



Courts, Crime and Economic Performance: Evidence from a Judicial Reform in Kenya

Matthieu Chemin^{a,*}, Paul Kimalu^b, Simon Newman-Bachand^c

^a Department of Economics, McGill University, Citeq, Canada, and Cirano, Canada

^b Director, Planning and Organizational Performance Directorate, Judiciary of Kenya

^c Kenneth C. Griffin Department of Economics, University of Chicago, United States

ABSTRACT

The rule of law affects crime, and crime is an important obstacle to business in developing countries. In this paper, we study a criminal judicial reform aimed at increasing the speed of courts. In this reform called Active Case Management (ACM), judges are instructed to take more active control of their cases by organizing pre-trial conferences and setting up deadlines with the overall objective of reducing adjournments; i.e., postponements of hearings to later dates. Importantly, the reform was implemented only in some pilot courts, selected in a plausibly exogenous way. We employ a triple difference analysis, comparing the time to disposition of criminal cases versus civil cases, in treated courts versus control courts, for cases filed before and after the reform. We find an increase in the speed of courts. The quality of legal processes improves. More cases get completed. Crime reduces in the treated areas in the long run. Firms respond by spending less on protection against crime which affects their operations.

1. Introduction

Crime is an important obstacle to business in developing countries: theft, robbery, vandalism, and arson on the firm's premises expropriate output from an entrepreneur post-production. Crime is a major obstacle to business operation in almost all sub-continent, on an equal footing with access to finance, unfair competition from the informal sector and tax administration (Ranasinghe and Restuccia, 2018). Theoretically, the potential for crime is inversely related to the rule of law and how much protection an entrepreneur is able to purchase. Despite the clarity of the argument, there is no rigorous empirical evidence showing a causal effect of the rule of law on crime and protection against expropriation by crime.

In this paper, we evaluate the effect of a judicial reform aimed at increasing the speed of courts. Courts are slow everywhere. It takes on average two years to enforce a contract across the World and the situation can be worse in developing countries (the average is 158 days longer in Sub-Saharan Africa than in Europe and Central Asia).¹ In some cases, trials stretch out over decades² or end up being dismissed because one of the parties has died.³ Legal experts have identified an explanation for these delays: an excessive number of "adjournments", i.e.,

postponements of hearings to later dates (Hammergren and Mitiku, 2010; Kondylis and Stein, 2023; WorldBank, 2011a; Flanders, 1980; Goerdts, 1991; Laws, 2016; Raine and Willson, 1993; Somerlot, Solomon and Mahoney, 1989; WorldBank, 2018b; Judiciary, 2019). While some adjournments may be legitimate, others are due to poor pre-trial planning, strategic delaying of cases (UNODC, 2017) or litigants' unpreparedness (Judiciary, 2017, 22). Their overuse is a global issue. For example, in a report about lengthy court delays the Canadian Senate made as their first recommendation the reduction of "the number of unnecessary appearances and adjournments [...] to ensure criminal proceedings are dealt with more expeditiously" (Runciman and Baker, 2016, 7). In Kenya, the Chief Justice has been on record saying that "endless adjournments of cases on frivolous grounds" are a major cause of case backlog in the country (Muriuki, 2019). When adjournments are too frequent, litigants get frustrated, files get lost, memories fade and witnesses disappear, such that both the speed and quality of legal processes may be affected (Messick, 2015, 1). Excessive delays also cause punishment to be delivered further in the future, discounting its net present value (or severity) which encourages crime in the present.

In this paper, we evaluate the effect of an intervention called "active case management" (ACM), developed by legal experts in the US

* Corresponding author.

E-mail addresses: matthieu.chemin@mcgill.ca (M. Chemin), paul.kimalu@court.go.ke (P. Kimalu), newmans@uchicago.edu (S. Newman-Bachand).

¹ According to the Doing Business Project: <https://www.doingbusiness.org/en/data/exploretopics/enforcing-contracts#>

² See India's National Justice Data Grid: <https://njdg.ecourts.gov.in/njdgnw/index.php>

³ John Kiptele Bii v Mogosiek Tea Factory Co. Ltd. [2016] eKLR

(Flanders, 1980; Goerdt, 1991; Raine and Willson, 1993; Somerlot, Solomon and Mahoney, 1989) and in developing countries (Hazra, 2006; WorldBank, 2011b; Hammergren and Mitiku, 2010), but which has never been rigorously tested before. The main idea of ACM is to hold pre-trial conferences (PTCs) to improve planning and reduce the frequency of adjournments during trial. PTCs include all relevant actors in a case: the judge, litigants, lawyers, police, and prosecutors. The goals of PTCs are to 1) clarify the contested and non-contested issues, 2) encourage alternative dispute resolution, and 3) determine a precise schedule for the trial. Once the PTC is complete, the trial begins with the judge in charge of enforcing the agreed-upon schedule, imposing sanctions or refusing adjournments if parties fail to comply. ACM essentially means that the judge must take active control of the case, hence the name “active case management”. Despite the intuitive appeal of this method, there is no rigorous evidence that ACM reduces adjournments and delays since all the studies cited above are correlational, comparing courts which chose to practice ACM to others that did not. This self-selection may bias the estimates and moreover, none of the papers show evidence that ACM translates into less crime or less obstacles for firms. Many policymakers consider ACM to have a lot of potential as demonstrated by the former head of the Judicial Training Institute, the Honourable Joel Ngugi, who said that the pilot in Kenya would be “the one initiative that could have the biggest impact upon delay in the Kenyan courts.” (UNODC, 2017, 7). Yet there has been no rigorous study to confirm this empirically.

We leverage a pilot ACM intervention in Kenya which began in January 2016 in 11 specific courts (out of 213 in Kenya) for criminal cases and combine it with a unique administrative dataset collected by the Kenyan judiciary. The data is gathered on a daily basis and provides a detailed account of all the cases going through the courts in Kenya ($N=14,965,690$ million observations in total between 2015 and 2023). This allows us to check whether the time to disposition decreases after the pilot. The large size of the dataset at the case-hearing level provides a high statistical power: there are 1,182,728 observations for the 11 treated courts in Kenya.

Importantly, the selection of these 11 courts into treatment is plausibly exogenous. Extensive interviews with court officials directly involved in the pilot confirmed that these courts were not selected based on (better or worse) performance. Instead, the reason for selection into treatment was rather accidental. Before the pilot started, a few judges were sent to the United Kingdom to participate in a training seminar on the topic of land and traffic cases - they were sent there specifically because they worked on those types of cases. At the end of that training, ACM was discussed informally (as a side topic) because the British High Commission happened to be doing research on the subject at the time. When the Kenyan judiciary later decided to start a pilot on ACM, they chose the 11 courts where these judges happened to work since they already had some exposure to the idea of ACM. Therefore, selection into treatment was not caused by these courts’ performance being abnormally high or low, and in our empirical analysis we exclude all land and traffic cases to avoid confounding the effect of ACM with the effect of this UK training. Moreover, we use the data to confirm that treated and control groups were on similar time trends before the pilot, in line with the qualitative interviews.

We find that the time to disposition decreases by 60 percent after the reform, in line with the legal experts’ view that ACM could have a big impact on court delays. We show that treated and control courts were on similar trends before the reform, but a large break occurs after the reform. The effect is only observed for criminal cases, not for civil cases, which is logical since the pilot was only for criminal cases: pre-trial conferences were already written into the Civil Procedures Act in 2012. This provides a test of the identifying assumption: if treated courts were positively selected and were on a positive trend, this should show up for civil cases (since judges work on both civil and criminal cases) but we find no effect there. We can thus use a triple difference analysis: we compare the time to disposition of criminal to civil cases, in treated

courts versus control courts, for cases filed before and after the reform. The results are statistically significant. The remaining criticism is if something else happened at exactly the same time (January 2016) in the treated courts specifically for criminal and not for civil cases. Extensive interviews with all stakeholders in the project confirm that there were no such coincidental events. One court received extra resources at that time, but these resources applied to both civil and criminal cases such that the triple difference strategy is immune to this threat. Moreover, the results are the same with or without this court.

To explain the mechanisms through which we observe such a decrease in time to disposition, we look at adjournments. We find a strong reduction of adjournments, in line with the view that better pre-planning and giving appropriate time for all parties to prepare reduces the possibilities of strategic delaying. When we explore the detailed causes of adjournments, we find less adjournments because of unprepared parties and from police and prosecutors.

A common criticism against ACM is that increased speed may come at the expense of quality, for example from “judges closing cases too quickly” (Hammergren and Mitiku, 2010, xxiv). We find no evidence for this phenomenon: we find no effect on cases being closed or on appeals, a commonly used measure of the quality of legal processes. In fact, we find more cases being completed, in line with the legal experts’ view that too many adjournments derail proceedings and discourage court users.

We further test court user satisfaction using three rounds of “Court User Satisfaction Surveys” collected by the Kenyan judiciary in 2015, 2017, and 2019. We do not find any decrease in perceptions that the judge is less neutral. In fact, court users think the judge leads proceedings better after the reform. They make fewer suggestions on how to improve the speed of courts, which we interpret as evidence of an improvement in this regard.

We then look at the impact on crime since the rule of law is hypothesized to be inversely related to crime (Ranasinghe and Restuccia, 2018). We find evidence of a reduction of property-related cases (theft, burglary, breaking and entering, trespass, and possession of stolen goods) and violent crimes (kidnapping, assault, felony, harm).

We then study the response of firms to this reduction in crime. We use two rounds of the World Bank Enterprise Surveys (2013 and 2018) and assign treatment based on whether a firm has an ACM court in its vicinity, using GPS data. We find that the treatment almost eliminates expenses for security against crime (which represents 4 percent of total sales). This 4 percentage point increase in total output is exactly in line with quantitative estimates from the theory (Ranasinghe and Restuccia, 2018). In our paper, we thus find that better functioning legal institutions is valued by firms since they need to purchase less private protection against it.

This paper makes two significant contributions. First, our paper contributes to the literature on the link between legal institutions, crime and economic development. A prominent question in this literature is determining which institutions matter, and how to reform them (if it is possible to reform them at all) (North, 1990; Acemoglu and Robinson, 2013). Despite the clear theoretical effects, a recent literature survey by (Aboal, Noya and Rius, 2014) laments the lack of rigorous empirical evidence on this subject and another literature survey calls for more within-country studies (Pande and Udry, 2006). Our paper is the first to study ACM and combine it with detailed data from within judiciaries, thereby opening the black box of judiciaries. We find that increased judicial speed has downstream effects on crime and economic development. In this sense, our paper contributes to a small and growing literature that uses credible identification strategies to establish the causal impact of judiciaries, such as the imposition of time limits in certain courts in Senegal (Kondylis and Stein, 2023); the exogenous variation in the timing of judge shortages in district courts in India (Rao, 2022); the presidential appointment of judges in Pakistan (Mehmood, 2022); the use of a “relaxed case-level First-In-First-Out” in certain courts in Italy (Bray et al., 2016); the creation of new tribunals with simplified and fast procedures in some municipalities (judicial centers)

of Brazil (Lichand and Soares, 2014); the greater extra-jurisdiction of these judicial centers to neighboring municipalities which do not have a court in Brazil (Ponticelli and Alencar, 2016); the staggered creation of new debt recovery tribunals (DRTs) due to legal battles in India (Lilienfeld-Toal et al., 2012); the use of the age of courts as an instrumental variable for the congestion of courts in India (Boehm and Oberfield, 2020). Overall, the congruence of findings in disparate settings with different interventions found in these papers builds a case for the importance of judiciaries in the process of economic development.

The second contribution of this paper is to expand the set of effective tools available to policy makers and inform future efforts at implementing reforms in judicial systems. A total of \$5.4 billion USD has been spent by more than 500 foreign aid agencies on judicial reforms since 1996 (Chemin, 2020) and practitioners involved in judicial reforms lament the lack of rigorous systematic evidence on their effects (Carothers, 2003, 5). Furthermore, these judicial reforms usually involve a package of multiple interventions such that it is difficult to tease out what works and what does not. We provide evidence in this paper for a particular type of reform (ACM) which can help governments and aid organizations achieve their goals (of reducing adjournments and delays) without incurring significant extra costs: ACM is not an expensive intervention because it mainly consists of an organizational and cultural shift which does not require additional spending on infrastructure or personnel. The greatest hurdle found in this pilot was adhesion by police and prosecutors who raised concerns about the reform. We find through the court user satisfaction surveys that police and prosecutors do not share the same appreciation of the reform, in line with qualitative evidence gathered by the United Nations Office on Drugs and Crime (one of the organizations in charge of implementing the pilot) (UNODC, 2017). In these qualitative debriefings, police and prosecutors raised a number of valid points: delays caused by other actors such as chemists or medical practitioners in their quest to gather evidence, not being sufficiently involved in the implementation of ACM, difficulties gathering evidence under strict deadlines, concerns about how PTCs could affect judges' opinion of their cases before trials begin (UNODC, 2017). We conclude that, to be successful, ACM must also involve police and prosecutors, something which was actually done during this pilot through extensive training and debriefing of all important actors, not only judges. There is no guarantee that ACM will be as effective in other countries as it was in Kenya, for example there was strong institutional leadership with a credible commitment to the goal of reducing adjournments at the time in Kenya.

The rest of the paper is organized as follows. Section 2 briefly reviews the relevant literature. Section 3 provides a conceptual framework for understanding ACM and describes the intervention in Kenya. Section 4 presents the identification strategy and the data used to implement it. Section 5 presents the empirical methodology. Section 6 presents the results. Section 7 concludes.

2. Literature Review

The judiciary is a vital institution in modern societies, protecting citizens from expropriation by crime. These issues are quite common in many emerging markets (Kaufmann, 2005) and undermine private investment (Luo, 2011; Kaymak and Bektas, 2015). However, the judiciary can only help foster economic development if it functions properly, and excessive adjournments impede this by causing delay and making it easier for dishonest actors to manipulate court proceedings. (UNODC, 2017, 1).

Various strategies have been implemented in the past to reduce delays and control adjournments. The government of Ethiopia implemented (in two courts) several concrete measures such as: banning judge-initiated adjournments, not allowing civil trials to have more than two adjournments, and imposing strict rules to dismiss cases if the plaintiff does not show up to court or proceeding without the defendant if he fails to attend trial (Hammergren and Mitiku, 2010, 78). A World

Bank report notes a slight decrease in adjournments after the policy in these two courts, yet, there is no control group and no confidence intervals such that it is impossible to ascertain the causal effect of these policies (Hammergren and Mitiku, 2010, 80).

In 2008, the Malaysian judiciary also underwent reforms to reduce backlogs and improve efficiency in the courts (WorldBank, 2011b). The strategy was centered around improving data collection to monitor outcomes and increasing pressure on judges to improve their speed. In addition, government officials sometimes made unannounced visits to courts to ensure that judges were respecting the rules (Laws, 2016, 4). A progress report which was commissioned in 2011 found that the reforms had been "particularly successful in discouraging frequent adjournments of hearings [...] creating incentives to encourage judicial staff to operate more efficiently" (Laws, 2016, 5). However, as was the case in Ethiopia, the conclusion was arrived at by comparing data before and after the reforms and no rigorous impact evaluation was conducted. Furthermore, since the reform was made up of many components (pre-trial management, inventory management, creation of new courts) (WorldBank, 2011b, 8) it would be very hard to isolate the effect of one specific intervention.

