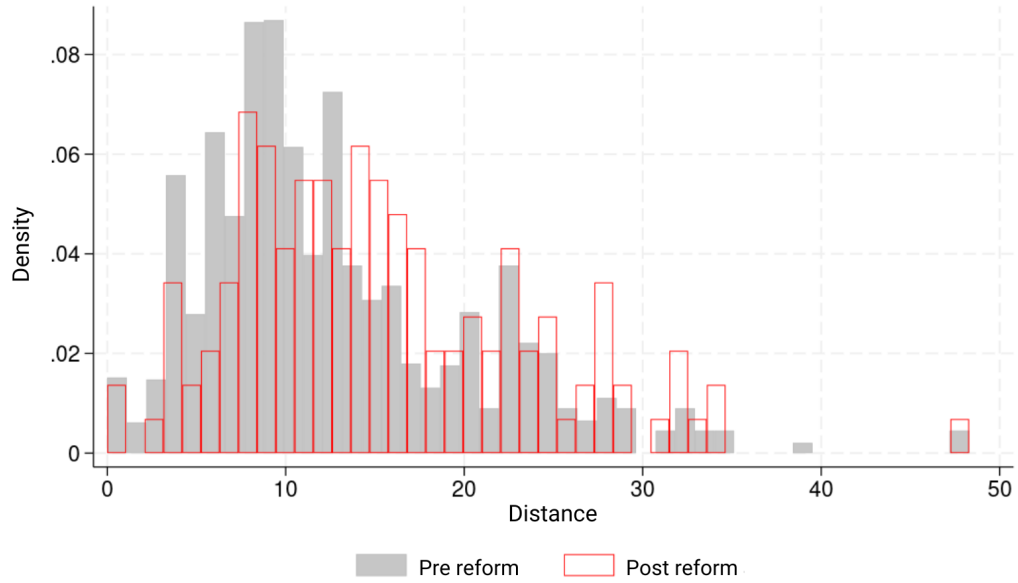


Figure 3: Average distance between municipalities and reference court, pre and post-reform

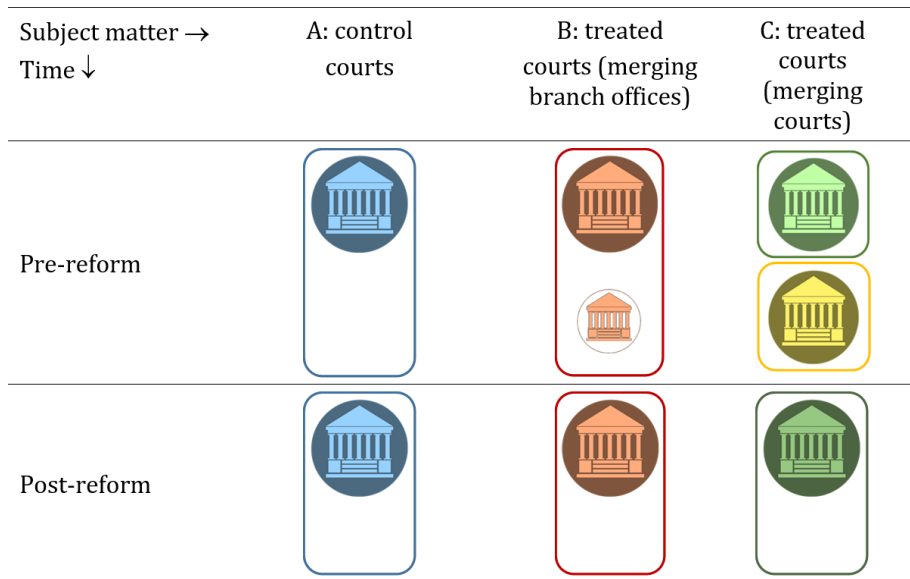


Figure 4: Treated and control courts

Notes: The figure outlines the possible scenarios for courts following the judicial map reform. Case A includes courts that remained unaffected by the reform. Case B consists of courts that absorbed former branch offices, while Case C includes courts that merged other courts.

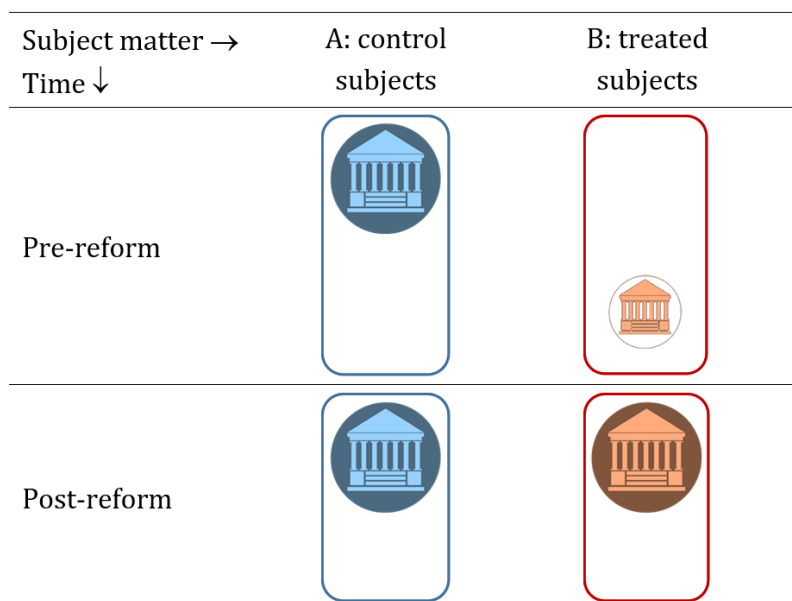


Figure 5: Treated and control subject matters

Notes: The figure outlines possible scenarios following the judicial map reform for subject matters. Case A includes subject matters that were processed by the court both before and after the reform. Case B includes subject matters that, prior to the reform, fell under the jurisdiction of branch offices and were subsequently transferred to the relevant court as a result of the reform.