Hazra (2006) reports that Indian officials have suggested using data to identify lawyers who often use adjournments as a delay tactic or sending text message alerts to remind litigants about hearing dates (Hazra, 2006, 100). While these are creative and interesting initiatives, they were documented anecdotally in the form of "Narrative Accounts" (Hazra, 2006, 2), so no attempt was made at quantifying their impact.

In addition to these policy reports cited above, there exists an older literature from the United States and England emphasizing that pre-trial planning - establishing strict schedules and empowering judges to take more control over the progress of trials - may reduce delays. Raine and Willson (1993) compare the evolution of trial duration over time in eight magistrate courts in England to track how different scheduling and management practices affect speed of resolution. They identify judges' different practices using qualitative interviews and ultimately conclude that those who exercised more control over their cases resolved them faster (Raine and Willson, 1993, 250). Goerdt (1991) uses data from 500 civil cases in 37 (not randomly selected) magistrate courts in the United States to identify the factors which best explain the length of trials. He employs bivariate and multivariate correlation analysis (Goerdt, 1991, 305) and determines that lack of judges and effectiveness of case management systems are the two factors which best explain the pace of litigation (Goerdt, 1991, 322). In a similar vein, Somerlot, Solomon and Mahoney (1989) look at an initiative to reduce delays in the Wayne County Circuit Court through better case management, i.e., encouraging judges to schedule their trials in advance and manage timelines more actively. The authors look at trends over time and find that the program was effective, but since they only had data for one court, the paper can essentially be classified as a case study.

The issue with this literature is self-selection into treatment: the very fact that a court would decide to implement a strategy to increase speed such as ACM indicates that it differs from other courts on a fundamental level. Since changing work practices in this way means making an effort that goes above and beyond what is strictly required, the people working in these courts (judges, lawyers and prosecutors) are likely more entrepreneurial and may have a greater appreciation for the social benefits of an efficient judiciary. These characteristics may have an effect on court performance other than through ACM, in other words, these correlational studies may overestimate the impact of ACM.

A recent paper by Kondylis and Stein (2023) uses a more rigorous empirical approach to quantify the impact of a judicial reform in Senegal. The reform placed a four month limit on the duration of civil trials and empowered judges to dismiss cases they considered frivolous (Kondylis and Stein, 2023, 10). Their identification strategy is to compare newly filed cases to those that were already active before the reform (Kondylis and Stein, 2023, 16). The authors find a reduction in length of trial and no negative impact on the quality of proceedings

(Kondylis and Stein, 2023, 29). Instead of time limits, our paper evaluates the impact of another reform called “active case management” specifically aimed at reducing adjournments.

3. Reducing Adjournments and Delays in Kenya with Active Case Management

3.1. The Concept of ACM

It is the opinion of legal experts in Kenya that “The majority of adjournments are due to poor pre-trial planning” (UNODC, 2017, 1) and that “unnecessary adjournments [...] themselves exacerbate the delays presently faced by the Kenyan courts” (NCAJ, 2019a, 14). ACM is a case management strategy that aims to address these problems, reduce adjournments and ensure just and expeditious resolution of trials.⁴ Its fundamental principles are written into law in Australia, England, Wales and Scotland (NCAJ, 2019a, 97) and the idea was initially introduced to Kenya through the judiciary’s close partnership with the British High Commission (see Section 4). There are two main components to ACM: holding pre-trial conferences (PTCs) to improve planning, and training all the parties (i.e., police, prosecutors and defense counsel) involved in litigation, not just judges⁵, to create a culture of efficiency in the courts.

PTCs are scheduled at the outset of a trial and are attended by the judge, the litigants, the accused and other relevant actors. The first goal of a PTC is to agree upon the precise areas of dispute, i.e., what the contested or not contested issues are. Sometimes, one party may be unclear as to what is being contested by the opposing side and spend significant time and resources proving points that are in fact not contested.⁶ Clarifying these issues in advance thus allows greater speed (NCAJ, 2019a, 11).

The second goal of PTCs is to encourage plea bargaining or other means of alternative dispute resolution (UNODC, 2017, 3).

The third goal of PTCs is to determine a precise schedule for the trial (once all the points of contention are established and if no plea bargain is achieved). The schedule includes dates and length of trial but also lays out a detailed agenda for each hearing to make sure that all the necessary preparation is done in advance. Prior to the pilot, there was no systematic pre-trial planning which resulted in inadequate preparation by parties, non-attendance in court, late disclosure of evidence and other such problems that impeded hearings being held in a continuous manner (13). In this sense, ACM puts judges in control since they set and enforce the timeline, not other interested parties.

Other topics that can be discussed at a PTC include bail, preparation of technological requirements (such as videoconferences for witnesses abroad), and the confirmation of disclosures of witness statements. The discussion of these topics at an early stage may prevent delays down the line (NCAJ, 2019b, 76).

Once the PTC is complete, the trial begins with the judge in charge of enforcing the agreed-upon schedule (NCAJ, 2019a, 11) and the ability to impose sanctions or refuse adjournments if parties fail to comply (JTI, 2016, 6). However, while judges have the legal right to impose sanctions, they might be reticent to do so for fear of being accused of interfering with citizens’ right to a fair trial. For this reason, success of ACM in practice crucially depends on creating a doctrine of efficiency that encourages all parties to willingly participate in the process (Leveson, 2015, 9). A first condition for achieving this, is that judges must

“exercise firm control over the conduct of the trial at all stages.” (Leveson, 2015, 9). They need to be trained on facilitating communication and demonstrating fairness to all parties (NCAJ, 2019a, 11) while at the same time being strict about granting any adjournments and enforcing the timeline determined at the PTC stage (UNODC, 2017, 2). The second condition is that the other parties must buy into the culture of efficiency so that they make an effort to comply with the guidelines and also help find innovative solutions to the challenges of ACM (NCAJ, 2019a, 32). Without the cooperation of these other parties, it is deemed unlikely that ACM will have any effect at all (UNODC, 2017, 2).

3.2. The Intervention in Kenya

In January 2016, the Kenyan judiciary, the United Nations Office on Drugs and Crime (UNODC), and the British High Commission (BHC) initiated a pilot project for ACM. The pilot was launched in eleven courts⁷ out of the 213 courts in Kenya (UNODC, 2017, 1).

The key activities of this pilot were to implement a system of PTCs, establish a pre-trial questionnaire where pertinent information for trial is recorded in writing and establish a set of guidelines that were later transformed into more formal “rules” in March of 2016 (UNODC, 2017, 2). This pilot was only for criminal cases since pre-trial conferences were already written into the Civil Procedures Act in 2012.⁸

The UNODC produced a report (called the Concept Note for Rollout of ACM) in which significant concerns about the pilot were raised by two sets of actors: the police and prosecutors. Police officers raised the concern of having to wait long periods for reports from other parties, such as chemists or medical practitioners (UNODC, 2017, 2). According to the police, medical practitioners perceive their time is “wasted” in court as they often have to wait for hours to testify whereas they would rather tend to patients. Police officers also felt they had not been sufficiently involved in the PTCs or in the implementation of ACM; yet they play a crucial role in ensuring criminal cases are disposed of expeditiously (UNODC, 2017, 7). A recommendation was made to involve all these actors (chemists, examiners, police) more closely for a successful ACM intervention (UNODC, 2017, 8). These concerns emphasize the fact that ACM relies upon a global change of culture in the courts that must include all actors, not only judges.

Prosecutors raised two other important concerns. First, they complained that disclosing evidence during the PTCs would preclude them from introducing new evidence at a later date.⁹

Second, prosecutors stated that the impartiality of judges would be compromised at trial because they will base their judgements only on the evidence seen during the PTC.

These concerns raised by the police and prosecution echo the main findings of a baseline survey conducted on court users prior to the pilot: “83% of defense counsel, 75% of judges, 37.50% of police officers and 35% of prosecutors were dissatisfied with the length of time it took to dispose of criminal cases” (UNODC, 2017, 2). What these statistics indicate, is that lawyers and judges were dissatisfied with the state of affairs prior to the pilot, while the police and prosecution were much less concerned. Therefore, some groups may be much less pre-disposed to

⁴ U.K. Criminal Practice Directions, Part 3, PD. 3A.1 (2019)

⁵ Technically, judges are called judicial officers in Kenya since judges work in high courts and magistrates in magistrate courts, such that judicial officer is an umbrella term for both judges and magistrates.

⁶ A UNODC employee we interviewed was present at a hearing where multiple witnesses were brought in to attest to the legitimacy of a signature on a document. However, it turned out the opposing side had never contested the signature’s legitimacy in the first place.

⁷ Mombasa high court, Mombasa employment and labor relations court, Mombasa environment and land court, Mombasa magistrate court, Shanzu magistrate court, Tononoka magistrate court, Naivasha high court, Naivasha magistrate court, Machakos high court, Machakos environment and land court, Machakos magistrate court. These 11 courts are grouped in three “court stations”: Mombasa Law Courts, Naivasha Law Courts, and Machakos Law Courts.

⁸ Kenya. Civil Procedure Act, Ch. 21, Order 11 (2012)

⁹ This point is dismissed in the Concept Note as “a fundamental misunderstanding of both their disclosure obligations and the power to serve additional evidence right up until the conclusion of the prosecution case” (UNODC, 2017, 2). “Charging decisions should rarely be made where crucial evidence is outstanding”. In other words, evidence should be gathered before, not after, the PTC.

the idea of ACM.

Overall, this section points to significant obstacles for implementing ACM in practice: some important court actors (i.e., police and prosecution) were opposed to such an intervention. This point has important implications for policy-making: failing to identify groups that are resistant to the idea and addressing their concerns could undermine the intervention. In our empirical section, we will formally test this hypothesis by looking at these groups' overall satisfaction with court processes after the pilot.

Despite these concerns, the overall conclusion of the Concept Note is that ACM achieved many of its goals. First, the instruction to only grant adjournments in exceptional circumstances was taken "very seriously" by judges (UNODC, 2017, 1). Second, prosecutors were more diligent in presenting evidence and witnesses on schedule, which had the ripple effect of pressuring police officers to conclude investigations in a timely manner. What the latter point demonstrates is that a "doctrine of predictability" which did not previously exist, had in fact been anchored in the system (UNODC, 2017, 2).

These encouraging qualitative findings led the authors to recommend that a national rollout of the pilot be conducted, cautioning only that certain courts might need better access to basic office equipment such as photocopiers - legal documents must sometimes be submitted in hard copy so having the facilities on-site can help avoid situations where a hearing is postponed due to lack of required documentation (UNODC, 2017, 5). However, ACM was not rolled out to the rest of the country until late in 2019¹⁰ such that there is a difference between the treatment and control groups up until that date. In our empirical strategy, our main comparison will be between cases filed a year before or after January 2016.

3.3. Conceptual framework

ACM may work because it significantly increases the costs of granting or requesting adjournments. To see this, it is important to understand the nature and reasons of adjournments. Adjournments can essentially be grouped in the data into two categories: those under the control of the judge (which we call "internal") and those caused by other actors (which we call "external"). "Internal" adjournments can be granted when the judge is not present (despite a hearing date having been given to all parties) or when the judgement is not ready.¹¹

"External" adjournments are granted when the lawyer or other parties are not ready.¹²

ACM may affect the costs of both types of adjournment. Concerning "internal" adjournments, the ACM training manual explicitly emphasizes that adjournments should be avoided as much as possible. This directive makes it clear that adjourning is frowned upon by officials at the highest level which may reduce the incentive to adjourn a case because the judge is not present or not ready (an internal adjournment).

Concerning "external" adjournments, the ACM training manual also explicitly instructed judges to be strict about granting adjournments to other parties. It states that "No longer is it acceptable or considered prudent for a judge/magistrate to allow parties to dictate the pace of the case once the judicial process commences." (NCAJ, 2019a, 15). It also insists that judges must "take control of the proceedings from the start, manage the timelines and ensure that any directions issued in the management of the case are followed by both the prosecution and defence." (NCAJ, 2019a, 16). This comes together with new directives given by the Kenyan judiciary allowing judges to levy fees on parties seeking adjournments.¹³

ACM made it easier for judges to refuse external adjournments for two main reasons. First, judges could be concerned with getting accused of interfering with a citizen's right to a fair trial if they denied adjournments or interfered with other types of delay tactics. ACM addressed this problem by highlighting the importance of citizens' right to an expeditious (as well as fair) trial and empowering judges to take more control over their cases. Once again, since the intervention was implemented at the request of the Chief Justice, judges were getting institutional approval to focus on speed which could help them resist pressure from other parties. Second, the PTCs changed the dynamics of trials in a way that made it costlier for parties to request adjournments during litigation. Since PTCs establish a strict schedule outlining each party's responsibility at every hearing, it becomes obvious who is responsible for causing delays that lead to requests for adjournment. In other words, the schedule increases accountability and allows judges to threaten credible sanctions if it is violated since he or she will know exactly who is to blame. Another channel through which PTCs can work to reduce external adjournments is by facilitating communication between parties in the form of mediation, plea bargaining and discussion of the contested issues. While this does not directly increase the cost of requesting an adjournment during trial, it makes it more likely that the planned schedule will be followed since many possible points of contention will be dealt with in advance.

The relative effects on either internal or external adjournments thus provides a test to identify which mechanism ACM is working through. If internal adjournments are reduced by ACM, this indicates that internal processes involving judges and their staff required streamlining and ACM significantly increased the costs of this lack of efficiency. On the other hand, if external adjournments are reduced by ACM, this indicates that judges were subject to the pressure of other parties and ACM gave them the tools to resist such pressure. The differential effect of ACM on internal or external adjournments can thus shed light on the constraints faced by judges.

4. Empirical Strategy

4.1. The Data

The main source of data we use to evaluate the impact of ACM is the monthly court returns data set which is captured through the Daily Court Return Template (DCRT). The DCRT is stored on the judiciary's server and contains specific information about each proceeding that takes place in the courts of Kenya. Every case is identified by a unique code which allows us to track its activity and calculate the time elapsed between date of filing and date of resolution. We also know the exact charge leveled against the defendant, the precise outcome of each appearance, the name of the presiding judge(s), the number of plaintiffs/appellants, the number of defendants/accused, whether any of the

¹⁰ The UNODC decided to rollout ACM in October 2019, as a part of their new Programme for Legal Empowerment and Aid Delivery (PLEAD) in Kenya (UNODC, 2019a, 4). A recent report indicates that training for ACM took place in October of 2019 (UNODC, 2019b, 11), but our sources at the UNODC commented that the rollout had actually started approximately four months earlier.