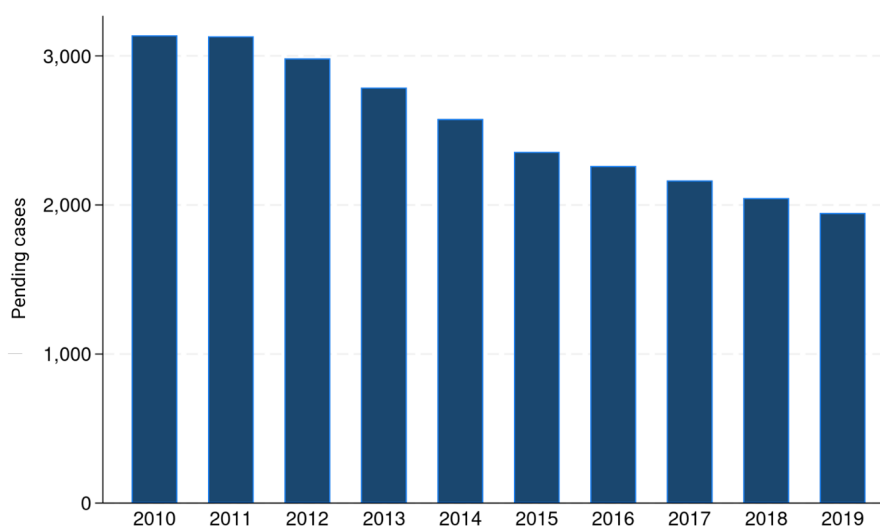


Figure 6: The number of pending civil cases in the courts of first instance

Notes: The figure shows the total number of pending civil cases in courts of first instance from 2010 to 2019 (SICID and SIECIC registers). Preliminary technical assessments (*accertamento tecnico preventivo*) are excluded. Data are measured in thousands of units. Source: calculations based on data from the Ministry of Justice.

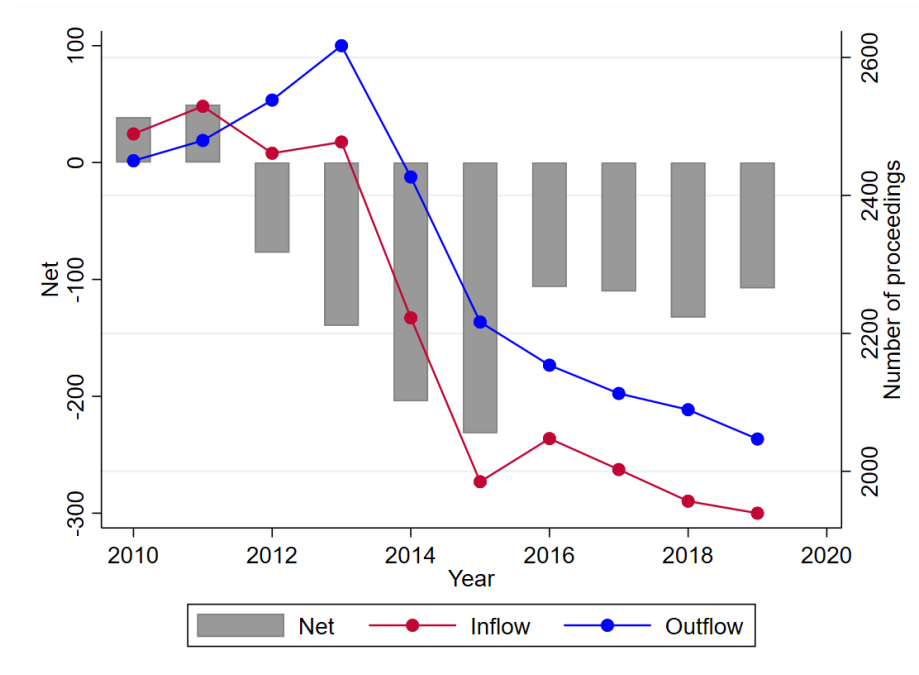


Figure 7: Flows of civil proceedings in first-instance courts

Notes: The figure shows the total civil proceedings (SICID and SIECIC registers) inflow - new proceedings - and outflow - resolved proceedings - (right axis) and the balance (left axis) in the courts from 2010 to 2019. Preliminary technical assessments (*accertamento tecnico preventivo*) are excluded. Data are measured in thousands of units. Source: calculations based on data from the Ministry of Justice.

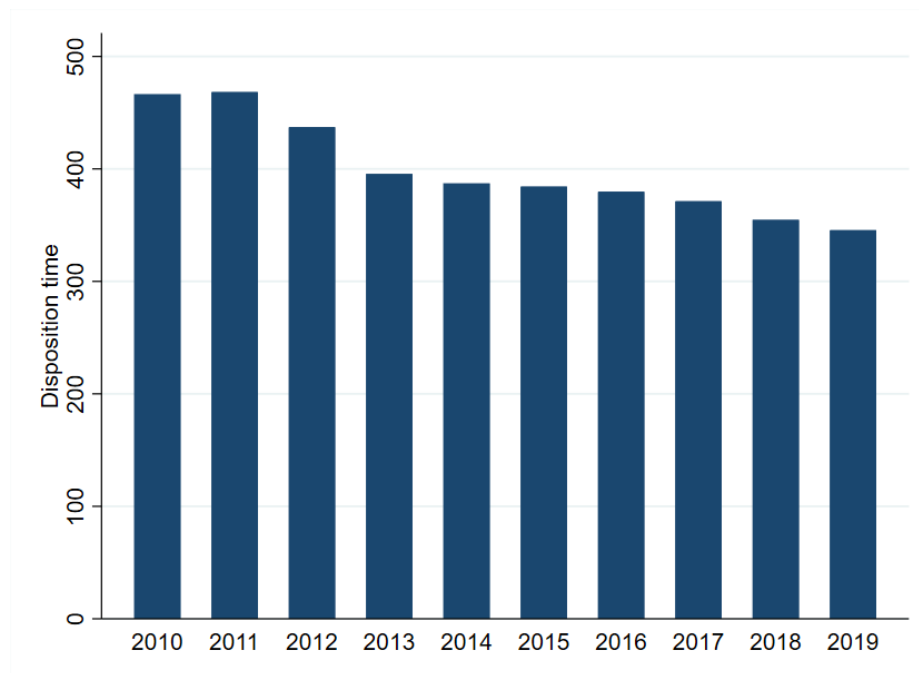


Figure 8: The disposition time of civil proceedings in the courts of first instance

Notes: The figure shows the annual average of the disposition time, weighted by the cases defined in the courts of first instance from 2010 to 2019. Total civil proceedings (SICID and SIECIC registers) are included, and preliminary technical assessments (*accertamento tecnico preventivo*) are excluded. Data are measured in days. Source: calculations based on data from the Ministry of Justice.

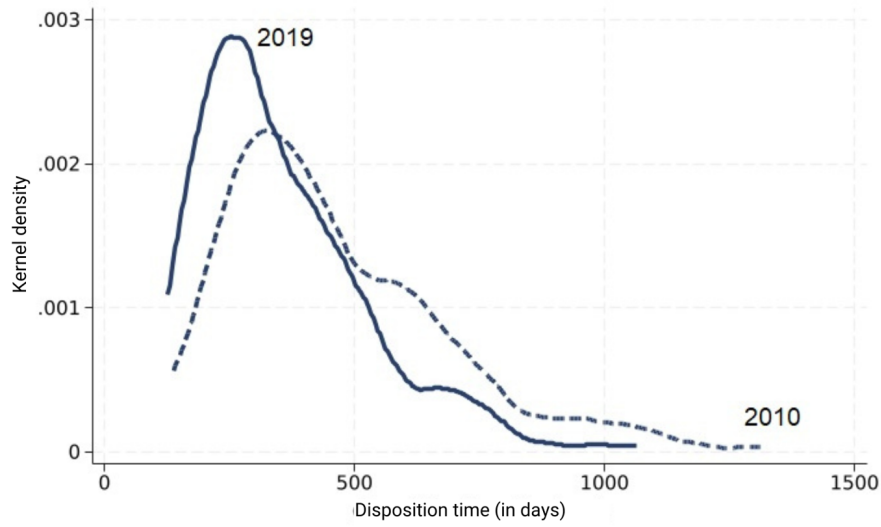


Figure 9: The distribution of the disposition time of civil proceedings in 2010 and 2019

Notes: The figure shows the distribution of the disposition time, weighted by the number of resolved cases, in the courts of first instance in 2010 and 2019. Total civil proceedings (SICID and SIECIC registers) are included, and preliminary technical assessments (*accertamento tecnico preventivo*) are excluded. Data are measured in days. Source: calculations based on data from the Ministry of Justice.

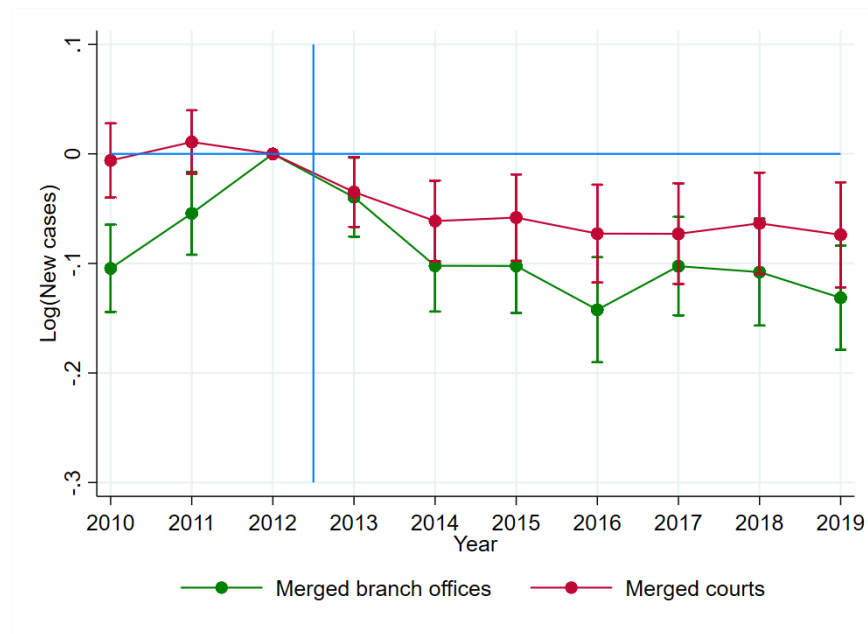


Figure 10: Dynamic effect of the reform on the demand of justice

Notes: The figure shows the estimates of the regression of the logarithm of the *New Cases* on the treatment variable *Merged Branch Offices* and *Merged Courts*, for each $t \in [-3, 6]$, where t is calculated as the distance from the year of treatment. The specification controls for court-, year-, subject matter-, subject matter-court- and subject-matter-year-fixed effects. Standard errors are clustered at the subject matter-court level.