¹¹ The full list of "internal" adjournments is: court not sitting, court on its own motion, judgment not ready, ruling not ready, matters not cause listed, no reason recorded, typed proceedings not ready, submission not ready, recusal, court on leave, court on official duty, court indisposed.

¹² The list of "external" adjournments is: advocate not ready, advocate not present, partie(s) not ready, partie(s) not present, prosecutor not ready, prosecutor not present, witness not present, witness not ready, death of a party, expert report not ready, file missing, judge on transfer, no exhibits, no proof of service, parties to negotiate, no interpreter, matters cannot be reached, expert witness absent, accused not ready, accused not present, Subject not represented, faulty charge sheet, accused not supplied with witness statements/relevant documents, police file not availed, other (specify in details of case).

¹³ "Frequent adjournment of cases: This may be as a result of unpreparedness of advocates or prosecutors leading to unnecessary delay. Judges and judicial officers will be required to be strict in considering applications for adjournments. Additional court adjournment fees ought to be levied upon parties who seek unnecessary adjournments to discourage the habit." PMMSC report p. 38

parties has legal representation¹⁴, how many accused were remanded in custody and whether a witness has testified. If an adjournment was given, we are able to see the specific reason for adjournment.

The information in the DCRT is entered into a spreadsheet on a daily basis by court clerks, and it is submitted to the statistics department at the end of each month. Upon submission, Program Officers check for missing data or other obvious irregularities and when an issue is identified, they contact the courts to rectify it. The result of this process is a data set which provides a detailed picture of what goes on in the courts. While the data collection process is structured and rigorous today, this was not always the case. Prior to 2012, data collection was very limited in scope and it was not managed in an accurate and systematic way. These practices only began to change when the judiciary implemented the Judicial Performance Improvement Project (JPIP), a wide-ranging reform which had three main goals: 1) increasing access to courts and legal information 2) improving the timeliness of judiciary services and 3) enhancing performance and quality of decision - making (WorldBank, 2018a, 10-11). Creating the DCRT was an integral part of JPIP since the Judiciary needed accurate information, both to assess the state of affairs at the time, and to monitor the progress they were making as they carried out their reform agenda. More recently, outcomes which can be measured using the DCRT - such as the case clearance rate (cases cleared over cases filed) - are being considered in internal decisions about promotions and transfers of judges. Efforts to improve the data management process continue to this day but a complete and reliable version of the DCRT has been available since October 2015.

To examine if the ACM reform had an impact on the quality of the legal system, we use data from the Court User Satisfaction Survey (CUSS) which is conducted every two years by the Planning and Organizational Performance Directorate of the Kenyan judiciary. Three rounds of the CUSS were compiled in 2015, 2017 and 2019 (with a total sample size of 15,388 observations), thus covering the periods before and after the ACM pilot. The surveys are carried out in all the courts of Kenya and respondents are approached directly in the court house. The surveys were collected by independent enumerators, not the local court staff, supervised by staff from the judiciary's headquarters to ensure respondents were unrestrained in their response.¹⁵

Respondents include "people with cases, lawyers, prosecutors, police and inmates"¹⁶

so the survey represents a variety of viewpoints. We can identify respondents based on their role in the courts (defense lawyer, prosecutor, accused, etc.) and this allows us to test whether certain groups like prosecution and police will have different reactions to ACM, as predicted by the Concept Note (UNODC, 2017). The questions asked also cover many topics ranging from the quality and fairness of judicial proceedings to the work environment within the judiciary and the quality of court infrastructure.

To measure the impact of the judicial reform on firm behavior, we use the World Bank Enterprise Survey which interviews top managers and business owners about topics such as firm characteristics, access to finance, annual sales, costs of inputs/labor, crime and performance measures. The survey covered the entire country and the sample was selected using stratified random sampling with stratification being done at the industry, establishment size, and region levels. We look at two rounds of the survey conducted in 2013 and 2018 where a total 1,782 firms were interviewed. Since ACM was implemented in 2016, the two rounds of data collection are well-suited for our difference-in-differences approach. We use GPS data to measure the distance from ACM courts

and define the treatment and control groups.

4.2. Identification Strategy

To identify the impact of ACM on adjournments, we use the eleven courts which were targeted by the pilot as the treatment group; all other courts are in the control group. We employ a triple difference analysis, comparing the time to disposition of criminal versus civil cases, in treated courts versus control courts, for cases filed before and after January 2016.

This analysis crucially relies on the parallel trends assumption, i.e., that absent the intervention, the time to disposition of criminal cases would have evolved in the same way in both the treated (pilot) and control courts. The assumption could be violated however, if selection of courts and their criminal cases into the treatment group was done in an endogenous way. If those in charge of implementing the pilot chose to involve only the most efficient courts on an upward performance trend - because they felt pressure to show results for example - this would cause positive bias of the regression coefficients and it would be impossible to know if improvements in performance should be attributed to the intervention itself, or whether these "best" courts would have outpaced the others regardless of being trained on ACM.¹⁷

Conversely, if the judiciary had selected the least productive courts on a downward performance trend - perhaps because they wanted to provide help where it was most needed - this would cause us to underestimate the true impact of the pilot.

Information about selection is not available in the official documentation but we were able to conduct interviews with employees of the Chief Registrar's Office (CRJ), the UNODC, the British High Commission (BHC), the World Bank, the National Council on the Administration of Justice (NCAJ) and the Judiciary Training Institute (JTI); all of whom were involved in some capacity with the ACM pilot.

Through the interview process, we were able to confirm the reason why these 11 courts were chosen for the ACM treatment. Before the inception of the pilot in 2016, the BHC and UNODC collaborated with the Kenyan judiciary to offer a training in the United Kingdom on two topics: land reform and traffic cases, which are civil cases in nature. The Chief Justice of Kenya chose to send a group of judges from these 11 courts to the training, not based on anything related to skill or performance, but because they handled cases connected to those two topics. The UK training was not designed to address ACM specifically and the subject was merely discussed in an informal way with the judges who were present because the BHC happened to be doing research on the topic at the time.

After this training was completed, the BHC presented ACM as a possible solution to excessive delays in Kenya and the judiciary simply chose to start the pilot in what turned out to be 11 courts where these judges - who now had exposure to the idea of ACM - worked out of.

Therefore, selection into the treatment group was rather coincidental, not caused by the time to disposition of criminal cases being abnormally high or low. The eleven courts were chosen because some of the judges there were working on land reform and traffic cases, two topics which were discussed in this training in the UK. In our empirical analysis, we exclude all cases related to land or traffic so our estimates are free from any influence of the training on those types of cases.

There were no other coincidental changes in January 2016 for criminal cases. The start of ACM for criminal cases in January 2016 was for example much cleaner than the start of ACM for civil cases in 2010. In 2010, ACM for civil cases came with a massive overhaul of the code of

¹⁴ This is a yes or no question and if the answer is yes, it is not specified which party has representation.

¹⁵ <https://www.judiciary.go.ke/download/judiciary-court-user-satisfaction-survey-report/>

¹⁶ <https://www.judiciary.go.ke/two-thirds-of-court-users-are-satisfied-with-court-services>

¹⁷ Alternatively, it could be the case that efficient courts would not benefit too much from treatment, in which case the bias in a difference-in-differences design might go in the opposite direction.

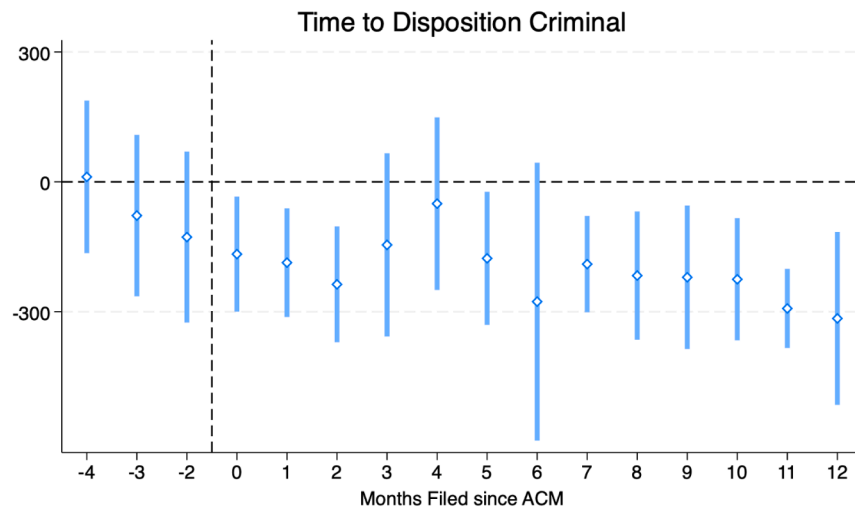


Figure 1. Time to Disposition. *Note:* The outcome is time to disposition for criminal cases. Each point is the treatment effect for a case filed a certain number of months after the start of ACM (in January 2016). Point 0 is the treatment effect for cases filed in January 2016. It measures the difference in time to resolution between the treatment group and control group. Point -1 (December 2015) is the omitted category. The point -2 is the treatment effect for cases filed two months before the start, i.e., in November 2015.

civil procedure, with provisions for mediation, arbitration and time limits.¹⁸

Moreover, it came at the same time as a new progressive constitution in Kenya which, among other things, proclaimed the independence of the judiciary and the need for expeditious justice with the recommendation to settle out of court through mediation and arbitration. The pre-trial conferences for civil cases thus came accompanied with many other changes in 2010. In contrast, the pre-trial conferences for criminal cases in 2016 came with no other changes. There was no change in the criminal code of procedure or in the constitution at that time. The guidelines for active case management were published on their own, and came with no other changes as highlighted in that document. We thus argue that the 2016 change for criminal changes is much cleaner than the 2010 change for civil cases. In this paper, we restrict our analysis to this case.

The remaining threat to identification comes from the possibility that the 11 courts in the treatment group received other major reforms or investments on criminal matters after 2016 that would put them on a different time trend. Conversely, courts in the control group might have experienced detrimental events for criminal cases like severe budget cuts. Both these propositions were refuted by the UNODC and NCAJ staff who are the best source of information for this type of inquiry: they are directly involved in the implementation of reforms, trainings and monitoring performance of the courts. One exception however, is Shanzu Law courts, a magistrate court in Mombasa county. The UNODC cautioned that Shanzu had received a disproportionate amount of funding for reforms such as infrastructure and investments in IT equipment. The court also has an in-house consultant from the BHC who is charged with overseeing operations, so Shanzu may be an outlier at the magistrate court level. These extra resources applied to both criminal and civil cases, such that this does not represent a threat to the identification strategy of the triple difference analysis. Still, we present results with or without Shanzu in Appendix D, results stay the same.

The argument outlined above makes a strong case that selection into treatment was rather accidental. In addition to these qualitative interviews, we verify in the empirical analysis below that the treatment

and control courts were on common time trends before the intervention.

5. Methodology

The main empirical question is: does ACM successfully reduce the time to disposition. To test this proposition, we estimate the following specification:

$$TimeDisposition_{ict} = \alpha_c + \gamma_t + \sum_{j=-m}^q \beta_j ACM_{ct+j} + \epsilon_{ict}$$

$TimeDisposition_{ict}$ is the time to disposition of case i in court c at time t (month-year). α_c are court fixed effects and γ_t are time fixed effects. ACM_{ct+j} is equal to 1 for a case filed in the pilot courts j months after the start of the program (which was in January 2016). The model has q lags (after the program) and m leads (before the program) to test for parallel pre-trends. The intuition is that cases filed before or after January 2016 are similar, yet only cases filed after January 2016 are exposed to the ACM with PTCs. To the extent that some cases filed immediately before January 2016 also received a PTC, these estimates are a lower bound of the true estimates.

ϵ_{ict} is a stochastic error term. Standard errors are robust, clustered at the level of courts.

The dataset is very large: $N=14,965,690$ observations (at the hearing level) in total from September 2015 to March 2023. Despite this large sample, one may argue that it ultimately comes from 11 treated courts. To address the issue of small sample size, we use the Wild Cluster Bootstrap methodology described in Cameron, Gelbach and Miller (2008). Using Monte Carlo simulations with 6 clusters and different error structures and cluster sizes, they show that cluster-robust standard errors reject the null at a rate of 8.2 percent to 18.3 percent. The intuition of the Wild Cluster Bootstrap methodology is to resample residuals at the level of a cluster, thereby preserving the clustering of the data. With 6 clusters, they show that this technique rejects the null at a rate of 1.9 percent to 5.3 percent, not significantly different from 5 percent. In our analysis, we use the 6-point weight distribution proposed by Webb (2014).

¹⁸ (see <http://kenyalaw.org/kl/index.php?id=1933> For a summary of the changes)

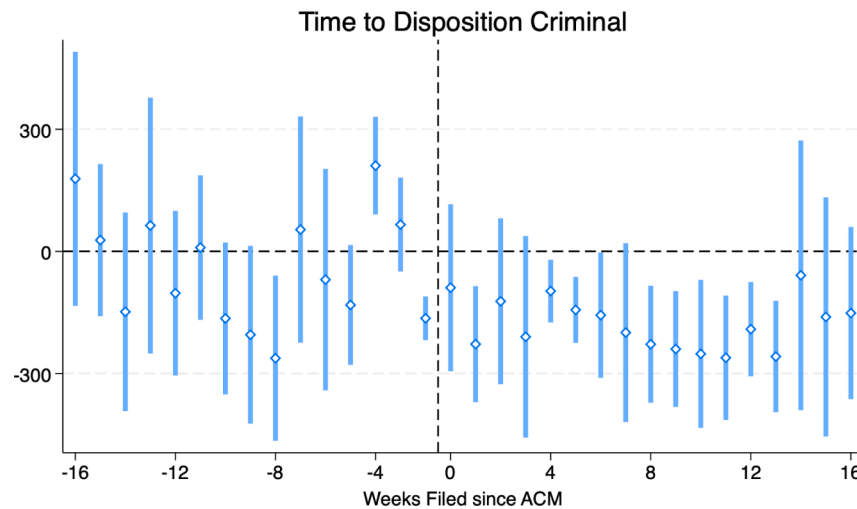


Figure 2. Time to Disposition. *Note:* This figure is the same as Figure 1, but zoomed in around January 2016. Each point is now at the weekly level. Point 0 is the treatment effect for cases filed in the first week of January 2016. Point -1 is the omitted category. Point -2 is the treatment effect for cases filed two weeks before the start.

6. Results

6.1. Effects on Time to Disposition

Figure 1 shows the result. Each point is the treatment effect for a case filed a certain number of months after the start of ACM (in January 2016). Point 0 is the treatment effect for cases filed in January 2016. It measures the difference in time to resolution between the treatment group and control group. Most cases are resolved by the end of our data (2023, 7 years after the start of the program), such that we observe the time to resolution for cases filed in January 2016.

Notice the omission of month=-1 (December 2015), the omitted category. The point -2 is the treatment effect for cases filed two months before the start, i.e., in November 2015. We show 4 pre-trends since the data starts four months before the program (in September 2015), thus we are only able to observe the time to disposition of cases filed after September 2015.¹⁹

Figure 1 shows that the treatment effects before the start of the program are not significant. This confirms that the treatment and control groups were on similar trends before the program.