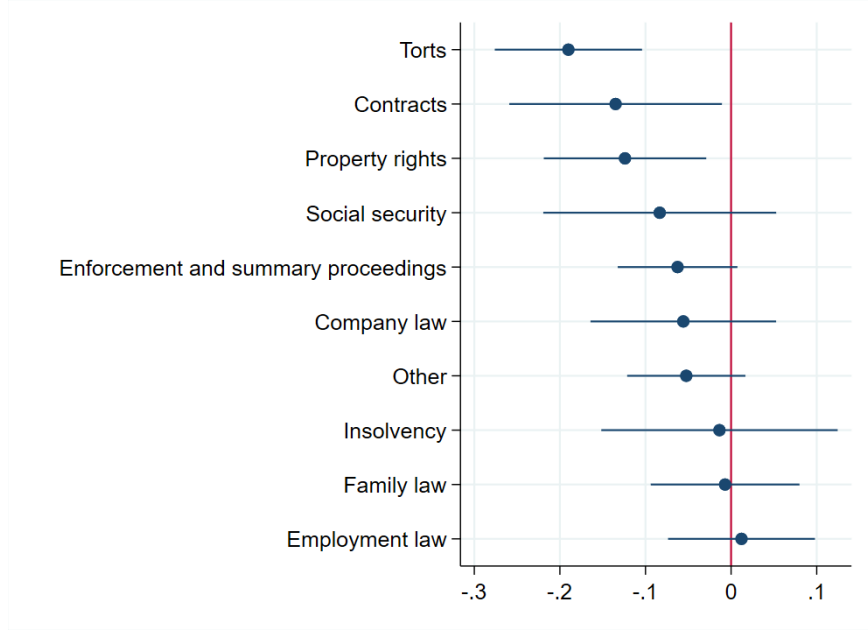


Figure 11: The effect of the reform on the demand for justice by groups of subject matters

Notes: The figure shows the estimates of the regression of the logarithm of the *New Cases* on the variable of interest *Treated subject matter in treated court*, separately for each group of subject matters. The specification controls for court-, year-, subject matter-, subject matter-court- and subject-matter-year-fixed effects. Standard errors are clustered at the subject matter-court level.

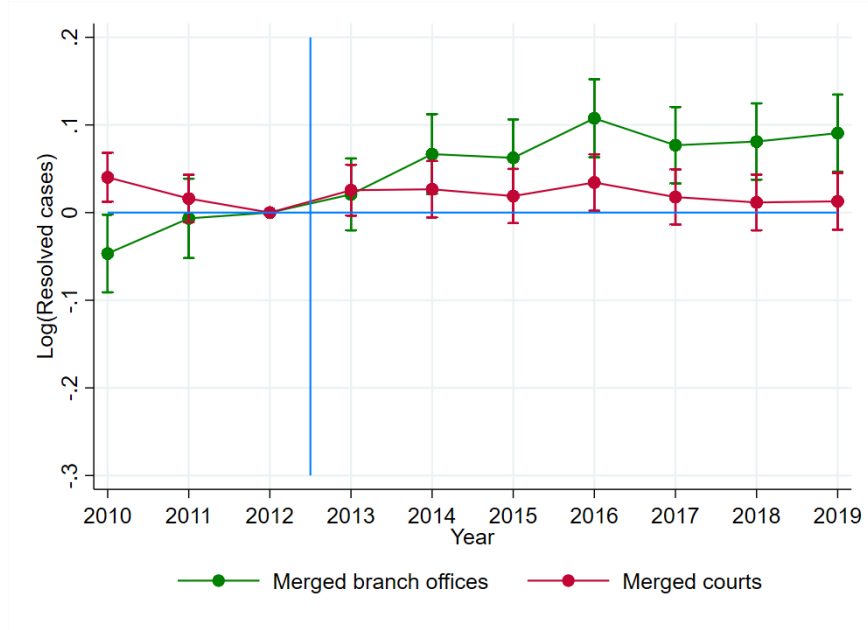


Figure 12: Dynamic effect of the reform on the supply of justice

Notes: The figure shows the estimates of the regression of the logarithm of the *Resolved cases* on the variable of interest *Merged Branch Offices* and *Merged Courts*, for each $t \in [-3, 6]$, where t is calculated as the distance from the year of treatment. The specification controls for court-, year-, subject matter-, subject matter-court- and subject-matter-year-fixed effects. Standard errors are clustered at the subject matter-court level.

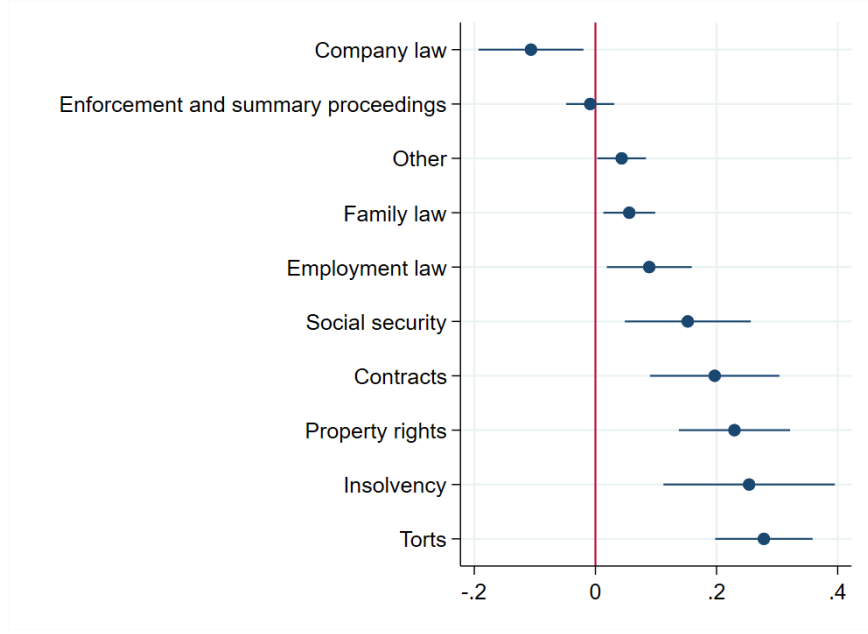


Figure 13: The effect of the reform on the demand of justice by groups of subject matters

Notes: The figure shows the estimates of the regression of the logarithm of the *Resolved Cases* on the variable of treatment *Treated subject-matter in treated court*, separately for each group of subject matters. The specification controls for court-, year-, subject matter-, subject matter-court- and subject-matter-year-fixed effects. Standard errors are clustered at the subject matter-court level.

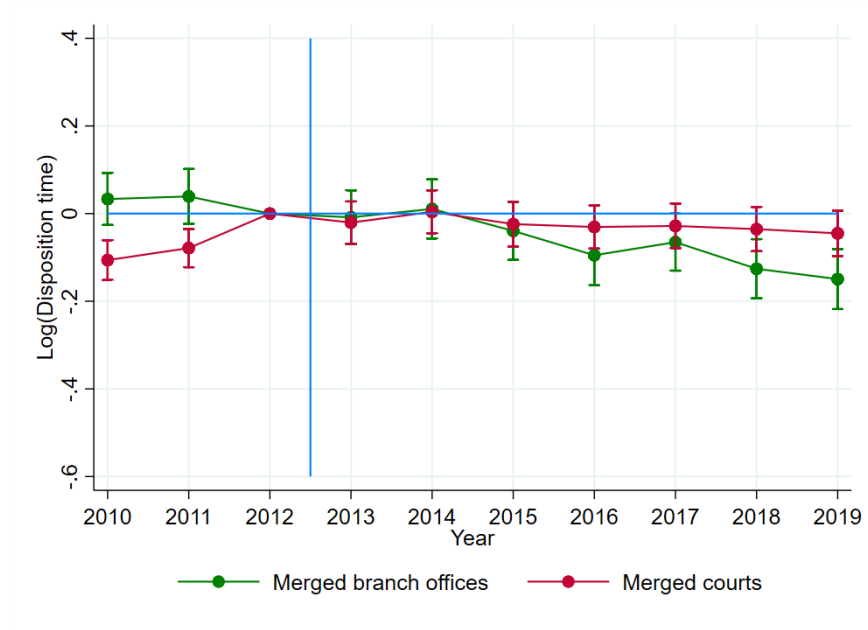


Figure 14: Dynamic effect of the reform on the length of trials

Notes: The figure shows the estimates of the regression of the logarithm of the *Disposition Time* on the variable of treatment *Merged branch offices* and *Merged courts*, for each $t \in [-3, 6]$, where t is calculated as the distance from the year of treatment. The specification controls for court-, year-, subject matter-, subject matter-court- and subject-matter-year-fixed effects. Standard errors are clustered at the subject matter-court level.

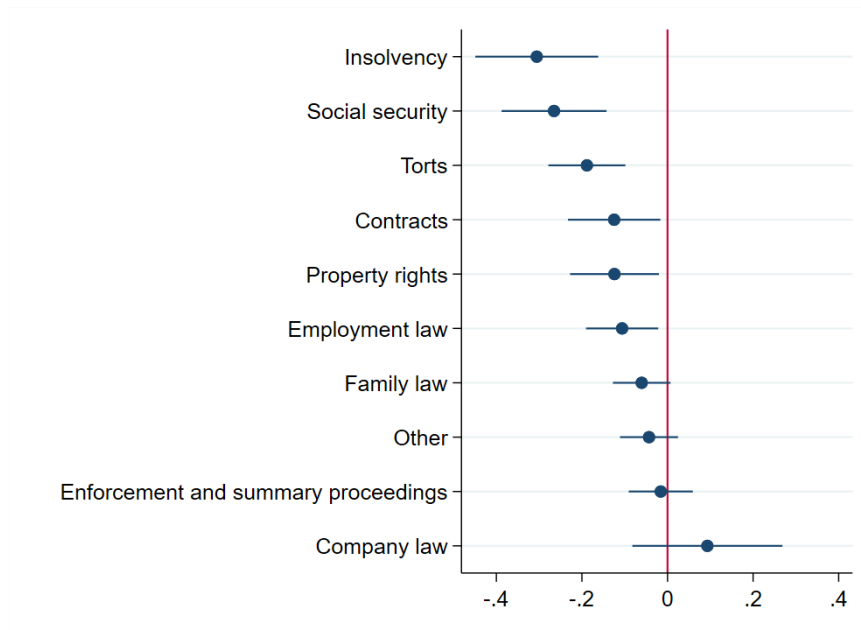


Figure 15: The effect of the reform on the length of trials by groups of subject matters

Note: The figure shows the estimates of the regression of the logarithm of the *Disposition Time* on the variable of treatment *Treated subject matter in treated court*, separately for each group of subject matters. The specification controls for court-, year-, subject matter-, subject matter-court- and subject-matter-year-fixed effects. Standard errors are clustered at the subject matter-court level.

B Tables

Variable	Treated court		Control court	
	Treated subject matter	Control subject matter	Control subject matter	Control subject matter
New cases	691 (1934)	216 (548)	506 (2890)	161 (684)
Resolved cases	682 (1932)	237 (782)	510 (2699)	171 (709)
Disposition time	775 (836)	694 (1178)	680 (698)	610 (1045)

Table 1: Descriptive statistics

Notes: The table reports the mean and the standard deviation (in brackets) measured in 2012 for the following variables: *New cases*, *Resolved cases* and *Disposition time*, separately for treated and control matters, in treated and control courts. The treated courts have been the subject of the reform and thus merged the branch offices already in their district and/or other courts (or their branch offices). The subjects being treated were those under the branch offices' responsibility.