The three pre-trends may let on the idea of a downward trend before the program. This is not the case if we zoom in on the weeks before and after January 2016, as shown in Figure 2. Each point on this graph is now at the weekly level. It is true that the pre-trend immediately before the start is negative and significant, yet the pre-trend 4 weeks before the start is of the opposite sign, i.e., positive. None of the other pre-trends are significant. Stepping back from the picture, one sees no obvious downward trend. This confirms that the treatment and control groups were on the same trend before the program.

Turning to the treatment effect after the program, Figures 1 and 2 show a clear decrease in the time to disposition. At the monthly level in Figure 1, most months are significantly negative. At the weekly level in 2, most coefficients are also significantly negative. This clearly shows that cases filed after ACM have a lower time of resolution than in the control group. Cases filed a few weeks before and after January 2016 are

Table 1

Effect on Time to Disposition of Criminal Cases

	(1) Time to Disposition Criminal
ACM * Month -4	11.5 (89.4)
ACM * Month -3	-78.1 (94.9)
ACM * Month -2	-127.0 (100.4)
ACM * Months 0-12	-213.4*** (74.1)
Wild-Cluster Bootstrap (p-val)	(0.045)**
Control Group Mean	358.8
SD	502.8
Observations	1159224

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is time to disposition of criminal cases. The variable “ACM * Month -4” takes on a value of 1 if the case is filed in the ACM courts 4 months before the start of the program. “ACM * Month -3” and “ACM * Month -2” are defined similarly. Notice the omission of “ACM * Month -1”, the omitted category. The variable “ACM * Months 0-12” takes on a value of 1 if the case is filed in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. Out of completeness, the regression also contains a dummy for ACM * filed before the 4th month before the program, and ACM * filed after 12 months after the start of the program, such that the entire sample of cases is included. All regressions include court fixed effects and month-year fixed effects. The Wild Cluster Bootstrap shows the p-value associated.

not fundamentally different, yet the time of disposition of cases filed in the weeks after January 2016 is lower. Table 10 in Appendix A shows the coefficients for each and every month.

Table 1 below summarizes the results in one single coefficient, by aggregate the first twelve months after the reform into one coefficient. The pre-trends, i.e., the interaction of ACM and the months before the program, are not significant. The coefficient becomes negative and significant after the program: there is a reduction of 213 days for cases filed in the treatment group in the first year after the program, i.e., in 2016. This is a large decrease, compared to average time to disposition of 359 days. It represents a 60 percent decrease, in line with statements from legal experts who said that the pilot in Kenya would be “the one initiative that could have the biggest impact upon delay in the Kenyan

¹⁹ We can observe the time to disposition of cases filed before that and resolved after the start of the dataset in September 2015, but we cannot observe the time to disposition of cases filed before September 2015 and resolved before September 2015. Thus, the data is incomplete for such cases.

Table 2
Robustness checks with controls

	(1)	(2)	(3)	(4)	(5)	(6)
	No Controls	Case Type	Legal Rep.	Controls for: Witness plaintiff	Witness defendant	All Controls
ACM * Month -4	11.5 (89.4)	-33.4 (68.5)	4.96 (85.1)	11.6 (89.3)	10.2 (89.0)	-35.4 (70.4)
ACM * Month -3	-78.1 (94.9)	-64.9 (60.7)	-87.1 (91.3)	-78.2 (94.8)	-78.9 (94.8)	-73.5 (61.1)
ACM * Month -2	-127.0 (100.4)	-105.1 (79.1)	-114.1 (101.9)	-127.1 (100.3)	-127.2 (100.3)	-100.7 (82.4)
ACM * Months 0-12	-213.4*** (74.1)	-180.4*** (50.9)	-192.0*** (61.8)	-213.5*** (74.1)	-213.7*** (74.0)	-172.2*** (47.4)
Control Group Mean	358.8	358.8	358.8	358.8	358.8	358.8
SD	502.8	502.8	502.8	502.8	502.8	502.8
Observations	1159224	1034552	1159224	1159224	1159224	1034552

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In all columns, the dependent variable is time to disposition of criminal cases. The variable “ACM * Months 0-12” takes on a value of 1 if the case is filed in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. The regression also includes all other lags and leads. All regressions include court fixed effects and month-year fixed effects. Column (1) includes no controls as in our preferred specification. Column (2) adds 218 dummies for the case type (such as property, violent, drugs, sexual, disturbance, fraud). The sample size is slightly smaller since there are a few case types missing. Column (3) includes the presence of legal representation. Column (4) includes the number of witnesses for the plaintiff. Column (5) includes the number of witnesses for the defendant. Column (6) adds all controls together (dummies for case type, legal representation, number of witnesses for plaintiff, number of witnesses for defendant).

courts.” (the Honourable Joel Ngugi, former head of the Judicial Training Institute, [UNODC \(2017, 7\)](#)).

The result is very significant, and extremely robust to various robustness checks. First, it is robust to the standard error corrections of the Wild cluster bootstrap. The sample is very large, with 1,115,224 cases with information on their time to disposition, yet the results ultimately from 11 treated courts and 202 control courts. When we use the Wild correction, the results are still significant as shown in the table.

Second, it is robust to the inclusion of various control variables, as shown in [Table 2](#) below. Column (1) includes no controls, while Column (2) controls for the case type (a set of 218 dummies for whether the case is property-related, violent, drugs, sexual, disturbance, fraud). The result remains significant, indicating that the increase in speed is not driven by a change in case types. Other columns control for the complexity of the case, with the presence of legal representation in Column (3), the number of witnesses for the plaintiff in Column (4) and the number of witnesses for the defendant in Column (5). The result remains significant, indicating that the increase in speed is not driven by a change in the complexity of cases. The result also remains significant when we control for all these variables at once, in Column (6). In [Appendix B](#), we also find that the result remains significant with judge fixed effects (even though the judge identifier is missing for many observations).

Third, this result is unlikely to come from spillovers between courts. A criticism could be that disgruntled lawyers and prosecutors file cases away from the treated courts to avoid pre-trial conferences and ACM, such that they can engage in strategic delaying with adjournments. The load of treated courts, and therefore time to disposition, would decrease. According to this argument, the time to disposition of control courts should increase. In [Appendix C](#), we develop a test of spillovers by looking at the evolution of cases filed in the control group of courts after the treatment (using the GPS data of courts to calculate the distance to the treated courts). We find no evidence that the time to disposition of control courts situated closer to the treated courts vary in any way after the treatment. In any case, there are strict rules on where to file a case in Kenya such that people cannot choose the court in which they file a case.²⁰

Fourth, the results stay the same when we exclude Shanzu magistrate

court, which was singled out by the UNODC as a potential outlier because it receives more funding than other courts.

In [Appendix E](#), we explore the heterogeneous effects of ACM. We find that ACM has a greater effect on more complex cases, as expected since more complex cases benefit more from pre-planning. Moreover, we find non-linear with respect to case backlog; i.e., ACM works best where the backlog is not too high (such that judges are completely overburdened) but also not too little (such that judges are already operating at ideal conditions).

The effect is sustained in the long-run: [Figure 3](#) shows the effect after 2 years: cases filed in 2016 and 2017 have significantly lower time to disposition. In our main specification, we prefer to focus on cases filed immediately before and after January 2016 since it is less likely that other programs may contaminate the effect at the time discontinuity.

Importantly, [Figure 4](#) below shows no decrease in the time to disposition for civil cases, which is logical since the reform only concerned criminal cases. In [Appendix F](#), we disaggregate at the level of weeks and find no obvious pre-trends before the program. We also show that no effect in the long-run.

The lack of effect on civil cases provides a confirmation that the treatment group was not on a different trend than the control group. Suppose the treatment group is improving on all levels for other reasons than ACM, with better judges, more resources, better infrastructure provided at the same time as ACM (there is no evidence for this, yet we suppose this happened for the sake of the argument). This coincidental improvement should affect civil cases (since judges work on both civil and criminal cases). Yet, we find no evidence of this: the treatment and control groups are on similar trends for civil cases. It is thus reasonable to assume that absent the treatment, the treatment and control groups would have been on similar trends for criminal cases also.

In [Table 3](#), we perform a triple difference analysis, comparing the evolution of the treatment and control groups for criminal cases, relative to civil cases. Column (1) shows the 213 days reduction for criminal cases filed in 2016 in the pilot courts. Column (2) shows no such effect for civil cases: if anything, time to disposition increases by 43 days. Thus, compared to civil cases, criminal cases are now resolved 256 days faster. The triple difference coefficient is larger than the double difference, since we find that civil cases take a little longer to be resolved.

This analysis provides another check of the identification strategy. While we can look at pre-trends to establish parallel trends, the downside of this approach is to consider a period outside of the timeframe of the reform, which could be subject to other macroeconomic shocks. The

²⁰ Explained in sections 11 to 18 of the Civil Procedure Act. For example, a case related to property must be filed where the property is situated. Other suits must be instituted where defendant resides or cause of action arises.

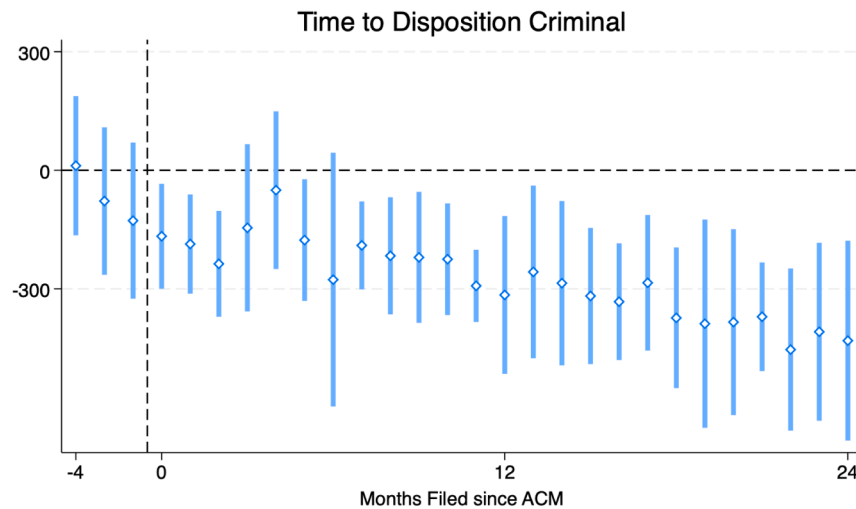


Figure 3. Time to Disposition. *Note:* This figure is the same as Figure 1, but zoomed out, with a longer time horizon of 2 years. Each point is at the monthly level.

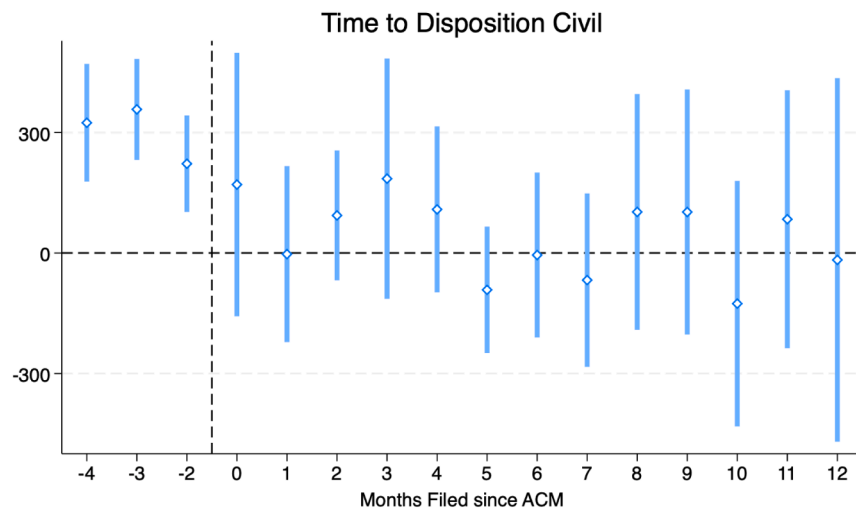


Figure 4. Time to Disposition. *Note:* This figure is the same as Figure 1, but for civil cases. Each point is the treatment effect for a case filed a certain number of months after the start of ACM (in January 2016). Point 0 is the treatment effect for cases filed in January 2016. Point -1 is the omitted category.

Table 3
Effects on Time to Disposition

	(1) Criminal	(2) Civil	(3) Triple Diff
ACM * Months 0-12	-213.4*** (74.1)	42.8 (96.4)	42.8 (96.4)
ACM * Months 0-12 * Criminal			-256.3** (111.5)
Control Group Mean	358.8	950.8	596.0
SD	502.8	662.5	643.0
Observations	1159224	480122	1639346

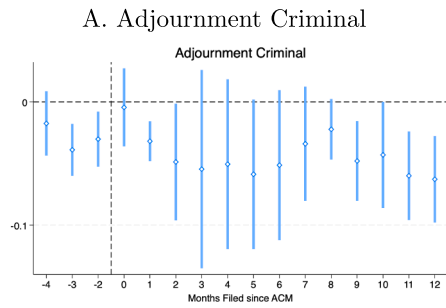
Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is time to disposition of criminal cases. The variable “ACM * Months 0-12” takes on a value of 1 if the case is filed in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. Out of completeness, the regression also contains all other leads and lags. All regressions include court fixed effects and month-year fixed effects.

advantage of the triple differences is to provide a test during the same period of analysis of the treatment, i.e., cases filed after January 2016, by looking at civil cases during this period. We find no trend for civil cases, a confirmation that treated and control courts are on the same trend absent the program.

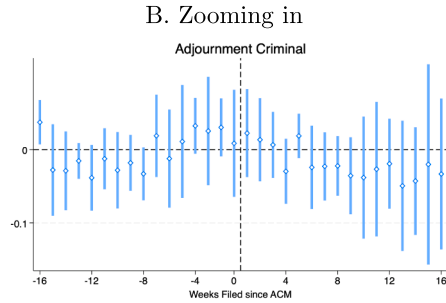
6.2. Mechanisms: Effects on Adjournments

We test the mechanisms through which we observe a decrease in time to disposition, by looking at adjournments. Recall that the main point of PTCs is to avoid unnecessary adjournments down the line, by providing ample time for parties to prepare.

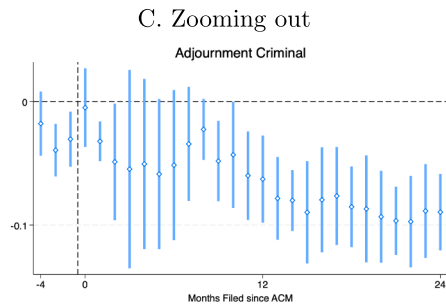
Figure 5 below shows the result for adjournment instead of time to disposition as the outcome. Panel A shows the graph where each point is the treatment effect for cases filed a certain number of months after ACM. The pre-trends are slightly significant, yet there are no obvious pre-trends when we disaggregate the results at the week level, as seen in Panel B. The effect grows stronger over time, as shown in Panel C. Strikingly, there is no similar effect on civil cases as shown in Panel D.