	Ln(New cases)					
	(1)	(2)	(3)	(4)	(5)	(6)
Reform	-0.064*** (0.016)	-0.057** (0.023)				
Centralization of branch offices			-0.051*** (0.016)	-0.070*** (0.026)		
Merger of courts			-0.064*** (0.016)			
% Population from branch offices					-0.055*** (0.017)	-0.075*** (0.026)
% Population from merged courts					-0.078*** (0.021)	
Observations	70,890	70,890	70,890	70,890	70,890	70,890
Average new cases	49.90	49.90	49.90	49.90	49.90	49.90
R-square	.96	.96	.96	.96	.96	.96
FE court, subject matter, year	Yes	Yes	Yes	Yes	Yes	Yes
FE subject matter x year, court x subject matter	Yes	Yes	Yes	Yes	Yes	Yes
FE court x year	No	Yes	No	Yes	No	Yes

Table 2: Effect of the reform on the demand for justice

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ SE clustered at subject matter-court level. The variable *Reform* is a binary indicator equal to 1 if both the subject matter and the court were affected by the reform and is defined only for the years following the reform (0 otherwise). The variables *Centralization of branch offices* and *Merger of courts* are also binary indicators, equal to 1 if the subject matter was affected by the reform and the court either absorbed former branch offices or merged with other courts (or their sections), respectively. These variables are also defined only for the years following the reform (0 otherwise). Finally, the variables *% Population from branch offices* and *% Population from merged courts* capture the proportion of the population—and, by extension, the approximate workload—relative to the court's size, coming from centralized branch offices and merged courts (or their branches), respectively. These variables are likewise defined only for the years following the reform (0 otherwise).

	Ln(New cases)			
	(1)	(2)	(3)	(4)
Distance	-0.004*** (0.001)	-0.002 (0.002)	-0.008** (0.004)	-0.013*** (0.005)
Distance ² /100			0.010 (0.008)	0.031** (0.012)
Observations	70,890	70,890	70,890	70,890
Average new cases	49.90	49.90	68.72	68.72
R-square	.96	.96	.96	.96
FE court, subject matter, year	Yes	Yes	Yes	Yes
FE subject matter x year, court x subject matter	Yes	Yes	Yes	Yes
FE court x subject matter	No	Yes	No	Yes

Table 3: Effect of the reform on the demand for justice

Notes: *** p<0.01, ** p<0.05, * p<0.1 SE clustered at subject matter-court level. The variable $\ln(\text{distance})$ is a continuous variable that approximates, at the subject matter-court level, the average distance between the court and the municipalities. Pre-reform, it is calculated, at the subject matter level, as the average distance between the municipalities and the relevant judicial office (branch office or the first-instance court). Post-reform, it refers to the weighted average distance from the new court seats.

	Ln(Resolved cases)					
	(1)	(2)	(3)	(4)	(5)	(6)
Reform	0.038*** (0.009)	0.054*** (0.015)				
Centralization of branch offices			0.090*** (0.013)	0.041** (0.017)		
Merger of courts			0.002 (0.009)			
% Population from branch offices					0.092*** (0.014)	0.052*** (0.017)
% Population from merged courts					-0.006 (0.012)	
Observations	70,890	70,890	70,890	70,890	70,890	70,890
R-square	.98	.98	.98	.98	.98	.98
Average resolved cases	51.94	51.94	51.94	51.94	51.94	51.94
FE court, subject matter, year	Yes	Yes	Yes	Yes	Yes	Yes
FE subject matter x year, court x subject matter	Yes	Yes	Yes	Yes	Yes	Yes
FE court x year	No	Si	No	Si	No	Si
Control newly filed cases	Yes	Yes	Yes	Yes	Yes	Yes

Table 4: Effect of the reform on the supply of justice

Notes: *** p<0.01, ** p<0.05, * p<0.1 SE clustered at subject matter-court level. The variable *Reform* is a binary indicator equal to 1 if both the subject matter and the court were affected by the reform and is defined only for the years following the reform (0 otherwise). The variables *Centralization of branch offices* and *Merger of courts* are also binary indicators, equal to 1 if the subject matter was affected by the reform and the court either absorbed former branch offices or merged with other courts (or their sections), respectively. These variables are also defined only for the years following the reform (0 otherwise). Finally, the variables *% Population from branch offices* and *% Population from merged courts* capture the proportion of the population—and, by extension, the approximate workload—relative to the court's size, coming from centralized branch offices and merged courts (or their branches), respectively. These variables are likewise defined only for the years following the reform (0 otherwise).

	Ln(Resolved cases)	
	(1)	(2)
Reform: court from small to middle size	0.037** (0.016)	
Reform: court from middle to large size	0.064*** (0.023)	
Reform		0.086*** (0.019)
Reform $\times$ High productivity		-0.060*** (0.016)
Observations	70,890	70,890
R-square	.98	.98
Average resolved cases	51.94	51.94
FE court, subject matter, year	Yes	Yes
FE subject matter $\times$ year, court $\times$ subject matter, court $\times$ year	Yes	Yes
Control newly filed cases	Yes	Yes

Table 5: Heterogeneity of the effect of the reform on the supply of justice by type of court

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ SE clustered at subject matter-court level. The variable *Reform: court from small to middle size* is a binary indicator equal to 1 if the court was affected by the reform and its size changed from small to medium as a result. It is defined only for the years following the reform (0 otherwise). Similarly, the variable *Reform: court from middle to large size* is equal to 1 if the reform led to a change in the court's size from medium to large, and it is also valued only for the years following the reform (0 otherwise). A small court is defined as one with fewer than 20 magistrates, a medium court has between 20 and 50 magistrates, and a large court has more than 50 magistrates. The variable *Reform* is a general indicator equal to 1 if the court was affected by the reform and is valued only for the years following the reform (0 otherwise). The variable *High productivity* is equal to 1 if the number of cases settled per magistrate in 2010 was above the median.

	Ln(Disposition Time)					
	(1)	(2)	(3)	(4)	(5)	(6)
Reform	-0.012 (0.015)	-0.065*** (0.022)				
Centralization of branch offices			-0.091*** (0.020)	-0.045* (0.026)		
Merger of courts			0.036** (0.015)			
% Population from branch offices					-0.084*** (0.021)	-0.055** (0.026)
% Population from merged courts					0.064*** (0.020)	
Observations	59,387	59,387	59,387	59,387	59,387	59,387
R-square	.87	.88	.87	.88	.87	.88
Average Disposition Time	298.87	298.87	298.87	298.87	298.87	298.87
FE court, subject matter, year	Yes	Yes	Yes	Yes	Yes	Yes
FE subject matter x year, court x subject matter	Yes	Yes	Yes	Yes	Yes	Yes
FE court x year	No	Si	No	Yes	No	Yes
Control newly filed cases	Yes	Yes	Yes	Yes	Yes	Yes

Table 6: Effect of the reform on the length of trials

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ SE clustered at subject matter-court level. The variable *Reform* is a binary indicator equal to 1 if both the subject matter and the court were affected by the reform and is defined only for the years following the reform (0 otherwise). The variables *Centralization of branch offices* and *Merger of courts* are also binary indicators, equal to 1 if the subject matter was affected by the reform and the court either absorbed former branch offices or merged with other courts (or their sections), respectively. These variables are also defined only for the years following the reform (0 otherwise). Finally, the variables *% Population from branch offices* and *% Population from merged courts* capture the proportion of the population—and, by extension, the approximate workload—relative to the court's size, coming from centralized branch offices and merged courts (or their branches), respectively. These variables are likewise defined only for the years following the reform (0 otherwise).

C Model

Consider the maximization problem of the production function of a judge who is faced with the choice of allocating his working hours over new cases of different types. Specifically, there are a total of D new cases, each belonging to one of two types $i \in \{1, \dots, N\}$ with probability p_i . Without loss of generality, we assume there are two types of proceedings, i.e., $N = 2$. Given E total working hours and knowing the required hours per case type θ_i , the judge must decide how many cases x_i to handle for each type. The required hours per case type θ_i determines the case resolution complexity, and we assume, without loss of generality, that it is growing in i , i.e. $\theta_1 < \theta_2$. The number of cases processed for each type i , x_i , cannot exceed the number of new cases of that type, $p_i D$. The judge's production function is linear in the number of proceedings, assigning equal weight to each case, irrespective of its complexity.

$$\begin{aligned}
& \max_{\{x_1, x_2\}} && x_1 + x_2 \\
& \text{s.t.} && x_i \leq p_i D \quad \forall i \in \{1, 2\} \\
& && p_1 + p_2 = 1 \\
& && \theta_1 x_1 + \theta_2 x_2 \leq E
\end{aligned} \tag{2}$$

Given the strict monotone production function, at least one between the budget constraint and the demand constraint of the proceedings holds with equality:

$$\begin{aligned}
& \forall i \quad x_i = \frac{E}{\theta_i} - \frac{1}{\theta_i} \theta_{j \neq i} x_{j \neq i} \quad \text{and} \quad x_i \leq p_i D \\
& \text{or} \\
& x_i \leq \frac{E}{\theta_i} - \frac{1}{\theta_i} \theta_{j \neq i} x_{j \neq i} \quad \text{and} \quad x_i = p_i D
\end{aligned} \tag{3}$$

Since the judge assigns equal weight to each case in the maximization function, but cases differ in processing time, cases are resolved in order of complexity. With $p_1 = (1 - p)$, the optimal number of resolved cases is:

$$\begin{aligned}
x_1^* &= \min\{(1 - p)D, \frac{E}{\theta_1}\} \\
x_2^* &= \min\{pD, \frac{E}{\theta_2} - \frac{1}{\theta_2} \theta_1 x_1^*\} \\
&= \min\{pD, \frac{E}{\theta_2} - \frac{1}{\theta_2} \theta_1 \min\{(1 - p)D, \frac{E}{\theta_1}\}\}
\end{aligned} \tag{4}$$

Initially, the judge chooses to resolve x_1^* cases from the total $(1-p)D$, whose difficulty is θ_1 , (1) closing all the new cases, i.e., $(1-p)D$, if $(1-p)D \leq \frac{E}{\theta_1}$, or (2) exhausting the available hours of work, i.e. $\frac{E}{\theta_1}$, if $(1-p)D \geq \frac{E}{\theta_1}$. After fixing x_1^* , x_2^* is determined accordingly and similarly, as pD , if $pD \leq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1 x_1^*$, or $\frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1 x_1^*$ if $pD \geq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1 x_1^*$.