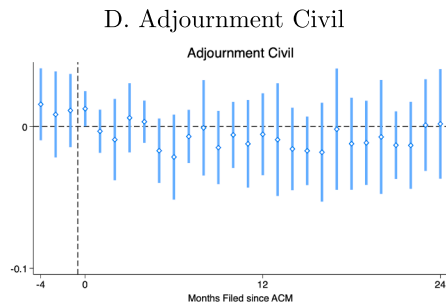
Note: Each point is the treatment effect on criminal adjournments for a case filed a certain number of months after the start of ACM



Note: Each point is at the weekly level.



Note: Each point is at the monthly level.



Note: Each point is at the monthly level.

Figure 5. Effects on Adjournment

The comparison of Panels C and D clearly lets on the idea of an effect for criminal cases, not civil cases.

Table 4 shows that the results hold in a triple differences analysis. Column (1) shows a reduction of 4 percentage points in the probability that the hearing of a criminal case ends in adjournment. This is a large decrease considering the probability of an adjournment is 21 percent. Column (2) shows no such effect on civil cases. In Column (3), the triple difference coefficient is significant.

The sample size is much larger than with time to disposition, with

Table 4
Effects on Adjournment

	(4) Criminal	(5) Civil	(6) Triple Diff
ACM * Months 0-12	-0.040** (0.020)	-0.0022 (0.011)	-0.0022 (0.011)
ACM * Months 0-12 * Criminal			-0.038* (0.021)
Control Group Mean	0.21	0.14	0.18
SD	0.41	0.34	0.38
Observations	8538952	4910461	13449413

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is a dichotomous variable equal to 1 if the hearing of a criminal case ends in an adjournment, 0 otherwise. The variable “ACM * Months 0-12” takes on a value of 1 if the case is filed in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. Out of completeness, the regression also contains all other leads and lags. All regressions include court fixed effects and month-year fixed effects.

13,449,413 observations in total, since adjournments are defined at the hearing level, not the case level as for time to disposition of the case.

We delve into the causes of these adjournments to understand better the mechanisms in Table 5. Column (1) replicates the result on adjournment found above. Columns (2) and (3) disaggregate adjournments by their main cause, “external”, i.e., caused by other actors than the judge and the court and “internal”, i.e., caused by the judge or the court. Comparing columns (2) and (3) shows that the effect for criminal cases is mainly driven by a reduction in external adjournments, in line with the hypothesis that ACM works by empowering judges to resist pressure from other parties. The coefficient in Column (3) is not statistically significant which implies that other measures would be needed to address the costs and incentives associated with internal adjournments.

To make further progress, we disaggregate external adjournments by their specific reason. In column (4) of Table 5, the dependent variable is a dichotomous variable equal to 1 if the adjournment is because the parties were not ready, 0 otherwise. We find a reduction in those types of adjournments after the treatment. Judges grant less adjournments when the parties are not ready, which is in direct compliance with the Kenyan procedure code: if reasonable time has been given for parties to prepare, there should be no reason to adjourn cases and the case should proceed.²¹ Reasonable time must have been given at the pre-trial conference stage, where the schedule of events is planned, hence less adjournments for these reasons. We do not see a direct effect on adjournments requested by lawyers in Column (5), however, it is the responsibility of lawyers to make sure parties are ready for the result in Column (4).

Adjournments due to police and prosecutors decrease in Column (6). This is in compliance with new directives given by the Kenyan judiciary.²²

We also see an effect on pleas, another objective of ACM in Table 15 of Appendix G.

²¹ Kenya Civil Procedure Rules, Order 17, rule 4: Where any party to a suit to whom time has been granted fails to produce his evidence, or to cause the attendance of his witnesses, or to perform any other act necessary to the further progress of the suit, for which time has been allowed, the court may, notwithstanding such default, proceed to decide the suit forthwith.

²² “Frequent adjournment of cases: This may be as a result of unpreparedness of advocates or prosecutors leading to unnecessary delay. Judges and judicial officers will be required to be strict in considering applications for adjournments. Additional court adjournment fees ought to be levied upon parties who seek unnecessary adjournments to discourage the habit.” PMMSC report p. 38

Table 5
Effects on Type of Adjournment

	(1)	(2) External	(3) Internal	(4) Parties	(5) Lawyer	(6) Police / Prosecutor
ACM * Months 0-12	-0.040** (0.020)	-0.029** (0.012)	-0.0068 (0.0047)	-0.013** (0.0063)	-0.0012 (0.0011)	-0.0080*** (0.0029)
Control Group Mean	0.21	0.14	0.036	0.018	0.011	0.032
SD	0.41	0.35	0.19	0.13	0.11	0.18
Observations	8538952	8538952	8538952	8538952	8538952	8538952

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is a dichotomous variable equal to 1 if the hearing of a criminal case ends in an adjournment, 0 otherwise. In Column (2), the dependent variable is a dichotomous variable equal to 1 if a hearing for a criminal case in the high courts ends in adjournment and the reason given for adjournment was classified as External (requested by lawyers or prosecutors), 0 otherwise. In Column (3), the dependent variable is a dichotomous variable equal to 1 if a hearing for a criminal case in the high courts ends in adjournment and the reason given for adjournment was classified as Internal (those under the control of the judge), 0 otherwise. In Column (3), the dependent variable is a dichotomous variable equal to 1 if a hearing ends in adjournment due to the parties being not ready, 0 otherwise. The next columns are defined similarly, with adjournment due to lawyers in Column (5), and police / prosecutors in Column (6). The variable “ACM * Months 0-12” takes on a value of 1 if the case is filed in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. Out of completeness, the regression also contains all other leads and lags. All regressions include court fixed effects and month-year fixed effects.

6.3. Effects on Quality

The effect of ACM on the quality of legal processes is theoretically ambiguous. On the one hand, faster trials may not be desirable if they come at the expense of quality. On the other hand, most of the literature suggests that ACM should increase quality rather than decrease it. For example, the official documentation produced by the government of Kenya notes that reducing adjournments should improve quality because it hinders the ability of dishonest actors to employ delay tactics (UNODC, 2017, 1). A report by the Canadian Senate points to the fact that multiple appearances place a strain on the court’s resources and on the parties involved, stating that “Every adjournment means that victims must endure further worry and anxiety as they await closure in matters that were likely among the most traumatic experiences of their lives. Every additional court appearance requires that they prepare to revisit the upsetting events surrounding the crime and to see the accused person in court once again. They may have had to take time off work or travel long distances to get to the courthouse, usually incurring additional personal expenses in order to do so.” (Runciman and Baker, 2016, 2). (Messick, 2015) also argues that long delays undermine the integrity of trials because witnesses can die or disappear, memories fade and people end up abandoning efforts to vindicate their rights altogether (Messick, 2015, 1). In short, ACM is meant to reduce delays by implementing a better management strategy, so it should be able to achieve improvements in speed and quality simultaneously.

We first look at the completion of cases. ACM, by reducing adjournments and increasing speed, may see more cases completed. We define a dichotomous variable equal to 1 if the hearing ends in a ruling or judgement.

Column (1) of Table 6 shows more cases being after ACM is instituted. These results show that cases not only get resolved faster, they get more resolved. There are no violation of pre-trends before, such that the treated and control courts were on similar trends before the program.

This increase in case completion does not come at the expense of quality. There are no more appeals of cases filed in 2016, as shown in Column (2). Appeals are a commonly used measure of the quality of decisions since low-quality decisions are more likely appealed. We do not find evidence for this effect.

Finally, a concern which is sometimes raised about reforms aimed at increasing speed of court proceedings is that “judges may be closing cases too quickly” (Hammergren and Mitiku, 2010, xxiv). There are no more cases closed (or terminated, dismissed, struck out), as shown in Column (3).

Overall, we find that cases are completed more often, the judgment is not more or less appealed and cases are not more dismissed.

We complement these findings with three rounds of the Court User

Table 6
Effects on Completion and Quality of Processes

	(1) Completed	(2) Appeal	(3) Case closed
ACM * Month -4	-0.0048 (0.011)	0.0064 (0.011)	-0.021 (0.026)
ACM * Month -3	0.0030 (0.010)	0.012 (0.014)	-0.027 (0.021)
ACM * Month -2	0.0080 (0.010)	0.021 (0.022)	-0.016 (0.019)
ACM * Months 0-12	0.015* (0.0090)	0.0088 (0.0072)	-0.024 (0.020)
Control Group Mean	0.078	0.024	0.033
SD	0.27	0.15	0.18
Observations	8538952	8538952	8538952

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is a dichotomous variable equal to 1 if the hearing ends in a ruling or judgement (convicted or acquitted). The sample is restricted to criminal cases. The variable “ACM * Months 0-12” takes on a value of 1 if the case is filed in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. Out of completeness, the regression also contains all other leads and lags. All regressions include court fixed effects and month-year fixed effects.

Satisfaction Surveys (CUSS) collected in 2015, 2017, and 2019. These surveys ask detailed questions to court users about their satisfaction with multiple aspects of court processes.

To determine the effect of ACM on quality we estimate the following specification:

$$Y_{ict} = \beta_0 + \beta_1 2019_t + \beta_2 ACM_c \times 2019_t + \beta_3 2017_t + \beta_4 ACM_c \times 2017_t + \alpha_c + \epsilon_{ict}$$

Where Y_{ict} is the answer to a question on the CUSS. The subscript i corresponds to individual i , interviewed in court station²³ c , in year t . The variable 2019_t takes on a value of 1 if the observation is in 2019, 0 otherwise. ACM_c is equal to 1 if the respondent was interviewed in court station c that is part of the pilot, 0 otherwise.²⁴

The variable $ACM_c \times 2019_t$ captures the effect of the program in 2019.

²³ The CUSS dataset only has information on the “court station”, the geographical compound that may host multiple courts in populous areas, such as both a high court and a magistrate court. Thus, for this analysis, it is not possible to distinguish high courts from magistrate courts.

²⁴ The treated court stations are Mombasa, Machakos and Naivasha that include the 11 treated courts in this pilot. This includes a total of 1,023 observations out of the total sample size of 15,388 observations.

The year 2017 is too early to measure the effect of ACM since cases filed in 2016 (the start of ACM) are most likely not resolved by 2017. Thus questions on topics such as the neutrality of the judge in its decision cannot be affected by the treatment. As such, this coefficient serves as a useful test for pre-trends. In contrast, $ACM_c \times 2019_t$ is more suited to capture the true effects of ACM.

α_c are court station fixed effects, and ϵ_{ict} is the error term. Standard errors are clustered at the level of the court station.

In Table 7 shown below, we start with “The judge is courteous” (on a 1 to 4 scale: Strongly Disagree, Disagree, Agree, Strongly Agree). There is a significant increase by 2019, of 0.17 out of a control group average of 2.4. There is no effect in 2017, which indicates that treated and control courts were on similar trends by 2017 when treated cases were not resolved yet.

In Column (2), the variable is: “The judge listened and led the proceedings well”. Here we can see an improvement in 2019, although there is a violation of the pre-trend in 2017, which could be explained by the short-term effects of the reform since this question does not pertain to the decision but to proceedings, which could be affected as early as 2017.

In Column (3), the variable is: “The judge is neutral”. There is no decrease on this dimension; thus it is not the case that judges are being less neutral by closing cases faster or sentencing more to ensure speedy resolution.

We then look at the open-ended text question: “What suggestions do you have for improving court facilities and services?”. We read all the answers and establish a list of keywords associated with speed.²⁵ We define a dichotomous variable equal to 1 if the individual made a suggestion containing one of these keywords associated with speed, 0 otherwise.

Column (4) shows that these suggestions on speed decrease with the treatment. We interpret a decrease in suggestions about speed as evidence that people are more satisfied with the speed of courts.

We repeat the exercise for keywords linked to quality.²⁶

The hypothesis is that if the courts are getting worse, suggestions on how to improve quality should increase but none of the coefficients are significantly different from zero.

In Appendix H, we present the results for lawyers separately, as well as for police/prosecutors separately. The results are less impressive, with few significant coefficients. This finding is important for policy implications: not all court users are equally satisfied with ACM, despite the positive effects detected on time to disposition and adjournments. In this case, the lawyers and police/prosecutors are less satisfied. Thus, despite the positive findings in this paper on time to disposition, ACM may be difficult to implement in practice considering the opposition of police and prosecutors found in qualitative studies (UNODC, 2017) as well as in our empirical analysis.

To further gauge the effect of ACM on quality, we use a large-scale household survey collected by the Hague Institute for Innovation of Law (HiIL) which contains information on court satisfaction in Kenya. In

Appendix I, we find an increase in fairness of the procedure and trust in courts.

6.4. Effects on Crime

Overall, we find faster courts, more cases being completed and no decrease in the quality of courts and judgements. The net present value of punishment thus increases. Faster case resolution and increase in case completion transform legal institutions into a more credible threat.

To test the effects on crime, we use the DCRT data to build a database of crime. We use only convicted crimes as evidence for the prevalence of crime (other cases may have been frivolous or unsubstantiated accusations). We count the number of convictions (per court per day) for each category of cases. This generates a workable database of the occurrence of crime over time, over space and by categories of crime.

In Table 8, we regress this variable on the treatment dummy for ACM interacted with the month of the year. The analysis is slightly different from above since we are not using the month of filing of a case as the condition for being treated. Rather, we want to look at the evolution of crime over time in the treated areas. The variable “Months 0-12” is a dummy for the first 12 months after January 2016, i.e., for the 2016 year. This measures whether ACM reduces crime in the short-run. The variable “Months 12+” is a dummy for all the months after the first 12 months, i.e. for 2017 and later, which measures the long-term reduction in crime. The database is at the court-day level, with 285,377 such court-days.

We find evidence of a reduction in crime. We organize the crime categories by their decreasing frequency. Column (1) focuses on the most frequent crime: property-related cases (theft, burglary, breaking and entering, trespass, and possession of stolen goods). As can be seen in the table, there is a 0.079 reduction in crime over a baseline amount of 0.13 convictions for property cases per court per day. This represents a 60 percent decrease for these types of crime.

The second most frequent crime are violent crimes (kidnapping, assault, felony, harm). Column (2) also shows a reduction in the long-run in such cases, with a reduction of 0.061 from a baseline of 0.089, i.e., a 68% reduction.

Other less frequent categories are less affected: drugs in Column (3), murder in Column (4), fraud in Column (5), disturbance in Column (6), and sexual crimes in Column (7).

This decrease in crime does not come from people shying away from the courts and filing less cases. On the contrary, we find a stable number of cases filed (as seen in Table 19 in Appendix J).

Taking stock of our findings, our interpretation is the following. Cases filed in 2016 end up being more completed (as seen in Table 6): legal institutions function better. This reduces the prevalence of crime in the long-run (as can be seen in Table 8). People report more crime since legal institutions function better but the prevalence of crime decreases at the same time: this combines to keep the number of cases filed constant.