For a comparative statics analysis, we assume the judge's total working hours are not exhausted by type 1 proceedings, i.e. $\theta_1(1-p)D < E$. This simplifies the optimal case resolution to:

$$\begin{aligned} x_1^* &= (1-p)D \\ x_2^* &= \min\{pD, \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1(1-p)D\} \end{aligned} \quad (5)$$

By analyzing how the total resolved cases $F(x_1, x_2) = x_1^* + x_2^*$ vary with demand, we obtain:

$$\begin{aligned} \text{if } pD' &\leq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1(1-p)D', \\ \frac{\partial F(x_1, x_2)}{\partial D} &= (1-p) + p = 1 \\ \\ \text{if } pD' &\geq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1(1-p)D', \\ \frac{\partial F(x_1, x_2)}{\partial D} &= (1-p)(1 - \frac{\theta_1}{\theta_2}) < 1 \end{aligned} \quad (6)$$

Thus, when the optimal number of resolved cases does not exhaust the judge's available working hours, a decrease in demand leads to an equal decrease in supply. However, when the judge operates at full capacity, a reduction in demand results in a smaller reduction in resolved cases. Under no circumstances does a decrease in demand correspond to an increase in supply ($-1 \leq \frac{\partial F(x_1, x_2)}{\partial D} < 0$). The left panel of Figure 16, using data from the empirical analysis, shows, at the court-year level, the variation in resolved cases as a result of changes in new cases for courts, which, in line with the prediction of the model, is $0 \leq \frac{\partial F(x_1, x_2)}{\partial D} \leq 1$. Note also that when the judge is at full capacity, the greater the complexity gap between cases $\frac{\theta_1}{\theta_2}$, the greater the elasticity of resolved-to-filed cases. This result is intuitive: if the judge is working at full capacity and the number of cases submitted to the court increases, a higher percentage of 'easy' cases will be resolved, especially when 'easy' cases are very simple compared to others.

We also examine how the elasticity of resolved-to-filed cases varies with the distribu-

tion of cases.

$$\begin{aligned} \text{if } p'D' \leq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1(1-p')D', \\ \frac{\partial^2 F(x_1, x_2)}{\partial D \partial p} = 0 \end{aligned} \tag{7}$$

$$\begin{aligned} \text{if } p'D' \geq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1(1-p')D', \\ \frac{\partial^2 F(x_1, x_2)}{\partial D \partial p} = -(1 - \frac{\theta_1}{\theta_2}) < 0 \end{aligned}$$

Partial derivatives in (7) suggest that when new cases do not exhaust the available workforce, the way supply changes in response to demand does not depend on the distribution of cases. By contrast, when the judge exhausts the available workforce before resolving all new cases, an increase in demand is followed by a decrease in supply if the probability of ‘difficult’ cases increases (but always with a $|x| < 1$ multiplier).

Finally, we consider how the resolved-to-filed cases elasticity at the subject-matter level (define $pD = D_2$ and $(1-p)D = D_1$) varies with case complexity:

$$\begin{aligned} \text{if } D_2' \leq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1 D_1', \\ \frac{\partial^2 F(x_2)}{\partial D_2 \partial \theta_2} = 0 \end{aligned} \tag{8}$$

$$\begin{aligned} \text{if } D_2' \geq \frac{E}{\theta_2} - \frac{1}{\theta_2}\theta_1 D_1', \\ \frac{\partial^2 F(x_2)}{\partial D_2 \partial \theta_2} = -\frac{\theta_1}{\theta_2^2} < 0 \end{aligned}$$

Empirical data in Figure 16 (right-hand panel) illustrates the resolved-to-filed cases elasticity in response to changes in disposition time at the subject-matter level. Disposition time, defined as the average time required to settle a case, serves as a proxy for case complexity, θ_i . As expected, elasticity decreases with increasing disposition time: as the newly filed cases become more difficult, the resolution of new cases becomes slower and less proportional.

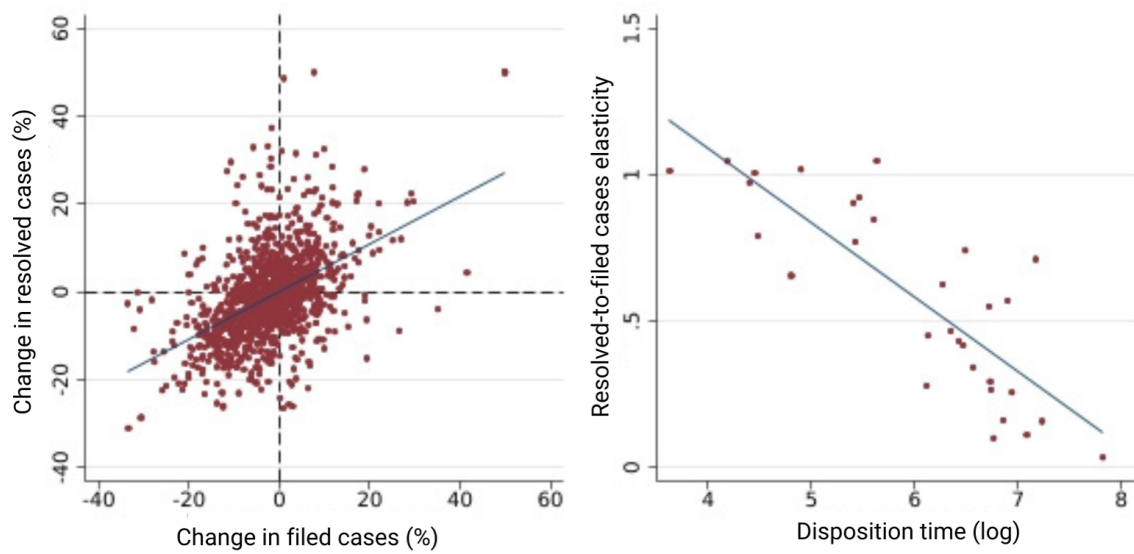


Figure 16: Elasticity of resolved-to-filed cases

Notes: The figure on the left shows the relationship between the variation in resolved and new cases at the court and year level. The figure on the right shows the estimated elasticity for each subject matter, which is linked to the disposition time.

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