6.5. Economic Outcomes

We find that ACM reduces the time to disposition of cases, more cases get completed and crime decreases. This may have downstream economic effects on firms. In a recent paper, [Ranasinghe and Restuccia \(2018\)](#) document that crime is a major obstacle to business operation, on an equal footing with access to finance, the practices of the informal sector and tax administration. Crime, be it theft, robbery, vandalism, and arson on the firm’s premises, expropriates output from an entrepreneur post-production. They further argue that the potential for crime is inversely related to the rule of law and how much protection an entrepreneur is able to purchase.

To gauge the effect of ACM on firms, we use two waves of the World Bank Enterprise Surveys (2013 and 2018) which places the beginning of the reform approximately in the middle of this time period. Since trials

²⁵ The full list of keywords is: time, speed, efficient, fast, track, postpone (this captures any words starting with postpone), shorter, early, long, typed (because this was in a sentence associated with speed), prompt, delay, expedite, slow, immediately, quick, duration, timing, adjournment, unnecessary, settlement, more, work, adequate, notice, backlog, dates, case, management, late, earlier, start, expeditious, punctua, absenteeism, dragging, efficiency, performance, adjou, short, overwhelmed, punctual (with this particular typo), congestion, drag, expeditious, expeditious, hasten, have, afternoon, sessions, scheduling.

²⁶ The full list of keywords is: expertise, quality, file lost, file missing, communication, administration, neutral, skill, assist, competent, service, delivery, charter, friendly, inform, collaboration, cooperation, witness refund, training, fair, fact, properly investigated, justice, transparent, train, motivate, ethic, accuracy, rude, polite, knowledgeable, accurate, understanding, courtesy, arrogant, filing, audible, bias, courteous, transparency, honesty, witness, bribe, corrupt, integrity

Table 7
Effect on Quality

	(1) Judge Courteous	(2) Judge Led Proceedings Well	(3) Judge Neutral	(4) Suggestion Speed	(5) Suggestion Quality
ACM * 2019	0.17** (0.07)	0.15* (0.08)	0.09 (0.07)	-0.10*** (0.03)	-0.05 (0.04)
ACM * 2017	0.14 (0.14)	0.18* (0.10)	0.13 (0.11)	-0.09 (0.09)	0.06 (0.09)
Observations	13,995	13,847	12,612	15,199	15,199
Mean control group	2.41	2.27	2.17	0.17	0.12
SD control group	0.61	0.69	0.75	0.38	0.33

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence-interval, ** Significant at 95 percent confidence-interval, * Significant at 90 percent. In Column (1) the dependent variable “Judge Courteous” is measured on a 1 to 4 scale: Strongly Disagree, Disagree, Agree, Strongly Agree. The sample size is slightly smaller than the full sample (15,388 observations) since some observations are missing for this variable. In Columns (2) and (3), the dependent variables “Judge Led Proceedings Well” and “Judge Neutral” are measured on the same 1 to 4 scale. In Column (7-9) the dependent variable “Suggestion to Improve Quality” is a dichotomous variable equal to 1 if the respondent made a suggestion to improve quality, 0 otherwise. The variable “ACM * 2019” is a dichotomous variable which takes on a value of 1 if the survey was conducted in 2019 and in a treated court, 0 otherwise.

Table 8
Effects on Crime

	(1) Property	(2) Violent	(3) Drugs	(4) Murder	(5) Fraud	(6) Disturbance	(7) Sexual
ACM * Month -3	-0.16** (0.068)	-0.034 (0.065)	-0.028 (0.029)	-0.012** (0.0057)	-0.00052 (0.0040)	-0.0061 (0.025)	-0.0042 (0.0038)
ACM * Month -2	-0.017 (0.081)	0.025 (0.038)	0.050 (0.069)	0.012 (0.013)	-0.0074 (0.0084)	-0.026 (0.028)	-0.0048 (0.0041)
ACM * Months 0-12	-0.085 (0.077)	-0.075 (0.050)	0.031 (0.041)	-0.0037 (0.017)	0.0041 (0.0050)	0.0026 (0.019)	-0.0059 (0.0045)
ACM * Months 12+	-0.079* (0.041)	-0.061* (0.036)	-0.013 (0.027)	-0.011 (0.011)	0.0019 (0.0080)	-0.025 (0.057)	-0.016 (0.014)
Control Group Mean	0.13	0.089	0.073	0.015	0.014	0.0050	0.00034
SD	0.45	0.35	0.38	0.17	0.21	0.14	0.019
Observations	285377	285377	285377	285377	285377	285377	285377

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. The dependent variable is occurrence of crime, measured by the number of convictions per day per court. Column (1) focuses on property related cases (theft, burglary, breaking and entering, trespass, and possession of stolen goods). Column (2) focuses on violent cases (kidnapping, assault, felony, harm). Other cases relate to drugs in Column (3), murder in Column (4), fraud in Column (5), disturbance in Column (6), and sexual crimes in Column (7). The variable “ACM * Months 0-12” takes on a value of 1 in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. The variable “ACM * Months +12” takes on a value of 1 in the ACM courts 12 months after the start of the program, i.e., in 2017 and later years. Out of completeness, the regression also contains all other leads and lags. All regressions include court fixed effects and month-year fixed effects.

are generally held in the court station that is closest to the location of a crime,²⁷ we use the GPS data of firms to measure their distance to treated courts.

In column (1) of Table 9, the specification is:

$$Y_{it} = \beta_0 + \beta_1 ACMCourt_{within40km_i} \times 2018_t + \beta_2 ACMCourt_{within40km_i} + \beta_3 2018_t + \beta_4 ACMCourt_{within40-100km_i} \times 2018_t + \beta_5 ACMCourt_{within40-100km_i} + \alpha_r + \epsilon_{it}$$

Where Y it is the percentage of total annual sales paid by firms for security in last fiscal year ($M=4.5$ percent, $SD=7.8$). The subscript i corresponds to firm i who responded to the survey at time t. We define the variable $ACMCourt_{within40km_i}$ so the treatment group is made up of firms with an ACM court in a radius of 40 km. 2018_t is a dummy for the year 2018 and therefore $ACMCourt_{within40km_i} \times 2018_t$ measures the effect of the treatment on firms.

The variable $ACMCourt_{within40-100km_i}$ is equal to 1 if there is a treated court in a “donut” around the firm of 40 to 100 km. In other words, it is equal to 1 if a treated court is more than 40km and less than

Table 9
Effect on Firms

	(1) Percentage of total annual sales paid for security in last fiscal year
ACM Court within 40km * 2018	-4.36*** (1.10)
ACM Court in 40-100km radius * 2018	-1.78 (1.72)
Observations	1,136
Region FE	YES
Year FE	YES
Mean Dep. Var. (SD)	4.537 7.755

Note: Robust standard errors, clustered at the level of the region. *** Significant at 99 percent confidence-interval, ** Significant at 95 percent confidence-interval, * Significant at 90 percent. The dependent variable is the percentage of total annual sales paid for security in last fiscal year by firms. Firms are treated if there is an ACM court within a 40km radius. The variable “ACM Court Within 40km Radius” is a dichotomous variable equal to 1 if the firm has an ACM court within a 40km radius, 0 otherwise. It is interacted with the year 2018. The regression includes region and year fixed effects.

²⁷ When a crime is committed, the business will file a report at a nearby police station and the police in turn, charge the perpetrator(s) at the nearest court within their jurisdiction. If the offense cannot be handled by the Magistrates at the nearest court station, the case is moved to the next big court.

100km away from the firm. This is a falsification exercise since these courts are too far from the firm and should have no bearing on the firm. The coefficient of $ACMCourt_{within40-100km_i} \times 2018_t$ thus represents

a parallel trend test: if firms in treated areas are on a different slope, then it should show up in this coefficient.

Finally, α_r represents region fixed effects²⁸ and ϵ_{it} is a stochastic error term. Standard errors in both regressions are robust and clustered at the region level.

Column (1) of Table 9 shows that ACM Court within 40km * 2018" is equal to -4.4, i.e., a reduction of 4.4 percentage points in the percentage of total annual sales paid for security. In other words, the treatment almost eliminates all expenses for security against crime.

The coefficient of ACM Court within 100-100km * 2018" is not significant: this provides a confirmation that these areas were not on a declining trend with respect to expenses related to security.

To ensure that the results are not driven by the choice of the radius, we present in Appendix K various robustness checks with different radii.²⁹ We vary the radius (to 10, 20, 30 and 50 kilometers) and the results remain roughly unchanged. We also use another definition of expenses for security to increase the sample size and find the same result. Finally, we use a completely different way to define treatment, whether the nearest court is treated, and find the exact same results.

Overall, we find that firms spend less on security after the reform and we believe that there are two plausible explanations for this. First, we document a decrease in crime after ACM. There is thus less need to protect against crime thereafter. The second is that having more efficient courts decreases the cost to firms of having a crime committed against them. When a firm is the victim of a crime, they do not only incur the direct cost of the crime itself (damage to property, loss of customers) but they must also factor in the burden of going to court. This includes obvious things such as legal fees and time taken off work but also potentially mental anguish and fear of retaliation from the accused which can be the consequence of criminal hearings (Runciman and Baker, 2016). If the total cost of crime for the business decreases because of better courts, we can thus expect that rational firm owners will invest less in trying to prevent it and this is indeed what we see in the data.

In any case, there is an existing literature which establishes the importance of crime for business investment. Ranasinghe and Restuccia (2018) argue that crime is akin to expropriation of a firm's capital and that its prevalence is inversely related to the rule of law. Therefore, theory suggests that reforming the judiciary should have a positive impact on firm investment. The 4 percentage point decrease in private protection is exactly in line with quantitative estimates from Ranasinghe and Restuccia (2018).³⁰

This is encouraging evidence that judicial reform produces concrete and positive economic externalities.

²⁸ "regions" are the most disaggregated geographical area which is defined in the World Bank Enterprise Surveys

²⁹ We choose a radius of 40km since it is the maximum distance between courts and firms (i.e., no firm is more than 40km away from a court (treated or not) in the World Bank Enterprise Surveys).

³⁰ To compare our estimates, suppose a firm is expropriated of its output by crime (theft, robbery, vandalism, and arson on the firm's premises). The strength of enforcement depends on the probability p to be convicted, the time T after which the judgment is given, and potential legal fees (we assume there are none out of simplicity). The probability of punishment is p discounted to the present with a certain discount value β , i.e., $p\beta T$. We calibrate p with answers to the question "The Judge is being Neutral" in Column (3) of Table 7: $M=2.17$ on a 4 point scale, scaled to 100, i.e., $p=2.17-1.3 \times 100=39$ percent. Plugging in the drop in time T from 358 days to 145 days that we observe in our study, we get that the strength of enforcement goes from $p\beta T=0.35$ to 0.37 , a 6 percent increase. Using estimates from Table 7 of Ranasinghe and Restuccia (2018), a 6 percent increase in the strength of enforcement at low levels of the rule of law generates a 5 percent increase in output, exactly like in our results (Kenya scores 0.47 on the rule of law according to their estimates, a 6 percent increase would place Kenya at 0.499, we can scale down their estimates given for a move from 0.3 to 0.5 in the rule of law by this 6 percent increase to get an estimate).

6.6. External Validity

It is unclear whether these results would generalize from the treatment group to the rest of the country, as has been seen in other studies (see Allcott (2015)). For example, the nature of cases, plaintiffs and defendants may differ in treated and control courts. We conduct an inverse probability weighting (IPW) regression to adjust for any potential change in cases types. We estimate a probit regression for being in the treatment, depending on the case type, presence of legal representation, number of witnesses for plaintiffs and defendants (i.e., all the controls used in our robustness checks), adjust the probability weighting scheme. We find that the results stay the same in Appendix 21.

7. Conclusion

The importance of having strong inclusive institutions is widely acknowledged (Acemoglu, Johnson and Robinson, 2012; Pande and Udry, 2005; Besley and Mueller, 2018) and the judiciary plays a central role in regulating these "humanly devised constraints that shape society" (North, 1991; Kondylis and Stein, 2023, 97). For this reason many governments and international aid agencies spend millions of dollars every year on judicial reform (Chemin, 2020) but most of these interventions are not tested in a rigorous way (Laws, 2016; WorldBank, 2018b). One of the main goals of judicial reforms is to reduce adjournments and increase the speed at which trials are resolved (Kondylis and Stein, 2023; UNODC, 2017) and active case management is a promising strategy to address these issues. Despite being studied by several legal scholars, no thorough impact evaluation of ACM has been conducted to date, and all empirical assessments have been solely based on correlations and qualitative case studies (Goerdts, 1991; Flanders, 1980; Somerlot, Solomon and Mahoney, 1989). This paper measures the effect of a pilot project which was implemented by the Kenyan judiciary in 2016 to implement ACM in criminal trials.

Our first contribution is to demonstrate that ACM is an effective strategy to reduce adjournments and delays, and that it achieves this without negatively affecting quality of proceedings.

Our second contribution is to document a reduction in crime. As a result, firms spend less on security, a fact that we attribute to an improved justice system which reduces the indirect cost of crime. The fact that perceptions of the judiciary are improved by the intervention also suggests that ACM will increase public confidence in the judiciary as an institution and promote more investment in the long run (Jappelli, Pagano and Bianco, 2005; Acemoglu, Johnson and Robinson, 2012; Acemoglu, 2006). These findings are of particular relevance for organizations interested in implementing effective judicial reforms. By having a detailed understanding of ACM, they will be able to target implementation properly and achieve optimal results. While there is no guarantee that ACM will be as effective in other countries as it was in Kenya, the insights from our study will be useful to evaluate the potential for successfully implementing it elsewhere. For instance, our paper shows that the main impact of ACM was to reduce external adjournments so the reform is unlikely to work if the court system in question does not suffer from excessive external adjournments. The second question to assess replicability is whether training on ACM and the introduction of PTCs will generate a significant cultural shift toward efficiency in the way trials are handled. In the case of Kenya, two out of the four major parties involved in litigation (judges and lawyers) were in favor of the changes ACM was trying to achieve. If all parties had been in favor, the effects could have been greater. As such, this paper provides a lower bound on the true effects of ACM. Another factor to consider, is the new constitution which was established in Kenya in 2010 empowering the reform-minded Chief-Justice Mutunga (Gathii, 2016, 45). While it is not possible to measure the effect that constitutional reform and an effective Chief Justice had on the ACM pilot, these factors are important for other countries to consider because strong leadership and a constitutional framework that is taken seriously could be a pre-

requisite for almost any internal reform to work, ACM included.

At the moment, most judicial reforms are carried out with no serious attempt made at measuring their impact in a rigorous way. Given the importance of judiciaries and the large sums that are spent on improving them, it will be useful to continue building on this work and guide policy decisions so that resources are invested in the most productive way.

Declaration of competing interest

The authors declare that they have no known competing financial

interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The DCRT data is proprietary, from the Kenyan judiciary, it cannot be shared. The World Bank Enterprise Surveys are publicly available data and can be shared.

Appendix

A Appendix A: Effects on Time to Disposition

Table 10 shows the coefficients for each and every month. Strikingly in this table, all the leads are not significant, while most of the lags are negative and significant.

Table 10
Effect on Time to Disposition of Criminal Cases

	(1) Time to Disposition Criminal
ACM * Month -4	11.5 (89.3)
ACM * Month -3	-77.9 (94.5)
ACM * Month -2	-127.6 (100.1)
ACM * Month 0	-166.9** (67.3)
ACM * Month 1	-186.6*** (63.6)
ACM * Month 2	-236.7*** (67.8)
ACM * Month 3	-145.6 (107.2)
ACM * Month 4	-50.4 (101.1)
ACM * Month 5	-176.7** (77.9)
ACM * Month 6	-276.7* (162.6)
ACM * Month 7	-190.0*** (56.4)
ACM * Month 8	-216.5*** (75.1)
ACM * Month 9	-220.4*** (84.0)
ACM * Month 10	-225.0*** (71.5)
ACM * Month 11	-292.4*** (46.3)
ACM * Month 12	-315.4*** (101.2)
Control Group mean	227.1
SD	497.6
Observations	1159224

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is time to disposition of criminal cases. The variable “ACM * Month -4” takes on a value of 1 if the case is filed in the ACM courts 4 months before the start of the program. The other variables are defined similarly. Notice the omission of “ACM * Month -1”, the omitted category. Out of completeness, the regression also contains a dummy for “ACM * filed before the 4th month before the program”, and “ACM * filed after 12 months after the start of the program”, such that the entire sample of cases is included. All regressions include court fixed effects and month-year fixed effects.

B Appendix B: Judge Fixed Effects

In this section, we include judge fixed effects. There are 646 unique judge identifiers in the data. One issue with these identifiers is that they are

missing for a sizable portion of the data: 2,677,294 out of the 14,965,690 observations. We thus assign an arbitrary value to the missing judge identifiers to recover the entire data. When we do this, the main result remains significant as shown below.

Table 11
Judge Fixed Effects

	(1) No Controls	(2) Judge FE
ACM * Month -4	11.5 (89.4)	32.9 (97.6)
ACM * Month -3	-78.1 (94.9)	-41.4 (91.8)
ACM * Month -2	-127.0 (100.4)	-121.1 (99.1)
ACM * Months 0-12	-213.4*** (74.1)	-160.6*** (56.6)
Control Group Mean	358.8	358.8
SD	502.8	502.8
Observations	1159224	1159223

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In all columns, the dependent variable is time to disposition of criminal cases. In Column (2), we include judge fixed effects, where the missing judge identifiers are replaced by an arbitrary value.

C Appendix C : Spillovers

In this section, we look at potential spillovers on the control group. To do so, we focus on the control courts. We collect the GPS of all courts. We calculate the minimum distance to the treated courts. We then regress time to disposition on this distance. Distance to a treated court is infinite before the treatment. We thus consider the inverse of the distance to the nearest treated court. It is equal to zero before the treatment, to a low number for courts far away from treated courts and to a high number for control courts close to a treated courts. The inverse of the distance thus varies positively with the intensity of the spillover.³¹

We find no significant effect of being closer to a treated court, as shown below. Thus, control courts are not affected by the treatment. There are no spillovers between courts. This can be explained by the fact that there are strict rules on where to file a case in Kenya and people cannot decide to file their case in another newer court.

Table 12
Spillovers - Effect on the Control Group

	(1) Time to Disposition Criminal
Inverse Distance to ACM	-37.9 (46.8)
Control Group Mean	358.8
SD	502.8
Observations	1072266

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is time to disposition of criminal cases. The variable "Inverse Distance to ACM" is equal to 0 before the treatment, and to the inverse of the distance to the nearest treated court after the treatment. The regression includes court fixed effects and month-year fixed effects.

D Appendix D: Excluding Shanzu Court

In this table, we exclude Shanzu magistrate court since it was singled out by the UNODC as a potential outlier because it receives more funding than other courts and has a full-time consultant from the BHC on-site. The results are the same.

Table 13
Excluding Shanzu Court

	(1) Time to Disposition Criminal
ACM * Month -4	14.5 (107.3)
ACM * Month -3	-99.8 (107.5)
ACM * Month -2	-135.4

(continued on next page)

³¹ We further scale that inverse by its maximum in the data, such that the maximum inverse is equal to 1.

Table 13 (continued)

	(115.3)
ACM * Months 0-12	-183.4**
	(83.3)
Control Group Mean	360.3
SD	503.2
Observations	1159224

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is time to disposition of criminal cases. The sample excludes Shanzu magistrate court. The regression includes all leads and lags, court fixed effects and month-year fixed effects.

E Appendix E : Heterogeneous Effects

In this section, we look at the heterogeneous effects of ACM. ACM might work best for more complex cases. We proxy for the complexity of cases with the number of witnesses for plaintiffs and defendants, since cases with more witnesses are inherently more complex. In Column (2), we interact complexity with all the variables of the model, i.e., ACM, Months 0-12, and its interaction ACM * Months 0-12. We find that the reduction in time to disposition is greater for more complex cases, as expected.

Table 14
Heterogeneous Effects

	(1)	(2)	(3)
ACM * Month -4	11.5 (89.4)	10.5 (88.7)	9.99 (84.1)
ACM * Month -3	-78.1 (94.9)	-79.6 (94.3)	-82.8 (92.7)
ACM * Month -2	-127.0 (100.4)	-127.9 (100.1)	-132.8 (102.2)
ACM * Months 0-12	-213.4*** (74.1)	-212.8*** (73.7)	-187.4** (75.7)
ACM * Months 0-12 * Complex		-192.5** (82.9)	
ACM * Months 0-12 * Backlog			-0.087*** (0.019)
ACM * Months 0-12 * Backlog Squared			0.0000012*** (0.00000025)
Control Group Mean	358.8	358.8	358.8
SD	502.8	502.8	502.8
Observations	1159224	1159224	1157390

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In all columns, the dependent variable is time to disposition of criminal cases. In Column (2), the variable Complex is the sum of witnesses for the defendant or plaintiff. It is interacted with all variables of the model. In Column (3), the backlog is the number of cases per judge in the baseline period (i.e., before January 2016). The backlog is interacted with all other variables of the model. The regression includes court fixed effects and month-year fixed effects.

It is also interesting to see how the coefficient changes when interacted with judge characteristics. There are 169 judges in the treated courts. We calculate the backlog for each judge, i.e., the number of cases per judge in the baseline period. The backlog is interacted with all other variables of the model. We find non-linear effects: time to disposition reduces with an increase in backlog but in a decreasing way. This is consistent with ACM having a greater effect if the backlog is not too high (judges are overburdened) and not too low (judges are already operating in ideal conditions).

F Appendix F: Effect on Civil Cases

Zooming in on the weeks before the program in [Figure 6](#) shows no obvious violation of pre-trends.

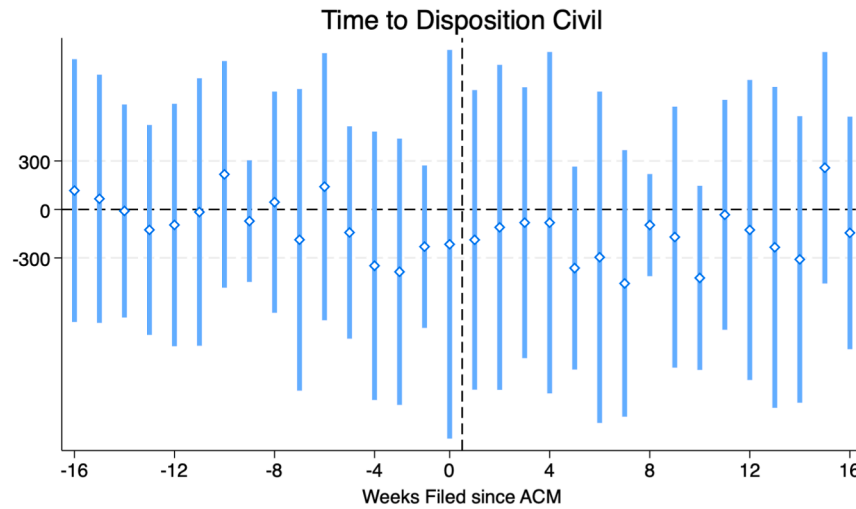


Figure 6. Time to Dispositionfx1

Note: This figure is the same as Figure 1, but zoomed in around January 2016. Each point is now at the weekly level. Figure 7 shows no long-term effect.

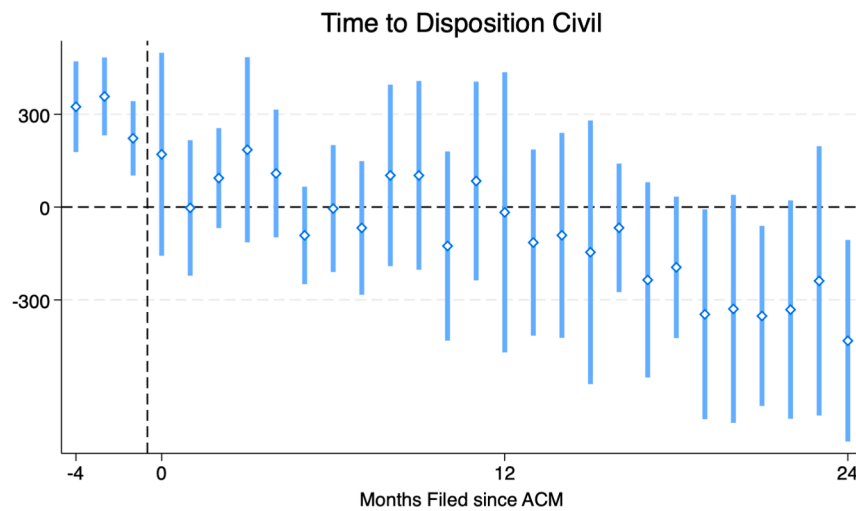


Figure 7. Time to Dispositionfx2

Note: This figure is the same as Figure 1, but zoomed out, with a longer time horizon of 2 years. Each point is at the monthly level.

G Appendix G : Effects on Pleas

In this section, we look at the effects on pleas. We see an increase in pleas after the reform. The only downside with this result is that we cannot perform a triple difference analysis since pleas occur only in criminal cases, not civil ones.

Table 15
Effects on Pleas

	(1) Plea
ACM * Months 0-12	0.040* (0.023)
Control Group Mean	0.092
SD	0.29
Observations	8538952

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In column (1), the dependent variable is equal to 1 if the case is coming to court for a plea, 0 otherwise. The regression includes all leads and lags, court fixed effects and month-year fixed effects.

H Appendix H: Effects on Satisfaction of Lawyers and Police/Prosecutors

In Table 16, we restrict the sample to lawyers. We find little effect for them.

Table 16
Effect on Lawyers

	(1) Judge Courteous	(2) Judge Led Proceedings Well	(3) Judge Neutral	(4) Suggestion Speed	(5) Suggestion Quality
ACM * 2019	0.12 (0.08)	0.14 (0.13)	0.13 (0.17)	-0.04 (0.02)	-0.08*** (0.03)
ACM * 2017	-0.12** (0.06)	-0.06 (0.06)	-0.17 (0.24)	-0.14* (0.08)	0.01 (0.07)
Observations	1,851	1,828	1,769	1,906	1,906
Mean control group	2.41	2.27	2.17	0.17	0.12
SD control group	0.61	0.69	0.75	0.38	0.33

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence-interval, ** Significant at 95 percent confidence-interval, * Significant at 90 percent. The sample is restricted to lawyers only. In Column (1) the dependent variable “Judge Courteous” is measured on a 1 to 4 scale: Strongly Disagree, Disagree, Agree, Strongly Agree. In Columns (2) and (3), the dependent variables “Judge Led Proceedings Well” and “Judge Neutral” are measured on the same 1 to 4 scale. In Column (7-9) the dependent variable “Suggestion to Improve Quality” is a dichotomous variable equal to 1 if the respondent made a suggestion to improve quality, 0 otherwise. The variable “ACM * 2019” is a dichotomous variable which takes on a value of 1 if the survey was conducted in 2019 and in a treated court, 0 otherwise.

In Table 17, we restrict the sample to police/prosecutors. Again, we find little effect for them, if anything an increase in suggestions on how to improve speed. These results are in line with the Concept Note [UNODC2017concept, 2] which indicates that not all court users are equally satisfied with ACM.

Table 17
Effect on Police / Prosecutors

	(1) Judge Courteous	(2) Judge Led Proceedings Well	(3) Judge Neutral	(4) Suggestion Speed	(5) Suggestion Quality
ACM * 2019	0.12 (0.19)	0.20 (0.23)	-0.04 (0.20)	0.12** (0.05)	-0.04 (0.06)
ACM * 2017	0.46** (0.18)	0.30** (0.15)	0.47*** (0.11)	0.09 (0.09)	0.03 (0.16)
Observations	1,853	1,831	1,717	1,947	1,947
Mean control group	2.41	2.27	2.17	0.17	0.12
SD control group	0.61	0.69	0.75	0.38	0.33

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence-interval, ** Significant at 95 percent confidence-interval, * Significant at 90 percent. The sample is restricted to police / prosecutors only. In Column (1) the dependent variable “Judge Courteous” is measured on a 1 to 4 scale: Strongly Disagree, Disagree, Agree, Strongly Agree. In Columns (2) and (3), the dependent variables “Judge Led Proceedings Well” and “Judge Neutral” are measured on the same 1 to 4 scale. In Column (7-9) the dependent variable “Suggestion to Improve Quality” is a dichotomous variable equal to 1 if the respondent made a suggestion to improve quality, 0 otherwise. The variable “ACM * 2019” is a dichotomous variable which takes on a value of 1 if the survey was conducted in 2019 and in a treated court, 0 otherwise.

I Appendix I: Other outcomes of Quality

To further gauge the effect of ACM on quality, we use the HiIL dataset which contains information on court satisfaction in Kenya. The fourth dataset we use was collected by the Hague Institute for Innovation of Law (HiIL) in 2017. They surveyed 6,005 randomly selected individuals across 28 counties in Kenya who were approached directly at their homes by the interviewers. The questions in the survey cover past experiences with the courts

and also asked questions about personal characteristics of the respondents (income, education, employment), information about disputes settled in court (business or personal, costs of procedure, quality of procedure) and attitudes about justice institutions. Disputes were filed before or after 2016, such that some disputes were exposed or not to the ACM pilot. There is geographic data available, such that we can identify whether the respondent lives in the jurisdiction of a treated or control court.

We use the date of the filing of a case for our identification strategy: we compare people in the treatment and control courts with disputes that started before or after the reform. We thus estimate the following specification:

$$Y_{ict} = \beta_0 + \beta_1 ACM_c \times Post_t + \beta_2 Dispute_i \times Post_t + \beta_3 ACM_c \times Dec2015_t + \beta_4 Dispute_i \times Dec2015_t + X_{ict} + \alpha_c + \epsilon_{ict}$$

Where Y_{ict} is the answer to a question in the HiIL survey. The subscript i corresponds to individual i , who was involved in a court case in county c , in period t . The variable $Post_t$ takes on a value of 1 if the case was filed after April 2016 (since the Guidelines were gazetted in March), 0 otherwise. $Dec2015_t$ is equal to 1 if the case was filed in December of 2015, 0 otherwise. ACM_c is equal to 1 if the case was heard in county c that is part of the pilot, 0 otherwise.³² $Dispute_i$ is a dichotomous variable equal to 1 if individual i was involved in a dispute, 0 otherwise (63% of the sample). X_{ict} is a vector of controls which includes: gender of the respondent, age, marital status, household size and whether he or she has more than a primary education. α_c are county fixed effects, and ϵ_{ict} is the error term. Standard errors are clustered at the level of the county.

Column (1) asks: “To what extent did you receive the result at the time you needed it?”. This outcome increases after the reform.

Table 18
Effects on Economic Outcomes

Panel A				
	(1) Result in Time	(2) Result Fair	(3) Procedure	(4) Outcome
ACM* Post	0.43*** (0.08)	0.36*** (0.10)	0.31*** (0.06)	0.29*** (0.08)
ACM * Dec 2015	0.00 (0.00)	0.00 (0.00)	0.32*** (0.11)	0.00 (0.00)
Observations	1,344	1,348	2,937	1,364
Mean Baseline in Control group	3.550	3.789	3.548	3.518
(SD)	1.022	1.045	0.817	0.697
Panel B				
	(5) Trust Courts	(6) Use of Court	(7) Look for Advice from Court	(8) Courts Most Helpful to Resolve Cases
ACM * Post	0.26*** (0.08)	0.06** (0.02)	0.12*** (0.03)	0.07** (0.03)
ACM * Dec 2015	-0.54** (0.20)	-0.03 (0.02)	-0.07* (0.04)	-0.06 (0.04)
Observations	3,717	3,759	3,759	3,759
Mean Baseline in Control group	3.421	0.157	0.207	0.169
(SD)	1.119	0.364	0.406	0.375

Note: Robust standard errors, clustered at the level of the county. *** Significant at 99 percent confidence-interval, ** Significant at 95 percent confidence-interval, * Significant at 90 percent. In Column (1) the dependent variable “Result in Time” asks whether the respondent perceives his/her result was delivered in a timely manner on a 1 to 5 scale: To a very small extent/not at all, To a small extent, To a moderate extent, To a large extent, To a very large extent/completely. In column (2) the dependent variable “Result Fair” asks the respondent directly if he/she found the result fair on the same 1 to 5 scale. In Column (3) the dependent variable “Procedure” is an index constructed from 16 questions pertaining to the quality of the judicial process, all measured using the same 1 to 5 scale. In Column (4) the dependent variable “Outcome” is an index constructed from 16 questions pertaining to the quality of the outcome, all measured using the same 1 to 5 scale. In Column (5) the dependent variable “Trust Courts” is an answer to the statement “I trust the courts (system) in Kenya” using the same 1 to 5 scale. In Column (6) the dependent variable “Use of Court” is a dichotomous variable equal to 1 if the respondent tried to solve his/her dispute through a professional third party such as a court of law, 0 otherwise. In Column (7) the dependent variable “Look for Advice from Court” is a dichotomous variable equal to 1 if the respondent looked for legal advice from professional sources such as a court of law, 0 otherwise. In Column (8) the dependent variable “Courts Most Helpful to Resolve Cases” is a dichotomous variable equal to 1 if the respondent found that courts (as opposed to friends, family or other informal means) are most useful to resolve a dispute, 0 otherwise. The variable “ACM*Post” takes on a value of 1 if the case was filed after April 2016 (since the Guidelines were gazetted in March) and was heard in one of the pilot courts, 0 otherwise. The variable “ACM*Dec2015” is equal to 1 if the case was filed in December of 2015 and was heard in one of the pilot courts, 0 otherwise.

Column (2) asks the simple question “Did you find the result fair?” which also increased. One may wonder why this outcome increases since presumably litigants who win their case would report the verdict was fair, and those who lose would say it was unfair. Thus, the ACM reform should leave this outcome unaffected. One explanation is that slow courts are unsatisfactory for both parties, even the winning one. It may be that both parties say the result is not fair before the reform because the resolution is taking too long. For example, getting a positive verdict after 40 years when the plaintiff has died (the example mentioned in this paper) does not appear to be a fair result. Thus, it is possible that this outcome would increase with this ACM reform.

Column (3) shows that the quality of procedures did not decrease, in fact it increased. The quality of the procedure is measured as an index based on 16 questions (e.g., did you find the process fair?, are you satisfied with the process?).

The complete list is: Were you able to express your views and feelings during the dispute resolution process?; Were these views and feelings appropriately considered during the process?; Were you able to influence the final result?; Were the same rules equally applied to you and to the other party/ies?; Was the process objective and unbiased?; Was the dispute resolution process based on accurate information?; Were you able to correct

³² The treated counties are Machakos and Naivasha that include 5 treated courts. There are no observations for Mombasa in the HiIL survey

wrong information during the process?; Did you find the process fair?; Are you satisfied with the process?; Did the officer of the court treat you with respect?; Did the officer of the court treat you in a polite manner?; Did the officer of the court refrain from making improper remarks or comments? Was the officer of the court honest in his/her communications with you?; Did the officer of the court explain the procedure thoroughly and made sure you understood it?; Did the officer of the court explain your rights and options during the process thoroughly and made sure you understood them?; Did the officer of the court explain the process in a timely manner?

While the index in column (3) only pertains to process, a separate set of questions is asked about the outcome. The quality of the outcome is measured as an index based on 16 questions (e.g., How fairly was the matter at stake divided between you and other party?, To what extent was the division in line with what the other party deserved?, Will this result guarantee that the other party does not do the same things in the future?, To what extent did you receive the result at the time you needed it?

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The complete list is: How fair was the matter at stake [money/rights/property etc.; Was the matter at stake divided equally between you and other party?; To what extent was the division of the matter according to what you deserved to receive?; To what extent was the division in line with what you needed?; To what extent was the division in line with what the other party deserved?; Did the result of the process bring you back all the money you lost or compensate the damages you suffered? Did the result make you feel better? If there was a relationship and it was harmed: Did the result improve the relationship with the other party?; To what extent did the result solve the problem?; Has the decided result actually been implemented?; Will this result guarantee that the other party does not do the same things in the future?; To what extent did you receive the result at the time you needed it?; Did you receive an explanation (reasons) about the result from the court official; Are you satisfied with the explanation (reasons) you received about the result?; Was it possible for you to compare your result with the results in other similar cases?; Was your result similar to the outcome of other similar cases?

Column (4) shows that the quality of the outcome also increased, possibly because it is delivered faster as a result of ACM. Column (5) shows that people's trust in the courts also went up in the treatment group.

Taken together, columns (1) to (5) show no evidence that increased speed came at the expense of quality. Some of the pre-trends in Table 18 are significantly different from zero, but the general picture suggests that if anything changed, it was an increase in quality. As a result of improvements in speed and quality, people also began to use the courts more often to resolve their disputes, instead of relying on informal channels. In column (6) the dependent variable asks the question "Did you try to solve the problem through court of law, Kadhi court, or An Administrative Tribunal Central government organisation?", Column (7) asks: "Did you look for legal advice from professional sources such as court of law, Kadhi court, or An Administrative Tribunal Central government organisation?" and column (8) measures the change perception that courts are the best means through which to resolve disputes. All these variable significantly increased as a result of the ACM pilot and there is no evidence of diverging pre-trends in columns (6) or (8). Overall, the data from the Hiil survey tell a story that is consistent with the literature about adjournments and ACM: reducing adjournments and having pre-trial conferences does not only increase speed but it increases the perceived quality of the courts, according to citizens who are involved in disputes. The most reliable results (where there is evidence of common time trends) show that specifically: receiving results on time, receiving a fair ruling and a good quality outcome were unequivocally improved by ACM. Furthermore, these improvements encouraged people to settle their disputes within the formal setting of the courts.

J Appendix J: Effects on Cases Filed

In this section, we look at the effect on cases filed. We count the number of cases filed (per court per day) for each category of cases. The variable "Months 0-12" is a dummy for the first 12 months after January 2016, i.e., for the 2016 year. The variable "Months 12+" is a dummy for all the months after the first 12 months, i.e. for 2017 and later.

We find no evidence of a decrease in cases filed, for criminal cases as a whole in Column (1), violent crimes (kidnapping, assault, felony, harm) in Column (2), drugs in Column (3), murder in Column (4), fraud in Column (5), disturbance in Column (6), and sexual crimes in Column (7).

Table 19
Effects on Cases Filed

	(1) Criminal	(2) Property	(3) Violent	(4) Drugs	(5) Murder	(6) Fraud	(7) Disturbance	(8) Sexual
ACM * Month -3	-0.052 (0.25)	-0.49* (0.29)	-0.33** (0.13)	-0.076 (0.066)	-0.041 (0.052)	-0.016 (0.018)	0.011 (0.043)	-0.043 (0.045)
ACM * Month -2	-0.040 (0.19)	-0.60* (0.36)	-0.31** (0.15)	-0.074 (0.096)	0.032 (0.063)	-0.039 (0.024)	-0.016 (0.046)	-0.048 (0.055)
ACM * Months 0-12	0.074 (0.18)	-0.20 (0.23)	-0.22 (0.13)	0.065 (0.096)	-0.016 (0.038)	0.047 (0.058)	0.24 (0.24)	-0.052 (0.066)
ACM * Months 12+	0.24 (0.23)	0.046 (0.63)	-0.24 (0.33)	0.092 (0.15)	-0.0023 (0.047)	0.051 (0.057)	-0.0049 (0.11)	0.029 (0.17)
Control Group Mean	0.12	0.47	0.35	0.14	0.041	0.042	0.013	0.00086
SD	1.55	1.07	1.03	0.53	0.66	0.30	0.19	0.035
Observations	285377	285377	285377	285377	285377	285377	285377	285377

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. The dependent variable is the number of cases filed per day per court. Column (1) focuses on property related cases (theft, burglary, breaking and entering, trespass, and possession of stolen goods). Column (2) focuses on violent cases (kidnapping, assault, felony, harm). Other cases relate to drugs in Column (3), murder in Column (4), fraud in Column (5), disturbance in Column (6), and sexual crimes in Column (7). The variable "ACM * Months 0-12" takes on a value of 1 in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. The variable "ACM * Months +12" takes on a value of 1 in the ACM courts 12 months after the start of the program, i.e., in 2017 and later years. Out of completeness, the regression also contains all other leads and lags. All regressions include court fixed effects and month-year fixed effects.

K Appendix K: Robustness Check for Choice of Radius Length

In table 20 we run the same regression as in [section 6.5](#) but this time varying the length of the radius. We see that while the magnitudes vary (Columns 1-5), the direction does not and the results remain significant for different region sizes up to 50km. The result is no longer significant at 50km Column (5), which is expected because as we increase the size of the region, the odds that the firms in question would be assigned a hearing in the corresponding ACM court is very reduced.

In Column (6), we use another variable to infer expenses on security and increase the sample size. The total sample size is 1,782 observations but there are only 1,136 observations for the dependent variable “Percentage of total annual sales paid for security in last fiscal year”. Another variable asks for expenses for security in absolute amount. We divide this variable by total sales and include it in the dependent variable. While not coming from the same question, this variable has more observations, with a total sample size of 1,635 observations. The coefficient stays the same even with this much larger sample, which is reassuring.

In Column (7), we define treatment in a completely different way. In keeping with the way trials are assigned, we define the variable ACMnearest i so the treatment group is made up of firms whose nearest court was part of the ACM reform. Column (7) shows that “Nearest Court is ACM * 2018” is very similar.

Table 20
Effect on Firms - Robustness Check

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ACM Court within 40km * 2018	-4.36*** (1.10)					-3.58*** (1.04)	
ACM Court in 40-100km radius * 2018	-1.78 (1.72)					-0.73 (1.85)	
ACM Court within 10km * 2018		-3.35* (1.53)					
ACM Court within 20km * 2018			-3.23** (1.19)				
ACM Court within 30km * 2018				-3.40*** (0.75)			
ACM Court within 50km * 2018					-0.94 (0.91)		
Nearest Court is ACM * 2018							-3.05* (1.38)
Observations	1,136	1,136	1,136	1,136	1,136	1,635	1,136
Region FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
Mean Dep. Var. (SD)	4.537 7.755	4.537 7.755	4.537 7.755	4.537 7.755	4.537 7.755	3.984 7.722	4.537 7.755

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence-interval, ** Significant at 95 percent confidence-interval, * Significant at 90 percent. For all Columns (1) to (5) and (7), the dependent variable is the percentage of total annual sales paid for security in last fiscal year by firms. In Column (6), the dependent variable includes answers to the other question on expenses for security asked in absolute amount, divided by total sales. The variables “ACM Court within x km” are dichotomous variables equal to 1 if the firm has an ACM court within an x km radius, 0 otherwise. The variable “2018” is a dichotomous variables equal to 1 if the observation is in the year 2018, 0 otherwise. The variable “Nearest Court is ACM” is a dichotomous variable equal to 1 if the nearest court is in the treatment group ACM, 0 otherwise.

L Appendix L : Inverse Probability Weighting

In [Table 21](#), we first estimate a probit regression for being in the treatment, depending on the case type, presence of legal representation, number of witnesses for plaintiffs and defendants (i.e., all the controls used in our robustness checks) and adjust the probability weighting scheme. We find that the results stay the same in Column (2).

Table 21
Inverse Probability Weighting

	(1) Time to Disposition Criminal	(2) IPW
ACM * Month -4	11.5 (89.4)	-7.81 (92.3)
ACM * Month -3	-78.1 (94.9)	-116.3 (97.1)
ACM * Month -2	-127.0 (100.4)	-159.7 (108.4)
ACM * Months 0-12	-213.4*** (74.1)	-187.5*** (69.0)
Control Group Mean	358.8	358.8
SD	502.8	502.8
Observations	1159224	1096540

Note: Robust standard errors, clustered at the level of the court. *** Significant at 99 percent confidence level, ** Significant at 95 percent, * Significant at 90 percent. In Column (1), the dependent variable is time to disposition of criminal cases. In Column (2), the probability weight is the estimate from a probit regression of treatment on the case type, presence of legal representation, number of witnesses for plaintiffs and defendants. The variable “ACM *

Months 0-12" takes on a value of 1 if the case is filed in the ACM courts in the first 12 months after the start of the program, i.e., in 2016. All regressions include all other leads and lags, court fixed effects and month-year fixed effects.

In Table 17, we restrict the sample to police/prosecutors. Again, we find little effect for them, if anything an increase in suggestions on how to improve speed. These results are in line with the Concept Note (UNODC, 2017, 2) which indicates that not all court users are equally satisfied with ACM.

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